

3.0 ENVIRONMENTAL CHECKLIST

1. **Project Title:** Service Changes in North Alameda/West Contra Costa Counties
2. **Lead Agency Name and Address:** Alameda Contra-Costa Transit District
1600 Franklin Street
Oakland, CA 94612
3. **Contact Person and Phone Number:** Anthony Bruzzone
(510) 891-7175
4. **Project Location:** Various locations within Alameda and Contra Costa counties, California. Figures 2-1 through 2-2 identify the locations of the proposed bus service changes.
5. **Project Sponsor's Name and Address:** Alameda Contra-Costa Transit District
1600 Franklin Street
Oakland, CA 94612
6. **General Plan Designation:** Not applicable
7. **Zoning:** Various
8. **Description of Project:** See Chapter 2, "Project Description."
9. **Surrounding Land Uses and Setting:** Land uses in the project area are various and includes residential, commercial, institutional, public, and others.
10. **Other Public Agencies whose Approval Is Required:**
N/A

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a “Potentially Significant Impact”), as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

Determination: *(to be completed by the lead agency)*

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have an impact on the environment that is “potentially significant” or “potentially significant unless mitigated” but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature

Date

Printed Name

For

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
I. AESTHETICS.	Would the project:				
a.	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

Environmental Setting

Existing Conditions

The proposed project is primarily located in northern Alameda and western Contra Costa counties. Although the project area contains a mixed visual environment, the landscape can be characterized as predominantly urban or developed. Overall, views associated with the urban landscape unit are of low visual quality because of the lack of intactness and unity of views. Distant views from within the project area are generally limited due to intervening structures and development. However, views of the San Francisco Bay are available from multiple vantage points along the project routes.

Regulatory Setting

State Regulations

California Department of Transportation State Scenic Highway System

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated, and can be found in Section 263 of the Streets and Highways Code. The following summarizes the officially designated and eligible state scenic highways in Alameda and Contra Costa Counties.

Alameda County

- I-80 – Eligible from I-280 near 1st Street in San Francisco to SR 61 in Oakland
- I-580 – Officially Designated from the San Leandro city limits to SR 24 in Oakland and from the San Joaquin County line to SR 205
- I-680 – Officially Designated from Mission Boulevard in Fremont to the Contra Costa County line SR 84 – Eligible from SR 238 to I-680 near Sunol

Contra Costa County

- SR 24 – Officially Designated from the east portal of the Caldecott Tunnel to I-680 near Walnut Creek
- SR 4 – Eligible from SR 160 near Antioch to SR 84 near Brentwood

Local Regulations

Alameda County General Plan

The Scenic Route Element of the Alameda County General Plan (Alameda County, 1994, as amended) designates I-80 and I-880 within Alameda County as scenic routes. Objectives and policies in the Scenic Route Element focus on preserving and enhancing views available from scenic routes; providing a continuous system of scenic routes; coordinating scenic routes with recreation areas; and protecting against unsightly features along scenic route corridors.

Contra Costa County General Plan

The Open Space Element of the Contra Costa County General Plan (Contra Costa County, 1996) does not designate scenic roadways in the County; however, it does include designated scenic ridges and waterways throughout the County. Views of many of these ridges are available from roadways within the County, including I-80, I-680, and SR 24. Designated scenic waterways include the San Francisco Bay, San Pablo Bay, and Suisun Bay, all of which are also visible from roadways within the County. Scenic resource goals and policies in the General Plan focus on preserving areas with high scenic value; protecting major ridgelines; and protecting physical and visual access to scenic resources.

Impact Analysis

- a., c. The proposed project includes an increase of bus trips on multiple local routes within northern Alameda and western Contra Costa counties. An increase in the number of buses and frequency of trips within the project area would not substantially degrade the existing visual character, quality of, or views from these local roadways. Most of these local roadways are well traveled thoroughfares in a highly urbanized region, and experience a moderate to heavy volume of vehicle traffic that includes trucks, buses, and cars. A small increase in bus trips would also not substantially degrade views of the East Bay hills because of the highly developed nature of the region and the presence of existing vehicles on project roadways. The proposed project would not have an impact on the existing visual character or quality of the proposed project and its surroundings. There would be **no impact**.
- b. The project does not propose the construction of any new structures, utility poles, lines, roadways, or other facilities along a scenic highway, and would therefore not damage scenic resources along such a highway. There would be no intrusion on a scenic vista or scenic resources, as defined by the respective General Plans of the jurisdictions in which the proposed project is located. There would be **no impact**.

- d. The proposed project does not include the construction of new structures, roadways, or other facilities that would require nighttime lighting. Daytime glare from buses associated with increased bus trips on certain routes would not contribute to a new source of glare. Bus trips would occur on heavily traveled roadways through urban, built-up areas. There would be **no impact**.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<p>II. AGRICULTURAL RESOURCES. In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:</p>				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

The proposed project has no ability to impact agriculture resources since there will be no construction or development in non-urbanized areas. No portion of the project area is located directly on or adjacent to agricultural lands.

- a. The proposed project is located on existing roadways in primarily in an urbanized area not designated as important farmland. There would be **no impact**.
- b. The proposed project is located on existing roadways in primarily in an urbanized area that is not zoned for agricultural use. There are no Williamson Act contracts on any portion of the project area. There would be **no impact**.
- c. The proposed project is located on existing roadways in primarily in an urbanized area, and no conversion of farmlands would occur. There would be **no impact**.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
III. AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

Environmental Setting

Existing Conditions

The proposed project is primarily located in northern Alameda and western Contra Costa counties within the Bay Area Air Quality Management District (BAAQMD). The BAAQMD has jurisdiction over air quality planning and permitting of stationary sources within the nine-county district.

Topography and Climate

The western boundary of the project area is defined by San Francisco Bay. The eastern boundary of the project area is defined by the Oakland-Berkeley hills in the northern portion of the project area and the East Bay hills in the southern portion of the project area. In the northern portion of the project area, the dominant weather factor is the marine air traveling through the Golden Gate. The prevailing winds for most of this area are from the west to southwest. The southern portion of the project area is indirectly affected by marine airflow. Marine air entering through the Golden Gate is blocked by the East Bay hills, forcing the air to diverge into northerly and southerly paths. The southern flow is directed down the bay, parallel to the hills, where it eventually passes

over southwestern Alameda County. The sea breezes in both the northern and southern portions of the project area are strongest in the afternoon. The farther from the ocean the marine air travels, however, the more diminished is the ocean's effect.

The average annual high temperatures in the project area range from the 50's to 70's in the winter and 60's to 80's in the summer. The annual precipitation averages about 25 inches. The predominant wind direction is westerly in the spring, summer and early fall, as discussed above, but varies more in the winter with the passage of storm systems.

Federal and State Ambient Air Quality Standards

Criteria Pollutants

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. Table III-1 identifies the major criteria pollutants, characteristics, health effects and typical sources. The federal and California state ambient air quality standards are summarized in Table III-2.

The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and particulate matter (PM₁₀ and PM_{2.5})

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different toxic air contaminants. The most important, in terms of health risk, are diesel particulate, benzene, formaldehyde, 1,3-butadiene and acetaldehyde.

Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Health effects of TACs include cancer, birth defects, neurological damage and death.

Sensitive Land Uses

For the purposes of air quality analysis, sensitive land uses are defined as locations where there is the presence of children, the elderly, and people with all members of the population would be present.

Table III-1: Major Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive hydrocarbons and oxides of nitrogen. Often called photochemical smog.	<ul style="list-style-type: none"> ●Eye Irritation ●Respiratory function impairment. 	The major sources ozone precursors are combustion sources such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels.	<ul style="list-style-type: none"> ●Impairment of oxygen transport in the bloodstream. ●Aggravation of cardiovascular disease. ●Fatigue, headache, confusion, dizziness. ●Can be fatal in the case of very high concentrations. 	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	Reddish-brown gas that discolors the air, formed during combustion.	<ul style="list-style-type: none"> ●Increased risk of acute and chronic respiratory disease. 	Automobile and diesel truck exhaust, industrial processes, fossil-fueled power plants.
Sulfur Dioxide	Sulfur dioxide is a colorless gas with a pungent, irritating odor.	<ul style="list-style-type: none"> ●Aggravation of chronic obstructive lung disease. ●Increased risk of acute and chronic respiratory disease. 	Diesel vehicle exhaust, oil- and coal-powered power plants, industrial processes.
Particulate Matter (PM ₁₀ and PM _{2.5})	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time.	<ul style="list-style-type: none"> ●Aggravation of chronic disease and heart/lung disease symptoms. 	Combustion, automobiles, field burning, factories and unpaved roads. Also a result of photochemical processes.

Source: *Don Ballanti, Certified Consulting Meteorologist, 2005.*

Table III-2: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour	0.12 PPM	0.09 PPM
	8-Hour	0.08 PPM	0.07 PPM
Carbon Monoxide	8-Hour	9.0 PPM	9.0 PPM
	1-Hour	35.0 PPM	20.0 PPM
Nitrogen Dioxide	Annual Average	0.05 PPM	--
	1-Hour	--	0.25 PPM
Sulfur Dioxide	Annual Average	0.03 PPM	--
	24-Hour	0.14 PPM	0.05 PPM
	1-Hour	--	0.25 PPM
PM ₁₀	Annual Average	50 µg/m ³	20 µg/m ³
	24-Hour	150 µg/m ³	50 µg/m ³
PM _{2.5}	Annual	15 µg/m ³	12 µg/m ³
	24-Hour	65 µg/m ³	--
Lead	Calendar Quarter	1.5 µg/m ³	--
	30 Day Average	--	1.5 µg/m ³
Sulfates	24 Hour	25 µg/m ³	--
Hydrogen Sulfide	1-Hour	0.03 PPM	--
Vinyl Chloride	24-Hour	0.01 PPM	--
Notes: PPM = Parts per Million µg/m ³ = Micrograms per Cubic Meter			
Source: <i>California Air Resources Board, 2005.</i>			

illnesses. Sensitive land uses along the alignment of the proposed bus service changes would include any residences, schools, day care centers, convalescent homes, and hospitals. However, the BAAQMD California Environmental Quality Act (CEQA) Guidelines recommend analyzing pollutant impacts at locations where all members of the population would be present.

Regulatory Setting

Federal, state, and local air quality regulations applicable to the proposed project are described below.

Federal Regulations

The federal Clean Air Act requires that the State Air Resources Board, based on air quality monitoring data, designate portions of the state where the federal or state ambient air quality standards are not met as "non-attainment areas".

The Bay Area is currently a non-attainment area for 1-hour ozone standard. However, in April 2004, the United States Environmental Protection Agency (U.S. EPA) made a final finding that the Bay Area has attained the national 1-hour ozone standard. The finding of attainment does not mean the Bay Area has been reclassified as an attainment area for the 1-hour standard. The region must submit a re-designation request to EPA in order to be reclassified as an attainment area.

The U. S. EPA has classified the San Francisco Bay Area as a non-attainment area for the federal 8-hour ozone standard. The Bay Area was designated as unclassifiable/attainment for the federal PM_{2.5} standards.

The *Bay Area 2001 Ozone Attainment Plan* (BAAQMD, 2001) is the current federal air quality plan. It was prepared by the BAAQMD, the Metropolitan Transportation Commission, and the Association of Bay Area Governments. This plan was a revision to the Bay Area part of California's plan (State Implementation Plan, or SIP) to achieve the national ozone standard. The plan was approved by the California Air Resources Board (CARB) and on November 30, 2001, CARB submitted the 2001 Plan to the U.S. EPA. The U.S. EPA is currently reviewing the plan.

State Regulations

Under the California Clean Air Act (CAA), Alameda and Contra Costa County are non-attainment areas for ozone and particulate matter (PM₁₀ and PM_{2.5}). The counties are either attainment or unclassified for other pollutants. The CAA requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or if not, provide for adoption of "all feasible measures on an expeditious schedule".

The CAA requires that the state air quality standards be met as expeditiously as practicable but, unlike the federal CAA, does not set precise attainment deadlines. Instead, the act establishes increasingly stringent requirements for areas that will require more time to achieve the standards.

Impact Analysis

- a. The proposed project includes the phased implementation of the Service Deployment Plan which includes improvement of existing service within northern Alameda County (within the cities of Berkeley and Albany) and a restructuring of the route network in West Contra Costa County (within the cities of San Pablo, Richmond and El Cerrito). AC Transit has been developing improvements to its route network for several years. Currently, the District has a strategic vision for enhancing service and improvement mobility for its passengers. With economic fluctuations of the past 10 years, bus service in North Alameda and West Contra Costa

counties has expanded and contracted to meet increasing demands or District budgetary constraints.

In addition, AC Transit has proposed additional service changes which are included in a proposed West County Service Plan, which would restructure the West Contra Costa County route network to meet that area's needs.

The service changes described above are the types of actions that are, in general, consistent with the goals of regional air quality planning, as the majority of the Bay Area's pollutants come from traffic. The *Revised San Francisco Bay Area 2001 Ozone Attainment Plan* (BAAQMD, 2001) is the current federal air quality plan. The Plan contains transportation control measures (TCMs) that are part of the effort to reduce ozone emissions. The proposed project would not be inconsistent with the TCMs. The proposed project is not in conflict with nor would obstruct the implementation of the regional air plan, and the impact would be **less than significant**.

- b. The proposed project would affect air pollutant emissions by changing bus miles traveled. The project would increase bus service on some bus lines and decrease bus service on other bus lines. These service changes would result in a net increase in bus vehicle miles traveled.

The project would also affect emissions through the replacement of 31 gasoline-powered vans with 30-foot diesel buses. Diesel vehicles have relatively greater emission rates for some pollutants (NO_x, Particulate, SO₂) and relatively lesser emission rates for other pollutants (ROG, CO) compared to gasoline-powered vehicles.

To evaluate the net change in emissions, the increase in bus emissions from increased bus miles traveled and the emission changes resulting from the elimination of gasoline powered vans were calculated. The resulting emissions changes were compared to the significance thresholds for NO_x and ROG (ozone precursors) and PM₁₀ contained in the BAAQMD CEQA Guidelines. These thresholds are 80 pounds per day. The BAAQMD CEQA Guidelines assume that if a project's operational emissions fall below the significant emissions thresholds, the emissions would not violate an air quality standard.

Table III-3 shows the changes in bus trips and daily bus miles traveled under the proposed project. The net bus miles traveled increase under the proposed project is 583. Daily emissions from the increased bus service were calculated using the EMFAC2002 on-road mobile source emissions model. This model was developed by the CARB and is approved by the CARB and local air districts for use in calculating vehicle emissions. The generalized emission factors for diesel urban

buses were adjusted downward to reflect the AC Transit fleet.¹ The additional daily emissions resulting from the increased bus miles traveled is shown in Table III-4.

Changes in emissions resulting from the elimination of gas van service were estimated by calculating the estimated gas van miles traveled. The 31 gas vans were estimated to travel about 2758 daily miles, based on an estimated 89 miles of travel per vehicle.² The difference between daily emissions of 31 gas vans and 31 diesel buses was calculated, and is shown in Table III-4. Not included in Table III-4 is the effect of the planned replacement of existing diesel buses with cleaner Van Hool buses. The effect would be to substantially reduce emissions for NOx and PM₁₀.

The net change in daily emissions from the project is also shown in Table III-4, and is compared to the BAAQMD thresholds of significance. While the thresholds of significance were developed for indirect sources (facilities that attract vehicles) these quantitative thresholds are also commonly applied to other types of projects including stationary sources, sources of fugitive emissions, transportation projects and projects that have multiple types of emissions. The project would result in a net decrease in emissions of ROG, as emission rates for this pollutant are greater for gas vehicles than for diesel vehicles. The project would result in a net increase in emissions of NOx and PM₁₀, although the increase would be below the BAAQMD thresholds of significance. Thus the project would not contribute substantially to an existing air quality violation of the ozone or PM₁₀ standards. This impact would be **less than significant**.

The emission change estimates in Table III-4 are conservative (i.e., over-predict impacts) for two reasons:

1. The emission changes from the replacement of gasoline vans with diesel buses reflect the emission rates of the current bus fleet. The project would place in service on affected lines Van Hool buses meeting current emission standards that would emit about 60% less NOx and 50% less PM than the buses being replaced. The emission increases shown in Table III-4 are therefore worst-case, and would be greatly reduced when the new buses are brought into service.
2. No credit for avoided travel has been taken. Expanded bus service can be expected to result in a reduction in automobile travel that would partially offset increased bus emissions. Due to the difficulty of calculating these offsetting decreases in emissions, **they were not**

¹ AC Transit has documented that 2005 fleet-wide emissions rates are 49% and 77% below CARB requirements for NOx and PM, respectively. (www.actransit.org/environment/reducing_emissions.wu)

² Based on 2004 estimated total annual VMT of 22,600,000 and 696 vehicles in fleet.

reflected in the analysis, but their effect would be to reduce project impacts.

Table III-3: Projected Bus Miles Traveled

Corridor/Route	Service Area	Vehicles Assigned per Hour					
		Existing Bus Service	Proposed Bus Service	Net Change	Distance	Service Hours	Bus VMT
Line 52	Berkeley - UC via Cedar Street	2	0	-2	5	3	-30
Line 19	Berkeley - Downtown via Cedar Street	0	2	2	3	9	54
Line 19	Berkeley - N. Berk BART via University	2	0	-2	1.25	6	-15
Line 43	Albany - E.C. BART via Pierce	2	0	-2	2.75	15	-82.5
Line 52L	Albany - E.C. BART via Pierce	0	4	4	2	17	136
Line 76	Richmond - Richmond Parkway Transit Center via Moyers	0	2	2	1	15	30
Line 76	Richmond - Hilltop Mall via Birmingham	2	0	-2	2.25	15	-67.5
Line 71	Richmond - Hilltop Mall via Birmingham	0	2	2	3.25	15	97.5
Line 71	Richmond - Richmond Parkway Transit Center via Giant Hwy	2	0	-2	5.25	15	-157.5
Line 70	Richmond - CC College via Giant Hwy	0	2	2	5.25	15	157.5
Line 70	Richmond - Hilltop Green	2	0	-2	2.5	15	-75
Line 68	Richmond - Arlington Blvd	0	1	1	5.5	15	82.5
Line 376	City of San Pablo	2	0	-2	4.5	6	-54
Line 15	Berkeley - E.C. BART via MLK	2	0	-2	3.5	17	-119
Line 79	Berkeley to Richmond Marina	0	2	2	11	15	330
Line 74	Richmond - Richmond Marina	2	0	-2	4	17	-136
Line 72M	San Pablo/Macdonald Corridor	2	0	-2	15.25	19	-579.5
Line 73	Macdonald Corridor	0	2	2	4.75	19	180.5
Line 72	San Pablo Corridor	2	4	2	17.25	19	655.5
Line 72R	Richmond - Hilltop Mall/Richmond Parkway Transit Center	0	5	5	2.5	14	175
	Net Change in Bus Miles Traveled						582.5
Source: Alameda-Contra Costa Transit District and CHS Consulting Group, 2005.							

Table III-4: Project Emissions Changes, in Pounds Per Day

	ROG	NO_x	PM₁₀
Increased Bus Vehicle Miles	1.7	28.6	0.6
Elimination of Van Service	-16.2	44.2	2.8
Net Change	-14.5	72.8	3.4
BAAQMD Threshold of Significance	80.0	80.0	80.0
Source: <i>Don Ballanti, Certified Consulting Meteorologist, 2005.</i>			

- c. The BAAQMD thresholds of significance are both project and cumulative thresholds. According to BAAQMD guidance, a project that has a significant impact by itself will also have a cumulatively significant impact. As discussed in checklist item “b” above, the project would not have a significant impact on regional air quality and would not have emissions exceeding the quantitative “cumulatively considerable” threshold of significance.

Projects that do not exceed the quantitative “cumulatively considerable” thresholds may still have a cumulative impact if the project is inconsistent with the regional air plan. As stated above under checklist item (a), the project would be consistent with the regional air plan. Therefore, the project’s cumulative impact would be **less than significant**.

- d. In 1998 the California Air Resources Board identified particulate matter from diesel-fueled engines as a toxic air contaminant (TAC). CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines (California Air Resources Board, 2000.). The greatest diesel particulate risks from new development are generally associated with stationary diesel engines and locations where diesel engines are allowed to idle for extended periods. Table III-5 shows that daily emission of diesel particulate is expected to increase by 3.4 pounds per day. This increase, however, would be distributed over a large geographical area, rather than concentrated at any one location.

Nearby sensitive receptors along certain road segments would have increased exposure to diesel particulate. Service changes along some routes could increase daily bus travel by up to 5 per day (some locations would have a reduction in daily buses). Routes where gasoline van service is eliminated will also have an increase in daily diesel bus travel. However, the number of additional diesel vehicles passing a given location would be small. Additionally, diesel particulate emissions have been the subject of AC Transit’s Clean Air Initiatives, which has been estimated to have reduced diesel particulate from the transit fleet by 79.3% between January 1, 2002 and January 1, 2005. Therefore, the impact would be **less than significant**. The proposed project would not include sources associated with potential odor impacts. Therefore, there would be **no impact**.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

Environmental Setting

The following setting information is based on a field survey conducted by a qualified biologist in December 2004, a California Natural Diversity Database (CNDDB) records search (2005) (Appendix A), the California Native Plant Society's (CNPS') *Inventory of Rare and Endangered Plants of California*

Online Edition, v6-05c (2005) (Appendix B), and U.S. Fish and Wildlife Service (USFWS) lists of special-status species for the project region (2005) (Appendix C).

The proposed project is primarily located in northern Alameda and western Contra Costa counties. The proposed project consists primarily of the addition or enhancement of local bus service. Increased bus traffic will occur on existing paved arterials and collector roads, mostly in urban areas, that currently support significant vehicle traffic.

Existing Conditions

The proposed project is primarily located in northern Alameda and western Contra Costa counties. The proposed project consists primarily of the addition or enhancement of local bus service. Increased bus traffic will occur on existing paved arterials and collector roads, mostly in urban areas, that currently support significant vehicle traffic.

Special-Status Species

Special-status species are defined as:

- species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) (Title 50, Code of Federal Regulations [CFR], Section 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register [FR] for proposed species);
- species that are candidates for possible future listing as threatened or endangered under ESA (67 FR 40657, June 13, 2002);
- species that are federal species of concern;
- species that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (Title 14, California Code of Regulations [CCR], Section 670.5);
- plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.);
- plants considered by CNPS to be “rare, threatened, or endangered in California and elsewhere (CNPS List 1B species);”
- species that meet the definitions of “rare” or “endangered” under the State CEQA Guidelines, Section 15380;
- animal species of special concern to DFG (Remsen 1978 [birds], Williams 1986 [mammals], and Jennings and Hayes 1994 [amphibians and reptiles]); and
- animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]).

A discussion of special-status plants and wildlife is provided separately below.

Special-Status Plants. During the field survey, it was determined that none of the 84 special-status plant species that could occur in the region (Appendices A and B) have significant potential to occur in the project area based on existing information and the absence of suitable habitat conditions in the area. Because the project area consists of existing roadways and occurs within mostly developed areas, habitat for special-status plants is not expected to occur in the immediate project area.

Special-Status Wildlife. Based on a review of existing information, including the CNDDDB (2005) and USFWS lists, a total of 71 special-status wildlife species have the potential to occur within Alameda and Contra Costa Counties, including 27 invertebrates, four amphibians, six reptiles, and 34 birds (Appendices A and C). Because the project area consists of existing roadways and occurs within mostly developed areas, habitat for special-status wildlife is not expected to occur in the immediate project area. Although special-status wildlife species habitat may occur adjacent to existing roadways, no ground disturbance or new activities would be initiated in these areas. Therefore, no special-status wildlife species would be affected by the proposed project.

Special-Status Fish. Based on a review of existing information, including the CNDDDB (2004) and USFWS lists, a total of 11 special-status fish species have the potential to occur within Alameda and Contra Costa counties. Although the project area may include existing roadways that cross over waterways containing special-status fish, the proposed project does not involve new construction in or near a waterway and therefore no habitat for special-status fish will be affected by the proposed project

Impact Analysis

- a. The proposed project would increase bus service on existing roadways with significant existing traffic. While special status plant species may occur adjacent to roads within the project area, these occurrences will not be significantly impacted by additional bus traffic. In addition, habitat for special-status wildlife is not expected to occur in the immediate project area. Therefore, the proposed project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. The proposed project would have **no impact**.
- b. No riparian habitat or sensitive natural communities are present near or on the existing roadways that would carry additional bus trips if the proposed project is implemented. The proposed project would have **no impact**.
- c. No federally protected wetlands are present near or on existing roadways that would carry additional bus trips if the proposed project is implemented. The proposed project would have **no impact**.
- d. The proposed project will occur on existing, heavily used roadways and therefore would not create any new barriers to native resident or migratory fish or wildlife species moving through the project region. No known native resident or migratory wildlife corridors or native wildlife nursery sites occur in or adjacent to the project area. Therefore, the proposed project would have **no impact**.
- e. Areas of sensitive biological resources or locally protected trees that may be located along the bus routes are already located adjacent to significant traffic, such that trimming of vegetation or other management for public safety may be necessary. Additional buses on existing adjacent roadways would not result in any additional direct impacts to these resources. would be directly impacted by the proposed project. Therefore, the proposed project does not conflict with any

local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The proposed project would have **no impact**.

- f. No habitat conservation plan or natural community conservation plan cover existing roads and developed areas in the project area. Therefore, the proposed project does not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The proposed project would have **no impact**.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
V. CULTURAL RESOURCES.	Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
d.	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

The proposed project will not impact cultural or paleontological resources because there will be no construction, development, or change in any existing known archaeological or historic resources.

- a. The proposed project does not have the potential to affect historical properties. There will be no construction, no additions to or subtraction from the existing built environment. As discussed in *Section III, "Air Quality"*, pollutants resulting from vehicle emissions associated with new bus routes would be minimal and would not affect historic structures along the route. As discussed in *Section XI - Noise*, changes in vibration from new bus routes and buses will be minimal and well below the standards for building damage -- 2.0 millimeters per second of peak particle velocity (PPV), as described in Caltrans Technical Advisory, Vibration, TAV-02-01-R9601, "Transportation Related Earthborne Vibrations (Caltrans Experiences)," February 20, 2002 -- and would not affect historic structures along the route. Therefore, the proposed project would have **no impact** to historical resources.
- b. Because the proposed project involves no ground disturbing activities, it does not have the potential to cause adverse changes to significant archaeological resources. There will be no ground disturbing activities or physical changes to the environment. Therefore, the proposed project will have **no impact** to archaeological resources.
- c. Because the proposed project involves no ground disturbing activities, it does not have the potential to destroy a unique paleontological resource or site or unique geological feature. There will be no ground disturbing activities or physical

changes to the environment. Therefore, the proposed project will have **no impact** to paleontological resources or unique geological features.

- d. Because the proposed project involves no ground disturbing activities, it does not have the potential to disturb any human remains, either within or outside formal cemeteries. Therefore, the proposed project will have **no impact** to human remains.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
2. Strong seismic groundshaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

Environmental Setting

Existing Conditions

The proposed project is primarily located in northern Alameda and western Contra Costa counties. The project area is located in a region of California characterized by high seismic activity. Many pre-Quaternary, potentially active, and active faults and fault zones are located in an approximate 20-mile radius of the proposed project. The active and potentially active faults and fault zones nearest to the project area are the San Andreas and the Hayward Fault Zones, and the Crosley, Calaveras, Concord, Marsh Creek, and Greenville Faults (Jennings 1994). All of these faults are within Alquist-Priolo Special Studies Zones (Hart and Bryant 1997). Many pre-Quaternary faults and fault zones are located in an approximate 20-mile radius of the project area; however, none of these faults are within Alquist-Priolo Special Studies Zones (Hart and Bryant 1997). The critical earthquake for the project area would originate at either the Hayward Fault Zone or the San Andreas Fault Zone (Association of Bay Area Governments 1998).

Based on a probabilistic seismic hazard map that depicts the peak horizontal ground acceleration values exceeded at a 10% probability in 50 years (Petersen et. al 1996), the probabilistic peak horizontal ground acceleration values for the proposed project area ranges from 0.5 to 0.8g. This indicates that the groundshaking hazard in the project area is medium to high.

Poorly consolidated, water-saturated fine sands and silts located within 50 feet of the surface are typically considered to be the most susceptible to liquefaction. Soils and sediments that are not water saturated and which consist of coarser or finer materials are generally less susceptible to liquefaction (California Division of Mines and Geology 1997). Depth to groundwater in the vicinity of the project area is generally low and the project area is partially underlain by poorly consolidated fine sands and silts (see below). As such, the susceptibility of soils and sediments to liquefaction is medium to high (Association of Bay Area Governments 2001 and 2004; Knudsen et. al 2000).

The general soil maps, as described by the soil surveys of Contra Costa County (Welch 1977) and Alameda County, Western Part (Welch 1980), show the soil associations or map units that cover the project area. In general, most soils are nearly level to strongly sloping, somewhat excessively drained to very poorly drained soils on valley fill, basins, low terraces, floodplains, and alluvial fans.

In the northern portion of the project area, soil associations or map units include the Los Osos-Millsholm-Los Gatos association, the Capay-Sycamore-Brentwood association, the Clear Lake-Cropley association, and the Capay-Rincon association. These soils associations are mostly nearly level clays and clay loams on valley fill. In the southern portion of the I-80 corridor, the dominant soil association or map unit is the Reyes-Urban land map unit. These are nearly level clays on tidal flats and urban land.

Geologic material in the project area is generally artificial fill with areas of alluvium, and older alluvium (Wagner et. al 1990). The ground surface where the project will occur is fully developed with little to moderate gradient. Landslide susceptibility is generally low.

Regulatory Setting

Federal Regulations

There are no federal regulations related to geology and soils that are applicable to the proposed project.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (PRC Sec. 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (Earthquake Fault Zones). It also defines criteria for identifying active faults, giving legal weight to terms such as active, and establishes a process for reviewing building proposals in and adjacent to Earthquake Fault Zones.

Under the Alquist-Priolo Act, faults are zoned and construction along or across them is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the Act as referring to approximately the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Hart and Bryant 1997).

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC Sec. 2690–2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong groundshaking, liquefaction, and seismically-induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: the state is charged with identifying and mapping areas at risk of strong groundshaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones.

Local Regulations

Alameda and Contra Costa Counties, as well as each city in the project area, have general plans that contains policies regarding seismic safety and preparedness. These policies generally state that development should be executed in a way that minimizes risk to people and property due to seismic activity. These policies would also pertain to transportation projects.

Alameda County General Plan

Objectives, principles, and implementation contained in the *Seismic Safety and Safety Elements of the Alameda County General Plan* (Alameda County 1982) that are applicable to the proposed project are as follows:

- **Objective:** To minimize unacceptable risks, personal injury and loss of life associated with environmental hazards.
- **Principle 2.2:** All new development should be designed and constructed to minimize risk due to geologic hazards and seismic hazards.
- **Principle 2.3:** The level of risk from geologic hazards to existing development should be minimized.

Contra Costa County General Plan

Goals, policies, and measures contained in the *Contra Costa County General Plan, 1995–2010* (Contra Costa County 1996) that are applicable to the proposed project are as follows:

- **Seismic Hazard Goal 10-A:** To protect human life and reduce the potential for serious injuries from earthquakes; and to reduce the risks of property losses from seismic disturbances which could have severe economic and social consequences for the County as a whole.
- **Seismic Hazard Goal 10-B:** To reduce to a practical minimum injuries and health risks resulting from the effects of earthquake ground shaking on structures, facilities and utilities.
- **Seismic Hazard Goal 10-C:** To protect persons and property from the life-threatening, structurally and financially disastrous effects of ground rupture and fault creep on active faults, and to reduce structural distress caused by soil and rock weakness due to geologic faults.
- **Seismic Hazard Goal 10-D:** To reduce to a practical minimum the potential for life, loss, injury, and economic loss due to liquefaction-induced ground failure, levee failure, large lateral land movements toward bodies of water, and consequent flooding; and to mitigate the lesser consequences of liquefaction.
- **Faults and Fault Displacement Policy 10-13:** In areas where active or inactive earthquake faults have been identified, the location and/or design of any proposed buildings, facilities, or other development shall be modified to mitigate possible danger from fault rupture or creep.
- **Faults and Fault Displacement Policy 10-14:** Preparation of a geologic report shall be required as a prerequisite before authorization of public capital expenditures or private development projects in areas of known or suspected faulting.

- **Liquefaction Policy 10-19:** To the extent practicable, the construction of critical facilities, structures involving high occupancies, and public facilities shall not be sited in areas identified as having a high liquefaction potential, or in areas underlain by deposits classified as having a high liquefaction potential.
- **Seismic Hazard Implementation Measures 10-d:** Throughout the environmental review process, require geologic, seismic, and/or soils studies as necessary to evaluate proposed development in areas subject to ground shaking, fault displacement, or liquefaction.

Impact Analysis

- a. The project area is located in a region of California characterized by high seismic activity. The project area is subject to significant seismic hazards associated with potentially active or active faults in the general vicinity. A large earthquake on a nearby fault could cause moderate to high ground shaking in the project area, potentially resulting in liquefaction and associated ground failure, such as lateral spreading or differential settlement, in some areas, which could in turn, increase the risk of structural loss, injury, or death. However, the proposed project would cause no change in current conditions with respect to surface rupture or faulting hazards, so it would not create new exposures of people or structures to seismic-related hazards. Furthermore, most of the project area is presently urban land. As such, liquefaction susceptibility is not a significant concern. The proposed project would have **no impact**.
- b. The proposed project would not result in substantial soil erosion or the loss of topsoil because the proposed project does not involve any ground disturbance activities. The proposed project would have **no impact**.
- c. The proposed project includes some routes that may be located on steep slopes in some portions of the project area. These slopes may be prone to seismically-induced and gravitational failures. However, the proposed project would cause no change in current conditions with respect to seismically-induced and gravitational failures. The proposed project would have **no impact**.
- d. Most of the project area is presently urban land. Soil material is mainly heterogeneous, artificial fill, most likely resting on top of the aforementioned soils. Therefore, no firm conclusions can be drawn about severity of erosion hazard or shrink-swell potential. Based on the amount of urban land present in the proposed project area and the fact that the proposed project would cause no change in current conditions with respect to shrink-swell potential of the soils, the proposed project is expected to have a **less than significant impact**.
- e. The proposed project does not include the use of septic tanks or alternative wastewater disposal systems. The proposed project would have **no impact**.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS.	Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	√	
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	√	
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

Environmental Setting

Existing Conditions

The project would be located on roadways within an urban setting. Surrounding land uses include residential, commercial, and industrial. Lands adjacent to the roadways in the project area, such as gas stations and dry cleaners, may be used for hazardous activities. These roadways are occasionally used to transport hazardous materials in trucks, and all vehicles traveling on roadways contain some amount of hazardous materials.

Regulatory Setting

Hazardous material regulations and policies considered relevant to the proposed project are summarized below.

Federal Regulations

The principal federal regulatory agency responsible for the safe use and handling of hazardous materials is the U.S. Environmental Protection Agency (EPA).

Two key federal regulations pertaining to hazardous wastes are the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act. Other applicable federal regulations are contained primarily in Titles 29, 40, and 49 of the Code of Federal Regulations (CFR).

State Regulations

California regulations are equal to or more stringent than federal regulations. EPA has granted the State of California primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human and environmental health. Relevant laws pertaining to hazardous wastes are discussed below.

- **Hazardous Materials Release Response Plans and Inventory Act of 1985.** The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs.
- **Emergency Services Act.** Under the Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an important part of the plan, which is administered by the California Office of Emergency Services. The office coordinates the responses of other agencies, including EPA, the California Highway Patrol (CHP), Regional Water Quality Control Boards (RWQCBs), air quality management districts, and county disaster response offices.

- **27 CCR 21190: CIWMB—Postclosure Land Use.** The purpose of 27 CCR 21190 is to protect public health and safety; prevent damage to structures, roads, utilities, and gas monitoring and control systems; prevent public contact with waste, landfill gas, and leachate; and prevent landfill gas explosions. Specific requirements to meet these objectives are outlined in this section of the CCR.

Local Regulations

The counties of Alameda and Contra Costa, as well as the cities in the project area, all have their own regulations for hazardous materials. Most of the cities' and counties' general plans contain some discussion of hazardous materials, and some of the governments have local hazardous materials management plans.

Impact Analysis

- a. The proposed project does not involve the routine transport, use, or disposal of hazardous materials. The buses that would operate on the proposed routes contain normal vehicle materials, such as gasoline, motor oil, and other engine fluids. However, these materials and fluids are confined to sealed areas within the vehicle. This impact is considered **less than significant**.
- b. The proposed project does not involve any construction, and is therefore not expected to result in upset or accident conditions involving the release of hazardous materials during construction or excavation activities. The project would instead involve the normal risks of accidental hazardous material release (motor oil, gasoline, etc.) associated with motor vehicles. This impact is considered **less than significant**.
- c. Buses associated with the proposed project would travel past a variety of land uses, including existing and proposed schools; however, the proposed project would not involve hazardous emissions. As discussed under Section III, Air Quality, operation of the proposed project would generate a negligible difference in normal bus emissions. Therefore, there would be **no impact**.
- d.–f. The proposed project does not involve construction of any structures or facilities at any one site, and would therefore not create a hazard to the public or the environment by being located on a hazardous materials site, nor would it create a hazard for people residing or working within an airport land use plan or in the vicinity of a private airstrip. There would be **no impact**.
- g. The proposed project would not impair or interfere with adopted emergency response plans or emergency evacuation plans in the project area since the project involves the normal use of established roadways, and would not physically interfere with evacuation routes or other emergency response activities. There would be **no impact**.
- h. The proposed project would occur in a highly developed, urbanized region and would therefore have **no impacts** with respect to wildland areas.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY.					
Would the project:					
a.	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
f.	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
h.	Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
j.	Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>

Environmental Setting

Existing Conditions

Surface Water Features

Numerous creeks, including San Pablo and Wildcat Creeks, are located in the AC Transit service area. These creeks have been substantially altered over the years, primarily to provide flood control for the urbanizing areas. Most of these urban creeks currently flow underground or in culverts, although many reaches are engineered open channels, eventually draining to San Francisco Bay.

Flooding and Drainage

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the project area is mostly located outside of the 100-year flood inundation area. Small portions of the project area are subject to flooding during the 100-year and 500-year storm events; however, only a minimal portion of the bus routes that are part of this project would be located in these areas (Federal Emergency Management Agency 2004).

Surface Water Quality

Clean Water Act (CWA) Section 303(d) establishes the total maximum daily load (TMDL) policy to assist in guiding the application of state water quality standards. This policy requires states to identify streams and water bodies with “impaired” water quality (i.e., affected by the presence of pollutants or contaminants) and to establish a TMDL, or the maximum quantity of a particular contaminant that a water body can assimilate without experiencing adverse effects, for each impairing contaminant. Contaminants from urban runoff/storm sewers, atmospheric deposition, and industrial point sources that currently impair the water quality of San Francisco Bay include chlordane, dichlorodiphenyltrichloroethane (DDT), diazinon, dieldrin, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, mercury in sediment, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and selenium. The San Francisco Bay RWQCB adopted a TMDL and implementation plan to reduce mercury

concentrations in fish from various sources, including automobile deposits carried in urban stormwater runoff (San Francisco Bay Regional Water Quality Control Board 2004). This TMDL outlines a strategy for reduction of mercury through proactive regulation, education and outreach, and research and monitoring.

Hydrogeology

The proposed project is located in the East Bay Plain Subbasin, according to the California Department of Water Resources' (DWR's) *California Groundwater—Bulletin 118, Update 2003*. The East Bay Plain Subbasin is a northwest-trending alluvial plain bounded on the north by San Pablo Bay, on the east by contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Basin. Water levels have varied between 10 and 140 feet since the early 1950s (California Department of Water Resources 2004).

Groundwater Quality

A calcium bicarbonate-type groundwater occurs in the upper 200 feet of the subsurface, while sodium bicarbonate is common from about 200- to 1,000-foot depths. The San Francisco Regional Water Quality Control Board identified 13 distinct locations with major groundwater pollution (California Department of Water Resources 2004). Most of this contamination is from the release of fuels and solvents, and appears to be restricted to the upper 50 feet of the subsurface (California Department of Water Resources 2004).

Regulatory Setting

Federal Regulations

Clean Water Act

The CWA (33 U.S. Government Code 1251–1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Important applicable sections of the act are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 states that for any activity that may result in a discharge to waters of the United States, applicants for federal permits must obtain certification from the state that the discharge will comply with other provisions of the act. Certification in California is provided by the RWQCBs.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCBs, and it is discussed in detail below.
- Section 404 establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (Corps).

Section 303—Total Maximum Daily Load Program

The State of California adopts water quality standards to protect beneficial uses of state waters as required by Section 303 and the state's Porter-Cologne Water Quality Control Act of 1969. Section 303(d) established the TMDL process to guide the application of state water quality standards (see the discussion of state water quality standards below). To identify candidate water bodies for TMDL analysis, a list of water quality-limited streams is generated. These streams are impaired by the presence of pollutants, including sediment, and have no additional assimilative capacity for these pollutants. A discussion of 303(d)-listed water bodies in the project area is provided under "Surface Water Quality," above.

Section 402—National Pollutant Discharge Elimination System Program

The 1972 amendments to the Federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point and non-point sources to waters of the United States (Section 402). The EPA has granted the State of California primacy in administering and enforcing the provisions of CWA and the NPDES permit program. The State Water Resources Control Board (SWRCB) issues both general and individual permits for certain activities. Relevant NPDES permits that apply to the proposed project cover industrial activities, as discussed below.

Various types of industrial activities are covered under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Industrial Activity (General Industrial Permit). These activities include manufacturing operations, transportation facilities where vehicles are maintained (maintenance includes fueling and washing), landfills, hazardous waste sites, and other similar operations. The permit requires that each facility to file a notice of intent with the RWQCB, prepare and implement a storm water pollution prevention plan (SWPPP), and monitor to determine the amount of pollutants leaving the site. The SWPPP does not need to be submitted to the RWQCB, but must be available at each facility.

AC Transit currently maintains coverage under the General Industrial Permit for five facilities in Oakland, Hayward, Emeryville, and Richmond. It currently adheres to the requirements of the permits, including implementation of SWPPPs.

National Flood Insurance Program

Alarmed by increasing costs of disaster relief, Congress passed the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The intent of these acts was to reduce the need for large, publicly funded flood control structures and disaster relief by restricting development on floodplains. FEMA administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the SWRCB and divided the state into nine regional basins regulated by RWQCBs. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, while the RWQCBs are responsible for developing and enforcing water quality objectives and implementation plans. The project area is within the jurisdiction of the San Francisco Bay RWQCB.

The act authorizes SWRCB to enact state policies regarding water quality in accordance with CWA Section 303 and implement CWA Section 402 (the NPDES program). In addition, the act authorizes SWRCB to issue waste discharge requirements for projects that would discharge to state waters, and requires that the SWRCB or RWQCBs adopt water quality control plans (or basin plans) for the protection of water quality.

San Francisco Bay Region Basin Plan

Water quality in streams and aquifers of the region is guided and regulated by the *Water Quality Control Plan for the San Francisco Bay Basin, Region 2* (Basin Plan) (San Francisco Bay Regional Water Quality Control Board 1995). State policy for water quality control is directed at achieving the highest water quality consistent with the maximum benefit to the people of the state. To develop water quality standards consistent with the uses of a water body, the San Francisco Bay RWQCB classifies historical, present, and potential future beneficial uses as part of the Basin Plan.

The Basin Plan identifies the beneficial uses of San Francisco Bay. Beneficial uses of the San Francisco Bay, and basins within the San Francisco Bay RWQCB's jurisdiction that are protected against water quality degradation include domestic, municipal, agricultural, and industrial supply; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. The most sensitive beneficial uses from the standpoint of water quality management are municipal, domestic, and industrial supply; recreation; and uses associated with maintenance of resident and anadromous fisheries. A detailed discussion of beneficial uses and water quality objectives can be found in the Basin Plan (San Francisco Bay Regional Water Quality Control Board 1995).

Local Regulations

Alameda and Contra Costa County Clean Water Programs

To comply with CWA regulations for discharge of pollutants to waters of the United States, a variety of entities in Alameda and Contra Costa Counties have formed the Alameda and Contra Costa County Clean Water Programs, respectively. Both programs have obtained joint municipal NPDES Permits. The permits, issued for a 5-year period, contain a comprehensive plan to reduce the discharge of pollutants to the maximum extent practicable. AC Transit is not included in these municipal NPDES stormwater

permits. AC Transit maintenance activities are covered under the General Industrial Permit, as discussed above.

Impact Analysis

- a. In implementing the proposed project, AC Transit would be required to comply with the CWA including all NPDES permit requirements such as those of the Alameda and Contra Costa County Clean Water Programs. In compliance with the existing General Industrial Permits for AC Transit's maintenance facilities, all vehicles would be maintained to ensure that the potential for leaks of fluid and other discharges is minimized during operational activities. This impact is considered **less than significant**.
- b. The proposed project would not use groundwater as a source or result in new impervious surfaces that could alter groundwater recharge capability. As such, the project will not substantially deplete or interfere with groundwater recharge. There would be **no impact** on groundwater.
- c. The proposed project would not result in any changes to drainage patterns, and would therefore have no potential to result in associated erosion or siltation. There would be **no impact**.
- d. The proposed project would not involve any activities that would cause an increase in the rate or amount of surface runoff, and so would have no potential to result in flooding. There would be **no impact**.
- e. Surface runoff would not be generated by the proposed project. There would be **no impact** on stormwater drainage systems.
- f. The proposed project would phase out its existing fleet of gasoline-powered vans and replace them with 30-foot diesel buses, pursuant to a fleet plan adopted in 2002. In addition, the proposed program would include improvements to existing service within northern Alameda County (within the cities of Berkeley and Albany), a restructuring of the route network in West Contra Costa County (within the cities of San Pablo, Richmond and El Cerrito), and additional service changes as outlined in the proposed West County Service Plan (WCSP). Operation of buses instead of vans, and improvements to existing services could result in a small degree of additional non-point source pollution. However, it is anticipated that the proposed project would result in some corresponding decrease in personal vehicle use, with an offsetting reduction in non-point source pollution from personal vehicles. In addition, AC Transit would maintain its vehicles, according to its NPDES permits, to ensure that the potential for leaks of fluid and other discharges is minimized. This impact is considered **less than significant**.
- g. The proposed project would not involve placement of housing within a flood hazard area. There would be **no impact**.

- h. The proposed project would not place structures within a flood hazard area. There would be **no impact**.
- i. While small portions of the bus routes pass through areas subject to 100-year flooding, bus operations would be suspended in these areas during the 100-year flood event. The proposed project therefore would not affect the risk of damage caused by flooding. There would be **no impact**.
- j. The proposed bus routes would pass through areas that would be subject to impacts from tsunami, seiche, or mudflow events. However, seiche, tsunami, and mudflows are rare events, and the risk of these events is considered low. In addition, the risk posed to AC Transit riders would be similar regardless of the bus route, and would also extend to those not using the AC Transit system. This impact is considered **less than significant**.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
IX. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

Environmental Setting

Existing Conditions

The proposed project is comprised of roadways that travel through two San Francisco Bay Area counties (Alameda and Contra Costa) and eight cities (Hercules, Richmond, San Pablo, El Cerrito, Albany, Berkeley, Emeryville, and Oakland). These cities are generally very urban, and are built out to their city limits.

The roadways travel primarily through built-out urban areas and are typically adjacent to developed land. The roadways pass a variety of land uses, including, but not limited to, commercial, industrial, public, and residential uses. Each city through which the project roadways travel has its own general plan and zoning regulations; as such, land uses adjacent to the roadways possess a wide variety of general plan land use designations and zoning designations.

Regulatory Setting

Federal Regulations

There are no applicable federal regulations relevant to the proposed project.

State Regulations

There are no applicable state regulations relevant to the proposed project.

Local Regulations

Each city within the project area has a general plan that includes goals and policies regarding land use. For the proposed project, the most relevant goals and policies are related to transportation. These goals and policies are listed in Section XV, “*Transportation and Traffic*”.

Impact Analysis

- a. The proposed project does not involve the construction of new roadways or other facilities that could result in the physical division of established communities. The proposed transit service changes would occur on existing roadways, on routes with existing traffic and transit uses. There would be **no impact**.
- b. The proposed project would not affect existing land use or zoning designations, nor would it conflict with applicable general plan goals and policies. There would be **no impact**.
- c. The project roadways do not travel within or adjacent to any habitat conservation plans (HCPs) or natural community conservation plans (NCCPs). There would be **no impact**.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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X. MINERAL RESOURCES. Would the project:

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|---|
| a. | Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | √ |
| b. | Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | √ |

- a. The proposed project is located on existing roadways in primarily in an urbanized area, and the proposed project does not have the potential to result in loss of any known mineral resources. There would be **no impact**.
- b. Because the proposed project is located on existing roadways in primarily in an urbanized area, the proposed project does not have the potential to result in the loss of availability of a locally important mineral resource recovery site. There would be **no impact**.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XI. NOISE.	Would the project:				
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

Environmental Setting

Existing Conditions

Noise Terminology

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted or excessive sound. Sound can vary in intensity by over one million times within the range of human hearing. Therefore, a logarithmic scale, known as the decibel (dB) scale, is used to quantify sound intensity and to compress the scale to a more manageable range.

Sound is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear deemphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has

been developed. On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA.

Using the decibel scale, sound levels from two or more sources cannot be directly added together to determine the overall sound level. Rather, the combination of two sounds at the same level yields an increase of 3 dB. The smallest recognizable change in sound level is approximately 1 dB. A 3-dB increase in the A-weighted sound level is generally considered noticeable, whereas a 5-dB increase is readily noticeable. A 10-dB increase is judged by most people as an approximate doubling of the perceived loudness.

The two primary factors that reduce levels of environmental sounds are increasing the distance between the sound source and the receiver and having intervening obstacles such as walls, buildings, or terrain features that block the direct path between the sound source and the receiver. Factors that act to make environmental sounds louder include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.

Below are brief definitions of the acoustic terminology used in this analysis:

- **Equivalent Sound Level (L_{eq}):** Environmental sound fluctuates constantly. The equivalent sound level (L_{eq}), sometimes referred to as the energy average sound level, is the most common means of characterizing community noise. L_{eq} represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound.
- **Maximum Sound Level (L_{max}):** The maximum sound level is the highest sound level measured during the measurement period on the FAST sound level meter setting.
- **Minimum Sound Level (L_{min}):** The minimum sound level is the lowest sound level measured during the measurement period on the FAST sound level meter setting.
- **L_{xx} :** This is the percent of time a sound level is exceeded during the measurement period. For example, L_{90} is the sound level exceeded 90 percent of the measurement period.
- **Day-Night Sound Level (L_{dn}):** L_{dn} is basically a 24-hour L_{eq} with an adjustment to reflect the greater sensitivity of most people to nighttime noise. The adjustment is a 10-dB penalty for all sound that occurs between the hours of 10 p.m. and 7 a.m. The effect of the penalty is that, when calculating L_{dn} , any event that occurs during the nighttime is equivalent to 10 of the same event during the daytime. L_{dn} is the most common measure of total community noise over a 24-hour period and is used by the Federal Transit Administration (FTA) to evaluate residential noise impacts from proposed transit projects.
- **Community Noise Equivalent Level (CNEL):** CNEL is effectively a 24-hour L_{eq} with adjustments to reflect the greater sensitivity of most people to evening and nighttime noise. The adjustments are a 5-dB penalty for all sounds that occur between 7 p.m. and 10 p.m. and a 10-dB penalty for all sounds from 10 p.m. to 7 a.m. The effect of these penalties is that, in calculating the CNEL, any event that occurs during the evening hours is equivalent to 3 of the same event during the daytime hours and any event during the nighttime is equivalent to 10 daytime events. L_{dn} and CNEL

values rarely differ by more than 1 dB. For the purposes of this analysis, L_{dn} and CNEL are considered equivalent.

Vibration

Vibration is an oscillatory motion that can be described in terms of the displacement, velocity, or acceleration of the motion. The response of humans to vibration is very complex. However, the general consensus is that for the vibration frequencies generated by transit vehicles, human response is best approximated by the vibration velocity level. Therefore, vibration velocity has been used in this study to describe transit-generated vibration levels.

When evaluating human response, ground-borne vibration is usually expressed in terms of decibels using the root mean square (RMS) vibration velocity. RMS is defined as the average of the squared amplitude of the vibration signal. To avoid confusion with sound decibels, the abbreviation VdB is used for vibration decibels. A decibel reference of 1 micro inch/second is used for vibration decibels.

Although there has been relatively little research into human and building response to ground-borne vibration, there is substantial experience with vibration from transit systems. In general, the collective experience indicates that:

- It is rare that ground-borne vibration from transit systems results in building damage, even minor cosmetic damage. The primary consideration therefore is whether vibration will be intrusive to building occupants or will interfere with interior activities or machinery.
- The threshold for human perception is approximately 65 VdB. Vibration levels in the range of 70 to 75 VdB are often noticeable but acceptable. Beyond 80 VdB, vibration levels are often considered unacceptable.

For human annoyance, there is a relationship between the number of daily events and the degree of annoyance caused by ground-borne vibration.

Existing Noise Environment

The proposed project is primarily located in the north Alameda and west Contra Costa counties, which include the cities of Albany, Berkeley, El Cerrito, Richmond, and San Pablo. The project area is primarily urban in nature, with bus route alignments running through various types of land uses, including residential, commercial, and industrial areas.

Noise conditions were characterized from long-term noise measurements performed at representative receptors in the project area. Specifically, noise measurements were taken at five residences for approximately 24 hours between October 18, 2005 and October 20, 2005. Larson Davis Model 824 community noise monitors were used to collect data at all sites. Table XI-1 summarizes the noise measurements. In addition to L_{dn} , the table lists the maximum and minimum hourly noise levels over the measurement period.

Table XI-1. Summary of Short-Term Noise Monitoring

Site	Location	Start Date	Duration (hours)	L _{dn} (dBA)	Max Hourly L _{eq} (dBA)	Min Hourly L _{eq} (dBA)
1443 Hopkins	Near the northeast corner of the intersection of Hopkins Street and Gilman Street.	10/18/05	26	62	65	45
1440 Cedar	South side of Cedar Street, immediately west of Sacramento Street	10/18/05	21	64	65	47
487 Spruce	Uphill direction on Spruce Street between Michigan Avenue and Vassar Avenue	10/18/05	27	58	65	39
248 Trinity	Uphill direction on Trinity Avenue between Kenyon Avenue and Beloit Avenue	10/18/05	25	52	55	37
454 Beloit	Uphill direction on Beloit Avenue between Trinity Avenue and Colgate Avenue	10/18/05	27	52	55	34

Source: *ATS Consulting, 2005.*

Existing noise levels at all five measurements sites was dominated by traffic on local roadways. Other noise sources include typical residential activities and limited overhead aircraft. The measured L_{dn} ranged from a low of 52 dBA at 248 Trinity to a high of 64 dBA at 1440 Cedar. Noise levels were highest at the measurement locations with the greatest traffic volumes. The maximum hourly noise level occurred during the midday or peak traffic periods (i.e. 8 a.m. to 10 p.m. or 4 p.m. to 6 p.m.). The minimum hourly noise levels were during the late night and early morning hours. AC Transit currently operates bus routes on the street segments directly in front of the long-term noise measurements sites. The existing 30-foot Gillig diesel buses will be replaced by new, 30-foot Van Hool buses as part of this project. More information regarding the noise measurement sites and results can be found in the Noise and Vibration Technical Memorandum included in Appendix D.

Environmental noise can generally be characterized by the area's population density, as population density and environmental noise levels tend to be closely correlated. Table XI-2 summarizes typical ambient noise levels based on population density. In comparing Table XI-1 and Table XI-2, noise levels in the project area are generally consistent with normal suburban and normal urban residential areas.

Table XI-2. Population Density and Associated Ambient Noise Levels

	dBA, L_{dn}
Rural	40–50
Suburban	
Quiet suburban residential or small town	45–50
Normal suburban residential	50–55
Urban	
Normal urban residential	60
Noisy urban residential	65
Very noise urban residential	70
Downtown, major metropolis	75–80
Under flight path at major airport, ½ to 1 mile from runway	78–85
Adjoining freeway or near a major airport	80–90
Source: <i>Cowan 1984; Hoover and Keith 1996.</i>	

Noise-Sensitive Land Uses

Noise sensitive land uses generally include residences, schools, libraries, hospitals, and other uses where noise can adversely affect daytime activities or disrupt sleeping. Noise sensitive land uses and non-sensitive uses, such as commercial and industrial, are located along the proposed project routes. The five long-term noise measurement sites are considered typical of the type and degree of noise exposure of sensitive receptors along existing and proposed AC Transit service routes potentially affected by the proposed project.

Regulatory Setting

Federal Regulations

The Federal Transit Administration (FTA) has adopted noise and vibration criteria for federally-funded transportation projects. These criteria were promulgated in the FTA guidance manual, *Transit Noise and Vibration Impact Assessment* (1995). Although the proposed project is not federally funded, potential noise and vibration impacts from operations of the proposed project are assessed using the FTA criteria as they are applicable to this type of transit project.

The FTA noise impact criteria group noise-sensitive land uses into the following three land uses:

- **Category 1** – Buildings or parks where quiet is an essential element of their purpose.
- **Category 2** – Residences and buildings where people normally sleep. This category includes residences, hospitals, and hotels, where nighttime sensitivity is assumed to be of utmost importance.
- **Category 3** – Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, churches, and active parks.

The FTA noise criteria are a sliding scale as shown in Figure XI-1. The existing noise is shown on the horizontal axis and the increase in the total noise exposure as a result of the project is on the vertical axis. The basic concept of the FTA noise impact criteria is that more project noise is allowed in areas where existing noise is higher, but that the decibel increase in total noise exposure (existing noise plus project noise) decreases. For example, if the existing noise exposure is 50 dBA L_{dn} , then an increase of more than 5 dB would result in an impact and an increase of more than 10 dB would result in a severe impact. Note that a “severe impact” is generally considered a significant impact under the California Environmental Quality Act (CEQA). In order to be conservative, the lower “impact” threshold is used in this analysis.

For Category 2 land uses, the outdoor L_{dn} is the noise metric used to assess impact. For other noise-sensitive land uses, such as outdoor amphitheaters and school buildings (Categories 1 and 3), the maximum 1-hour L_{eq} during the facility’s operating period is used. Table XI-3 lists the FTA noise impact criteria based on a sample of existing noise exposure levels.

Table XI-3. Noise Impact Criteria for Category 1 & 2 Land Uses: Effect on Cumulative Noise Levels (L_{dn} , dBA)

Existing Noise Exposure	Allowable Project Noise Exposure	Allowable Combined Total Noise Exposure ¹	Allowable Noise Exposure Increase ²
45	52	53	7.8
50	53	55	5.0
55	55	58	3.2
60	58	62	2.0
65	60	66	1.4
70	64	71	1.0
75	65	75	0.4
Notes: ¹ Combined = Existing + Project Noise Exposure			
² Increase = Combined – Existing Noise Exposure			
Source: <i>Federal Transit Administration, 1995.</i>			

The FTA vibration impact criteria include thresholds for ground-borne vibration and ground-borne noise (i.e., “rumbling” or other noise associated with vibration) and depend on the land use category and the frequency of the vibration events. These criteria are presented in Table XI-4. Special criteria (not shown in Table XI-4) apply to particularly sensitive building types, such as concert halls, TV studios, recording studios, auditoriums, and theaters.

Unlike the FTA noise criteria, the vibration criteria are not based on a sliding scale. However, they do factor in the number of daily events. For relatively infrequent service, which is typical for commuter bus service, the FTA impact thresholds are 8 VdB higher than for frequent service. FTA defines “infrequent” service to be less than 70 events per day.

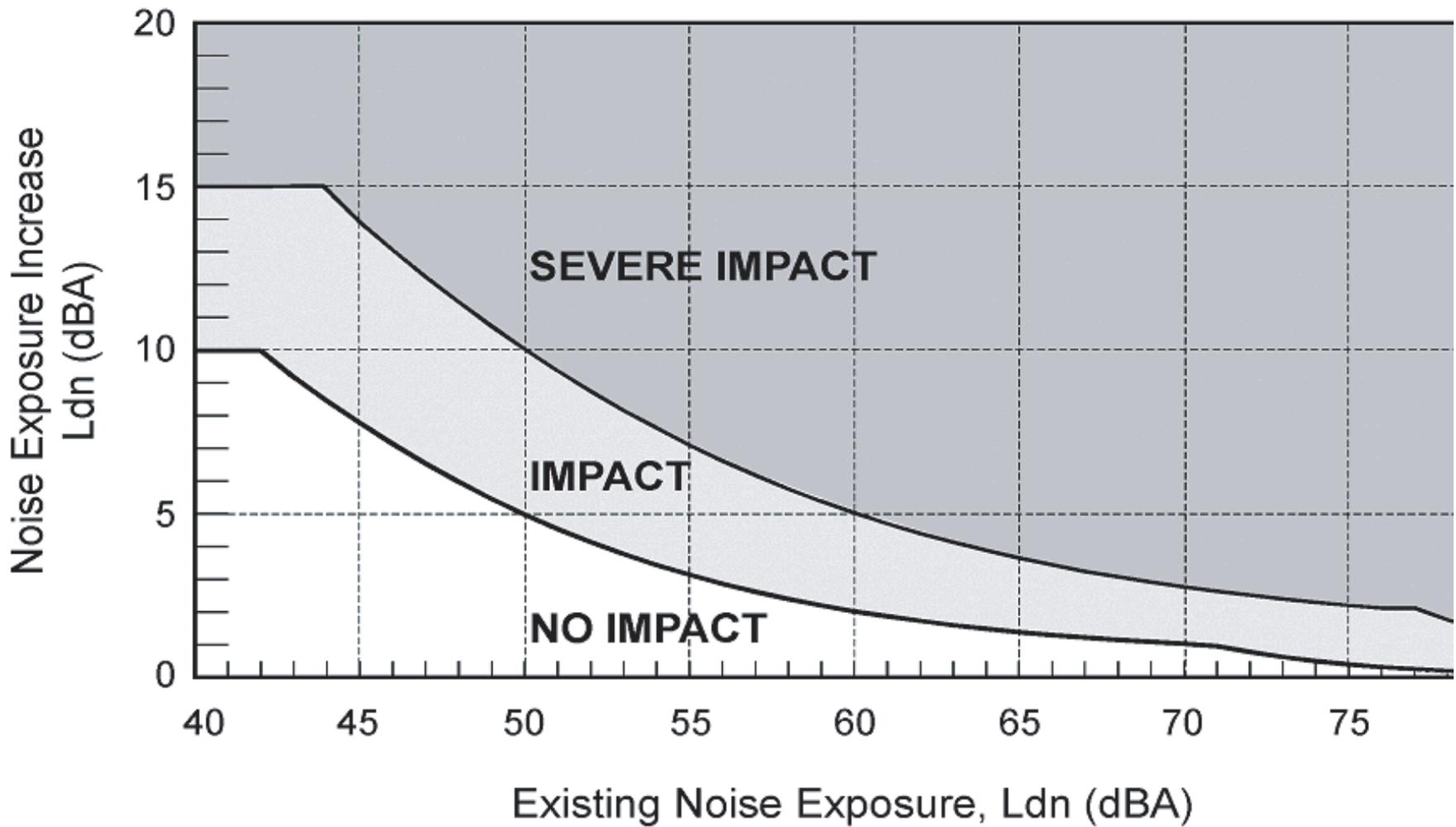


Table XI-4. Ground-Borne Vibration and Noise Impact Criteria

Land Use Category	Ground-Borne Vibration (VdB re 1 micro inch/sec)		Ground-Borne Noise (dB re 20 micro Pascals)	
	Frequent Events ¹	Infrequent Events ²	Frequent Events ¹	Infrequent Events ²
Category 1. Buildings where low ambient vibration is essential to the operations within the building.	65 VdB	65 VdB	-- ³	-- ³
Category 2. Residences and buildings where people normally sleep.	72 VdB	80 VdB	35 dBA	43 dBA
Category 3. Institutional land uses with primarily daytime uses	75 VdB	83 VdB	40 dBA	48 dBA
¹ “Frequent Events” are more than 70 events per day. ² “Infrequent Events” are less than 70 vibration events per day. ³ Vibration-sensitive equipment is not sensitive to ground-borne noise.				
Source: <i>Federal Transit Administration, 1995.</i>				

State Regulations

In California, cities and counties are required to adopt noise elements as part of their general plans. The purpose of a noise element is to establish a land use pattern that minimizes the exposure of residents of the community to excessive noise. The Governor’s Office of Planning and Research has issued land use compatibility guidelines for noise. These guidelines, which are listed in Table XI-5, form the basis for most noise-related land use compatibility standards adopted by cities and counties in California.

Table XI-5. Noise Compatibility Guidelines

Land Use	Community Noise Exposure, CNEL (dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Single Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	> 70
Multi-Family Homes	50 – 65	60 – 70	70 – 75	> 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	> 80
Transient Lodging – Motels and Hotels	50 – 65	60 – 70	70 – 80	> 80
Auditoriums, Concert Halls, Amphitheaters	--	50 – 70	--	> 65
Sports Arena, Outdoor Spectator Sports	--	50 – 70	--	> 70
Playgrounds, Neighborhood Parks	50 – 70	--	67 – 75	> 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 75	--	70 – 80	> 80
Office Buildings, Business and Professional Commercial	50 – 70	67 – 77	> 75	--
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	> 75	--
Source: <i>State of California, Governor’s Office of Planning and Research, 1990; ATS Consulting, 2005.</i>				

Noise generated by motor vehicles including buses is regulated under California Code Section 27204. Depending on the vehicle weight and date of manufacture, the noise limit at 50 feet from the centerline of travel cannot exceed 80 to 88 dBA.

Local General Plans and Codes

Noise generated by motor vehicles including buses is not regulated at the local level but rather is regulated at the state level as described above. Noise limits in local municipal codes or noise ordinances do not apply to buses.

General plan noise compatibility standards for city and county areas in the project area have been reviewed. These standards are consistent with those identified in Table XI-5 and typically apply a compatibility standard of 60 L_{dn} for noise sensitive uses.

Impact Analysis

- a. Potential noise impacts were predicted using the FTA noise impact criteria, the future number of buses per hour, the estimated background noise levels³ at each five sites, and the measured noise from the new Van Hool bus at each site. Table XI-6 summarizes the predicted noise levels at impacts at the representative receiver locations based on L_{dn}. Due to the relatively low number of daily events, the noise contribution from AC Transit service to the predicted L_{dn} is small. At those locations with the highest background noise levels (i.e. Cedar and Hopkins), the addition of bus service has a negligible effect on the predicted noise levels. At the other three locations, the addition of transit service using the new Van Hool bus is predicted to increase the L_{dn} by less than 1 dB, which is well below the FTA impact thresholds. More detailed information regarding the predicted noise levels can be found in the Noise and Vibration Technical Memorandum in Appendix D.

Table XI-6. Summary of Predicted Noise Levels (L_{dn}) and Impacts

Site	L _{dn} , dBA					
	Back-ground ¹	AC Transit	Predicted ²	Increase ³	FTA Threshold ⁴	Impact?
Hopkins	62	35	62	0.0	1.7	No
Cedar	64	36	64	0.0	1.5	No
Spruce	57	42	57	0.1	2.7	No
Trinity	50	37	50	0.2	5.0	No
Beloit	51	35	51	0.1	4.5	No

Notes:
¹ Background = Measured noise level with existing transit service removed from the L_{dn}
² Predicted = Background L_{dn} + AC Transit L_{dn}
³ Increase = Predicted L_{dn} - Background L_{dn}

³ The estimated background noise level is the measured noise level minus the predicted noise from existing AC Transit service using the 30-foot Gillig diesel bus. The impact analysis is a worst-case scenario, treating each representative receiver as if transit service is being introduced for the first time using new Van Hool buses.

⁴ FTA Threshold = maximum allowable increase in L_{dn} caused by project.

Source: *ATS Consulting, 2005.*

Table XI-7 summarizes the predicted noise levels and impacts based on the maximum 1-hour L_{eq} for Category 2 land uses throughout the project area. The increase in noise levels from the introduction or modification of transit service is predicted to be less than 1 dB, which is well below the FTA impact threshold at all locations.

Table XI-7. Summary of Predicted Noise Levels (L_{eq}) and Impacts

Site	L_{eq} , dBA					Impact?
	Back-ground ¹	AC Transit	Predicted ²	Increase ³	FTA Threshold ⁴	
Hopkins	54	38	55	0.1	6.6	No
Cedar	65	39	65	0.0	3.4	No
Spruce	65	45	65	0.0	3.4	No
Trinity	65	52	65	0.2	3.5	No
Beloit	53	40	54	0.2	7.2	No
Notes:						
¹ Background = Measured noise level with existing transit service removed from the peak one-hour L_{eq}						
² Predicted = Background L_{eq} + AC Transit L_{eq}						
³ Increase = Predicted L_{eq} – Background L_{eq}						
⁴ FTA Threshold = maximum allowable increase in L_{eq} caused by project.						
Source: <i>ATS Consulting, 2005</i>						

In summary, operation of the proposed project would not expose persons to or generate noise levels in excess of established standards. The impact is considered **less than significant**.

- b. The potential for improvements to transit service to result in vibration is as an issue of concern to the community. Guidance issued by the FTA indicates that ground-borne noise and vibration impacts resulting from buses are atypical due to the vibration isolation properties of the rubber tires and suspension systems on buses. As indicated in Table XI-4, the residential impact threshold for infrequent events (fewer than 70 events per day) is 80 VdB. FTA guidance is that ground-borne vibration from buses does not exceed 75 VdB as close as 10 feet from a bus (FTA, 1995.)

Potential vibration impacts were analyzed by comparing the measured vibration levels from AC Transit vehicles to the appropriate FTA impact threshold. Vibration measurements were taken outside the same five residences as the noise measurements. Because the FTA vibration criteria are based on interior vibration levels, a conservative amplification factor of 5 VdB has been added to the vibration measurements in order to estimate interior vibration levels. This amplification is based on experience with how levels change when the ground vibration interacts with a building structure. For example, if the exterior vibration level was measured at 60 VdB, the interior levels are estimated to be 65 VdB or less.

The proposed project will generally include less than 70 daily bus passbys at the vibration measurement locations. As a result, the “infrequent” vibration criterion of 80 VdB is applicable for the impact analysis. Table XI-8 is a summary of the predicted interior vibration levels based on the newest AC Transit vehicle. As can be seen, even with the conservative assumption regarding exterior-interior amplification, vibration levels are well below the impact threshold of 80 VdB. In fact, the predicted levels are below the “frequent” event criterion of 72 VdB. More information is included in Appendix D.

Table XI-8. Predicted Vibration Levels and Impacts

Location	Vibration Level, VdB re 1µin/sec				Impact? (Y/N)
	Exterior	Estimated Amplification	Interior	Threshold	
Hopkins ¹	--	--	--	80	N
Cedar	51	+5	56	80	N
Spruce	54	+5	59	80	N
Trinity	64	+5	69	80	N
Beloit	55	+5	60	80	N
Notes:					
¹ Vibration levels were not predicted for Hopkins because the measured levels for the AC Transit buses were less than 50 VdB and were not distinguishable from the background vibration.					
Source: <i>ATS Consulting</i> , 2005.					

Table XI-9 lists the predicted ground-borne noise levels from AC Transit service. These levels were estimated by applying the A-weighted scale to the average vibration frequency spectrum (1/3 octave band, center frequency, Hz) for the Van Hool bus at each of the representative receivers. Even with the +5 dB amplification of the vibration, the predicted ground-borne noise levels are well below the applicable FTA threshold of 43 dBA.

Table XI-9. Predicted Ground-Borne Noise Levels

Location	Ground-Borne Noise Level, dBA	Threshold	Impact?(Y/N)
Hopkins ¹	--	--	N
Cedar	23	43	N
Spruce	22	43	N
Trinity	32	43	N
Beloit	28	43	N
Notes:			
¹ Vibration levels were not predicted for Hopkins because the measured levels for the AC Transit buses were less than 50 VdB and were not distinguishable from the background vibration.			
Source: <i>ATS Consulting</i> , 2005.			

Although vibration levels may be perceptible inside some residences immediately adjacent to the bus service or when potholes form in the streets, no adverse ground-borne vibration or noise impacts from bus passbys are anticipated as a result of the proposed project. This impact is considered **less than significant**.

- c. As discussed above, the increase in noise levels resulting from the introduction or modification of transit service as part of the project is predicted to be less than 1 dB, both in terms of the L_{dn} and the peak hour L_{eq} . As a result, no substantial permanent increase in noise would result from the proposed project. This impact is considered **less than significant**.
- d. As indicated above, operational activities are not anticipated to result in a temporary or periodic increase in noise levels; all operational noise impacts are considered less than significant. Because there is no construction associated with the proposed project there are no project related activities that would result in a temporary noise increase. There would be **no impact**.
- e. The proposed project does not include new noise-sensitive receptors that would be located within an airport land use plan area, or within two miles of a public airport or public use airport. There would be **no impact**.
- f. The proposed project does not include new noise-sensitive receptors that would be located within the vicinity of a private airstrip. There would be **no impact**.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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XII. POPULATION AND HOUSING. Would the project:

- | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|---|
| a. | Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | √ |
| b. | Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | √ |
| c. | Displace a substantial number of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | √ |

- a. The proposed project does not involve any growth-inducing elements, such as new housing or businesses, or other components that could induce growth. There would be **no impact**.
- b. The proposed project does not involve any construction and would therefore not result in the displacement of housing or necessitate the construction of new housing. There would be **no impact**.
- c. The proposed project also does not involve the displacement of people and would not require any construction of replacement housing. There would be **no impact**.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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XIII. PUBLIC SERVICES. Would the project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

a. Cities within Alameda and Contra Costa counties as well as regional departments provide police and fire protection. Similarly, public schools in the region are managed by various school districts that do not necessarily geographically correspond to the cities in which they are located. Park and recreation facilities in the area are operated and maintained by local jurisdictions, such as cities and towns. Portions of the transit routes are adjacent to parks, schools, fire stations, and police stations. However, the proposed project does not involve any growth-inducing elements that could result in population increases that would result in the need for new or physically altered governmental facilities. Therefore, there would be **no impact** resulting from the construction of such facilities.

	Potentially Significant Impact	<i>Less than Significant with Mitigation Incorporated</i>	Less-than-Significant Impact	No Impact
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XIV. RECREATION. Would the project:

a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

a. Portions of the transit routes are adjacent to regional parks, including Point Pinole Regional Shoreline and Eastshore State Park. Neighborhood parks are also located in proximity to the proposed routes. The modified transit service could provide access to these facilities because of the proximity of the routes to the parks. The proposed project consists of improvements to transit service, but not to the extent where these parks would be extensively used by transit riders to the point of physical deterioration. Some of the parks would have no direct transit access, and none of the parks would receive 24-hour transit service. Therefore, this impact would be considered **less than significant**.

b. The proposed project does not include recreational facilities, and the construction or expansion of recreational facilities is not required as a result of the proposed project. There would be **no impact**.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC. Would the project:				
a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
b. Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	√	√
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√

Environmental Setting

Existing Conditions

Study Area

The study area for the transportation/traffic assessment consists of northern Alameda and western Contra Costa counties, where the proposed transit service improvements are located. This area can be generally described as including the Interstate 80 (I-80) corridor between the city of San Pablo and the San Francisco-Oakland Bay Bridge (Bay Bridge), the Interstate 880 (I-880)

corridor between Oakland and I-80, and the Interstate 580 (I-580) corridor between San Pablo and Oakland.

Physical Setting

This section describes the transportation services and infrastructure that are present in the project area.

Bus Transit

AC Transit provides three major types of bus service:

- **Transbay Service** – 27 routes provide service between the Oakland metropolitan area and downtown San Francisco via the Oakland Bay Bridge, and Foster City and San Mateo via the San Mateo Bridge. The majority of service is provided during the AM and PM peak commute periods.
- **Local Service** – 74 routes provide local transit service within and between the cities and unincorporated county within the transit district. Night Owl service is also provided on several routes between 12:45AM and 5:00AM, typically at about 60-minute headways.
- **School Service** – 62 routes provide service to and from schools within the transit district. Service hours coincide with the start and end times of local schools.

Golden Gate Transit provides daily bus service within Marin, Sonoma, San Francisco and Contra Costa counties. Golden Gate Ferry provides daily ferry service between Larkspur or Sausalito (Marin County) and San Francisco. Two transbay routes that use the Richmond-San Rafael Bridge operate within the project study area. Route 40 serves the El Cerrito Del Norte BART Station, areas within the city of Richmond, and serves San Quentin Prison and areas within the city of San Rafael. Route 42 operates from the El Cerrito Del Norte BART Station to the Richmond BART Station, and serves San Quentin and San Rafael.

The Western Contra Costa Transit Authority (WestCAT) provides local, regional and express public transportation service. WestCAT offers eleven local fixed routes. Other services include:

- express bus service in the I-80 corridor between the Hercules Transit Center and the El Cerrito del Norte BART Station;
- transbay service between Rodeo/Hercules to the Transbay Terminal in San Francisco;
- curb-to-curb Dial-A-Ride paratransit throughout the WestCAT service area;
- regional Martinez Link (30Z) service between El Cerrito del Norte BART and Martinez;
- and special transportation for seniors/disabled passengers traveling into Richmond and San Pablo areas.

In addition, within its local service area, WestCAT provides transit connections with AC Transit, BART, The County Connection (Central Contra Costa County Transit District), Golden Gate Transit, and Vallejo Transit. Connections to the San Francisco Municipal Railway (MUNI) and the San Mateo County Transit District (Samtrans) are provided in downtown San Francisco.

Service and routing improvements are proposed for 13 local AC Transit routes and two Golden Gate Transit routes. Service that is currently provided by these routes is summarized in Table XV-1.

Table XV-1. Existing Service for Local and Golden Gate Transit Bus Routes Affected by the Proposed Project

Route	Service Area	Trips Per Weekday ⁽¹⁾	Approximate Headway (Minutes) ⁽¹⁾
15	From Albany to Piedmont	Eastbound: 60 Westbound: 61	30 30
19	From Berkley to Fruitvale	Eastbound: 32 Westbound: 32	30 30
43	From Albany to San Leandro	Northbound: 69 Southbound: 65	15 15
52	From Albany to Berkeley	Northbound: 6 Southbound: 6	30 ⁽²⁾
52L	From Albany to Berkeley	Northbound: 46 Southbound: 45	15 15
70	From El Sobrante to Richmond	Northbound: 32 Southbound: 33	30 30
71	From San Pablo to Albany	Northbound: 31 Southbound: 28	30 30
72	From San Pablo to Oakland	Northbound: 36 Southbound: 53	30 30
72R	From San Pablo to Oakland	Northbound: 66 Southbound: 66	12 12
72M	From San Pablo to Oakland	Northbound: 54 Southbound: 36	30 30
74	From San Pablo to Richmond	Northbound: 31 Southbound: 31	30 30
76	From San Pablo to Richmond	Eastbound: 30 Westbound: 30	30 30
376	From San Pablo to Richmond	Clockwise: 11 Counterclockwise: 11	30 30
40	From Richmond to San Rafael	Eastbound: 9 Westbound: 8	30/60 (3) 50/45
42	From Richmond to San Rafael	Eastbound: 24 Westbound: 26	30 30/60
Notes:			
1. Numbers of trips and frequencies are based on AC Transit Website.			
2. During AM peak hour, there is only one trip for line 52 running northbound.			
3. 30/60 is AM frequency/PM Frequency.			
Source: www.actransit.org and www.transitinfo.org , 2005.			

Rail Transit

The San Francisco Bay Area Rapid Transit District (BART) provides commuter rail transit service throughout the Bay Area. The project area is served by two of the five BART lines.

- Red line: Richmond – San Francisco International Airport (SFO)/Millbrae
- Orange line: Fremont – Richmond

Roadway System

The East Bay is served by a network of freeway, arterial, and local access roadways. Table XV-2 summarizes the major freeways that serve the area and their average daily traffic (ADT) volumes.

Table XV-2. Freeways in the Project Study Area

Freeway	Location	Existing ADT (vehicles/day)
I-80	Albany, I-580 Junction and Buchanan Street	190,000
	Oakland-San Francisco Bay Bridge Toll Plaza	286,000
I-580	Albany, north of I-580/I-80 junction	96,000
	Oakland, Oakland Avenue/Harrison Street	201,000
I-880	Oakland, 7th Street	108,000
Source: <i>California Department of Transportation, 2005.</i>		

Level of service (LOS) is the primary unit of measure for stating the operating quality of a roadway facility. LOS is calculated by comparing the actual number of vehicles using a roadway to its carrying capacity. In general, LOS is measured by the ratio of traffic volume to capacity (V/C) or by the average delay experienced by vehicles on the facility. The quality of traffic operation is graded into one of six LOS designations: A, B, C, D, E, or F. LOS A represents the best range of operating conditions and LOS F represents the worst. (TRB 2000)

Table XV-3. Signalized Intersection Level of Service Definitions, Based on Delay

Level of Service	Control Delay (sec/veh)	Typical Traffic Condition
A	≤ 10	Insignificant Delays: Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
B	> 10 - 20	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	> 20 - 35	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	> 35 - 55	Tolerable Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high 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	> 55 - 80	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	> 80	Excessive Delays: Considered to be unacceptable to most drivers. Often occurs with over-saturation, 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: <i>Highway Capacity Manual 2000</i> , Transportation Research Board, National Research Council, Washington, D.C. 2000.		

Each jurisdiction establishes standards for acceptable LOS for the roadway facilities under its authority. Any segment of roadway that operates at LOS that is below the standard is considered to be deficient in the roadway system. Both Contra Costa County and Alameda Counties have adopted a standard of LOS E for area roadways, and highways that are part of the regional system have a standard of LOS D (Contra Costa County Congestion Management Program 2003 and Alameda County Congestion Management Program 2004)

Table XV-4 summarizes locations in the study area that have been designated by Alameda and/or Contra Costa counties as the area's most congested roadways, all shown to operate at LOS F during the AM and/or PM peak periods.

Table XV-4. Locations Operating at LOS F in the Project Study Area

Location	Operates at LOS F	
	AM peak period	PM peak period
NORTH ALAMEDA COUNTY		
I-80, at east end of Bay Bridge	X	X
I-80, north of I-580 junction		X
I-580, east of I-880 junction		X
WEST CONTRA COSTA COUNTY		
I-80, SR 4 to San Pablo Dam	X	
I-80, San Pablo Dam to Cutting Blvd.		
I-80, Cutting Blvd. to Alameda County line		
I-580, south of Richmond-San Rafael Bdg.		
Source: <i>Contra Costa County CMA Congestion Management Program, 2003; Alameda County CMA Congestion Management Program, 2004.</i>		

Air Travel

Air travel in the Bay Area is facilitated through the San Francisco International Airport, located across the Bay in southeast San Francisco and the Oakland International Airport, located in Oakland, just south of the city of Alameda.

Regulatory Setting

Federal Regulations

The proposed project does not include federal funding to provide the service improvements outlined in the SDP and WCSP. However, AC Transit is the recipient of federal funds from the FTA for operating assistance. As such, AC Transit is required to report compliance with Title VI of the Civil Rights Act of 1964, which states that no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance from the FTA. More specifically, AC Transit must demonstrate that transit services provided by the district are provided in an equitable manner.

The proposed project would include service improvements and route restructuring, as well as changes in the fleet located within the cities of Berkeley and Albany in Northern Alameda County, and in the cities of El Cerrito, Richmond, and San Pablo in West Contra Costa County. These proposed transit improvements in northern Alameda and western Contra Costa County traverse census tracts in Hercules, Pinole, San Pablo, Richmond, El Cerrito, Albany, Berkeley, and Emeryville, using I-80 and local streets in Hercules, El Cerrito, Albany, Berkeley, and Emeryville.

An analysis of AC Transit's compliance with the requirements of Title VI is included in Appendix E to this IS/ND.

State and Regional Regulations

Traffic analysis in California is guided by standards set at the state level by Caltrans, and by local jurisdictions. State highways fall under the jurisdiction of Caltrans. Other roadways fall under the local jurisdiction, either city or county, in which they are located. In urbanized counties, a designated congestion management agency is responsible for implementing the Traffic Congestion Relief and Spending Limit Act (Proposition 111) to assist in the land use decision-making process and to address transportation and air quality impacts in the county. As the congestion management agency for Alameda County, the Alameda County Congestion Management Agency is responsible for preparing and implementing the Alameda County Congestion Management Program. In Contra Costa County, the Contra Costa Transportation Authority serves the same function.

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating and financing agency for the nine-county San Francisco Bay Area, which includes the project study area. MTC functions as both the state designated regional transportation planning agency, and federally designated metropolitan planning organization (MPO) for the region. As such, it is responsible for the Regional Transportation Plan, a comprehensive plan for the development of mass transit, highway, airport, seaport, railroad, bicycle and pedestrian facilities. The Commission also screens requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan. (MTC 2005)

The MTC adopted *Transportation 2030* (Metropolitan Transportation Commission 2005) in February 2005. The plan specifies a detailed set of investments and strategies throughout the region from 2005 through 2030 to maintain, manage and improve the surface transportation. Updated every three years to reflect new planning priorities and changing projections of growth and travel demand, the long-range plan must be based on a realistic forecast of future revenues. Taken as a whole, the projects included must help improve regional air quality.

Local Regulations

Alameda Countywide Transportation Plan

The *Alameda County Transportation Plan 2004* defines a vision by which the transportation system:

- Provides safe and convenient access to jobs and services
- Ensures efficient movement of freight, and
- Contributes to the conservation of natural resources and the preservation of environmental heritage for the use of future generations

The transportation plan presents goals and priorities to achieve this vision, according to the following categories:

- Improve mobility
- Increase transit access and transit use
- Improve air quality
- Enhance economic vitality
- Enhance operational efficiency
- Coordinate transportation and land use policy

These goals are consistent with the vision of *Transportation 2030*.

Contra Costa County General Plan

The *Contra Costa County General Plan, 2005–2020* (Contra Costa County 2005) includes the following goals and policies that are relevant to the proposed project:

- **Goal 5-A:** To provide a safe, efficient and balanced transportation system.
- **Goal 5-B:** To coordinate the provision of streets, roads, transit and trails with other jurisdictions.
- **Goal 5-C:** To balance transportation and circulation needs with the desired character of the community.
- **Goal 5-D:** To maintain and improve air quality standards.
- **Goal 5-E:** To permit development only in locations of the County where appropriate traffic level of service standards are ensured.
- **Goal 5-F:** To reduce cumulative regional traffic impacts of development through participation in cooperative, multi-jurisdictional planning processes and forums.
- **Goal 5-G:** To provide access to new development while minimizing conflict between circulation facilities and land uses.
- **Goal 5-H:** To ensure the mutual compatibility of major transportation facilities with adjacent land uses.
- **Goal 5-I:** To encourage use of transit.
- **Goal 5-J:** To reduce single-occupant auto commuting.
- **Goal 5-K:** To provide basic mobility to all sectors of the public including the elderly, disabled, and transit dependent.
- **Policy 5-21:** All efforts to use alternative transportation systems to reduce peak period traffic congestion shall be encouraged.
- **Policy 5-22:** Use of alternative forms of transportation, especially transit, shall be encouraged in order to provide necessary services to transit-dependent persons and to help minimize automobile congestion and air pollution.
- **Policy 5-23:** Improvement of public transit shall be encouraged to provide for increase use of local, commuter and intercity public transportation.

City of Albany General Plan

The city of Albany General Plan includes the following policies that are relevant to the proposed project:

- **Circulation 4.1:** Monitor existing and proposed transit service for responsiveness to residential and employers' needs.
- **Circulation 4.3:** Continue to work with the City's Trip Reduction Ordinance and continue to develop programs and incentives for the use of carpools, staggered work hours, bicycling, walking and the increased use of public transit for residents and employees in the community.

City of Berkeley General Plan

The city of Berkeley General Plan includes the following policies that are relevant to the proposed project:

- **Public Transportation Policy T-1: Regional Transit Policy.** Advocate for regional coordinated transit services and regional transportation policy to reduce automobile use and increase funding for public and alternative transportation improvements.
- **Public Transportation Policy T-2: Public Transportation Improvements.** Encourage regional and local efforts to maintain and enhance public transportation services and seek additional regional funding for public and alternative transportation improvements.
- **Public Transportation Policy T-4: Transit First Policy.** Give priority to alternative transportation and transit over single occupancy vehicles on Transit Routes identified on the Transit Network map.
- **Public Transportation Policy T-10: Trip Reduction.** To reduce automobile traffic and congestion and increase transit use and alternative modes in Berkeley, support and when appropriate, require programs to encourage Berkeley citizens and commuters to reduce automobile trips, such as programs to encourage neighborhood-level initiatives to reduce traffic by encouraging residents to combine trips, carpool, telecommute, reduce the number of cars owned, shop locally, and use alternative modes.

City of El Cerrito General Plan

The city of El Cerrito General Plan includes the following policies that are relevant to the proposed project:

- **Circulation Policy (a):** Public transportation such as that provided by AC Transit should be increased, both in level and diversity of service.

City of Emeryville General Plan

The city of Emeryville General Plan includes the following policies that are relevant to the proposed project:

- **Transit Policy 1:** The City will cooperate with AC Transit to promote expanded service and new passenger amenities in Emeryville. It will explore the extent of financial subsidy necessary, if any, to warrant such improvements.
- **Transit Policy 2:** The City, in the formulation of a Transportation Systems Management (TSM) program shall place emphasis on public transit alternatives to private passenger vehicles.

City of Oakland General Plan

The city of Oakland General Plan includes the following policies that are relevant to the proposed project:

- **Policy T3.1:** Defining Transportation Hierarchies. The City should define a hierarchical network of public transit corridors.
- **Policy T3.6:** Encouraging Transit. The City should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated “transit streets” as shown on the Transportation Plan.
- **Policy T4.2:** Creating Transportation Incentives. Through cooperation with other agencies, the City should create incentives to encourage travelers to use alternative transportation options.
- **Policy T4.3:** Reducing Transit Waiting Lines. The City should encourage transit operators to reduce waiting times for users by coordinating schedules and maintaining intervals of fifteen (15) minutes or less between buses during peak daytime periods.
- **Policy T5.5:** Encouraging Element Implementation by Outside Agencies. The City should encourage all outside transportation agencies and operators, including Caltrans, the Railroads, AC Transit, BART, and the Port of Oakland, to proactively implement Oakland’s General Plan.
- **Policy W.2.7:** Encouraging Public Transportation. Public Transportation to the waterfront should be encouraged, coordinated, and strategically located. Waterfront transportation should be marketed to enhance ease of access both locally and regionally.

City of Richmond General Plan

The city of Richmond General Plan includes the following policies that are relevant to the proposed project:

- **Policy CIR-C.2:** Promote the use of alternatives to the single-occupant automobile to satisfy community transportation needs.
- **Policy CIR-C.9:** Encourage transit providers to coordinate schedules in order to reduce time in multi-modal transfers.

- **Policy CIR-D.7:** Actively work with non-rail transit providers, such as AC Transit, WestCAT and County Connection to strongly encourage the annexation of, or service to, areas within Richmond's sphere of influence.

City of San Pablo General Plan

The city of San Pablo General Plan includes the following policies that are relevant to the proposed project:

- **Land Use Policy LU 2.1:** Alternative Transportation Design. For all existing and new development, the City shall encourage alternative modes of transportation to the automobile through site design features and land use relationships.
- **Land Use Policy LU 2.4:** AC Transit. As part of the public transportation efforts in the region, the City shall continue to work with AC Transit in terms of the identification of operating times, frequency, appropriate routes and types of vehicles use to service each.
- **Circulation Policy CF 1.14:** Public Transit Providers. Coordinate with public transit providers (specifically AC Transit) to maintain a level of service that is safe and efficient with convenient connections to high use and activity intersections within the City of San Pablo. Ensure the maintenance of quality bus stops and shelters; the availability and publicity of local transit information; and the land use and design standards which establish provisions that enhance public transit use.

Impact Analysis

- a. Table XV-5 summarizes the approximate headways of the AC Transit and Golden Gate bus routes that would be affected by the proposed plan. The table shows that the service frequency of all buses ranges from 12 minutes to 30 minutes. This translates to an increase of approximately 2 to 5 additional buses on each segment due to rerouting or new service. An increase of 2 to 5 buses on any particular segment is not expected to negatively impact traffic. As illustrated in Table XV-6, there would be an expected increase of only 528.5 daily vehicle-miles-traveled for the proposed project.

Routes or route segments with reduced service under the proposed project would result in a net decrease in traffic volumes and reduced automobile trips by attracting additional passengers to use transit who would otherwise drive. The impact of the Proposed Project on traffic volumes would be **less than significant**, and would also be considered to be a beneficial impact.

- b. The proposed project, as noted previously, would cause an increase of approximately 2 to 5 additional buses on the streets with bus routes. This increase is not expected to cause any LOS standards to be exceeded. The impact would be **less than significant**.

- c. The proposed modification of transit service will not result in any increases in air traffic; nor will it have any effect on air traffic patterns or flight paths. There would be **no impact**.
- d. Changes in design elements may occur due to the rerouting of bus routes or the extension of existing bus services. All segments of routes proposed for rerouting would be rerouted to roadways that already have existing bus service running, except for on proposed Route 79. The proposed service Route 79 would add bus service to a local street segment from Central Avenue to Marina Bay Parkway along I-580, Bayview Avenue, Meade Street, and Regatta Boulevard. Based on the roadway dimensions and characteristics of these streets, it is anticipated that there would not be any traffic hazard caused by limited sight distance, sharp curves, or steep grades in this segment. The discontinuation of routes or segments of routes also would not contribute to traffic safety hazards. The impact for this item is considered to be **less than significant**.
- e. The proposed modification of transit service is expected to add a relatively small number of buses to the transportation system, and will very likely result in a net decrease in vehicular traffic (as discussed above). There would be **no impact** on emergency access as a result of the proposed project.
- f. Increasing transit service provides an alternative to driving automobiles and therefore is expected to lead to decreased parking demand. Thus, the proposed project is expected to result either in no increase or a very slight decrease in parking demand. Implementation of the proposed project is not expected to require the removal of any parking spaces, though it is possible that additional bus stops may need to be installed and that if there are parking spaces in these locations, there may be some displacements. However, these would be relatively minor in scale compared to the amount of parking capacity within the study area, and is not expected to result in a significant impact. The impact on parking would be **less than significant**.
- g. Locally adopted transportation plans were reviewed to identify programs and policies that relate to alternative transportation. If any project elements result in a conflict with identified programs and policies, the impact is considered significant. The proposed project would have no negative long-term impact on alternative transportation, and in fact supports transit policies specified in the County plans and the Metropolitan Transportation Commission *Transportation 2030 Plan*, all of which place significant focus on support and enhancement of area transit services. There would be **no impact**.

Table XV-5. Proposed Service for Local Bus Routes

Route	Segment/Location with Service Plan	Existing		Proposed	
		Trips Per Weekday (1)	Approx Headway (minutes)	Service Plan	Approx Headway (minutes) (2)
15	Between Berkley BART Station and El Cerrito BART Plaza Station	Eastbound: 60 Westbound: 61	30	Discontinue the segment. Replaced with new service line 79.	30
19	Between Berkley BART Station and Unversity Ave/San Pable Ave Intersection	Eastbound: 32 Westbound: 32	30	Reroute University Ave to Cedar Ave and Shattuck Ave. Terminate the service to North Berkley BART Station.	30
43	#1. Intersection at San Pablo Ave/Buchanan St #2. Segment north of Jackson Street	Northbound: 69 Southbound: 65	30	#1. Rerouted to pass the intersection and turn back via Monro St, Gooding Way, Jackson St and Buchanan St. #2. Discontinue the segment. Replaced with extended service line 52L.	30
52	The entire route	Northbound: 6 Southbound: 6	30	Discontinue the service. Replaced with the existing line 52L from Monro Street to San Pablo Avenue at Cedar Street and the rerouted line 19 on Cedar Street to Berkley BART station.	30
52L	From University Village to El Cerrito BART Station	Northbound: 46 Southbound: 45	15	Add service to El Cerrito BART Station.	15
68	Between Richmond BART Station and El Cerrito del Norte BART	-	-	New Service.	30
70	#1. Between Richmond Parkway Transit Center and Contra Costa College Transit Center #2. Between from Richmond Parkway Transit Center and Hilltop Green Area	Northbound: 32 Southbound: 33	30	#1. Add service to the segment along Richmond Parkway, Atlas Road, Giant Highway and Broadway Avenue. #2. Discontinue the segment Replaced with supplemental school service.	30
71	Between Richmond Parkway Transit Center and Contra Costa College	Northbound: 31 Southbound: 28	30	Replace the segment along Richmond Parkway and Giant Highway with the extended route of line 70. Reroute the	30

Table XV-5. Proposed Service for Local Bus Routes

Route	Segment/Location with Service Plan	Existing		Proposed	
		Trips Per Weekday (1)	Approx Headway (minutes)	Service Plan	Approx Headway (minutes) (2)
				existing segment to the segment along Robert H. Miller Dr. passing Hilltop Mall.	
71	Between Richmond Parkway Transit Center and Contra Costa College	Northbound: 31 Southbound: 28	30	Replace the segment along Richmond Parkway and Giant Highway with the extended route of line 70. Reroute the existing segment to the segment along Robert H. Miller Dr. passing Hilltop Mall.	30
72	Between Contra Costa College and Richmond Parkway Transit Center	Northbound: 36 Southbound: 53	30	Add service to this segment along San Pablo Ave and Richmond Parkway.	15
72R	Between Contra Costa College and Richmond Parkway Transit Center	Northbound: 66 Southbound: 66	12	Add service to this segment along San Pablo Ave and Robert H. Miller Dr.	12
72M	Between Point Richmond and Oakland	Northbound: 54 Southbound: 36	30	Discontinue the service. Serviced by new line 73 from Richmond BART station to El Cerrito De Norte BART station and by line 72 along San Pablo Avenue from MacDonald Avenue to Oakland AMTRAK station.	-
73	From El Cerrito del Norte to Point Richmond via MacDonald	-	-	New Service.	30
74	From S.23rd St to Harbour Way	Northbound: 31 Southbound: 31	30	Discontinue the segment. Replaced with new service line 79.	-
76	#1. Between Hilltop Mall and Richmond Parkway Transit Center #2. Between Contra Costa College and Hilltop Mall via Birmingham	Eastbound: 30 Westbound: 30	30	#1. Add service to this segment along Kose Way and Blume Dr. #2. Discontinue the segment Replaced with rerouted service line 71.	

Table XV-5. Proposed Service for Local Bus Routes

Route	Segment/Location with Service Plan	Existing		Proposed	
		Trips Per Weekday (1)	Approx Headway (minutes)	Service Plan	Approx Headway (minutes) (2)
	and Shane Drives				
79	Between Richmond BART Station and Downtown Berkley along 23 rd Ave, Regatta Blvd, Colusa Ave and Martin Luther King Jr. Dr.	-	-	New Service.	30
376	Between Richmond BART Station and Contra Costa College	Clockwise: 11 Counterclockwise: 11	30	Discontinue the segment. Replaced with existing line 74 from Richmond BART Station to Rheem Avenue/23th Avenue, and existing line 70 from Rheem Avenue/23th Avenue to San Pablo Dam Road/I-80. No replacing service from San Pablo Dam Road/I-80 to El Portal Drive/Church Lane.	30
Golden Gate 40	Between El Cerrito del Norte BART Station and Richmond BART Station	Eastbound: 9 Westbound: 8	30/60 (2) 50/45	Reroute from Cutting Blvd to MacDonald Ave. Replaced with existing service of line 76.	30/60 50/45
Golden Gate 42	Between El Cerrito del Norte BART Station and Richmond BART Station	Eastbound: 24 Westbound: 26	30 30/60	Reroute from Cutting Blvd to MacDonald Ave. Replaced with existing service of line 76.	30 30/60
Source: Alameda-Contra Costa Transit District, 2005.					

Table XV-6. Proposed Daily Vehicle Mile Traveled

Route	Service Area	Operating Headway (minutes)		Distance (miles)	Service Hours	Daily Vehicle-Mile Traveled
		Existing Service	Proposed Service			
15	Berkeley - E.C. BART via MLK	30	None	3.5	17	-119
19	Berkeley - Downtown via Cedar Street	None	30	3	9	54
19	Berkeley - N. Berk BART via University	30	None	1.25	6	-15
43	Albany - E.C. BART via Pierce	30	None	2.75	15	-82.5
52	Berkeley - UC via Cedar Street	30	None	5	3	-30
52L	Albany - E.C. BART via Pierce	None	15	2	17	136
68	Richmond - Arlington Blvd	None	60	5.5	15	82.5
70	Richmond - CC College via Giant Hwy	None	30	5.25	15	157.5
70	Richmond - Hilltop Green	30	None	2.5	15	-75
71	Richmond - Hilltop Mall via Birmingham	None	30	3.25	15	97.5
71	Richmond - Richmond Parkway Transit Center via Giant Hwy	30	None	5.25	15	-157.5
72	San Pablo Corridor	30	15	17.25	19	655.5
72R	Richmond - Hilltop Mall/Richmond Parkway Transit Center	None	12	2.5	14	175
72M	San Pablo/Macdonald Corridor	30	None	15.25	19	-579.5
73	Macdonald Corridor	None	30	4.75	19	180.5
74	Richmond - Richmond Marina	30	None	4	17	-136
76	Richmond - Richmond Parkway Transit Center via Moyers	None	30	1	15	30
76	Richmond - Hilltop Mall via Birmingham	30	None	2.25	15	-67.5
79	Berkeley to Richmond Marina	None	30	11	15	330
376	City of San Pablo	30	None	4.5	6	-54
40	Richmond – Cutting Boulevard	30	None	2.25	19	-27
42	Richmond – Cutting Boulevard	30	None	2.25	19	-27
Total Daily Vehicle Miles Traveled						528.5
Source: CHS Consulting Group, 2005.						

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS.	Would the project:				
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
a.	The proposed project does not involve any construction. No wastewater would be generated as a result of the proposed project, and no wastewater treatment requirements would be exceed. There would be no impact .				
b.	Because there is no construction involved with the proposed project, and no wastewater would be generated, no expansion or construction of new wastewater treatment facilities would be required as a result of the proposed project. There would be no impact .				

- c. The project would therefore not result in the need for additional water supply or sewer services or modifications to existing water or sewer systems. The project would also not generate any solid waste or require modifications to existing stormwater drainage systems. There would be **no impact**.
- d. The proposed project does not require existing, new or expanded entitlements for water supply. There would be **no impact**.
- e. Because the proposed project would not generate wastewater, there would be **no impact** to the capacity of wastewater treatment providers.
- f. The proposed project will not generate solid waste, and therefore will not affect the capacity of local landfills. There would be **no impact**.
- g. Because the proposed project would generate solid waste, compliance with federal, state and local statutes and regulations related to solid waste is not required. There would be **no impact**.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVII. MANDATORY SIGNIFICANCE	FINDINGS OF				
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
b.	Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	√
a.	The proposed project does not have the potential to degrade the quality of the environment. Habitat for special-status wildlife is not expected to occur in the immediate project area. Special status plant species may occur adjacent to roadways within the project area, but they will not be significantly affected by additional bus traffic, and no plant or animal communities will be eliminated or reduced. No impacts to historical resources would occur. There would be no impact .				
b.	The proposed project does not result in any potentially significant impacts. Therefore, there are no cumulatively considerable impacts .				
c.	Because the proposed project does not have any potentially significant impacts, there are no environmental effects that will cause substantial adverse direct or indirect effects on human beings. There would be no impact .				