Section 3
Environmental Analysis

Section 3.0
Introduction

Overview

This section presents an overview of the environmental analysis chapter, and provides background information that will assist the reader in understanding the analysis. First, the study area and project corridor are described, followed by the directional conventions used in the FEIR/FEIS. Next, the organization of the environmental analysis is described, as well as the methodology used to determine, classify, and present the environmental impacts of the project.

The project is subject to both the federal requirements for preparation of an EIS under NEPA and the state requirements for preparation of an EIR under CEQA. In any instance in which a project is subject to both NEPA and CEQA, federal and California state or local agencies are encouraged to work closely with one another to prepare a single document that complies with both NEPA and CEQA. Thus, this joint FEIR/FEIS is the result of BART and the Federal Transit Administration (FTA) working in concert to meet both the spirit and the letter of NEPA, CEQA, and all other applicable federal and state laws.

The requirements of NEPA and CEQA are not necessarily one and the same: certain requirements differ in that either the state or the federal requirement is more stringent. In addition, both CEQA and NEPA incorporate requirements that are not duplicated in the other statute. Finally, the project is subject to federal and state environmental statutes and regulations separate and apart from NEPA and CEQA, which require analyses to be incorporated into the FEIR/FEIS. In any of these circumstances, the joint FEIR/FEIS has been prepared in compliance with the more stringent or more complete requirements, whether they be federal or state. For example:

- CEQA requires that each significant impact of a project be identified in the EIR and feasible mitigation measures be identified and implemented. NEPA, however, requires only a consideration of potentially significant adverse environmental impacts and the suggestion of appropriate mitigation measures. Thus, the FEIR/FEIS identifies each significant impact of the proposed Connector project in order to meet the requirements of CEQA.

- Department of Transportation regulations require that a Section 4(f) evaluation be prepared in compliance with Section 4(f) of the Department of Transportation Act of 1966 (now codified at 49 U.S.C. 1653(f)) and incorporated into the EIS. Therefore, the Section 4(f) evaluation has been included as Section 5 of the FEIR/FEIS.

Study Area and Project Corridor

The proposed project lies within the City of Oakland and in the larger context is situated in the nine-county region referred to as the San Francisco Bay Area, shown in Figure 1.2-1. The "study area" mostly covers the area between Coliseum BART Station and Oakland International Airport (OIA), and approximately a mile east and west of Hegenberger Road and Airport Drive. As shown in Figure 3.0-1, the study area is roughly bounded on the north side by a residential area, on the west side by San Leandro Bay, on the south side by the OIA area and San Francisco Bay, and on the east side by the City of San Leandro, the Columbian Gardens residential neighborhood, and industrial uses along 81st Avenue. The study area is relevant for the study of the overall land use pattern, socioeconomic characteristics, jurisdictional context, and traffic flows.

The Connector would operate between the Coliseum BART Station and OIA and generally follow Hegenberger Road and Airport Drive. Most of the direct impacts would be concentrated in the immediate vicinity of the Connector service. Therefore, the "project corridor," an area approximately one-quarter of a mile around Hegenberger Road and Airport Drive between Coliseum BART Station and OIA has been defined, as shown in Figure 3.0-1. The project corridor is used in this FEIR/FEIS for the study of site-specific impacts such as loss of sensitive resources, land acquisition and displacement of structures, disturbance of utilities, impedance of local circulation and access to properties and impact on local geo-seismic, hydrologic, air quality, and noise conditions.

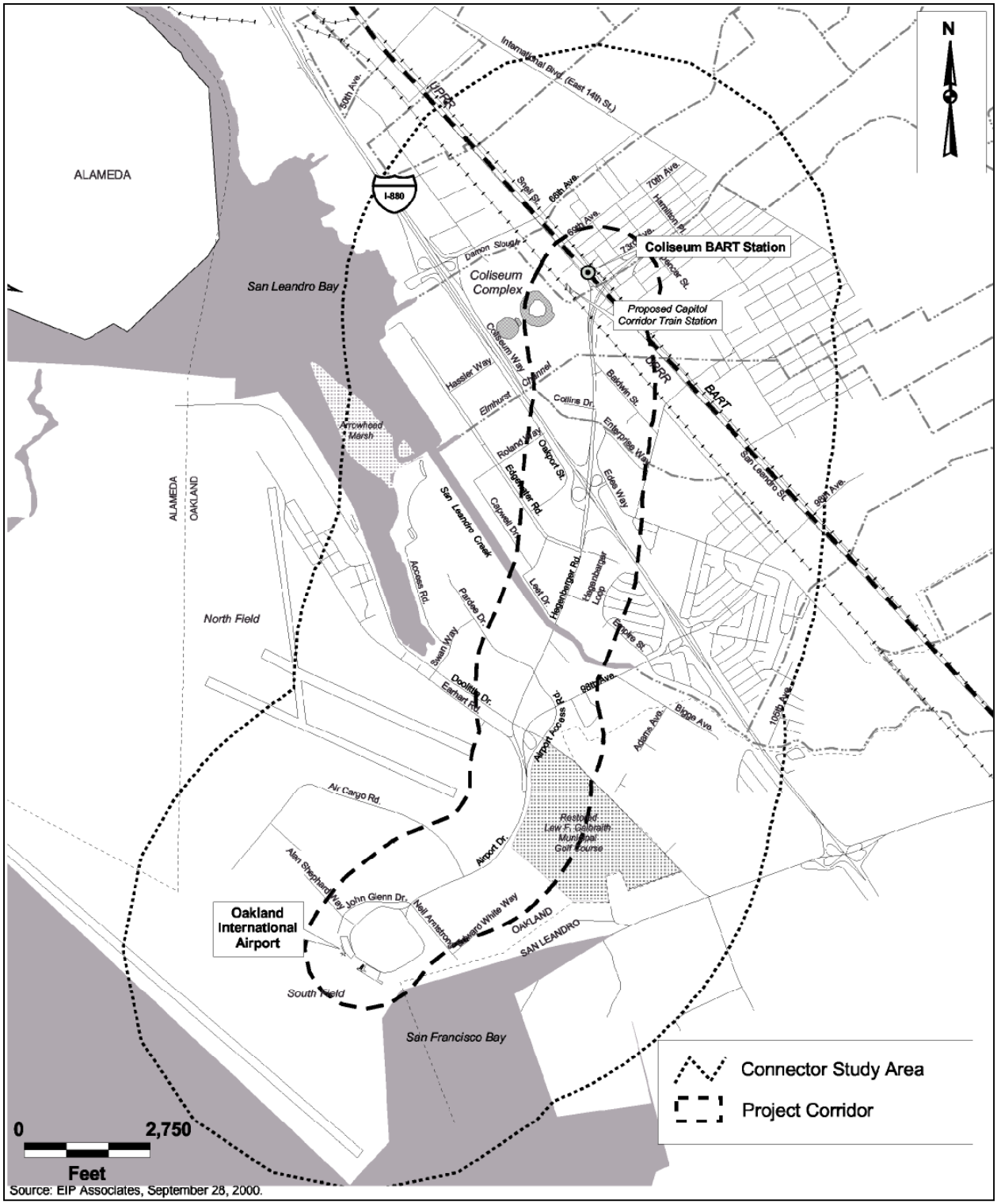
For the purposes of this FEIR/FEIS, I-880 is considered to run east-west within the study area, and Hegenberger Road is considered to run north-south. According to this convention, the following directions apply:

- North - towards Coliseum BART Station and Oakland Hills,
- South – towards OIA and the San Francisco Bay,
- East – towards San Leandro and Hayward, and
- West – towards San Leandro Bay and San Francisco Bay.

See also the prior discussion of orientation conventions in Section 1.1.1.

Organization of the Environmental Analyses

This section is organized by environmental issue (e.g., traffic, land use, visual quality, cultural resources, etc.). Sixteen separate issues are presented in this section. In order to assist the public in identifying particular issues of interest, a page numbering convention has been employed to distinguish each topic. The pagination system identifies section-subsection-page; for example, page 3.12-2 represents Section 3 (Environmental Analysis), Subsection 3.12 (Air Quality), and page 2. Section 3.16 discusses the construction impacts of the project for each environmental issue.



Source: EIP Associates, September 28, 2000.

Figure 3.0-1
Connector Study Area and Project Corridor

For each environmental issue addressed in Sections 3.1 through 3.15, this FEIR/FEIS contains the following basic discussion areas:

Introduction

The introduction presents the reader with an overview of the topic and the critical issues and concerns that are discussed.

Existing Conditions

This discussion presents existing conditions (1999) for each environmental issue. Existing conditions were defined for 1999 because that was the year when the Notice of Intent/Notice of Preparation (NOI/NOP) was issued and the environmental analysis commenced. The setting information for most sections focuses on the project corridor where impacts from the Connector are most expected to occur.

However, for more regional topics such as Transportation and Socioeconomics, the existing conditions include data on the larger study area. Other impact analysis areas are defined as necessary (e.g., an "Area of Potential Effects" for the cultural resources assessment).

A discussion of "Applicable Policies and Regulations" has been included in the description of the existing conditions. This subsection identifies relevant public plans and policies and appropriate federal, state, and local regulations governing the topic in discussion. The City of Oakland's principal policy document is the Oakland General Plan. Applicable regulations include various executive orders, federal laws, and state and local legislation and ordinances.

Impact Assessment and Mitigation Measures

This discussion considers how the existing conditions would be affected by the preferred alternative and the Median Option. This discussion is organized as follows:

Standards of Significance

The "standards of significance" describe the criteria by which an impact is declared significant and therefore in need of mitigation (i.e., actions to minimize the effects). These criteria are largely based on CEQA guidelines, which generally describe circumstances when impacts would be considered significant. Where possible, criteria are based on state or federal standards. For example, air quality significance criteria, or thresholds, are based on the state and federal ambient air quality standards; noise significant thresholds are likewise based on criteria defined by BART and the FTA. In other cases, such as for visual resources, the significance criteria are based on professional standards.

Methodology

The analysis of impacts for some of the topics may warrant use of specialized models, techniques, or methodologies. In such cases, the methodology for analysis of environmental impacts is presented. For example, the air quality analysis, which relies on a number of meteorological and traffic assumptions and on various air pollutant dispersion models contains a description of these assumptions and the methodology adopted.

Preferred Alternative Environmental Analysis

The environmental analysis identifies effects of the preferred alternative and Median Option during construction and operation. The discussion of construction effects for all the environmental issues is consolidated in Section 3.16. This analysis assumes full implementation of the ADP.

Type of Impacts

Effects can generally be thought of as the deviation from existing conditions. These effects are classified as "significant," "potentially significant," "less-than-significant," "no impact," and "beneficial." These five impact levels are defined as follows:

Significant Effects (S) include adverse effects that exceed established or defined thresholds. For example, air emissions that exceed federal ambient air quality standards, or elimination of a rare or endangered species would be a significant adverse impact.

Potentially Significant Effects (PS) includes those cases where it is not precisely clear whether a significant effect would occur; the analysis in these instances conservatively assesses the worst-foreseeable effects, but the discussion acknowledges that there is uncertainty regarding the extent of the impact. For example, to determine visual impacts for the Project requires information on the design of the vehicles and architectural treatment of the guideway. Lack of information on these details precludes a definitive statement as to whether the AGT would contrast with the surrounding environment and therefore the analysis assumes that there would be a potential for a significant effect, in the absence of clear evidence otherwise.

Less-than-significant Effects (LTS) includes adverse effects that do not exceed established or defined thresholds. For example, changes in traffic congestion at an intersection from a free-flowing level of service to one where average delays may be ten seconds would be perceptible but would not represent a significant change in intersection operations. Similarly, if the ambient noise levels increased because of Connector operations but the noise levels did not exceed BART's criteria, the effect would not be considered significant.

No Impact (NI) includes a condition when the preferred alternative would not result in any impact at all. For example, if there are no significant historic resources or faults within the project corridor, impacts to cultural resources or effects from ground rupture, respectively, would not be anticipated.

Beneficial Effects (B) include effects that enhance or improve an existing condition (for example, reduction in fuel consumption in the region due to fewer automobiles on the road with the Connector).

For each impact identified as being significantly adverse, the FEIR/FEIS suggests mitigation measures to reduce or eliminate the negative effect. The discussion indicates whether the mitigation measures individually or collectively reduce effects to a level less than significant. If the mitigation measures would not successfully minimize the effects to such a level, the impacts are classified as "significant and unavoidable. "

Enumeration of Impacts and Mitigation
Each impact topic is numbered using an alpha-numerical system that identifies the environmental issue. For e.g., *LU-1. Compatibility with existing uses,* denotes the first impact discussion in the Land Use subsection. The two letter codes used to identify the environmental issues discussed in this section are TR for Transportation; LU for Land Use; SE for Socioeconomics; VQ for Visual Quality; CR for Cultural Resources; CS for Community Services; UT for Utilities; GE for Geology, Soils and Seismicity; HY for Hydrology and Water Quality; BR for Biological Resources; NV for Noise and Vibration; AQ for Air Quality; EN for Energy; HM for Hazardous Materials; and EJ for Environmental Justice. An impact classification (i.e., S, PS, LTS, NI or B) is identified for the preferred alternative and Median Option. A "C" prefix before the two letter code indicates a construction impact (e.g., C-BR-1 for construction biological impacts #1).

If an impact is less than significant, results in no impacts, or is beneficial, mitigation measures are not required. If an impact is significant, mitigation measures are presented immediately, following the impact discussion. The impact significance after mitigation is also noted (LTS for less than significant or SU for significant and unavoidable).

The mitigation measures are also numbered and are prefixed to link them with the impact they address; e.g., Mitigation Measure TR-2 (i), refers to the first mitigation for Impact 2 in the Transportation subsection. A brief title is also included to easily identify the mitigation measure (e.g., TR-2*(i). Accommodate any displaced left-turn movements at alternate locations).*

Partial ADP Scenario

The Preferred Alternative Environmental Analysis assumes that all improvements and projects proposed in the Airport Development Program (ADP) will be implemented. The Partial ADP Scenario only considers those projects under the ADP that have already been completed or are currently underway, as described in Section 2, Preferred Alternative and Other Alternatives Considered. Throughout Section 3, the Median Option is not discussed in reference to the partial ADP scenario, since this alignment option has no impacts to, nor is impacted by, changes to the ADP.

Cumulative Analysis

To fully understand the environmental implications of a proposed project, CEQA and NEPA require that a proposed project be examined for its individual effects on the existing environment as well as its cumulative effects in conjunction with other reasonably foreseeable development projects. These cumulative impacts refer to two or more individual effects that when considered together are considerable or which compound or increase other environmental impacts.

The cumulative effects of the preferred alternative are studied for 2005 (projected year of opening for the Connector) and 2020 (long-range future horizon to conform with regional transportation planning effects by the Alameda County Congestion Management Agency and the regional air quality improvement efforts). The Association of Bay Area Government's (ABAG) growth forecasts for 2005 and 2020 have been used to define future growth in the

project corridor and study area, the effects of which would cumulate with the Connector. Table 3.0-1 presents population and employment growth projections prepared by ABAG. In accordance with FTA procedures, these figures represent the approved regional forecasts that must be used in transportation planning and analysis.

Table 3.0-1
ABAG's Population and Employment Forecasts

Jurisdiction	Population in thousands				Employment in thousands			
	1999	2005	2010	2020	1999	2005	2010	2020
Bay Area	6,823	7,380	7,631	8,027	3,595	3,967	4,228	4,688
Region served by BART								
Alameda County	1,439	1,573	1,616	1,672	645	784	843	945
Contra Costa County	927	1,022	1,077	1,169	350	393	429	501
San Francisco County	790	817	819	809	615	661	687	732
San Mateo County	727	767	780	810	370	403	414	452
Total	3,883	4,179	4,292	4,460	1,980	2,241	2,373	2,630
Cities directly influenced by Connector								
Oakland	401	434	440	443	186	206	212	218
San Leandro	75	78	78	79	47	48	49	54
Alameda	74	75	77	78	27	30	38	49
Total	550	587	595	600	260	284	298	321

Source: ABAG Projections 2000.

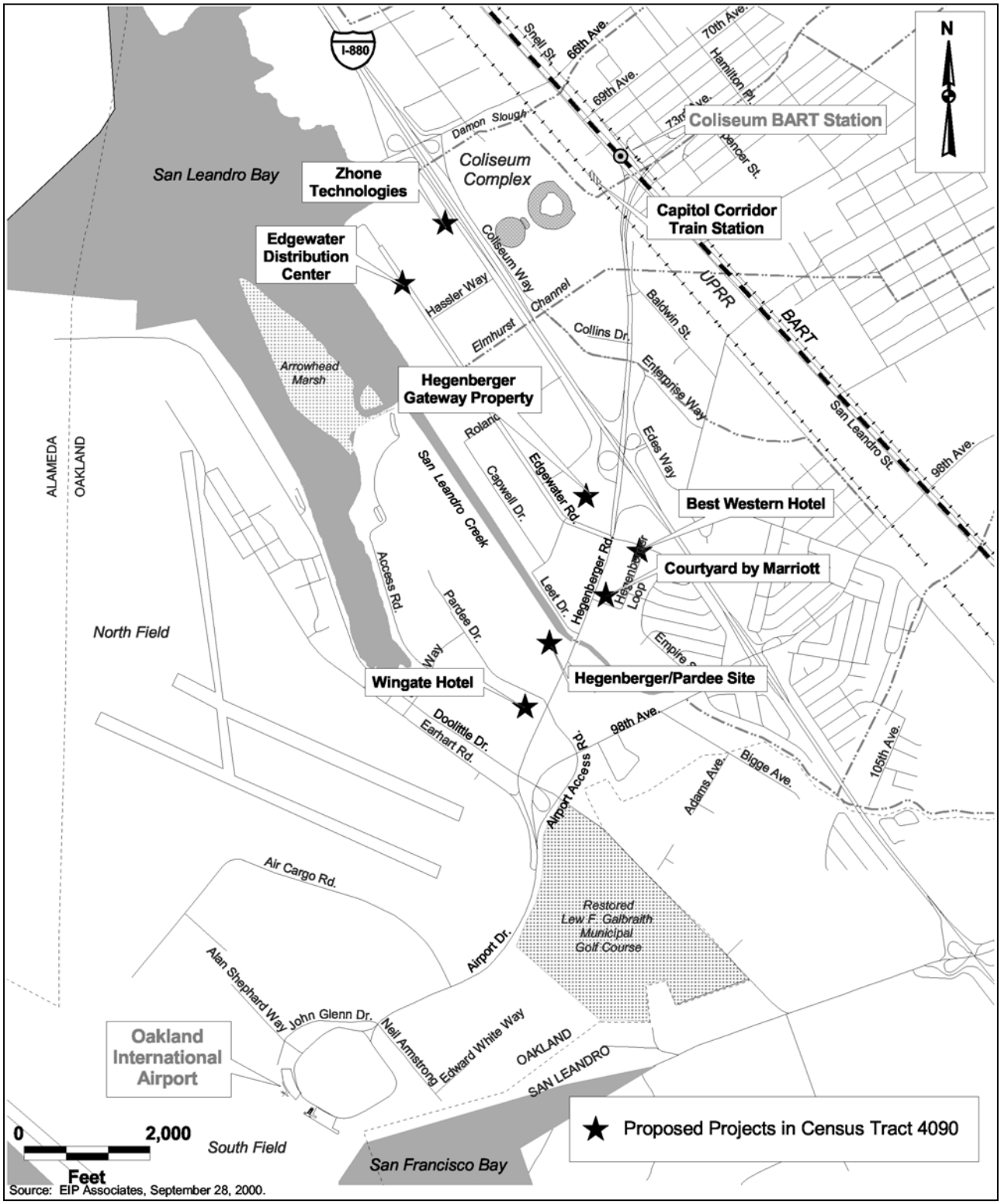
While the regional forecasts must be used for consistency with other regional planning efforts, such as air quality, these projections are based on regional models that allocate growth to the counties, cities, and smaller geographic units based on a variety of factors. This process does not necessarily offer a realistic picture of development activity and cumulative conditions, especially for smaller geographic areas like the project corridor. Thus, the City of Oakland and the Port of Oakland were contacted to identify specific development proposals that could be expected to be built and occupied by 2005, when the Connector is projected to be in revenue service. Table 3.0-2 presents the projects proposed, under construction, or approved and expected to be complete by 2005. The eight projects in Table 3.0-2 (illustrated in Figure 3.0-2) could add about 5,400 jobs in the project corridor. This amount of job growth far exceeds the ABAG forecast. To provide a conservative future baseline for cumulative analysis, these specific projects are added to the ABAG projections, except for the analyses of transportation, air quality, and energy. As noted earlier, the transportation and air quality analyses must use the approved regional forecasts. The energy analysis is also based on ABAG figures, because the regional energy consumption is a function of regional travel patterns.

Median Option.
The Median Option is not evaluated in the Cumulative Analysis sections throughout Section 3 because the listed development projects are not in the vicinity of the Median Option, therefore any individual effects (such as parking displacement, construction or operational noise) would not compound or increase other environmental impacts.

Table 3.0-2
Projects Under Construction and Projects Anticipated to be Completed by 2005 in Census Tract 4090

Project Name	*Location*	*Size*	*Status /1/*	*Description/Comments*	*Employee Factor*	*No. of employees*
Best Western Hotel	170 Hegenberger Loop Road	76 rooms	UC	Best Western constructing a 76-room hotel behind the Courtyard by Marriott. Projected completion early 2001.	0.8 employees /room	61
Courtyard by Marriott	350 Hegenberger Road	154 rooms	UC	154-room Courtyard by Marriott due for October 2000 completion	0.8 employees /room	123
Zhone Technologies	66th and Oakport Roads	300,000 sq. ft.	UC	Zhone constructing four-building office and R&D facility. Buildings I through IV to be completed from August 2000 to December 2001.	500 sq. ft./employee	600
Edgewater Distribution Center (falls in the study area and Census Tract 4090)	7200 Edgewater Drive	406,700 sq. ft.	UC	Sold in spring 2000 to AMB Property Corp. for warehouse /industrial use.	1000 sq. ft./employee	407
Wingate Hotel (Port of Oakland) – also called Hegenberger Annex Site	Hegenberger & Pardee Road (SW corner)	150 rooms	P	Sale of Port property to Wingate/Patel pending. Developer has plans for 150-room hotel.	0.8 employees /room	120
Hegenberger/ Pardee Site (Port of Oakland)	Hegenberger & Pardee Roads	14 acres (240K SF)	P	Sale pending of Port property to WP investments. Will consist of seven warehouse buildings behind Francesco's restaurant.	500 sq. ft./employee	480
Metroport Site (Hegenberger Gateway Property) (Port of Oakland)	Metroport Site Hegenberger Road & I-880	16 acres	P	Simeon Commercial Properties in negotiations with Port to buy land. Proposal to build 350-room hotel and 500,000 to 1,000,000 square feet of Class A office space.	0.8 employees /room; 300 sq. ft./employee	Hotel - 280 Office - 3333
Capital Corridor Rail Platform	73rd Avenue and San Leandro (at UPRR)	NA	A	Plans to construct Amtrak rail platform near the Coliseum BART Station. Construction complete in December 2001. Current service: 8 daily trips San Jose-Oakland-Sacramento; 14 daily trips Oakland-Sacramento; 2 trips to Roseville and Auburn; average weekday riders about 3,000; projected service in 2005: 36 trips San Jose-Oakland-Sacramento; hourly service in each direction between 6am and 10pm; 20 trips to Roseville and 6 to Auburn; average weekday riders about 8,000; proposed station plan is a City of Oakland project and is awaiting staff sanction on land acquisition and construction; UP has approved track and station design; plans consist of two 600-foot platforms, ingress and egress from a 2-lane, 2-way extension of 73rd Avenue; about 35 parking spaces, 2 bus pads, passenger shelters, bike racks, and a multi-level pedestrian ramp connecting to the walkway now connecting the Coliseum complex to the Coliseum BART Station	No employees	
Total						5,404 employees

Source: City of Oakland, Community and Economic Development Agency; Port of Oakland, BART, August 2000.
Notes: /1/ UC – projects under construction; P – projects proposed; A – project approved.



Source: EIP Associates, September 28, 2000.

Figure 3.0-2
Cumulative Development Projects to be Constructed by 2005

Section 3.1
Transportation

3.1.1 Introduction

This section describes the local and regional transportation network serving the study area. The transportation network is comprised of roadways, transit routes, parking facilities, and pedestrian and bicycle facilities. Issues related to traffic, transit, parking, bicycle and pedestrian conditions are addressed for both existing and future conditions, and potential effects on the transportation system associated with implementation of the preferred alternative are described.

3.1.2 Existing Conditions

Airport Travel Demand

Air Passengers and Employees at OIA

In 1999, OIA served 9.88 million annual passengers (MAP), 680,000 metric tons of air cargo, and had 10,500 employees. By 2020, air passenger activity is expected to increase to 24.74 MAP, and air cargo is expected to grow to 1,238,000 metric tons (The Regional Airport Planning Committee, February 2000). Employment at OIA is expected to increase to 16,700 by 2020 (Whittington, March 2000). Although the annual air passenger activity level of 24.74 MAP projected for 2020 corresponds to an average daily air passenger level of 67,780 passengers at OIA, air travel on some days would be considerably higher than the average daily level. Air travel activity varies by time of day, day of week, and season. In addition, air travel activity levels are particularly high during holiday periods such as Thanksgiving.

Table 3.1-1 indicates the geographical distribution of air passengers at OIA in 1998, and the expected geographical distribution in 2020. About two-thirds of current air passengers originate or are destined for locations in the East Bay; the rest are distributed to locations in the North Bay and the Peninsula. By 2020, the share of air passengers from the East Bay is expected to decrease to 57 percent, and a substantial increase in the share of air passengers from the Peninsula and North Bay is expected. As OIA is expected to attract more air passengers from outside the East Bay in the future, the airport's ability to accommodate air passenger trips by modes other than the automobile will determine how growing regional air travel activity will affect the freeways and roadways near OIA.

Table 3.1-1
Geographical Distribution of OIA Air Passengers

Origin/Destination	*1998*	*2020*
North Bay	13%	18%
East Bay	63%	57%
South Bay	2%	2%
Peninsula	16%	19%
Out of Region	6%	4%
Total	100%	100%

Source: *Regional Airport System Plan, Update 2000*, June, 2000.

Mode of Access to OIA

Table 3.1-2 indicates the mode of access of air passengers at OIA in 1998 and the expected mode of access in 2020. Table 3.1-2 shows that current air passengers rely primarily on automobiles (85 percent), and that the use of scheduled and on-call transit is low (15 percent). By 2020, air passengers accessing OIA by automobile are anticipated to decrease slightly. The Regional Airport System Plan forecasts assume modest improvements to the existing AirBART connection between BART and OIA, but do not assume a more significant improvement such as the AGT system.

Table 3.1-2
Mode of Access for OIA Air Passengers

Mode of Access	***1998***	***2020***
Private car or rental car	85%	84%
Door-to-door shuttle, taxi or limousine	7%	7%
Public transit	5%	6%
Private scheduled bus	2%	2%
Hotel shuttle, chartered bus or other	1%	1%
Total	*100%*	*100%*

Source: *Regional Airport System Plan, Update 2000*, June, 2000.

Existing AirBART Service to OIA

AirBART provides direct shuttle bus service between OIA and the Coliseum BART Station, located about three miles north of OIA. AirBART service operates with a scheduled headway of ten minutes between 6:00 a.m. and 12:05 a.m. Monday through Saturday, and between 8:00 a.m. and 12:05 a.m. on Sundays. The one-way fare is $2.00 for adults; and $0.50 for children, senior citizens and disabled persons.

The AirBART vehicles are 40-foot low-floor buses with capacity for 32 seated passengers and about ten standees with luggage on each bus. The average running time from the Coliseum BART Station to Terminal 2 at OIA is about 12 minutes, and the average one-way running time between Terminal 2 at OIA and the Coliseum BART Station is 9 minutes (CCS Planning and Engineering, Inc., August 2000).

In 1999, AirBART system carried 463,067 passengers, and daily ridership varied widely from about 800 to 2,500 daily passengers depending on the day of week and time of year (CCS Planning and Engineering, Inc., January 2000). On Friday, the busiest day for air passenger traffic, AirBART ridership is on average 47 percent higher than average daily ridership (Lea+Elliott, July 2000). AirBART passenger surveys conducted in December 1999 indicate that peak weekday (Friday) peak hour AirBART ridership is 135 passengers per hour per direction, which represents about 12.6 percent of the daily AirBART ridership (CCS Planning and Engineering, Inc., December 1999).

Existing AirBART Service Reliability

Reliability is the ability of a transit service to operate consistently at the scheduled headways and running times. Passengers regard reliability as an important characteristic in transit

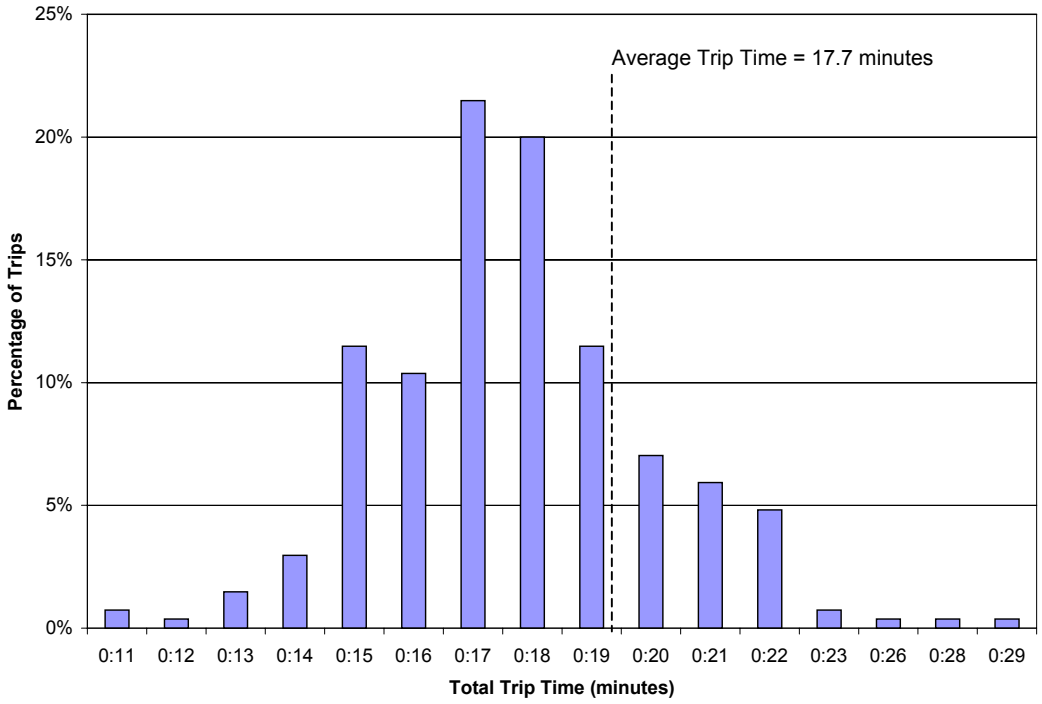
service, particularly when traveling to an airport where passengers are concerned with making scheduled flights. Reliability of the schedule is less important when traveling away from the airport. Therefore, reliable schedule adherence of AirBART is a critical factor in whether people will choose to travel to OIA by BART and the AirBART shuttle service. Poor schedule adherence for AirBART is directly related to traffic delays.

The reliability of the existing AirBART service was measured based upon field surveys of AirBART operations for passenger wait time and in-vehicle travel time. Passenger wait time is the elapsed time between a passenger's arrival at the stop and the bus arrival at the stop, and in-vehicle travel time is the travel time for the bus. As noted above, AirBART operates at a scheduled headway of 10 minutes, and the average passenger wait time is therefore 5 minutes (half of the headway). However, the actual AirBART headway varies throughout the day. The variability of AirBART headways means that actual average wait times for AirBART passengers are sometimes below 5 minutes, but are also often above 5 minutes. During the field surveys of AirBART service, passenger wait times were as long as 26 minutes at the Coliseum BART Station; the observed wait time exceeded 6.5 minutes (1.5 minutes or one standard deviation more than the theoretical average) 15 percent of the time.[1] Passengers waited as long as 35 minutes at OIA, with the observed wait time exceeding 7.0 minutes (2.0 minutes or one standard deviation more than the theoretical average) 15 percent of the time. Moreover, the likelihood of schedule reliability becoming worse due to increased traffic congestion makes AirBART less appealing in the future.

In addition to variability in wait time, there is also variability in the in-vehicle travel time between the Coliseum BART Station and Terminal 1 at OIA. Between the BART station and OIA, although the average one-way in-vehicle travel time was 11 minutes, it took as long as 25 minutes. Of the observed AirBART runs between the BART station and Terminal 1, the in-vehicle travel time exceeded 13 minutes for 15 percent of the observed runs. Between Terminal 2 at OIA and the BART station, the average in-vehicle travel time was 9 minutes, but took as long as 14 minutes. In this direction, the in-vehicle travel time exceeded 11 minutes for 15 percent of the observed runs (CCS Planning and Engineering, Inc., August 2000).

Air passengers are most affected by total trip time rather than in-vehicle travel time. Figure 3.1-1(a) illustrates the variability in the total trip time between the Coliseum BART Station and Terminal 2 at OIA, including wait time for AirBART at the BART station, in-vehicle travel time to OIA, and travel time between Terminal 1 and Terminal 2 at OIA as observed in August 2000. Although the average total trip time was 17.7 minutes, a substantial proportion of air passengers had a total trip time of more than 20 minutes and some of 29 minutes.

[1] The 85th percentile wait time statistically represents the approximate point at which the expected wait time would exceed the mean wait time plus one standard deviation.



Source: CCS Planning and Engineering, August 2000.

Note: Total trip time includes wait time at the Coliseum BART Station, travel time to Terminal 1 and travel time to Terminal 2.

Figure 3.1-1(a)
AirBART Total Trip Time from Coliseum BART Station to OIA (Terminal 2) (3-day summary)

Figure 3.1-1(b) illustrates the variability in the total trip time between Terminal 2 at OIA and the Coliseum BART Station, including wait time for AirBART at Terminal 2 and in-vehicle travel time to the BART station as observed over three days in August 2000. As illustrated in Figure 3.1-1(b), although the average total trip time was 14.5 minutes, a substantial proportion of air passengers had a total trip time of more than 17 minutes and some of 29 minutes.

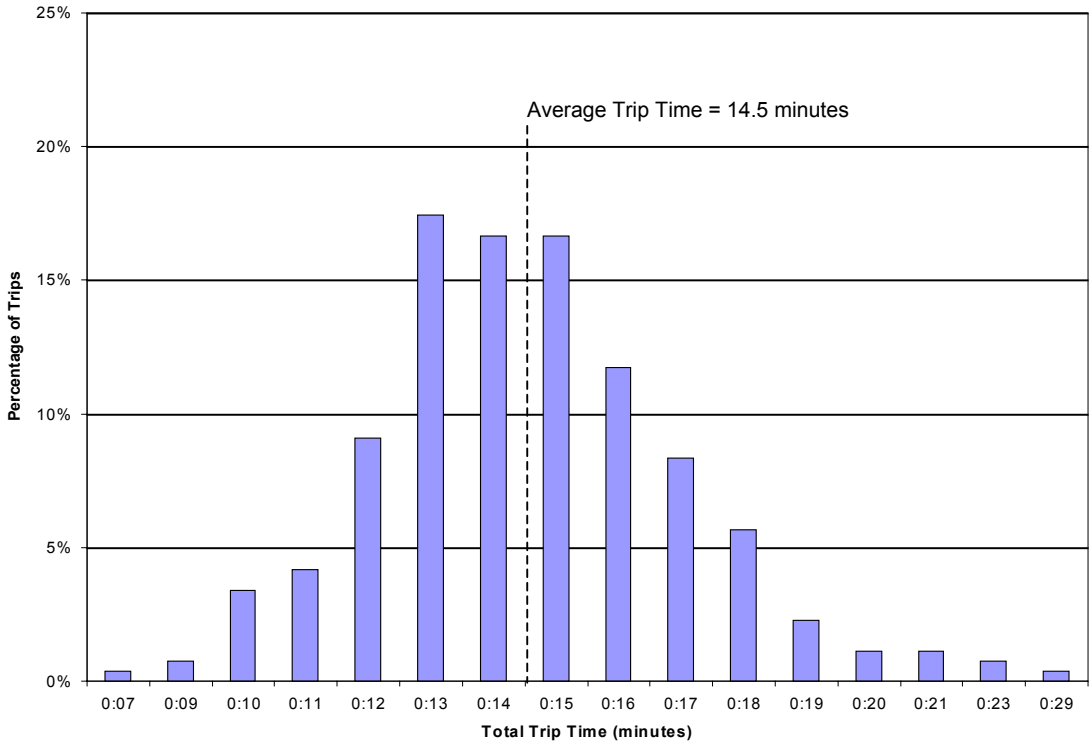
It should be noted that these observations were made on days that were not major holidays, nor were there major traffic delays or coliseum events – all events that would have probably increased the variability of trip times.

Existing Regional Transportation Facilities

Figure 3.1-2 shows the regional transportation facilities in relation to the project corridor. The regional transportation facilities are described below.

Regional Transit System

BART. BART operates heavy rail passenger service between Oakland and San Francisco and the Peninsula, other parts of Alameda County, and Contra Costa County. AirBART and AC Transit Route 58 provide service between the Coliseum BART Station and OIA.



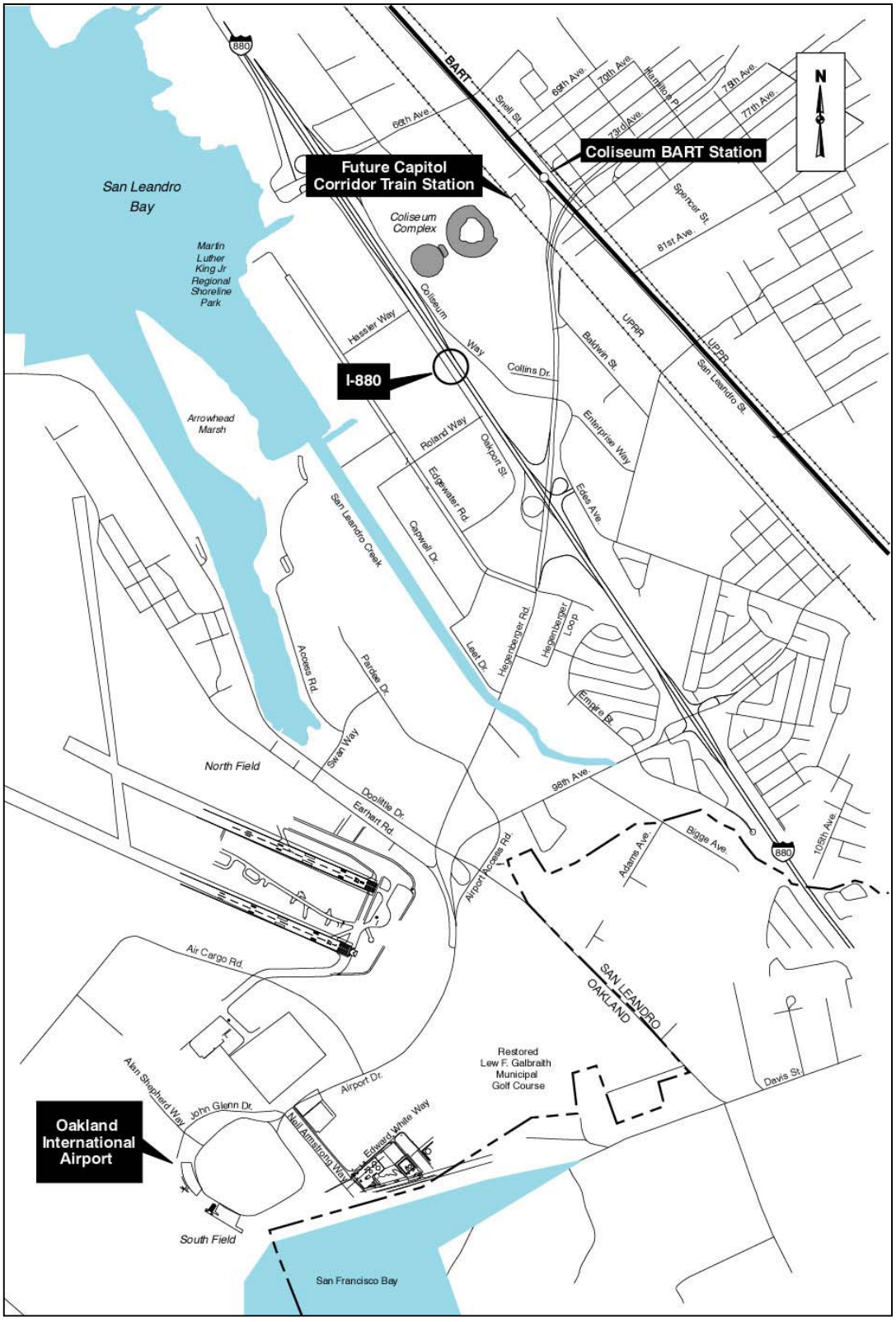
Source: CCS Planning and Engineering, August 2000.

Note: Total trip time includes wait time at Terminal 2 and travel time from Terminal 2 to the Coliseum BART Station.

Figure 3.1-1(b)
AirBART Total Trip Time from OIA (Terminal 2) to Coliseum BART Station (3-day summary)

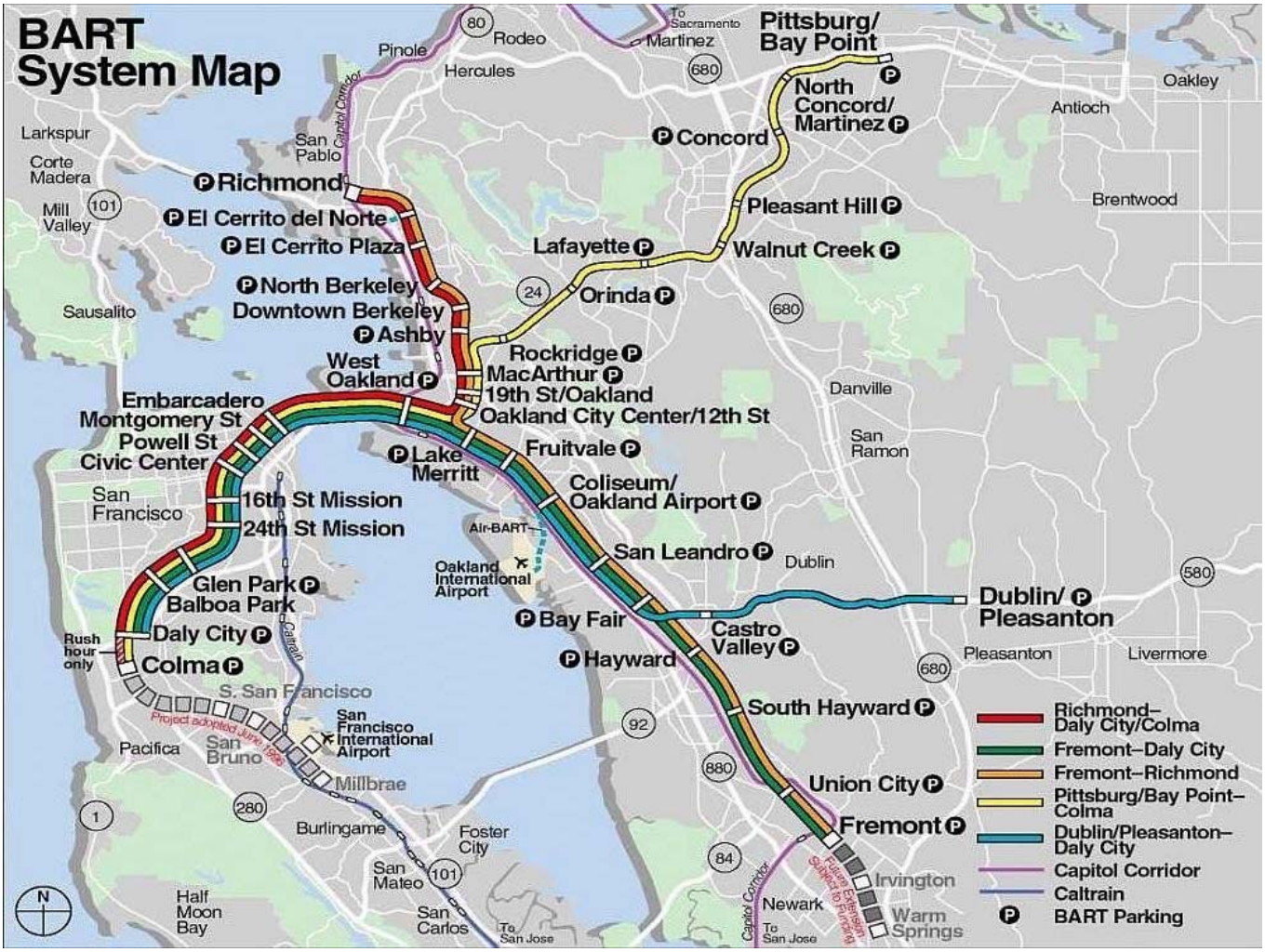
As shown on Figure 3.1-3, the Coliseum BART Station is served by the Richmond-Fremont line, the Fremont-Daly City line, and the Daly City-Dublin/Pleasanton line. BART operates service from about 4:30 a.m. until 1:00 a.m. on weekdays, and the weekday peak period service operates at 15 minute headways on each of the three lines serving the Coliseum BART Station. Estimated BART system-wide ridership for 1999 was 81.4 million trips, and BART expects system-wide ridership to increase to 113.2 million trips by year 2010 (BART, 1999). BART's current average weekday daily ridership is about 318,000 passengers (BART, 2000). On average, 13,220 passengers enter and exit the Coliseum BART Station each day (BART, 1999). Daily passenger activity at the Coliseum BART Station is somewhat higher when an event is held at the Oakland Coliseum.

BART Operations Methodology. The analysis of BART operations was based on ridership levels at the maximum load points in the BART system during the p.m. peak hour. The p.m. peak hour ridership at the maximum load point was compared to the p.m. peak hour capacity at that point. BART develops service plans to provide a maximum load factor of 135 percent, based on seated capacity. This standard allows for standees (BART, 2000).



Source: Wilbur Smith Associates, 2000.

Figure 3.1-2
Regional Transportation Facilities in the Study Area



Source: BART 2001

Figure 3.1-3
BART System Map

In order to analyze the BART system, p.m. peak hour ridership for a typical day in May 2000 was obtained from BART for the peak direction of travel (eastbound for the Transbay lines and southbound for the Richmond-Fremont line).

BART Operating Conditions. The capacity utilization of all of the Transbay lines and the Richmond-Fremont line are presented in Table 3.1-3. The Transbay lines currently operate at the service standard of 135 percent of seated capacity during the p.m. peak hour (load factor of 1.35). According to BART staff, some peak hour trains currently exceed this standard; however, throughout the peak period the standard is achieved. The Richmond-Fremont line operates at 106 percent utilization, indicating available capacity for additional passengers.

Table 3.1-3
Current P.M. Peak Hour BART Ridership at Maximum Load Points

Line	*Ridership*	*Capacity*	*% Capacity Utilization*
Daly City - Dublin/Pleasanton	2,922	2,240	130%
Daly City - Fremont	3,875	2,520	154%
Colma - Pittsburg / Bay Point	8,896	7,000	127%
Colma / Daly City - Richmond	3,999	2,800	143%
Transbay Lines	***19,692***	***14,560***	***135%***
Richmond-Fremont Line	**2,005**	**1,890**	**106%**

Source: Pamela Herhold, BART Financial Planning, May and September, 2000.

Notes:
Maximum Load Point (peak direction/location)
Transbay – eastbound / within the Transbay tube
Richmond – Fremont - southbound / between 19th St. and 12th St.
Capacity (number of peak hour trains/number of peak hour cars/seats per car)
Transbay – 22/208/70
Richmond–Fremont – 4/36/70

Regional Freeways

Freeway Operations Methodology. In order to analyze freeway segments, traffic data were obtained from Caltrans for the segments of I-880 west of Hegenberger Road, between Hegenberger Road and 98th Avenue, and east of 98th Avenue. Traffic data were obtained for these freeway segments because they are the freeway segments nearest to the project corridor, and therefore would be most affected by the project alternatives. Traffic operations on the freeway segments were evaluated using the 1985 Highway Capacity Manual operations methodology updated in 1994 by the Transportation Research Board. The LOS for a freeway segment is defined by the volume-to-capacity (v/c) ratio, and is a measure of the freeway segment's ability to accommodate the hourly traffic volume on that segment. Levels of service range from LOS A (free flow traffic operations, with vehicles unimpeded in their ability to maneuver within the traffic stream) to LOS F (breakdown flow operations, with vehicles in queue). Table 3.1-4 describes the six levels of service and the corresponding ranges of v/c ratios.

Table 3.1-4
Freeway Segment Level of Service Definitions

Level of Service	*v/c Ratio*
A	0.000 to 0.283
B	0.284 to 0.452
C	0.453 to 0.673
D	0.674 to 0.849
E	0.850 to 1.000
F	1.000 or greater

Source: *Table 3-1, 1985 Highway Capacity Manual, 1994 Update*.

OIA attracts air passengers from the entire Bay Area. Many of the air passengers choosing to drive to and from OIA use I-880, I-980, State Route 24, and I-580.

Interstate 880 (I-880). The Nimitz Freeway is the major regional transportation corridor in the study area. This freeway runs generally north-south along the eastern shore of the San Francisco Bay between I-80 (Bay Bridge) and San Jose, but follows an a northwest-southeast orientation in the vicinity of the proposed project. Since Bay Area residents typically consider I-880 traversing an overall north-south direction, this document will continue to refer to "southbound" and "northbound" directions when discussing traffic flows on I-880.

The eight-lane freeway carries average daily traffic of approximately 214,000 vehicles west of Hegenberger Road, and about 202,000 daily vehicles between 98th Avenue and Hegenberger Road. I-880 has average peak hour volumes of about 15,000 vehicles west of Hegenberger Road, and about 14,100 vehicles between 98th Avenue and Hegenberger Road (Caltrans, 2000). Key freeway interchanges near the project study area are located at 66th Avenue, Hegenberger Road, 98th Avenue, and Davis Street. The southbound direction of I-880 south of Hegenberger Road was found to operate at LOS F during the p.m. peak hour in 1991, and is grandfathered and exempt from the LOS E standard established by the Congestion Management Program (CMP), the Alameda County CMP identifies LOS E as the minimum acceptable level of service for defining significant impacts along the study area freeway segments of I-880, except for the segments where LOS F was measured when the CMP was established in 1991, in which case LOS F is acceptable (Alameda County Congestion Management Agency, July 1999).

Interstate 980 (I-980). I-980 provides a connection for the approximate 1.75-mile distance between I-880 and the Route 24/I-580/I-980 interchange. Near I-880, I-980 carries about 177,000 daily vehicles and 12,800 vehicles during the peak hour (Caltrans, 2000). The northbound direction of I-980 was found to operate at LOS F during the p.m. peak hour in 1991, and is grandfathered from CMP requirements for preparation of a deficiency plan (Alameda County Congestion Management Agency, July 1999).

State Route 24. State Route 24 runs generally east-west between I-580 in Alameda County and I-680 in Contra Costa County (see Figure S-1). Near the Caldecott Tunnel, Route 24 carries about 156,000 daily vehicles and approximately 13,000 peak hour vehicles between the Caldecott Tunnel and I-580 (Caltrans, 2000). The eastbound direction of this section of State Route 24 was found to operate at LOS F during the p.m. peak hour in 1991, and like northbound

I-980, is grandfathered from CMP requirements for preparation of a deficiency plan (Alameda County Congestion Management Agency, July 1999).

Interstate 580 (I-580). The MacArthur Freeway is an eight-lane freeway that parallels I-880, about three miles to the north, with connections to I-880 provided by 98th Avenue and 73rd Avenue/Hegenberger Road. Near I-880, I-580 carries about 261,000 daily vehicles and approximately 20,300 peak hour vehicles (Caltrans, 2000). The southbound direction of I-580 between the I-80/I-580 junction and the I-980/Route 24 junction was found to operate at LOS F during the p.m. peak hour in 1991, and is grandfathered from CMP requirements for preparation of a deficiency plan (Alameda County Congestion Management Agency, July 1999).

Freeway Operating Conditions. Existing levels of service for the segment of I-880 immediately north of Hegenberger Road are presented for the weekday a.m. peak hour and p.m. peak hour in Table 3.1-5. The southbound direction of this section of I-880 operates near capacity at LOS E in both the a.m. peak hour and p.m. peak hour. However, the auxiliary lane in the northbound direction provides additional capacity and allows the northbound direction to operate at LOS D during both the a.m. peak hour and p.m. peak hour.

Given that I-880 is the nearest to the project corridor, it was the freeway chosen for analysis. Most of the vehicles traveling to and from OIA would be on this segment of I-880. The ADP EIR assumes that approximately 60 percent of air passenger traffic travels to and from I-880 north and 29 percent of air passenger traffic travels to and from I-880 south of Hegenberger Road. Thus, the segment of I-880 immediately north of Hegenberger Road was chosen for analysis in this report.

Table 3.1-5
Existing A.M. and P.M. Peak Hour I-880 Operating Conditions

	A.M. Peak Hour			P.M. Peak Hour		
Freeway Segment	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***
Northbound I-880 north of Hegenberger Road	7,910	0.72	D	8,580	0.78	D
Southbound I-880 north of Hegenberger Road	7,540	0.86	E	7,820	0.89	E
Northbound I-880 south of Hegenberger Road	7,750	0.88	E	7,950	0.90	F
Southbound I-880 south of Hegenberger Road	7,390	0.84	E	7,240	0.82	E

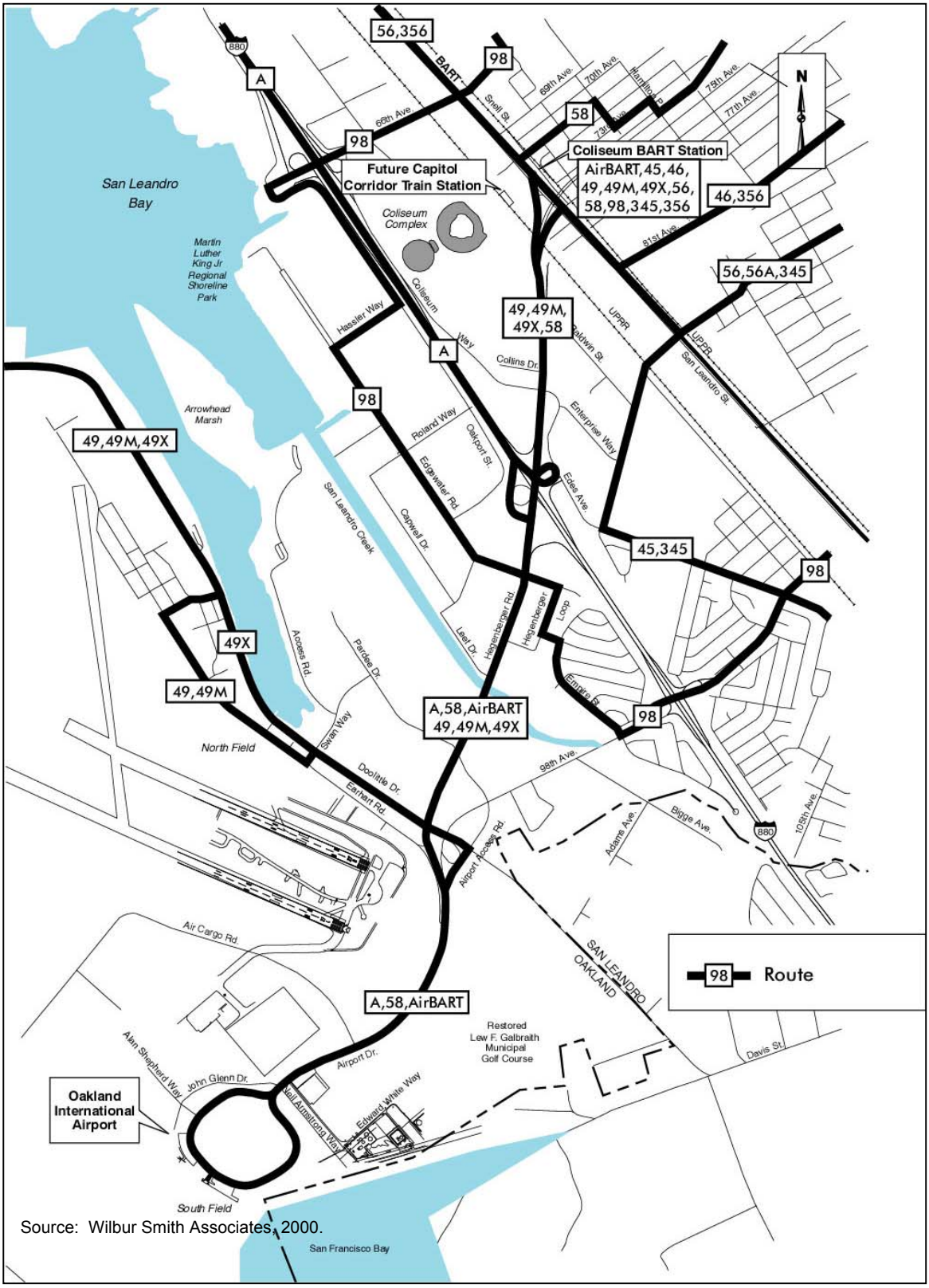
Source: Caltrans 1999 Traffic Data.

Existing Local Transportation Facilities

Figure 3.1-4 shows the local transportation facilities in relation to the project corridor. The local transportation facilities are described below.

Local Transit Service

In addition to AirBART, AC Transit Route 58 also provides service between the Coliseum BART Station and OIA with a daily ridership on this segment of about 390 daily passengers. About 190 of these daily trips board/alight at the Coliseum BART Station, and the remaining 200 trips travel to/from other points along Route 58. Of the 190 daily trips traveling between the Coliseum BART Station and OIA, an estimated 110 of these trips transfer to/from BART and the remaining 80 trips transfer to/from other AC Transit lines (Unpublished 1999 AC Transit data compiled by CCS Planning & Engineering, Inc., March 2000). Route 58 operates 24 hours



Source: Wilbur Smith Associates, 2000.

Figure 3.1-4
AC Transit & AirBART Routes

per day, at headways of 10 to 15 minutes during the morning and evening commute periods (6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m.), about 17 minutes during midday, and 20 to 60 minutes during evenings and weekends.

Local Streets

Hegenberger Road is a major arterial street that provides primary north-south access to OIA. Hegenberger Road is a six-lane, two-way roadway from the I-880 interchange to Doolittle Drive. At the Doolittle Drive intersection, Hegenberger Road becomes Airport Drive, providing two southbound lanes. Left-turn lanes are provided along Hegenberger Road at Edgewater Road, Doolittle Drive, and five other locations between these two intersections. The two-way volume on Hegenberger Road just south of Edgewater Road is about 2,790 vehicles during the morning peak hour and about 3,020 vehicles during the evening peak hour (Wilbur Smith Associates, 2000).

The local off-airport study area network generally experiences peak morning and evening commute hours from 7:45 a.m. to 8:45 a.m., and from 4:30 p.m. to 5:30 p.m., respectively. However, the weekday peak hour for on-airport air passenger traffic occurs midday, when about 6.8 percent of air passenger traffic arrives and departs. During the a.m. commute hour, on-airport air passenger traffic is estimated at 4.6 percent of air passenger daily traffic, and the air passenger activity traffic generation during the evening commute hour is estimated at 5.2 percent of air passenger daily traffic (Port of Oakland, December 1997).

98th Avenue is a three-lane northeast-southwest arterial from Airport Access Road that intersects I-880. The arterial widens to four lanes north of I-880 and provides an interchange with I-580. Currently, 98th Avenue is under construction and has only one northbound lane and two southbound lanes between I-880 and Airport Access Road. The two-way volume on 98th Avenue just south of I-880 is about 2,200 vehicles during the morning peak hour and about 2,110 vehicles during the evening peak hour (Wilbur Smith Associates, 2000).

Airport Drive is a continuation of Hegenberger Road south of Doolittle Drive. Airport Drive is a four-lane northeast-southwest street configured as a loop. It provides direct access to both OIA passenger terminals, the United Airlines hangar and maintenance facility, cargo and car rental facilities, and air passenger and employee parking areas. The two-way volume on Airport Drive just south of Hegenberger Road is about 2,270 vehicles during the morning peak hour and about 2,040 vehicles during the evening peak hour (Wilbur Smith Associates, 2000).

Doolittle Drive (State Route 61) serves as the primary east-west arterial in the vicinity of OIA. State Route 61 begins at Davis Street (State Route 112) in San Leandro and continues northwest through Oakland to the City of Alameda. It is a four-lane undivided highway within the study area. The two-way volume on Doolittle Drive just east of Hegenberger Road is about 2,030 vehicles during the morning peak hour and about 2,780 vehicles during the evening peak hour (Wilbur Smith Associates, 2000).

Edgewater Road is a four-lane parkway that runs parallel to I-880, just south of the freeway, and intersects Hegenberger Road less than 500 feet from the I-880 southbound off-ramp

intersection with Hegenberger Road. The two-way volume on Edgewater Drive just west of Hegenberger Road is about 1,202 vehicles during the morning peak hour and about 1,287 vehicles during the evening peak hour (Wilbur Smith Associates, 2000).

Intersections

Key Study Intersections. Existing traffic conditions were assessed for seven signalized intersections in the study area, including:

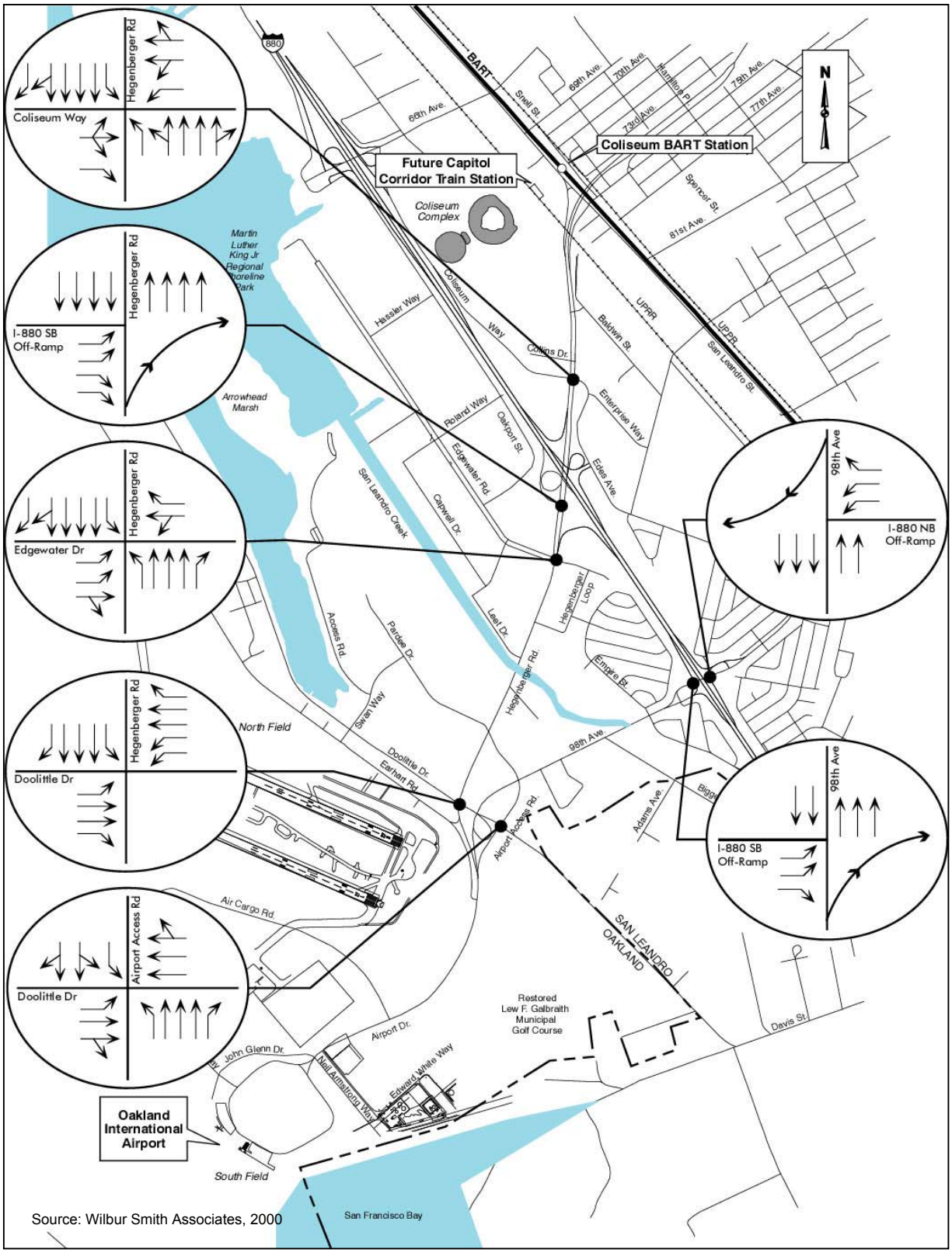
- Hegenberger Road/Edes Avenue/Coliseum Way
- Hegenberger Road/I-880 Southbound Off-ramp
- Hegenberger Road/Edgewater Road
- Hegenberger Road/Doolittle Drive
- Airport Access Road/Doolittle Drive
- 98th Avenue/I-880 Southbound Off-ramp
- 98th Avenue/I-880 Northbound Off-ramp

The selected study intersections are parts of the primary access routes between regional transportation facilities (I-880 and BART) and OIA, and are located within the project study area. Figure 3.1-5 illustrates the existing lane configurations at each of the study intersections.

Intersection Operations Methodology. The capacity of streets is defined as the maximum number of vehicles that can pass through their intersections with other streets. Capacities are typically calculated on an hourly basis and expressed in passenger car equivalents (pcph). According to the *1985 Highway Capacity Manual* updated in 1994 by the Transportation Research Board (TRB), the capacities of signalized intersections are based on three sets of inputs: 1) geographic conditions, including number of lanes, area type (central business district or other), and the existence of parking; 2) traffic conditions, including vehicle volumes by movement, vehicle classification, the number of parking maneuvers, pedestrians conflicts; and 3) signalization conditions, including signal cycle length, phasing, and green-time ratios.

Level of service for signalized intersections is defined in terms of average stopped delay, with the conditions that a driver is likely to encounter at each level of service as shown in Table 3.1-6. Intersection levels of service range from LOS A (very low delay, i.e., up to five seconds per vehicle) to LOS F (poor progression, i.e., delays in excess of 60 seconds per vehicle). The City of Oakland designates LOS D (with delay in the range of 25 to 40 seconds per vehicle) as the minimum acceptable service level for intersection operations (Fay, April 2000). Table 3.1-6 provides more detailed descriptions of the six levels of service, A through F, for signalized intersections.

Intersection Operating Conditions. Turning movement volumes at the seven study intersections were collected on a typical weekday from 7:00 to 9:00 a.m. and from 4:00 to 6:00 p.m. While the peak period for air passenger travel is midday, the combined traffic generated by OIA and other land uses in the project area during the morning and evening peak commute periods is higher than the traffic volumes on Hegenberger Road during the midday period.



Source: Wilbur Smith Associates, 2000

Figure 3.1-5
Existing Intersection Lane Configurations

Table 3.1-6
Signalized Intersection Level of Service Definitions

Level of Service	***Stopped Delay (sec/veh)***	***Typical Traffic Condition***
A	< 5.0	Insignificant Delays: Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
B	5.1 - 15.0	Minimal Delays: Generally good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay. Drivers begin to feel restricted.
C	15.1 - 25.0	Acceptable Delays: Fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear, though many still pass through the intersection without stopping. Most drivers feel somewhat restricted.
D	25.1 - 40.0	Tolerable Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. Queues may develop but dissipate rapidly, without excessive delays.
E	40.1 - 60.0	Significant Delays: Considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles and long queues of vehicles form upstream.
F	> 60.0	Excessive Delays: Considered to be unacceptable to most drivers. Often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay levels. Queues may block upstream intersections.

Source: *Highway Capacity Manual*, Special Report No. 209, Third Edition, Transportation Research Board, Washington, D.C. 1985 (Updated 1994).

The data were used to determine average traffic conditions for the peak hour of the two-hour morning peak period and peak hour of the two-hour evening peak period, which represents the time period when traffic conditions in the area are most congested, and therefore yield the most conservative basis for traffic impact analysis.

Table 3.1-7 summarizes the resulting average vehicle delays and levels of service for each study intersection during the a.m. peak hour and p.m. peak hour. None of the seven study intersections currently operate at LOS E or F during the a.m. peak hour, and two intersections currently operate at an unacceptable level (LOS E) during the p.m. peak hour. At the intersection of Hegenberger Road and Edes Avenue, both the northbound through traffic on Hegenberger Road and the westbound left-turn traffic from Edes Avenue (the conflicting approach) have heavy traffic volumes, causing substantial delays. At the intersection of Airport Access Road and Doolittle Drive, the heavy traffic volumes on the eastbound left-turn and through movements during the p.m. peak hour conflict with the westbound traffic.

Table 3.1-7 ***Existing Intersection Operating Conditions***				
Study Intersection	***A.M. Peak Hour***		***P.M. Peak Hour***	
	Average Delay (sec/veh)	***Level of Service***	***Average Delay (sec/veh)***	***Level of Service***
Hegenberger Rd./Edes Ave.	29.9	D	40.2	E
Hegenberger Rd./I-880 Southbound Off-ramp	14.5	B	12.1	B
Hegenberger Rd./Edgewater Road	18.6	C	29.4	D
Hegenberger Rd./Doolittle Dr.	24.3	C	21.2	C
Airport Access Rd./Doolittle Dr.	20.7	C	40.5	E
98th Ave./I-880 Southbound Off-ramp	7.7	B	7.0	B
98th Ave./I-880 Southbound Off-ramp	8.8	B	10.9	B

Source: Wilbur Smith Associates, 2000.

Pedestrian and Bicycle Facilities

In general, the project corridor is not a pedestrian-oriented area, with discontinuous sidewalks in some areas and an absence of crosswalks at some intersections. Sidewalks are generally provided on both sides of Hegenberger Road; however, there are gaps in the sidewalk on the west side of Hegenberger Road between Leet Drive and Edgewater Road and between San Leandro Creek and Pardee Drive. There is a continuous sidewalk on the east side of 98th Avenue between Airport Access Road and I-880. Sidewalks are not provided on either side of Airport Access Road. Crosswalks are not provided across all four legs of key intersections in the study area. The intersection of Doolittle Drive and Hegenberger Road has crosswalks across two of the four legs of the intersection, and the intersections of Hegenberger Road/Edgewater Road and Hegenberger Road/Edes Avenue have crosswalks on three of the four approaches. Pedestrian activity in the study area was observed to be light in general, and pedestrian activity within the project corridor was greatest near the AC Transit bus stop at the intersection of Edgewater Road and Hegenberger Road.

The San Francisco Bay Trail follows the shoreline in the vicinity of the project, continuing from the Martin Luther King Jr. Regional Shoreline, along both the north and south banks of San Leandro Creek, and along Airport Channel to intersect with Doolittle Drive near Swan Way. There are only a few existing bicycle routes in the study area. Class II (striped and signed) bicycle lanes are provided on Doolittle Drive between Hegenberger Road and Davis Street. There are no bicycle routes on Hegenberger Road, Airport Drive, or 98th Avenue within the vicinity of the proposed project. Bicycle activity in the study area was observed to be generally light. Two bicycle lockers are provided at the Coliseum BART Station, both of which are currently rented. The station also provides 40 bicycle parking spaces with bicycle racks. Weekday observation indicates that only four bicycles were parked at the bicycle racks at 9:00 a.m. (BART, 2000).

Parking

There is limited on-street parking available on the east side of 98th Avenue, east of Airport Access Road, and on Hegenberger Road between Doolittle Drive and Edgewater Road. Many of the on-street parking spaces at these locations were available during the weekday a.m. peak hour and p.m. peak hour. There are about 98 parking spaces on Hegenberger Road between Edgewater Road and Airport Access Road/Pardee Drive, for which parking is limited to two

hours between 8:00 a.m. and 6:00 p.m.. Weekday observations indicated that approximately 17 of these spaces were occupied during the midday period.

There are 1,026 automobile parking spaces at the Coliseum BART Station. Weekday observation shows that about 659 of these spaces (64 percent) are filled by 9:00 a.m. (BART, 2000).

Existing on-airport public parking consists of a total of 8,132 surface spaces including: 3,609 long-term parking spaces, 991 short-term parking spaces, 2,642 economy lot parking spaces, 190 valet parking spaces and 700 overflow parking spaces. Over the past 1.5 years, on-airport parking spaces have routinely been completely occupied, and OIA began utilizing the 700-space overflow parking lot in 1999 (Mansel, August 2000).

As described in the Airport's ADP EIR (1997), under the proposed ADP, on-Airport parking supply would increase to 12,545 spaces. Assuming implementation of the ADP and an estimated 22.4 MAP in year 2010, the ADP EIR estimates a future average weekday occupancy rate that would result in a shortfall of approximately 800 spaces in 2010. The peak weekend parking demand would result in a shortfall greater than 800 spaces. The estimated shortfall does not take into account any supply that might be provided by off-site private parking facilities or by any reduction in parking demand resulting from an increase in transit use. The development of additional on- or off-airport parking lots and the Connector are identified in the ADP EIR as potentially lessening the effects of the proposed ADP, but the feasibility of implementing the measures was noted to be uncertain. Assuming that the on-airport parking supply would remain at 12,545 spaces as estimated with the ADP in 2010 and air passenger travel at OIA grows from 22.4 MAP in 2010 to 24.7 in 2020, the future average weekday shortfall would grow from 800 spaces in 2010 to 2,170 spaces in 2020.

Conditions during Coliseum Events

Before and after Coliseum events, Hegenberger Road typically is congested. Traffic control officers direct traffic operations at the key intersections on Hegenberger Road between I-880 and San Leandro Street. There are over 170 professional basketball, baseball and football games at the Coliseum each year, as well as other events. The greatest traffic impacts tend to occur after the event when a large crowd of patrons attempts to leave all at once.

Future Transportation Network

The future transportation network serving OIA is expected to be substantially different from the existing transportation services. The changes to the roadway network and transit system described below would improve access to OIA and would substantially modify travel patterns between the Airport and I-880, and between Bay Farm Island, the southernmost part of the City of Alameda, and I-880.

Freeway Network

Although there are no plans for improvements to the freeway network in the immediate vicinity of the project corridor, there are plans to widen westbound I-238 between I-580 and I-880 from two lanes to three lanes. There are also plans to improve the I-880/Route 92

interchange in Hayward, and widen the San Mateo-Hayward bridge and approaches from four lanes to six lanes between I-880 in Alameda County and the high-rise section of the bridge. These freeway improvements will improve regional access to OIA and the project corridor.

Local Roadway Improvements

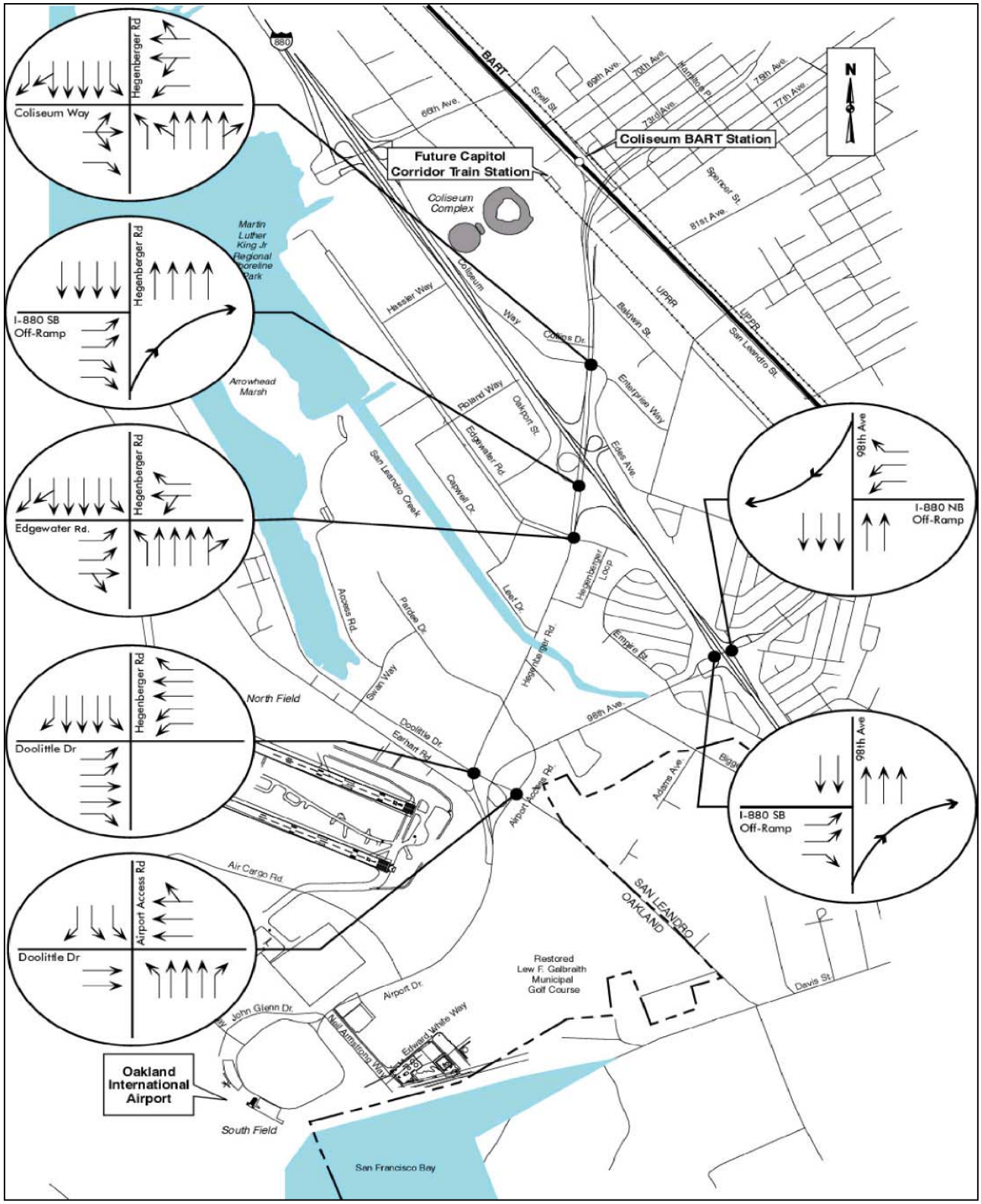
Roadway improvements are planned as part of the ADP and are included as part of the future 2005 and 2020 baseline conditions. Improvements that would benefit AirBART buses as well as motorists include the conversion of a northbound right-turn lane at the intersection of Hegenberger Road/Edgewater Road to a shared right-through lane, a grade separation at the intersection of 98th Avenue and Doolittle Drive and a grade separation at the intersection of Air Cargo Road (Airport Road) and Airport Drive.[2]

The existing signal coordination along Hegenberger Road allows efficient progression of traffic along the AirBART route. Over time, as congestion throughout the corridor increases, the average speed throughout the corridor will decrease, and the City of Oakland will periodically modify the timings of the signals to reflect changes in traffic volumes, and thereby optimize progression throughout the corridor (Mack, May 2000). The progression can be optimized by adjusting the offset (the amount of time between the beginning of a particular phase at a signal and the beginning of the same phase at the adjacent signal) between signals in the corridor, which coordinates the signals so that vehicles generally arrive during the "green" phase at each signal. Progression can be optimized for all levels of traffic congestion, although as traffic conditions become very congested, the benefit of optimizing the progression between signals is limited by queues of vehicles at the intersections. In addition, the implementation of the Airport Roadway Project would involve optimizing the signal timings. Although average travel speeds in 2005 and 2020 throughout the corridor would be lower than today, there would still be efficient progression from signal to signal along the route.

Airport Roadway Project

The proposed Airport Roadway Project (ARP) is a component of the ADP, and would provide an arterial roadway extending 98th Avenue from I-880 to OIA, and through the Airport to Bay Farm Island in the City of Alameda. The ARP would include the construction of a four lane roadway from Harbor Bay Parkway to Airport Drive and the construction of a grade-separated intersection at Air Cargo Road (Airport Road) and Airport Drive. The ARP would result in increased traffic volumes on the existing local roadway network, thereby warranting several improvements to the local intersections and roadway segments, including modification of intersections at Hegenberger Road/Doolittle Drive, Airport Access Road/Doolittle Drive and Airport Access Road / 98th Avenue (currently under construction), construction of a grade-separated intersection at Doolittle Drive/98th Avenue, and expansion of 98th Avenue to six lanes between Doolittle Drive and I-880 (currently under construction). The future lane configurations at the study intersections are shown in Figure 3.1-6.

[2] The conversion of the right-turn-only lane to a shared right-through lane is a component of the Airport Development Plan. Although it is not project related, the right-lane conversion will have minor beneficial impacts on the overall traffic flow and, as a result, will benefit the AirBART route.



Source: Wilbur Smith Associates, 2000

Figure 3.1-6
Future (2005 and 2020) Intersection Lane Configurations

Airport Drive Access Reconfiguration

The proposed Airport Drive reconfiguration is another component of the ADP. The existing Airport Drive access loop that serves the main passenger terminal complex would be realigned and widened as part of the ADP. The project would include construction of one additional inbound traffic lane (for a total of three lanes) between existing Air Cargo Road and the passenger terminals, plus one additional outbound lane (for a total of three lanes). In front of the passenger terminals, Airport Drive would be reconfigured from a one-level roadway with seven lanes to a two-level roadway with seven lanes on the lower or baggage claim level and four lanes on the upper or ticketing level. None of these improvements would occur under the Partial ADP scenario (see Section 2.1.2, Partial Airport Development Program of the DEIR/DEIS).

Capitol Corridor Coliseum Station

The Capitol Corridor route extends from Auburn through Sacramento, Martinez, Berkeley, Oakland, and Fremont to San Jose. In the vicinity of the project corridor, the Capitol Corridor runs in the northwest-southeast direction, parallel to San Leandro Street. A contract has been issued for the preliminary design and engineering for a station along the Capitol Corridor near the Oakland Coliseum, as shown in Figure 3.1-3. The station could be in operation by summer of 2001 (Skoropowski, August 2000).

BART Routes

Three BART routes serve the Coliseum Station, including the Daly City—Dublin/Pleasanton route, the Daly City—Fremont route, and the Richmond—Fremont route. Peak hour headways on the Fremont and Dublin/Pleasanton routes are expected to remain the same in 2005, although peak hour train lengths are expected to increase to ten cars on both of these lines, thereby increasing peak hour capacity. By 2005, service on the Daly City—Fremont route is planned to operate as it does currently, with a minimum weekday base headway of 15 minutes, although train lengths are expected to be shorter than they are today. By 2020, BART plans to increase the number of Transbay cars operating in the peak direction during the peak hour from the current level of 208 cars to 250 cars (BART, 2000).

Additional Transbay BART Capacity

BART's Advanced Automatic Train Control (AATC) will reduce the minimum headways through the Transbay tube from 2.5 minutes to 2.0 minutes, allowing greater Transbay capacity during peak periods. To facilitate the increased Transbay capacity, BART anticipates making modifications to system-wide service, including service currently provided on the three lines serving the Coliseum Station: the Richmond—Fremont line, the Fremont—Daly City line, and the Daly City—Dublin/Pleasanton line. The changes to service related to the implementation of AATC technology also will provide increased frequency and capacity to the two Transbay lines of the three BART lines that serve the Coliseum BART Station (BART, 2000).

Proposed Bay Trail Extension

Currently, the San Francisco Bay Trail follows the shoreline in the vicinity of the project, continuing from the Martin Luther King Jr. Regional Shoreline, along both the north and south

banks of San Leandro Creek, and along Airport Channel (a part of San Leandro Bay) to intersect with Doolittle Drive near Swan Way. Proposed extensions of the Bay Trail include the provision of bike lanes on Doolittle Drive and multi-use paths on Airport Access Road and around the Lew F. Galbraith Municipal Golf Course. This extension would connect the trail that currently exists at Swan Way and Doolittle Drive to within a few hundred feet of the Oyster Bay Regional Shoreline (see Section 5.2, Section 4(f) Evaluation).

Applicable Plans and Regulations

Hegenberger Road-98th Avenue Gateway Development Study

The Hegenberger Road-98th Avenue Gateway Development Study (City and Port of Oakland, May 1998) identifies Hegenberger Road as a gateway to the City of Oakland and identifies actions intended to increase the potential for new commercial development in the Gateway and improve community access to the Gateway. Specific actions include street lighting and landscaping along Hegenberger Road and 98th Avenue, and integration of the proposed BART-Oakland Airport Connector into Hegenberger Road while improving the pedestrian access and overall appearance of the Hegenberger Road Corridor. The study proposes a lighting plan that will increase the intensity of lighting in the project corridor by a factor of 4 or 5, thereby improving the perception of security and enhancing the pedestrian environment. The study also proposes to extend and complete sidewalks on the west side of Hegenberger Road, and enlarge and emphasize pedestrian crossings along Hegenberger Road. Along 98th Avenue, the ARP includes eight-foot-wide sidewalks on both sides of 98th Avenue, and the Gateway study proposes to enlarge and emphasize pedestrian crossings along the widened 98th Avenue.

24-Hour Time Limits at BART Parking Facilities

BART recently adopted 24-hour time limits at all BART station parking facilities. The time limits are intended to control the use of BART parking facilities for long-term parking.

City of Oakland General Plan

The Land Use and Transportation Element of the *City of Oakland General Plan* (City of Oakland, March 1998) identifies the improvement of transportation links between the Airport and business and neighborhood activity centers in the City as a governing policy, and specifically identifies the AirBART shuttle service as one of these links. In addition, the Land Use and Transportation Element of the General Plan identifies the BART-Oakland Airport Transit Connector as a regional transportation improvement project intended to meet Policy Framework objectives identified in the Plan.

3.1.3 Impact Assessment and Mitigation Measures

Standards of Significance

Freeway Segments

The Alameda County Congestion Management Agency does not have established significance criteria for freeways. The Alameda County Congestion Management Program uses Level of Service E as the minimum acceptable level of service for the monitoring of existing conditions on freeway segments (Alameda County Congestion Management Program, 1999). LOS E also is

the standard used in all California counties to define acceptable operations on urban freeways. Thus, for the purposes of this FEIR/FEIS, if the level of service for the segments of I-880 in the study area were to degrade to LOS F due to the AGT, the effect on freeway operations would be considered a project-specific significant impact.

Intersections

LOS D has been identified as the threshold for defining significant impacts at intersections. This threshold is the standard currently used by the City of Oakland, where the study intersections are located (Fay, April 2000). Therefore, a significant impact would occur at an intersection if traffic operations were to degrade to worse than LOS D as a result of the preferred alternative. There are no established standards of significance for intersections that currently operate at LOS E or F. For the purposes of this analysis, a significant impact would occur if the preferred alternative would 1) cause the level of service at an intersection operating at LOS E under future conditions to deteriorate to LOS F, 2) increase average critical movement vehicle delay by six or more seconds at an intersection operating at LOS E, or 3) increase average critical movement vehicle delay of four or more seconds at an intersection operating at LOS F. These thresholds are consistent with the thresholds used for other EIRs in the City of Oakland (Fay, April 2000).

Parking

There are no established criteria for the assessment of parking impacts. However, for the purposes of this study, a significant parking impact is considered to occur if the preferred alternative substantially reduces parking supply more than it reduces the parking demand.

Transit

There are no established criteria for the assessment of transit impacts. For the purposes of this study, a significant transit impact is considered to occur if the preferred alternative substantially increased transit demand that could not be accommodated by existing or planned transit capacity.

Pedestrians and Bicycles

There are no established criteria for the assessment of pedestrian or bicycle impacts. A significant pedestrian impact would be identified if the preferred alternative resulted in substantial overcrowding on public sidewalks, creation of hazardous conditions for pedestrians, or elimination of pedestrian access to adjoining areas. Similarly, the preferred alternative would be considered to have a significant effect on the environment if it would create particularly hazardous conditions for bicyclists or eliminate bicycle access to adjoining areas.

Methodology

This section presents the steps involved in the development of patronage and traffic projections for 2005 and 2020 conditions. To evaluate the effect of the Project on transit ridership and vehicle trips to and from OIA, a two-part approach was used.

1) Connector ridership estimates were developed using a mode-choice model, which assigned the future air passenger and employee trips to the future transit network for the Project. The mode-choice model assumptions are discussed in detail in Appendix B of the FEIR/FEIS.

2) Traffic projections were developed for the regional transportation system serving OIA using a travel demand model, based on such inputs as projections of population, employment, and anticipated changes to the transportation network.

The development of the transit patronage and development of traffic projections are described below.

Development of Connector Patronage

The number of future air passengers was based on the Regional Airport Planning Committee (RAPC) forecasts conducted for MTC (Roberts Roach & Associates, February 2000). The total annual air passengers at OIA were estimated to be 13.35 million air passengers (MAP) in 2005 and 24.74 MAP in 2020. The RAPC forecasts also projected that 96 percent of the air passengers would be non-connecting and would require ground access. Employment at OIA was estimated to be 12,630 average daily direct employees in 2005 and 16,700 average daily direct employees in 2020 (Port of Oakland and BART, June 2000).

Connector ridership was forecasted for the Project based on a mode choice model that estimates the number of persons traveling between OIA and various regional origins and destinations, plus the time and cost of making each trip by transit versus automobile. The mode choice model was sensitive to a range of variables affecting the decision about how air passengers and employees at OIA travel to OIA, including travel times, fare levels and cost of travel, traffic congestion, and need to transfer between transit modes. The mode choice model was validated with the existing AirBART service based on information on current air passenger and employment levels, current AirBART patronage, and extensive surveys of AirBART service including travel times, dwell times, schedule adherence, passenger wait times, and access times.

Perceived travel time is typically considered to be the most critical factor in mode choice. Travel times between origin-destination pairs consist of two components: "in-vehicle" time, which is the travel time for the mode; and "out-of-vehicle" time, which includes access time, wait time, and transfer time. In performing travel demand estimates, more weight is given to the out of vehicle time, since walking and waiting time is perceived as a greater inconvenience as compared to time spent in the vehicle. The perception of travel time is also affected by the reliability of the transportation mode. Service reliability is particularly important at an airport where the system's on-time performance affects passengers' ability to connect to flights. The mode choice model accounts for average service reliability by using average travel times observed during congested peak period road conditions during survey periods. However, the model does not directly use travel times based on "worst-case" congested conditions that some passengers may have experienced when using the existing AirBART service. The model contains weighting coefficients for various parameters. These coefficients have been adjusted so that the model's predictions under "existing conditions" replicate actual observations of passenger mode choice. As a result, the model's coefficients are assumed to incorporate any

tendency of passengers, to choose other travel modes in preference to AirBART, based on the passengers' perception that AirBART may require extra travel time in congested traffic conditions.

Schedule adherence affects the in-vehicle travel time and the passenger wait time. Poor schedule adherence may result from traffic delays or vehicle breakdowns. Since traffic delays and interference are primary causes of poor schedule adherence, the most effective approach for achieving better schedule adherence is through separation of transit right-of-way from other traffic.

Comfort and convenience also affect the mode choice, but are difficult concepts to quantify because they encompass many qualitative factors. While comfort is related to the vehicle, convenience refers to the overall system. Most important in defining comfort are the availability of a seat and the quality of ride (affecting users' ability to comfortably stand with luggage, read or write). Good off-peak service, clear system information, and well-designed and protected waiting facilities are all user conveniences. Evaluation of conveniences is predominately qualitative.

Table 3.1-8 presents the average peak hour travel time comparison for the trip between the Coliseum Station and OIA for the No Action AirBART service and the preferred alternative. The total trip times include wait, transfer, and rider (in-vehicle) travel times. The AGT, which would have an exclusive right-of-way, would provide consistently shorter travel times than the No Action Alternative. Total trip times for the preferred alternative would be between 13 and 14 minutes less than the average No Action Alternative trip. These average in-vehicle travel times assume no interference from Coliseum event traffic, major seasonal air travel crowds, traffic accidents or other possible interferences.

Table 3.1-8
Peak Hour In-Vehicle Travel Time / Total Trip Time (minutes) for Connector Service between Coliseum BART Station and OIA

Alternative	*2005*	*2020*
No Action Alternative (average)	13 / 25.5	14 / 24.5
AGT with intermediate stations	6.4/11.2	6.4/11.2

Source: CCS Planning and Engineering, Wilbur Smith Associates, Lea + Elliott
Notes: First number represents in-vehicle travel times and second number represents total trip times.

The AGT system was assumed to operate at the same frequency during the peak hour in 2005 as during the peak hour in 2020. Because the AGT system would operate at exactly the same headway in 2005 and 2020, and because the exclusive right-of-way would allow the AGT to operate with exactly the same in-vehicle travel time for 2005 and 2020, the total trip time in 2005 and 2020 would be the same.

Table 3.1-9 presents the estimated weekday daily and peak hour ridership for the No Action Alternative and the preferred alternative. The AGT would result in more air passengers and employees traveling to and from OIA by BART and the Connector service than under the No Action Alternative. The increased ridership would primarily be due to the shorter in-vehicle

travel times, and reduced wait times for the Connector and no wait at the fare machines (purchase of a separate ticket for AGT not being necessary). Increased ridership for the AGT would also be due to the substantially improved service reliability. The average daily Connector ridership on Fridays in August is expected to be 47 percent higher than the average annual daily ridership, and this factor was used for system design assumptions presented in Section 2 of this report. Typically, Fridays are the peak travel day of the week and August is the peak month of the year. An average Friday in August was used as the "design day", the ridership level that the system would need to be able to meet.

Table 3.1-9
Estimated Weekday Daily and Peak Hour Connector Ridership

Time Period	Existing	2005 (13.35 MAP)		2020 (24.74 MAP)	
	(9.88 MAP)*	No Action	AGT	No Action	AGT
Daily	1,230	1,880	7,380	3,340	13,540
Peak Hour	140	230	890	420	1,600
Annual	463,100	686,200	2,694,450	1,219,100	4,943,900

Source: CCS Planning and Engineering, Inc.
Note:
*Includes AirBART passengers only.

The Connector ridership characteristics are described in more detail in the following sections. Table 3.1-10 presents the detailed results for the AGT system. Ridership and mode choice model assumptions are discussed in detail in Appendix B of the FEIR/FEIS.

The AGT, which would provide an exclusive right-of-way for the Connector service, would substantially reduce the in-vehicle travel times. Overall, the AGT would capture more than three times the current market share of air passengers and employees traveling to and from OIA. In 2005 and 2020, about 13.2 percent of the daily local (non-connecting) air passengers, and 1.9 percent of the employee trips are projected to use the AGT system and BART.

Development of Traffic Forecasts

The development of 2005 and 2020 traffic projections was based on the Alameda County Congestion Management Agency (Alameda CMA) travel demand model. The Alameda CMA model is typically used to obtain travel estimates of future growth in Alameda County and the surrounding greater Bay Area. The Association of Bay Area Governments (ABAG) *Projections '98* for the San Francisco Bay Area provides the land use database for the travel demand model. The model quantifies shifts in travel patterns due to changes in the transportation network, land use, shifts in modal split, and other factors such as traffic congestion and parking costs. Although the Alameda CMA model includes activity at the OIA, the travel demand model outputs were adjusted to reflect the most recent projections of air passengers, air cargo, and employment at OIA for year 2005 and 2020 conditions.

Since the future transportation network in the Alameda CMA model does not include the construction of the Airport ADP or the ARP, adjustments were made to the model output to

reflect these changes to the road network. The ARP elements include the grade-separated interchange currently being constructed at the intersection of Doolittle Drive and 98th Avenue, the widening of 98th Avenue, the construction of Airport Drive, and the grade-separated interchange Airport Road (currently named Air Cargo Road) and Airport Drive.

Table 3.1-10
Preferred Alternative Ridership Forecasts for 2005 and 2020

	2005	***2020***
Air Passengers		
MAP (Million Annual Passengers)	13.35	24.74
Local (non-connecting) Air Passengers	12,800,000	23,750,000
AGT Mode Share of Local Air Passengers	13.2%	13.2%
Annual Air Passengers on AGT	1,686,300	3,125,850
Average Daily Air Passengers on AGT[1]	4,620	8,560
Employees		
Average Daily Employee Trips	18,040	23,860
AGT Mode Share	1.9%	1.9%
Annual Employee Trips on AGT	127,400	169,350
Average Daily Employee AGT Trips	350	460
Intermediate Stations		
Average Daily Trips	2,410	4,520
Annual Trips on AGT	880,800	1,648,700
Total Ridership		
Total Average Daily AGT Ridership	***7,380***	***13,540***
Total Annual AGT Ridership	***2,694,450***	***4,943,900***

Source: Wilbur Smith Associates.
Note:
[1] Average daily passengers is the total annual ridership divided by 365.

In addition, while the Alameda CMA model forecasts traffic volumes for street segments, it does not forecast specific turning movement volumes at intersections. The CMA model forecast output was adjusted to reflect the study area road network in greater detail and produce peak hour turning movement traffic volumes at the study intersections. The adjustments to model output to account for peak-hour vehicle trip generation for air passengers and air cargo at OIA were based on projected traffic volumes in the *ADP EIR* (December 1997), and reflect the most recent projections of air passengers, air cargo, and employment at OIA.

The Alameda CMA model was used in this analysis because its use provides consistency with other regional planning efforts and the model provides the tools required to estimate the impacts of the preferred alternative on the regional roadway and transit network. In order to estimate the ridership that would result from the intermediate stations, a separate site-specific evaluation of the land uses currently planned for the station areas was conducted. The estimated ridership resulting from this analysis was then added to the ridership that was

estimated by the CMA model without the intermediate stations, but taking into account the travel time that would be added by the stops at the intermediate stations.

As a result of the preferred alternative, there would be fewer vehicles traveling on the regional freeways and local roadways for both 2005 and 2020 conditions. This reduction in vehicles traveling to and from OIA during the a.m. peak hour and p.m. peak hour was estimated based on the increase in transit ridership and an average vehicle occupancy for vehicle trips to and from OIA. Average vehicle occupancy was based on data from MTC, and estimated to be 2.3 persons per vehicle. The traffic volumes were also adjusted to account for the removal of AirBART buses from the roadway network.

Table 3.1-11 presents the projected increase in daily transit trips and the reduction in the number of peak hour vehicle trips for the preferred alternative. The AGT would eliminate AirBART buses from the roadways, and result in a total reduction of 530 and 590 peak hour vehicles for the a.m. peak hour and p.m. peak hour, respectively in the year 2020. Traffic volumes developed for the No Action Alternative were reduced by these volumes to yield the AGT traffic volumes.

Table 3.1-11
Increase in Daily Transit Ridership and Net Reduction in Peak Hour Vehicle Trips over No Action Alternative

	Year 2005			***Year 2020***		
	Increase in Average Daily Transit Ridership	***Net Reduction in A.M. Peak Hour Vehicles***	***Net Reduction in P.M. Peak Hour Vehicles***	***Increase in Average Daily Transit Ridership***	***Net Reduction in A.M. Peak Hour vehicles***	***Net Reduction in P.M. Peak Hour Vehicles***
Preferred Alternative	5,500	280	310	10,200	530	590

Source: Wilbur Smith Associates, 2000.

The reduction in vehicles traveling to and from OIA would result in a reduction in parking demand at OIA. The parking demand reduction at the airport was calculated as follows: First, the reduction in daily auto trips was calculated by dividing (i) the increase in daily transit ridership compared to the No Action Alternative (from Table 3.1-11) less 50 percent of the trips from the intermediate stations by (ii) the average auto occupancy for all airport private auto trips, which is 2.3 persons per vehicle (MTC, 1995). This number was then divided by two to represent inbound trips to the airport only. Finally, the total reduction in parking demand was determined by multiplying the calculated number of inbound trips by the percent of the auto trips that actually park at the airport (36 percent) (MTC, 1995) and by the average length of time autos remain parked at the airport (2.31 days) (WSA, 1997). According to this calculation, the AGT is expected to reduce parking demand by approximately 780 parking spaces in 2005 and 1,435 spaces in 2020.

Preferred Alternative Environmental Analysis

Impact TR-1. Effects on freeway traffic volumes

In the future, a.m. and p.m. peak hour traffic volumes and associated volume-to-capacity (v/c) ratios are expected to increase, and LOS are projected to worsen on I-880 as a result of regional

growth and very limited opportunity to increase capacity. The preferred alternative results in a greater number of transit trips and a greater reduction in freeway traffic volumes compared to the No Action Alternative. The southbound direction of I-880 currently operates at LOS E during both the a.m. peak hour and p.m. peak hour, with v/c ratios exceeding 0.85. As traffic volumes on I-880 grow in the future, any reduction in traffic would yield improved operating conditions. Thus, the preferred alternative results in beneficial impacts to future traffic conditions on I-880. Tables 3.1-12 and 3.1-13 present the freeway operations assessment for 2005, and Tables 3.1-14 and 3.1-15 present the freeway operational conditions for 2020.

The traffic analysis information presented here is for the AGT alternative without the intermediate stations. This is because the Alameda CMA model, which was used for this analysis did not include the site-specific land use data around the intermediate stations that would be necessary to include them in the analysis. However, it is important to note the addition of the intermediate stations results in an increase in AGT ridership and therefore would also increase the amount of the traffic reduction associated with the project. In no case would the preferred alternative create traffic conditions that would be worse than those depicted by this analysis.

Table 3.1-12
2005 A.M. Peak Hour I-880 Operating Conditions

	Existing Conditions			***2005 Conditions***					
				No Action Alternative			***AGT***		
Freeway Segment	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***
Northbound I-880 north of Hegenberger Road	7,910	0.72	D	8,070	0.73	D	8,020	0.73	D
Southbound I-880 north of Hegenberger Road	7,540	0.86	E	7,810	0.89	E	7,730	0.88	E
Northbound I-880 south of Hegenberger Road	7,750	0.88	E	7,910	0.90	F	7,860	0.89	E
Southbound I-880 south of Hegenberger Road	7,390	0.84	E	7,660	0.87	E	7,580	0.86	E

Source: Wilbur Smith Associates

Table 3.1-13
2005 P.M. Peak Hour I-880 Operating Conditions

	Existing Conditions			***2005 Conditions***					
				No Action Alternative			***AGT***		
Freeway Segment	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***
Northbound I-880 north of Hegenberger Road	8,580	0.78	D	8,910	0.81	D	8,840	0.80	D
Southbound I-880 north of Hegenberger Road	7,820	0.89	E	8,130	0.92	E	8,060	0.91	E
Northbound I-880 south of Hegenberger Road	7,950	0.90	F	8,250	0.94	F	8,180	0.93	F
Southbound I-880 south of Hegenberger Road	7,240	0.82	E	7,530	0.86	E	7,460	0.85	E

Source: Wilbur Smith Associates

Table 3.1-14
2020 A.M. Peak Hour I-880 Operating Conditions

	Existing Conditions			***2020 Conditions***					
				No Action Alternative			***AGT***		
Freeway Segment	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***
Northbound I-880 north of Hegenberger Road	7,910	0.72	D	8,930	0.81	D	8,850	0.80	D
Southbound I-880 north of Hegenberger Road	7,540	0.86	E	8,450	0.96	E	8,300	0.94	E
Northbound I-880 south of Hegenberger Road	7,750	0.88	E	8,750	0.99	F	8,670	0.98	F
Southbound I-880 south of Hegenberger Road	7,390	0.84	E	8,280	0.94	E	8,130	0.92	E

Source: Wilbur Smith Associates

Table 3.1-15
2020 P.M. Peak Hour I-880 Operating Conditions

	Existing Conditions			***2020 Conditions***					
				No Action Alternative			***AGT***		
Freeway Segment	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***	***vph***	***v/c***	***LOS***
Northbound I-880 north of Hegenberger Road	8,580	0.78	D	9,130	0.83	D	9,000	0.82	D
Southbound I-880 north of Hegenberger Road	7,820	0.89	E	9,340	1.06	F	9,200	1.04	F
Northbound I-880 south of Hegenberger Road	7,950	0.90	F	8,450	0.96	F	8,330	0.94	F
Southbound I-880 south of Hegenberger Road	7,240	0.82	E	8,640	0.98	F	8,510	0.97	F

Source: Wilbur Smith Associates

In 2005, assuming the AGT is in operation, the segment of I-880 west of Hegenberger Road is anticipated to carry about 15,750 vph during the a.m. peak hour and 16,900 vph during the p.m. peak hour. In 2020, the segment would carry 17,150 vph during the a.m. peak hour and 18,200 vph during the p.m. peak hour.

Direct effects of AGT service can be seen by comparing the difference between the above volumes and those reported for the No Action Alternative. Due to the lesser travel time, the reduced wait time and the higher level of reliability, the AGT would result in an increase in the number of transit trips to and from OIA and fewer vehicle trips on I-880 as compared to the No Action. In the most congested segment, southbound I-880 during the p.m. peak hour, the AGT would reduce the volumes in 2005 by about 70 vehicles per hour in 2005. However, the reduction of 70 vehicles would less than a one percent reduction in the peak hour flow, and would not substantially affect the v/c ratios or improve LOS operating conditions from the No Action condition. As shown in Tables 3.1-14 and 3.1-15, the v/c ratios for the AGT are about 0.01 to 0.02 less than the v/c ratios for the No Action Alternative in 2005, and the levels of service for the AGT would be the same as the levels of service for the No Action Alternative.

In 2020, due to regional traffic growth, I-880 southbound north of Hegenberger Road would degrade to LOS F in the p.m. peak hour. The projected poor operating conditions on I-880 in

2020 under the AGT are attributable to local and regional growth and are not the result of the AGT. The AGT would result in less traffic on the freeway, thereby allowing improved traffic flow, as demonstrated by the lower v/c ratios in both 2005 and 2020, and in the p.m. peak hour in 2020, improved levels of service under the AGT. The reduction in automobile traffic associated with the preferred alternative would be considered a beneficial effect on traffic conditions on I-880. (B)

Median Option. Substitution of the Median Option for the segment of alignment between Elmhurst Channel and Coliseum Way would have no effect on any of the preceding analyses. (NI)

Impact TR-2. Effects on left-turn movements and access to businesses in project corridor
The AGT elevated guideway would be supported on columns. South of I-880, those columns constructed in the median of Hegenberger Road could displace portions of the left-turn lanes where the median is narrow, could preclude left turns, or could hamper safe sight distances. However, preliminary engineering assessment by BART's general engineering contractor indicates that the columns for the AGT guideway could be constructed in the median of Hegenberger Road without requiring the removal of any left-turn lanes. In the preliminary design, the guideway columns were specifically placed to avoid any removal or shortening of the existing left-turn lanes.

Between Elmhurst Channel and I-880, the columns supporting the AGT guideway would be placed within the existing Hegenberger Road right-of-way, in the shoulder/breakdown lane on the west side of Hegenberger Road. The placement of the columns could potentially affect access to businesses in this area, and require access to these businesses to be relocated. Depending on the specific modifications to driveways, the effect on local vehicular circulation and access could be significant. (PS)

Median Option. The preliminary engineering assessment by BART's general engineering contractor determined that if the Median Option was adopted for the segment between Elmhurst Channel and Coliseum Way, the columns for the AGT guideway could be constructed in the median of Hegenberger Road without requiring the removal of any left-turn lanes. As with the preferred alternative, unforeseeable circumstances may require the permanent removal or shortening of left-turn lanes or the redesign or relocation of driveways at certain locations. Depending on the location and duration of the traffic lane changes, the disruption to local traffic circulation could be significant. Mitigation Measure TR-2(i) would apply to the Median Option if it is selected for this portion of the alignment. (PS)

Mitigation Measures. The placement of the columns to support the AGT guideway could potentially require the elimination of certain left-turn lanes or relocation of driveways, and would require mitigation to address operational impacts at the location(s) where the displaced left-turn movement(s) would be accommodated. The measure below would reduce the potentially significant traffic impacts under the preferred alternative and Median Option to a less-than-significant level. (LTS)

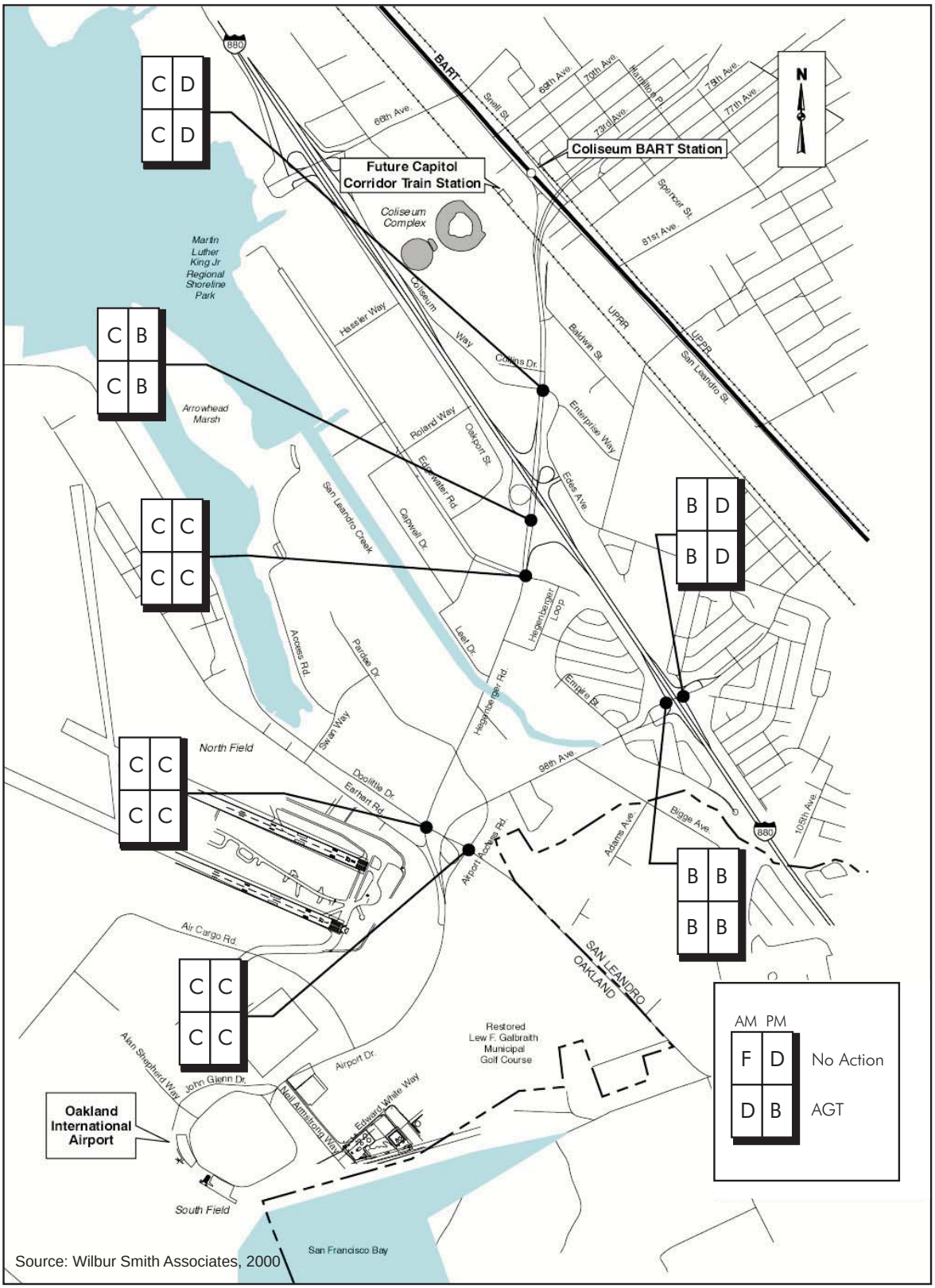
TR-2(i) *Accommodate any displaced left-turn movements at alternate locations*. Any displaced left-turn movement shall be accommodated by providing a new left-turn lane at a new location or by providing additional capacity (with longer left-turn lane or longer green phase) at another existing left-turn lane. Provision of a new left-turn lane may require the reconstruction of the median of Hegenberger Road and possibly the provision of a new traffic signal to accommodate the relocated left-turn movement. This mitigation measure would require the cooperation and approval of the City of Oakland and the Port of Oakland. BART shall be responsible for coordinating with these agencies and assuring that appropriate intersection modifications are made.

Impact TR-3. Intersection operational impacts

In 2005, all intersections in the project roadway network would operate at acceptable levels, under the preferred alternative. By 2020, regional growth, development in the Hegenberger Road Corridor, and expansion at OIA would reduce the LOS at the intersection of Hegenberger Road and the I-880 southbound off-ramp to LOS E, resulting in a significant effect under the No Action Alternative. The preferred alternative does not contribute to this significant effect; in fact, the effect would be worse in the absence of the preferred alternative, since there would be more vehicles on the road. Because the AGT results in fewer automobile trips along Hegenberger Road in 2020 compared to the No Action Alternative, operations at the intersection of Hegenberger Road and the I-880 southbound off-ramp, by contrast, would continue to operate acceptably. The AGT would result in fewer auto trips along the project corridor compared to the No Action Alternative and reducing congestion at certain intersections below levels otherwise expected due to regional growth. However, traffic volumes at those intersections will still be higher than in the absence of regional growth.

Figures 3.1-7 and 3.1-8 illustrate a.m. and p.m. peak hour levels of service at the study intersections for the AGT (without the intermediate stations) in 2005 and 2020, respectively. Tables 3.1-16 through 3.1-19 summarize the a.m. and p.m. peak hour average vehicle delays and levels of service for each study intersection in 2005 and 2020, respectively. As noted previously, the addition of the intermediate stations results in an increase in AGT ridership and, therefore, would also increase the amount of traffic reduction associated with the project. In no case would the preferred alternative create traffic conditions that would be worse than those depicted by this analysis.

In 2005, none of the study intersections would operate at unacceptable levels of service during the a.m. or p.m. peak hour. Due to the additional passengers accessing OIA via transit under the AGT as compared with the No Action Alternative, there would be 280 and 310 fewer vehicles on the roadway network serving OIA during the a.m. peak hour and p.m. peak hour, respectively. As a result, under the AGT, there would be a reduction in average delay per vehicle at five of the study intersections in the a.m. peak hour and six of the study intersections during the p.m. peak hour, as compared with the No Action Alternative. In 2020, under the



Source: Wilbur Smith Associates, 2000

Figure 3.1-7
2005 Intersection Peak Hour Levels of Service

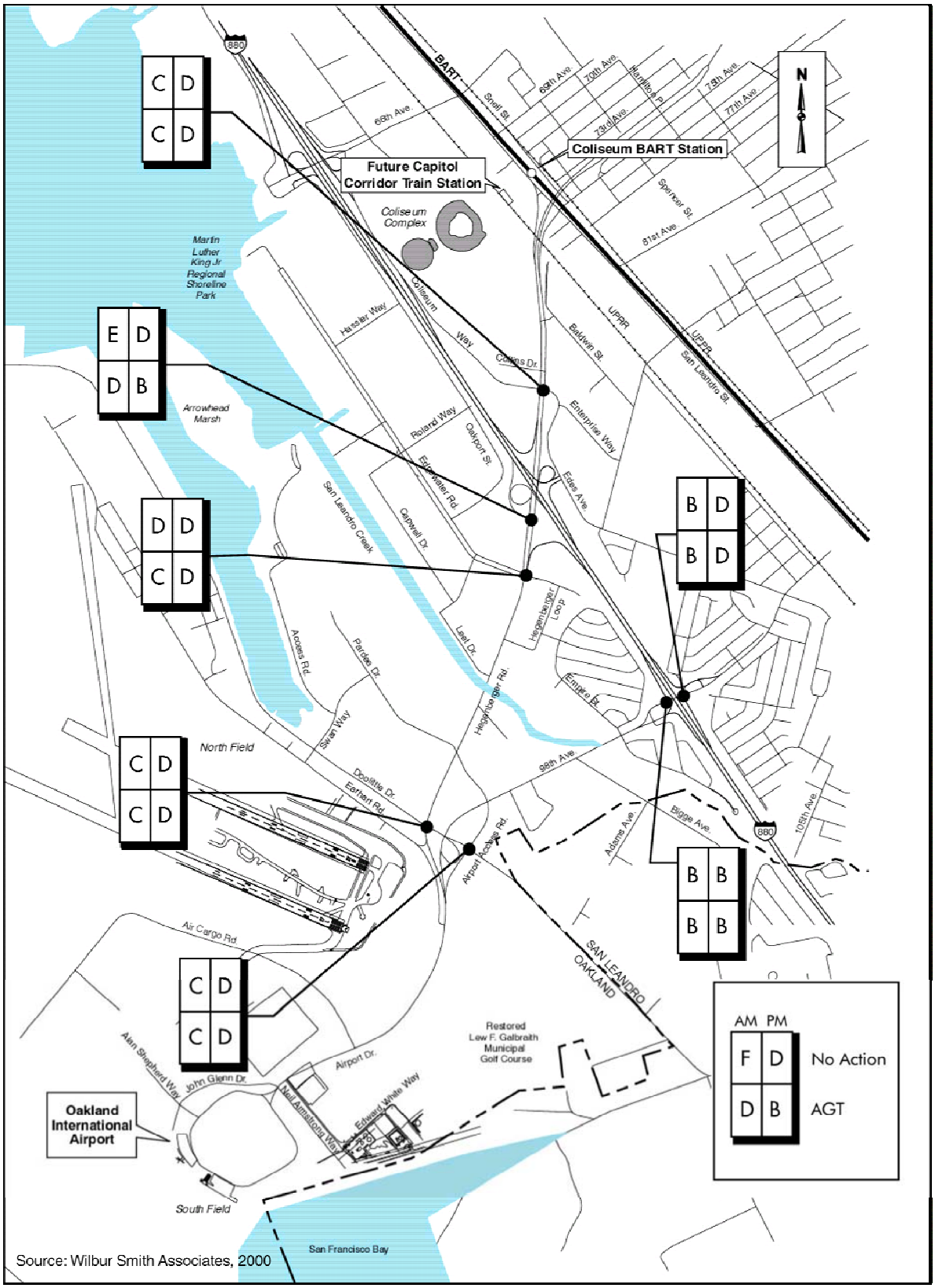


Figure 3.1-8
2020 Intersection Peak Hour Levels of Service

Table 3.1-16
Existing and 2005 A.M. Peak Hour Intersection Operating Conditions

Study Intersection	*Existing Conditions (2000)*		*2005*			
			No Action Alternative		*AGT*	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Hegenberger Rd./Edes Ave.	29.9	D	18.5	C	18.5	C
Hegenberger Rd./I-880 Southbound Off-ramp	14.5	B	17.3	C	16.4	C
Hegenberger Rd./Edgewater Dr.	18.6	C	19.9	C	20.0	C
Hegenberger Rd./Doolittle Dr.	24.3	C	20.6	C	20.4	C
Airport Access Rd./Doolittle Dr.	20.7	C	20.3	C	20.0	C
98th Ave./I-880 Southbound Off-ramp	7.7	B	8.5	B	8.4	B
98th Ave./I-880 Northbound Off-ramp	8.8	B	9.3	B	9.2	B

Source: Wilbur Smith Associates

Table 3.1-17
Existing and 2005 P.M. Peak Hour Intersection Operating Conditions

Study Intersection	*Existing Conditions (2000)*		*2005*			
			No Action Alternative		*AGT*	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Hegenberger Rd./Edes Ave.	40.2	E	37.2	D	37.1	D
Hegenberger Rd./I-880 Southbound Off-ramp	12.1	B	8.5	B	8.4	B
Hegenberger Rd./Edgewater Dr.	29.4	D	22.3	C	22.1	C
Hegenberger Rd./Doolittle Dr.	21.2	C	20.4	C	20.0	C
Airport Access Rd./Doolittle Dr.	40.5	E	20.8	C	20.0	C
98th Ave./I-880 Southbound Off-ramp	7.0	B	7.7	B	7.6	B
98th Ave./I-880 Northbound Off-ramp	10.9	B	33.7	D	34.0	D

Source: Wilbur Smith Associates

Table 3.1-18
Existing and 2020 A.M. Peak Hour Intersection Operating Conditions

Study Intersection	*Existing Conditions (2000)*		*2020*			
			No Action Alternative		*AGT*	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Hegenberger Rd./Edes Ave.	29.9	D	18.5	C	18.5	C
Hegenberger Rd./I-880 Southbound Off-ramp	14.5	B	47.9	E	33.2	D
Hegenberger Rd./Edgewater Dr.	18.6	C	26.3	D	22.7	C
Hegenberger Rd./Doolittle Dr.	24.3	C	23.9	C	22.7	C
Airport Access Rd./Doolittle Dr.	20.7	C	22.5	C	22.0	C
98th Ave./I-880 Southbound Off-ramp	7.7	B	10.2	B	9.5	B
98th Ave./I-880 Northbound Off-ramp	8.8	B	10.2	B	9.9	B

Source: Wilbur Smith Associates

Table 3.1-19
Existing and 2020 P.M. Peak Hour Intersection Operating Conditions

Study Intersection	*Existing Conditions (2000)*		*2020*			
			No Action Alternative		*AGT*	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Hegenberger Rd./Edes Ave.	40.2	E	36.8	D	36.6	D
Hegenberger Rd./I-880 Southbound Off-ramp	12.1	B	25.0	D	16.5	B
Hegenberger Rd./Edgewater Dr.	29.4	D	31.5	D	28.2	D
Hegenberger Rd./Doolittle Dr.	21.2	C	34.4	D	29.9	D
Airport Access Rd../Doolittle Dr.	40.5	E	38.7	D	32.1	D
98th Ave./I-880 Southbound Off-ramp	7.0	B	8.7	B	8.2	B
98th Ave./I-880 Northbound Off-ramp	10.9	B	32.1	D	32.3	D

Source: Wilbur Smith Associates

AGT, none of the study intersections would operate at unacceptable levels of service during the a.m. peak hour or p.m. peak hour. Due to the additional passengers accessing OIA via transit under the AGT Alternative, as compared with the No Action Alternative, there would be 530 and 590 fewer vehicles on the roadway network serving OIA during the a.m. peak hour and p.m. peak hour, respectively. The intersection of Hegenberger Road and I-880 southbound off-ramp would operate at LOS D with an average vehicle delay of 29.6 seconds during the a.m. peak hour, compared with LOS E and an average vehicle delay of 47.9 seconds under the No Action Alternative. Although there would be increases in traffic volumes on the roadway network due to future growth, all of the study intersections would operate at acceptable levels under the AGT in 2020. The preferred alternative would reduce the traffic volumes traveling to and from OIA in years 2005 and 2020, and consequently would have beneficial effects on traffic operations at the study intersections. (B)

In addition, more individuals living, working or staying at a hotel on Hegenberger Road would be attracted to the AGT system on a typical weekday because the intermediate stops would be nearby. The attraction of more individuals to transit would further reduce traffic volumes on roadways in the project corridor, and would have a beneficial impact on traffic conditions at the study intersections. (B)

Median Option. Substitution of the Median Option for the segment of alignment between Elmhurst Channel and Coliseum Way would have no effect on any of the preceding analyses. (NI)

Impact TR-4. Parking impacts

The No Action Alternative would not reduce the parking supply within the project corridor, particularly at OIA and the AGT would result in the greatest total reduction in parking supply in the project corridor. However, the AGT would yield the greatest potential ridership on the Connector, and therefore would offer the greatest potential reduction in parking demand at OIA, and the reduction in parking demand would be greater than the reduction in parking supply.

The AGT guideway would be located within the median of Hegenberger Road between the Elmhurst Channel and Coliseum Way north of I-880 and between Edgewater Road and Airport Access Road south of I-880. Construction of the guideway in the median would require widening the median to accommodate the columns of the AGT guideway. In order to maintain the existing lane configuration, approximately 123 on-street parking spaces would need to be removed between Edgewater Road and Airport Access Road, and Hegenberger Road would be restriped within its existing pavement width. During the midday period (typically the time of day when peak parking demand occurs), the on-street parking on this portion of Hegenberger Road was observed to be approximately 17 percent occupied (21 vehicles). Field observations indicate that the displaced vehicles could be accommodated within the available on-street parking supply on adjacent cross-streets such as Hegenberger Place, and therefore the loss of this parking would not significantly affect parking conditions within the project corridor.

Based on the average parking turnover at OIA, the AGT is expected to reduce parking demand at OIA, with an estimated reduction in parking demand of 780 spaces in 2005 and a reduction in

parking demand of about 1,435 spaces in 2020. Therefore, the AGT would have a beneficial effect on parking conditions at OIA.

At the Coliseum BART Station, the elevated AGT maintenance facility would be constructed in the BART parking lot. The maintenance facility would permanently displace about 60 parking spaces. However, given that the Coliseum BART Station parking lot is currently about 64 percent occupied with more than 360 available spaces out of a total 1,026-space lot, the displaced parking demand could be accommodated within the available parking supply. Therefore, the displacement of the parking spaces in the BART station parking lot would not significantly affect parking conditions at the Coliseum BART Station.

As air travel activity grows, parking fees at OIA are likely to increase. In order to avoid paying higher parking fees at OIA, some air travelers may consider parking at or near the Coliseum BART station and riding the AGT system to OIA. The Coliseum BART station parking lot currently has more than 360 available spaces out of a total of 1,026-space lot. The AGT would reduce this surplus by approximately 60 parking spaces. BART recently adopted a 24-hour time restriction at all BART parking lots. In order to avoid the time restriction, some air passengers may choose to park in the residential and commercial areas near the BART station to access the AGT system. The potential for such parking spillover is considered speculative and uncertain. BART has not previously imposed 24-hour restrictions on the duration of parking at any station. Moreover, the effect of such time restrictions on the behavior of passengers using an airport connector service is unknown. As a mitigation measure, BART will monitor parking activity on streets adjacent to the BART station. If a significant parking spillover impact is identified, BART will undertake additional mitigation using the methods set forth in BART's Parking Management Toolkit (attached as Appendix B in the FEIR/FEIS). (PS)

Operation of the proposed AGT would necessitate the permanent removal of a portion of the private off-street parking from two businesses along the project corridor. These businesses are the General Motors property (8099 Coliseum Way) and the Chevron Station property (451 Hegenberger Road). The permanent removal of this off-street parking could potentially reduce the parking supply below the level necessary to accommodate the estimated demand. (PS)

The intermediate stops along the route would not affect parking supply within the project corridor because no on-street parking is provided at the proposed locations of the intermediate stations. The potential that some drivers would park on-street to avoid off-street facility parking fees and take the AGT to OIA is limited as on-street parking is restricted to 2-hour periods. The intermediate stops would not significantly decrease parking demand at OIA. If hotels in the vicinity of the intermediate stations decide to retain their shuttle bus service after the AGT opened, their guests would probably either use the free hotel shuttle to get to OIA, or if they have a rental car, would return the rental car at OIA and therefore not affect parking demand at OIA. Residents living near the intermediate stops would be able to ride the AGT system to and from OIA, which could potentially reduce parking demand at OIA. However, there currently is no housing in the immediate vicinity of the proposed locations for the intermediate stations, and potential developments in these areas are expected to be commercial in nature. (NI)

The intermediate stops along the route would, however, affect parking demand within the project corridor. The forecasted ridership on the AGT resulting from the intermediate stations is based on existing and anticipated development within walking distance of the two intermediate stations, utilizing analysis performed by Robert Cervero on ridership from uses by type and proximity to BART stations. The anticipated increase in AGT ridership resulting from the intermediate stations is 1.6 million by 2020. This translates into a reduction in parking demand of roughly 2,150 spaces for both intermediate stations, which constitutes a beneficial impact. (B)

Median Option. In the event engineering design refinements require use of the median instead of the preferred alternative alignment for the portion of Hegenberger Road between Elmhurst Channel and Coliseum Way, the potential parking impacts would be more than those for the preferred alternative. The Median Option would require the removal of 25 curb parking spaces on the east side of Hegenberger Road. Mitigation Measures TR-4(i) and TR-4(ii) would apply to the Median Option if it is selected for this portion of the alignment. (PS)

Mitigation Measures. The preferred alternative could reduce the parking supply at private businesses such that the estimated demand could not be accommodated, and result in spillover parking at the BART station; consequently the preferred alternative requires mitigation measures. The measures below would reduce potentially significant parking impacts to a less-than-significant level. (LTS)

TR-4(i) *Permanent Replacement Parking Spaces for Affected Businesses.* BART shall provide on-site replacement parking facilities for properties that would have parking spaces permanently removed by the Connector. If on-site replacement parking facilities cannot be identified, BART shall compensate the property owners for the permanent removal of the parking spaces.

TR-4(ii) *Parking Monitoring: Parking Management Program:*

(a) BART will institute a monitoring program on streets adjacent to the BART station. A baseline survey of parking conditions in the vicinity of the station will be conducted prior to commencement of Connector operations. The baseline survey will establish parking conditions in the vicinity of the station during weekday morning hours. Monitoring will be conducted during the first six months of operation of the Connector to verify if spillover parking is occurring. Such monitoring will be based on field surveys and any complaints received by BART and local parking authorities. After the first six months of operation of the station, BART Community Relations staff will respond to parking complaints and BART will investigate such complaints to verify parking concerns.

(b) If a parking spillover problem is confirmed by this monitoring, BART staff will assist the City of Oakland in implementing a parking management program. The program shall incorporate appropriate parking control measures based on BART's Parking Management Toolkit (attached as Appendix B of the FEIR/FEIS). The Toolkit identifies a detailed process for understanding local

parking issues, evaluating parking conflicts, and implementing specific parking control measures. These measures could include time limits and time-based restrictions, increased enforcement, or parking fees. The parking management program would be implemented by the City of Oakland. BART staff will assist the City to ensure that the parking control measures, adapted as appropriate for site-specific conditions, are implemented and are achieving the necessary effect. BART staff would also continue discussions as necessary with the City to help adjust any parking control measures in response to issues that may arise during implementation of such measures.

Impact TR-5. Transit impacts

The AGT would result in greater ridership on the Connector and BART compared to the No Action Alternative, with the preferred alternative resulting in the greatest increase in BART ridership, compared to the No Action Alternative. The effects of the AGT (two-station design) on BART service in 2005 and 2020 are shown in Tables 3.1-20 and 3.1-21. As noted previously, the addition of the intermediate stations results in an increase in ridership over that depicted by this analysis. Although the peak hour for airport traffic occurs midday, both the peak hour of AirBART ridership and the peak hour of BART ridership occur during the regional p.m. peak commute period. For the purposes of this analysis, the peak hour of Connector ridership in the future was assumed to coincide with the peak hour of BART ridership. Currently, the majority of the passengers riding AirBART during the p.m. peak hour are traveling to OIA. Assuming this trend continues in the future, the preferred alternative would generate additional BART riders in the p.m. peak hour direction (away from downtown Oakland toward Coliseum Station), but would also increase ridership on BART in the non-peak direction (towards Coliseum Station from Fremont).

Table 3.1-20
P.M. Peak Hour Peak Direction BART Ridership and Capacity – 2005

	Existing Conditions			***2005 Conditions***				
				2005 Baseline/No Action			***AGT***	
	Ridership	**Capacity**	**Percent Utilization**	**Ridership**	**Capacity**	**Percent Utilization**	**Ridership**	**Percent Utilization**
Transbay	19,692	14,560	135%	21,424	15,400	139%	21,472	140%
Richmond – Fremont	2,005	1,890	106%	2,099	1,680	125%	2,250	134%

Sources: BART, Ridership Data, May 2000, September 2000. Wilbur Smith Associates, September 2000.
Note: Future capacity does not assume that trains operate at the limitations of Advanced Automatic Train Control.

Table 3.1-21
P.M. Peak Hour Peak Direction BART Ridership and Capacity – 2020

	Existing Conditions			***2020 Conditions***				
				2020 Baseline/No Action			***AGT***	
	Ridership	**Capacity**	**Percent Utilization**	**Ridership**	**Capacity**	**Percent Utilization**	**Ridership**	**Percent Utilization**
Transbay	19,692	14,560	135%	25,119	17,500	144%	25,210	144%
Richmond – Fremont	2,005	1,890	106%	2,408	1,680	143%	2,700	161%

Sources: BART, Ridership Data, May 2000, September 2000. Wilbur Smith Associates, September 2000.
Note: Future capacity does not assume that trains operate at the limitations of Advanced Automatic Train Control.

In 2005, the AGT would attract approximately 3,280 more average daily passengers to the AGT system and BART than the No Action Alternative. In 2020, the AGT would attract approximately 6,010 more daily passengers to the AGT system and BART than the No Action Alternative. By 2020, the anticipated increase in BART ridership associated with the AGT (90 Transbay riders and 290 Richmond-Fremont riders during the p.m. peak hour in the peak direction) could generally be accommodated within planned future capacity. However, the forecasted peak hour ridership levels on the Richmond-Fremont line may require longer trains in 2020 to accommodate the anticipated cumulative ridership increases related to overall growth throughout the BART service area. The AGT would result in the greatest increase in transit ridership. The AGT would increase BART p.m. peak hour ridership in the peak direction by approximately 0.7% in 2005 and 1.4% in 2020. The additional ridership resulting from the preferred alternative would be considered a less-than-significant contribution, and therefore the effect of the preferred alternative would be less-than-significant. (LTS)

The preferred alternative is not anticipated to affect ridership on AC Transit, although it is possible that some passengers currently using AC Transit between the Coliseum BART Station and OIA may shift to the AGT service. As current daily ridership between OIA and the Coliseum Station is low (190 daily passengers), the potential shift would be minimal. (LTS)

Median Option. Substitution of the Median Option for the segment of alignment between Elmhurst Channel and Coliseum Way would have no effect on any of the preceding analyses. (NI)

Impact TR-6. Pedestrian and bicycle impacts

The preferred alternative would not significantly affect pedestrian conditions in the vicinity of the Coliseum BART Station, OIA, or along the AGT alignment. Both the Coliseum AGT Station and the Airport AGT Station would be elevated and consequently would not present any hazardous conditions for pedestrians or bicyclists or affect accessibility. At OIA, Connector passengers would have one less level change and a shorter walk to the security checkpoint and departure gates and would not have to walk across travel lanes when traveling between the Airport AGT Station and the terminal building, an improvement over current conditions. The AGT guideway would be provided in the median of Hegenberger Road between Edgewater Road and Airport Access Road, and would not affect pedestrian or bicycle circulation conditions in that area. The AGT guideway on the west side of Hegenberger Road between Elmhurst Channel and Coliseum Way would place columns in the curb/breakdown lane of Hegenberger Road. Existing sidewalks would be maintained. Hegenberger Road is wide enough in this location to maintain two travel lanes and a bicycle lane. There is no impact anticipated on bicyclists. The AGT alignment near the golf course would not result in any conflicts between bicyclists on the proposed Bay Trail extension and AGT vehicles, as a fence would be erected to separate the AGT from the proposed new portion of the Bay Trail. The Port anticipates that a second fence would be erected between the golf course and the Bay Trail.

The intermediate stations would be located west of Hegenberger Road at Edgewater Road and on the parcel bounded by Hegenberger Road, Airport Access Road, and 98th Avenue. The intermediate stops along the guideway route also would not affect pedestrian or bicycle facilities or access within the project corridor. (NI)

Median Option. Substitution of the Median Option for the segment of alignment between Elmhurst Channel and Coliseum Way would have no effect on any of the preceding analyses. (NI)

Partial ADP

With the partial ADP, some of the ADP components would not be implemented. These components include the new enlarged and consolidated terminal, the two-level roadway at the terminal, the parking garage and the grade-separated intersection at new Airport Road and Airport Drive.

Without the new terminal building and parking garage, the AGT station would not be integrated visually or physically with a new terminal building but would be on an elevated guideway in between the existing terminals.

The significant intersection operational impact at the intersection of Hegenberger Road and the I-880 southbound off-ramp in 2020 would be the same under the Partial ADP scenario as presented for the preferred alternative. The mitigation measure proposed for this impact would also mitigate the significant impacts at the intersection in 2020 under the Partial ADP scenario.

Under the Partial ADP scenario, the grade-separated intersection at new Airport Road and Airport Drive would not be constructed and vehicles would have to stop at the signalized intersection of Airport Drive and Air Cargo Road. The delay incurred at the signal would increase the overall travel time in both directions on Airport Drive between OIA and Doolittle Drive. The average speed in both directions of this arterial roadway segment would be somewhat lower than presented under the analysis for years 2005 and 2020.

Under the Partial ADP scenario, the two-level roadway in front of the Airport terminal would not be constructed. Traffic would continue to use the existing at-grade roadway, and as traffic volumes on the roadway would increase, traffic circulation would become more congested and access to the terminal buildings would become more difficult. The delays at the signal would increase overall travel time in both directions on Airport Drive between OIA and Doolittle Drive. Therefore, the average speed in both directions of this arterial roadway segment would be somewhat lower than presented under the analysis for 2005 and 2020.

Currently, the total curb frontage serving OIA terminals is approximately 1,695 linear feet, including 1,130 feet immediately adjacent to the terminals and an additional 565 feet at three islands that serve private and public transit operators. On Friday evenings and weekends, congestion and circulation problems intensify at both terminal curbsides. Assuming the Partial ADP scenario, this congestion and the traffic circulation problems in front of the terminal buildings would persist and increase. The increased congestion in front of the terminal buildings would not substantially affect the AGT.

Cumulative Analysis

The transportation projections for this project were based on the Alameda County CMA travel demand model. Inputs to the model include local and regional government projections of land

use and employment intensities and locations, along with programmed highway, street and transit improvements. As reported in Section 3.1.3 of this document, the Alameda CMA model output for 2005 and 2020 conditions was adjusted to reflect roadway improvements in the immediate study area that were not included in the model, and to reflect anticipated levels of air cargo and air passenger activities for the OIA.

Since the transportation impact analyses in this FEIS/FEIR are based upon the adopted regional land use forecasts for the 2005 and 2020, the cumulative transportation impacts of all such developments are included, and additional analysis of potential cumulative effects of specific projects would be redundant. Accordingly, the assessment for the preferred alternative includes cumulative development and presents the combined effects of future background growth in conjunction with the preferred alternative.

References

BART, *Fiscal Year 2001 Short Range Transit Plan,* May 23, 2000.

BART, Memo regarding employment levels in 2005, June 2000.

BART, BART ridership data, May 2000, September 2000.

Caltrans, *1999 Traffic Volumes on California State Highways*, 2000.

CCS Planning and Engineering, Inc., Memo regarding Transit Data and Ridership Forecast Model, January 2000a.

CCS Planning and Engineering, Inc., Unpublished 1999 AC Transit Data compiled by CCS, March 2000.

CCS Planning and Engineering, Inc., Memo regarding AirBART Survey, August 2000b.

Metropolitan Transportation Commission (MTC), *Air Passenger Survey 1995: San Francisco Bay Area,* 1995.

City of Oakland, City of Oakland General Plan, March 1998.

Natalie Fay, City of Oakland, personal communication, June, 2000.

Pamela Herhold, BART Financial Planning, May and September, 2000.

Randy Mack, City of Oakland, personal communication, May 2000.

Douglas Mansel, Port of Oakland, personal communication, July 12, 2000.

Port of Oakland, *Metropolitan Oakland International Airport Proposed Airport Development Program FEIR,* December 1997.

Roberts Roach & Associates, *2000 Regional Airport System Plan Update – San Francisco Bay Area Aviation Demand Forecasts (1998 –2020),* prepared for MTC's Regional Airport Planning Committee, February 2000.

Gregory Shiffer, Associate Transportation Planner, AC Transit, e-mail, July 10, 2000.

Eugene Skoropowski, Managing Director, Capitol Corridor, public presentation, August 2, 2000.

Transportation Research Board, Highway Capacity Manual, Special Report No. 209, Third Edition, Washington, D.C. 1985 (Updated 1994).

Anne Whittington, Senior Strategic Planner, Port of Oakland, facsimile of employment and economic impacts, March 13, 2000.

Wilbur Smith and Associates (WSA), background material for the *Proposed Airport Development Program, Metropolitan Oakland International Airport*, Final EIR, 1997.

Section 3.2
Land Use

3.2.1 Introduction

This section describes the land uses and development pattern within the project corridor. Applicable public plans, policies, and regulations such as those of the City and Port of Oakland will greatly shape the appearance, use, and character of the project corridor. This section evaluates the compatibility of the Connector with existing land uses as well as its conformity with future land uses and activities as envisioned by public policy documents. Specific land use impacts addressed include conflicts with existing uses (i.e., changes in the organization, interaction, or intensity of uses) and consistency with future plans for the project corridor. Other land use-related issues including land acquisition and displacement, economic development, and growth inducement, are discussed in Section 3.3, Socioeconomics.

3.2.2 Existing Conditions

Regional Setting

The proposed Connector is in East Oakland and would link two of the region's major transportation facilities, the BART system and OIA. The land uses in the 3.2 miles between these two facilities are predominantly commercial and industrial uses. A number of banks, hotels, offices, and the Coliseum Complex reflect the area's community-wide and regional orientation. Hoping to capitalize on these activities and the area's strategic location with respect to regional transportation systems, the City of Oakland has designated the Coliseum Area and the OIA and Hegenberger corridor south of I-880, as "Showcase" Districts. These districts are identified wherever the City believes there is a strong opportunity for economic revitalization and development. The project corridor is within both Showcase Districts.

The City of San Leandro is close to the southeast portion of the project corridor, about a quarter mile from the intersection of Doolittle Drive and Airport Access Road. Land uses in San Leandro near the project corridor are mostly industrial.

Existing Land Uses in the Project Corridor

The project corridor can be divided into ten land use areas that are generally based on the primary land use activity in each zone. These areas located are described below and shown in Figure 3.2-1. The corridor consists predominantly of commercial and industrial uses, including hotels, banks, restaurants, gas stations, and airport-serving businesses. Within the project corridor there are no residences or schools, although there are two residential neighborhoods nearby and a school (Brookfield Elementary School) in the larger project study area. One residential neighborhood is located about 1,000 feet north of the Coliseum BART station; the other residential area, Columbian Gardens, lies about 1,000 feet east of Hegenberger Road and is bounded by I-880 and 98th Avenue. More precise locations of some of the key businesses and other land uses within the project corridor are shown in Figure 3.2-2.

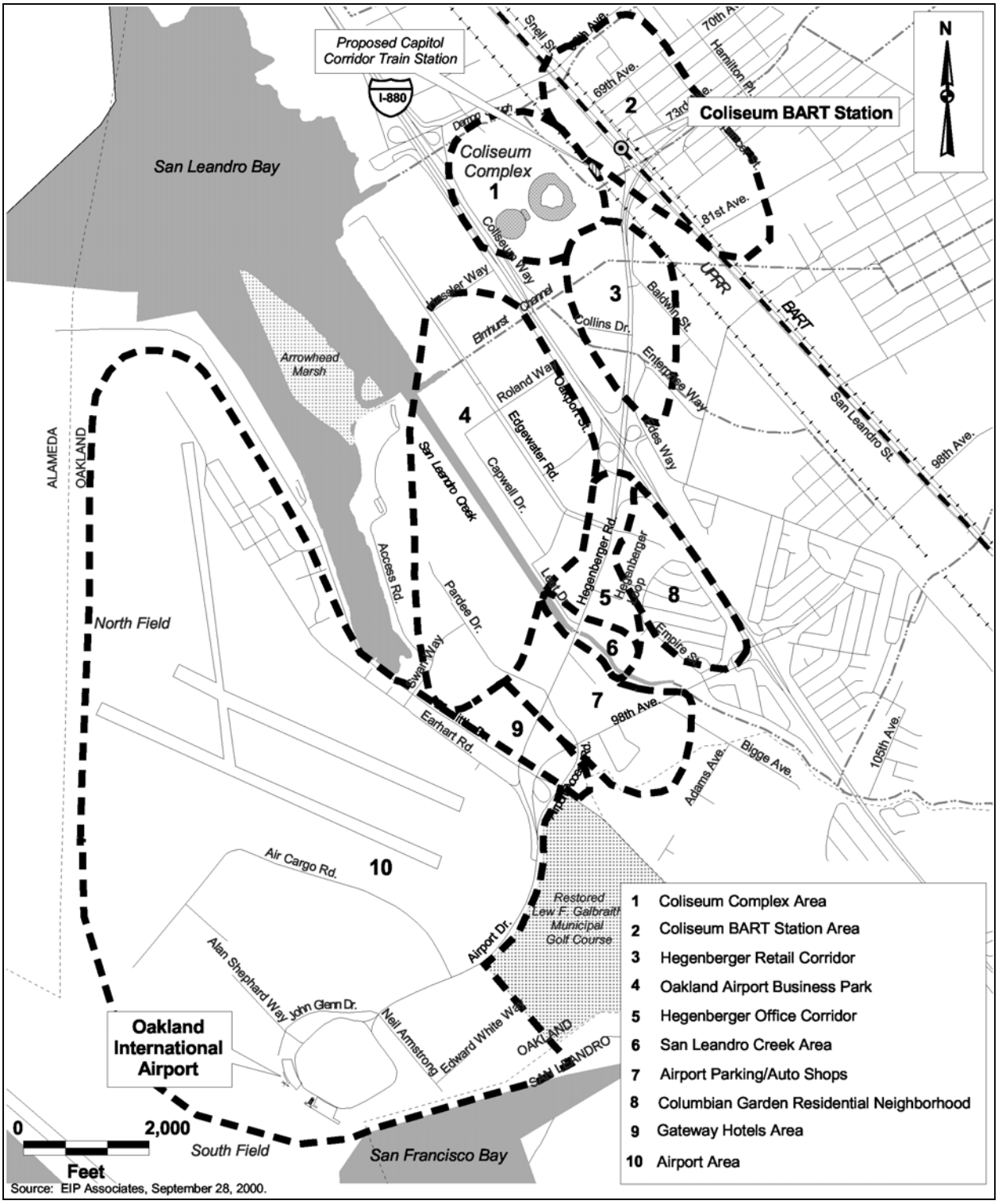


Figure 3.2-1
Generalized Existing Land Use Areas Within and Adjacent to the Project Corridor

INDEX TO Figure 3.2-2

No.	Specific Business/Land Use	No.	Specific Business/Land Use
1	Short Term Parking	41	Harley Davidson Motorcycle
2	Long Term Parking	42	Ratto Farm
3	Avis Car Rental	43	Hegenberger Fastfood
4	National Car Rental	44	Custom Auto
5	Caterair International Corp.	45	The Marriott
6	Employee Parking	46	Light Industrial
7	Southwest Airlines Terminal	47	Columbian Gardens Residential
8	Airport Terminal	48	Office Building (Two Floors)
9	Fuel Farm	49	Union Bank of California
10	Wetlands (Fuel Farm Marsh)	50	Substation
11	United Airlines Hangar	51	Comfort Inn
12	North Field	52	Holiday Inn
13	Restored Lew F. Galbraith Golf Course	53	Hampton Inn
14	Long-Term Airport Parking	54	Days Inn
15	Holiday Inn Express	55	Gas Station
16	California Airframe Parts	56	Airport Parking (Long Term)
17	Edgewater West	57	Bank of America (Four Floors)
18	Vision Networks System	58	Wells Fargo (Eight Floors)
19	Teamsters Local 70	59	Carrows Restaurant
20	Long-Term Airport Parking	60	Gas Station
21	Port of Oakland Meter Station	61	Office Buildings
22	Sierra Academy of Aeronautics	62	Chevron Gas Station
23	Airport-Related Office Buildings	63	Proposed Metroport Site
24	Hilton	64	IKON Solutions Building
25	US Post Office	65	GM Truck Sales
26	Warehouse Local Union '6' Building	66	Gas Station
27	Francesco's Restaurant	67	Gas Station
28	Office Building	68	Home Base
29	Martin Luther King Jr. Shoreline Park	69	Oakland International Trade Center
30	Vacant Land	70	Employment Development Dept., Oakcare Medical Group, office bldg.
31	Clay Products Industries	71	McDonald's
32	UPS Office	72	Pak 'N Save
33	Open Field	73	Taco Bell
34	Container Parking	74	Self Storage
35	San Leandro Creek Trail	75	Industrial Units
36	United Cab	76	Industrial Units
37	Long-Term Airport Parking	77	Industrial Units
38	Best Western Park Plaza	78	BART Parking Lot
39	Tire Shops	79	Light Industrial/Commercial
40	Long-Term Airport Parking	80	Single-Family Residential Units

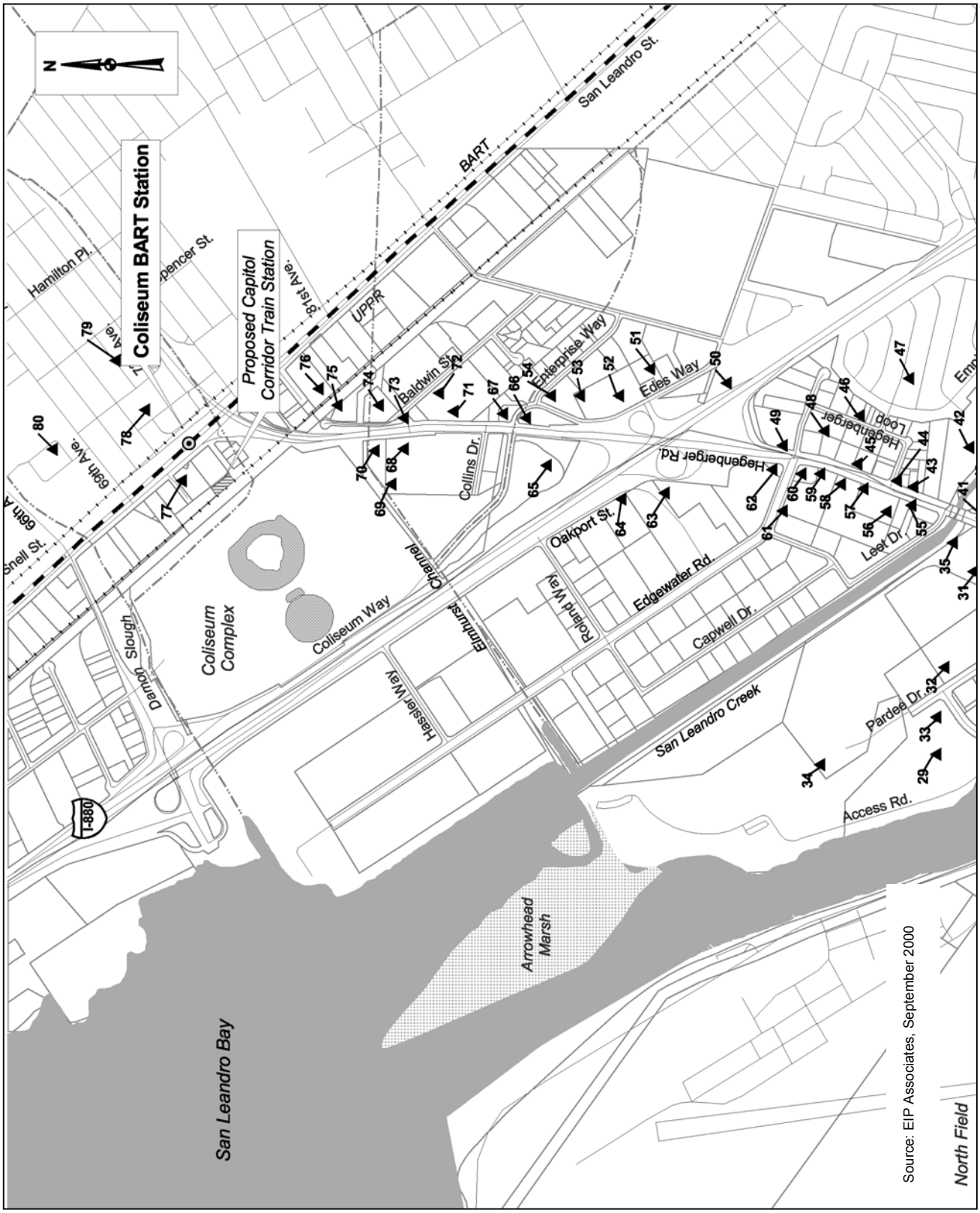


Figure 3.2-2 (a)
Businesses and Other Major Land Uses Along the Project Corridor

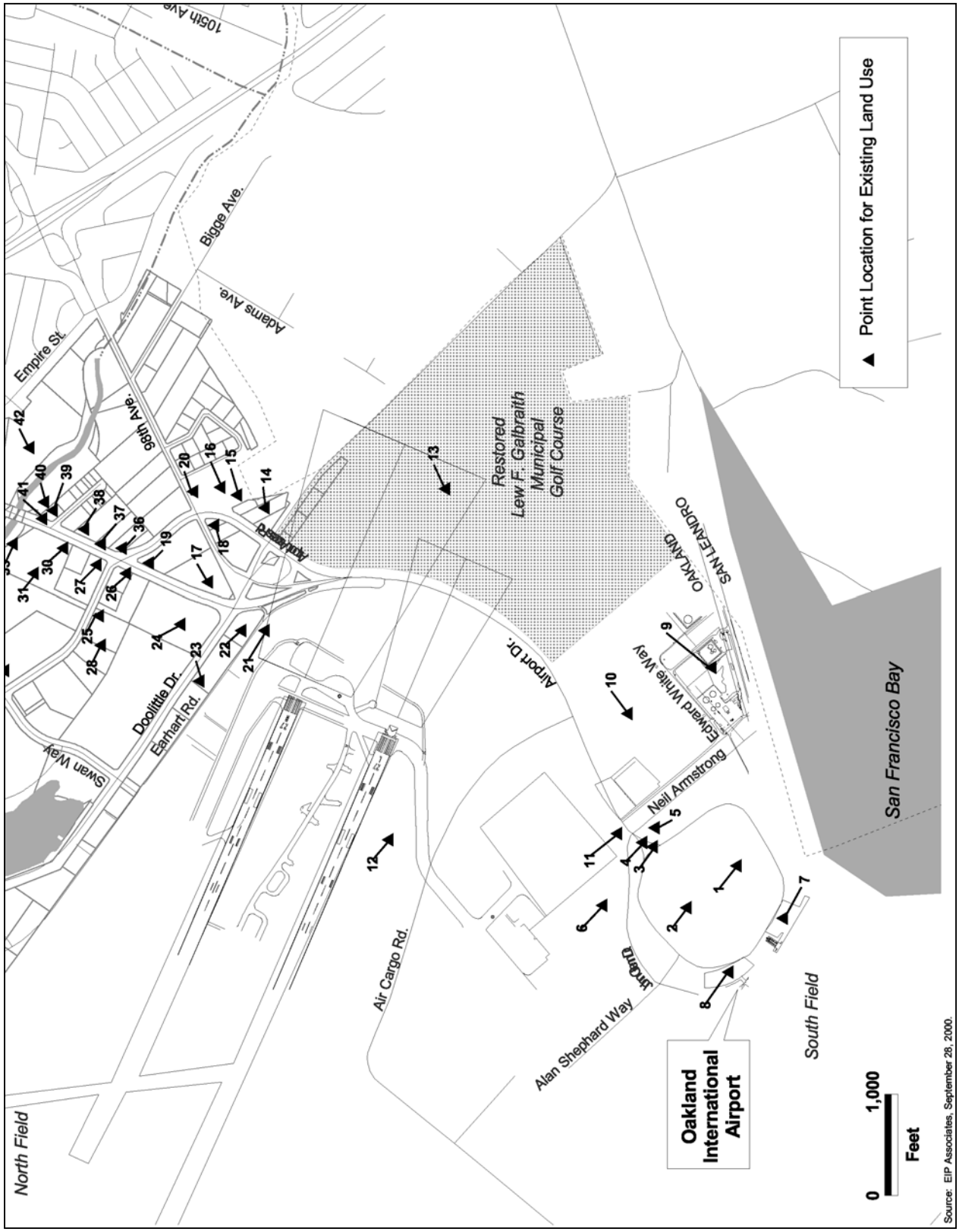


Figure 3.2-2 (b)
Businesses and Other Major Land Uses Along the Project Corridor

Zone 1 - Coliseum Complex Area

The Coliseum Complex, consisting of a stadium and an arena, is located between I-880 and the Coliseum BART station. This regional recreational facility is home to three professional sports franchises: the Golden State Warriors basketball team, the Oakland Athletics baseball team, and the Oakland Raiders football team. The Complex also hosts year-round concerts and entertainment events that typically draw audiences from the East Bay and beyond.

Zone 2 - Coliseum BART Station Area

The Coliseum BART Station to the north of the Coliseum Complex offers a direct connection to the Coliseum Complex and is the principal BART station providing access to employees in the study area and OIA passengers. A residential neighborhood is north of the Coliseum BART Station. This residential community also includes the recently approved Hope VI project, a $35 million residential replacement project for the Coliseum Gardens public housing project and blighted housing throughout the neighborhood. There are also community commercial areas and a few light industrial areas located north of the Coliseum BART Station. Small- to medium-sized industrial and manufacturing companies are found on either side of Hegenberger Road. The Capitol Corridor, an inter-regional train service connecting Sacramento, Oakland, and San Jose, will have a stop south of the Coliseum BART Station adjacent to the Union Pacific Railroad (UPRR) line at 73rd Avenue.

Zone 3 - Hegenberger Retail Corridor

This zone encompasses a three-block retail strip on Hegenberger Road roughly between the Coliseum Complex and South Coliseum Way/Edes Avenue. This stretch contains discount retail stores, restaurants, fast-food outlets, gas stations, auto shops, and motel/motor inn facilities. Home Base and the Pak 'N Save grocery store are in this zone at 73rd Avenue (Figure 3.2-2). The Oakland International Trade Center is located behind the Home Base building. Motels and motor inns, including Holiday Inn, Comfort Inn and Days Inn, are concentrated in the vicinity of Edes Avenue.

Zone 4 - Oakland Airport Business Park

The Oakland Airport Business Park is bounded by I-880, Hegenberger Road, Doolittle Drive, and the Oakland-Alameda border. The business park is within the Port of Oakland's land use jurisdiction. Note that for the purposes of this FEIR/FEIS, the Zone boundaries do not entirely conform to the business park's boundaries. Portions of the business park that extend along Hegenberger Road are placed in this document in Zones 5, 6, 7 and 9. The business park contains a mixture of manufacturing, warehousing, laboratory, professional office, and research/development activities. United Parcel Service and Federal Express have service and distribution centers located on Pardee Drive near Swan Way. Two labor union buildings are located on Hegenberger Road: the Warehouse Local Union 6 Building, south of Pardee Drive; and the Teamsters Local Union 70 building, south of Airport Access Road. Substantial new development has been proposed for the business park, including three projects along Hegenberger Road. The largest proposed project, Metroport, is for a hotel and office complex on the 23-acre parcel that is bounded by the highway, Hegenberger Road, and Edgewater Drive. The Port is currently conducting environmental review on the Metroport proposal

(Metroport, see Table 3.0-2). Two proposed projects are also under review for the area along Hegenberger Road between San Leandro Channel and Pardee Drive (see Zone 7 below).

Zone 5 - Hegenberger Office Corridor

The stretch of Hegenberger Road between Edgewater Road and San Leandro Creek contains predominantly offices and a few service commercial uses. The Union Bank of California, Wells Fargo, and Bank of America are all in this zone. The intersection of Edgewater Road and Hegenberger Road is defined by three gas stations. A Marriott Hotel was recently opened within the Hegenberger Loop. Other uses, shown in Figure 3.2-2, include long-term airport parking lots, restaurants, and auto shops.

This zone includes about 11 acres of agricultural land, the Ratto Farm site, proposed to be redeveloped for office uses. The farmland extends for about 1,200 feet on the north side of San Leandro Creek and immediately east of Hegenberger Road. The farm area is contiguous with the Columbian Garden residential neighborhood. A portion of the site closest to Hegenberger Road (about 200 feet from the road) is not cultivated. The rest of the site is cultivated for vegetables.

Zone 6 - San Leandro Creek Area

The San Leandro Creek Trail begins at Hegenberger Road, and follows San Leandro Creek westward on both sides of the creek, to join the Bay Trail at San Leandro Bay and Martin Luther King Jr. Shoreline Park.

Zone 7 - Airport Parking/Auto Shops

This zone along Hegenberger Road extends south of San Leandro Creek to Pardee Drive and Airport Access Road. Land uses include long-term airport parking, auto shops, car-rental services, cab services, and airport/aircraft-related industries. The Best Western Park Plaza hotel is in this zone on the east side of Hegenberger Road. Francesco's Restaurant and an industrial use (clay business) are on the west side of Hegenberger Road. The Port is currently reviewing two office and light-industrial projects proposed along the west side of Hegenberger Road between San Leandro Channel and Pardee Drive.

Zone 8 - Columbian Garden Residential Neighborhood

This single-family residential neighborhood lies east of the Hegenberger Loop and northeast of the Ratto Farm. Light industrial uses separate the residential uses from the offices on Hegenberger Road.

Zone 9 - Gateway Hotels Area

Doolittle Drive, Airport Access Road, and Hegenberger Road form the core of this zone. Hotels and motels in this area include the Hilton, the Holiday Inn Express, and the horseshoe-shaped Edgewater West Inn.

Zone 10 - Airport Area

This portion of the project corridor lies south of Doolittle Drive and generally within OIA. Uses on the west side of Airport Drive are primarily airport-related activities such as aircraft

maintenance, fuel storage, and aviation-related industries. The North Field or North Airport of OIA contains general aviation and air cargo operations, and the main land uses include runways, taxiways, apron areas, parking areas, and roads.

Along the east side of Airport Drive is the Lew F. Galbraith Golf Course. Owned by the Port, the golf course is not part of the airport. The golf course site is currently a dredge materials area and is to be redeveloped as a golf course by 2002. Wetlands and a fuel farm with storage tanks occupy the area immediately south of the Lew F. Galbraith Golf Course and east of Airport Drive.

The southern end of the project corridor is defined by the South Airport area of OIA. A passenger terminal complex, roadways, commercial passenger parking, air cargo facilities, airline support and maintenance facilities, and airfield facilities are major uses in this area of OIA. Major facilities within the project corridor include the United Airlines Maintenance facility, car rental offices, and short-term and long-term parking.

Applicable Policies and Regulations

BART Policy Documents

BART Strategic Plan – 2000. BART's mission is to provide safe, clean, reliable and customer friendly regional public transit in order to increase mobility and accessibility, strengthen community and economic prosperity and preserve the environment in the Bay Area. The Strategic Plan includes specific goals and measures to help achieve this mission. The land use and quality of life goals that are relevant to the proposed project are:

- In partnership with the communities it serves, BART's properties will be used in ways that first maximize transit ridership and then balance transit-oriented development goals with community desires.

- In partnership with the communities BART serves, we will promote transit ridership and enhance the quality of life by encouraging and supporting transit-oriented development within walking distance of BART stations (BART, 2000).

District Resolution 2837 (Station Area Development Implementation Policy). BART's policy regarding station area development as reflected in District Resolution 2837 states:

> The [BART] District shall work cooperatively with local jurisdictions, redevelopment agencies, developers, and other public and private sector entities to promote land use policies which encourage intensive, high quality development on and around surrounding station properties.

The Coliseum BART Station is also designated as a Maximum Access Station, a station that provides maximum customer access to parking, intermodal transit connections, taxi and shuttle services, and joint development opportunities.

City of Oakland BART Station Area Plan

The City of Oakland Community and Economic Development Agency and BART are jointly planning for the revitalization of the area surrounding the Coliseum BART Station. The purpose of the plan is to encourage quality development that would transform the Coliseum area into a vital center and major transportation hub for Oakland and the surrounding East Bay. The plan would define the land use distribution, transportation improvements, and local infrastructure needs based on a comprehensive economic revitalization strategy established for the area. The core project area includes property within a quarter mile or less of the Coliseum BART Station and Oakland Coliseum Complex. As currently defined, the project area is bounded by Hawley Street on the north, 66th Avenue on the west, 77th Avenue on the east, and I-880 on the south. Within this core are the Coliseum BART Station, the planned Capitol Corridor Station, UPRR tracks, the Coliseum AC Transit Intermodal Facility, and the AirBART station (Gary Patton, 2000; City of Oakland, 1999).

City of Oakland General Plan

The General Plan recognizes Oakland's stature as the transportation hub of the Bay Area (City of Oakland, 1998). The policies of the General Plan are directed towards ensuring that Oakland builds upon its significant investment in transportation infrastructure and retains its status as a major transit center. Concurrent land use and transportation planning is encouraged throughout the Plan. The City has identified both the Coliseum Area and the Airport Gateway Area as Showcase Districts (major regional economic generators). The General Plan promotes connection between these two Showcase Districts to benefit both business and tourism.

The unique location of the Coliseum BART Station, between a residential neighborhood and the commercial and industrial Coliseum area, and the station's varied transportation users — East Oakland residents and workers, Coliseum event patrons, and OIA users and employees — make the Coliseum BART Station a transit-oriented district. The General Plan states that any new land uses that capitalize on the station's location and ridership must be designed to be compatible with adjoining housing.

The General Plan, in its Strategic Transportation Improvement Plan (Chapter 3, page 131), proposes intermodal connections at the Coliseum BART Station area and also designates the future Connector as a potential intermodal facility. The General Plan does not identify a specific technology for the Connector but describes it as a fixed-route transit connection providing intermodal transfers to and from BART. The General Plan acknowledges that the addition of the Connector, along with a planned AC Transit bus intermodal station and adjacent Capitol Corridor (inter-regional rail between Sacramento and San Jose, with stops) station, would create an important and much needed transportation hub for Oakland and the County. The project corridor has also been designated as a "transit street," a major link and thoroughfare for travel between different areas of the City. The land use objectives and policies from the General Plan that are relevant to the Connector project are presented below. Additional land use and economic development objectives are described in Section 3.3, Socioeconomics.

Objective I/C4: Minimize land use compatibility conflicts in commercial and industrial areas through achieving a balance between economic development values and community values.

> 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.

Objective T2: Provide mixed use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips at major transportation nodes.

> Policy T2.4. Encourage transportation improvements that facilitate economic development.
>
> Policy T2.5. Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers).

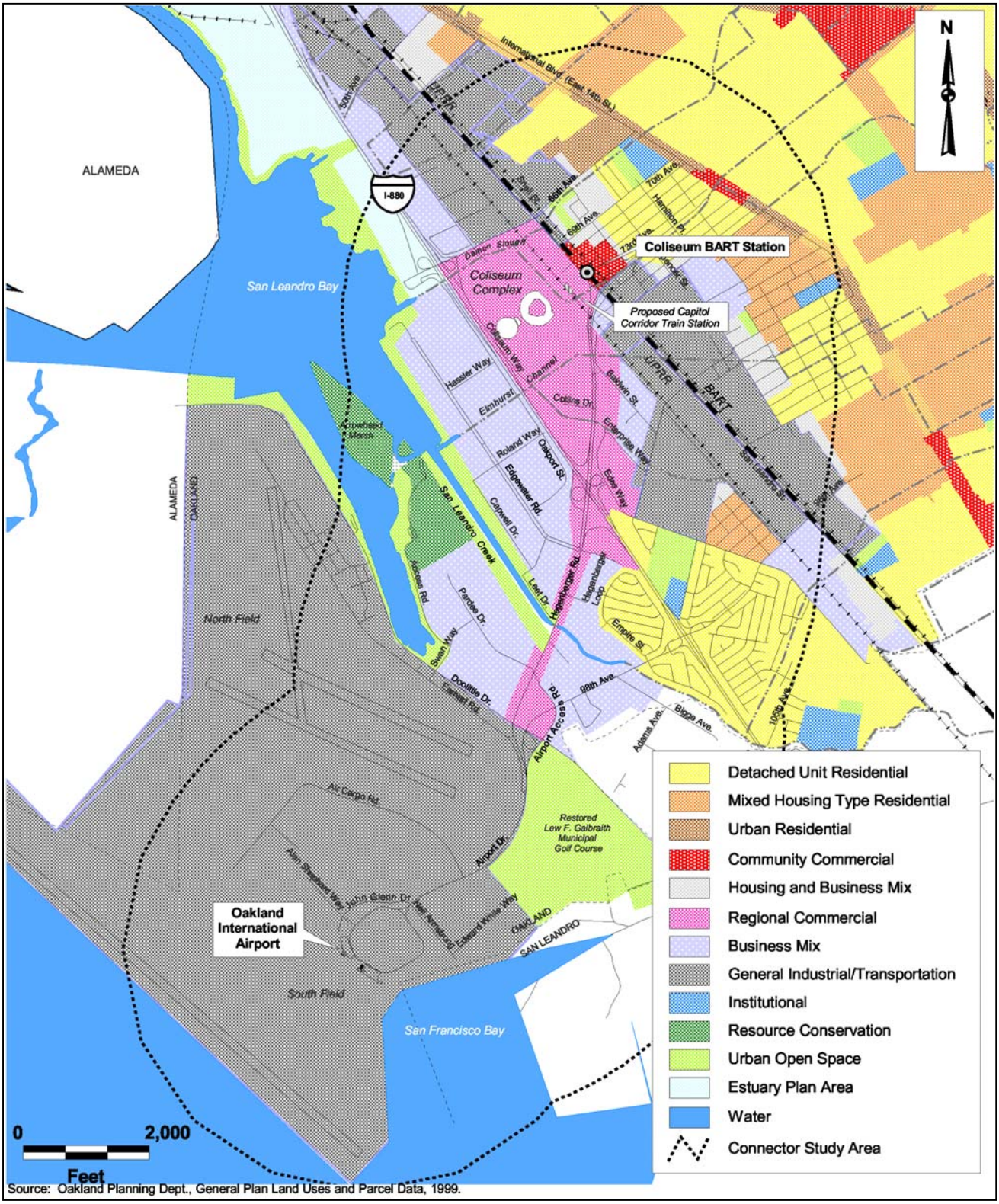
The City's General Plan land use designations for the study area are presented in Table 3.2-1. As seen in Figure 3.2-3, with the exception of the San Leandro Creek, the entire Hegenberger Road corridor is predominantly Regional Commercial. The area around the Coliseum BART Station is designated Community Commercial, and OIA is designated General Industrial Transportation except for the Lew F. Galbraith Golf Course that is designated as Urban Open Space.

Table 3.2-1
City of Oakland General Plan Land Use Designations
Within the Connector Study Area

Land Use Category	*Primary Use*	**Maximum Density/FAR*
Detached Unit Residential	Housing	11units/gross acre
Community Commercial	Retail, health and medical, housing services, community facilities	125 units/gross acre; 5.0 non-residential Floor Area Ratio (FAR)
Regional Commercial	Retail, recreation, visitor-serving uses	4.0 FAR
Business Mix	Light industrial, research and development, low-impact manufacturing	4.0 FAR
General Industry and Transportation	Manufacturing, distribution, and transportation	2.0 FAR
Institutional	Education, cultural, medical	125 units/gross acre; 8.0 FAR
Resource Conservation	Open Space Conservation	no buildings
Urban Park and Open Space	Active and passive recreation	up to one caretaker unit, no net loss

Source: City of Oakland, City of Oakland General Plan, Land Use and Transportation Element, adopted March 1998, Table 4, p. 151.

Note: FAR, Floor Area Ratio, is the ratio of the useable square footage of a building to the area of the site on which it is located; density is the number of dwelling units per acre.



Source: Oakland Planning Dept., General Plan Land Uses and Parcel Data, 1999.

Figure 3.2-3
City of Oakland General Plan Land Use Designations

City of Oakland Municipal Code (Title 17, Planning)

Oakland General Plan objectives and policies are largely implemented through the City of Oakland zoning regulations, which divide the City into districts and describe permitted uses and development regulations for each district (City of Oakland, 2000). Figure 3.2-4 identifies the zoning districts in the study area.

The industrial area along San Leandro Street and adjacent to the Coliseum BART Station is zoned as M-40/S-4, Heavy Industrial with a Design Review Combining Zone. The Combining Zone is intended to create, preserve, and enhance the visual harmony and attractiveness of areas which require special treatment and the consideration of relationships between facilities, and is typically appropriate to areas of special community, historical, or visual significance. The BART station itself is in M-20 Light Industrial. The Coliseum area and the area along Hegenberger Road from the BART line to Doolittle Drive are classified as C-36/S-4 (Gateway Boulevard Service Commercial Zone). This zoning district was updated in July 1998 to read,

> The C-36 zone is intended to create, preserve, and enhance areas with a variety of offices, travel accommodations, and related consumer and business service activities needing visually prominent and attractive locations and abundant vehicle access, and is typically appropriate along wide, landscaped major thoroughfares in areas identified as Gateway and Coliseum Showcase Districts of the Land Use and Transportation Element of the Oakland General Plan.

The minimum setback in this zone is intended to be unobstructed except for accessory structures, landscaping, buffering, and parking.

The S-15 zone is usually an overlay zone and is intended to create, preserve, and enhance areas devoted primarily to serve multiple nodes of transportation and to feature high-density residential, commercial, and mixed-use developments. The Coliseum BART Station area currently does not fall within the S-15 zone, although its application is being contemplated by the City once the Coliseum Station Area Plan is approved (Burgett, 2000). Land uses in this zone are encouraged to offer a balance of pedestrian-oriented activities, transit opportunities, and concentrated development; and to foster a safe and pleasant pedestrian environment near transit stations. The S-15 zone is typically appropriate around transit centers such as BART stations, AC Transit centers, and other transportation nodes.

Port of Oakland Standards and Restrictions

The Port, as an autonomous public agency, has the authority to apply its own land use designations to Port lands as long as the land uses remain consistent with the Oakland General Plan. Port Ordinance No. 2832, as amended by No. 3472 establishes standards and restrictions regarding the use of land and the design and construction of structures and other improvements in the Oakland Airport Business Park (bounded by I-880 on the northeast, Hegenberger Road on the southeast, Doolittle Drive on the south, and the Oakland-Alameda line on the north and west) (Board of Port Commissioners, 1988 and 1998).

According to the Port Ordinance Nos. 2832 and 3472, permissible uses in the business park are manufacturing, warehousing, processing, laboratory, office, professional, or research and development activities. Hotel and motel uses are permitted in designated areas indicated in the ordinance. Retail and other commercial areas other than those designated in the ordinance are restricted to sales of goods and services required for the convenience of occupants in the business park. Other uses that are permitted after approval of the Port are automobile service stations, restaurants, and banks.

Airport Layout Plan

Facilities and land uses on airport property must be in accordance with an airport layout plan (ALP). Proposals to construct new runway extensions, terminal buildings, or other major and supportive development, such as the Connector project, also must be shown on the airport layout plan. The purpose of the ALP is to ensure that airport facilities and land uses support air transportation as the primary function of the airport and are consistent with overall air safety concerns. The ALP is reviewed and approved by the FAA; therefore, approval of an Airport Layout Plan or revisions to the plan are considered a federal action.

The alignment of the Connector system will have to be depicted on the ALP. Currently the approved ALP (approved December 12, 2000) contains a preliminary alignment for the AGT. A draft ALP will be submitted to the FAA showing details of the preferred alternative. The Port of Oakland is responsible for the submittal of a revised ALP. Also the Port's property rights are encumbered by the existing federal airport grant agreement Airport Sponsor Assurances, Numbers 4 and 5. A long-term leasehold or easement will be evaluated for impacts along with the mandatory ALP evaluation for aviation safety and airport design.

The federal action ultimately will require the unconditional approval of the ALP for the segment of Connector right of way on airport property. In addition to approval of any physical changes at the airport related to the Connector project, the ALP review and approval is also necessary for federal Airport Improvement Program and Passenger Facility Charge funding that could be used for the proposed Connector airport station and an airspace evaluation; both actions require a NEPA analysis as specified by FAA order 5050.4A.

Alameda County Airport Land Use Commission (ALUC)

State law establishes airport land use commissions in each county to coordinate the compatibility of new development near airports. The ALUC Land Use Policy Plan was adopted in November 1979 and updated in 1986. The ALUC Land Use Policy Plan contains policies pertaining to height restriction, which protects the navigable airspace around airports for aircraft safety; noise compatibility, which minimizes the number of people exposed to noise from aircraft operations; and safety zones, which minimizes the number of people exposed to hazards related to aircraft operations and accidents.

These plans and policies apply specifically to development off OIA property. While this plan provides a guide to compatible land uses around the airport, some development already exists in the area surrounding the airport that is inconsistent with the compatibility guidelines. The

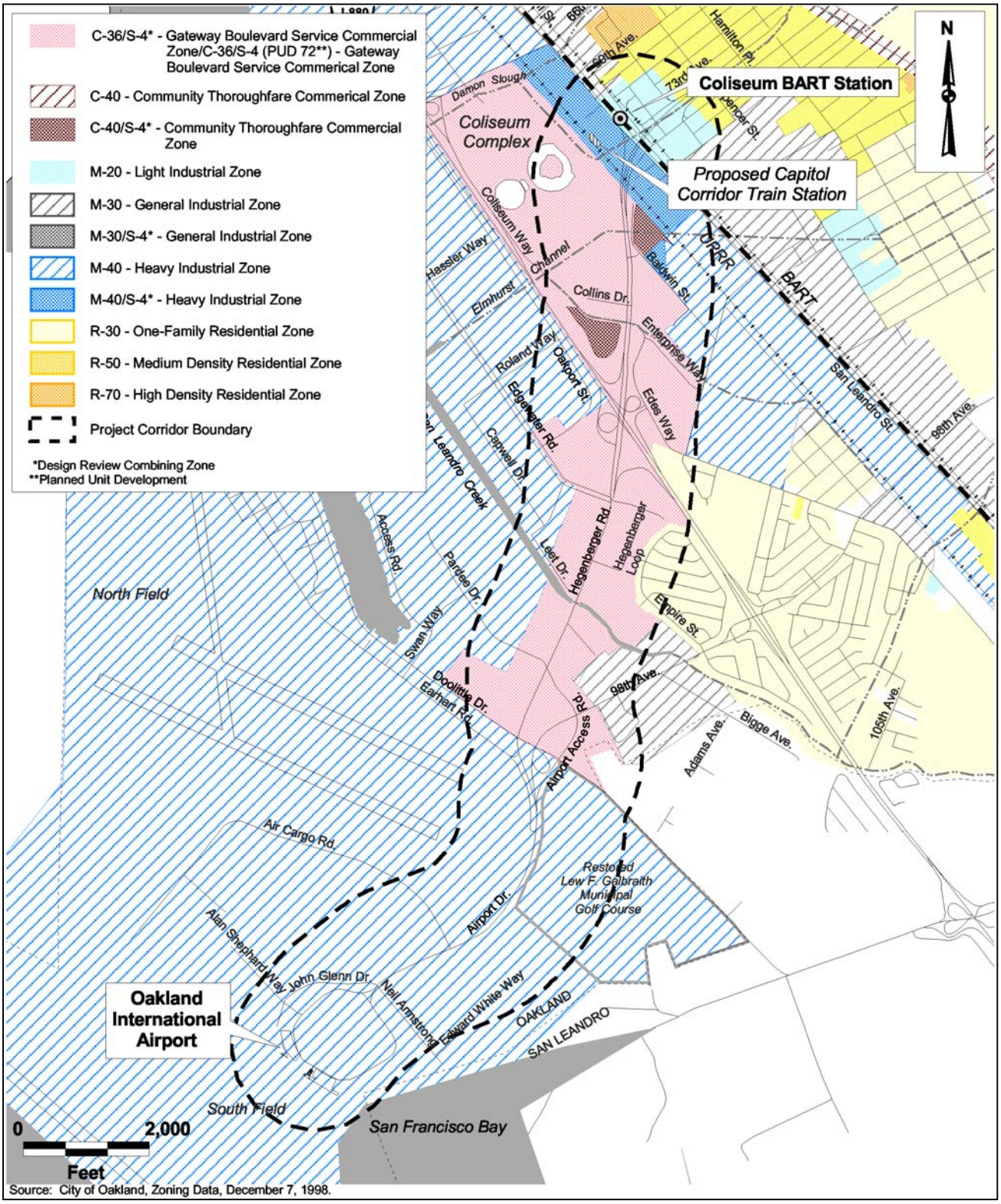


Figure 3.2-4
City of Oakland Zoning Designations

policy plan is primarily directed at preventing new problems of land use compatibility, not at removing existing incompatible uses.

According to the plan, all proposed projects that are subject to ALUC review and would affect property within a General Referral Area must be referred to the ALUC for a Determination of Plan Consistency. ALUC policies for new land uses within the first quarter mile from the end of the runway emphasize maintenance of clear space. A one-half mile segment of the Connector alignment south of Doolittle Drive falls within this defined clear space. About one quarter mile of the project corridor south of Doolittle Drive falls in the Noise Impact Zone defined by the ALUC Land Use Policy Plan. This zone primarily concerns protection of residential uses from excessive aircraft noise. The height restrictions for the ALUC Height Referral Area are in accordance with FAR Part 77 (Appendix C) (Alameda County Planning Department, 1986).

Association of Bay Area Governments (ABAG) Bay Trail Plan

Pursuant to Senate Bill 100, the Bay Trail Plan was created and adopted by ABAG in July 1989. The plan's purpose is to develop a regional hiking and bicycling trail around the perimeter of San Francisco and San Pablo Bays. The Bay Trail Plan has three main goals: 1) provide connections to existing park and recreation facilities; 2) create links to existing and proposed transportation facilities; and 3) avoid surface effects on environmentally sensitive areas.

The Bay Trail borders San Leandro Bay and San Leandro Creek (San Leandro Creek Trail). The Bay Trail Plan proposes extension of the Bay Trail at Martin Luther King Jr. Shoreline Park to the trail at Oyster Bay Regional Shoreline just east of OIA. The trail would generally follow Doolittle Drive, Airport Drive, and the south side of the Lew F. Galbraith Golf Course (Association of Bay Area Governments, 1989).

East Bay Regional Park District (EBRPD)

EBRPD is a limited-purpose governmental agency that has the power to acquire land and to plan, develop, and operate a system of facilities for public recreation in Alameda and Contra Costa Counties. Within the project vicinity, EBRPD leases 71 acres of land and 494 acres of water and marshland surrounding San Leandro Bay from the Port for park development and operation. EBRPD's Martin Luther King Jr. Regional Shoreline includes a shoreline park, wildlife refuges, and a bicycle/hiking trail loop around San Leandro Bay. The trail system includes the San Leandro Creek Trail, which is within the project corridor. In addition, EBRPD also manages Oyster Bay Regional Shoreline, just southeast of OIA in the City of San Leandro, which provides foot-trail shoreline access to the public. In accordance with its Regional Shoreline Park Master Plan, EBRPD plans to connect Martin Luther King Jr. Shoreline Park and Oyster Bay Regional Shoreline Park with a trail generally parallel to Doolittle Drive and Airport Drive (East Bay Regional Park District, 1988).

City of Oakland Coliseum Redevelopment Plan

The City of Oakland Coliseum Redevelopment Plan covers 6,500 acres surrounding the Oakland Coliseum and provides opportunities to assemble land, create new activity centers, and encourage efficient land use patterns in this area. The Redevelopment Plan identifies specific locations and degrees of physical and economic blight, contains a preliminary

assessment of the proposed method of financing redevelopment of the project area, and contains a description of how the proposed projects will improve or alleviate economic and physical problems (City of Oakland, 1995). The redevelopment area draft Land Use Suitability Study conducted in March 1993 identified several key development sites within the project corridor. The Land Use Suitability Study is currently being finalized.

City Council has approved a focus of redevelopment activity around the Coliseum BART station for the next 5 years.

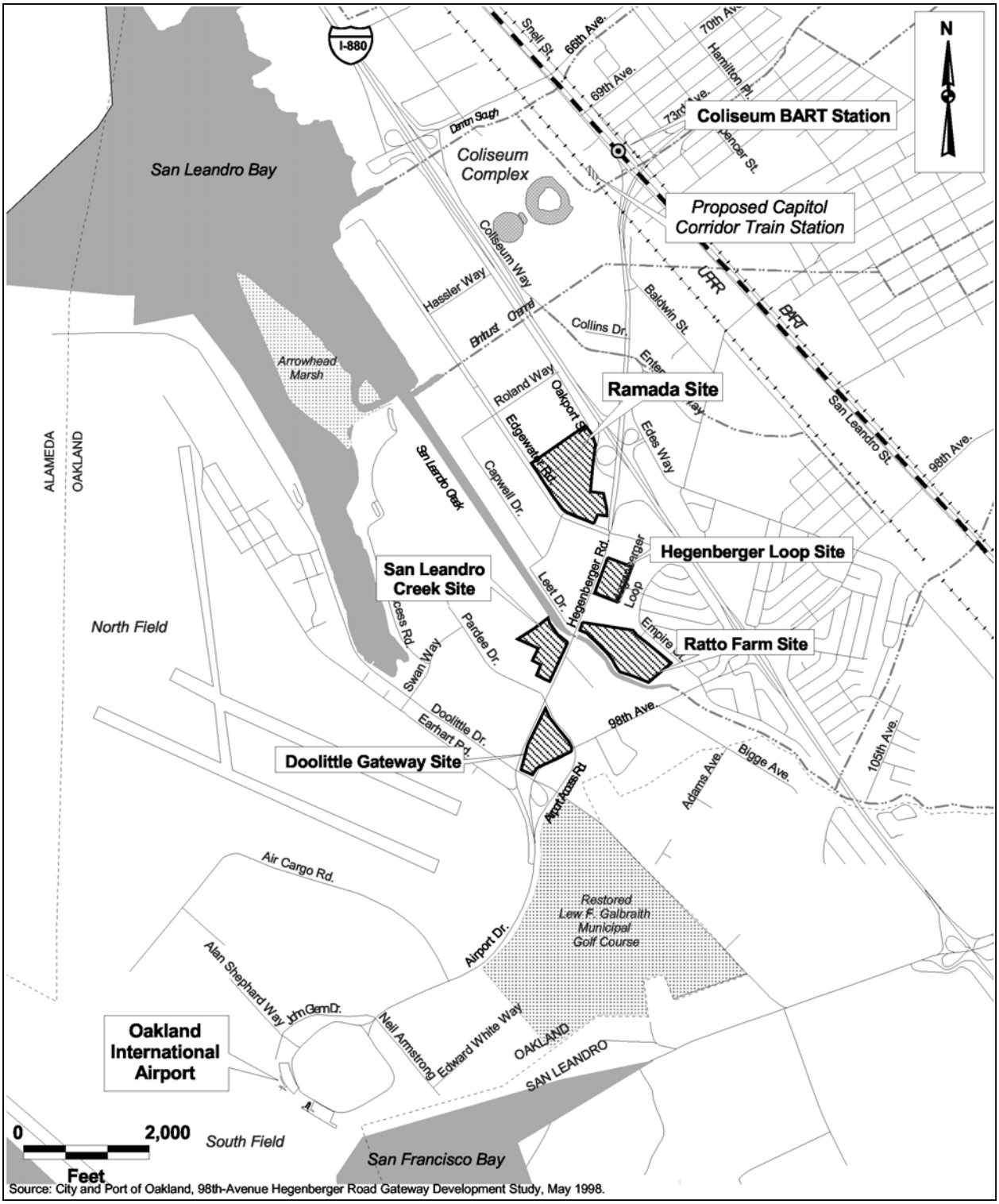
City of Oakland and Port of Oakland Hegenberger Road-98th Avenue Gateway Development Study (Gateway Study)

The Gateway Study area is largely demarcated by four major roadways: Hegenberger Road, 98th Avenue, I-880, and Doolittle Drive. The Gateway Study was a joint effort by the Port of Oakland, the City of Oakland, area businesses, and nearby cities to implement improvements recommended in the Land Use and Transportation Element of the Oakland General Plan.

The Gateway Study recommends a series of priority actions to improve the physical environment and create a positive "Gateway" image, attract new commercial and office development, and improve community access to the Gateway (City of Oakland, 1998). The priority actions in the Gateway Study include immediate development of five opportunity sites for hotels, conference facilities, restaurants and offices. The Gateway Study also includes amended zoning and selected redevelopment actions for the Airport Commercial District to create additional sites for new development as market forces replace the present uses. Visual quality/landscaping elements of the Gateway Study are summarized in Section 3.3, Visual Quality, of this document.

The five opportunity sites identified in the Gateway Study and presented in Figure 3.2-5 are:

- **Ramada Site (a.k.a. Metroport Site):** A 16.5-acre vacant area close to the former Century Theater parcel between Oakport Drive and Edgewater Drive, proposed in the Gateway study for development of a 300-room full-service hotel and 500,000 to 1,000,000 square feet of office;
- **Hegenberger Loop Site:** Approximately 4.5 acres on the east side of Hegenberger Road, proposed in the Gateway study for development of extended stay hotel(s);
- **Ratto Farm Site:** Approximately 11.1 acres along San Leandro Creek on the east side of Hegenberger Road, proposed in the Gateway study for 240,000 square feet of R&D office space;
- **San Leandro Creek Site:** Approximately 14 acres of vacant land along San Leandro Creek on the west side of Hegenberger Road, proposed in the Gateway study for 240,000 square feet of R&D office space; and
- **Doolittle Gateway Site:** The Edgewater Hotel parcel and the Teamsters Union Parcel, which are recommended for assembly as the Doolittle Gateway site, approximately 7.5 acres, and proposed in the Gateway study for development of a 300-plus-room "flagship" hotel.



Source: City and Port of Oakland, 98th-Avenue Hegenberger Road Gateway Development Study, May 1998.

Figure 3.2-5
Opportunity Sites Identified in the Gateway Development Study

3.2.3 Impact Assessment and Mitigation Measures

Standards of Significance

The proposed Connector project would result in significant land use and planning impacts if it was:

- incompatible with existing adjacent uses such that it would cause adjacent land uses to make extensive operational adjustments that would reduce the efficiency or effectiveness of the land uses, or

- found to significantly adversely affect the efficiency, effectiveness, or productivity of the land uses.

These standards of significance are based on professional planning principles regarding land use compatibility. Additionally, the Federal Farmland Protection Policy Act (P.L. 97-98) requires assessment of the loss of farmlands. According to state law, BART is not required to comply with local plans, policies, and zoning ordinances; therefore, determinations of significant impacts are not made in terms of the project's consistency with local plans, policies, and zoning and mitigation is not suggested if the preferred alternative is inconsistent with local policies. BART nevertheless wishes to disclose to the public and to local jurisdictions the extent to which the project is consistent with local plans, policies, and zoning ordinances.

An adverse land use impact can be manifested in many ways. New development can increase traffic and result in localized congestion; noise, vibration, and air pollution can degrade the quality of the surrounding land uses; development of physical structures can alter the aesthetics of the existing setting or result in displacement of private property or recreational areas. Other sections of this document address these various concerns, and the reviewer is directed to Section 3.1, Transportation; Section 3.3, Socioeconomic (including land acquisition and displacement); Section 3.4, Visual Quality; Section 3.11, Noise and Vibration; Section 3.12, Air Quality; and Section 5, Section 4(f) Evaluation. The land use analysis here focuses on whether the Connector creates conflicts that significantly affect the functioning of neighboring land uses.

In addition, this evaluation considers the extent to which the Connector supports or thwarts implementation of public land use policies. If the Connector project supports local jurisdictions' land use or revitalization plans, the effect would be beneficial. If the project precludes these efforts, the effect would be adverse. As noted above, although BART is not required to comply with local zoning ordinances, this information is presented in the following analysis.

Preferred Alternative Environmental Analysis

Consistency with plans, policies, and programs

Table 3.2-2 compares the level of consistency of the Connector and its engineering option with applicable public plans, policies, and programs. Local plans and policies concerning economic development are considered in Section 3.3, Socioeconomic.

Table 3.2-2
Connector Consistency with Local Land Use Plans and Policies

LAND USE PLAN/POLICY	*No Action*	*Preferred Alternative*	*AGT Median Option*
BART's policies (BART's Strategic Plan, Station Implementation Policy etc.)	+	++	O
Coliseum Station Area Plan	+	++	O
City of Oakland General Plan			
Project compatibility with existing land uses (Policy I/C4.1)	+	+	+
Encourage transportation improvements that facilitate economic development (Policy T2.4)	+	++	O
Linkage of transportation facilities and infrastructure improvements to activity centers (Policy T2.5)	+	++	O
City of Oakland Municipal Code and Port of Oakland Standards and Restrictions	+	+	O
ALUC Land Use Policy Plan Policies and ALP	+	+	O
EBRPD and ABAG parkland conservation policy	O	O	O
ADP	+	+	O
Coliseum Redevelopment Area Plan	+	++	O
Gateway Study (Opportunity Sites)	O	++	O

Source: EIP Associates, May, 2000

Note: Comparative Scale of Measurement: ++, Highly Supportive; +, Supportive; O, No Effect; -, Little Support

The AGT would provide a fast and reliable transit connection between the Coliseum BART Station and OIA. This would help increase transit ridership compared to the No Action Alternative and thus be supportive of BART's Strategic Plan. The AGT would also be supportive of the Station Area Implementation Policy to promote intensive, high quality development around station properties. The Coliseum AGT Station would intensify the transit and transportation uses at the Coliseum BART Station area. These changes would support the Coliseum Station Area Plan's goal of strengthening the area as a transportation center.

As part of station planning efforts underway, the BART parking lot is being considered for development. The maintenance facility would preclude development potential on 0.5 acre of the approximately 10-acre lot, or about 5 percent of the entire site area. The station area plans are taking the maintenance facility into account and designing the site to accommodate the proposed maintenance facility. Because the maintenance facility would be enclosed, it would not be expected to create land use conflicts with future uses. Thus, the maintenance facility is not expected to result in adverse land use effects for future development at the BART parking lot. The introduction of new higher intensity uses and an AGT station would reinforce the transit-oriented development being promoted by the City for the Coliseum BART Station area.

The AGT would be compatible with surrounding land uses and, therefore, would be consistent with Policy I/C4.1. The AGT would provide a fast and reliable link to OIA. This would indirectly foster regional economic development. The AGT would link the Coliseum BART Station with the OIA and other job centers, commercial nodes, and recreational uses along the project corridor, as proposed by Policy T2.5 of the City's General Plan.

The AGT would be compatible with the permitted uses, setback requirements, landscape regulations and other development regulations of the City's Municipal Zoning Code, except for the portion of the alignment on the west side of Hegenberger between Elmhurst Channel and Coliseum Way. This portion would be within the setback of certain properties (Home Base at 633 Hegenberger Road and the building at 675 Hegenberger Road). These areas along the alignment fall within the City's C-36 zone, which requires that the minimum setback in this zone be unobstructed except for accessory structures, landscaping, buffering, and parking. Although the guideway would be inconsistent with this setback, BART is not required to comply with this zoning ordinance. Nevertheless, any environmental impact would come, not from BART's inconsistency with zoning, but from the physical impacts of the guideway in this location, such as visual quality and noise. See the following sections for discussions of the relevant impacts and mitigation measures: Section 3.4 for a discussion of the Connector's visual impacts, Section 3.7 for a discussion of the impact to utilities, and Section 3.11 for a discussion of noise and vibration.

The ALUC Land Use Policy Plan addresses height, noise, and safety considerations. The AGT would not conflict with these policies, because:

- The at-grade and below-grade alignment of the AGT south of Doolittle Drive would satisfy the FAA's obstacle-free zone requirements as per Advisory Circular 70/7460-2J. The ALUC's Noise Impact Zone primarily concerns residential areas.

- It would not increase the number of people exposed to hazards related to aircraft operations and accidents.

The AGT guideway would be within right-of-way dedicated for it by the ADP. Other AGT-related construction would be within the OIA terminal area and would need to be reflected on the ALP.

The AGT would not significantly affect the functioning of the existing and proposed San Leandro Creek Trail, and proposed Bay Trail extension. During the design phase, BART consciously avoided encroaching into the Lew F. Galbraith Golf Course. As a result, the AGT would not conflict with the EBRPD and ABAG park conservation and development policies.

The ADP already makes provisions for the Connector. The location and integration of the Airport AGT Station is part of ongoing coordination with BART and Port of Oakland officials. Therefore, the AGT would be consistent with the ADP.

The AGT would be supportive of the Coliseum Redevelopment Plan with its objective to encourage efficient land use pattern in the Redevelopment Area.

As discussed in Section 3.3, Socioeconomics, the AGT alignment would intersect the "Opportunity Site" presented in the Gateway Study, the Doolittle Gateway Site. The AGT alignment would not, however, affect the portions of the site designated for development according to the conceptual plans prepared for the site and presented in the Gateway Study.

The intermediate stops would be highly consistent with the Oakland General Plan policy of linking transportation facilities and infrastructure improvements with the recreational uses, job centers, and commercial nodes along the project corridor. The intermediate stops proposed at the Edgewater Drive/Hegenberger Road intersection and the 98th Avenue/Doolittle Drive/Airport Access Road interchange would serve the workers at the various warehouses, light industries, laboratories, offices, restaurants, fast-food outlets, banks, hotels and gas stations. They could also serve the visitors to the hotels, the Bay Trail, and the restored Lew F. Galbraith Golf Course. Because the preferred alternative would link BART not only to OIA but also to employment centers along the project corridor, it would facilitate local as well as regional economic development. Therefore, the preferred alternative would be supportive of BART's Strategic Plan – 2000 and the City of Oakland's General Plan (Policy T2-4). The intermediate stops are supportive of the Coliseum Redevelopment Plan, which encourages efficient land use patterns. The intermediate stop near Doolittle Drive is at one of the Gateway Study opportunity sites and offers the possibility of a high-intensity transit-oriented node.

In closing, the preferred alternative would be generally consistent with local land use plans and policies. With the intermediate stops, the proposed alignment would support development at Gateway Study opportunity sites. However, the AGT alignment on the west side of Hegenberger between Elmhurst Channel and Coliseum Way would encroach into setbacks intended by City zoning to remain largely undeveloped. Because of the preferred alternative's overall consistency with public policy, this effect is considered less than significant.

Median Option. The Median Option for the alignment portion between Elmhurst Channel and Coliseum Way would be compatible with the permitted uses, setback requirements, landscape regulations, and other development regulations of the City's Municipal Zoning Code. In general, the Median Option would be consistent with local land use plans and policies.

Impact LU-1. Compatibility with existing uses

The AGT would involve a number of physical changes along the project corridor. The compatibility of the AGT system with the land uses is discussed starting from the Coliseum BART Station to OIA.

- **Coliseum Station Area.** The Coliseum AGT Station and the AGT maintenance facility and power substation would intensify the existing transportation and industrial character of San Leandro Street. These changes would not affect the residences north of San Leandro Street at the northern and western perimeters of the BART parking lot. These uses are about 1,000 feet away and are partially screened from the AGT station facilities by street trees around the parking lot. The maintenance facility would be an enclosed building and the repair and maintenance activities would not be noticeable to these residents. The operation of the Coliseum AGT Station and the AGT maintenance facility would not affect the organization,

the interaction, or the arrangement of the existing uses since it would be located above the BART station and in the southeast corner of the BART parking lot, respectively. The station, maintenance facility, and guideway would not be incompatible with the existing industrial and transportation uses that line San Leandro Street.

The maintenance facility would occupy a footprint of 210 feet by 105 feet, or about 0.5 acre. The maintenance facility would affect the easternmost aisle of the BART parking lot, but the lot would continue to function and the loss of spaces would not trigger a parking shortfall at the station.

- **Hegenberger Road Corridor.** The elevated AGT guideway section on Hegenberger Road above UPRR and I-880 would not conflict with adjacent uses since they, like the AGT, are transportation related. Other sections of the aerial guideway north of Airport Access Road traverse the Hegenberger Road Retail Corridor, Hegenberger Road Office Corridor, Oakland Airport Business Park, Airport Parking/Auto Shops, San Leandro Creek Area, and Gateway Hotels Area (see Figure 3.2-1). These land use zones include business, service and retail commercial, manufacturing, warehousing, recreation and hotel uses. Although the guideway would introduce a new land use into the area, it would not be functionally incompatible with these uses. All uses, except those that would be displaced (see Section 3.3, Socioeconomics), could continue to function without adjustments to their operations. There is little interaction between businesses on either side of Hegenberger Road, in part, because Hegenberger Road is six to eight lanes wide and heavily traveled. The introduction of the AGT guideway would neither sever cross-street interactions nor physically interfere with a functioning district. Accordingly, the AGT would also not adversely affect existing uses in this segment of the project corridor.

  The AGT would be about 100 feet from the Ratto Farm site and about 500 feet from the cultivated portions of the site. The preferred alternative would not result in direct conversion of any of the farmlands to non-agricultural uses. As noted in the "Existing Conditions" section, Ratto Farm is already targeted for development as part of the Gateway Study and would ultimately be converted to non-agricultural uses regardless of whether the AGT system is constructed.

- **OIA Area.** At the entrance to OIA, the AGT alignment is underground and would not conflict with surrounding land uses. Once the AGT alignment reaches the surface after crossing Doolittle Drive, it would be within the 35-foot right-of-way reserved for the Connector as part of the ADP. The AGT operation would not interfere with recreational activities at the restored Lew F. Galbraith Golf Course or Bay Trail, because these areas are separate from and east of the alignment (also discussed in Section 3.4, Visual Quality, and Section 5, Section 4 (f) Evaluation). The AGT has been designed to comply with the FAA regulations regarding obstacle-free zones at the runways, so that the Connector would not disturb or adversely affect North Field airport operation. Specifically, the 13-foot-high (maximum) AGT would be below the restricted airspace.

  South of the Airport Drive/Air Cargo Road intersection the AGT would travel on an aerial guideway parallel to Airport Drive into an AGT station adjacent to an expanded and

relocated terminal complex. The land uses in this area are airport/transport-related uses and, therefore, would be compatible with AGT operations. The alignment and elevation of the guideway was designed to be compatible with proposed ADP improvements and would not impede or alter activities at OIA. In fact, the AGT would intensify the transportation uses and be compatible with transit-related uses at OIA.

The land uses in the areas neighboring the intermediate stops include business service and retail commercial, manufacturing, warehousing, and hotel uses. A transit station would be compatible with these uses and the AGT would not create any adverse effects on local land use, since their occupations and activities would continue to function effectively. (LTS)

Median Option. Substitution of the Median Option for the segment of alignment between Elmhurst Channel and Coliseum Way would have no effect on any of the preceding analyses. (NI)

Partial ADP Scenario

Land use effects of the Connector under the Partial ADP scenario would be the same as described for the Connector with the ADP. The difference between these two scenarios primarily concerns the consolidation and enlargement of the terminals, the construction of a parking garage, and roadway improvements at OIA. Whether these components are constructed would neither improve nor worsen the Connector's land use compatibility with OIA operations. In other segments of the Connector route, the ADP and Partial ADP scenarios are identical, so that land use effects in these areas are identical.

Cumulative Analysis

The ABAG forecasts and proposed and approved development projects would intensify the development pattern within the project corridor and reinforce its existing employment orientation. Cumulative development would capitalize on the growth anticipated at OIA, increase commercial and research and development space in the project corridor, promote transit-oriented projects, and attract more regional-serving uses. These changes in the land use mix and intensity are consistent with the public policies articulated for the study area. Economic revitalization, land use transportation linkages, and establishment of a major transportation hub are all identified as important ingredients to upgrading the role, character, and appearance of the project corridor.

The eight development projects in the project corridor expected to be occupied by 2005 include about 730 hotel rooms and nearly 2 million square feet of office, research and development, and distribution space. The cumulative land use change would occur with or without the Connector project, as they are a function of the current strong market economy and of supportive land use policies of the City and Port. As the transformation occurs, lower intensity or underutilized parcels would experience pressure to revitalize or redevelop and displacement of the existing uses can be expected. This turnover of existing uses is a cumulative effect of future development but is expected to occur with or without the Connector project. As a result, the Connector would not substantially contribute to cumulative land use changes, and the cumulative land use effects with the Connector are less than significant.

The Capitol Corridor project in combination with the Connector would cumulatively reinforce the intermodal role envisioned for the Coliseum BART Station area. This effect is considered beneficial because the combined operations of the Capitol Corridor and the Connector would help create a strong transit orientation and intermodal facility, espoused by the Coliseum BART Station Area Plan and the City's General Plan. The cumulative effect of the integration of these two transportation systems would be increased transit ridership, a stronger identity for the Coliseum area as a transit-oriented district, and support for the City's and BART's joint development policies.

The increased activity associated with the Capitol Corridor Station and the Connector would not be expected to significantly disturb the residential areas north of the Coliseum BART Station. As discussed in the Alternative-Specific Environmental Analysis, the Connector would be relatively distant from the neighborhood and its operation would not affect the residences. Similarly, the Capitol Corridor Station is south of the BART tracks and thus further removed from the residents north of the BART parking lot than the AGT station. Because of the physical separation from the residences, the transit projects would not result in significant cumulative land use effects.

References

Alameda County Planning Department, *Alameda County Airport Land Use Policy Plan*, adopted November 1979,updated July 16, 1986.

Association of Bay Area Governments, *The Bay Trail, Planning for a Recreational Ring Around San Francisco Bay*, July 1989.

BART Strategic Planning Committee, *BART Strategic Plan 2000*.

Board of Port Commissioners, City of Oakland, Port Ordinance No. 2832, adopted September 6, 1988, as amended by Port Ordinance No. 3472, adopted December 1, 1998.

Colin Burgett, Planner II, Strategic Planning, City of Oakland, Community and Economic Development agency, personal communication, September 5, 2000.

City of Oakland, *Draft Environmental Impact Report, Coliseum Area Redevelopment Plan*, February 15, 1995.

City of Oakland, *Oakland Municipal Code, Title 17, Planning*, adopted August 31, 1965, revised through August 2000.

City of Oakland, Community and Economic Development Agency, *City of Oakland General Plan, Land Use and Transportation Element*, adopted March 1998.

City of Oakland, Community and Economic Development Agency, Coliseum BART Station Area Plan, Request for Proposals, October 1999.

City and Port of Oakland, *Hegenberger Road-98th Avenue, Gateway Development Study*, May 1998.

East Bay Regional Park District, *Master Plan 1989*, adopted May 17, 1988.

Louise Engel, Associate Strategic Planner, Environmental Planning Department, Port of Oakland Bay Trail Extension Project, July, 2000.

Gary Patton, Assistant Planning Director, City of Oakland, personal communication, June 19, 2000.

Oakland Unified School District Website, (http: // mapstacker.ousd.k12.ca.us /scripts /esrimap.dll, School Finder), July 10, 2000.

Port of Oakland, *Oakland International Airport Final Environment Impact Report, Proposed Airport Development Program*, prepared by Environmental Science Associates, December 1997.

Section 3.3 Socioeconomics

3.3.1 Introduction

This section provides a description of the social and economic characteristics of the communities in the proposed Connector project study area with particular emphasis on the project corridor. An analysis of potential impacts associated with the preferred alternative on the social and economic characteristics of these communities is provided as well. Related information is contained in Section 3.2, Land Use, and Section 3.15, Environmental Justice.

3.3.2 Existing Conditions

For purposes of comparison, data are provided for four different geographic areas: Alameda County, the City of Oakland, the study area, and the project corridor (see Figure 3.3-1). For this analysis, the data for the "study area" is composed of the census tracts that encompass the study area (4088, 4089, and 4090). For this analysis, the data for the "project corridor" is composed of the census tract that comprises over 90 percent of the study area (4090). Small portions of the project corridor around the Coliseum BART Station fall within census tracts 4088 and 4089.[1]

Population and Household Characteristics

Population

Table 3.3-1 summarizes population and household characteristics for the different geographic areas. Between the years 2000 and 2020, the population of Alameda County is expected to increase by 14.3 percent. During the same period, slightly lower population growth rates are expected in the City of Oakland (9.3 percent), the study area (8.3 percent), and the project corridor (10.9 percent).

Between the years 2000 and 2020, the number of households in Alameda County is expected to increase by 12.5 percent. During the same period, the growth in the number of households is expected to be much slower in the City of Oakland (2.7 percent), the study area (2 percent), and the project corridor (4.5 percent). This is reflective of the minimal amount of land available for new housing in the western part of the County.[2]

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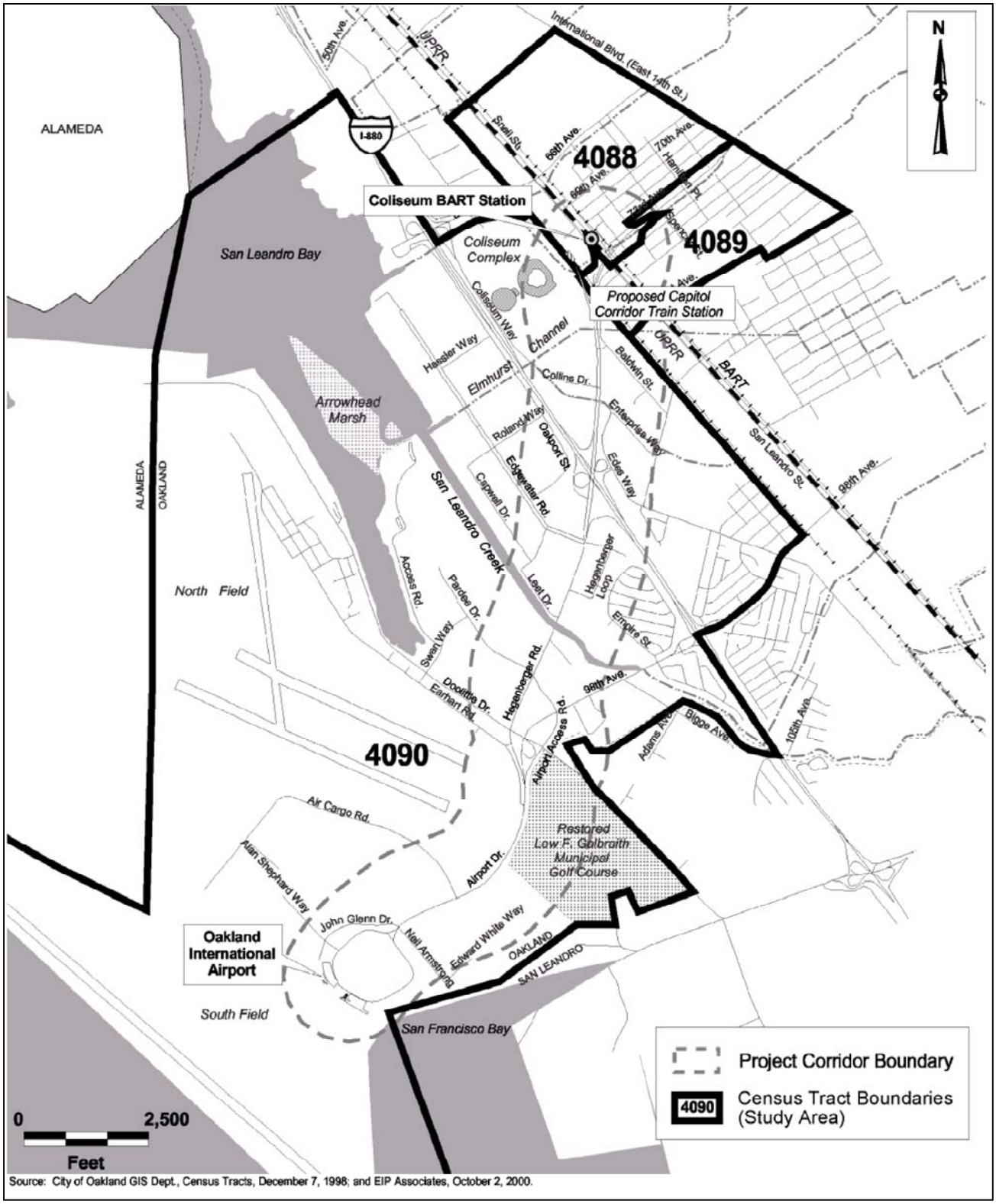
1 The Project Corridor also includes a small portion of one additional census tract between the UPRR and BART tracks. This area, however, does not include any development or population; therefore, this additional census tract is not included in the analysis.

2 Although Association of Bay Area Government's (ABAG) official projections forecast a minimal growth in the City of Oakland between the years 2000 and 2020, Oakland Mayor Jerry Brown is moving forward with his "Oakland 10K Initiative," which proposes to help revitalize downtown Oakland by attracting 10,000 new residents (Oaklandnet.com, 2000). However, the areas targeted for proposed residential development are several miles to the north and east of the Connector project corridor and would not affect the socioeconomics of the study area.



Source: City of Oakland GIS Dept., Census Tracts, December 7, 1998; and EIP Associates, October 2, 2000.

Figure 3.3-1
Census Tracts Encompassing Project Corridor

Table 3.3-1
Demographic Projections 1990-2020

Demographic Characteristics	***Projections***				***Change 2000-2020***	
	1990	***2000***	***2010***	***2020***	***Change***	***Percent Change***
Alameda County						
Population	1,276,702	1,462,700	1,615, 900	1,671,700	209,000	14.3%
Number of Households	479,518	514,620	552,090	578,830	64,210	12.5%
Employed Residents	648,461	694,600	781,500	871,900	177,300	25.5%
Jobs	644,100	725,790	848,300	945,340	219,550	30.2%
Jobs/Employed Resident	0.99	1.04	1.09	1.08	N/A	N/A
Mean Household Income	$57,200	$66,800	$76,400	$82,500	$15,700	23.5%
City of Oakland						
Population	372,242	405,300	440,300	442,800	37,500	9.3%
Number of Households	144,521	145,720	148,930	149,640	3,920	2.7%
Employed Residents	164,394	171,600	190,300	209,800	38,200	22.5%
Jobs	178,340	188,940	211,780	218,390	29,450	15.6%
Jobs/Employed Resident	1.08	1.10	1.11	1.05	N/A	N/A
Mean Household Income	$46,100	$54,000	$62,300	$67,100	$13,100	24.2%
Study Area - Census Tracts 4088, 4089, and 4090						
Population	10,677	11,687	12,591	12,654	967	8.3%
Number of Households	3,501	3,536	3,575	3,607	71	2%
Employed Residents	2,614	2,750	3,023	3,331	581	21.1%
Jobs	24,124	22,740	25,305	26,219	3,479	15.3%
Jobs/Employed Resident	9.22	8.26	8.37	7.87	N/A	N/A
Mean Household Income	$27,011	$29,433	$34,100	$36,500	$7,067	24%
Project Corridor - Census Tract 4090						
Population	3,116	3,391	3,692	3,761	370	10.9%
Number of Households	969	973	994	1,017	44	4.5%
Employed Residents	815	853	947	1,057	204	24%
Jobs	17,958	20,200	22,618	23,244	3,044	15.1%
Jobs/Employed Resident	22.03	23.68	23.88	21.99	N/A	N/A
Mean Household Income	$31,623	$32,600	$34,700	$40,400	$7,800	23.9%

Source: ABAG Projections, 2000

Age and Ethnicity

Table 3.3-2 summarizes the ethnic composition for Alameda County, the City of Oakland, and the census tracts that encompass the study area and project corridor. Alameda County and the City of Oakland have extremely diverse populations, with no single ethnic group representing a majority. Within the study area and project corridor, Blacks represent the largest portion of the population, and their representation is considerably higher than that in the county or city. The percentage of White and Asian/Pacific Islander residents in these census tracts is considerably lower than in the County or City. Section 3.15, Environmental Justice, provides a more detailed discussion of ethnicity.

Table 3.3-3 summarizes the age distribution for Alameda County, the City of Oakland, and the census tracts that encompass the study area and project corridor. The percentage of school-age children in the study area (34 percent) and in the project corridor specifically (31 percent) is higher than the percentage of school-age children in the County and City (24 percent and 25 percent, respectively).

Income

Table 3.3-4 summarizes household and per capita income levels for the four geographic areas, as well as the percentage of families and persons living below the poverty level. Residents in the study area earn substantially less income than residents of the City of Oakland or Alameda County as a whole. Both the median household income and per capita income for residents of the study area are less than 40 percent of Alameda County's, while the median household income and per capita income for the residents of the project corridor are less than 50 percent of Alameda County's. The percentage of residents that live in poverty in the study area approaches three times the county percentage. Within the project corridor, the percentage of residents living in poverty approaches two and a half times the county percentage.

Table 3.3-1 includes mean household income projections for the years 2000 and 2020. Over that period, mean household income is expected to increase at a relatively similar rate of 24 percent for all geographic areas. However, the existing disparity in income will continue, such that in 2020 the mean household income in the project corridor is expected to still be less than 50 percent of Alameda County's. Section 3.15, Environmental Justice, presents additional discussion of income levels.

Table 3.3-2
Ethnicity of Population

		Racial Composition											
		White		Black		Hispanic Origin		Asian or Pacific Islander		American Indian, Eskimo, or Aleut		Other	
Area	Total Pop.	Total	%	Total	%	Total	%l	Total	%	Total	%	Total	%
Alameda County	1,279,182	580,010	45.3%	229,249	17.9%	181,805	14.2%	192,564	15.1%	8,894	0.7%	86,670	6.8%
City of Oakland	372,242	105,203	28.3%	159,465	42.8%	51,711	13.9%	53,025	14.2%	1,807	0.5%	1,031	0.3%
Study Area - Census Tracts 4088, 4089 & 4090	10,675	227	2.1%	8,176	76.6%	1,447	13.6%	744	7.0%	0	0%	81	0.7%
Project Corridor - Census Tract 4090	3,114	95	3.0%	2,687	86.3%	237	7.6%	80	2.6%	10	0.3%	5	0.2%

Source: US Bureau of the Census, 1990 Census

Table 3.3-3
Age of Population

Area	Total Pop.	Age					
		0-17		18-64		65+	
		Persons	%	Persons	%	Persons	%
Alameda County	1,279,182	303,405	23.7%	839,997	65.7%	135,780	10.6%
City of Oakland	372,242	92,587	24.9%	234,000	63.1%	44,855	12.0%
Study Area – Census Tracts 4088, 4089 & 4090	10,675	3,648	34.2%	5,696	53.4%	1,331	12.5%
Project Corridor – Census Tract 4090	3,114	959	30.8%	1,742	55.9%	413	13.3%

Source: US Bureau of the Census, 1990 Census

Table 3.3-4
Income of Population

Area	Median Household Income	Per Capita Income	Income Below Poverty Level[1]			
			Families		Persons	
			Families	Percent of All Families	Persons	Percent of All Persons
Alameda County	$37,544	$17,547	22,917	10.2%	132,011	10.3%
City of Oakland	$27,095	$14,676	14,174	16.7%	68,781	18.8%
Study Area – Census Tracts 4088, 4089 & 4090	$14,584	$6,965	773	31.1%	3,321	31.1%
Project Corridor - Census Tract 4090	$18,030	$8,105	161	21.8%	754	25.1%

Source: US Bureau of the Census, 1990 Census
Note:
[1] Poverty status is based on 1989 income levels and excludes institutionalized persons, persons in military group quarters, university and college dormitories, and unrelated persons under 15 years of age. The average poverty threshold in California in 1989, for a family of four, was $12,674.

Community Characteristics

Residential Characteristics

While there are over 900 households located within the project corridor, few of these households are located directly adjacent to the route that would be followed by the Connector. As described in Section 3.2, Land Use, two of the ten land use zones within the study area contain residential neighborhoods: Zone 2, in the Coliseum BART Station Area northeast of the station, and Zone 8, the Columbian Garden residential neighborhood southwest of Coliseum Way and southeast of Hegenberger Road. The Coliseum BART Station Area and the Columbian Garden neighborhood fall within the ¼-mile area that defines the project corridor; however, both residential areas are physically separated by intervening uses from the route that would be followed by the Connector. These residential areas consist predominantly of clustered single-family dwellings.

Commercial/Industrial Characteristics

The preferred alternative would operate along a corridor lined by a mix of commercial and industrial uses. Between the Coliseum BART Station and OIA, the commercial uses along Hegenberger Road/Airport Drive serve a regional area and reflect the street's status as a regionally important arterial. The predominant uses are related to automobiles and transportation, fuel and service stations, building and construction, and restaurants and hotels (Hinderliter, 2000).

Of the approximately 4,524 acres in the census tracts that encompass the project corridor, 2,718 acres (60 percent) are dedicated to commercial/industrial use (including 2,400 acres for OIA) (ABAG, 1997). This business orientation is reflected in the extremely high number of jobs per employed resident statistics within these census tracts (see Table 3.3-1). The remaining acreage is dedicated to residential, resource conservation, and parks/open space.

Along the project corridor, there are 117 active businesses registered with the California Board of Equalization.[3] In fiscal year 1998, these businesses generated $1,490,195 in sales tax revenue, which represents 4.9 percent of the City of Oakland's total sales revenue (Hinderliter, 2000). Between 1989-1998, sales tax revenues along the project corridor increased by 19.4 percent ($241,818), which is similar to the increase experienced by the City of Oakland (18.7 percent, $4,825,041) over the same period.

Sales tax revenues for 1999 within the project corridor are shown in Table 3.3-5 and total $1,514,000.

[3] This includes businesses fronting on Hegenberger Road and Airport Drive between San Leandro Street and OIA, Airport Drive, as well as the 6800-7600 blocks of San Leandro St.

Table 3.3-5
1999 Sales Tax Information for Major Business Groups within the Project Corridor

Business Group	*1999 Sales Tax Revenue*
Autos and Transportation	$565,000
Fuel and Service Stations	$339,000
Building and Construction	$210,000
Restaurants and Hotels	$175,000
Business and Industry	$130,000
Foods and Drugs	$55,000
General Consumer Goods	$40,000
TOTAL	$1,514,000

Source: Hinderliter, de Llamas and Associates, 2000

According to Association of Bay Area Government (ABAG) estimates, over 22,000 people are employed in the census tracts encompassing the study area (ABAG, 2000). Over 10,200 of these people are employed at OIA (FlyOakland Webpage, 2000), making it the largest employer in the project area.

Jobs/Housing Balance

In Alameda County, it is estimated that in the year 2000 there are 1.41 jobs per household. With nearly 220,000 new jobs expected within the County in the next 20 years, by 2020 the ratio is expected to increase 30.2 percent to 1.63 jobs per household. Within the City of Oakland, a similar increase is anticipated, as the forecasted addition of nearly 30,000 jobs will increase the jobs to household ratio by 11.5 percent, from 1.30 to 1.45.

Currently, the study area has a jobs-to-household ratio of 6.4, and the project corridor has a jobs-to-household ratio of 20.8. The jobs-to-household ratio in these areas is much higher due to the presence of the great number of jobs located in census tract 4090, including those located at OIA. Based on ABAG projections, the increase in the jobs-to-household ratio within the study area and project corridor is expected to increase by margins similar to that of the County and the City of Oakland. Between 2000 and 2020, ABAG projects the study area will add nearly 3,500 jobs, and the jobs-to-household ratio will increase 10.9 percent from 6.4 to 7.3. Between 2000 and 2020, the project corridor is projected to add over 3,000 jobs, and the jobs-to-household ratio will increase 10.1 percent from 20.8 to 22.9. These figures are based on ABAG's forecasts. Current development projects already approved by the City of Oakland in the project corridor (census tract 4090, see Section 3.0) and anticipated to be complete by 2005, suggest a much higher growth rate of jobs. The City of Oakland anticipates that about 5,400 jobs will be created in this census tract alone by 2005. The impact of these current developments will be addressed in the cumulative analysis of this section.

Applicable Policies and Regulations

The Land Use and Transportation Element of the Oakland General Plan (City of Oakland, March 1998) presents the policies, land use designations, transportation strategies, and implementation strategies designed to address the unique challenges facing Oakland in the upcoming decades. The Gateway Development Study and the Coliseum Area Redevelopment Plan are local area plans intended to implement the vision of the General Plan's Land Use and Transportation Element, and all three documents are designed to be compatible with one another. These plans are discussed in Section 3.2, Land Use, and policies from these plans specific to socioeconomic conditions are discussed below.

Oakland General Plan

The Land Use and Transportation Element of the Oakland General Plan identifies the economic challenges facing Oakland. These challenges include retention and attraction of businesses, preparing the local work force for evolving employment opportunities, and providing site and services suitable for both traditional and emerging economic activities.

In its analysis of Oakland's future economy, the General Plan identified both the Coliseum area and the Gateway/Airport area as major economic generators, and emphasizes the importance of these "Showcase Districts" as dynamic areas that can respond to broad trends and market demands (see Section 3.2.2 Land Use, Existing Conditions, for a discussion of Showcase Districts). The General Plan promotes connection between these two Showcase Districts to benefit both business and tourism.

Many of the objectives and policies found in the Land Use and Transportation Element that relate to economic growth are identified in Section 3.2, Land Use. Additional objectives and policies related to socioeconomics include:

Objective I/C1: Expand and retain Oakland's job base and economic strength.

Policy I/C1.1 – Attract New Business: The City will strive to attract new businesses to Oakland that have potential economic benefit in terms of jobs and/or revenue generation. This effort will be coordinated through a citywide economic development strategy/marketing plan which identifies the City's existing economic base, the assets and constraints for future growth, target industries or activities for future attraction, and geographic areas appropriate for future use and development.

Policy I/C1.2 – Retaining Existing Business: Existing businesses and jobs within Oakland which are consistent with the long-range objectives of this Plan should, whenever possible, be retained.

Policy I/C1.3 – Supporting Economic Development Expansion Through Public Investment: The public investment strategy of the City should support economic development expansion efforts through such means as identifying target "catalyst project" for investment which will support the employment or revenue base of the city, and providing infrastructure improvements to

serve key development locations or projects which are consistent with the goals and objectives of this Plan.

Policy I/C1.4 – Investing in Economically Distressed Areas of Oakland: Economic investment, consistent with the City's overall economic strategy, should be encouraged, and, where feasible, should promote viable investment in economically distressed areas of the City.

Policy I/C1.10 – Coordinating City and Port Economic Development Plans: The City and Port should mutually develop and implement a coordinated plan-of-action to support all airport and port related activities which expand the local or regional employment or revenue base.

Objective T1: Provide adequate infrastructure and land for the needs of rail, shipping, commercial and manufacturing uses, balancing this need with those of surrounding residential neighborhoods.

Policy T1.2 – Improving Transportation Links: Improve all types of transportation links, including the AirBART shuttle service, between the Airport and business and neighborhood activity centers in the City.

Objective W7: Capitalize on the seaport and airport for increased economic activity and jobs in Oakland.

Policy W7.1 – Developing Lands in the Vicinity of the Seaport/Airport: 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 that enhance the unique characteristics of the seaport and airport. These lands should be developed with uses that can buffer adjacent neighborhoods from impacts related to such activities.

Hegenberger Road-98th Avenue Gateway Development Study

This study was developed as a collaborative effort between the Port of Oakland, City of Oakland, area businesses and nearby communities. The Development Study is a concept document that recommends a series of actions to achieve a desired character for the Hegenberger Road and 98th Avenue corridors. Based on the market assessment conducted as part of the Gateway Development Study, several opportunities to improve the socioeconomic standing of the Hegenberger Road corridor were identified and subsequent action items developed. These action items include:

- Roadway improvements (street lighting, landscaping, banners) along Hegenberger Road and Airport Drive.
- Improving visibility and visual quality of San Leandro Creek.
- Creating and adopting an Airport Commercial District zoning amendment to foster better and more appropriate private development.

- The development of identified "Opportunity Sites," which are sites along Hegenberger Road targeted for public investment to stimulate the development of substantial new hotel or office projects.

Coliseum Area Redevelopment Plan

The Coliseum Area Redevelopment Plan was written in conjunction with the General Plan's Land Use and Transportation Element to present a process and basic framework for the redevelopment of 6,500 acres surrounding the Oakland Coliseum. No time goals have been set for these policies, but the major goals of the Coliseum Area Redevelopment Plan include:

- The strengthening of the economic base of the Plan's project area and the community by installation of needed site improvements to stimulate new commercial/industrial expansion, employment, and economic growth.

- The assembly of land into parcels suitable for modern, integrated development with improved pedestrian and vehicular circulation in the Plan's project area.

- The replanning, redesign, and development of undeveloped areas that are stagnant or improperly utilized.

- The improvements of transportation access to industrial and commercial areas, and improved safety in all parts of the area.

However, the Redevelopment Plan does not present a precise plan or establish specific projects for the redevelopment, rehabilitation, and revitalization of any area within the Plan's project area.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

In addition to compensation for property acquisition, federal and state laws (the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended, Public Law 91-646 PL 100-17, 42 U.S.C. 4601 et seq. and California Government Code, Chapter 16, Section 7260 et seq.) require that relocation assistance be provided to any person, business or farm operation displaced because of the acquisition of real property by a public entity for public use. Both the federal act and enabling state legislation require that comparable replacement properties be available or provided for each displaced person within a reasonable period of time prior to displacement. Compliance with the Federal Act is required by any public agency where federal funds are to be used in the acquisition or construction of the proposed project.

3.3.3 Impact Assessment and Mitigation Measures

Standards of Significance

A significant socioeconomic impact would occur if the project substantially affected the population, household, or community characteristics of the project study area in a negative way, or would impede or detract from efforts to economically revitalize the study area. An increase in employment opportunities and/or permanent jobs is considered a beneficial impact,

as is improved transit to regional activity centers. The criteria utilized to determine significance have been developed based on Urban Mass Transportation Administration (UMTA) (FTA) Circular 5620.1 and Appendix G of the CEQA Guidelines. These criteria include both qualitative and quantitative assessments, many of which are related to other environmental topic areas discussed in this FEIR/FEIS. Based on these criteria, a significant socioeconomic impact would occur if the project would:

- Disrupt or divide the physical arrangement of an established community such that social interaction within the community is severely hampered, such as when a new guideway would isolate a key community facility from the surrounding residents.
- Induce substantial growth in an area either directly (e.g., by proposing new homes or buildings) or indirectly (e.g., through extension of roads or infrastructure) not in accordance with existing community or city plans.
- Displace existing businesses or housing, especially affordable housing.
- Create a demand for additional housing that cannot be accommodated by existing housing stock.
- Conflict with applicable plans and policies.

Methodology

Unlike most other analyses in this document, the discussion of social and economic impacts is related to a larger geographic area than the project corridor (see Figure 3.3-1). This broader assessment occurs because social and economic impacts often affect a greater geographic area than other impacts (e.g., property tax revenues benefit school children throughout the City of Oakland). In addition, the data on social and economic conditions are based on areal units (e.g., census tracts) that extend beyond the project corridor.

The primary data source for this analysis was the 1990 US Census, which is the most recent comprehensive data available. Census information was supplemented with information from the ABAG *Projections 2000.* ABAG, a regional agency, develops economic and demographic forecasts based upon current zoning, general plans, and other local development policies, in conjunction with economic and demographic demand coming from both regional and subregional areas.

In analyzing socioeconomics, coordination with all other FEIR/FEIS disciplines is necessary to determine what if any physical impacts would occur. Direct physical impacts, such as the displacement of residents or businesses, are of primary concern. Secondary effects, such as changes in access and circulation, division of existing communities by new physical or perceived barriers, and economic impacts are of concern as well. Projects can also result in beneficial economic impacts in the form of increased tax revenues to local agencies such as the City of Oakland and/or the creation of new jobs both during construction and operation of the project.

Preferred Alternative Environmental Analysis

Impact SE-1. Acquisition of property

The AGT would require an easement or the acquisition of all or part of several parcels along the project corridor. Some parcels may require other types of modifications. For example, the double door entrance to Sam's Hofbrau Restaurant (APN 042-4328-001-14) on Hegenberger Road may have to be closed, removing the main access/egress point to this building. The full or partial loss of this access/egress would be a significant impact, which would require mitigation. Mitigation could involve compensation for modification of existing property. Affected parcels include:

- Building at 675 Hegenberger Road that includes the Employment Development Department (EDD) (APN 042-4328-001-20) - – a partial acquisition affecting parking;
- Home Base at 633 Hegenberger Road (APN 042-4328-001-16) – a partial acquisition affecting parking;
- Sam's Hofbrau Restaurant at 595 Hegenberger Road (APN 042-4328-001-14) – a partial acquisition along the Hegenberger Road frontage;
- Denny's Restaurant at 601 Hegenberger Road (APN 042-4328-001-14) – a partial acquisition along the Hegenberger Road frontage;
- Caltrans (currently leased by General Motors truck sales) property at 8099 Coliseum Way (APN 042-4328-008-01) - a partial acquisition affecting parking areas;
- Ramada Site (Metroport) at Hegenberger Road near Edgewater Drive (APN 042-4425-010-00) – a partial acquisition for station footprint and associated service vehicle parking;
- Chevron Station property at 455 Oakport Street (at the corner of Edgewater and Hegenberger) (APN 024-2245-010-00) - a partial acquisition possibly affecting the canopy over the pumps is needed, as well as up to two parking spaces;
- Circle K Gas Station and Car Wash at 449 Hegenberger Road (APN 042-4425-012-04) - the two pumps closest to Hegenberger Road and the related canopy over them;
- Brotherhood of Teamsters property at 70 Hegenberger Road (APN 044-5020-005-49) - entire property, affecting 54 employees (City of Oakland, 2000) and the loss of $19,192.16 property tax annually for the City of Oakland (BART, 2000);
- Edgewater West (Motel) at 10 Hegenberger Road (APN 044-5050-004-01) – partial acquisition affecting the back parking lot; and
- Various aerial operating easements.

These impacts are considered significant. (S)

In addition to the private property acquisitions listed above, a permanent operating easement would be necessary for portions of the AGT alignment located within public street rights-of-way or medians and on airport property. The permanent operating easement required on airport property would be subject to Federal Aviation Administration rules and regulations.

Median Option. In the event engineering design refinements require use of the median instead of the preferred alternative alignment for the portion of Hegenberger Road between Elmhurst Channel and Coliseum Way, acquisition of portions of the Home Base property at 633 Hegenberger Road, 675 Hegenberger Road, and Denny's Restaurant at 601 Hegenberger Road would not be required. Operating easements within Hegenberger Road and on a portion of Sam's Hofbrau would still be required. (S)

Mitigation Measures. The following mitigation measures would reduce the property-related impacts of the AGT to a less-than-significant level. (LTS)

SE-1(i) *Relocate Displaced Facilities or Compensate.* BART shall negotiate with the property owners of all affected parcels to minimize economic loss. For all displacement BART shall comply with the Federal Uniform Relocation Act (Public Law 91-646) and the California Relocation Act (Chapter 16, 7260 *et. seq.* of the Government Code) and related laws and regulations. Appropriate mitigation could involve relocating affected uses to another location on the property or compensation for the existing property. Mitigation could also involve compensation for modification of existing property like Sam's Hofbrau, which does not involve relocation. If on-site relocation or modification of the affected uses is not feasible, BART will compensate the property owners in conformance with the state and federal relocation laws.

SE-1(ii) *Provide Replacement Parking.* BART shall provide on-site replacement parking facilities (including fencing, as appropriate) for properties that would have parking spaces permanently removed by the proposed project. If on-site replacement parking facilities cannot be identified, BART shall compensate the property owners for the permanent take of the parking spaces in accordance with state and federal relocation laws.

Impact SE-2. Creation of permanent operation-related jobs

The operation of the preferred alternative would create approximately 45 new jobs, including station agents, mechanics, and maintenance workers. The AGT would also result in the displacement of approximately 60 full-time employees (FTE) as a result of the displacement of the Brotherhood of Teamsters property. Some of these jobs may not be permanently lost because the businesses may relocate within the Bay Area. However, a worst-case scenario is assumed which would result in a net decrease of approximately 15 jobs. This decrease in number of jobs is not considered significant because it represents a decrease of less than 1 percent in the number of jobs located within the project corridor. (LTS)

Median Option. Substitution of the Median Option for the segment of alignment between Elmhurst Channel and Coliseum Way would have no effect on any of the preceding analyses. (NI)

Impact SE-3. Physically divide the community during operation

The project study area contains residential neighborhoods along the periphery of the project corridor, one north of the BART parking lot and the second one east of Hegenberger Road south of I-880. These neighborhoods are communities unto themselves due to the distance and various land uses between them, and the physical barrier of Hegenberger Road. In addition, these neighborhoods do not directly front onto Hegenberger Road and are physically separated from the AGT corridor by intervening land uses, which are primarily commercial in nature. Therefore, even though the preferred alternative would introduce an aerial guideway along Hegenberger Road, this route would not physically divide any of the residential communities along the corridor or impede interactions among them (also see Figure 3.2-3, City of Oakland General Plan Land Use Designations, and Figure 3.2-4, City of Oakland Zoning Designations).

Numerous businesses line the project corridor along Hegenberger Road. These businesses generally do not provide services for local residences, but provide commercial services of a regional nature. These businesses are separated by a heavily traveled, six-to-eight lane major regional arterial. Therefore, the construction of the preferred alternative would not physically divide an existing business community. (LTS)

Median Option. The two identified residential neighborhoods are not near the Median Option alignment and therefore incorporation of the Median Option into the project would have no impact on these neighborhoods. The Median Option would neither increase or diminish the less than significant impact of physically dividing the existing business community. (NI)

Impact SE-4. Induce substantial growth during operation not in accordance with existing community or city plans; or conflict with applicable plans and policies

The AGT would result in the annual expenditure of approximately $5.7 million to operate and maintain the new system in 2005. This operating and maintenance investment would result in indirect job growth by creating an additional need for goods and services not only for the AGT, but for the new employees that would be directly created by the project. To calculate the indirect employment that would be generated by the operating expenditures for the AGT, the APTA *Employment Impacts of Transit Capital Investment and Operating Expenditures* model was used. This model calculates the indirect job growth that would result from transit-related operating expenditures. Based on the APTA model, the operating expenditure for the AGT is estimated to indirectly generate approximately 23 jobs. This indirect growth in jobs resulting from the AGT is considered a beneficial effect on the local and regional economy.

While ABAG's *Projections 2000* does not include an AGT Connector project in its job projections, because it is a transportation project and it is not an approved project (Wong, 2000), both the Oakland General Plan and the Gateway Development Study include a fixed-route link from the Coliseum BART Station to OIA. The Oakland General Plan was subject to an EIR, completed in

1998, that stated that the fixed-route link from the Coliseum BART station to OIA is accounted for in the EIR.

The preferred alternative also conforms with the applicable policies and regulations discussed in Section 3.3.2, above, in that it would represent an improvement in the transportation links in the project area and would invest in the study area by directly creating approximately 45 new permanent jobs as well as creating approximately 23 new jobs indirectly.

A joint project between BART and the City of Oakland at the Coliseum BART Station calls for the development of an existing 10-acre BART parking lot. The conceptual plan acknowledges and includes the AGT alignment which would cross the planned residential and neighborhood commercial development. The conceptual plans call for the extension of 71st, 72nd and 73rd Streets through the parking area westward to Snell Street. Residential development would be sited around neighborhood commercial development which would be centered around the extended portion of 72nd Street. Plans call for roughly 250 to 280 units for the development with residential density as high as 40 dwelling units per acre. The conceptual plan needs to be adopted by the Oakland City Council and endorsed by the BART Board.

The AGT maintenance facility would be located at Snell Street and the Hegenberger Road bridge, in the corner of the BART parking lot. The maximum footprint of the facility would be 22,050 square feet (0.51 acres), or about 5 percent of the total area of the existing 10-acre BART parking lot. Locating the maintenance facility on Hegenberger Road could possibly buffer auto noise and night time headlight glare from future development on more attractive locations within the proposed site.

The AGT alignment would also cross two parcels that have been identified in the Gateway Development Study as "Opportunity Sites," where public investment should be targeted to stimulate the development of new hotels. The AGT alignment would traverse the eastern portion of the "Ramada Site," located at the northwest corner of Edgewater Road and Hegenberger Road along its Hegenberger Road frontage. The Concept Plan for this site involves locating new development along the Edgewater frontage of the site and oriented toward the Hegenberger Road frontage of the site. However, the concept plan for the Ramada Site envisions parking areas and landscaping along the immediate Hegenberger Road frontage where the AGT alignment would be located. As a result, it does not appear that the AGT alignment would have a significant effect on the current development concept or feasibility of development on the Ramada Site.

In addition to the Ramada Site, the AGT alignment would bisect the "Doolittle Gateway Site" property, located between Hegenberger Road, 98th Avenue and Airport Access Road (see Figure 3.3-2). This site, currently developed with a union hall, has the redevelopment potential for a 300-room hotel or 25,000 square feet of retail. The AGT alignment would pass through the middle of this site. The concept for the Doolittle Gateway Site focuses development of the hotel and retail components toward the south/western portion of the site nearest Doolittle Drive. This site layout allows incorporating the AGT alignment into the parking and landscaped areas envisioned as part of the Doolittle Gateway Site concept plan. While incorporating the AGT alignment into the current concept plan for this site would require some modification of the concept plan, it should not significantly affect the overall concept design, intensity or feasibility of the site.

In summary, the preferred alternative would result in a substantial investment in the project area and result in growth, in terms of direct jobs and indirect growth, that is anticipated and desired in accordance with the City of Oakland General Plan. This is considered a beneficial effect.

The Oakland General Plan, the Gateway Development Study, and the Coliseum Area Redevelopment Plan all include policies designed to promote economic development of the project corridor. Based on these policies, the intermediate stops would provide greater socioeconomic benefit, as it would create additional transportation links along the Hegenberger Road Corridor. The AGT intermediate stop at Doolittle would enhance redevelopment opportunities at the Doolittle Gateway Site by providing better transit access. The concept plan for the Doolittle Gateway Site can accommodate the AGT alignment and an intermediate station on this site. Modification to the parking and landscaped areas as envisioned in the concept plan could be made without significantly affecting the overall development concept, density or feasibility of the site. (B)

Median Option. The Median Option would not affect any development sites identified in the Gateway Development Study. (NI)

Partial ADP Scenario

The Partial ADP development scenario would not alter the socioeconomic effects of the project alternative, as described under the Preferred Alternative Environmental Analysis with the ADP. The components of the ADP that would not be constructed would have no bearing on the displacement, job growth, community division, or growth-inducement effects identified for the project alternatives with the full ADP.

Cumulative Analysis

ABAG *Projections 2000* estimates for the year 2020 acknowledges future population, housing, and employment growth that is envisioned by the City of Oakland General Plan, the Coliseum Redevelopment Plan, the Coliseum Station Area Plan, and the Gateway Development Study. The ABAG projections for the City of Oakland anticipates a 9.3 percent growth in population, a 22.2 percent growth in employment, and a 3.3 percent growth in housing from 2005 to 2020.

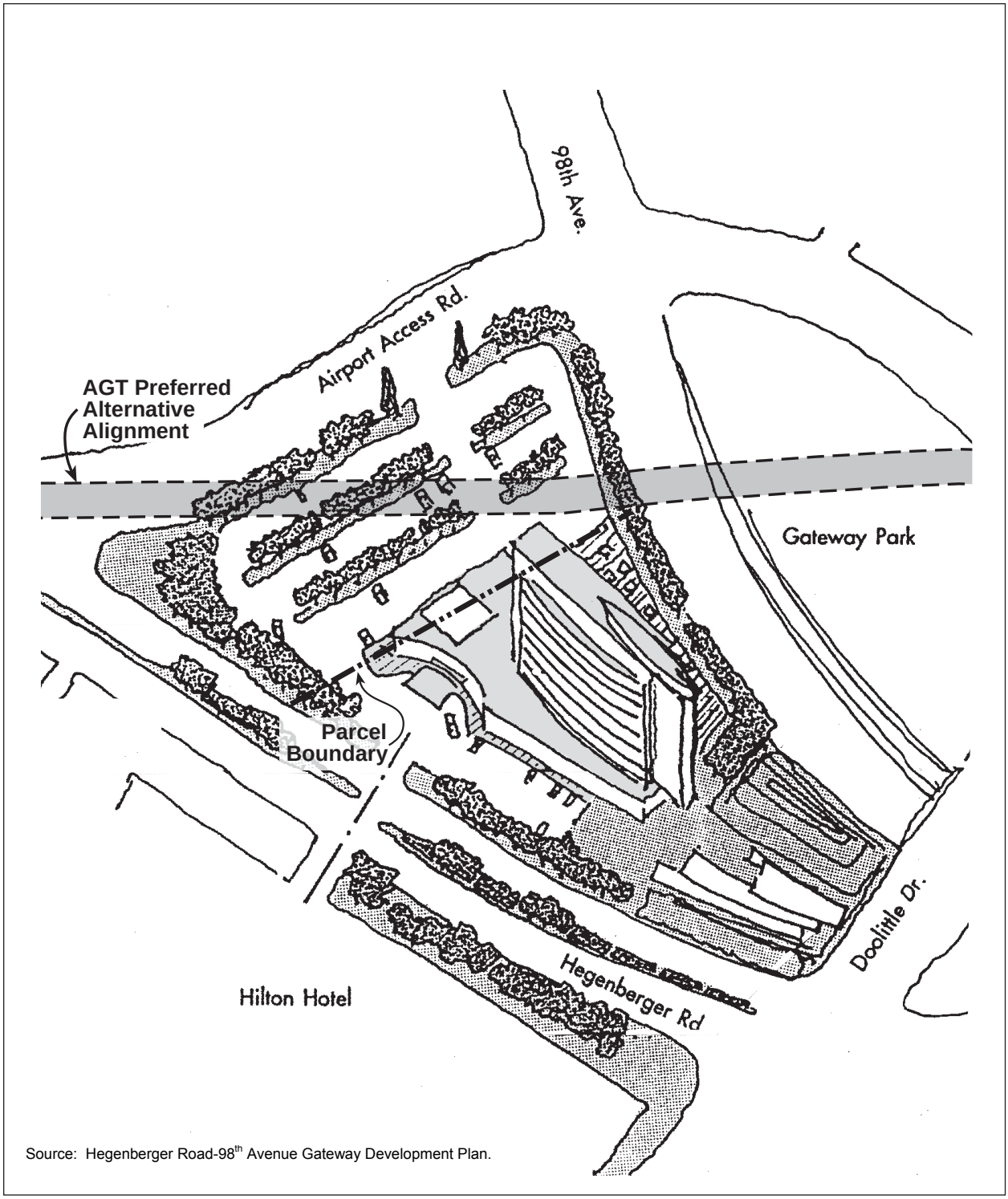


Figure 3.3-2
Conceptual Design for the Doolittle Opportunity Site

The ABAG projections for the project study area anticipate an 8.3 percent growth in population, a 21.0 percent growth in employment, and a 4.1 percent growth in housing from 2000 to 2020. In addition to the ABAG projections, eight development projects in the project corridor area are expected to be completed by 2005. The eight projects include 730 hotel rooms and nearly 2 million square feet of office, research and development, and distribution space. The analysis conducted for the City of Oakland General Plan EIR (1998) concluded that these increases would not cause harmful growth and are consistent with the public policies created for the study area.

Public investment and the increase in employment opportunities in this area would be considered a beneficial socioeconomic impact since the General Plan, Coliseum Redevelopment Plan, and Gateway Development Study all seek economic revitalization and growth in the project study area. With or without the Connector project, the cumulative socioeconomic changes underway are expected and planned for within the project corridor.

The AGT including the Capitol Corridor station at the Coliseum would support the cumulative socioeconomic changes currently underway and planned for in the Coliseum BART Station area. The City's General Plan and Coliseum Redevelopment Plan call for strong transit orientation in the project corridor. The combined operations of the Capitol Corridor and the Connector would establish an intermodal facility which would complement the socioeconomic changes envisioned in the area by strengthening it as a transit-oriented district, increasing transit ridership, and supporting the City's and BART'S joint development policies.

The level of cumulative development discussed above would result in significant socioeconomic changes in the project corridor. Because the project area is targeted as a growth area under the Coliseum Redevelopment Plan and the City of Oakland General Plan, growth would not be considered harmful. The socioeconomic changes that are projected to occur are consistent with the public policies created for the study area, and as a result, the Connector and related projects would contribute to a cumulatively beneficial socioeconomic effect.

References

American Public Transit Association, *Employment Impacts of Transit Capital Investment and Operating Expenditures*, April 1, 1983.

Association of Bay Area Governments, *Projections 2000 Forecasts for the San Francisco Bay Area to the Year 2020,* Gary Binger, Patricia M. Jones, Eugene Y. Leong, December 1999.

Donald Dean, Environmental Coordinator, BART, personal communication, July 12, 2000.

Colin Burgett, City of Oakland Community and Economic Development Division, personal communication, June 17, 2000.

City of Oakland, *Envision Oakland (Oakland General Plan) Land Use and Transportation Element*, March 1998.

City of Oakland, Community & Economic Development Agency, "Economic Data for BART-OAC Affected APNs", July 7, 2000.

City of Oakland, "BART-Oakland Airport Connector EIS/EIR: Employment by Businesses Located in Potentially Affected Parcels, 1999", July 7, 2000.

City of Oakland/Port of Oakland, Gateway Development Study.

Employment statistics, www.flyoakland.com, February 24, 2000.

Hinderliter, de Llamas and Associates, statistics developed in response to Community and Economic Development Department request, March 2000.

Janice Lang, City of Oakland Community and Economic Development Division, personal communications, February 2000.

"Oakland 10K Initiative", www.oaklandnet.com (official City of Oakland webpage), downloaded March 24, 2000.

U.S. Census 1990, http://venuscensus.gov/cdrom/lookup, February 16, 2000.

Section 3.4
Visual Quality

3.4.1 Introduction

This section of the FEIR/FEIS analyzes the impacts of the preferred alternative with respect to visual conditions that currently exist within the project corridor.

The visual quality of an environment is shaped by the many constructed as well as natural elements that exist within it. Existing visual resources include 1) constructed features such as buildings, structures, parking areas, roads, roadway interchanges and overpasses, aboveground utilities, signs, and lighting fixtures; and 2) natural features including landforms, rock outcrops, vegetation, and water bodies. These resources together define the scale relationships, and the line, form, color, and texture of an area's landscape setting. A development project may enhance or adversely affect the visual quality of a landscape setting through its effect on the constructed and natural features that define the setting.

For clarification, the following terms are defined prior to describing visual conditions within the Connector corridor:

- **Constructed or Built Environment** - Refers to the type and intensity of development and noteworthy constructed visual features in the Connector study area. The height and depth or mass of structures together with the interplay of undeveloped spaces in the Connector study area define scale relationships.

- **Streetscape** - Refers to the width of the street, its landscaping components, the height of buildings fronting the street thus defining scale relative to the pedestrian environment, building setbacks, and the continuity of structural design fronting the street. A streetscape is well defined and considered to be of higher visual quality when the streetscape features are human-scale (i.e., streets are narrow and landscaped; buildings have similar setbacks, height, and scale; and building facades are continuous).

- **Significant Views and Visually Prominent Features** - Refers to important view corridors and visually distinctive constructed elements or natural features that are visible from a distance, public spaces, or locations where large numbers of people congregate or pass on any given day. Public spaces include roads, government centers, parks, and designated scenic viewpoints.

3.4.2 Existing Conditions

Regional Setting

The Connector study area is located in the southern portion of Oakland, immediately north of the City of San Leandro. The City of Alameda is located to the northwest of the Connector study area and forms an island separated from the west portion of Oakland by the Oakland Inner Harbor. The Inner Harbor extends north to south as a linear feature between Oakland and Alameda terminating at San Leandro Bay at the north end of OIA and the Connector study area.

Much of the City of Oakland, as is true of most of the East Bay in general, is built on land that gently slopes from hills in the east to the shorelands of San Francisco Bay on the west. The eastern portion of Oakland assumes a more rugged appearance because of the steeper topography that forms a visually prominent ridgeline known as the Oakland Hills. The Oakland Hills comprise a segment of a more extensive geographic unit known as the East Bay regional hills. Redwood Regional Park, Anthony Chabot Regional Park, and other parks and preserves of the East Bay Regional Parks District are situated within the East Bay regional hill area. The Oakland and East Bay regional hills form a prominent visual backdrop for the urbanized portions of the East Bay, including the City of Oakland and the Corridor study area.

Local Setting

The Connector study area is a linear corridor about three miles in length and less than about one mile in width, extending from the Coliseum BART Station in the north to OIA in the south. The topography of the project corridor, located near the south margin of San Leandro Bay, is notably flat. Although the corridor is a developed area in a metropolitan region, there are undeveloped parcels of land as described further below.

Major structural features of the built environment anchor the north and south ends of the Connector project corridor. These features include the visually prominent structures of the Oakland Coliseum and Oakland Alameda County Arena adjacent to the Coliseum BART Station in the north, to the terminal buildings of OIA in the south. The proposed Airport expansion program envisions new parking structures and terminal building additions that will add to the mass of buildings that visually anchor the southern portion of the project corridor.

Photographs have been taken from a number of viewpoints within the corridor as shown in Figure 3.4-1. The photographs demonstrate the variety of building scales and heights that exist throughout the corridor, and the relative absence of a singular visual theme or physical characteristic that visually unifies the corridor.

Hegenberger Road and Airport Drive form a continuous roadway alignment that defines the center of the project corridor. Hegenberger Road becomes Airport Drive south of their intersection with Doolittle Drive. Hegenberger Road is a heavily traveled, six-lane roadway that is elevated where it crosses the BART tracks and San Leandro Street adjacent to the Coliseum BART Station. Hegenberger Road is also elevated above I-880 at the Hegenberger Road/I-880 interchange. Remaining portions of the roadway are at the ground surface. The

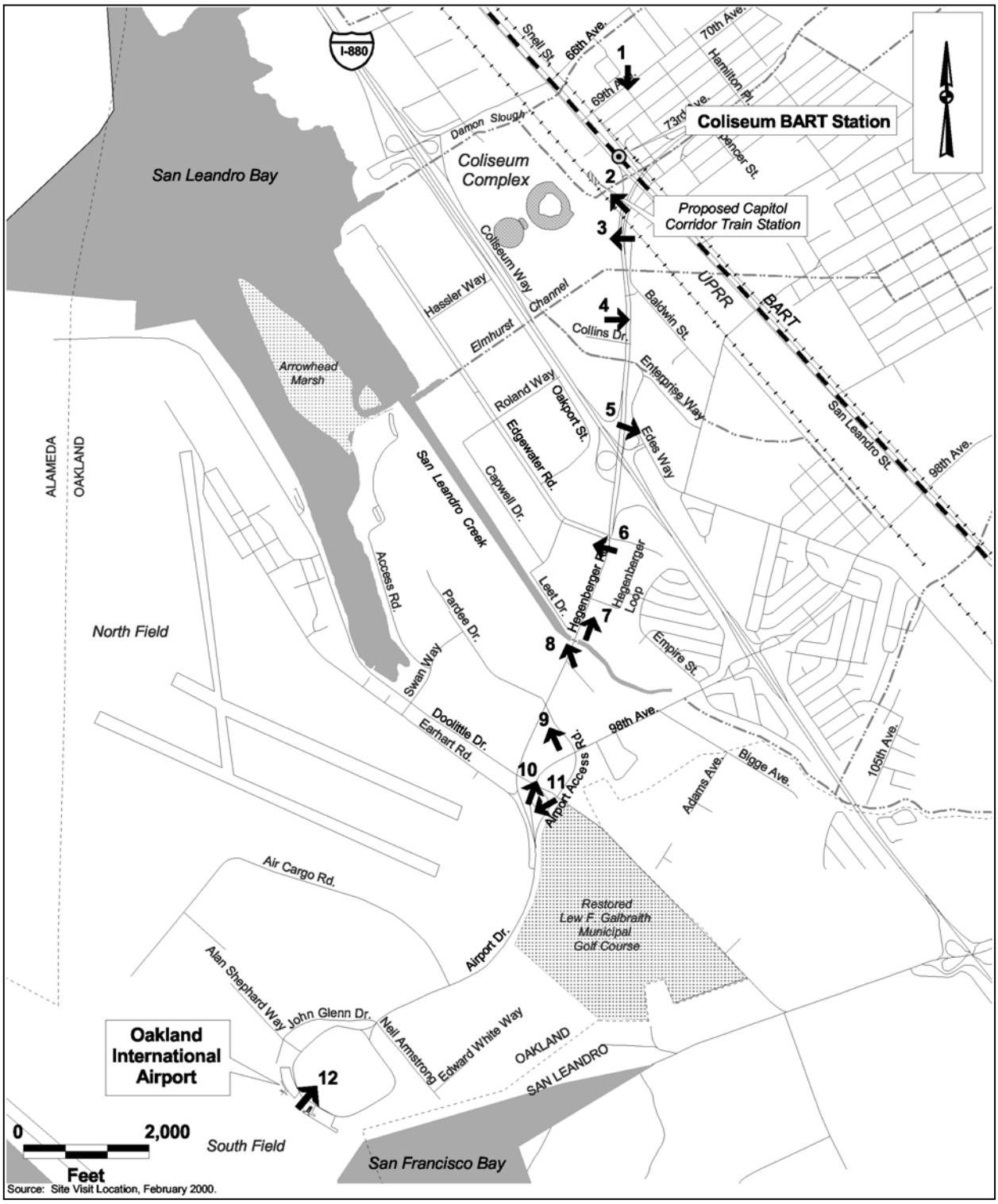


Figure 3.4-1
Location and Direction of Photographs Along Project Corridor

constructed environment along Hegenberger Road is characterized largely by freestanding buildings of varying scale surrounded by parking lots.

The corridor can be divided into three distinct segments proceeding from north to south. These include 1) Coliseum BART Station to the I- 880/Hegenberger Road interchange, 2) I-880/ Hegenberger Road interchange to the Hegenberger Road/Doolittle Drive intersection, and 3) Hegenberger Road/Doolittle Drive intersection to the OIA terminal. Each segment is about one mile in length, and each exhibits significantly differing visual characteristics.

The following description identifies the visual conditions of each corridor segment in order to establish a basis on which to evaluate the visual quality impacts of constructing the Connector project. Refer to Figure 3.4-2 for a summary diagram of existing conditions within and adjacent to the Connector corridor.

Constructed Environment

Coliseum BART Station to the I-880/Hegenberger Road Interchange

The Coliseum Complex, consisting of two large-scale circular freestanding structures, the Coliseum and the Arena (see Figure 3.4-1, View 3), is the most prominent architectural feature in the area. These structures are highly visible from I-880, the Coliseum BART Station, Hegenberger Road, and properties abutting Hegenberger Road.

Taller buildings up to about 10 stories in height such as the Union Bank of California, stand out among the prevailing pattern of lower one- to two-story buildings in this segment. The east side of Hegenberger Road, north of Baldwin Street, is characterized by mostly one- to two-story structures. The buildings in this area are of differing architectural styles and a unified design theme among buildings is lacking. The building facades and features of chimneys, ventilation ducts, storage tanks, etc., contribute to an industrial look. Examples include the AB&I Scrap Metal Industries building, Sunshine Industries building, and Mother's Cookies building.

The portion of Hegenberger Road between Elmhurst Channel and I-880 interchange contains mostly single-story commercial structures surrounded by parking lots, and a mixture of prominent, often freestanding, outdoor advertising signs. Examples of buildings in this portion of the segment include Home Base, Pak 'n' Save, Taco Bell, and McDonalds (see Figure 3.4-1, View 4). The varied architectural building styles and advertising signs yield a mixture of visual conditions within this short segment of the corridor.

I-880/Hegenberger Road Interchange to the Hegenberger Road/Doolittle Drive Intersection

Buildings along Hegenberger Road between the I-880 interchange and Doolittle Drive are mostly freestanding on individual lots with varied setbacks from the street. Buildings range from two to eight stories in height and, like the segment described above, there is great variety in architectural style and no harmonious design theme to the overall development profile. Examples of structures in this segment include the Wells Fargo Bank (see Figure 3.4-1, View 6), Bank of America, and Francesco's restaurant. Other examples of buildings in this segment include the approximate 10-story Union Bank of California which is a major landmark because of its height, Harley Davidson, United Cab, Best Western Park Plaza, and Holiday Inn Express (see Figure 3.4-1, Views 9 and 10).

View 1: View from the BART parking lot looking south towards the Coliseum BART Station

View 2: View from Hegenberger Overpass across San Leandro Street looking west along San Leandro Street and Coliseum BART Station

View 3: View from Hegenberger Road looking west towards the Coliseum Complex

View 4: View from parking lot in front of Home Base looking east towards Hegenberger Road

Figure 3.4-1 (a)
Views Along the Project Corridor

View 5: View from Hegenberger Road over I-880 looking east towards the group of motels along Edes Avenue

View 6: View from the west side of Hegenberger Road sidewalk looking west towards landscaped setback in front of Wells Fargo Building

View 7: View from a point in front of the Ratto Farm site looking north along Hegenberger Road

View 8: View from the bridge across San Leandro Creek looking northwest towards the San Leandro Creek Trail

Figure 3.4-1 (b)
Views Along the Project Corridor

View 9: View from the 98th Avenue/ Airport Access Road/ Doolittle Drive Interchange looking northwest towards buildings along Hegenberger Road

View 10: View from Doolittle Drive looking northeast towards the Holiday Inn

View 11: View from Doolittle Drive looking southwest towards the North Field (OIA runways)

View 12: View from front of OIA terminal looking north towards the Oakland Hills

Figure 3.4-1 (c)
Views Along the Project Corridor

Outdoor signs of varying size create the appearance of a strip commercial area (see Figure 3.4-1, View 7). Portions of this segment are occupied by long-term airport parking lots. San Leandro Creek crosses through the corridor in this segment (see Figure 3.4-1, View 8), and represents one of the few open space and recreational amenities in the project corridor. San Leandro Creek and trail offer a natural respite to the otherwise urbanized, heavily automobile-oriented Hegenberger Road, as well as views toward downtown Oakland.

The portion of Hegenberger Road between Edgewater Road and San Leandro Creek is visually more attractive than other segments of Hegenberger Road because of the large building setbacks and street trees. There are two undeveloped sites, one at the I-880 interchange (formerly the Century Theater), and another immediately south of San Leandro Creek.

Hegenberger Road/Doolittle Drive Intersection to the OIA Terminal
South of Doolittle Drive, the corridor extends to the terminal buildings at OIA. This segment is visually significantly different than the two segments described above. The corridor segment follows Airport Drive and consists of two visually distinct zones. The northern zone offers a broad view of historic North Airport as seen from the vicinity of Earhart Road where it joins Airport Drive. Beyond Earhart Road, this segment continues with views of OIA lands to the west, airport hangars, and the Lew F. Galbraith Municipal Golf Course property and wetlands to the east. The golf course site currently serves as dredge materials disposal area, but will be restored as a golf course. This large open space area is a visual gateway and marks a transition from the Hegenberger Road commercial corridor to the OIA terminal buildings.

A fuel storage farm on the east side of Airport Drive is visible, as are two general aviation runways on the west side (see Figure 3.4-1, Views 11 and 12). This segment includes views of a large United Airlines hangar, the Airport parking lot and the Airport terminal buildings. Because of airport height restrictions in this segment, there are few medium- or high-rise structures in this area.

Streetscape

The general character of Hegenberger Road and Airport Drive is automobile oriented with discontinuous building facades, undeveloped parcels, and limited landscaping. The streetscape is not strongly pedestrian oriented due to the lack of trees, absence of strongly defined pedestrian routes, lack of street furniture and other decorative pedestrian amenities, which is consistent with the regional commercial/industrial land uses that define the three segments that make up the corridor. Although there are some ornamental tree plantings at scattered locations throughout the corridor, there are no visually unifying landscape features or continuous building facades to unite the three corridor segments. Trees in the project corridor include sycamore, olive, pine, acacia, cypress, and eucalyptus.

The area between Edgewater Road and San Leandro Creek is more distinctive than other portions of the corridor due to the existing landscaping and more uniform building setbacks. More specific information regarding streetscape characteristics is presented in Table 3.4-1.

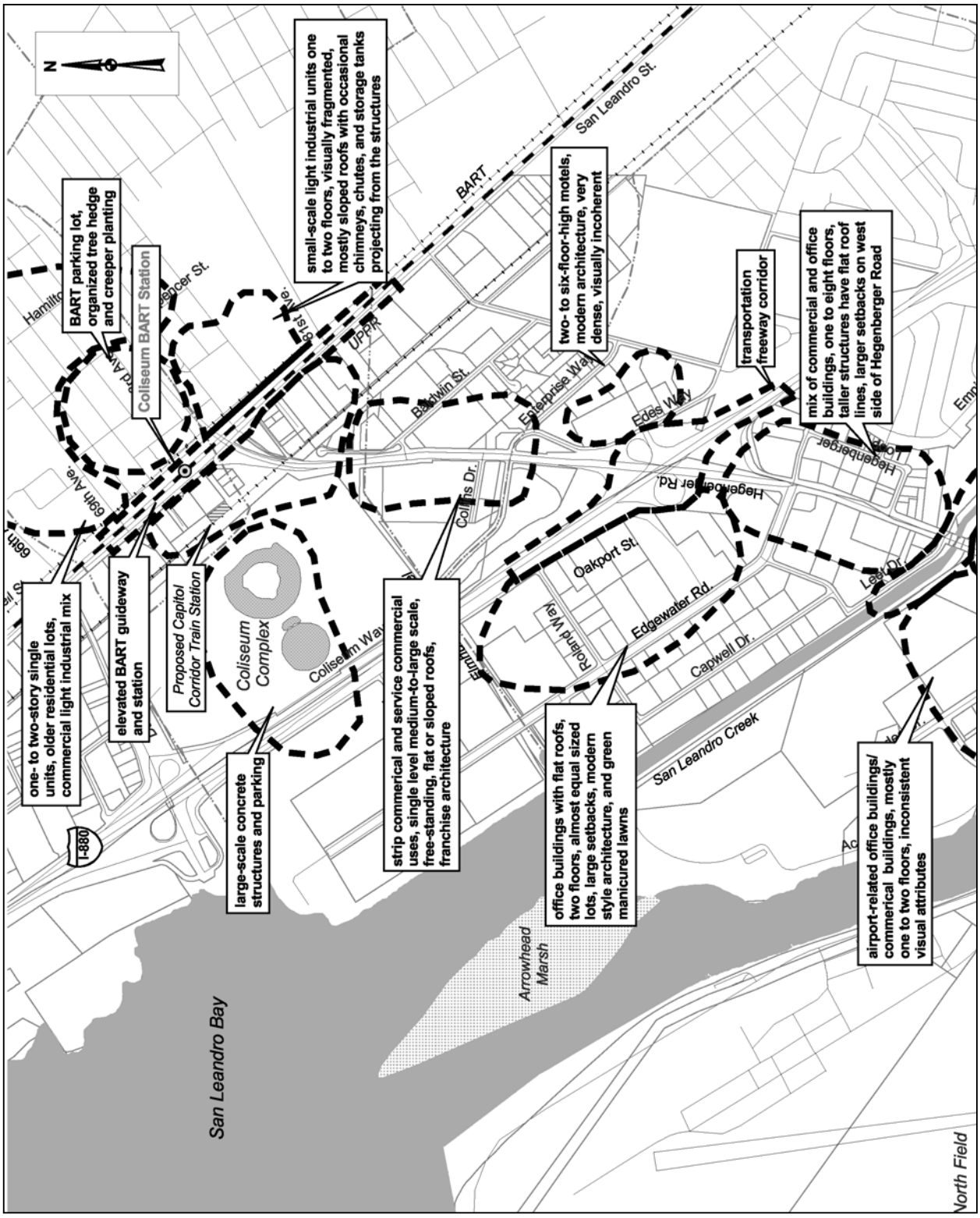
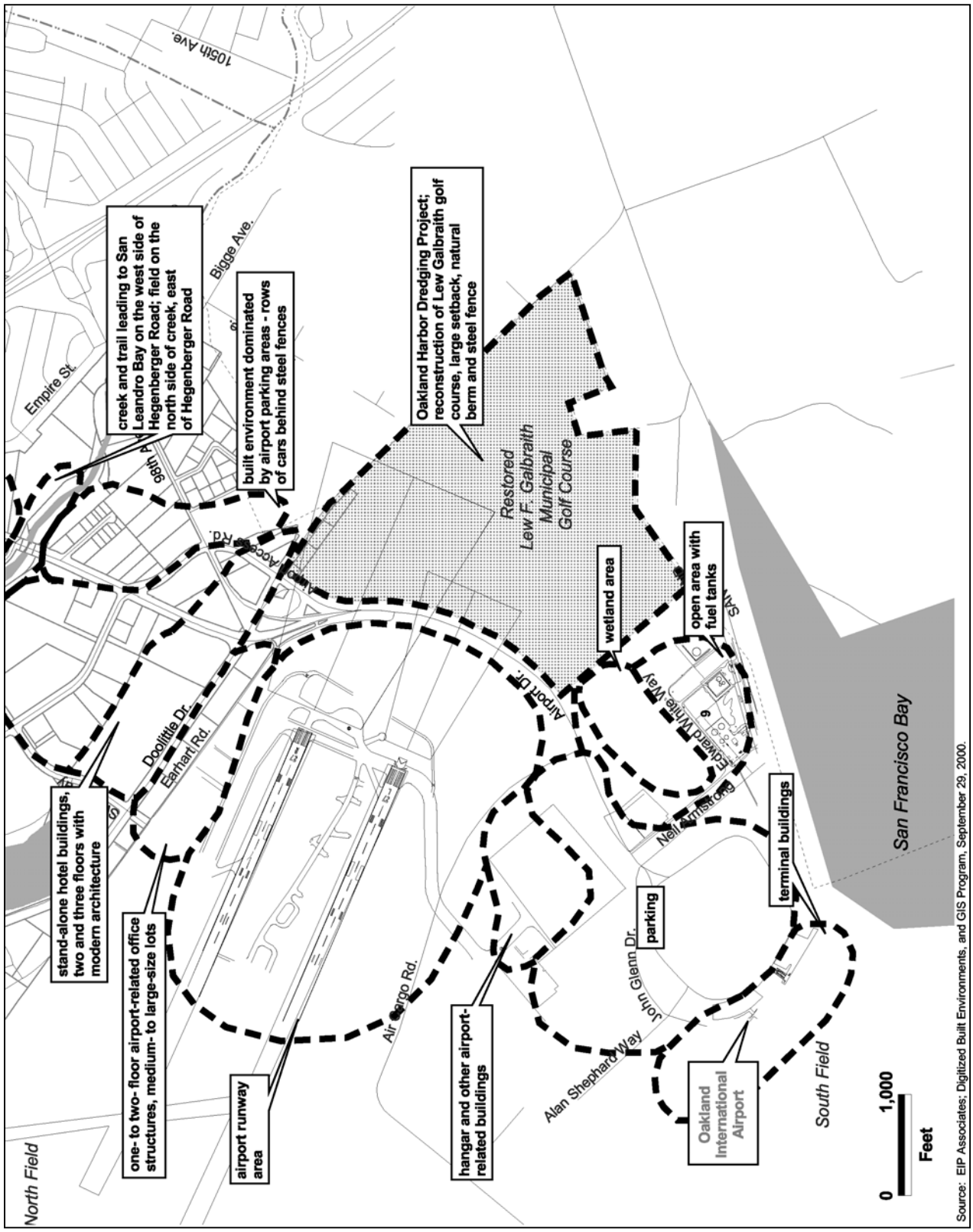


Figure 3.4-2(a)
Built Environment Within and Adjacent to the Project Corridor

Source: EIP Associates; Digitized Built Environments, and GIS Program, September 29, 2000.



Source: EIP Associates; Digitized Built Environments, and GIS Program, September 29, 2000.

Figure 3.4-2(b)
Built Environment Within and Adjacent to the Project Corridor

Table 3.4-1
Project Corridor Streetscape Characteristics

Element	***Section 1 Hegenberger Road: BART station to I-880***	***Section 2 Hegenberger Road: I-880 to Doolittle***	***Section 3 Airport Drive: Doolittle Drive to terminals***
Street Edges	Parking lots, fast food restaurants.	Office structures, landscaping, parking; setback wider on the west side of Hegenberger Road between Edgewater Drive and San Leandro Creek.	Open space (dredge materials at Lew F. Galbraith Golf Course and the wetlands), terminal, and United Airlines hangar.
Building Facade	Fragmented street facade, characterized by a mix of low-rise to medium-rise buildings with off-street parking.	Building facade discontinuous; off-street parking; freestanding buildings (1 story to 8 story); mostly high-rise on the west and low-rise on the east; southeast section dominated by long-term airport parking lots.	Fenced golf course site; space between fence and pavement filled with ground cover; parking dominates the facade at terminals and other buildings.
Street Trees/ Landscaping/ Lighting	No trees in median; no formal/organized street tree planting or landscape; street lights placed about 15-30 feet apart in median.	7- to 10-foot-high trees appearing in almost equally spaced groups; street lights in between groups of trees.	Median planted with creepers; low street lights about 7-10 feet high, spaced at about 15 feet.
Signage	Extensive commercial signage.	Extensive commercial signage.	Directional signage.
Overhead Poles/Wires	Mostly underground wiring on Hegenberger Road; high voltage lines and towers in front of Coliseum Complex and on Edes Avenue visible from Hegenberger Road.	Underground wiring on Hegenberger Road; overhead utility lines running west of Hegenberger are visible from Hegenberger Road, mostly over San Leandro Creek and open space adjacent to the Creek.	All underground wiring.
Lane and Median Size	8 lanes wide, four lanes each direction; about 1.5-foot-wide median.	6 lanes wide, three lanes each direction; median about 15 feet wide narrowing to 1.5–2.0 feet for left turn lanes.	4 lanes wide, two lanes each direction; 2-foot-wide median.
Sidewalks	Narrow sidewalks, about 1.5-foot-wide on stretches over BART and UPRR, and I-880; otherwise, 2- to 3-foot-wide on both sides.	Discontinuous sidewalks.	No sidewalks except in front of terminal; built-in emergency parking lanes on southbound lane of Airport Drive at regular intervals.

Source: EIP Associates, March 2000.

Significant Views and Visually Prominent Features

The Oakland Hills in the distance to the north and northeast are a primary scenic resource visible from the corridor. The Oakland Hills, as a backdrop to urban development within the corridor, may be seen by northbound motorists on Hegenberger Road where existing buildings do not block the view from ground-level locations. In addition, glimpses of the downtown Oakland skyline and the collection of taller structures in the downtown area that give the skyline visual significance may be seen to the northwest from the area of San Leandro Creek where there are no building structures to block the view. San Leandro Bay, Airport Channel, and Martin Luther King Jr. Shoreline Park west of Hegenberger Road are also scenic resources in the area, but are not visible from the corridor because of intervening buildings and trees.

The one visually unifying element throughout the entire corridor is the repetitive pattern of overhead lighting elements coupled with the traffic control signals located at all street intersections.

According to the City of Oakland General Plan, there are no designated scenic routes in the vicinity of the corridor.

Planning and Design

As acknowledged in the *Hegenberger Road-98th Avenue Gateway Development Plan* prepared by the Oakland Community and Economic Development Agency and Port of Oakland, the Oakland Gateway, which includes Hegenberger Road, is an important urban activity center between the Oakland Coliseum BART Station and the Doolittle Drive entrance to the OIA.[1] The Plan sheds additional light regarding visual conditions that characterize Hegenberger Road and states:

> The streets of the Gateway are the primary access corridors for the Oakland Coliseum and the Airport. The study area is arrayed along four major roadways "Hegenberger Road, 98th Avenue, I-880, and Doolittle Drive" that shape the environment experienced by travelers arriving and departing from the Airport, attending events at the Coliseum, working with businesses in the Airport Business Park, or seeking hotel rooms and restaurants as part of their stay in Oakland (City and Port of Oakland, 1998).

The Gateway is roughly defined as that area bisected by Hegenberger Road extending from Doolittle Drive to the Coliseum BART Station, from 98th Avenue on the east extending to a line approximately one-half mile west of and parallel to Hegenberger Road. The Gateway includes all of the Connector study area north of Doolittle Drive. The Plan notes:

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[1] City and Port Oakland, *Hegenberger Road-98th Avenue Gateway Development Plan*, Final Draft, May, 1998, Page I-1. The Gateway Development Plan was adopted by the City of Oakland in 1998. It is considered a policy document by the City and Port of Oakland, the entities that funded preparation of the Plan. A number of policies in the Gateway Plan are being implemented. The first is the landscape and lighting plan for Hegenberger Road between Doolittle Drive and Edgewater Road. A detailed plan with street, sidewalk, lighting, and landscaping improvements has been developed and has been funded. Construction has not yet proceeded.

> The Gateway is also well situated as a location for expanded commercial land uses that will serve residents and transients alike since it is the first experience of Oakland for persons departing from the airport. However, the overwhelming first impression currently of the roadside environment in the Gateway is negative. Vacant land, large car parking areas surrounded by chain link fences, dimly illuminated parking lots, and run-down industrial areas are punctuated by oversized billboards and badly maintained roadway medians. San Leandro Creek, which crosses under both 98th Avenue and Hegenberger Road is the threshold to hundreds of acres of wetlands and the Martin Luther King Jr. Shoreline Park; yet it is barely visible from the main roads of the Gateway. When it can be seen, between Hegenberger Road and 98th Avenue for example, it is lined with parked cars and trucks behind chain link fences (City and Port of Oakland, 1998).

The *Hegenberger Road-98th Avenue Gateway Development Plan* recognizes that there are several major projects that would change the Gateway environment, including the BART connector on an elevated guideway. This topic is discussed below.

The topography of the Connector study area is flat. The Oakland Hills provide a visual backdrop to the north and northeast of the study area. San Francisco Bay lies to the south, San Leandro Bay and Martin Luther King Jr. Shoreline Park are to the west.

Applicable Policies and Regulations

City of Oakland General Plan, Open Space, Conservation, and Recreation Element (OSCAR)

The OSCAR is the official policy document addressing the management of open land, natural resources, and parks in Oakland (City of Oakland, 1995). OSCAR identifies the Airport Area, the restored Lew F. Galbraith Municipal Golf Course, Martin Luther King Jr. Shoreline Park, and San Leandro Creek Trail as the major open space areas in the Connector corridor area. The element also proposes the extension of the existing trail along San Leandro Creek from Hegenberger Road to 98th Avenue (see discussion in Section 5, Section 4(f) Evaluation).

Policies presented in the "Open Space" section of the element that are relevant to the Connector project are:

- Policy OS-10.1. Protect the character of existing scenic views in Oakland, paying attention to: (a) views of the Oakland Hills from the flatlands;

- Policy OS-10.2. Encourage site planning for new development that minimizes adverse visual impacts and takes advantage of opportunities for new vistas and scenic enhancements.

- Policy OS-12.3. Remove street trees only if they are hazardous, severely and incurably infested with insects or blight, or are severely and irreversibly damaged and deformed. Provide replacement trees in all cases where the site is suitable for street trees.

Hegenberger Road-98th Avenue Gateway Development Plan

The *Hegenberger Road-98th Avenue Gateway Development Plan* recommends a series of priority actions to improve the physical environment and attract new hospitality and office development to the Gateway. Goals include 1) creating a positive "Gateway" image, 2) increasing the potential for new commercial development in the Gateway, and 3) improving community access to the Gateway in general, and specifically to Martin Luther King Jr. Shoreline Park and San Leandro Creek. Priority actions to achieve these goals are contained in the Plan that include public improvements, street lighting and landscaping to upgrade the visual environment and "remove the negative stigma that discourage[s] new development." Also, the Plan recommends ways to integrate the BART connector into Hegenberger Road and to improve the overall appearance of the Hegenberger corridor. The BART Connector and roadside and median landscape development are listed as actions to achieve visual organization, community access and Gateway image goals (City and Port of Oakland, 1998).

The Plan proposes a "themed" landscape/graphics treatment of Hegenberger Road, medians, and pedestrian areas between the Coliseum BART Station and Doolittle Drive. The Plan proposes Canary Island Palms on both sides of the Hegenberger Road, and short flowering trees and banners in the median.

The Gateway Plan also includes conceptual designs for the five opportunity sites and landscape and lighting design concepts for the major roadways in the study area. The Gateway Plan emphasizes that the Connector project should incorporate the Gateway Plan into the design of the guideway and stations on Hegenberger Road. The design concepts proposed for landscaping and lighting in the Gateway Plan area assume a future Connector project.

Gateway Design Plan

The Gateway Design Plan is the implementation program for the landscape and paving concepts proposed in the Gateway Study. The plan proposes a "themed" landscape/graphics treatment of Hegenberger Road, medians, and pedestrian areas between the Coliseum BART Station and Doolittle Drive. Phase I of the plan covers only the section between Edgewater Drive and Doolittle Drive. The plan proposes Canary Island Palms on both sides of the road, and short flowering trees and banners in the median of Hegenberger Road. The plan is proposed to be implemented by the end of 2002 (Goldberg, 2000). Phase II of the plan is not yet funded.

City of Oakland S-4 Design Review Combining Zone

The S-4 zone is intended to create, preserve, and enhance the visual harmony and attractiveness of areas, which require special treatment. The zone also emphasizes consideration of the visual relationships between facilities, and is typically appropriate to areas of special community, historical, or visual significance (City of Oakland, 2000b).

These regulations are supplementary to the regulations applying in the zones with which the S-4 zone is combined. The S-4 zone may be combined with any other zone. Within the S-4 zone, building alterations that affect exterior appearance are subject to the design review procedures as specified in Chapter 17.136 of the Oakland Municipal Code. The zones in the

project corridor that are combined with the S-4 zone are shown in Figure 3.2-4 in the Land Use section.

Port of Oakland Standards and Restrictions

Section 3.2, Land Use, discusses the Port of Oakland's Standards and Restrictions and the permitted uses for the Business Park zone (Connector corridor area within the Port's jurisdiction). According to the Port, no uses would be permitted in the Business Park zones that would be objectionable, in the determination of the Board of Port Commissioners, to the character of a garden-type business park (Board of Port Commissioners, September 6, 1988).

3.4.3 Impact Assessment and Mitigation Measures

Standards of Significance

Visual quality is the perceived aesthetic value of an area and is based on a combination of inherent natural features and physical conditions, either natural, man-made or both. The analysis of visual quality considers the many elements that establish the character of the scene. Aspects of community character, or what a community appears to represent or signify to the observer, result from the interplay of the physical elements that lead to the judgment of visual quality.

Visual quality and the aesthetic value of a given location in its current condition is also a subjective judgment by the observer. Standards for determining the significance of visual impact from development of the Connector project are based on professional judgments and commonly accepted urban planning and design principles, and include the following:

- Visual impact would be measured by the amount of visual change either positively or adversely affecting an area's perceived aesthetic value or conditions of the setting. A highly visible change resulting from constructing a project that is incompatible with the setting or is not pleasing to look at would constitute a significant adverse visual impact. Factors to be considered include the physical layout of constructed elements with respect to each other and existing structures, the open and closed spaces so defined between structural elements, the density or intensity of development, scale relationships between existing and proposed structures, the degree that new structures visually encroach on existing structures and spaces (generally less than 60 feet), site landscaping, and other features of development. For example, significant differences in structural mass or form would be expected to generate significant adverse visual impacts under normal circumstances.

- The obstruction of an important view or scenic vista from any location where people gather would be considered a significant adverse visual impact.

- Adverse visual impacts would normally be expected to result from the removal of vegetation originally intended to enhance the appearance of the constructed environment.

- Visual impact would result if new sources of substantial light or glare were created that adversely affect day or nighttime views.

In considering visual impact of the proposed Connector, viewpoint location, including distance and altitude of the viewer with respect to the corridor project elements would influence visual impact perception. The project components, their height, color, placement, lighting, appurtenant structures and associated pedestrian amenities would have the greatest visual influence from close-in viewpoints. As the observer moves away from a given site, specific details regarding the physical elements of the project would become less important in defining visual impact, while structural height, mass and view corridors would remain of importance.

Methodology

The following summary description of the physical features of the AGT is provided to establish a baseline for evaluating the visual impacts of the AGT system at buildout.

AGT Features

The AGT potentially embraces a range of technologies and guideway designs. As a result, the appearance of the AGT system and its compatibility with the existing built environment, streetscape, and views will vary depending on the type of propulsion used, the method by which the guideway supports the vehicles, the design of the AGT vehicles, the construction materials used for the guideway, and the configuration and operational flexibility desired (see Figure 2.4-1 which illustrates a variety of AGT systems).

The visual impact analysis for this FEIR/FEIS has been prepared assuming the likely maximum possible "building envelope" for the AGT system, meaning the largest guideway and generic vehicle designs among those being considered have been used to describe potential impacts. This approach identifies the “most adverse” impact of the technologies and methods for elevating the Connector project and seeks to avoid ruling out any specific manufacturers and/or systems. In the future, it is conceivable that manufacturers may submit guideway designs that require less right-of-way (26 feet is assumed here), or include materials other than concrete support columns and spans as assumed here, or incorporate aesthetic treatments into concrete structural elements such as textures or surface colors, which are not assumed in this analysis.

Key physical features of the AGT are summarized here to assist in evaluating visual impacts:

- Guideway spans: fabricated of steel reinforced concrete with 60-, 100-, or 160- foot spans (depending on topography and obstructions), supported on cast-in-place concrete columns 5 to 7 feet in diameter.

- Minimum clearance between bottom of the guideway and street level: 15.5 to 17 feet.

- Where necessary, the existing Hegenberger Road median would be widened to provide sufficient space for support column clearance. Any necessary traffic lane restriping would be within the Hegenberger Road right-of-way.

- Maintenance and Central Control Facility: Located in the BART surface parking lot, adjacent to Hegenberger Road with the AGT guideway entering the structure. Size: approximately 105 ft. x 210 ft. x 60 ft. high. Facility would include an electrical substation.

- Power Distribution Substations: One would be located at each terminal and up to two located in between, at grade level. Each substation would be 1,000 square feet in size, located below the guideway, 26 feet wide and 14 feet high, consisting of a concrete slab with precast concrete walls and a metal roll-up door. Electrical feeders would enter the substations through underground duct banks.

- Fencing: Where the alignment is at grade, a security fence would be installed, similar to at-grade BART segments, to prevent unauthorized access.

- Station Facts: The Coliseum AGT Station would be constructed at the east end of the BART platform and would span San Leandro Street. The platform berthing area would be 120 feet long and 55 feet wide. The Airport AGT Station would be located within the airport parking garage. The platform berthing area would be 120+ feet long and 55 feet wide, not including room for future expansion.

Photomontage

To assist in the analysis of visual impacts, photomontages of the preferred alternative have been prepared. A photomontage is a photograph of the project site or area with project elements superimposed over the photograph through the use of computer imaging techniques.[2] The purpose of the photomontages is to depict the relative height, massing and scale of the project elements as seen from a range of public and private vantage points against the backdrop of the existing environment. In addition, view blockage is indicated where view blockage from project construction would occur. Color, texture and form are also indicated as appropriate to each viewpoint location.

The simulated AGT vehicles reflect the necessary performance standards of the design AGT system, as indicated by prior feasibility and design studies. These parameters include approximate dimensions of rolling stock based on a range of available AGT systems that could meet the system requirements. Similarly, key physical attributes of the system, such as elevated guideway column heights and diameters, location and placement of beams, etc., reflect performance standards and designs defined by BART and its general engineering contractor. The same input was obtained to formulate a conceptual design for a quality bus facility at the Coliseum BART Station.

Proposed landscape improvements to Hegenberger Road under the City of Oakland Gateway Development Plan have also been incorporated in the simulations.

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[2] Computer-generated visual simulations were prepared from 3D computer (CAD) models of the generic design system for the project. These CAD models were constructed from scaled plans and details provided by BART, the Port, and the City of Oakland. The CAD models were then used to create computer-generated perspective visualizations of the project, with the aid of software that takes into account perspective, materials and detailing, lighting, and shadow casting. Accurate perspective and scaling were validated through the use of reference/scale markers in both the photographs and computer models. The rendered images of the project were then overlaid on photographs of the existing setting with the use of the reference/scale markers, and refined to create photo-realistic images.

Preferred Alternative Environmental Analysis

Impact VQ-1. Visual compatibility of Connector with built environment and streetscape
The AGT would be highly visible within the Connector corridor because it would be elevated above ground and follow the existing roadway network that connects the Coliseum BART Station with OIA.

- **Coliseum BART Station to the Interstate 880/Hegenberger Road Interchange**. As indicated in Figure 3.4-3, the AGT over San Leandro Street in the vicinity of the Coliseum BART Station would be a new element within the field of view. Visible within the field of view as shown in the photomontage would be the elevated transit guideway, the transit vehicles, and the roof of the AGT station. The guideway would be parallel to and roughly equal in height to the Hegenberger Road bridge that crosses the BART tracks, San Leandro Street, and Union Pacific Railroad tracks. The completed project, when viewed from San Leandro Street, would reinforce the notion of a mass transit hub in the area and add to the geometric pattern of overhead circulation corridors, inclusive of Hegenberger Road and the BART transit guideway.

  The AGT would span San Leandro Street and offer no impediments to vehicular travel. The streetscape would not be significantly altered by the project because there would be no vertical supporting guideway columns between northbound and southbound lanes.

  Residents to the north of the Coliseum BART Station would be more than 800 feet away from the AGT station and guideway. This distance is far enough that visual encroachment would not be an issue. When viewed from the elevated portion of Hegenberger Road, the AGT elevated guideway and station would not be visually dominant because these project elements would not rise significantly above the elevated roadway. Views west toward the AGT guideway and station from locations east of Hegenberger Road would be expected to be obscured by the elevated bridge structure of Hegenberger Road. Given existing visual conditions in the vicinity of the BART station as noted above, the AGT would create no significant adverse visual impacts from the viewpoint location shown.

  South of the Coliseum BART Station area, Hegenberger Road drops down to grade level prior to crossing the I-880 bridge and interchange. The AGT guideway, which follows the Hegenberger Road on-ramp from San Leandro Street on the west, would continue parallel along the west side of Hegenberger Road. The guideway would be about 20 to 40 feet from an office building at 675 Hegenberger Road that includes the Employment Development Department and the Oakcare Medical Group. This would place its route directly in front of Sam's Hofbrau and Denny's restaurants near Coliseum Way and thus be perceived as visually encroaching on existing land uses. At this distance, the guideway would be physically and visually dominant and would likely create a sense of physical encroachment for building occupants. This visual incompatibility would be considered adverse and significant.

  Hegenberger Road is eight lanes wide in this area of the corridor, and views of existing development, including buildings and signage, are broad and oriented along the length of the corridor. With the introduction of the AGT elevated guideway and supporting

columns, the change in visual conditions along Hegenberger Road would be substantial. As a linear element, the elevated guideway would call attention to itself because of its elevated position with respect to the roadway. The guideway would assume physical dominance with respect to vehicles and pedestrian activities that would take place below it. Because of the repetitive pattern of columns supporting the guideway and its linear form, the structure would reinforce and call visual attention to the relatively unswerving configuration of Hegenberger Road and focus the line of vision along the corridor.

Further toward the I-880 interchange, the guideway would be located parallel and adjacent to the west side of Hegenberger Road. Hegenberger Road is elevated in this location as it passes over I-880. Views of the guideway to northbound motorists along I-880 would likely be obstructed by the elevated portion of Hegenberger Road. However, the guideway would be visible to southbound I-880 motorists. The linear mass of the structure would not be as great as that of the Hegenberger Road overpass, but its vertical depth would be expected to be equal to that of the overpass. Because the guideway and Hegenberger Road would both be elevated in this portion of the corridor, and the guideway would repeat the arching form of Hegenberger Road over I-880, the guideway would not be expected to add a visually significant element to conditions of the setting in this portion of the corridor segment.

The AGT Maintenance and Central Control Facility would be located in the Coliseum BART Station parking lot adjacent to Hegenberger Road. The three-level structure would be connected to the north terminus of the guideway. The building's bulk, as defined by its 60-foot height, 105-foot width and 210-foot length, would be visually significant as viewed from areas within the parking lot. Direct views of the overall mass of the structure would not be available from Hegenberger Road because Hegenberger Road is elevated in the area of the parking lot where it crosses over the BART tracks and San Leandro Street. The structure would be screened from residences to the north because of existing tree groupings near the west side of the BART parking lot. However, the structure would cover one-half acre and be seen as a new facility within the Coliseum BART Station area. Although construction materials and design details of the building have not been developed, as a maintenance facility, the building would be expected to retain the appearance of an industrial structure with flat sides and a lack of window surfaces. Plain and ordinary building faces would be expected, and coupled with the size of the structure, the change in visual conditions would be significant and the impact adverse.

- **Interstate 880/Hegenberger Road Interchange to the Hegenberger Road/Doolittle Drive Intersection.** Once south of I-880 in the vicinity of Edgewater Road, the elevated guideway would continue south and cross over the southbound lanes of Hegenberger Road to follow the roadway median.

  As discussed for the guideway segment north of I-880, the change in view conditions along Hegenberger Road would be substantial. The AGT guideway would be a new prominent feature in the viewshed for trail users traveling eastbound along the San Leandro Creek Trail. The guideway would assume physical dominance with respect to vehicles and pedestrian activity that would take place below it (see Figures 3.4-4 and 3.4-5). Because of the repetitive pattern of columns supporting the guideway and the guideway's linear form,

Existing View of Coliseum BART Station (looking east)

View with Coliseum AGT Station (looking east)

Figure 3.4-3
Visual Simulation of Coliseum AGT Station

Existing View of Hegenberger Road (looking south)

View of Hegenberger Road with AGT Guideway in median and Gateway design plan (looking south)

Figure 3.4-4
Visual Simulation of AGT System in Hegenberger Road Median

Existing View of Hegenberger Road (looking northeast)

View of Hegenberger Road with AGT System and Gateway design plan (looking northeast)

Figure 3.4-5
Visual Simulation of AGT System Turning East off Hegenberger Road

the structure would reinforce and call visual attention to the linear configuration of Hegenberger Road and focus the line of vision along the corridor. Trees in the median have been removed in accordance with the Gateway Development Plan. However, the loss of other trees within the corridor due to project construction would remove a visually decorative element in the urban environment, thus emphasizing the existence of signage and hard at-grade and building surfaces. With project completion, the change in view conditions along Hegenberger Road would be substantial. The visual impact would be significant and adverse.

In addition to causing a significant visual change in this portion of the corridor segment, the AGT guideway and support columns would contribute to the unattractive visual conditions of the urban setting existing today as expressed in the *Hegenberger Road-98th Avenue Gateway Development Plan*. The project would not be a building structure consisting of a defined width, depth and height and thus would not strongly correlate with the mostly rectangular shapes of buildings along the corridor. Thus, the visual impact in this portion of the corridor segment would be adverse and significant. While the Gateway Development Plan states that the Connector project would be "an essential catalyst that will vastly improve the image and function of the Gateway," it is the auxiliary features of construction, street trees and decorative shrub plantings, lighting, street furniture and other design features as envisioned in the Gateway Development Plan, that would improve the image of the Gateway, not the Connector project. The Gateway Development Plan incorporates the Connector project into the planning strategy for the Gateway as a whole and acknowledges "The BART Connector will trigger the need for – these improvements" (City and Port of Oakland, 1998).

It should also be noted that construction of the guideway could require the removal of some Gateway Development Plan enhancement features shortly after their implementation. Construction of the aerial guideway could potentially eliminate some of the short flowering trees proposed in the Gateway Development Plan for the Hegenberger Road median. Two of the palm trees (close to Edgewater Road), proposed in the Gateway Design Plan would be eliminated when the AGT guideway shifts from the west side to the median of Hegenberger Road.

As part of the Gateway Development Plan, the City constructed a decorative bridge where Doolittle Drive crosses over 98th Avenue. The bridge is intended to strengthen this area's visual quality to function as the City's gateway from OIA. The AGT alignment would be elevated and east of the bridge. Given the flat topography of the area, the AGT guideway would obscure views of the bridge for southbound motorists approaching OIA. Figure 3.4-6 illustrates the visual impact of the AGT guideway on views of the bridge.

While the AGT guideway would eliminate views of the decorative bridge, views for northbound travelers arriving in Oakland from OIA are considered to be of greater significance because these views constitute the first impression of Oakland for visitors. From this direction, the AGT would be "behind" the bridge and would not mar views of the gateway. Consequently, the effect of the AGT on the 98th Avenue bridge is considered less than significant.

The north intermediate stop option at Hegenberger Road and Edgewater Road would be located opposite the approximate 10-story Union Bank of California building. Other buildings in the immediate vicinity of the intermediate stop are of lower height, and varying scale. The intermediate stop at the corner of Edgewater Road and Hegenberger Road would not be closer than 60 feet to the frontage of an existing hotel or office. The intermediate stop would consist of a covered pedestrian platform and not significantly alter the appearance of the guideway or surrounding conditions with the guideway in place.

The second intermediate station would be located at the 98th Avenue/Doolittle Drive/Airport Access Road interchange. At this location, portions of the station would be closer than 60 feet from the Edgewater West Inn. Although only a portion of the hotel building frontage would be closer than 60 feet to the station, the visual encroachment could create a potentially significant impact.

The guideway would divide the parcel, which is slated for the development of a hotel as envisioned in the *Hegenberger Road-98th Avenue Gateway Development Plan*. The conceptual plan for this site suggests a 300-room hotel rising a minimum 7 to 10 stories on the 7.5-acre site and states:

> This triangular site is the keystone to creating a strong sense of entering or leaving the airport. It is the only property contacting and connecting all four key roads of Hegenberger, 98th, Airport Access Drive, and Doolittle Drive. Virtually all people entering and exiting the airport as well as all people using Doolittle Drive to access Alameda and San Leandro pass this site. A major hotel structure will mark the importance of this site (City and Port of Oakland, 1998).

In planning for the site, it was determined that the guideway with intermediate stop would be located on the north side of the hotel, with vehicle parking situated under the guideway between the hotel and Airport Access Road (see Figure 3.3-2 in Section 3.3, Socioeconomics). The hotel would be located near the Doolittle Drive frontage to "create a dramatic vertical element punctuating this important intersection." The main entrance of the hotel would front Hegenberger Road. Coordinated site planning and design involving both guideway and hotel projects would be expected to avoid the potential for significant adverse visual quality impacts.

In terms of the guideway's effect on the nearby constructed environment, there are several buildings near the proposed AGT alignment and possibly subject to impacts related to visual encroachment. The Teamsters Union and the United Cab office building at Airport Access Road would be within 60 feet of the guideway. The Teamsters Union building as discussed in Section 3.3, Socioeconomics, is proposed to be acquired, and therefore would not be affected by visual proximity issues. In contrast, the physical proximity and visual dominance of the AGT guideway to the United Cab building would be expected to be a significant visual compatibility impact for building occupants. The former Edgewater West Inn would also be less than 60 feet from the guideway. The front entrance to the building, however, would be on the opposite side of the guideway and there would be few rooms of

Simulation of Future Roadway Configuration

Simulation of Future Roadway Configuration with AGT Guideway

Figure 3.4-6
Visual Simulation of AGT System from 98th Avenue at Airport Drive

this circular building facing the guideway. As a result, this viewer group would experience limited, view access from guideway occupants.

- **Hegenberger Road/Doolittle Drive Intersection to the OIA Terminal.** The AGT route would be at-grade, once exiting the tunnel under Doolittle Drive, on the east side of Airport Drive adjacent to the Lew F. Galbraith Municipal Golf Course. The at-grade guideway alignment would be visually consistent with the adjacent Airport Drive area; passing AGT vehicles would be seen with other vehicles moving along the roadway. As a result, the AGT system would not conflict with the visual unity of this area and the motorists and golfers would be generally unaffected by the guideway. The AGT route would rise again to become an elevated guideway toward the south end of the golf course and proceed toward the Airport terminal along the airport entry road. The guideway and Airport AGT Station would terminate at the new parking garage opposite the new terminal .

  The elevated guideway would be a major visual feature south of the golf course for an approximate one-half mile length. Much of the land area in this area is open to view due to the lack of building structures. Buildings are most prevalent around the Airport terminal area and include the terminal structures and United Airlines Hangar. As an elevated feature, the guideway between the golf course and Airport parking area would be the principal constructed element within the field of view to travelers along Airport Drive. There would be no strong reference points to make comparisons of scale relationships in this segment of the corridor and the guideway would be seen as an extension of activities and vehicular movement that normally occur in the vicinity of the Airport terminal and parking area. No significant adverse visual impact would be expected from constructing the guideway immediately south of Doolittle Drive.

  As newly constructed elements, the aerial guideway and the Airport AGT Station would contribute to the overall intensity of development at the airport, thus contributing to building mass and altering the visual setting in the Airport terminal area. This alteration, however, is not expected to result in significant visual incompatibility, because the AGT guideway and station would be viewed within the context of other elevated structures, such as the double deck roadway and the multi-level parking garage, built as part of the ADP. The visual setting at the Airport terminal area would thus be marked by new construction and modern transportation facilities visually integrated with the terminal facilities. Even if the AGT were constructed prior to the ADP, the visual setting of the terminal area is currently defined by transportation-related uses - parking, loading and unloading zones and shuttle services. By association, it is considered that the elevated AGT guideway and AGT vehicles would not appear out of character or incompatible with this setting. Consequently, the visual changes in the Airport terminal area attributable to the AGT would not generate significant, adverse visual impacts.

In summary, along the entire length of the proposed AGT alignment in the Hegenberger Road corridor from the Coliseum Station to OIA, the AGT would be visually dominant. The AGT would be seen within the Hegenberger Road Corridor and create a sense of visual encroachment for building occupants within 60 feet. The guideway would reinforce and call

visual attention to the linear configuration of the corridor. Furthermore, it would remove landscaping, emphasizing the existence of signage and hard at-grade and building surfaces. (S)

The AGT, with the guideway elevated above the roadway surface, would visually divide Hegenberger Road into two segments, one northbound and one southbound. Hegenberger Road is eight lanes wide in this area of the corridor, and views of existing development, including buildings and signage, are broad and oriented along the length of the corridor. There are currently no structural elements within the roadway median to obstruct the field of view in this area of the corridor. With the introduction of the AGT elevated guideway and supporting columns, the change in visual conditions along Hegenberger Road would be substantial. As a linear element, the elevated guideway would call attention to itself because of its elevated position with respect to the roadway. The guideway would assume physical dominance with respect to vehicles and pedestrian activities that would take place below it. Because of the repetitive pattern of columns supporting the guideway and its linear form, the structure would reinforce and call visual attention to the relatively unswerving configuration of Hegenberger Road and focus the line of vision along the corridor.

Median Option. In the event engineering design refinements require use of the median instead of the preferred alternative alignment for the portion of Hegenberger Road between Elmhurst Channel and Coliseum Way, the potential visual impacts to the tenants in 675 Hegenberger Road, Sam's Hofbrau, and Denny's restaurant would still be present, but at a reduced level of impact. Mitigation Measures VQ-1(i), VQ-1(ii), VQ-1(iii), and VQ-1(iv) would apply to the Median Option if it is selected for this portion of the alignment. (S)

Mitigation Measures. The AGT would impose a physical dominance on the Hegenberger Corridor constructed environment and streetscape. Implementing all of the following mitigation measures would reduce these impacts, but the physical mass and proximity to some buildings cannot be mitigated to a less-than-significant level. (SU)

VQ-1(i) *Integrate Connector Site Planning and Design Details with the Concepts and Themes Contained in the Hegenberger Road-98th Avenue Gateway Development Plan and the Airport Roadway Plan.* BART shall consult with the City of Oakland and Port staff and then identify site planning and design guidelines for the AGT guideway, stations, and auxiliary facilities that are consistent with the Gateway Development Plan and the Airport Roadway Plan, which both have the objective of improving the image and function of the Gateway.

VQ-1(ii) *Improve Guideway and Support Column Appearances.* To improve the appearance of the guideway structure and columns, and assist in visually reducing the apparent mass, bulk and overhead dominance of the guideway structure, during the design phase, BART shall incorporate design and aesthetic treatments to the extent possible. Such features may include: 1) minimizing the depth and width of the overhead guideway, 2) incorporating cast-in textures and patterns into the columns and guideway concrete surfaces to create cadence and shadow effects, and 3) maximizing the span distance between columns to achieve a more graceful structural appearance. In addition, in lieu of constructing supporting columns of uniform diameter, expanding

the diameter of the columns where they join and support the bottom of the guideway would provide for a more symmetrical, balanced and visually appealing structural transition from the ground. The visual appearances of the guideway could also be enhanced by imparting the suggestion of an arched form between columns to relieve its uneventful horizontal form.

VQ-1(iii) Screen the Maintenance and Central Control Facility. BART shall establish a planting plan that will shield views of the Maintenance and Control Facility from adjacent areas. The use of evergreen (non-deciduous) trees compatible with the local climate and capable of growing no less than 40 feet high shall be located around the structure to visually screen the building.

VQ-1(iv) Relocate Proposed Plant Materials in the Gateway Design Plan that Conflict with the AGT. BART in coordination with the City of Oakland and Port shall identify the planting areas that would be affected, and develop alternative planting schemes that would both accommodate the guideway and enhance appearances along the guideway route. Emphasis shall be placed on seasonal color, flowering species and textures that offer visual interest at ground and above grade level.

Impact VQ-2. Elimination of significant views

The Oakland Hills and Oakland city skyline are important visual features seen from the Connector corridor. Views by motorists and pedestrians of the Oakland Hills and Oakland city skyline are currently limited and intermittent when viewed from the corridor due to intervening building structures and signs. Because of their height and mass, prominent structures in the corridor area include the Coliseum/Arena Complex, Union Bank of California, Bank of America, and Wells Fargo building.

Some views of the prominent structures in the Corridor area (the Coliseum/Arena Complex, Union Bank of California, Bank of America, and Wells Fargo building) may be partially obscured by the AGT guideway, depending on viewer location with respect to these structures and the guideway. However, such views would not be eliminated. Visual obstruction of these buildings would thus be less than significant because their scale and prominence within the corridor would remain.

Hikers/cyclists using the existing San Leandro Creek Trail west of Hegenberger Road would be west of the AGT guideway. There would be no view obstructions and trail users would partially continue to have views of the Oakland Hills as they move along the trail after project completion. As noted previously, the guideway would be visually prominent to eastbound hikers/cyclists.

In the vicinity of the intermediate stop at Edgewater Drive and Hegenberger Road, the high-rise office buildings to the south and southwest have views of the Oakland Hills, as well as views of the Oakland Estuary, Martin Luther King Jr. Shoreline Park, and downtown Oakland. The introduction of an elevated AGT station could partially interfere with views to the northeast of the Oakland Hills at lower building levels, but not eliminate them. As a result, the impact on significant views due to the installation of this intermediate stop would be less than significant.

The Doolittle Drive and Hegenberger Road intermediate stop would be located within the line-of-sight of guests at lower portions of the Edgewater West Inn. The intermediate stop could obstruct views for several rooms at this circular building that would normally be considered a significant effect. However, the rooms were built with small window openings, meaning that there are no existing panoramic or focused views of the Oakland Hills. Therefore, the impact due to the intermediate stop is considered to be less than significant.

In summary, the preferred alternative would result in less-than-significant effects on significant views. (LTS)

Median Option. In the event engineering design refinements require use of the median instead of the preferred alternative alignment for the portion of Hegenberger Road between Elmhurst Channel and Coliseum Way, the potential visual impacts to significant views would not change. The Median Option would not increase or diminish these potential effects. (LTS)

Impact VQ-3. Light or glare effects
Lighting used inside the AGT vehicles and vehicle headlight could cause glare and point sources of light affecting motorists or pedestrians. The lighting used at the stations could also extend beyond the station area and be of sufficient intensity to affect motorists or people in neighboring land uses.

Because the AGT station and guideway would be higher than the BART guideway, there is a potential for light to extend beyond the BART station and adversely affect residents north of Snell Street. Lighting at the Coliseum AGT Station and guideway could also cause glare for motorists on Hegenberger Road and San Leandro Street.

While OIA is currently well lighted with myriad buildings and traffic, the Airport AGT Station would increase the ambient light levels at OIA. This increase in exterior lighting is not anticipated to create a significant glare effect.

Also, the FAA has the authority to review and comment on any development proposal in the vicinity of the airport that can affect airspace navigation. The FAA's 7460 permit process also considers lighting angle, or intensity, if either or both interfere with safe aircraft navigation. While light and glare effects are not anticipated at OIA, the AGT could cause potential light and glare problems north of OIA as noted above.

The lighting used at the intermediate stops would increase illumination at the proposed locations. Hotel guests and motorists on Hegenberger Road, Airport Access Road, 98th Avenue, Airport Drive, Edgewater Drive, and Doolittle Drive could be affected if the light were excessive. (PS)

Median Option. In the event engineering design refinements require use of the median instead of the preferred alternative alignment for the portion of Hegenberger Road between Elmhurst Channel and Coliseum Way, the potential visual impacts to light or glare effects would not change. The Median Option would not increase or diminish these potential effects. Mitigation Measures VQ-3(i), VQ-3(ii), and VQ-3(iii) would apply to the Median Option if it is selected for this portion of the alignment. (PS)

Mitigation Measures. The following measures would reduce the light and glare effects of the AGT to a less-than-significant level. (LTS)

VQ-3(i) *Control Spillover from System Lighting*. BART shall ensure that the lighting fixtures along the alignment and at stations be designed control light intensity on adjacent land uses. BART shall incorporate specifications into its bid documents to focus illumination downward and to restrict light from extending beyond the project site or causes illumination/glow above the light fixtures. To achieve this, the light fixtures shall be fitted with lenses, hoods, and reflectors to minimize spillover light and glare while maintaining safety and security.

VQ-3(ii) *Limit Intensity of AGT Vehicle Lighting*. BART shall ensure that the headlights used for the AGT vehicles shall be designed to avoid significant safety hazards for building occupants, motorists, and pedestrians. The lights used inside the AGT vehicles shall be of the necessary wattage or candlefoot power necessary for passenger safety and comfort while not affecting adjacent land uses. BART shall include this specification in its bid documents and require its contractors to comply with these lighting standards.

VQ-3(iii) *Specify Material to be Used for AGT Vehicle Exterior*. BART shall ensure that materials with low reflective capabilities be chosen for the body of the AGT vehicle. BART shall include this specification in its bid documents and require its contractor to comply with these standards to reduce glare. Measures such as tinting of glass or using a substitute material to achieve a daylight reflective factor that would not cause significant glare can be implemented by the contractor.

Partial ADP Scenario

Under the Partial ADP scenario, the Airport AGT station would not be integrated visually or physically with a new garage but would be on an elevated guideway situated between the existing terminals. As a result, the Partial ADP scenario would result in the Connector facilities being more visible. These changes to the visual setting would be noticeable, but they would not be visually incompatible with the scale of the various structures and buildings in the Airport terminal area. Project lighting as described above would apply equally to the Partial ADP scenario.

The AGT structures would be consistent with the other transportation-related uses in the Airport terminal vicinity and, thus, would not appear out of character with the surroundings. The AGT guideway would obstruct views of the Oakland Hills from a few ground-level vantage points, depending on the location of the observer with respect to the guideway, but air

passengers, visitors, and employees would still retain views from most locations at the Airport terminal. As noted previously, the AGT would create new vista opportunities and viewpoints for air passengers and employees using the Connector because of its elevated position above the ground. This would be a beneficial visual impact.

Cumulative Analysis

The eight projects that would cumulatively help shape the visual landscape of the project corridor are large-scale proposals that would substantially intensify development in the project corridor (see Section 3.0 for a description of the eight projects considered under Cumulative Analysis). Large research and development/office parks and hotels would reinforce Hegenberger Road's existing character as an employment and highway services corridor. These projects would serve as infill projects utilizing unproductive sites with buildings, landscaping, and development thus assisting in shaping gateway image along the Connector corridor. The projects would need to conform to the City's design review procedure and the Port's Standards and Restrictions.

Cumulative projects in the Connector corridor, in combination with the preferred alternative, would intensify development in the corridor; create a cumulative increase in the scale and height of buildings fronting Hegenberger Road, 98th Avenue, and Doolittle Drive; and alter the appearance and conditions at street level. The AGT, in combination with increased building development consisting of hotel, warehouse, office and R&D space, as infill development would substantially alter the visual character of the corridor. This cumulative growth would result in intensified development within the corridor and result in fewer ground-level view opportunities of the Oakland Hills to the north and northeast and downtown skyline to the west.

To a large extent, the significant change in corridor appearances would be compatible with and reinforce the development objectives of the Oakland General Plan and the Gateway Plan. This is because both documents propose the revitalization of the Connector corridor for larger-scale, regionally serving businesses, and the AGT would be consistent with this vision. Because of cumulative development, changes to the visual setting of the corridor would occur with or without the AGT over an extended period of time. However, the AGT project would be the largest single contributor to altering visual conditions within the corridor due to its height, dimensions of the guideway and supporting columns, and linear configuration. This would be particularly true where the guideway crosses over Hegenberger Road to enter or exit the road median.

Although the City of Oakland already applies "S-4 Design Review Combining Zone Regulations" to the Boulevard Service Commercial Zone that applies to much of Hegenberger Road and would conduct a design review process for the eight proposed development projects, there would be a significant change in the constructed environment, streetscape, and a loss of views of the Oakland Hills from the street and sidewalk level. No additional mitigation measure would reduce this cumulative effect to less than significant.

References

American Society of Landscape Architects, *Visual Impact Assessment of Highway Projects*, 1988.

Board of Port Commissioners, City of Oakland, Port Ordinance No. 2832, adopted September 6, 1988.

City and Port of Oakland, *Hegenberger Road-98th Avenue Gateway Development Plan*, May 1998.

City of Oakland, *City of Oakland General Plan, Open Space, Conservation, and Recreation Element (OSCAR)*, October 1995.

City of Oakland, Oakland Municipal Code, Title 14, Signs (updated) April 2000a.

City of Oakland, Oakland Municipal Code, Title 17, Planning (updated) April 2000b.

Jerry Goldberg, Station Area Planning, BART, personal communication, August 23, 2000.

Section 3.5
Cultural Resources

3.5.1 Introduction

This section presents a general description of potentially significant prehistoric and historic resources in the project corridor, as well as potential operational effects of the preferred alternative on these cultural resources. The information presented in this section is taken from the Historic Structures Survey Report prepared by JRP Historical Consulting Services (September 2000) and the Archaeological Survey Report prepared by William Self Associates (September 2000), which are included in the FEIR/FEIS Appendices C and D, respectively. These appendices also include additional information regarding the prehistory and history associated with the project corridor, the City of Oakland, and the San Francisco Bay Area. The analysis has been conducted pursuant to Section 106 of the National Historic Preservation Act of 1966 and to Section 15064.5 of the State CEQA Guidelines. Construction impacts of the preferred alternative are discussed in Section 3.16, Construction Impacts.

3.5.2 Existing Conditions

Paleontological Resources

The types of geological deposits present in an area determine the area's potential for paleontological resources. The project corridor lies upon alluvial soils and bay mud of recent origin (see the detailed discussion of the area's stratigraphy in Section 3.8, Geology, Soils, and Seismicity). Since mud and alluvium are not fossil bearing, no significant paleontological resources are expected to occur in the project corridor. The interfluvial basin deposits that interfinger with alluvial fan and fluvial are generally less than 10 feet thick and locally contains gastropods (e.g., snails) and pelecypods (i.e., clams) (USGS, 1972). These are common paleontological resources and would not be considered scarce, unusual, or significant.

Historic Overview of the Project Vicinity

Ethnographically, the project area may have comprised a portion of the territory of the Jalquin, who probably spoke one of the separate languages of the Costanoan language group (Milliken, 1983). The word "Costanoan" is a linguistic term derived from the Spanish word *Costanos* or "coast people." According to one author, no "native name for the Costanoan people as a whole existed in aboriginal times, since the Costanoan were neither a single ethnic group nor a political entity" (Levy, 1978). The descendents of the Costanoans today seem to prefer the term Ohlone (Levy, 1978). The San Francisco Bay region was occupied at least 5000 years ago; however, no consensus exists with regard to the time of Costanoan/Ohlone occupation or the path of population movements into the area.

The Jalquin have been identified from Mission records and are thought to have occupied the San Leandro Creek basin (Milliken, 1983). The small amount of information available generally characterizes the Jalquin as hunting and gathering people who lived a semi-sedentary village

life and who carefully utilized the diverse resources available in the area. They principally exploited acorns and shellfish, but almost every edible plant and animal species also comprised the native diet.

The Jalquin seem to have first appeared at Mission San Francisco in 1801 and 1802, although some references occur in the Mission San Jose records in 1797. They apparently intermarried with the Yargin, who probably occupied the San Lorenzo Creek drainage in Hayward, and it is possible that the Jalquin and Yargin were the same people (Milliken, 1983). There is very little information available relative to these specific groups and even their number at the time of contact is unknown. As was the case for many groups, absorption into the Spanish mission system led to a pronounced decline in population. Disease, dietary deficiency, a declining birth rate, and some military conflict resulted in a population decline of almost 80 percent by 1832. This population loss, combined with ethnic mingling and the discouragement of traditional social practices within the mission system, caused the almost total disintegration of traditional ways. After secularization of the missions in the 1830s, some natives went to work on nearby ranchos, perhaps gravitating to homelands.

During the earliest historic times, the project area north of Doolittle Drive was part of the over 42,000-acre Rancho San Antonio, granted to Luis Peralta in 1820. Before he died, Don Luis Peralta divided his vast estate among his four surviving sons. The oldest, Ignacio (Ygnacio), was given the southern end of the grant, bordering on the north bank of San Leandro Creek. Apparently, most of the project area south of today's Doolittle Drive was wetlands and thus not considered suitable for inclusion in the land grant (Smith et al., 1993; Hoover et al., 1966).

In the 20th Century, land filling greatly increased the size of Bay Farm Island and connected it to the mainland. It is now a peninsula and supports OIA. The development of the Oakland Municipal Airport began when the Board of Port Commissioners purchased the first parcel of land on Bay Farm Island in 1925. This first block of land comprised 600 acres. An additional 225 acres were later purchased in order to gain control of water frontage on the south shoreline of San Leandro Bay for the development of seaplane bases. Construction of a runway was promoted by the Army Air Service's plans for the first flight from an American mainland port. The facility's first runway consisted of a level of firmly packed ground 7,020 feet long, 600 feet wide at its easterly end, and 200 feet wide at its westerly end (Port of Oakland, 1991).

The airport was dedicated in September 1927 by Charles Lindbergh. It became the origination point for a number of historic flights including in 1927 the first trans-Pacific flight from Oakland to Hawaii by Lester Maitland and Albert F. Hegenberger (for whom Hegenberger Road is named). One source states that by 1936, "Oakland Municipal Airport had the distinction of being the starting point of every successful western crossing of the Pacific by air" (Port of Oakland, 1991).

During World War II, the airport was used and further developed for military flights. Major expansion of the airport and the extension of the port facilities into the bay to the west, both of which required extensive landfilling, were completed in 1961 in anticipation of the growth of the commercial aviation and jet traffic. The South Airport area was completed in 1961 (ESA, 1991).

During the 1944-1946 period, a housing boom began in the East Bay. Much of the vacant farmland of the region became a target for development. By 1946 housing tracts had been constructed as far to the north as San Leandro Creek along 98th Avenue (Smith et al., 1993; Baker, 1991). A number of small homes within the project area, located on the north bank of San Leandro Creek, probably date to this immediate postwar period.

Although Hegenberger Road was constructed by 1926 (Smith et al., 1993; U.S. Coast and Geodetic Survey, 1926), most of the present commercial development within the project area along Hegenberger Road appears to be relatively recent and probably dates within the last 30 years.

Identification and Classification of Resources

State Guidance

Historic Resources

As defined by Section 15064.5(a)(3)(A-D) of the State CEQA Guidelines, a resource shall be considered historically significant if the resource meets the criteria for listing on the California Register of Historical Resources, that is, if the resource meets the following criteria:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or

B. Is associated with the lives of persons important in our past;

C. Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

D. Has yielded, or may be likely to yield, information important in prehistory or history.

Criterion D is usually applied only to archaeological sites, rather than in the evaluation of most historic architectural structures, and is not employed for evaluating historic resources in this analysis.

The California Register of Historical Resources and many local preservation ordinances have employed the criteria for eligibility to the National Register of Historic Places (NRHP) as a model, since the National Historic Preservation Act of 1966 (NHPA) provides the highest standard for evaluating the significance of historical resources. A resource that meets the NHRP criteria is clearly significant. In addition, a resource that does not meet the NHRP standards may still be considered historically significant at a local or state level. CEQA specifically states that a resource need not be listed on any register to be found historically significant (Public Resources Code Section 21084.1).

Archaeological Resources

Section 15064.5(c) of the State CEQA Guidelines applies to the analysis of effects on archaeological sites. When a project will affect an archaeological site, a lead agency must

determine whether the site is a historic resource, and therefore subject to the NRHP criteria listed above (particularly Criterion D), or whether the site is an *unique archaeological resource*, as defined in Section 21083.2 of CEQA, and whether the provisions of that section for mitigation apply. Section 21083.2(g) of CEQA defines a unique archaeological resource as

> an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
>
> (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
>
> (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If a lead agency determines that an archaeological site is neither historic nor unique, Section 21083.2(h) of CEQA states that the resource requires no further consideration, other than recordation.

Federal Guidance

The NHPA established the NRHP, which contains an inventory of the nation's significant prehistoric and historic properties. The criteria for recommending properties for possible inclusion in the NRHP mirror criteria A-D quoted above from Section 15064.5(a)(3)(A-D) of the State CEQA Guidelines. The federal regulations that govern the Section 106 review process of the NHPA are contained in 36 CFR Part 800.

A resource's eligibility for listing in the NRHP rests upon two factors: historic *significance* and historic *integrity*. A resource must have both in order to be considered eligible. A loss of integrity, if sufficiently severe, will overwhelm the historical significance a property may possess and render it ineligible. Conversely, a resource can have complete integrity, but if it lacks significance, it must be considered ineligible.

Significance is judged by the NRHP criteria A to D, which are identical to those in Section 15064.5(a)(3)(A-D) of the State CEQA Guidelines. A resource may be considered significant at the local, state, or federal level if it is at least 45 years old and meets any one of the four criteria.[1] However, as stated above, Criterion D is usually applied to archaeological sites and, therefore, is not used to evaluate most historic architectural resources.

[1] The Secretary of Interior sets the standard guideline for review of potential National Register eligible buildings at 50 or more years of age. The California State Historic Preservation Office, however, prefers to use a 45 year cut-off to provide an adequate period for project planning.

Certain types of properties are usually excluded from consideration for listing in the NRHP, but can be considered if they meet special requirements in addition to meeting Criteria A to D. The following seven Criteria Considerations deal with properties usually excluded from listing in the NRHP: Religious Properties, Moved Properties, Birthplaces and Graves, Cemeteries, Reconstructed Properties, Commemorative Properties, and Properties that have Achieved Significance within the Past Fifty Years.

Integrity is determined through the application of seven factors: location, design, setting, workmanship, materials, feeling, and association. These seven factors can be roughly grouped into three types of integrity considerations. *Location and setting* relate to the relationship between the property and its environment. *Design, materials, and workmanship*, as they apply to historic buildings, relate to construction methods and architectural details. *Feeling and association* are the least objective of the seven criteria, pertaining to the overall ability of the property to convey a sense of the historical time and place in which it was constructed.

For any proposed federal action, an Area of Potential Effect (APE) is defined as the geographic area or areas within which a project may cause changes in the character or use of historic properties (36 CFR Part 800.2[C]). These changes can be either direct or indirect in nature. The Federal Transit Administration (FTA) has delineated, and the California State Office of Historic Preservation (CASHPO) has approved, an APE for the Connector project (see JRP, 2000: p. 7). A generalized version of this boundary is presented in Figure 3.5-1.

Archaeological Resources

William Self and Associates conducted a cultural resources records search at the Northwest Information Center, Sonoma State University in February 2000. Additional sources consulted include the NRHP, the California Register of Historic Resources, and the California Historical Landmarks list. The archival research also included consultation at the University of California, Berkeley's Historic Map Center. The research and a reconnaissance-level field survey conducted by William Self Associates in February 2000 identified three archaeological sites known to exist within or adjacent to the APE for the Connector project (see Figure 3.5-1). However, the Northwest Information Center at Sonoma State University possesses no Primary Archaeological Site Records for these sites, and the reconnaissance survey provided no additional information because the sites lie beneath developed areas and are not visible. The sites have never been assigned permanent numbers within the California Historic Resources Inventory System (CHRIS), and are known simply as the "Nelson Sites" (numbers N-321, 322, and 323), after Nels Nelson, a researcher at the University of California, Berkeley, who recorded them early in the 20th Century (Self, 2000). All three sites are believed to be shell middens—archaeological sites consisting primarily of discarded shellfish remains.

Site N-321 was recorded by Nelson during his 1908-1910 survey of the San Francisco Bay Region and is believed to be a shell midden. It lies outside the project APE, in the vicinity of San Leandro Street and 81st Avenue, southeast of the Coliseum BART Station. No portion of the site is currently visible, since the area has been completely developed with industrial uses.

Site N-322 is also believed to be a shell midden; however, aside from the site's assumed type and its location, no other information about the site is known. It lies within the project APE, completely beneath the parking lot of a small commercial mall, east of Hegenberger Road south of Baldwin Street, and no portion of the site is visible. Since the site is completely covered with asphalt, a strong potential for buried resources associated with this site still exists.

Site N-323 is also a shell midden for which no additional records or data, except for its location, are available. The site lies within the project APE, beneath the intersection of Hegenberger Road and Edes Avenue, beneath a Shell gasoline station. Given the presence of underground storage tanks associated with the gasoline station, the amount of original soil present and the integrity of the site are unknown. However, in the portions of the intersection beneath which no underground tanks have been placed, and where much of the original soil is still present, the potential still exists for components of this archaeological site.

The location of these archaeological sites under asphalt precludes an evaluation of their significance for this analysis. Therefore, for the purposes of this analysis, the sites must be considered potentially significant (or historical) under Section 15064.5(a)(3)(D) of the State CEQA Guidelines.

Historic Resources

The North Field of OIA is a designated City of Oakland Historic Landmark District, exclusive of its structures and facilities. In February 1980, the Oakland City Council passed Resolution 1979-8 and City Ordinance 9872, which allowed alterations to the structures and facilities of the Airport while establishing the North Field as a whole to be a Historic Landmark District.

The Airport Development Program EIR analyzed potential footprint and operational effects of the BART Airport Connector as a related project. In a letter of February 21, 1997, the State Office of Historic Preservation concluded that none of the structures identified within the Airport Development Program area of potential effect is of the quality of character to be considered historic property. The area surveyed and evaluated by the State Office of Historic Preservation encompassed the various optional alignments and station locations proposed by the Connector alternatives.

JRP Historical Consulting completed a Historic Architectural Survey Report (HASR) for the project APE in May and June 2000. Additional research was conducted at the Shields Library at the University of California, Davis, the City of Oakland Cultural Heritage Survey Office, the California State Library, and the CHRIS Northwest Information Center at Sonoma State University. JRP also conducted a field survey of properties within the APE, and consulted the First American Real Estate Solutions database.

The survey identified 11 structures (nine buildings and two bridges) known to be at least 45 years of age that merit detailed study for eligibility for the NRHP. The structures that merited additional study were inspected in the field, photographed, and described in detail on the State Department of Parks and Recreation data forms (DPR-523). Table 3.5-1 identifies the properties investigated, and Figure 3.5-1 shows their general locations. The properties are described in further detail below.

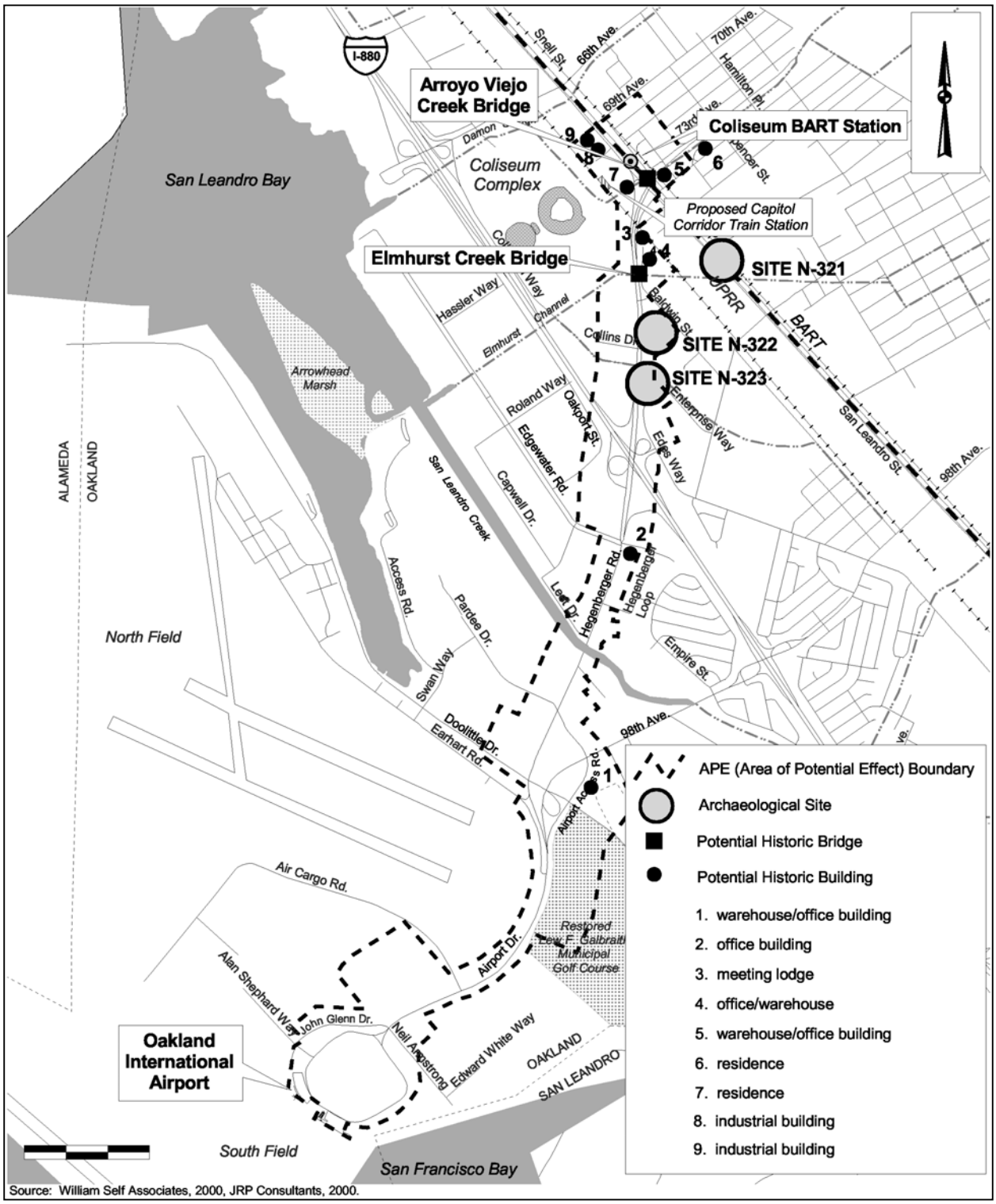

Figure 3.5-1
Cultural Resources Within the Connector APE

Table 3.5-1
Structures Within The Project APE Constructed In Or Before 1955

APN	*Address*	*Use*	*Year Built*	*Eligibility for NRHP*
044-5020-003-47	72 98th Avenue	Warehouse/ Office Building	early 1950s	Does not appear eligible
044-5076-001-00	410 Hegenberger Road	Office Building	early 1950s	Does not appear eligible
N/A	Elmhurst Creek Bridge at Baldwin Street	Bridge	ca. 1950	Does not appear eligible
042-4318-003-00	690/692 Hegenberger Road	Meeting Lodge	1941 / 1970s	Does not appear eligible
042-4318-001-01	698 Hegenberger Road	N/A	1951	Does not appear eligible
041-4162-030-00	807 75th Avenue	Warehouse/ Office Building	ca. 1939 / 1944	Does not appear eligible
041-4162-023-01	867 75th Avenue	Residence	1925	Does not appear eligible
041-4173-002-02 041-4173-002-03	728 73rd Avenue	Residence	ca. 1908 / 1913	Does not appear eligible
N/A	Damon Slough Bridge at San Leandro Street	Bridge	late 1940s	Does not appear eligible
041-4170-001-02	7001 San Leandro Street	Industrial Buildings	1949 / 1952	Does not appear eligible
041-4060-010-03	6925 San Leandro Street	N/A	1949 – 1955	Does not appear eligible

Source: JRP Historical Consulting Services, June 2000

It may be noted the building at 99 Hegenberger Road, the Warehouse Union (Local 6), marked as Map Reference 14 in Appendix C, has murals by noted artist Benny Bufano. The Warehouse Union Building was built in the 1960s; therefore, not old enough to satisfy the 50 years required to be eligible for the National Register of Historic Places. The National Register's Criteria Consideration G states that a property achieving significance within the past 50 years is eligible for the National Register of Historic Places if it is of "exceptional importance." The building could only be associated with Benny Bufano if he is known to have worked in this building during the productive era of his life. His association with the building just as its muralist does not provide sufficient significance by itself. Therefore, the Warehouse Union Building is not of "exceptional importance," and is not eligible for the National Register of Historic Places. Similarly, the building is not eligible for listing in the California Register unless scholarly perspective to its historical importance can be proven, which appears difficult for this property (JRP, February 2001).

72 98th Avenue. Located north of the Oakland Airport and Doolittle Drive, California Airframe Parts is a two-building complex. Both buildings appear to have been constructed in the 1950s. The older of the two buildings is a dual gable, steel frame, and two-story warehouse with corrugated metal siding and roofing. Double sliding doors are located along both the northwest and southwest sides, and there are steel-framed windows with four-pane awning-style sashes located at the top of the southwest side. There are single personnel doors with glass panels at various locations around the building. The warehouse's expansive interior is not subdivided and features vintage hanging light fixtures and fiberglass skylights. A two-story, rectangular

wood frame addition also exists on the building's northeast side. Its entrance faces northwest and has large pane windows, a single door, and brick facing. It appears to be unused office space.

The other building is a two-story, concrete, tilt-up warehouse with large, roll-up doors facing northeast and an office at the northern corner, marked by brick facing, steel-frame windows, and an awning.

While the buildings retain historic integrity, they are not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The buildings also do not embody distinctive architectural or engineering qualities (Criterion C). Therefore, the buildings at 72 98th Avenue in Oakland do not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

410 Hegenberger Road. Set at the southeast corner of Hegenberger Road and Hegenberger Court, 410 Hegenberger Road is a one-story former restaurant building now occupied by the Society for the Prevention of Cruelty to Animals. The rectangular building has a bowstring roof with composite roofing. Its perimeter wall is finished in stucco, with the main entrances through two sets of double doors on the south side covered by triangular hoods. At the northwest corner of the building, there is brick facing around large, fixed-pane windows. Along the north side are small fixed-pane windows with rounded applied ornaments above them. The east side of the building is largely covered by a concrete masonry unit enclosure with a staff entrance in the middle. The interior and most of the exterior appear to have been altered in remodeling that has occurred within the past two years. In addition, there are two vintage-style light fixtures flanking the driveway of the building.

While the building at 410 Hegenberger Road retains its overall form and some features of its original construction, it has been altered and has consequently lost much of its historic integrity. The building is not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The buildings also do not embody distinctive architectural or engineering qualities (Criterion C). Therefore, this building does not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

Elmhurst Creek Bridge at Baldwin Street. The Elmhurst Creek flows west under Baldwin Street and Hegenberger Road, past the southeast end of the Oakland Coliseum Complex and under Edgewater Road into San Leandro Bay. A bridge passes over the Elmhurst Creek at Baldwin Street and is immediately next to the Hegenberger Road overpass, over the nearby railroad tracks. The road now labeled as Baldwin Street at this location formerly was Hegenberger Road before the overpass was constructed, though adjacent properties retained the Hegenberger Road addresses. Both bridges at this location are of similar construction with the roadbed resting on concrete piers in corrugated metal casings. The bridge over Baldwin Street—Caltrans Local Agency Bridge Log Number 33C0041—has steel tube railings, a parallel steel pipe on the east side, and concrete pipes feeding into the creek under the bridge. The Hegenberger Road overpass bridge has galvanized steel railings with thin balusters.

The Elmhurst Creek Bridge at Baldwin Street retains much of its overall form and some features of its original construction. While Hegenberger Road modifications have altered the bridge's original setting, the bridge retains most of its historic integrity. The structure, however, is not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The structure also does not embody distinctive architectural or engineering qualities (Criterion C). Therefore, it does not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

690 and 692 Hegenberger Road. The Oakland Loyal Order of Moose Lodge 324 is located in two buildings adjacent to one another on Hegenberger Road. The buildings at 690 and 692 Hegenberger Road are located on what appears to be the end of Baldwin Street; however, the property received its street address before the roads were reconfigured in the 1960s, when the Hegenberger Road overpass was built over the nearby railroad tracks.

The older of the two buildings is at 692 Hegenberger Road. This side-gable, raised, one-story building has vertical wood siding, a corrugated metal roof, and wooden steps and porch on the south end at the building's entrance. The windows, covered by large metal screens, all appear to be aluminum sliders. There is a large double window near the top of the gable on the south side. Part of the fascia is missing on the west side.

The building at 690 Hegenberger Road is a tall, one-story, pre-engineered metal building, with vertically seamed siding, a gable roof, and a large bay facing north, and housing large, wood double doors as its main entrance. There are two sheet metal doors facing both west and north, and five geometrically shaped boxes at the building's roofline.

While buildings at 690 and 692 Hegenberger Road retain most of their historic integrity, they are not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The buildings also do not embody distinctive architectural or engineering qualities (Criterion C). Therefore, they do not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

698 Hegenberger Road. The building at 698 Hegenberger Road is one story, has an irregular footprint, and consists of three units, each with its own entrance. Sided in stucco, the building has a flat roof, wood trim, and steel-frame divided windows and a vintage light fixture over the door of the westernmost unit. All windows have security bars over them, and a fence encloses the south end of the building.

While the building at 698 Hegenberger Road may retain certain aspects of its historic integrity, it is not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The building also does not embody distinctive architectural or engineering qualities (Criterion C). Therefore, it does not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

807 75th Avenue. The property at 807 75th Avenue has two buildings, one of which was previously recorded for the City of Oakland's unreinforced masonry building study, which was completed in September 1994.

The main building at 807 75th Avenue, which was not previously recorded, is a one-story, wood-framed, gable-roofed warehouse/office. Sided in corrugated metal, it has a concrete perimeter foundation, steel-frame, six-pane windows, and a corrugated metal roof. The building's main entrance is on the east side. This single wooden door is under a gable roof awning up a few steps. There are also two single windows and two pairs of windows, each with security gates over them, an opening to the crawl space beneath the building, and a set of wood steps to a boarded-up opening near the north corner. There are four windows on the southwest side of the building, two windows on the northeast side, and two pairs of windows on the northwest side.

The property's other building, which was previously recorded, is one story, and constructed of brick, with a shallow, wood-frame gable roof and a set of parapet walls. Corrugated metal siding faces southwest with a metal door inset in it. The building's side window openings are filled with fiberglass sheeting. There is a metal roll-up garage door and a steel frame-divided window on the building's north side. There are also two other small, temporary buildings located on the property.

While the buildings at 807 75th Avenue may retain certain aspects of their historic integrity, neither is associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). They also do not embody distinctive architectural or engineering qualities (Criterion C). Therefore, the property does not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

867 75th Avenue. The house at 867 75th Avenue is a raised, one-story, gable-front building with stucco siding, composite shingle roofing with two stovepipes and a vent, and a mix of replacement aluminum slider and original wood windows. Facing southwest, the recessed front door is up a few concrete stairs, next to two pairs of aluminum slider windows with security bars. On the house's north side, there are three double-hung, one-over-one, small aluminum slider windows near the east corner. The southwest side of the house has two more wood, double-hung windows, as well as three more aluminum sliders. There is also a small wood gate at the entrance to the crawl space beneath the house. The northeast side of the house backs up to Hegenberger Road Expressway.

While the house at 867 75th Avenue may retain certain aspects of its historic integrity, it is not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The building also does not embody distinctive architectural or engineering qualities (Criterion C). Therefore, it does not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

728 73rd Avenue. Located adjacent to the on-ramp to Hegenberger Road from San Leandro Street, and backing up to Damon Slough, this property has two houses originally constructed in the early part of the 20th century. Access to this property is very limited and heavy vegetation and high, covered fences obscure the property from the surrounding streets. The front (westerly) unit is a one-story, clapboard-clad, hipped and gable-roofed house, with its main entrance facing northeast. The single door is under a gable-roof porch, supported by square, Doric-style piers, and sits next to the chimney. The main part of the house is located at the west end of the property, and has a hipped, scale-cut composite-shingle roof. To the east is a gable roof element. The house has an assortment of one-over-one, double-hung wood windows and aluminum slider windows.

The secondary, rear unit—originally built as one cottage—is located along the property line. It is a two-story, wood-frame building with wood and corrugated metal siding and composite sheet roofing. A vintage light fixture sits above a singular, southeast-facing opening on the second floor. The rest of the side of the building is obscured by corrugated metal sheeting set between the house and the side fence. On the first floor, there is a shed roof extension to the northeast, which has a door and windows facing northwest. The northwest side of the building is largely covered by clapboard siding, and there is a large trim at the gable. Two sheds lie between the houses, one of which may be a detached shed roof garage.

While the buildings at 728 73rd Avenue retain some aspects of their historic integrity, neither is associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). They also do not embody distinctive architectural or engineering qualities (Criterion C). Therefore, this property does not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

Arroyo Viejo Creek (or Damon Slough) Bridge at San Leandro Street. Flowing west towards San Leandro Bay, the Damon Slough emerges from underground at the eastern access road of the Coliseum BART Station, just north of Snell Street. The creek flows between two concrete retaining walls, approximately 12 feet tall, under Snell Street, the old Western Pacific Railroad lines, San Leandro Street, and the on-ramp from San Leandro Street to Hegenberger Road. The bridge number, according to the Caltrans Local Agency Bridge Log, is 33C0167. The bridges are designed with the roads resting on a pair of rectangular, concrete culverts.

While the Damon Slough channel and bridge at San Leandro Street retain some aspects of their historic integrity, they are not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The structures also do not embody distinctive architectural or engineering qualities (Criterion C). Therefore, these structures do not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

7001 San Leandro Street. The property at 7001 San Leandro Street in Oakland is a complex of three buildings for a light industrial steel products company. The property is dominated by a two-story, steel-frame corrugated metal warehouse building with a gable roof. This building has a corrugated metal roof over wood sheathing with large, purlin ends visible on the north

side of the building. Attached to the north side, there is a one-story, gable roof, wood frame wing, with stucco and corrugated metal siding. This front wing has a shed roof extension on its west side, adjacent to the main north-facing, roll-up garage door of the main warehouse. The main warehouse has metal double sliding doors on its east and west side, as well as corrugated fiberglass sheeting for windows. The front wing has divided steel frame windows and a single door, facing west, and a corrugated metal roof. Its corrugated metal siding is only on the east side, which also has a double sliding door and two windows. At the very north end of the property, there are two semi-permanent, modified trailers used as offices. These relatively new buildings have battened wood siding and are connected by a raised wood deck between them. The front unit has covered windows facing the street, brick facing, and a shallow gable roof. The rear unit has a flat roof. Both have aluminum slider windows.

While the buildings at 7001 San Leandro Street retain some aspects of its historic integrity, it is not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The buildings also do not embody distinctive architectural or engineering qualities (Criterion C). Therefore, they do not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

6925 San Leandro Street. This property is a one-story, bowstring, composite roof building, with flat roof extensions on its east and west sides. At the front, north end is a rectangular parapet wall unifying the building's façade. Prominently perched on top of the bowstring roof is tall, flat-roof, wood-frame monitor, with large pane windows facing east and west. The central portion of the building is constructed of concrete. It has two large, single-pane windows on the west side of the central front door. On the other side of the door is a set of three divided windows and large, roll-up garage door. The western extension has a wood-frame structure open to the west, and its north face has wood siding and a recessed area of fire protection pipes. The east extension has a wood-framed area with wood siding on the north side, and concrete masonry units along the entire east side.

While the building at 6925 San Leandro Street retains much of its historic integrity, it is not associated with significant historical events (Criterion A) or the lives of any known significant historical persons (Criterion B). The building also does not embody distinctive architectural or engineering qualities (Criterion C). Therefore, it does not appear to meet the significance criteria in Section 15064.5(a)(3)(A-C) of the State CEQA Guidelines, nor the criteria for listing in the NRHP.

Applicable Policies and Regulations

The City of Oakland General Plan

The City of Oakland adopted its General Plan Historic Preservation Element (HPE) in March 1994 to address deficiencies in existing preservation programs. The City amended the HPE in 1998.

The HPE defines historic preservation as "the sensitive maintenance, continued use and, where necessary, restoration of older buildings, districts, and other properties having historic,

architectural, aesthetic, or other special interest or value." Two broad goals govern a wide-ranging preservation program designed to address a variety of properties, and to assist in revitalizing districts and neighborhoods:

1. To use historic preservation to foster the economic vitality and quality of life in Oakland; and

2. To preserve, protect, enhance, perpetuate, use, and prevent the unnecessary destruction or impairment of properties or physical features of special character or special historic, cultural, education, architectural or aesthetic interest of value. Such properties or features include buildings, building components, structures, objects, districts, sites, natural features related to human presence, and activities taking place on or within such properties or physical features.

The HPE also articulates five objectives in the following areas to attain these goals and to address the deficiencies of the programs that existed at the time of the formulation of the HPE:

1. Identifying properties potentially warranting preservation

2. Preservation incentives and regulations;

3. Historic preservation and ongoing City activities;

4. Archaeological resources; and

5. Information and education.

In addition to articulating goals, objectives, and policies for preserving historic resources, the HPE also contains guidelines for evaluating potential resources. Appendix B of the HPE provides a list of properties within the City that are listed on the NRHP, Oakland Landmarks, and S-7 Preservation Districts: None of the structures or buildings within the Connector APE are included on this list.

3.5.3 Impact Assessment and Mitigation Measures

Standards of Significance

This impact analysis uses the thresholds of significance from Section 15064.5(a)(3)(A-D) of the State CEQA Guidelines, which, as described above, incorporates the NHPA's criteria for determining the significance and integrity of a historic resource (i.e., Section 106). In determining impacts to historic resources under CEQA and NEPA, an impact analysis must address two issues: whether a significant resource may be affected by the proposed project, and whether the effects constitute a substantial adverse change to the extent that the significance of the resource is materially impaired or lost. As noted above in Section 3.5-2 under Archaeological Resources, Archaeological Sites N-322 and N-323 are considered to be historical resources for the purpose of impact evaluation under the State CEQA Guidelines.

If a significant historic resource exists (i.e., significant historical, archaeological, or paleontological resources), the State CEQA Guidelines define a significant impact—which would constitute an "adverse effect" under Section 106 of the NHPA—as effects that would:

- Demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources (CEQA Guidelines, Section 15064.5[b][2][A]);

- Demolish or materially alter in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to local ordinance or resolution (PRC Section 5020.1[k]), or its identification in an historical resources survey meeting the requirements of PRC Section 5024.1(g) or (CEQA Guidelines Section 15064.5[b][2][B]; or

- Demolish or materially alter in an adverse manner those physical characteristics of a resource that convey its historical significance and that justify its eligibility for inclusion on the California Register as determined by a lead agency for purposes of CEQA (CEQA Guidelines Section 15064.5[b][2][C]).

Preferred Alternative Environmental Analysis

Impact CR-1. Operational effects on cultural resources
Long-term effects from operation and maintenance of the preferred alternative would not occur to archaeological resources, since any significant archaeological deposits or soils would have been identified prior to or during construction, and appropriate mitigation measures for that situation have been proposed (see Mitigation Measure C-CR-2(i), Conduct Subsurface Archaeological Testing/Exploration, and Mitigation Measure C-CR-2(ii), Conduct Spot-Checks for Archaeological Resources During Construction Activities, in Section 3.16, Construction Impacts, under "Cultural Resources". Since there are no paleontological resources or historic structures in the project APE, the preferred alternative would not have any effect on cultural resources. Therefore, operation of the Connector project would not affect any significant historic resources. SHPO concurrence has been received (see September 17, 2001 letter to FTA in Volume II, Section 3 of the FEIR/FEIS), indicating their concurrence that the project will have no effect on known historic properties. (NI)

Median Option. Substitution of the Median Option for the segment of alignment between Elmhurst Channel and Coliseum Way would have no effect on any of the preceding analyses. (NI)

Partial ADP Scenario

Under the partial ADP, the potential operational effects of the Connector project on cultural resources would be the same as described above under the Preferred Alternative Environmental Analysis. Construction of the AGT would have potentially significant effects on archaeological resources (the Nelson sites) within the project APE (see Section 3.16, Construction Impacts) but

not in the area affected by the ADP. Consequently, the effects of the preferred alternative are the same under the Partial ADP as they are under the full ADP.

Median Option. In the event engineering design refinements require use of the median instead of the preferred alternative alignment, there would be no operational effects on significant paleontological, archeological, or historic resources.

Cumulative Analysis

Paleontological Resources

The preferred alternative would not result in any effect upon significant paleontological resources. Therefore, there would be no contribution to a cumulative loss of significant paleontological resources within the City of Oakland or within the San Francisco Bay Area.

Archaeological Resources

The preferred alternative would not result in an effect upon significant archaeological resources. Therefore, there would be no contribution to a cumulative loss of significant archaeological resources within the City of Oakland or within the San Francisco Bay Area.

Historic Resources

The preferred alternative would not result in any effect upon significant historic resources. Therefore, there would be no contribution to a cumulative loss of significant historic resources within the City of Oakland or within the San Francisco Bay Area.

References

Port of Oakland, *Cultural Resources: Existing Environmental Conditions*, Metropolitan Oakland International Airport, Technical Memorandum #10 (draft), prepared by Environmental Science Associates, Inc. (ESA), April 1991.

Hoover, Mildred B., Hero E. Rensch, and Ethel G. Rensch, Historic Spots in California, 1966.

JRP Historical Consulting Services, Historic Architecture Survey Report: BART-Oakland Airport Connector, Oakland, Alameda County, California, prepared for EIP Associates, September 2000.

JRP Historical Consulting Services, personal communication, February 13, 2001.

Levy, Richard, "Costanoan" in *Handbook of North American Indians*, Vol. 8: California, 1978.

Milliken, Randall. The Spatial Organization of Human Population on Central California's San Francisco Peninsula at the Spanish Arrival, M.A. Thesis (Cultural Resources Management), Sonoma State University, 1983.

City of Oakland, *Historic Preservation Element: An Element of the Oakland General Plan*, adopted on March 8, 1994, amended July 21, 1998.

Smith, Michael, Suzanne Baker, and Mark Brack. *Archaeological and Historical Properties Reconnaissance of the Airport Roadway Project*, Alameda County, California, prepared for Woodward-Clyde Consultants, 1993.

U.S. Coast and Geodetic Survey, San Francisco Bay Southern Part, on file, map library, University of California, Berkeley, 1926.

USGS, Geologic Map of Late Cenozoic Deposits, Alameda County, California, compiled by E. J. Helley, K. R. Lajoie and D. B. Burke, U.S. Department of the Interior, Geologic Survey, 1972.

William Self Associates, *Archaeological Survey Report: BART OAC Project, Alameda County, California*, prepared for Public Affairs Management, September 2000.