

FINDINGS

Final Environmental Impact Report for the 2017 Contra Costa Countywide Comprehensive Transportation Plan

SECTION 1. SUMMARY OF FINDINGS. At a session assembled on September 20, 2017, the Contra Costa Transportation Authority (“CCTA” or the “Authority”) determined that, based on all of the evidence presented, including but not limited to the Final Environmental Impact Report (“EIR”), written and oral testimony given at meetings and hearings, and the submission of testimony from the public, organizations, and regulatory agencies, the following environmental impacts associated with the 2017 Countywide Comprehensive Transportation Plan (“2017 CTP or the “Project”) are either: (1) less than significant and do not require mitigation; or (2) potentially significant but will be avoided or reduced to a level of insignificance through the identified Mitigation Measures; or (3) significant and cannot be fully mitigated to a level of less than significant but will be substantially lessened to the extent feasible by the identified Mitigation Measures.

SECTION 2. FINDINGS REGARDING LESS THAN SIGNIFICANT IMPACTS NOT REQUIRING MITIGATION. Consistent with Public Resources Code section 21002.1 and section 15128 of the State CEQA Guidelines, the EIR focused its analysis on potentially significant impacts, and limited discussion of other impacts for which it can be seen with certainty there is no potential for significant adverse environmental impacts. State CEQA Guidelines section 15091 does not require specific findings to address environmental effects that an EIR identifies as “no impact” or a “less than significant” impact. Nevertheless, the Authority hereby finds that the Project would have either no impact or a less than significant impact to the following resource areas:

A. Transportation & Circulation

1. Vehicle Miles Traveled per Capita

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in an appreciable increase in per capita vehicle miles traveled (VMT) when compared with the baseline condition? (An appreciable increase in per capita VMT is defined as greater than 5 percent.)

Finding: Less than significant impact. (Draft EIR, p. 2-1-15.)

Explanation:

2017 CTP

Expected countywide population and employment growth will increase travel demand throughout Contra Costa and the rest of the Bay Area region. The resulting increase in VMT will thus be a product of an increased population and job base, the relative distance of each vehicle trip (primarily a function of the distance between home and work), and individual choices regarding model of travel (i.e., the percent increase in drive-alone vehicles). The VMT per capita

metric separates out the variable related to population increase. The distance between home and work, or other travel distances, is a function of land use. In this analysis, the land use assumptions for future conditions are “fixed,” based on forecasts from ABAG’s *Projections 2013* and the land use assumption of *Plan Bay Area*. Thus, the VMT/capita metric provides a telling measure of transportation mode choice.

According to a White Paper from the National Center for Sustainable Transportation, the factors that affect travel behavior (or vehicle mode choice) are complex and include:

- economic activity,
- gas prices,
- urban form,
- change in socioeconomic trends and generational effects,
- expanding availability of travel options (including electronic alternatives to travel), and
- the way travelers perceive and evaluate each of these factors.

The 2017 CTP influences only a portion of one of these factors—the availability of travel options. As a result, the 2017 CTP does not have an individually significant effect on increase or decreases in per capita VMT, as indicated in the analysis of the Investment Program and the comparative analysis of alternatives. Implementation of the 2017 CTP would not result in an appreciable (i.e., more than 5 percent) increase in per capita VMT as compared with the baseline, and this impact would be less than significant.

Investment Program

The 2017 CTP Investment Program is projected to result in an increase in total VMT from approximately 22 million vehicle miles in 2013 to approximately 28 million vehicle miles in 2040, or a 28% increase in total VMT. The 28% increase in VMT is almost identical to the 28% increase in population expected to occur within this same timeframe. The metric of VMT per capita is also quite similar as a result, from the baseline 2013 metric of 21.0 VMT per capita to the projected year 2040 metric of 21.2 VMT per capita (Table 2.1-4 in Draft EIR). The slight increase in VMT per capita of less than 1% is likely a function of the underlying focused-growth land use strategy inherent in ABAG’s *Projections 2013/Plan Bay Area*, and the slightly greater investments in freeway and roadway project (30.3% of total investments) as compared with transit project investments. Because implementation of the Investment Program would not result in an appreciable increase in per capita VMT as compared with baseline conditions, potential impacts are considered less than significant.

For informational purposes only, when compared with a No Project 2040 scenario (with no additional investment in transportation or transit project other than those that have already been approved and funded), the increase in total VMT is nearly identical to the 2017 CTP, and the VMT per capita is slightly lower (at 21.2 VMT per capita). This comparison indicates that the relative balance in investments between freeway and roadway projects, and transit projects as proposed under the Investment Program does not differentiate between these mode choices substantially enough to modify overall travel behavior. Other social and economic factors, such as those described above, are therefore more likely to influence VMT per capita than are

transportation investment pursuant to the Investment Program. (Draft EIR, pp. 2.1-19 through 21.)

2. Non-Single Occupant Vehicle Mode Share

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP appreciably decrease average speeds on freeways or on expressways or major arterials within Contra Costa County as compared with baseline conditions? (An appreciable decrease in average speeds is defined as greater than 5 percent.)

Finding: Less than significant impact. (Draft EIR, pp. 2.1-24 and 25.)

Explanation:

2017 CTP

Total vehicular travel in Contra Costa will increase substantially from 2013 to 2040. Freeways and major arterials are the components of the roadway system designed to carry high traffic volumes, typically at higher speeds than would be desirable on local streets. Because of the increase in overall demand for vehicular travel, average speeds on these categories of roadways are expected to decline. In 2013, the average freeway speed was 55.6 miles per hour (mph) and the average arterial speed was 34.2 mph. By 2040, those speeds are expected to decrease.

The reduced travel speeds reflect the effects of increased roadway demand, worsening congestion, and the limited capacity of the future transportation infrastructure. This decrease in average speeds would occur despite the addition of projects that increase roadway capacity and/or that shift travel to non-roadway modes pursuant to the 2017 CTP. However, because implementation of the 2017 CTP would not result in an appreciable decrease in average speeds on Contra Costa roadways, these impacts are considered less than significant.

Investment Program

Under the 2017 CTP Investment Program, freeways and arterial streets throughout the County are expected to experience a slight decrease in average speeds (a decrease of 2.7% for freeways and 2.3% for arterials) when compared with the 2013 baseline condition, as indicated in Table 2.1-6 in the Draft EIR. This decrease in average speeds would not be considered appreciable (i.e., would be less than a 5 percent decrease).

For informational purposes only, when compared with the No Project scenario, implementation of the Investment Program would result in an increase in average speeds (an increase of 4.8% for freeways and 0.3% for arterials), reflecting increased capacity resulting from roadway investments, such as additional HOV lanes and improvements to interchanges. Although average speeds on Contra Costa roadways are projected to decrease over time due to increased congestion, the decrease in average speeds that are projected to result with

implementation of the Investment Program would not be appreciable and these impacts are considered less than significant. (Draft EIR, pp. 2.1-24 and 25.)

3. Non-Single Occupant Vehicle Mode Share

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in an appreciable decrease in mode shares for transit, HOV, or other non-single occupant vehicle (SOV) modes as compared with the baseline condition? (An appreciable decrease in mode shares is defined as greater than 5 percent.)

Finding: Less than significant impact. (Draft EIR, pp. 2.1-25 and 26.)

Explanation:

2017 CTP

Mode share is an aggregate metric commonly used to discern the efficiency and connectivity of the transit, carpool, bike, and pedestrian networks. New transportation projects pursuant to the 2017 CTP would result in an overall increase in mode shares for transit, HOV, or other non-SOV modes as compared with the baseline condition, reflecting the emphasis on increasing travel choices. The 2017 CTP also emphasizes project and programs to improve the frequency and availability of transit services throughout Contra Costa. Because implementation of the 2017 CTP would not result in an appreciable decrease in mode shares for transit, HOV, or other non-SOV modes as compared with the baseline condition, potential impacts are considered less than significant.

For informational purposes, when compared with the No Project (2040) condition, the 2017 CTP would result in a slight overall increase in mode shares for transit, HOV, or other non-SOV modes. The No Project (2040) condition assumes transit expansion programs that have already been approved will become operational, which would help increase the shift in mode shares to a degree. The addition of the 2017 CTP to this future condition would further increase the mode shares for transit, HOV, or other non-SOV modes due in part to the increased transportation options made available pursuant to the 2017 CTP and its Investment Program, as well as the effects of congestion, which could make driving alone a less attractive option.

Investment Program

Under the 2017 CTP Investment Program, proposed transportation projects and new or expanded transit projects would result in a projected decrease in the percentage of countywide drive-alone trips, from a baseline of 59% to a 2040 estimate of just under 58%. The Investment Program is also projected to result in an overall increase in mode shares for transit, HOV, or other non-SOV modes when compared with the baseline condition, as indicated in Table 2.1-7 in the Draft EIR. Because Investment Program projects pursuant to the 2017 CTP would not result in an appreciable decrease in mode shares for transit, HOV, or other non-SOV modes as compared with the baseline condition, but rather would result in an increase in non-SOV modes, potential impacts are considered less than significant. (Draft EIR, pp. 2.1-25 and 26.)

4. Transit Ridership

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in an appreciable decrease in transit ridership as compared with the baseline condition? (An appreciable decrease in transit ridership is defined as greater than 5 percent.)

Finding: Less than significant impact. (Draft EIR, pp. 2.1-26 and 27.)

Explanation:

2017 CTP

The number of persons using transit for their daily travel is a metric of the desirability of transit as a travel mode. Daily transit ridership is estimated to be 101,000 total transit trips in 2013, comprising approximately 3% of all trip modes. (Table 2.1-8 in Draft EIR, p. 2.1-26.) New transportation projects and programs pursuant to the 2017 CTP would result in a substantial increase in transit ridership as compared with the baseline condition, reflecting an emphasis on increased travel choices and improving the frequency and availability of transit services throughout Contra Costa. Because implementation of the 2017 CTP would not result in an appreciable decrease in transit ridership as compared with the baseline condition, this impact is considered less than significant.

Investment Program

Under the 2017 CTP Investment Program, proposed new and expanded transit projects and programs would result in a substantial increase in daily transit ridership when compared with the baseline condition, as indicated in Table 2.1-8 in the Draft EIR. Because projects and programs pursuant to the Investment Program would not result in an appreciable decrease in transit ridership as compared with the baseline condition, this impact is considered less than significant. (Draft EIR, pp. 2.1-26 and 27.)

B. Greenhouse Gas Emissions and Climate Change

1. Vehicle GHG Emission Reductions, per SB 375

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP impede the Bay Area's ability to reduce per capita passenger vehicle and light duty truck CO₂ emissions by seven percent by 2020, or by 15 percent by 2035 as compared to 2005 baseline, per SB 375?

Finding: Less than significant impact. (Draft EIR, pp. 2.2-17 through 21.)

Explanation: *Plan Bay Area* is the region's first RTP to include a Sustainable Communities Strategy ("SCS"), and it integrates regional land use projections from ABAG's *Projections 2013* and the concurrent RTP. The growth projections and assumptions included

Plan Bay Area are derived from ABAG's *Projections 2013*, and as included in the *Plan Bay Area EIR* (2013, and as amended in 2014). These projections forecast Contra Costa's population to grow from 1.05 million people in 2010, to 1.34 million people by 2040, representing a 28 percent increase in population. These projections also forecast the number of jobs in Contra Costa to increase by 36 percent, and the number of employed residents to rise by 30 percent over the same period.

The Preferred Transportation Investment Strategy of transportation projects and programs include in *Plan Bay Area* serve as the RTP for the Bay Region (the *2013 RTP*). The *2013 RTP* includes a subset of transportation project and programs submitted by CCTA to MTC, and that were ultimately identified and prioritized for funding in *Plan Bay Area*, and included in the *2013 RTP*.

Together, Contra Costa's portion of regional growth projection as presented in *Plan Bay Area*, combined with the prioritized transportation projects and programs for Contra Costa identified in *Plan Bay Area* represent the County's relative "share" of *Plan Bay Area's* overall regional SCS. *Plan Bay Area* has been demonstrated to achieve the GHG reduction goals established through SB 375 (i.e., a 7% reduction in per capita GHG emissions from transportation sources by 2020, and a 15% reduction in emissions from transportation sources by 2040). As such, any 2017 CTP investment strategy that is able to achieve similar or greater GHG emission reductions as compared to Contra Costa's share of GHG emissions as derived from *Plan Bay Area* would be, by definition, consistent with *Plan Bay Area* and thus capable of achieving the GHG reduction goals of SB 375.

For purposes of comparison, this EIR has developed a future scenario (the 2013 RTP Scenario) that specifically represents Contra Costa's portion of projected growth and development as forecast in *Projections 2013*, and Contra Costa's portion of planned transportation projects and programs as included in the most recent adopted RTP (the *2013 RTP*). This projected growth and development within Contra Costa, and these transportation projects and programs to be implemented in Contra Costa County, are expressly and specifically included in the overall Project Description for the *Plan Bay Area EIR* (as amended in 2014). As such, this scenario represents Contra Costa's share of forecast growth and projected transportation projects, as anticipated for the region and as analyzed in the *Plan Bay Area EIR*.

The 2013 RTP Scenario represents Contra Costa's portion of future year (2040) Bay Area land use forecasts as indicated in ABAG's *Projections 2013* and as analyzed in *Plan Bay Area EIR*, as well as Contra Costa's share of assumed transportation system improvements as provided for under MTC's 2013 RTP and as also analyzed in *Plan Bay Area EIR*.

This analysis focuses on CO₂ emissions related to the operation of passenger vehicles and light duty trucks. Emission estimates are considered conservative because they are presented without accounting for reductions in mobile source emissions that would be expected to result from ongoing implementation of Pavley 1 and LCFS. Per SB 375, this impact assessment does not include the emissions reductions from these legislative requirements. However, application of Pavley fuel efficiency standards and LCFS are anticipated to reduce GHG emission levels even further.

As indicated in Table 2.2-6 of the Draft EIR, the total daily CO₂ emissions from cars and light duty trucks throughout the Bay Area is expected to increase by approximately 11,000 tons per day between 2005 and 2040. Per capita daily emissions are projected to decline over that same timeframe, from 20.5 pounds per capita per day in 2005 to 16.8 pounds per day per capita in 2040. This represents an 18% decline over this 35-year period. The *Plan Bay Area* EIR found that this rate of decline in per capita passenger vehicle emissions was consistent with SB 375's target of a 7% reduction by 2020 and a 15% reduction by 2035, as compared with the 2005 regional baseline. The *Plan Bay Area* EIR attributed this decline in per capita daily CO₂ emissions to numerous factors, most importantly the integrated land use and transportation elements within *Plan Bay Area*, in which the land use pattern focuses growth in higher-density locations near transit services. This compact approach to the Bay Area's regional growth pattern allows efficient use of existing transportation infrastructure.

In comparison, the population of Contra Costa and the associated total daily CO₂ emissions from cars and light duty trucks pursuant to the 2013 RTP Scenario is also expected to increase by 2040, but generally at a faster pace than the overall Bay Area. Data for per capita emissions in Contra Costa in 2005 is not available, but emissions pursuant to the 2013 RTP Scenario are projected to be approximately 18.2 pounds per day per capita in 2040. This rate of daily per capita emissions in year 2040 represents Contra Costa's portion of the Bay Area's regional per capita emissions as projected in the *Plan Bay Area* EIR.

The 2013 RTP Scenario would not impede the Bay Area region from being able to meet SB 375's emission reduction targets (i.e., would have a less than significant impact) based upon the following:

- The transportation improvements included in the 2013 RTP Scenario represent those same transportation system improvements anticipated to be implemented in Contra Costa pursuant to *Plan Bay Area*.
- Similarly, the land use projections assumed for Contra Costa as derived from ABAG's Projections 2013 and used in the *Plan Bay Area* EIR are the same land use projections assumed under the 2013 RTP Scenario.
- The *Plan Bay Area* EIR concluded that future land use development and transportation system improvements that are consistent with those called for under *Plan Bay Area* (2013) would result in even greater emission reductions than targeted by SB 375 for the years 2020 and 2035. The 2013 RTP Scenario represents Contra Costa's portion of future land use development and transportation system improvements, consistent with those called for under *Plan Bay Area*.
- Contra Costa's year 2040 CO₂ emissions represent the county's share of all regional CO₂ emissions throughout the Bay Area as projected for the year 2040. The *Plan Bay Area* EIR found that these Contra Costa emissions, aggregated with emissions from the other eight counties that represent the Bay Area region, would meet SB 375's targeted reductions for per capita car and light duty truck emissions.

Thus, the per capita CO₂ emissions from passenger vehicles and light duty trucks pursuant to the 2013 RTP Scenario are, by definition, consistent with SB 375's reduction targets. Because implementation of the 2013 RTP Scenario would result in a decrease in per capita car

and light duty truck CO₂ emissions that exceed the SB 375 target, these impacts would be considered less than significant.

Investment Program

Based on the same rationale that the 2013 RTP Scenario represents Contra Costa's proportional share of GHG emissions, any other transportation investment option that would result in the same or less per capita CO₂ emissions would similarly be consistent with SB375's reduction targets.

As shown in Table 2.2-7 of the Draft EIR, transportation projects and new or expanded transit projects pursuant to the Investment Program could cause Contra Costa to exceed the county's share of regional emissions as presented in the *Plan Bay Area* EIR. Since the *Plan Bay Area* EIR found a total regional decrease in per capita car and light duty truck CO₂ emissions that exceeded the SB 375 targets, the additional Contra Costa emissions could likely still be accommodated within these target limits.

However, individual projects pursuant to the Investment Program could exceed the county's share of the Bay Area's per capita emissions by approximately 1%. As show in Table 2.2-7, the county's projected total GHG emissions represent approximately 15% of all Bay Area regional emissions. Therefore, the 1% increase in per capita passenger car and light duty truck emissions from individual projects pursuant to the Investment Program represents only 1% of 15% (or approximately 0.15%) of all regional CO₂ emissions.

This minor increase in GHG emissions from individual projects pursuant to the Investment Program would not impede the Bay Area's ability to reduce per capita passenger vehicle and light duty truck CO₂ emissions by 7 percent by 2020, or by 15 percent by 2035 as compared to the regional 2005 baseline. Because individual Investment Program projects pursuant to the 2017 CTP would not substantially impede the Bay Area's ability to reduce per capita passenger vehicle and light duty truck CO₂ emissions, these impacts are considered less than significant. (Draft EIR, pp. 2.2-17 through 21.)

2. Direct GHG Emissions by 2040

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in a net increase in direct transportation related GHG emissions by 2040 when compared with the baseline condition?

Finding: Less than significant impact. (Draft EIR, pp. 2.2-21 and 22.)

Explanation:

2017 CTP

Implementation of the 2017 CTP is expected to occur within a context that would result in an overall decrease in transportation-related GHG emissions, when considering implementation of Pavley regulations. Overall, the growing number of residents and jobs in the

county would be expected to result in an increase in total direct on-road transportation GHG emissions if no further emission standards were put in place. When taking into account implementation of Pavley regulations over the life of the 2017 CTP, overall transportation-related GHG emissions are expected to decline as compared with existing (2013) emission estimates. While GHG emissions from larger trucks and other heavy vehicles do continue to increase over time, these modes make lesser contributions to overall on-road GHG emissions in comparison to cars and light-duty trucks. Since overall transportation-related GHG emissions are expected to decline, impacts would be less than significant. Because implementation of the 2017 CTP would contribute to a decrease in overall GHG emissions (from baseline condition to 2040), impacts are considered less than significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects are expected to result in an increase in direct GHG emissions if no further standards were to be put in place. As shown in Table 2.2-8 of the Draft EIR, however, overall transportation-related GHG emissions attributed to the Investment Program are expected to decline by 34 percent as compared to existing (2013) emissions with implementation of Pavley regulations taken into account. While GHG emissions from larger trucks and other heavy vehicles do continue to increase over time, these modes make a lesser contribution to overall on-road GHG emissions in comparison to cars and light-duty trucks. Given the substantial decrease in direct GHG emissions, overall impacts would be less than significant. (Draft EIR, pp. 2.2-21 and 22.)

3. Impede GHG Attainment Goals: EO S-3-05 and EO B-16-2012

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP substantially impede attainment of goals set forth in Executive Order S-3-05 and Executive Order B-16-2012?

Finding: Less than significant impact. (Draft EIR, pp. 2.2-24 and 25.)

Explanation:

2017 CTP

This assessment evaluates the likelihood of new transportation projects pursuant to the 2017 CTP to impede implementation of Executive Orders S-3-05 and B-16-2012, which both identify GHG reduction targets for 2050 (80 percent reduction as compared to 1990 levels for overall GHG emissions and transportation sector emissions, respectively). Because these orders target a point in time that is 10 years beyond that analyzed in this EIR, this assessment evaluates consistency by identifying whether or not implementation of transportation projects pursuant to the 2017 CTP is likely to impede attainment of the identified Orders. This analysis is based on a continued rate of GHG emission reduction benefits over time resulting from similarly effective regulations and regional plans anticipated to be identified through State and local processes. This

analysis looks at the trajectory of per capita car and light duty truck CO₂ emissions into the future (2050).

The timeframe for achieving the goals of Executive Orders S-3-05 and B-16-2012 are more than 30 years into the future. Innovations in technology and science are expected, as well as a continued market shift towards zero emission vehicles. According to CARB's Scoping Plan, new technologies and strategies will be necessary to achieve the long-term goal: "Reducing our greenhouse gas emissions by 80 percent will require California to develop new technologies that dramatically reduce dependence on fossil fuels, and shift into a landscape of new ideas, clean energy, and green technology." It is reasonable to determine that the downward trajectories represent a reasonable expectation that Contra Costa (like the rest of the Bay Area) is more likely than not to achieve the Executive Orders' goals, and that implementation of the 2017 CTP is not likely to impede achievement of these goals.

Modeling tools currently available are not able predict emission levels by year 2050 for a variety of reasons, but an anticipated overall downward trajectory beyond 2040 indicates that implementation of the CTP would not impede achievement of GHG reduction goals of these Executive Orders. Because implementation of the 2017 CTP would not substantially impede attainment of the goals of Executive Orders S-3-05 and B-16-2012, these impacts are considered less than significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects would not likely impede implementation of Executive Orders S-3-05 and B-16-2012. Figure 2.2-1 in the Draft EIR shows per capita car and light duty truck CO₂ emissions, and a trend line identifying the trajectory through 2050. Without Pavley and LCFS, emissions are expected to continue on an upward trajectory through 2040 and beyond, as indicated by the upper line in the graph. Combined with a 15% reduction in per capita VMT and with Pavley and LCFS, emissions by 2040 are expected to decline to within one million metric tons/year of CO₂ equivalents when compared with the 2050 goal. Additional reductions could be achieved with a 15 percent reduction in VMT per capita by 2050, and a 58 percent zero emissions fleet penetration. Through accelerated deployment of clean vehicles with CTP, the advanced GHG reductions trajectory, shown as the lower line on the graph, could be achieved. It is reasonable to determine that the downward trajectories shown in Figure 2.2-1 represent a reasonable expectation that Contra Costa (like the rest of the Bay Area) is more likely than not to achieve the Executive Orders' goals.

Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the 2017 CTP would impede achievement of GHG reduction goals of these Executive Orders. Because the overall downward trajectory beyond 2040 (as shown in Figure 2.2-1) indicates that implementation of individual Investment Program projects pursuant to the 2017 CTP would not impede achievement of GHG reduction goals of these Executive Orders, these impacts are considered less than significant. (Draft EIR, pp. 2.2-24 and 25.)

4. Conflicts with GHG Reduction Policies

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP substantially conflict with any other applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Finding: Less than significant impact. (Draft EIR, p. 2.2-26.)

Explanation:

2017 CTP

The Regulatory Setting describes the plans, policies, and regulations relevant to the 2017 CTP that are related to the reduction of GHG emissions. New transportation projects pursuant to the 2017 CTP would not result in conflicts with any applicable plan, policy, or regulation adopted with the intent to reduce GHG emissions, including the GHG reduction goals of SB 375, AB 32, or Executive Order S-3-05 and Executive Order B-16-2012.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects would not result in conflicts with applicable plans, policies, or regulations adopted with the intent to reduce GHG emissions, including the GHG reduction goals of SB 375, AB 32, or Executive Order S-3-05 and Executive Order B-16-2012. Projects included in the Investment Program include a set of transportation investment strategies that prioritizes certain roadway capacity improvements, and that would result in slightly higher countywide projections of VMT and higher per capita VMT than baseline condition, generating greater GHG emissions from passenger vehicles and other on-road sources. However, the comparative increase in GHG emissions is not so significant as to result in a conflict with applicable plans, policies and regulation adopted with the intent to reduce GHG emissions. Because individual Investment Program projects pursuant to the 2017 CTP would not substantially conflict with any other applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs, these impacts are considered less than significant. (Draft EIR, p. 2.2-26.)

C. Air Quality

1. Consistency with the Clean Air Plan

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP conflict with or obstruct implementation of the applicable air quality plan (2017 Clean Air Plan), including its primary goals or implementation of any control measures?

Finding: Less than significant impact. (Draft EIR, pp. 2.3-12 through 18; Final EIR, Chapter 7, pp. 7-5 through 7.9.)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP are generally consistent with those primary goals of the *Bay Area 2017 Clean Air Plan* to attain air quality standards, and to protect public health. As further demonstrated by the anticipated reductions in air quality emissions over time as assessed in the discussions below, the 2017 CTP supports implementation of applicable control measures to reduce emission levels of criteria pollutants, particulate matter, and Toxic Air Contaminants (TACs). As demonstrated in Draft EIR Chapter 2.1, Transportation and Circulation, implementation of the 2017 CTP would result in improvements in all relevant transportation parameters as compared to the 2040 No Project scenario, including reductions in total daily VMT, reductions in total vehicle hours of delay, increases in average speeds, and increases in non-single occupant vehicles and transit ridership. Improvements pursuant to the 2017 CTP would lead to overall reduced emissions contributing to improved air quality and protection of public health.

Several of the 2017 Clean Air Plan control measures are not specifically addressed and/or are not directly applicable to the 2017 CTP because they are not within the CCTA's jurisdictional boundaries to facilitate or implement, including:

- TR15 – Public Outreach and Education: Implement the Spare the Air Every Day Campaign including Spare the Air alerts, employer program, and community resource teams, a plug-in electric vehicle (PEV) Outreach campaign and the Spare the Air Youth Program
- TR12 - Smart Driving: Implement smart driving programs with businesses, public agencies and possibly schools, and fund smart driving projects.
- TR13 – Parking Policies: Encourage parking policies and programs in local plans (e.g., reduce minimum parking requirements; limit the supply of off-street parking in transit-oriented areas; unbundle the price of parking spaces; support implementation of demand-based pricing (such as “SF Park”) in high-traffic areas.
- TR11 – Value-Pricing: Implement and/or consider various value-pricing strategies.
- TCM E-3: Implement Transportation Pricing Reform: Develop and implement policies to ensure that user costs to own and operate motor vehicles reflect the full environmental and social costs related to vehicle use.
- TR10 - Land Use Strategies: Support implementation of Plan Bay Area, maintain and disseminate information on current climate action plans and other local best practices, and collaborate with regional partners to identify innovative funding mechanisms to help local governments address air quality and climate change in their general plans.

Because implementation of the 2017 CTP would support implementation of applicable control measures to reduce emission levels of criteria pollutants, particulate matter, and TACs, impacts are considered less than significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects are generally consistent with those primary goals of the *Bay Area 2017 Clean Air Plan* to attain air quality standards, and to protect public health. Individual projects pursuant to the Investment Program would support implementation of applicable control measures to reduce emission levels of criteria pollutants, particulate matter, and TACs. Table 2.3-3 of the Draft EIR and the discussion below provide an overview of the relative consistency of individual Investment Program projects pursuant to the 2017 CTP with individually applicable control measures of the 2017 Clean Air Plan.

Local and Area-Wide Bus Service Improvements

Individual transportation projects and programs pursuant to the 2017 CTP are intended to sustain and improve bus service throughout the county. Bus service investments include high capacity bus rapid transit (BRT) service, express bus service, and funding for local/regional bus services. Individual transportation projects proposed under the Investment Program would involve a relative total investment of 14% in bus service projects and programs.

Local and Regional Rail Service Improvements

Individual transportation projects and programs pursuant to the 2017 CTP are intended to sustain and expand rail service throughout the county. Local and regional rail improvement projects include BART improvements and expansion, as well as expanded Amtrak service on the Capitol Corridor and San Joaquin rail line. Individual transportation projects proposed under the Investment Program would involve a relative total investment of 17.4% in rail service improvement projects and programs.

Freeway and Arterial Operations Strategies

Individual transportation projects and programs pursuant to the 2017 CTP are intended to sustain and expand rail service throughout the county. Example projects include the I-680 and I-80 Integrated Corridor Mobility program that includes corridor-wide adaptive ramp metering, arterial management systems, transit management systems, traveler information systems, traffic surveillance and control systems, and integration with the East Bay SMART Corridor Program. Individual transportation projects proposed under the Investment Program would involve a relative total investment of 12.4% in freeway and arterial performance improvement projects and programs.

Transit Efficiency and Use Strategies

Individual transportation projects and programs pursuant to the 2017 CTP are intended to improve the efficiency and use of transit programs throughout the county. Example projects include the Contra Costa Transportation for Livable Communities Program (which supports a balanced transportation system, fosters the creation of affordable housing, and helps make Contra Costa's communities more pedestrian, bicycle, and transit-friendly), as well as a variety of programs intended to make transit more affordable and available for all users. Individual transportation projects proposed under the Investment Program would involve a relative total investment of 5.5% in transit service projects and programs.

Bay Area Express Lane Network

Individual transportation projects and programs pursuant to the 2017 CTP are intended to implement the regional express lane network and provide express bus service throughout the county. Example projects include San Pablo Avenue transit enhancements to upgrade existing local and Rapid Bus service to a full BRT project; BRT projects within the County Connection service area to provide frequent, prioritized bus service in dense, congested corridors; on-going funding for Express Bus services to employment centers (Hacienda and Bishop Ranch business parks); purchase of new buses to provide increased express bus service within the I-80 and I-680 corridor; and enhanced Express bus service on I-80 and SR-4. Individual transportation projects proposed under the Investment Program would involve a relative total investment of 4.6% in express lanes and express bus service projects and programs.

Goods Movement Improvements and Emission Reductions Strategies

Individual transportation projects and programs pursuant to the 2017 CTP are intended to improve intermodal and arterial connections between regional trade corridors, specifically including the Northern Waterfront Goods Movement project, the Kirker Pass Road southbound truck-climbing lane project and the TriLink /Airport Road connector. None of these projects necessarily address incentives for diesel engine owners to reduce emissions. Individual transportation projects proposed under the Investment Program would involve a relative total investment of 0.7% in goods movement infrastructure projects.

Voluntary Employer Trip-Reduction Programs; TCM C-3: Ridesharing Services and Incentives

Individual transportation projects and programs pursuant to the 2017 CTP are intended to promote safe access for pedestrians and cyclists to schools and transit. Example programs that promote alternatives to commuting in single-occupant vehicles include carpools, vanpools and transit; programs that supports and encourage use of innovative technologies; transit, bicycle and pedestrian facilities (including sidewalks, lockers, racks, etc.); the Guaranteed Ride Home program, and congestion mitigation programs, School-Pool programs, and electric vehicle charging stations and lease vehicles for employer-based trip reductions. Individual transportation projects proposed under the Investment Program would involve a relative total investment of 1.6% in transportation demand management programs.

Safe Routes to School and Safe Routes to Transit Programs

Individual transportation projects and programs pursuant to the 2017 CTP are intended to promote safe access for pedestrians and cyclists to schools and transit. Example projects include 511 Contra Costa; school bus programs; providing county-wide bus passes for middle and high school students and expanding the subsidy for bus transit fares for low-income students; delivering education and encouragement programs at schools, and funding other countywide Safe Routes to School projects. Individual transportation projects proposed under the Investment

Program would involve a relative total investment of 2.7% in Safe Routes to School and other similar projects and programs.

Bicycle Access and Facilities Improvements; TCM D-2: Pedestrian Access and Facilities Improvements

Individual transportation projects and programs pursuant to the 2017 CTP are intended to promote bicycle and pedestrian access and facility improvements. Example projects and programs include the Transportation for Livable Communities program (which funds projects such as pedestrian, bicycle, and streetscape facilities, traffic calming and transit access improvements); individual projects pursuant to the Countywide Bicycle and Pedestrian Master Plan; development and rehabilitation of paved regional trails as identified in East Bay Regional Park District Master Plans; and funding for complete streets in county-wide priority development areas. Individual transportation projects proposed under the Investment Program would involve a relative total investment of 1.7% in bicycle and pedestrian facilities and other similar projects and programs.

In addition to the Transportation Control Measures (TCMs), Mobile Source Measures in the Clean Air Plan include measures such as promotion of clean and fuel efficient vehicles, zero emissions and electric vehicles, replacement of high-emitting vehicles and older trucks. Individual transportation projects and programs proposed under the Investment Program would involve a relative total investment of 2.2% in mobile source measures and programs to support innovation efforts in new technologies, and funding for “smart freeways” to better integrate connecting regional corridors and smooth traffic patterns. Overall, the 2017 CTP Investment Program includes total investments in projects and programs that support Clean Air Plan transportation control measures that amount to over 50% of all Investment Program costs. Because individual Investment Program projects pursuant to the 2017 CTP would support implementation of applicable control measures to reduce emission levels of criteria pollutants, particulate matter, and TACs, impacts are considered less than significant. (Draft EIR, pp. 2.3-12 through 18, Final EIR, Chapter 7, pp. 7-5 through 7.9.)

2. Operational Criteria Pollutants

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP cause a net increase in emissions of criteria pollutants (ROG, NO_x, CO, and PM_{2.5}) from on-road mobile sources, compared with the baseline condition?

Finding: Less than significant impact. (Draft EIR, pp. 2.3-21 through 23.)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP are expected to occur within a context that would result in a net overall reduction in operational criteria pollutant emissions as

compared with the baseline condition. Emissions of criteria pollutants include ROG, NO_x (summertime and wintertime), CO, and PM_{2.5} from mobile sources.

A major reason for these reductions is the increasingly stringent emission controls that CARB has adopted for new vehicle engines and fuels over the past few decades, including the Truck and Bus Regulation, which requires diesel trucks and buses to be upgraded to reduce emissions. As of January 1, 2012, heavier trucks must be retrofitted with particulate matter filters; older trucks must be replaced starting as of January 1, 2015, and nearly all trucks and buses will need to have 2010 model year engines or equivalent by January 1, 2023. Other contributors include emission-control devices, the Enhanced Smog Check Program, and fleet turnover wherein older polluting cars are retired and replaced with newer and substantially less polluting cars. Additionally, the underlying land use pattern as defined per *Plan Bay Area* for Contra Costa County includes a concentration of future growth at higher densities around existing and proposed transit investments, which would reduce driving and motor vehicle emissions.

Because implementation of the 2017 CTP is expected to occur within a context that would provide for an overall reduction in operational criteria pollutant emissions, impacts are considered less than significant.

Transportation Projects Included in Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects are similarly expected to occur within a context that would result in overall reductions in operational criteria pollutant emissions. As shown in Table 2.3-4 of the Draft EIR, countywide criteria pollutant emissions (ROG, NO_x, CO, and PM_{2.5}) from mobile sources would decrease between the baseline condition (2013) and the 2040 horizon. When compared with the baseline condition, total criteria pollutant emissions that would occur under the Investment Program are expected to achieve ROG emissions reductions of 75 percent, NO_x emission reductions of 84 percent, CO emission reductions of 77 percent, and PM_{2.5} emission reductions of 14 percent.

As indicated in the discussion of the 2017 CTP, much of the reductions in criteria pollutants are attributable to reductions in the emissions from individual vehicles (cars, trucks, and buses) that are expected to be achieved through regulatory controls. These emission reductions are independent of any investments in transportation infrastructure. The analysis presented in Table 2.3-4 also shows (for informational purposes only) the relative change in criteria pollutant emissions by year 2040 when comparing the Investment Program's resulting transportation infrastructure and transportation systems, to a future 2040 scenario that assumes no additional transportation investments (i.e., a future 2040 No Project scenario). As demonstrated in Table 2.3-4 of the Draft EIR, a future 2040 No Project scenario would also occur within a context that is anticipated to achieve a similar overall reduction in criteria pollutant emissions. However, relative to the 2040 No Project scenario, the Investment Program would achieve an even greater overall reduction in criteria pollutant emissions as a result of its investment in the Transportation Control Measures (TCMs).

Because individual Investment Program projects pursuant to the 2017 CTP are expected to occur within an overall context that will achieve an overall reduction in operational criteria pollutant emissions, and because the Investment Program's investments in TCMs are shown to contribute toward these emission reductions, the Investment Program's impacts are considered less than significant. (Draft EIR, pp. 2.3-21 through 23.)

3. Mobile Source Toxic Air Contaminant Emissions

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in a cumulative net increase in emissions of diesel particulate matter (DPM), 1,3-butadiene, and benzene (toxic air contaminants) from on-road mobile sources, as compared with the baseline condition?

Finding: Less than significant impact. (Draft EIR, pp. 2.3-26 and 27.)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP are expected to occur within a context that would result in a net overall reduction in mobile source Toxic Air Contaminants (TAC) emissions as compared with the baseline condition. Overall reductions in TAC emissions are primarily attributed to California state laws that control TAC emissions, including AB 1807 that created the Toxic Air Contaminant Identification and Control Act, SB 2588 that established the Air Toxics "HOT Spots" Information and Assessment Act, and SB 656 that requires CARB and local Air Districts to identify control measures for particulate matter. Other state regulations that reduce smog or other pollutants also reduce TACs, such as standards for low emission vehicles, clean fuels, reformulated gasoline, diesel fuel specifications, and CARB's Heavy Duty Diesel Inspection Programs. In addition, there are a number of regional programs in place to address particulate matter in general and TACs in particular, including the CARB, BAAQMD, and Port of Oakland's Bay Area Goods Movement Program that provides financial incentives to owners of equipment used in freight movement to upgrade to cleaner technologies.

Overall, these ongoing regulations and programs will provide for a net reduction in mobile source TAC emissions. Because implementation of the 2017 CTP is expected to occur within this context of reduced mobile source TAC emissions, impacts are considered less than significant.

Investment Program

Under the Investment Program for the 2017 CTP, transportation projects and new or expanded transit projects are similarly expected to occur within a context of reduced mobile source TAC emissions. As shown in Table 2.3-6 of the Draft EIR, Countywide mobile source TAC emissions (DPM, 1,3-butadiene, and benzene) are projected to decrease between the baseline condition (2013) and the 2040 horizon. When compared with the baseline condition, mobile source TAC emissions that would occur under the Investment Program are expected to

achieve reductions in DPM emissions (97 percent), 1,3-butadiene emissions (80 percent), and benzene emissions (77 percent). These reductions in TACs are primarily attributed to California state laws to control TACs, as well as other state regulations and regional programs that also reduce TACs.

As indicated in the general discussion of the 2017 CTP, the majority of TAC emission reductions are attributable to reductions in TAC emission from individual vehicles (cars, truck, and buses). These TAC emission reductions are independent of investments in transportation infrastructure. The conclusions presented in Table 2.3-6 of the Draft EIR also show (for informational purposes only), the relative change in TAC mobile source emissions by year 2040, comparing the Investment Program's resulting transportation infrastructure and transportation systems to a future 2040 scenario that assumes no additional transportation investments beyond those projects already approved and funded (i.e., a future year 2040 No Project scenario). As indicated in Table 2.3-6, a future 2040 No Project scenario would also occur within the context of reduced mobile source TAC emissions per vehicle, and would achieve a similar overall reduction in total mobile source TAC emission. Relative to the 2040 No Project scenario, the Investment Program would achieve an even greater overall reduction in TAC emissions as a result of its investments in TCMs.

Because individual Investment Program projects pursuant to the 2017 CTP are expected to occur within a context that will achieve an overall reduction in mobile source TAC emissions, impacts are considered less than significant. (Draft EIR, pp. 2.3-26 and 27.)

4. Relative Impacts to Communities of Concern

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in a larger localized increase of mobile source TAC or PM_{2.5} emissions, or a smaller localized decrease of mobile source TAC or PM_{2.5} emissions in disproportionately impacted communities (Communities of Concern and CARE communities) as compared to the remainder of the county?

Finding: Less than significant impact. (Draft EIR, pp. 2.3-27 through 30.)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP would result in the emission of TACs and PM_{2.5} within the county's Communities of Concern (COCs) and Communities at Risk Evaluation program (CARE communities). These COC and CARE communities have been found subject to elevated levels of pollution, based on detailed emissions inventories and air dispersion modeling conducted by the Air District. TAC and PM_{2.5} emissions were estimated along the major transportation corridors within each of the county's COCs and CARE communities for baseline (2013) and future horizon year (2040) conditions.

Countywide TAC emissions attributed to transportation are projected to decline substantially as compared to 2013 emission levels. These reductions in TAC emissions are

primarily attributed to implementation of California state regulations that are projected to reduce individual vehicle TAC emissions. There are slight differences between expected emission levels within the county's COCs and CARE communities as compared to other portions of the county. Generally, COCs and CARE communities are estimated to have similar or slightly greater benefits relative to overall reductions in PM_{2.5} and TAC exhaust emissions than the remainder of the county. These benefits are primarily attributed to a lower increase in VMTs within the county's COCs and CARE communities, as compared with the anticipated increase in VMT for the county overall. Although the difference in estimated TAC emissions is not expected to be substantial between COCs and CARE communities and the remainder of the county, the county's COC and CARE communities would generally realize similar or slightly greater reductions in PM_{2.5} and TAC emission than is expected elsewhere in the county.

Because implementation of the 2017 CTP would result in a more substantial expected decrease of PM_{2.5} emissions and TAC emissions within county's COCs and CARE communities as compared to the remainder of the county, potential impacts are considered less than significant.

Transportation Projects Included in Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects would occur in a context of reduced overall mobile source TAC emissions, also resulting in lower localized TAC emissions within the County's COCs and CARE Communities. TAC and PM_{2.5} emissions along major transportation corridors were modelled countywide, and results extracted for all of the county's COCs and CARE communities, and for non-COC and CARE communities. The modeling effort analyzed TAC emission pursuant to the Investment Program under future horizon year (2040) conditions, as compared to 2013 baseline conditions. Table 2.3-7 in the Draft EIR lists the modeling results, expressed as a percentage change in exhaust emissions when compared to 2013 emission levels, and as a relative change between COCs and CARE communities, and the remainder of the county. When compared to 2013 conditions, all TAC emissions within the county are projected to decrease by a substantial amount by year 2040. The relative decrease in TAC emission within COCs and CARE communities is expected to decrease by an even greater percent than will occur within the remainder of the county. While the relative percentage difference in decreased TAC emissions is not substantial between COCs and CARE communities, the remainder of the county, the analysis does indicate that the county's COC and CARE communities would generally realize similar or slightly greater reductions in the levels of PM_{2.5} and TAC emission than is expected elsewhere in the county.

Because the Investment Program's projects pursuant to the 2017 CTP do not result in a smaller localized benefit of decreased mobile source TAC or PM_{2.5} emissions in disproportionately impacted communities, potential impacts are considered less than significant. (Draft EIR, pp. 2.3-27 through 30.)

D. Hazards and Hazardous Materials

1. Airport Hazards

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in a safety hazard for projects located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport?

Finding: Less than significant impact. (Draft EIR, pp. 2.8-19 and 20.)

Explanation:

2017 CTP

Transportation projects pursuant to the 2017 CTP that would lie within or intersect the Airport Influence Area for Buchanan Field Airport in Concord or the Byron Airport in Byron could pose potential incompatibility issues with the provisions of the Airport Land Use Compatibility Plans (ALUCPs) of these airports. However, transportation improvements are more likely to improve safety on the surrounding roadway network and public transportation, than to cause hazards or interfere with airport operations. Therefore, impacts related to airport hazards would be less than significant.

Investment Program

The Investment Program's transportation projects that would lie within or intersect the Airport Influence Area for Buchanan Field Airport in Concord or the Byron Airport in Byron could pose potential incompatibility issues with the provisions of the ALUCPs of these airports. The following transportation improvement projects are within or intersect the Airport Influence Area for Buchanan Field Airport in Concord or the Byron Airport in Byron:

- Arnold Drive extension
- SR-4/I-680 HOV Connection and Ramps
- Contra Costa Boulevard improvements
- SR-4 Operational Improvements (Phase I): Add an eastbound HOV lane from I-680 to the existing HOV lane east of SR-242
- Airport Connector (TriLink)
- SR-239/Byron Highway (TriLink)
- SR-239 Freeway (TriLink)

Implementing agencies would require project sponsors to comply with any applicable ALUCP requirements as well as any FAA (14 CFR Part 77) requirements. Projects would not be approved by local agencies until project design plans have been reviewed and approved by the Airport Land Use Commission (as applicable) such that proposed projects would not adversely affect airport operations. Because transportation improvements are more likely to improve safety on the surrounding roadway network and public transportation than to cause hazards or interfere with airport operations, these potential impacts are considered to be less than significant.

Consistency with federal, state, and local regulations and laws related to development near a public airport is considered to mitigate impacts to a level of less than significant. Project

sponsors and implementing agencies are required to analyze compliance with ALUCPs as a part of project approvals, utilizing the California Airport Land Use Planning Handbook as a technical resource with respect to airport noise and safety compatibility issues. Therefore, potential impacts related to airport hazards would be less than significant. (Draft EIR, pp. 2.8-19 and 20.)

2. Emergency Response and Evacuation

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Finding: Less than significant impact. (Draft EIR, pp. 2.8-20 and 21.)

Explanation:

2017 CTP

Transportation projects pursuant to the 2017 CTP would generally increase circulation capacity and potentially improve response times for police, fire, and emergency service providers, especially in heavily-congested areas. Emergency and evacuation plans are regularly updated to incorporate current conditions, and none of the transportation projects pursuant to the 2017 CTP would physically interfere with emergency or evacuation plans. Because development of new transportation projects would improve overall transportation system efficiency and in some instances improve capacity, these projects would have beneficial effects on emergency response and evacuation and the impact would be less than significant.

Investment Program

The Investment Program's transportation projects would generally increase circulation capacity and potentially improve response times for police, fire and emergency service providers. Because development of new transportation projects would improve overall transportation system efficiency and in some instances improve capacity, these projects would have beneficial effects on emergency response and evacuation and the impact would be less than significant. (Draft EIR, pp. 2.8-20 and 21.)

3. Wildland Fire Hazards

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP 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?

Finding: Less than significant impact. (Draft EIR, pp. 2.8-21 and 22.)

Explanation:

2017 CTP

Transportation projects pursuant to the 2017 CTP would generally involve the expansion or extension of the transportation and transit systems, which are not typically considered at risk from wildland fires. Transportation and transit improvements provide better access to evacuation routes should a wildfire occur, and generally improve the transportation network to move people more efficiently in case there is a need for an evacuation. The potential for wildfire hazard impacts related to improvements associated with the 2017 CTP are considered to be less than significant.

Investment Program

The Investment Program's transportation projects generally include expansion or extension of the transportation and transit system. Figure 2.8-2 in the Draft EIR shows the Fire Hazard Severity Zones in Contra Costa. The potential for wildfire hazard impacts related to improvements proposed under the Investment Program are considered to be less than significant. (Draft EIR, pp. 2.8-21 and 22.)

E. Hydrology and Water Resources

1. Groundwater

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table?

Finding: Less than significant impact. (Draft EIR, pp. 2.9-20 and 21.)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP include transit and roadway projects, which would add impervious surfaces, reducing the amount of surface water that can filter into the ground and recharge groundwater basins. New impervious surfaces required for streets or highways could have minor effects on the volume of water that filters into the ground and groundwater basins. However, many of the 2017 CTP's transit and roadway projects are already on or adjacent to existing highways, streets, and roads in which most of the surfaces are already paved or impervious. In addition, extensive existing storm drainage systems in these areas intercept rainfall and runoff waters, thus limiting the amount of groundwater recharge that occurs. Local agency standards (e.g., Contra Costa Clean Water Program, as well as any requirements for city drainage control) and Caltrans standards, combined with federal and state regulations and BMPs, require drainage studies for transportation projects. These studies address drainage issues, and projects are required to follow the site-specific construction recommendations to ensure impacts would be less than significant.

Implementation of the 2017 CTP may result in a minor depletion of groundwater supplies or interfere with groundwater recharge such that they might result in a minor net deficit in aquifer volume or a lowering of the local groundwater table. However, considering that most of the transportation projects would occur on existing impervious surfaces, the majority of the Contra Costa County water supply comes from surface water supplies, and the existing regulatory requirements, these impacts would be less than significant.

Investment Program

The Investment Program's transportation projects and new or expanded transit projects would result (individually and collectively) in an increase in impervious areas. However, many of the projects would occur on or adjacent to existing highways, streets, and roads in which most of the surfaces are already paved and impervious. Extensive existing storm drainage systems in these areas intercept rainfall and runoff waters, which limits the amount of groundwater recharge that occurs. The transportation improvement projects and programs would not likely limit any existing or planned use of groundwater supplies.

Local agency standards (e.g., Contra Costa Clean Water Program, as well as any city drainage control requirements) and Caltrans standards, combined with federal and state regulations and best management practices (BMPs), require drainage studies for transportation projects. These studies address drainage issues, and projects are required to follow the site-specific construction recommendations.

Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the Investment Program would adversely affect groundwater. Individual Investment Program projects have the potential to deplete groundwater supplies or interfere with groundwater recharge at the regional and local level, but this potential is minor. Considering that most of the transportation projects would occur on existing impervious surfaces, the majority of the Contra Costa County water supply comes from surface water supplies, and the existing regulatory requirements, these impacts would be less than significant. (Draft EIR, pp. 2.9-20 and 21.)

F. Land Use, Population, Housing, and Employment

1. Growth Inducement

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP substantially induce new growth and development in a location that significantly differs from planned countywide growth, or that substantially induces new growth beyond that planned throughout the county?

Finding: Less than significant impact. (Draft EIR, pp. 2.10-13 through 16.)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP are expected to have a limited role in stimulating overall growth as compared to established land use policy. It is similarly unlikely that the 2017 CTP will provide transportation system improvements of sufficient magnitude (as compared to the existing transportation system) to stimulate new growth beyond the 27 percent increase in population and 36 percent increase in jobs forecast for the county. This is due to several factors:

- Historically, transportation investment and increased transportation capacity lag behind growth. The transportation benefits that would result from implementation of the 2017 CTP represent incremental improvements in mobility, rather than significant increases that would be necessary to have clear impacts on development patterns.
- Due to the maturity of development in the region and existing transportation system and mode choices already available, incremental corridor improvements are expected to play a minimal role in attracting or inducing new development to the county as a whole. Other economic and social factors are more likely to be important influences on location decisions.
- Gasoline prices and concern about sustainable development and climate change are more likely to influence changes in local land use and investment decision-making, geared toward fewer car trips, smaller cars, transit accessibility, infill development, and overall reduced environmental impacts.

It is expected that overall mobility within the county will be more constrained in 2040 than it is currently, even with implementation of the 2017 CTP. More traffic congestion and more total vehicle hours of delay are projected. Increases in total countywide travel activity would not be caused by implementation of the 2017 CTP transportation infrastructure. Rather, these increases are due to projected regional growth in population, jobs, and workers. To the extent that the transportation network has any effect on countywide growth, it is more likely that insufficient transportation infrastructure may decrease, rather than increase, the projected rates of population and employment growth.

The 2017 CTP would result in significant investments and improvements in Contra Costa's transportation system to support planned growth. Transportation improvements can remove impediments to growth by providing access and roadway capacity to new areas for development and, depending on location, creating roadway capacity that induces travel. However, the transportation network of the 2017 CTP is made to fit to the land use plan as envisioned pursuant to *Plan Bay Area* (the 2013 RTP), and is integrally linked to and balanced with the housing and employment growth factors for the County. Rather than eliminating obstacles to growth, the 2017 CTP complements planned growth, and the location of that planned growth is determined by local land use policies (including the Urban Limit Line)

The 2017 CTP was developed with participation from the local jurisdictions of Contra Costa (cities, towns, and the County), the RTPCs, regional partners, transit operators, owners/operators, stakeholders, and members of the public. The 2017 CTP knits together the five Action Plans for Routes of Regional Significance developed by the RTPCs, representing each local jurisdiction within the designated planning areas. The projects, programs, actions and

measures outlined in the Action Plans have been incorporated into CCTA's Comprehensive Transportation Project List (CTPL) which was used to develop the Investment Program.

Through this "bottom-up" process, the 2017 CTP achieves consistency with the land use and growth projections assumed by individual local jurisdictions, while also maintaining consistency with the regional forecasts found in *Plan Bay Area* and *Projections 2013*. The General Plans for each local jurisdiction throughout the County may have different assumptions for growth in housing and jobs. Through consultation with local jurisdictions, CCTA has evaluated the variances in demographic assumptions between *Projections 2013* and local General Plans. In some jurisdictions, the General Plan serves as a future maximum control total, (AKA "Buildout") with projected growth for 2040 falling short of that total. In other jurisdictions, the local General Plans have growth capacities that do not encompass the growth as projected by *Projections 2013*. The variances between growth projections and local growth capacities are less pronounced within those jurisdictions that contain Priority Development Areas. This is likely due to the consultative process that ABAG undertook with local jurisdictions to reach agreement on PDA development capacities that are consistent with local plans.

The 2017 CTP is projected to result in a greater increase in total daily transit trips than in drive-alone vehicle trips, when compared to existing mode split characteristics. As such, the 2017 CTP prioritizes transit improvements that generally serve more urbanized locations and PDAs, and supports infill development and urban redevelopment that could influence housing demand in these areas. The 2017 CTP intentionally supports PDA-focused population and employment growth with improved transit access as a means of drawing more development into PDA areas, rather than facilitating urban sprawl and regional growth outside of urban areas, but does not necessarily contribute to greater countywide growth as a whole. The indirect transportation effects of the 2017 CTP on long-term population and economic growth are expected to be minimal. Because implementation of the 2017 CTP would not substantially induce new growth and development, these impacts are considered less than significant.

Investment Program

Proposed transportation projects and new or expanded transit projects pursuant to the Investment Program are expected to have a limited role in stimulating overall growth. The Investment Program would not substantially shift countywide or local development patterns. Improved transit connection projects are targeted to serve PDA-focused population and employment growth, and limited roadway capacity improvements are targeted to serve more suburban areas where transit is less accessible. These transit and roadway improvements are linked to and balanced with future housing and employment projections. It is unlikely that individual projects pursuant to the Investment Program will provide transportation system improvements of sufficient magnitude to stimulate new growth beyond that forecast for the county.

- The CTP's Investment Program adds approximately 53 lane miles to the baseline of over 12,450 lane miles within the County, for a total of only a +0.04% increase in lane miles.

- The CTP's Investment Program includes improvements to approximately 89 lane miles of freeways and arterials within the County, for a total of only a +0.07% increase in lane mile improvements, most of which are Express Lanes and high-occupancy vehicle lanes on many of the County's most congested freeway corridors.
- The 2017 CTP Investment Program's new or expanded transit projects would result in a projected increase of approximately 1 percent of mode share for transit, HOV, or other non-SOV modes (from 41% to 42%), with a corresponding decrease in single-occupant vehicle mode share.

These relatively small increases in road capacity and marginal changes in mode share are not so large as to influence a significant shift in land use patterns or growth rates, especially as compared to the 27 percent increase in population and 36 percent increase in jobs forecast for the county. Individual projects pursuant to the Investment Program would be consistent with the land use and growth projections assumed in the underlying *Plan Bay Area*, and would be consistent with the General Plans of existing cities within the county seeking to revitalize urban centers. Individual Investment Program projects pursuant to the 2017 CTP would not substantially induce new growth and development, and this impact is considered less than significant. (Draft EIR, pp. 2.10-13 through 16.)

2. Community Separation

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP potentially result in permanent alterations to existing neighborhoods or communities by separating residences from community facilities and services, restricting access to commercial or residential areas, or eliminating community amenities?

Finding: Less than significant impact. (Draft EIR, pp. 2.10-20 through 22.)

Explanation:

2017 CTP

Most of the major transportation projects pursuant to the 2017 CTP are located within existing rights-of-way. As such, they would not cause any new separation within existing communities. Certain projects pursuant to the 2017 CTP would improve or expand interconnections between neighborhoods and communities that are currently separated by major transportation corridors. Examples include bridges or under-crossings of commuter rail lines (with bike lanes), bicycle/pedestrian overcrossings of freeways, and urban trail and pathway projects. Safe Routes to School projects also improve accessibility to schools within communities. Many of the transit projects pursuant to the 2017 CTP are intended to relieve expected traffic congestion resulting from regional population growth, and may improve community connectivity. Because development of new transportation projects are expected to improve or expand interconnections between neighborhoods and communities overall, the impact would be less than significant.

Investment Program

The Investment Program does include a limited set of transportation and transit projects with potential for long-term community separation, such as the widening of roadways that could make pedestrian and bicycle crossings more difficult, and the extension of eBART to Brentwood. The significance of these potential separations are by nature location-specific. Impacts (if any) would occur at the local level, and could be adequately addressed in project-specific design.

Most of the Investment Program's projects are located within existing rights-of-way and would not cause any new separations within existing communities. Many of the individual transit projects pursuant to the 2017 CTP are intended to relieve expected traffic congestion resulting from regional population growth, which may improve community connectivity. The significance of community separation is by nature location-specific. Individual project-level analysis will need to be conducted to determine whether Investment Program projects could result in the separation of a neighborhood or community. However, because individual Investment Program projects are expected to generally improve or expand interconnections between neighborhoods and communities overall, the impact would be less than significant.

Although not needed to address an identified significant environmental effect, the recommendations would provide further reduce individual effects associated with community or neighborhood separation. Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Recommendation LU-4: Connectivity by Design. Implementing agencies and/or project sponsors shall consider implementation of mitigation measures for new or expanded transportation projects that could result in community separation, where feasible based on project- and site-specific considerations, including but not limited to the following:

- a. All new transportation projects shall be required to incorporate design features such as sidewalks, bike lanes and bike/pedestrian bridges or tunnels that maintain or improve access and connections within existing communities and to public transit.
- b. Implementing agencies shall require project sponsors to comply with existing local regulations and policies that exceed or reasonably replace measures that reduce community separation.
- c. New development projects shall be required to provide connectivity for all modes such that new development does not separate existing uses, and improves access where needed and/or feasible, by incorporating "complete street" design features such as pedestrian-oriented streets and sidewalks, improved access to transit, and bike routes where appropriate. Implementing agencies shall require project sponsors to comply with existing local regulations and policies that exceed or reasonably replace measures that reduce community separation.
- d. Through regional programs such as the One Bay Area Grants, the CCTA shall continue to support planning efforts for locally sponsored traffic calming and

alternative transportation initiatives such as paths, trails, overcrossings, bicycle plans, and the like that foster improved neighborhoods and community connections.

Impacts of transportation projects related to community separation are expected to be less than significant, and mitigation is not required. To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects proposed under the Investment Program, incorporate the “connected by design” recommendations described above, impacts related to community separation would be even further reduced. Potential impacts related to community separation would be less than significant. (Draft EIR, pp. 2.10-20 through 22.)

3. Conflicts with Land Use Plans and Policies

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in substantial conflicts with adopted local General Plans or other applicable land use plans, including specific plans, existing zoning, or regional plans?

Finding: Less than significant impact. (Draft EIR, pp. 2.10-22 and 23.)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP are generally consistent with applicable General Plans, and would not conflict with applicable land use plans and policies. RTPCs, which are made up of local officials and supported by TACs made up of staff, have assessed existing and future conditions, established multimodal transportation service objectives, and adopted approaches to manage congestion through specific actions for individual routes throughout their respective sub-area Action Plans. The multimodal transportation service objectives are to be achieved through a proposed set of projects, actions, measures, and programs that provide input to the 2017 CTP, and that CCTA uses to develop appropriate strategies for achieving the CTP vision and goals. The RTPCs are charged with considering the impact of land use decisions on the transportation system, and considering the impact of transportation system decisions on land uses. Through this multi-jurisdictional, cooperative planning process, consistency of the Action Plans with local General Plans is ensured.

Transportation projects and programs on interstate highways are generally sponsored by the California Department of Transportation, and major transit improvements are generally sponsored by special districts and public agencies such as, Bay Area Rapid Transit, Alameda-Contra Costa Transit District, and CCTA. Although not necessarily derived from General Plans, larger transportation projects are developed within the RTPC planning process, and typically reflect local General Plan policies. As a result, all transportation projects pursuant to the 2017 CTP have been developed in a “bottom-up” process that includes the same local jurisdictions that control land use decisions and General Plans.

Given this, it can be concluded that transportation projects and programs pursuant to the 2017 CTP are consistent with local plans, and will continue to be reviewed for consistency as they move into implementation. None of the transportation projects and programs pursuant to the

2017 CTP would significantly conflict with applicable land use or regional land use plans, and the impact is considered less than significant.

Investment Program

The Investment Program's transportation projects and new or expanded transit projects would similarly be consistent with applicable General Plans and would not conflict with other applicable land use plans and policies. Individual transportation projects pursuant to the Investment Program have been developed in a "bottom-up" process that includes the same local jurisdictions that control land use decisions and General Plans. Because individual Investment Program projects would not significantly conflict with applicable land use or regional land use plans, the impact is considered less than significant. (Draft EIR, pp. 2.10-22 and 23.)

SECTION 3. FINDINGS REGARDING ENVIRONMENTAL IMPACTS MITIGATED TO A LEVEL OF LESS THAN SIGNIFICANT. The Authority hereby finds that Mitigation Measures have been identified in the EIR and these Findings that will avoid or substantially lessen the following potentially significant environmental impacts to a less than significant level. The potentially significant impacts, and the Mitigation Measures that will reduce them to a less than significant level, are as follows:

A. Biological Resources

1. Conflicts with State or Local Conservation Plans or Ordinances

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP conflict with local policies and ordinances protecting biological resources, or conflict with the provisions of an HCP or NCCP?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.5-42 through 46.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

The Bay Delta Conservation Plan

The 2017 CTP does not include any transportation projects located within the primary zone of the Bay Delta Plan.

East Contra Costa County HCP / NCCP

Under the East Contra Costa County HCP/NCCP, the USFWS and the CDFW have provided regional permits to the cities of Brentwood, Clayton, Oakley and Pittsburg, and Contra

Costa County. These local land use agencies may extend permit coverage to project applicants within their jurisdictions. Instead of seeking endangered species permits from the state and federal agencies, project proponents may acquire endangered species approvals from these local land use planning agencies. Projects located within the HCP jurisdiction and that require incidental take authorization must provide for avoidance, minimization and mitigation measures to be considered “covered activities”, and these covered projects must be consistent with the biological goals of the HCP and the take coverage that is available under the permits. The categories for covered activities include rural infrastructure projects that support urban growth within the HCP’s identified Urban Development Area, including road widening, road building or extensions, the Byron Airport expansion, BART, road safety improvements, and bicycle trails. Under the HCP, covered projects must demonstrate compliance through payment of the HCP fee, or by providing equivalent mitigation sufficient to mitigate the effects of the project on all CEQA species.

All transportation projects pursuant to the 2017 CTP that fall within the boundaries of the East Contra Costa County HCP/NCCP are required to demonstrate consistency with the HCP, are subject to conditions of approval as applied to “covered activities”, and must pay all applicable HCP fees before or at grading permit approval. Two types of fees apply: a Development Fee, which varies by zone, and used to purchase and conserve off-site Preserve lands; and a Wetland Fee, which varies by the type of wetland to be filled and used to restore or create wetlands off-site in Preserve lands.

Tree Removal

Contra Costa County and most local jurisdictions within the County have adopted policies and regulations intended to protect trees that may be damaged or removed during construction of new projects, including new transportation project. New transportation projects pursuant to the 2017 CTP may adversely affect protected trees. These effects may include removal, trimming, or damage to tree roots or limbs during construction. All 2017 CTP projects would be required to comply with County and local tree protection measures, including obtaining the necessary permits from the local jurisdictions within which projects would be constructed.

Investment Program

Under the Investment Program, there are no transportation projects proposed to occur within the Primary Zone of the Bay Delta Plan. There are several proposed transportation projects and new or expanded transit projects listed in the Investment Program that could result in conflicts with the East Contra Costa County HCP/NCCP. These proposed projects, which are located within, across or in immediate proximity to the boundaries of the East Contra Costa County HCP/NCCP are as follows:

- Improve interchange at SR-160 / Main Street
- Widen Brentwood Boulevard from Balfour Road to Chestnut Street
- Widen SR-4 from 2 to 4 lanes, Marsh Creek Road to San Joaquin County
- SR-4 widening from Balfour Road to Vasco Road

- SR-4 / Marsh Creek Road interchange
- SR-4 / Vasco Road interchange
- Byron Airport Connector
- Byron Highway improvements
- SR-239: New 4-lane freeway from Brentwood to the I-204 / I-580 interchange

Any number of transportation projects proposed under the Investment Program for the 2017 CTP may involve necessary tree removal or potential damage to tree roots or limbs during construction.

Mitigation Measures

Mitigation measures that shall be implemented by implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, in compliance with existing regulatory and policy requirements and based on project-and site-specific considerations, include but are not limited to:

Mitigation Measure Bio-4A: HCP/NCCP: During the design and review of individual projects, implementing agencies and project sponsors shall ensure the maximum feasible level of consistency with policies and conditions of the adopted East Contra Costa County HCP/ NCCP. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- a. If the project results in impacts on HCP covered species habitat or other habitat protected under the HCP, the project sponsor shall coordinate with the appropriate local agency to provide full compensation of acreage and preserve function, consistent with the requirements of the HCP.
- b. If the project results in impacts on non-HCP covered species or habitat, the project sponsor shall coordinate with the USFWS, CDFW and/or other applicable agency, and shall follow adopted procedures to process an amendment to the HCP/NCCP, if necessary.
- c. All habitat-based mitigation required by the HCP shall be provided at fee amounts, ratios, or quantities as specified in the HCP.
- d. All required avoidance, minimization and mitigation measures for covered species, consistent with the adopted HCP/NCCPs, shall be implemented as specified during project-specific permitting. Avoidance and minimization measures to covered species and their habitats shall include adherence to land use adjacency guidelines as outlined in the HCP/NCCP.
- e. Project design and implementation shall also minimize impacts on covered species through implementation of Mitigation Measure Bio-1 (above).

Mitigation Measure Bio-4B: Tree Protection: Implementing agencies shall require project sponsors to prepare biological resources assessments for specific projects proposed in areas containing, or likely to contain, protected trees or other locally

protected biological resources. The assessment shall be conducted by qualified professionals in accordance with adopted protocols and standards in the industry. Mitigation shall be consistent with the requirements of CEQA and/or follow applicable ordinances or plans developed to protect trees or other locally significant biological resources. This mitigation measure only applies where there is an applicable local ordinance governing tree protection.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate all feasible mitigation measures described above, potential conflicts with local policies and ordinances protecting biological resources, or conflicts with the provisions of an HCP or NCCP would be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to determine that they would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program.

The East Contra Costa County HCP/NCCP is tied to existing regulations (e.g., HCPs are subject to ESA requirements and NCCPs are subject to California Fish and Game Code Section 2800) that are law and binding, and it is reasonable to determine that they would be implemented. Local jurisdictions responsible for implementing the East Contra Costa County HCP/NCCP have developed permitting conditions and requirements for projects, and those conditions and requirements are consistent with the HCP and would be applied prior to issuance of grading permits. Therefore, potential conflicts with the provisions of the adopted HCP/NCCP would be less than significant. Similarly, local tree protection ordinances are also binding on responsible agencies and project sponsors, and it is reasonable to assume these measures would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore, potential impacts related to conflicts with local policies and ordinances protecting biological resources, or conflicts with the provisions of an HCP or NCCP would be less than significant.

The Authority finds that mitigation measures Mitigation Measure Bio-4A: HCP/NCCP and Mitigation Measure Bio-4B: Tree Protection are feasible, are adopted, and will reduce the potentially significant impacts of the proposed Project to Biological Resources to less than significant levels. Accordingly, the Authority finds that, pursuant to Public Resources Code section 21081(a)(1) and State CEQA Guidelines section 15091(a)(1), changes or alterations have been required in, or incorporated into, the proposed Project that mitigate or avoid the potentially significant impacts of the proposed Project to Biological Resources, as identified in the EIR. Therefore, impacts are considered less than significant with mitigation required. (Draft EIR, pp. 2.5-42 through 46.)

B. Cultural Resources

1. Human Remains

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP disturb human remains, including those interred outside of formal cemeteries?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.5-19 through 21.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could result in impacts on human burials or remains if the projects include ground-disturbing construction activities. Human remains could be inadvertently unearthed during ground-disturbing activities associated with road construction, road widening, extension projects, or other projects. Human remains can be impacted directly by ground-disturbing activities which can damage or destroy the integrity of the data or disrupt the cultural and religious integrity contained in the resource. Demolition of or substantial damage to significant human burials is considered a significant impact.

As with cultural resources, impacts on human remains are by nature specific to their local context, and as such, impacts on these resources resulting from implementing transportation improvements would occur at the local level. The degree and extent of impact depends on project-specific analysis. Given the magnitude and location of several transportation improvements pursuant to the 2017 CTP, and given the number of projects involving construction activities, the potential exists for disturbance of or damage to human burials. Because implementation of the 2017 CTP has the potential to adversely affect human remains, these impacts are considered potentially significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects could result in impacts related to disturbance of human remains. In general, potential impacts on human remains could occur under circumstances similar to those discussed above for archaeological and paleontological resource impacts. New development and transportation improvements involving ground-disturbing construction activities would have the greatest likelihood to encounter human remains. Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the 2017 CTP would adversely affect human remains. Because individual projects pursuant to the 2017 CTP have the potential to adversely affect human remains, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Cul-4: Human Remains. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- a. Under Section 7050.5 of the California Health and Safety Code, as part of project oversight of individual projects, project sponsors can and should, in the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required.
- b. Under California Public Resources Code 5097.98, if any discovered remains are of Native American origin:
 - o The coroner shall contact the NAHC in order to ascertain the proper descendants from the deceased individual. The coroner should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains; or
- c. If the NAHC is unable to identify a descendant, or the descendant failed to make a recommendation within 24 hours after being notified by the commission, the landowner or their authorized representative shall obtain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance where the following conditions occur:
 - o The NAHC is unable to identify a descendent;
 - o The descendant identified fails to make a recommendation; or
 - o The landowner or their authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects proposed under the Investment Program, incorporate all feasible mitigation measures described above, impacts related to disturbance of human remains could be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to determine that these measures would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore, potential impacts related to disturbance of human remains would be less than significant with mitigation.

The Authority finds that mitigation measure Mitigation Measure Cul-4: Human Remains is feasible, is adopted, and will reduce the potentially significant impacts of the proposed Project

to Cultural Resources to less than significant levels. Accordingly, the Authority finds that, pursuant to Public Resources Code section 21081(a)(1) and State CEQA Guidelines section 15091(a)(1), changes or alterations have been required in, or incorporated into, the proposed Project that mitigate or avoid the potentially significant impacts of the proposed Project to Cultural Resources, as identified in the EIR. Therefore, impacts are considered less than significant with mitigation required. (Draft EIR, pp. 2.5-19 through 21.)

C. Geology and Seismicity

1. Seismic Hazards

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP expose people or structures to potential damaging geologic forces resulting in increased risk due to rupture of a known earthquake fault, severe ground shaking and/or liquefaction?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.7-14 through 21.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

Fault Rupture

New transportation projects pursuant to the 2017 CTP may expose people or structures to potential damaging geologic forces, resulting in increased risk due to rupture of a known earthquake fault, severe ground shaking and/or liquefaction. Surface fault rupture could cause displacement of the ground surface, resulting in substantial damage to transportation improvements including transit expansion projects, foundations, roadways and roadway interchanges. Improvements pursuant to the 2017 CTP would include a variety of transportation projects that could potentially be exposed to hazards as a result of surface fault rupture. Projects such as interchange improvements at existing roadways located within an Alquist-Priolo Zone may not represent a substantially changed risk or hazard. Nonetheless, such projects would be required to fully evaluate the level of potential damage from fault rupture as part of a site-specific geotechnical investigation. Because implementation of the 2017 CTP may result in adverse impacts related to surface fault rupture, these impacts are considered potentially significant.

Strong Ground Shaking

Contra Costa is within the seismically active Bay Area, and all parts of the county may be subject to strong to severe shaking in the event of a major earthquake, particularly an earthquake that may be centered on a fault line within the county.

Liquefaction

Ground failure associated with liquefaction could result in damage to transportation improvements if not engineered appropriately. Transportation projects pursuant to the 2017 CTP would include a variety of transit and roadway modifications that could increase the number of people potentially exposed to liquefaction hazards. Liquefaction hazards are generally determined on a site-specific basis, although regional mapping of areas that are considered to have higher liquefaction potential have been prepared and reviewed for this analysis. Because implementation of the 2017 CTP may result in adverse impacts related to liquefaction, these impacts are considered potentially significant.

Investment Program

Surface Fault Rupture

Most of the transportation and roadway projects listed under the Investment Program are not located within an Alquist-Priolo Zone. However, the alignment of the SR-4 Operational Improvements (Phase I), which would add an eastbound high-occupancy vehicle (HOV) lane from I-680 to the existing HOV lane east of SR-242 crosses an identified Alquist-Priolo Zone. Work within or along this right-of-way could potentially expose facilities and people using this transportation route to hazards as a result of surface fault rupture. Projects such as adding an HOV lane to an existing roadway that is located within an Alquist-Priolo Zone may not represent any substantially changed risk or hazard, but would nonetheless be required to conduct detailed geotechnical investigation to fully evaluate the level of potential damage from fault rupture. Individual project-level analysis will need to be conducted to determine whether this project or other future projects pursuant to the 2017 CTP Investment Program would result in adverse effects related to fault rupture. Because individual Investment Program projects pursuant to the 2017 CTP have the potential to result in adverse effects related to fault rupture, these impacts are considered potentially significant.

Ground Shaking

An earthquake on any one of the active faults in the Bay Area region could cause a large degree of ground shaking in the region, resulting in damage to transportation improvements if they are not engineered appropriately. The Investment Program for the 2017 CTP includes a variety of transit modifications and roadway improvements that could be exposed to ground shaking hazards. Therefore, the potential for adverse ground shaking impacts is considered to be potentially significant.

Individual project-level analysis will need to be conducted to determine the extent to which future Investment Program projects would be subject to adverse effects related to ground shaking. Because individual Investment Program projects have the potential to be subject to significant ground shaking, these impacts would be potentially significant.

Liquefaction

The Investment Program includes a number of roadway projects that could increase the number of people potentially exposed to liquefaction hazards. These Investment Program transportation projects located within high to very high liquefaction zones are as follows:

- SR-4: Widen as a continuous 4-lane arterial from Marsh Creek Road to the San Joaquin County Line
- SR-239/Byron Highway: Upgrade existing Byron Highway from Armstrong Road to the I-205/ Lammers Rd interchange, to a 4 lane arterial with provisions for transit.
- North Court/Union Pacific Railroad Overpass
- West County Transit Improvements
- Expand Amtrak Capitol Corridor Service

Individual project-level analysis will need to be conducted to determine whether these or other Investment Program projects would result in adverse effects related to liquefaction. Because individual Investment Program projects have the potential to result in adverse effects related to ground shaking, these impacts are considered potentially significant.

Mitigation Measures

Mitigation measures that shall be implemented by implementing agencies and/or project sponsors, in compliance with existing regulatory and policy requirements and based on project- and site-specific considerations, include but are not limited to:

Mitigation Measure Geo-1A, Alquist-Priolo Act Compliance. During the design and review of individual projects, implementing agencies and project sponsors shall seek to reduce impacts related to seismic hazards. Mitigation measures to be considered by implementing agencies and/or project sponsors, where feasible and based on project- and site-specific considerations include, but are not limited to:

- a. To reduce impacts related to fault rupture, implementing agencies shall require project sponsors to comply with provisions of the Alquist-Priolo Act (Act) for project sites located within or across an Alquist-Priolo Hazard Zone.
- b. Project sponsors shall prepare site-specific fault identification investigations conducted by licensed geotechnical professionals in accordance with the requirements of the Act as well as any existing local or Caltrans regulations and policies that exceed or reasonably replace any of the Act requirements.
- c. Structures intended for human occupancy (defined as a structure that might be occupied a minimum of 2,000 hours per year) shall be located a minimum distance of 50 feet from any identified active fault traces.

Mitigation Measure Geo-1B, Geotechnical Investigations. Mitigation measures to be considered by implementing agencies and/or project sponsors, where feasible and based on project- and site-specific considerations include, but are not limited to:

- a. To reduce impacts related to ground shaking, implementing agencies shall require project sponsors to comply with the most recent version of the CBC. Proposed improvements shall comply with Chapter 16, Section 1613 of the CBC which provides earthquake loading specifications for every structure and associated attachments that must also meet the seismic criteria of ASCE Standard 07-05.

- b. In order to determine seismic criteria for proposed improvements, geotechnical investigations shall be prepared by state licensed engineers and engineering geologists to provide recommendations for site preparation and foundation design as required by Chapter 18, Section 1803 of the CBC.
- c. Geotechnical investigations shall also evaluate hazards such as liquefaction, lateral spreading, landslides, and expansive soils in accordance with CBC requirements and Special Publication 117A, where applicable.
- d. Recommended corrective measures such as structural reinforcement and replacing native soils with engineered fill shall be incorporated into project designs.

The Alquist-Priolo Act strictly regulates where development and road projects can occur in relation to faults by requiring detailed fault identification studies and stipulating minimum setback requirements, in addition to any local or Caltrans requirements. Fault identification studies as required by the Alquist-Priolo Act involve onsite trenching and excavation for site-specific identification and location of fault rupture planes where any future rupture would be anticipated. Local agencies may have further restrictions.

Seismic design criteria are required of all construction of new transportation projects where adverse effects from ground shaking or liquefaction could occur. All new roadway improvement projects will be required to follow design provisions of the most current version of the CBC and local building standards, and will employ design standards that consider seismically active areas in order to safeguard against major structural failures or loss of life. Similarly, bridge and overpass design will be required to comply with Caltrans design criteria. Caltrans provides seismic design criteria for new bridges in California, specifying minimum levels of structural system performance, component performance, analysis, and design practices for bridges.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate all feasible mitigation measures described above, impacts related to seismic hazards would be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to determine that they would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore, potential impacts related to seismic hazards would be less than significant with implementation of these mitigation measures. (Draft EIR, pp. 2.7-14 through 21.)

2. Seismic Hazards

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in substantial soil erosion or the loss of topsoil?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.7-21 through 23.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

Transportation projects pursuant to the 2017 CTP would include earthwork activities that would disturb underlying soils during construction, potentially exposing them to erosion and loss of topsoil. Because implementation of the 2017 CTP may result in substantial soil erosion or the loss of topsoil, these impacts are considered potentially significant.

Investment Program

The Investment Programs list of new roadways and roadway widening projects includes additional earthwork activities that would disturb underlying soils during construction, potentially exposing them to erosion and loss of topsoil. Because individual Investment Program projects have the potential to result in substantial soil erosion or the loss of topsoil, these impacts are considered potentially significant.

Mitigation Measures

Mitigation measures that shall be implemented by implementing agencies and/or project sponsors, in compliance with existing regulatory and policy requirements and based on project- and site-specific considerations, include but are not limited to:

Mitigation Measure Geo-2A, Compliance with National Pollution Discharge Elimination System (NPDES) Requirements. During the design and review of individual projects, implementing agencies and project sponsors shall seek to reduce impacts related to soil erosion. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project- and site-specific considerations, include but are not limited to:

- a. To reduce the risk of soil erosion, implementing agencies shall require project sponsors to comply with NPDES General Construction Permit requirements.
- b. Implementing agencies shall require project sponsors, as part of contract specifications with contractors, to prepare and implement best management practices (BMPs) as part of a Stormwater Pollution Prevention Plan (SWPPP) that include erosion control BMPs consistent with California Stormwater Quality Association Handbook for Construction.

Mitigation Measure Geo-2B, Erosion Control Plans. During the design and review of individual projects, implementing agencies and project sponsors shall seek to reduce impacts related to soil erosion. Mitigation measures shall be considered by implementing agencies and/or project sponsors, where feasible and based on project- and site-specific considerations. Where highway, roadway, rail and pedestrian/bicycle construction could require significant earthwork and road cuts that increase potential for short-term and long-term soil erosion and/or slope failure, project sponsors shall implement measures to minimize or eliminate impacts as part of the design of the project. Potential project-specific mitigation measures should be drawn from or be consistent with the CBC and

Caltrans standards for construction, and, where appropriate, based on a review or investigation by a State licensed geotechnical professional. Typical performance standards include:

- a. Project designs shall provide adequate slope drainage and appropriate landscaping to minimize potential future occurrences of slope instability and erosion.
- b. Design features shall include measures to reduce erosion from storm water.

Development that disturbs more than one acre is subject to compliance with a NPDES permit, including implementation of BMPs, some of which are specifically implemented to reduce soil erosion or loss of topsoil, and the implementation of a SWPPP through the local jurisdiction. BMPs that are required under a SWPPP would include erosion prevention measures that have proven to be effective in limiting soil erosion and loss of topsoil. Generally, once construction is complete and exposed areas are revegetated or covered by buildings, asphalt, or concrete, the erosion hazard is substantially eliminated or reduced. Earthwork activities for transportation projects would be required to adhere to NPDES permit requirements for construction, as well as any local grading ordinance requirements that may include erosion prevention measures. Incorporation of erosion control BMP measures such as use of straw bales, inlet protective measures, silt fences, and construction scheduling, in accordance with grading code and any revegetation requirements, would be effective in minimizing erosion hazards and loss of topsoil associated with transportation improvements.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Geo-2A, impacts related to erosion would be reduced to levels of less than significant. This measure is tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to determine that they would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore, potential impacts related to loss of topsoil and erosion would be less than significant with implementation of this mitigation measure.

Mitigation Measure Geo-2B identifies performance measures, recommendations and/or best management practices identified by CCTA that can and should be implemented by implementing agencies and individual project sponsors pursuant to the identified regulatory requirements. This measure would reduce significant impacts to soils because it would provide development recommendations that would minimize potential future occurrences of slope instability and erosion. (Draft EIR, pp. 2.7-21 through 23.)

3. Geologic Instability and Soil Expansion

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP be located on a geologic unit or soil type that is unstable, contains expansive properties, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, or collapse. ?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.7-23 through 27.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could pose potential risks related to geologic instability and soil expansion. Improvements pursuant to the 2017 CTP would include a variety of transportation projects that could potentially be located on a geologic unit or soil type that is unstable, contains expansive properties, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, or collapse. In general, many of these transportation projects would be located in areas where previous roads or other improvements have occurred, and any unstable soils or geologic units would have been addressed at the time of original construction. However, some of this prior construction may have occurred pursuant to older code requirements that may not have been as stringent as current codes. Because implementation of the 2017 CTP may result in adverse impacts related to geologic instability and soil expansion, these impacts are considered potentially significant.

Investment Program

The Investment Program includes transportation projects and new or expanded transit projects that could result in impacts related to geologic instability and soil expansion. Depending on site-specific conditions, these new roadway improvement projects may be located on unstable soil or geologic units.

Inadequate soil and foundation engineering on weak or unconsolidated soils (such as poorly engineered artificial fill) could cause soils and overlying structures to settle unevenly, thereby weakening road base and supporting structures. Low-strength soils subjected to settlement could cause damage to roadway surfaces, and structures (such as bridges and interchanges) placed directly on expansive soils could be subject to seasonal shrink/swell effects, causing structural damage. Individual project-level analysis will need to be conducted to determine whether these projects would result in adverse effects related to geologic instability and soil expansion. Because individual Investment Program projects have the potential to result in adverse effects related to geologic instability and soil expansion, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects listed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Geo-1B, Geotechnical Investigations: During the design and review of individual projects, implementing agencies and project sponsors shall address the effects of expansive soils or unstable geology. See list of specific required measures above, under Seismic Hazards, which also apply to unstable geologic conditions.

Mitigation Measure Geo-3, Compressible or Expansive Soils: During the design and review of individual projects, implementing agencies and project sponsors shall address the effects of expansive soils or unstable geology. Where projects would be built on highly compressible or expansive soils, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project. Typical mitigation measures include:

- a. A site-specific geotechnical investigation conducted by qualified professionals (California registered civil and geotechnical engineers, or California registered engineering geologists) to identify potential geologic hazards associated with soils underlying proposed improvements; and
- b. Recommended corrective measures, such as structural reinforcement, soil treatment, or replacing existing soil with engineered fill, in accordance with recommendations of the geotechnical investigation and the most recent version of the CBC.

The potential hazards resulting from unstable soil or geologic units would be addressed largely through the integration of geotechnical information into design process for new transportation projects. These design practices determine the local soil suitability for specific projects in accordance with standard industry practices and state-provided requirements (e.g., CBC requirements, CGS Special Publication 117A for liquefaction and landslide hazards in seismic hazard zones). Chapter 18 of the CBC covers the requirements of geotechnical investigations, excavation, grading, and fills, load-bearing of soils, as well as foundations, shallow foundations, and deep foundations. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California. Geotechnical investigations as required by grading ordinances, Special Publication 117A, and current CBC requirements address identification, evaluation and recommendation of measures to address potential geologic hazards related to instability and soil expansion that may be present at individual transportation project locations.

With implementation of grading permit and building code requirements including seismic design criteria as required by the CBC, Caltrans Special Publication 117A, and local building code requirements, all transportation improvements would be designed to minimize potential risks related to unstable soils and geologic units.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate all feasible mitigation measures described above, impacts related to unstable soils would be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to determine that they would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore,

potential impacts related to unstable soils would be less than significant with implementation of these mitigation measures. (Draft EIR, pp. 2.7-23 through 27.)

The Authority finds that mitigation measures Mitigation Measure Geo-1A, Alquist-Priolo Act Compliance, Mitigation Measure Geo-1B, Geotechnical Investigations, Mitigation Measure Geo-2A, Compliance with National Pollution Discharge Elimination System (NPDES) Requirements, Mitigation Measure Geo-2B, Erosion Control Plans, Mitigation Measure Geo-1B, Geotechnical Investigations, and Mitigation Measure Geo-3, Compressible or Expansive Soils are feasible, are adopted, and will reduce the potentially significant impacts of the proposed Project to Geology and Seismicity to less than significant levels. Accordingly, the Authority finds that, pursuant to Public Resources Code section 21081(a)(1) and State CEQA Guidelines section 15091(a)(1), changes or alterations have been required in, or incorporated into, the proposed Project that mitigate or avoid the potentially significant impacts of the proposed Project to Geology and Seismicity, as identified in the EIR. Therefore, impacts are considered less than significant with mitigation required. (Draft EIR, pp. 2.7-14 through 27.)

D. Hazards and Hazardous Materials

1. Hazardous Materials Transport

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP create a significant hazard to the public or the environment through the routine transport of hazardous materials, and 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, including near school sites?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.8-9 through 12.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP include a variety of transportation improvements that may increase the county transportation system's capacity to transport hazardous materials. Any increases in hazardous material transport could conceivably result in increased upset and accident conditions, including such conditions near schools. Alternatively, roadway improvements would also improve road safety, as well as pedestrian and bicycle safety, potentially reducing or offsetting the potential for transportation-related hazardous materials risks. Because implementation of the 2017 CTP may result in impacts related to hazardous materials transport, these impacts are considered potentially significant.

Investment Program

The Investment Program identified transportation projects and new or expanded transit projects specifically targeted to support job creation and economic development, with improved transit and road connections for the efficient and reliable movement of people and goods. The focus on efficient and reliable movement of goods throughout the county would further increase the transportation system's capacity to transport hazardous materials, conceivably resulting in increased upset and accident conditions along new and improved roadways. Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the 2017 CTP would result in impacts related to hazardous materials transport. Because individual Investment Program projects pursuant to the 2017 CTP have the potential to result in impacts related to hazardous materials transport, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects listed in the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Haz-1a, Hazardous Materials Transport. To reduce the impacts associated with the routine transit, use or disposal of hazardous materials, implementing agencies shall require project sponsors to comply with the RCRA, Title 22 of the California Code of Regulations; California Hazardous Waste Control Law; California EPA requirements; hazardous materials training requirements; and any local regulations such as city or county Hazardous Materials Management Plans regulating the generation, transportation, treatment, storage and disposal of hazardous materials and waste.

Mitigation Measure Haz-1b, Compliance with CalARP. To reduce the impacts associated with the release of hazardous materials into the environment, implementing agencies shall require project sponsors to comply with CalARP regulating the generation, transportation, treatment, storage, and disposal of hazardous materials and waste. In addition, project sponsors shall comply with USDOT regulations regarding the transport of hazardous materials and wastes, such that accidental upset conditions are minimized.

Mitigation Measure Haz-1c, Compliance with Federal, State, and Local Laws. Consistency with federal, state, and local regulations and laws related to the transport, use or disposal of hazardous materials, and regulations and laws related to upset and accident conditions involving the release of hazardous materials into the environment, is considered mitigation and required for all projects.

RCRA, Title 22 of the California Code of Regulations, and the Hazardous Waste Control Law regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. These laws impose regulatory systems for handling hazardous waste in a manner that protects human health and the environment, including requirements for their transportation, handling and incident reporting. Transport of hazardous materials is regulated by USDOT through Caltrans and the California Highway Patrol. The California Health Services Department regulates the haulers of hazardous waste. A valid registration issued by the DTSC is required, unless specifically exempted, to transport hazardous wastes. The California Highway Patrol also

publishes a list of restricted or prohibited highways. California EPA oversees the regulation and management of hazardous materials on a statewide level through DTSC. Use of hazardous materials onsite requires permits and monitoring to avoid hazardous waste release through the local Certified Uniform Program Agency. DTSC is responsible for the enforcement and implementation of hazardous waste laws and regulations, codified in Title 22 of the CCR.

Local government jurisdictions are required to adopt emergency plans, which are considered to be extensions of the California Emergency Plan, established in accordance with the Emergency Services Act. The California Emergency Management Agency administers the Emergency Response Plan to respond to hazardous materials incidents that may occur. CalARP, established by the EPA, applies to a wide variety of facilities that contain regulated substances and aims to prevent accidental releases of hazardous materials into the environment through adoption of proper storing, containing and handling procedures. To prevent or minimize the accidental release of hazardous materials into the environment, precautions such as proper securing of the materials and proper container design are required by CalARP. CalARP also manages risks associated with accidental release through development of its programs and requirements. California Highway Patrol also publishes a list of restricted or prohibited highways. In addition, roadway improvements in the county would generally improve road safety, thereby reducing the potential for accidents related to hazardous materials. The USDOT enforces the Hazardous Materials Transportation Act by regulating transportation of hazardous materials by truck and rail, and governs every aspect of the movement of hazardous materials from packaging, to labeling and shipping.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate all feasible mitigation measures described above, and implement all federal, state, and local requirements, the potential exposure to the public and the environment from increased hazardous materials transport and accidental releases would be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to assume these measures would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore, potential impacts related to hazardous materials transport would be less than significant with mitigation. (Draft EIR, pp. 2.8-9 through 12.)

2. Construction-Period Hazardous Materials Use

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP use hazardous materials such as petroleum products, fuels, spent oil and solvents, which could potentially be released to the environment through improper handling or storage, and expose humans and the environment to potentially hazardous conditions?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.8-17 through 19.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

Construction activities necessary to build new transportation projects pursuant to the 2017 CTP would use certain hazardous materials such as fuels, oils, solvents and glues. Inadvertent release of large quantities of these materials into the environment could adversely impact soil, surface waters and/or groundwater quality. Workers, the general public and the environment could be affected by exposure to these hazardous materials during project construction and operation. Sites with intensive construction in industrial areas have a higher risk of exposing people and the environment to hazardous materials. Because implementation of the 2017 CTP may result in impacts related to construction-period hazardous material use, these impacts are considered potentially significant.

Investment Program

The Investment Program includes transportation projects and new or expanded transit projects that would result in use of certain hazardous materials such as fuels, oils, solvents and glues. Inadvertent release of large quantities of these materials into the environment could adversely impact soil, surface waters and/or groundwater quality. Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the 2017 CTP would have adverse effects related to construction-period hazardous materials use. Because individual Investment Program projects have the potential to expose humans and the environment to potentially hazardous conditions, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Haz-1a, Hazardous Materials Transport. To reduce the impacts associated with the transit, use or disposal of hazardous materials during construction, implementing agencies shall require project sponsors to comply with federal, state, and local laws. See list of specific required measures above, under Hazardous Materials Transport.

Mitigation Measure Haz-1b, Compliance with CalARP. To reduce the impacts associated with the release of hazardous materials during construction, implementing agencies shall require project sponsors to comply with CalARP. See list of specific required measures above, under Hazardous Materials Transport.

Mitigation Measure Haz-1c, Compliance with Federal, State, and Local Laws. Consistency with federal, state, and local regulations and laws is required for construction

of all projects. See list of specific required measures above, under Hazardous Materials Transport.

Mitigation Measure Haz-3, Construction Hazards: Where hazardous materials used during construction and operation may be released to the environment through improper handling or storage and expose humans and the environment to potentially hazardous conditions, implementing agencies and project sponsors shall, where feasible and based on project-and site-specific considerations, consider measures to minimize or eliminate impacts as part of the design of the project. Typical mitigation measures include:

- a. Utilization of construction best management practices to minimize the potential negative effects on groundwater and soils. Best management practices include, but are not limited to following manufacturer's recommendations on use, storage and disposal of chemical products used in construction; avoiding overtopping construction equipment fuel gas tanks; and properly containing and removing grease and oils during routine maintenance of construction equipment.
- b. In the event of an inadvertent release of hazardous materials during project construction, cleanup shall occur in accordance with all applicable regulatory requirements.
- c. Spent oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with all applicable regulatory requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with all applicable regulatory requirements.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate all feasible mitigation measures described above, and implement all federal, state, and local requirements, the potential exposure to the public and the environment from increased hazardous materials transport and accidental releases would be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to assume these measures would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore, potential impacts related to hazardous materials transport would be less than significant with mitigation. (Draft EIR, pp. 2.8-17 through 19.)

The Authority finds that mitigation measures Mitigation Measure Haz-1a, Hazardous Materials Transport, Mitigation Measure Haz-1b, Compliance with CalARP, Mitigation Measure Haz-1c, Compliance with Federal, State, and Local Laws, and Mitigation Measure Haz-3, Construction Hazards are feasible, are adopted, and will reduce the potentially significant impacts of the proposed Project to Hazards and Hazardous Materials to less than significant levels. Accordingly, the Authority finds that, pursuant to Public Resources Code section 21081(a)(1) and State CEQA Guidelines section 15091(a)(1), changes or alterations have been required in, or incorporated into, the proposed Project that mitigate or avoid the potentially significant impacts of the proposed Project to Hazards and Hazardous Materials, as identified in the EIR. Therefore, impacts are considered less than significant with mitigation required. (Draft EIR, pp. 2.8-9 through 12; 17 through 19.)

E. Hydrology and Water Resources

1. Water Quality

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade water quality?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.9-15 through 20.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP include transit and roadway projects such as new express lanes, auxiliary lanes, roadway widening, increased transit service, and other maintenance and rehabilitation projects, which may add impervious surfaces. These increases in impervious surfaces would result in increased runoff and the potential for that runoff to carry pollutants to receiving waters, including impaired water bodies. New impervious surfaces required for streets or highways could have effects on the receiving waters, water that filters into the ground, and groundwater basins, all of which could be affected by pollutants in the runoff from transportation projects. Stormwater runoff from impervious surfaces can generate nonpoint-source pollutants such as organic materials that increase the biological oxygen demand (the demand for oxygen in the water needed by aquatic life to survive), suspended solids, pathogens, sediment from erosion, air pollution fallout, nitrogen and phosphorus from chemical fertilizers, animal wastes, leachates from leaves, and pesticides. An increase in stormwater runoff and nonpoint-source pollutants would be a potential significant impact.

Transportation improvements such as providing local bus service, creating express lanes, or repaving projects where there is no substantial change in impervious surface, to the drainage patterns or increased exposure to stormwater pollutants would have less than significant effects on stormwater runoff.

During construction of transportation and transit projects, construction activities could result in an increase in stormwater runoff pollutants such as gasoline additives, oil and grease, and heavy metals as a result of vehicle and equipment fueling and maintenance/ Storage and use of hazardous materials such as petroleum products could also result in accidental spills and enter runoff from construction sites. These are short-term but significant impacts and could occur in association with any of the individual transportation improvement projects that involve construction activities.

Implementation of project-specific SWMPs, as well as compliance with SWRCB policies and requirements that implement federal CWA requirements, would prevent potential impacts from rising to a level of significance. These policies and regulations minimize the creation of pollution-generating surfaces. Existing NPDES permits require SWMPs, which in turn require source and treatment control measures. Transportation improvement projects would be required to comply with existing federal, state, and local water quality and stormwater regulations, including implementation of drainage control BMPs. However, because implementation of the 2017 CTP may result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade water quality, these impacts are considered potentially significant.

Investment Program

The Investment Program's transportation projects and new or expanded transit projects could result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade water quality. Many of the transportation projects listed under the Investment Program involve new or expanded transit and freeway and roadway projects that would result in an increase in impervious area and increased potential for polluted runoff. These transportation improvements could affect the quality of water that filters into the ground, groundwater basins, and receiving waters—including impaired water bodies. Those transportation improvements that do not result in substantial changes in drainage patterns or exposure to stormwater pollutants would have less than significant effects on water quality and stormwater runoff.

Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the Investment Program would result in a violation of water quality standards or waste discharge requirements, or otherwise substantially degrade water quality. Because individual Investment Program projects have the potential to result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade water quality, these impacts are considered potentially significant.

Mitigation Measures

Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

Mitigation Measure Hydro-1A: Compliance with Water Quality Regulations. To reduce the impact associated with potential water quality standards violations or waste or stormwater discharge requirement violations, implementing agencies shall require project sponsors to comply with the federal and state water quality regulations for all projects that would alter existing drainage patterns in accordance with the relevant regulatory criteria including but not limited to the NPDES program, Provision C.3, and any applicable SWMPs. Erosion control measures shall be consistent with NPDES General Construction Permit requirements including preparation and implementation of a SWPPP, and final drainage plans shall be consistent with the San Francisco Regional

MS4 NPDES permit or any applicable local drainage control requirements that exceed or reasonably replace any of these measures to project receiving waters from pollutants.

Implementing agencies shall require project sponsors to commit to BMPs that would minimize or eliminate existing sources of polluted runoff during both construction and operational phases of the project. Implementing agencies shall require projects to comply with design guidelines established in the Bay Area Stormwater Management Agencies Association's Using Start at the Source to Comply with Design Development Standards and the California Stormwater Quality Association's California Stormwater BMP Handbook for New Development and Redevelopment to minimize both increases in the volume and rate of stormwater runoff, and the amount of pollutants entering the storm drain system. For the purposes of this mitigation, less than significant means consistent with federal, state, and local regulations and laws related to water quality or stormwater management.

Mitigation Measure Hydro-1B: Project-specific Water Quality Measures. Mitigation measures to be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations include, but are not limited to:

Construction

- Limit excavation and grading activities to the dry season (April 15 to October 15) to the extent possible in order to reduce the chance of severe erosion from intense rainfall and surface runoff, as well as the potential for soil saturation in swale areas.
- Regulate stormwater runoff from the construction area through a stormwater management/erosion control plan that may include temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters if excavation occurs during the rainy season. This control plan should include requirements to cover stockpiles of loose material, divert runoff away from exposed soil material, locate and operate sediment basin/traps to minimize the amount of offsite sediment transport, and removing any trapped sediment from the basin/ trap for placement at a suitable location on-site, away from concentrated flows, or removal to an approved disposal site.
- Provide temporary erosion control measures until perennial revegetation or landscaping is established and can minimize discharge of sediment into receiving waterways.
- Provide erosion protection on all exposed soils either by revegetation or placement of impervious surfaces after completion of grading. Revegetation shall be facilitated by mulching, hydroseeding, or other methods and initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by October 15).
- Use permanent revegetation/landscaping, emphasizing drought-tolerant perennial ground coverings, shrubs, and trees.
- Ensure BMPs are in place and operational prior to the onset of major earthwork on the site. The construction phase facilities shall be maintained regularly and cleared of accumulated sediment as necessary.
- Store hazardous materials such as fuels and solvents used on the construction sites in covered containers and protected from rainfall, runoff, and vandalism. A stockpile of

spill cleanup materials shall be readily available at all construction sites. Employees shall be trained in spill prevention and cleanup, and individuals should be designated as responsible for prevention and cleanup activities.

Operation

- Design drainage of roadway and parking lot runoff, wherever possible to run through grass median strips which are contoured to provide adequate storage capacity and to provide overland flow, detention, and infiltration before runoff reaches culverts, or into detention basins. Facilities such as oil and sediment separators or absorbent filter systems should be designed and installed within the storm drainage system to provide filtration of stormwater prior to discharge and reduce water quality impacts whenever feasible.
- Implement an erosion control and revegetation program designed to allow re-establishment of native vegetation on slopes in undeveloped areas as part of the long-term sediment control plan.
- Use alternate discharge options to protect sensitive fish and wildlife populations in areas where habitat for fish and other wildlife would be threatened by transportation facility discharge. Maintenance activities over the life of the project shall include use of heavy-duty sweepers, with disposal of collected debris in sanitary landfills to effectively reduce annual pollutant loads where appropriate. Catch basins and storm drains shall be cleaned and maintained on a regular basis.
- Use Integrated Pest Management techniques (methods that minimize the use of potentially hazardous chemicals for landscape pest control and vineyard operations) in landscaped areas. The handling, storage, and application of potentially hazardous chemicals shall take place in accordance with all applicable laws and regulations.

Transportation projects must incorporate initial stormwater management strategies such as stormwater reuse, onsite infiltration, and evapotranspiration, as required by Provision C.3. Secondary methods that could also be incorporated into the design of these transportation projects and include the use of natural, landscape-based stormwater treatment measures, also as identified by Provision C.3 of the NPDES Program. Stormwater treatment measures may be required in final design plans for transportation projects in accordance with local SWMPs. Treatment control measures may include use of vegetated swales and buffers, grass median strips, detention basins, wet ponds, or constructed wetlands, infiltration basins, and other measures. Filtration systems may be either mechanical (e.g., oil/water separators) or natural (e.g., bioswales and settlement ponds).

Selection and implementation of low-impact development measures such as those required by NPDES Provision C.3 would occur on a project-by-project basis depending on project size and stormwater treatment needs as required to meet NPDES or any other local permitting requirements.

Transportation projects that fall under Caltrans jurisdiction would also be covered by the Caltrans NPDES Stormwater Program. As described in the Regulatory Setting section above, this NPDES permit regulates all stormwater discharges from Caltrans-owned conveyances, maintenance facilities, and construction activities. Caltrans also has a programmatic SWMP that

describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. Guidance documents have also been developed by Caltrans to implement stormwater BMPs in the design, construction and maintenance of highway facilities.

Transportation projects where local agencies are the lead agency are subject to local and State regulations for post-construction runoff management requirements (e.g., Contra Costa County Stormwater Management and Discharge Control Ordinance and C.3 requirements). Therefore, to the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Hydro-1A, impacts related to water quality would be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to determine that they would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore, potential impacts related to water quality would be less than significant with implementation of these mitigation measures. Mitigation Measure Hydro-1B identifies performance measures, recommendations and/or best management practices identified by CCTA that should be considered by implementing agencies and/or project sponsors. These measures would reduce significant impacts to water quality because they would minimize risks of erosion and pollutant discharges. (Draft EIR, pp. 2.9-15 through 20.)

2. Drainage and Runoff

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade water quality?

Finding: Less than significant impact with mitigation incorporated. (Draft EIR, pp. 2.9-21 through 23.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR (State CEQA Guidelines, section 15091(a)(1).)

Explanation:

2017 CTP

Transportation projects pursuant to the 2017 CTP include a variety of transit and roadway improvements and modifications that could alter drainage patterns, adversely affect stormwater drainage systems, or increase polluted runoff. Alteration of existing drainage patterns of a site could contribute to sediment loads of streams and drainage facilities, resulting in the potential to exceed the capacity of existing or planned stormwater drainage systems, or create additional sources of polluted runoff. An increase in the amount of sediment reaching storm drains and creeks could also alter drainage patterns and could result in flooding on- or off-site.

In general, many of the transportation projects would be located in areas where previous roads or other improvements have occurred, and the potential for these conditions would have been

addressed at the time of original construction. Not all of the transportation projects would involve earthwork activities and some, such as changes to HOV lane designations or BART improvements, would have no changes to drainage patterns when compared to existing conditions.

Transportation projects that have the potential to alter drainage patterns—such as road widening or construction of other additional impervious surfaces—would be subject to local, regional, and state requirements. These requirements include local Stormwater Drainage Master Plans, regional MS4 permit requirements, and any Caltrans drainage requirements that would include BMPs and drainage requirements that minimize exposed soils and the potential for offsite transport of sediments. Under NPDES permit regulations, the project proponent would be required to prepare and implement a SWPPP, consistent with the above agencies, guidelines, programs and permits. Implementation of the SWPPP shall be enforced by inspecting agencies during the construction period. Because implementation of the 2017 CTP may alter drainage patterns, adversely affect stormwater drainage systems, or provide additional sources of polluted runoff, these impacts are considered significant.

Investment Program

The Investment Program's transportation projects and new or expanded transit projects could alter drainage patterns, adversely affect stormwater drainage systems, or increase polluted runoff. Transportation projects that have the potential to alter drainage patterns—such as road widening or construction of other additional impervious surfaces—would be subject to local, regional, and state requirements.

Drainage systems are designed on a site-specific basis in accordance with the findings of the studies and the regulations of the applicable local flood control agencies and flood control design criteria. Adherence to local and state regulations would help prevent substantial alterations to the existing drainage pattern of the site or area and avoid substantial increases in the rate or amount of surface runoff in a manner that would result in on- or off-site flooding, or substantial siltation or erosion. Transportation projects where local agencies are the lead agency are subject to local and state regulations for construction and non-construction runoff prevention. Caltrans regulations combined with federal and State regulations require that engineered conveyances integrate energy dissipation protection, streambank erosion protection, and other design controls to minimize erosion or the transport of sediment or silt to downstream areas. The Caltrans Highway Design Manual requires that roadway storm drain systems be designed to safely drain the 25-year return interval storm and that crossculverts be designed to safely drain the 10-year interval storm. The Caltrans manual also requires that the headwater depth for the 100-year interval storm must not overtop freeways.

Individual project-level analysis will need to be conducted to determine whether these or other future Investment Program projects would result in adverse effects related to drainage and runoff. Because individual Investment Program projects have the potential to alter drainage patterns, adversely affect stormwater drainage systems, or increase polluted runoff, these impacts are considered significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Hydro-1A: Compliance with Water Quality Regulations. To reduce the impact associated with potential water quality standards violations or waste or stormwater discharge requirement violations, implementing agencies shall require project sponsors to comply with the State, and federal water quality regulations. See list of specific required measures above, under Water Quality.

Mitigation Measure Hydro-1B: Project-specific Water Quality Measures. Mitigation measures shall be considered by implementing agencies and/or project sponsors where feasible based on project-and site-specific considerations. See list of specific required measures above, under Water Quality.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Hydro-1A, impacts related to water quality would be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to determine that they would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Therefore, potential impacts related to water quality would be less than significant with implementation of these mitigation measures. Mitigation Measure Hydro-1B identifies performance measures, recommendations and/or best management practices identified by CCTA that can and should be implemented by implementing agencies and individual project sponsors pursuant to the identified regulatory requirements. These measures would reduce significant impacts to water quality because they would minimize risks to water quality from erosion and pollutant discharges.

The Authority finds that mitigation measures **Mitigation Measure Hydro-1A: Compliance with Water Quality Regulations and Mitigation Measure Hydro-1B: Project-specific Water Quality Measures** are feasible, are adopted, and will reduce the potentially significant impacts of the proposed Project to Hydrology and Water Resources to less than significant levels. Accordingly, the Authority finds that, pursuant to Public Resources Code section 21081(a)(1) and State CEQA Guidelines section 15091(a)(1), changes or alterations have been required in, or incorporated into, the proposed Project that mitigate or avoid the potentially significant impacts of the proposed Project to Hydrology and Water Resources, as identified in the EIR. Therefore, impacts are considered less than significant with mitigation required. (Draft EIR, pp. 2.9-15 through 23.)

SECTION 4. FINDINGS REGARDING ENVIRONMENTAL IMPACTS NOT FULLY MITIGATED TO A LEVEL OF LESS THAN SIGNIFICANT. The Authority hereby finds that, despite the incorporation of Mitigation Measures outlined in the EIR and in these, the following impacts from the Project and related approvals cannot be fully mitigated to a less than significant level:

A. Transportation & Circulation

3. Vehicle Hours of Delay

Threshold: Would travelers on major roadways throughout Contra Costa County experience an appreciable increase in total VHD as compared with the baseline condition? An appreciable increase in VHD is defined as greater than 5 percent.

Finding: Significant and unavoidable. (Draft EIR, pp. 2.1-21 through 24.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

Regional roadways throughout Contra Costa will experience an appreciable increase in vehicle hours of delay (VHD) as compared with the baseline condition. This worsening roadway congestion reflects the additional travel generated from future population and employment growth, which cannot sufficiently be accommodated by the limited financial resources available for improving the efficiency and capacity of the regional transportation system. This increase is projected to occur irrespective of implementation of the 2017 CTP. However, because these roadways will see an appreciable increase in VHD as compared with the baseline condition, this impact is considered significant and unavoidable.

Investment Program

Even with the substantial investments in transportation and transit projects proposed pursuant to the 2017 CTP Investment Program, travelers on regional roadways throughout Contra Costa will experience an appreciable increase in VHD when compared with the baseline condition, as indicated in Table 2.1-5 of the Draft EIR. Total hours of delay on the County roadway network are projected to increase by 166%, from just over 71,000 VHD in 2013 to more than 190,000 VHD in 2040. This increase is projected to occur irrespective of implementation of the 2017 CTP Investment Program's roadway investments and increased transportation options. For comparison purposes only, implementation of the Investment Program would result in a significant decrease in total VHD as compared with a No Project scenario. The estimated decrease of 25% in VHD reflects improvement that would result from roadway investments and increased transportation options that would not otherwise occur without the Project. Because the expected VHD is projected to increase appreciably throughout Contra Costa County when compared with the baseline condition even with the implementation of the Investment Program, this impact is considered significant and unavoidable.

Mitigation Measures

The Investment Program would make a significant improvement in VHD as compared with a No Project scenario. However, no standard mitigation strategy to address VHD at the plan or regional level is currently considered feasible due to the variability in congestion characteristics, driver behavior, and cost limitations. Approaches to mitigating increased vehicle delay require addressing one or more of the following: a) substantially increase available transportation and transit capacity (supply); b) substantially decrease traffic demand; and/or c) improve traffic operations.

To increase available roadway and transit capacity, CCTA would have to develop and program projects that add new through lanes to existing arterials and freeways, and substantially increase regional transit systems. Further widening of major arterials and freeways is inconsistent with Goal 2 of the CTP, to manage growth to sustain Contra Costa's economy, preserve its environment and support its communities. The substantial investments in transportation infrastructure and regional transit that would be necessary to accommodate the forecast of growth is financially infeasible, given the limited funding available in the CTP, and would likely generate secondary significant and unavoidable environmental impacts that could adversely affect the quality of life for the people of Contra Costa.

The CTP and its Investment Program include feasible approaches toward decreasing traffic demand, consistent with the Authority's Goal 3, to: "Expand safe, affordable, and convenient alternatives to the single-occupant vehicle." These approaches include:

- Helping to fund the expansion of existing transit services and regional express lanes, and maintenance of existing operations, including BART, bus transit, school buses, and paratransit
- Linking transit investments to increased coordination and integration of public transit services, and improved connections between travel modes
- Requiring local jurisdictions (through the *GMP Implementation Guide*) to incorporate policies and standards for "complete streets" that support transit, bicycle and pedestrian access in new developments, infill development areas ("Priority Development Areas"), and transit priority areas
- Supporting transit-oriented and pedestrian-friendly developments, and investing in trails, walkways, and pedestrian-oriented improvements
- Promoting the formation of more carpools and vanpools, and greater use of transit, bicycling, and walking
- Help local jurisdictions develop a connected and coordinated network for electric vehicles
- Supporting the expansion of a coordinated system of transit and paratransit service to address the mobility needs of low-income, elderly, young and disabled travelers, households without cars, single-parent households, and people paying more than 50 percent of their income for rent

- Encouraging local jurisdictions and other agencies to develop a connected and coordinated system of bicycle facilities through financial assistance, technical support, other aid, and encouragement
- Supporting congestion pricing and parking pricing programs, transportation demand management programs and other innovative strategies that reduce greenhouse gas emissions, and
- Supporting Safe Routes to Schools projects and programs

Implementation of these CTP strategies can influence driver behavior toward lesser reliance on single-occupant vehicles, but cannot fully overcome congestion, especially given the cost limitations of the CTP.

The third approach is to improve traffic operations. Innovation and technology advances such as Integrated Corridor Management (ICM) and autonomous vehicles may ultimately result in improvements to traffic operations that are capable of providing solutions to congestion relief. Through Integrated Corridor Management, transportation networks may realize significant improvements in traffic delay through institutional collaboration and proactive integration of existing infrastructure along major corridors. Transportation corridors often contain underutilized capacity in the form of parallel roadways, single-occupant vehicles, and transit services that could be better leveraged to improve traffic flow and reduce congestion. Through an Integrated Corridor Management approach, transportation corridors are managed as a multimodal system, and operational decisions can be made for the benefit of the corridor as a whole. The potential for automated cars to reduce delay is based on the concept that automation can eliminate human-error accidents and enable a more efficient use of roadways by synchronizing traffic flow, signalization and optimal speed.

The 2017 CTP and its Investment Program supports improvements to the regional transportation and transit infrastructure, efficiency of existing infrastructure, and strategic investments in advanced technology to improve mobility and accessibility. New technologies supporting express lanes and integrated corridor management are already improving the efficiency of existing roads and freeways within the County. While advancing technologies hold significant promise for the future, their ability to mitigate traffic congestion cannot be verified at this time, and the impact remains significant and unavoidable. (Draft EIR, pp. 2.1-21 through 24.)

B. Greenhouse Gas Emissions and Climate Change

1. Indirect GHG Emissions by 2040

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in an increase in indirect construction-related emissions of GHGs by 2040 when compared with the baseline condition?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.2-23 through 24.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of

employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

Construction-related GHG emissions generated during implementation of transportation improvement projects pursuant to the 2017 CTP would contribute to indirect GHG emissions levels in the Bay Area. Due to the project-specific nature of construction emissions, project-level details would be required to assess the specific construction-related impact. The additional increment of construction-related indirect emissions from implementation of the 2017 CTP is considered significant on a cumulative basis.

Investment Program

Under the Investment Program for the 2017 CTP, construction of proposed transportation projects and new or expanded transit projects are expected to result in an increase in indirect GHG emissions. Due to the project-specific nature of construction emissions, quantitative estimates are not included in the assessment. To assess the specific construction-related impact, project-level details would be required. Best practice measures may include using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet; using local building materials for at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials. The additional increment of construction-related indirect emissions resulting from implementation of the Investment Program is considered significant on a cumulative basis.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures to reduce the cumulative construction-related indirect GHG emissions resulting from construction of transportation projects, including but not limited to those identified below.

Mitigation Measure GHG-3: Construction-related GHG Emission Reductions.

Where construction of new or expanded transportation facilities could result in significant GHG emissions, mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- a. using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet;
- b. using local building materials for at least 10 percent; and
- c. recycling or reusing at least 50 percent of construction waste or demolition materials.

Resulting Level of Significance

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure GHG-3, these measures would reduce construction-related GHG emissions overall. However, site conditions are unique and individual construction projects may be so large as to generate more GHG emissions than can be effectively reduced through implementation of these measures. Therefore, it cannot be concluded with certainty that all construction-related GHG emission impacts could be avoided, and there may be instances in which these impacts are significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.2-21 through 24.)

2. Sea Level Rise

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in a net increase in transportation projects within areas projected to be regularly inundated by sea level rise by midcentury?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.2-27 through 34.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

Potential midcentury (e.g., 2050) sea level rise conditions were selected for this analysis in lieu of 2040 conditions, as most sea level rise projections are associated with midcentury and end-of-century conditions. This analysis considers the inundation extent associated with 24 inches of sea level rise at mean higher high water condition. Approximately 6,700 acres, or 1% of the total County area is projected to be inundated by sea level rise. The implementation of new transportation projects pursuant to the 2017 CTP would place transportation and transit infrastructure in areas subject to inundation resulting from of sea level rise, exposing such projects to a significant risk of deterioration or loss and exposing people to a significant risk of loss, injury or death involving flooding associated with sea level rise. The types of impacts would be similar to those discussed for flood hazards in Chapter 2.9, Hydrology and Water

Resources. Implementation of the 2017 CTP would result in a net increase in transportation projects located in areas inundated by projected sea level rise by midcentury. These impacts are considered significant.

Investment Program

The Investment Program includes certain transportation projects and new or expanded transit projects that would be placed in areas subject to inundation as a result of sea level rise, exposing such projects to a significant risk of deterioration or loss and exposing people to a significant risk of loss, injury or death involving flooding associated with sea level rise. The transportation projects included in the Investment Program that may be located, partially or wholly, within areas projected to be regularly inundated (i.e., inundated multiple times each year) by sea level rise by midcentury are:

- Marina Bay Parkway Grade Separation
- I-80 / Central Avenue Interchange Improvements, Phase I
- Construct Eastbound HOV Lane, Cummings Skyway to Carquinez Bridge
- I-680/SR-4 Interchange Improvements
- Improve and Widen Main Street from SR-160 to Big Break Road

Any increase in transportation investments within the sea level rise inundation zone is considered a significant impact; however, these impacts can be mitigated through careful project-level planning and design that considers long-term sea level rise and includes adaptive strategies that are appropriate to the project type, surrounding land use, and the adjacent Bay shoreline type. Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the 2017 CTP would result in adverse effects related to sea level rise. Because individual Investment Program projects pursuant to the 2017 CTP would result in a net increase in transportation projects within areas projected to be regularly inundated by sea level rise by midcentury, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures to reduce the impacts associated with sea level rise, including but not limited to those identified below.

Mitigation Measure GHG-6A: Transportation Asset Management Plans. Where construction of new or expanded transportation facilities could result in significant impacts related to sea level rise, implementing agencies and/or sponsors shall consider measures to minimize impacts pursuant to project implementation, where feasible and based on project-and site-specific considerations. The project sponsors and implementing agencies shall coordinate with the San Francisco Bay Conservation and Development Commission (BCDC), California Department of Transportation (Caltrans), local jurisdictions (cities and counties), and other transportation agencies to develop Transportation Asset Management Plans that consider the potential impacts of sea level rise over the asset's life cycle.

Mitigation Measure GHG-6B: Sea Level Rise Adaptation Strategies. Where construction of new or expanded transportation facilities could result in significant impacts related to sea level rise, implementing agencies and/or sponsors shall consider, where feasible and based on project-and site-specific considerations, incorporating sea level rise into planning for all new construction and routine maintenance projects. Executive Order S-13-08 requires all state agencies, including Caltrans, to incorporate sea level rise into planning for all new construction and routine maintenance projects; however, no such requirement exists for local transportation assets and development projects. Appropriate adaptation strategies should be selected as part of future project-level analysis and planning.

Adaptation Strategies

The adaptation strategies in this section have the potential to reduce significant impacts, depending on the vulnerability and risk of inundation associated with the specific transportation or transit project. Transportation and transit projects will likely require a combination of several adaptation strategies. The selection of the appropriate adaptation strategy, or strategies, will occur during subsequent project-level analysis and planning. For those adaptation strategies that may have secondary impacts (e.g., those involving the construction of new structures such as floodwalls), separate CEQA analysis may be required.

Protection Strategies

This subset of adaptation strategies focuses on protecting transportation projects and land use development projects from the impacts of sea level rise through both structural and non-structural approaches. If implemented, the following strategies would help minimize or avoid the damage to transportation assets and new development expected to be regularly inundated by rising sea levels:

- **Update building/design codes:** Counties and communities should adopt updated building codes within their respective Building Ordinances that require transportation projects to consider sea level rise and include adaptation strategies. For example, the building codes can require the implementation of structural measures, such as improving drainage, or raising road surfaces (e.g., transit stations), or making any structures (e.g., rail and transit stations) more resilient to flooding through specific construction techniques and materials.
- **Establish setbacks/buffers:** Minimum setbacks from the shoreline can limit development in areas at risk for sea level rise. Setbacks can be applied uniformly or vary with the scale of development, increasing for larger developments to minimize the property and residents/employees placed at risk. In the case of sea level rise, setbacks and buffers guide development to lower-risk areas. Buffers also restrict development adjacent to sensitive natural areas, such as tidal wetlands. In areas with tidal wetlands, buffers can preserve the storm surge and wave dissipation properties of tidal wetlands while allowing wetlands and beaches room to migrate landward as sea levels rise.
- **Prioritize infrastructure investments in low-risk areas:** Transportation agencies and local jurisdictions can guide new development away from areas at risk of inundation from sea level rise by prioritizing investments in supporting infrastructure in lower-risk areas,

focusing first on the planning and construction of new projects that are not subject to sea level rise.

- **Raise elevation:** This strategy involves elevating the surface or grade of new transportation projects (e.g., local roads, railroad tracks, structures) above the expected sea level rise inundation level. Consideration of changes to overland flow and increased flooding to adjacent areas would be applied to manage any potential negative impacts of this strategy.
- **Elevate mechanical/electrical equipment:** Transportation assets and other infrastructure with mechanical and/or electrical equipment at grade may malfunction if inundated. This strategy involves elevating any critical components, such as switchgears or substations—for existing or planned assets—to ensure that they are above flood levels and not at risk of inundation from sea level rise.
- **Relocate:** The movement of transportation assets, structures, and functions from areas subject to sea level rise to lower-risk areas may be a possible strategy. Relocation may occur before an asset experiences inundation, or it may be planned as a response to sea level rise.
- **Build/raise levee (engineered flood protection):** Building a new levee or raising the elevation of existing levees is a form of engineered flood protection designed to protect inland areas from inundation and erosion resulting from sea level rise. Levees are earthen structures constructed with sloped sidewalls, where the base is wider than the top. The level of protection will depend on the height of the levee relative to existing conditions and the rate of sea level rise, as well as the condition of the levee. This strategy could be implemented at the local or regional level, the latter involving the collaboration of multiple local jurisdictions and/or transportation agencies.
- **Construct floodwall (engineered flood protection):** Floodwalls are also a form of engineered flood protection; however, in contrast to levees, floodwalls are concrete or steel structures. Floodwalls are often built in lieu of or on top of levees, typically where space does not allow for a levee's broad base. As with levees, the construction of floodwalls could be implemented at the local or regional level.
- **Create berm:** Berms are non-engineered earthen structures that provide protection from wave erosion and provide flood protection to inland development and infrastructure. Networks of berms currently exist along the bay shorelines that protect marshes, ponds, and agricultural areas, and may provide multiple lines of flood defense for developed areas. However, because berms are not engineered and experience settlement, erosion, and failure, they are highly vulnerable to sea level rise and storm surge. The effectiveness of berms in providing protection from sea level rise and storm surge events may depend on regular and routine maintenance.

Functional Inundation Strategies

The following strategies focus on physical and operational measures designed to allow transportation projects to continue functioning with sea level rise:

- **Increase maintenance at flooding hotspots:** Transportation assets that are allowed to flood frequently are likely to experience greater wear and tear and therefore, have greater maintenance needs. This strategy entails planning for an increased level and/or frequency

of maintenance in targeted areas of transportation projects that are anticipated to flood regularly with sea level rise.

- **Use corrosion-resistant materials:** Some materials are more resistant to the corrosive effects of saltwater, and incorporating them into certain parts of infrastructure that are likely to be permanently inundated, such as bridge touchdowns or building foundations, may prolong asset life.
- **Retrofit/make waterproof:** Bridge tollbooths, ferry terminals, and other structures can be upgraded to withstand periodic inundation and continue to function, either in conjunction with sea level rise or following storm events.

Inundation Strategies

The strategies below plan and allow for inundation, focusing on alternatives where assets experience flooding from sea level rise:

- **Provide alternative transportation mode:** Commuters and other passengers can be offered a different mode of transportation when assets experience flooding from sea level rise depending on the road, rail, BART, and ferry options available and appropriate. Providing alternatives for goods movement is considered less viable. This strategy may include the identification of emergency measures to maintain mobility and safety in the event that longer-term closures are needed to repair damage.
- **Conduct partial or temporary closure:** The closure of part or all of a transportation asset is a management option, particularly during extreme events. The level of service required would determine the adequacy of this adaptation strategy, as it is unlikely that recurring closure would be acceptable for some assets. In the case of such closures, commuters and other passengers could use nearby assets (e.g., adjacent transit stations) or alternative transportation modes or routes; alternate routes for goods traffic are less likely to be readily available.
- **Construct low-water crossings:** For roads likely to flood frequently from sea level rise or extreme tide levels such as King Tides, this strategy offers an alternative to raising road elevations. Low-water crossings allow vehicles to travel safely over a waterway during low tide or normal flow conditions, either via a bridge or causeway under dry conditions; however, under extreme high tide or high flow conditions, vehicles may either travel safely over the crossing with “wet wheels,” or the crossing may be closed to traffic if inundation exceeds a certain depth. The creation of low-water crossings acknowledges access limitations due to frequent inundation, and the crossings can be designed to avoid blocking drainage pathways. This strategy is most appropriate for local streets and roads with low traffic volumes and likely requires the availability of alternative routes or transportation modes, as low-water crossings can effectively close affected roadways.
- **Develop emergency management plan:** An emergency management plan can designate alternative transportation modes or routes for use during periodic inundation associated with extreme coastal flood events. This plan may be coupled with a community’s Hazard Mitigation Plan.

Strategies with a Range of Outcomes

The specific outcome of the following strategies, in terms of their respective abilities to mitigate the impacts of sea level rise, depends on the specific goals of the local jurisdiction, transportation agencies, or other implementing entity, as well as asset- and site-specific conditions. The outcome could range from protection to inundation:

- **Revise planning guidance/policy:** The review and revision of existing guidance and policies on sea level rise and flood management for specific assets can facilitate proactive planning and adaptation. The incorporation of sea level rise into general and specific plans is a tool for local jurisdictions to address the impacts of sea level rise comprehensively and devise the most appropriate strategies for adaptation over the long-term. Caltrans currently applies their internal guidance on incorporating sea level rise when planning new transportation projects, pursuant to requirements for state agencies. Other agencies charged with implementing transportation projects can adopt a similar approach.
- **Form multi-jurisdictional partnerships:** Partnerships between cities, regional entities, federal and state agencies, transportation providers, ports, and others may lead to the development of regional strategies that address sea level rise impacts for multiple transportation projects. Such partnerships may also facilitate cost sharing or implementation of structural and/or policy solutions needed to address vulnerabilities and risks to sea level rise. In some cases, existing partnerships could expand their focus to address adaptation solutions in conjunction with other planning activities. MTC and ABAG have been partnering with BCDC, and other local, state, and federal agencies and stakeholders on the Adapting to Rising Tides Project focused in Alameda County. This effort can serve as an example for continued and expanded partnerships in other counties, or as the foundation for the development of regional partnerships in coordination with the Joint Policy Committee, as CCTA participates on the committee.
- **Create a comprehensive sea level rise plan:** For local jurisdictions and/or transportation agencies likely to experience sea level rise impacts for multiple assets, the creation of a plan that assesses risk and vulnerability and develops appropriate adaptation strategies represents a comprehensive, proactive approach. Comprehensive sea level rise plans can also be created at the regional level for multiple jurisdictions or partnerships, which may facilitate creative solutions and cost sharing for any new investments. MTC, ABAG and BCDC, through the Joint Policy Committee, along with other agencies and stakeholders, collaborated on the Adapting to Rising Tides Project focused in Alameda County, which can be used as an example plan for other counties, or as the foundation for the development of a wider-scale regional plan, potentially.
- **Create/restore/enhance wetlands:** Tidal wetlands can mitigate the impacts of sea level rise by serving as open space buffers that restrict development in high-risk areas and by helping to dissipate storm surge and wave energy associated with storm events. The creation of a sediment management program that considers wetland processes such as vertical accretion, as well as planning for wetland transgression or migration, is one example of a way in which local jurisdictions and/or transportation agencies can support the creation, restoration, or enhancement of wetlands. This strategy is most appropriate where shoreline and/or flood protection structures (e.g., bulkheads, floodwalls) do not impede the migration of wetlands to higher ground as sea levels rise.

- **Beach nourishment:** The ongoing replenishment of sand from off-site locations can preserve beaches—both natural and artificial—that are subject to erosion and land loss from rising sea levels. This form of soft shoreline protection can maintain a barrier between rising sea levels and transportation and development. In addition to inundation, beach nourishment can protect against storm surge by dissipating wave energy.
- **Construct shoreline armoring (engineered shore protection):** Revetment and bulkheads are forms of engineered shoreline protection structures that harden the shoreline to reduce erosion and prevent land loss. However, these structures alone do not provide flood protection, and sea level rise, coupled with storm surge, can compromise their functionality and stability.
- **Improve drainage:** A number of structural strategies can be employed to facilitate drainage and mitigate the impacts of temporary inundation associated with extreme tide events and storm surge on transportation assets, structures, and infrastructure. The inclusion of more under-drains and/or cross-drains in new roadways could improve the drainage of transportation projects.
- **Build causeway:** Causeways represent an alternative for roads or rail tracks likely to be regularly inundated, as they typically traverse open water or wetlands on elevated embankment. While some causeways are designed to avoid all inundation, others may function only at low tide.

Resulting Level of Significance

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate asset management plans and adaptation strategies as described pursuant to Mitigation Measures GHG-6A and -6B, these strategies have the potential to reduce significant impacts. The effectiveness of these strategies depends on vulnerability and risk of inundation associated with specific transportation or transit projects, and a combination of several adaptation strategies may be necessary. The selection of the appropriate adaptation strategy, or strategies, will occur during subsequent project-level analysis and planning. However, because site conditions and vulnerability to inundation are unique, it cannot be concluded with certainty that all impacts related to sea level rise could be avoided. Therefore, there may still be instances in which sea level rise impacts remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable (SU) for purposes of this program-level analysis. (Draft EIR, pp. 2.2-27 through 34.)

C. Air Quality

1. Construction-Period Emissions and Fugitive Dust

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in a substantial net increase in construction-related emissions?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.3-18 through 21.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

The U.S. EPA and CARB have adopted rules and regulations establishing criteria pollutant and hazardous emissions limits for diesel powered on-road vehicles and off-road equipment. The current EPA and CARB rules and emission standards are in the process of being implemented and are therefore reasonably foreseeable. They will continue to be phased in over the next 10 years and are expected to reduce DPM emissions by 90 percent or more when compared to vehicles and equipment built prior to 2004.

EPA and CARB on-road and off-road regulations target the primary sources of emissions at construction sites. These include on-road heavy duty trucks, and cranes and off-road aerial lifts, backhoes, crawler tractors, excavators, forklifts, graders, loaders, mowers, rollers, scrapers, skid steer loaders, tractors, trenchers, two engine vehicles and workover rigs. In addition, CARB's cleaner fuel standards will reduce emissions from all internal combustion engines and their stationary and portable equipment regulations will reduce emissions from the smaller equipment used at construction sites, such as portable generators.

The most effective way to ensure that construction of new transportation projects pursuant to the 2017 CTP does not adversely impact local and regional air quality, and therefore public health, is to minimize the amount of criteria and TACs emissions associated with each projects' construction activity. The EPA and CARB have adopted stringent air emission regulations for new and existing fleets of construction equipment that is common to all construction sites. However, these regulations alone cannot assure that all projects pursuant to the 2017 CTP will use only the lowest emission construction equipment, due primarily to the fleet averaging component of the regulations' compliance requirements. Because implementation of the 2017 CTP may result in adverse air quality impacts related to construction-period emissions, these impacts are considered potentially significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects that could result in a substantial net increase in construction-

related emissions. Implementation of stringent air emission regulations adopted by EPA and CARB for new and existing fleets of construction equipment common to all construction sites cannot assure that all projects pursuant to the 2017 CTP will use only the lowest emission construction equipment, due primarily to the fleet averaging component of the regulations' compliance requirements.

Individual project-level analysis will need to be conducted to determine whether projects pursuant to the Investment Program would result in a substantial net increase in construction-related emissions. Because individual Investment Program projects pursuant to the 2017 CTP have the potential to result in adverse air quality impacts related to construction-period emissions, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those Individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Air-2A: BMPs for Exhaust: Implement mitigation measures for construction-period exhaust, including but not limited to the following BMPs:

- a. The applicant/general contractor for the project shall submit a list of all off-road equipment greater than 25 hp that will be operating for more than 20 hours over the entire duration of construction activities at the site, including equipment from subcontractors, to BAAQMD for review and certification. The list shall include all of the information necessary to ensure the equipment meets the following requirements. All off-road equipment shall have:
 - engines that meet or exceed either U.S. EPA or CARB Tier 2 off-road emission standards; or
 - engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy, if one is available for the equipment being used.
 - Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement, therefore a Verified Diesel Emissions Control Strategy would not be required.
- b. Idling time of diesel powered construction equipment and trucks shall be limited to no more than two minutes. Clear signage shall be provided for construction workers at all access points.
- c. All construction equipment shall be maintained and properly tuned in accordance with the manufacturers' specifications.
- d. Portable diesel generators shall be prohibited. Grid power electricity should be used to provide power at construction sites; or propane and natural gas generators may be used when grid power electricity is not feasible.

Mitigation Measure Air-2B, BMPs for Dust: Implement mitigation measures for construction-period dust, including but not limited to the following BMPs:

- a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. For projects over five acres of size, soil moisture should be maintained at 12 percent. Moisture content can be verified by lab samples or moisture probe.
- b. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping should be done in conjunction with thorough watering of the subject roads.
- d. All vehicle speeds on unpaved roads shall be limited to 15 mph.
- e. All roadway, driveway, and sidewalk paving shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading.
- f. All construction sites shall provide a posted sign visible to the public with the telephone number and person to contact at the Lead Agency regarding dust complaints. The recommended response time for corrective action shall be within 48 hours. BAAQMD's Complaint Line shall also be included on posted signs to ensure compliance with applicable regulations.
- g. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- h. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- i. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- j. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- k. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- l. Site accesses to a distance of 100 feet from the paved road shall be treated with a six- to 12-inch compacted layer of wood chips, mulch, or gravel.
- m. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Air-2A and -2B, these measures would minimize PM₁₀ and PM_{2.5} dust emissions and exhaust emissions of diesel PM. The measures described above are intended to keep dust from becoming airborne, and to keep DPM emissions as low as possible through the use of readily available, lower-emitting diesel equipment and/or equipment using alternative cleaner fuels such as propane, natural gas, and electricity, as well as on-road trucks using DPM filters. These measures rely on use of readily available, lower-emitting diesel equipment, and/or equipment powered by alternative cleaner fuels (e.g., propane) or electricity, as well as on-road trucks using particulate

exhaust filters. To the extent that individual projects adopt and implement all feasible mitigation measures described above, the project's impact would be less than significant with mitigation.

However, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.3-18 through 21.)

2. Particulate Matter Emissions

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in a net increase in emissions of PM₁₀ from on-road mobile sources (including entrained dust) as well as a net increase in emissions of PM_{2.5} entrained dust, as compared with the baseline condition?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.3-23 through 26.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP are expected to result in a net increase in air quality impacts related to particulate matter emissions as compared with the baseline condition. When compared with the baseline (year 2013) condition, PM₁₀ and PM_{2.5} emissions from all mobile sources would increase by year 2040. The higher levels of particulate matter emissions in 2040 conditions are a result of these emissions being strongly influenced by projected growth in total VMT (which directly affects entrained roadway dust), with some contributions from tire and brake wear, and exhaust.

Particulate matter emissions from mobile sources are not expected to increase at the same rate as VMT due to the stringent emission controls that CARB has adopted for new vehicle engines, particularly diesel engines, including the Truck and Bus Regulation. Increases in daily VMT attributable to new growth and development are offset to a certain degree by expected regulatory measures and fleet improvements. Particulate matter control programs implemented by the Air District also contribute to the emission reductions relative to VMT.

In addition to the Truck and Bus Regulation, there are other ongoing State and regional efforts to mitigate the effects of particulate matter emissions. CARB adopted a Diesel Risk Reduction Plan (October 2000), and has since adopted a series of regulations to require cleaner diesel fuel, to restrict idling of diesel engines, and to reduce emissions from both old and new on-road and off-road diesel engines. In 2005, MTC implemented a \$14 million program to retrofit 1,700 diesel bus engines operated by Bay Area transit agencies to reduce particulate matter emissions, and in 2006 MTC and BAAQMD implemented a \$2 million incentive program to reduce emissions from solid waste collection vehicle fleets that operate within BAAQMD. Furthermore, BAAQMD implements a variety of incentive programs that help fleet operators offset the cost of purchasing low-emission vehicles, re-powering old polluting heavy duty engines with cleaner, lower emission engines, and installing control devices that reduce particulate and NO_x. However, implementation of the 2017 CTP is expected to occur within a context that would result in an overall increase in particulate matter emissions, and these impacts are considered significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects are similarly expected to occur within a context that would result in adverse air quality impacts related to particulate matter emissions. As shown in Table 2.3-5 in the Draft EIR, countywide emissions of PM₁₀ from all mobile sources are projected to increase by 21 percent by year 2040 as compared with the baseline (year 2013) condition. Additionally, PM_{2.5} emissions are projected to increase by 3 percent by year 2040 as compared with the baseline (year 2013) condition. The higher levels of expected particulate matter emissions in 2040 conditions are a result of the influence of a projected increase in overall VMT (which directly affects entrained roadway dust), with some contributions from tire and brake wear, and exhaust.

As indicated in the general discussion of the 2017 CTP, the majority of particulate matter emission increase is attributable to increased VMT associated with new population and employment growth. This growth is independent of investments in transportation infrastructure, although choices in the types of transportation infrastructure can include the overall increase in VMT based on future mode split choices and options. The analysis presented in Table 2.3-5 also shows (for informational purposes only), the relative change in particulate matter emissions by year 2040, when comparing the Investment Program's transportation infrastructure and transportation systems to a future 2040 scenario that assumes no additional transportation investments beyond those projects already approved and funded (i.e., a future year 2040 No Project scenario). As indicated in Table 2.3-5, a future 2040 No Project scenario would also occur within the context of increased population and employment growth. Relative to the 2040 No Project scenario, the Investment Program would result in a minor (less than 1%) increase in overall VMT, resulting in a similar minor increase in PM₁₀ and PM_{2.5} emissions. Because individual Investment Program projects pursuant to the 2017 CTP are expected to contribute toward an overall increase in Countywide particulate matter emissions from mobile sources, these impacts are considered significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those Individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Air-4: BMPs for Exhaust: Diesel Engine Retrofits and Replacements. CCTA and local implementing agencies and/or project sponsors shall consider opportunities to partner with MTC, ABAG, BAAQMD, and other partners to seek opportunities to leverage existing air quality and transportation funds and seek additional funds to continue to implement programs aimed at retrofits and replacements of trucks and locomotives.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Air-4, the retrofit and replacement of older model trucks and locomotives would reduce significant particulate matter emissions from mobile sources. However, the overall increase in VMT associated with new population and employment growth will contribute to an increase in countywide particulate matter emissions that cannot be fully avoided. This impact remains significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.3-23 through 26.)

D. Agricultural Lands

1. Agricultural Land Conversion, Williamson Act Conflicts, and Other Changes Affecting Farmland

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use?

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP conflict with existing zoning for agricultural use, or a Williamson Act contract?

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.4-8 through 13.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

Most of the transportation improvement projects that would occur pursuant to the 2017 CTP would involve work within or along existing rights-of-way and projects within urbanized areas. These types of transportation projects would have little or no impact on important agricultural land. However, all transportation improvement projects that are located through or adjacent to farmlands or grazing lands have the potential to convert important agricultural lands to transportation uses. Impacts on agricultural lands from transportation projects may be less than significant or able to be fully mitigated. However, the cumulative effects of countywide transportation projects would result in potentially significant cumulative impacts on farmland. The cumulative conversion of farmland as a result of all approved, pending, and reasonably expected transportation projects, combined with the project pursuant to the 2017 CTP would be significant as a proportion of all agricultural land in the county. Because implementation of the 2017 CTP would contribute to this potential cumulative conversion of important agricultural land, these impacts are considered significant.

Investment Program

Transportation projects and new or expanded transit projects pursuant to the Investment Program that may adversely affect agricultural lands are as follows:

- Widen SR-4 from 2 to 4 Lanes, Marsh Creek Road to San Joaquin County
- SR-4/Vasco Road Interchange
- SR-4/Marsh Creek Road Interchange
- SR-4 widening, from Balfour Road to Vasco Road
- Airport Connector
- Byron Highway Improvements
- SR-239 – New 4-lane freeway from Brentwood to the I-205/I-580 Interchange
- SR-239/I-205/I-580 Interchange Improvements
- Improve interchange at SR-160/Main Street on Oakley

None of these transportation projects are located within the Primary Zone of the Delta. Individual transportation projects pursuant to the 2017 CTP's Investment Program would result in the conversion of approximately 260 acres of farmland to transportation use, assuming a worst-case disturbance. Of the total farmlands potentially affected by individual Investment

Program projects, approximately 86 acres are grazing land, approximately 140 acres are Farmland of Local Importance, approximately 6 acres are Unique Farmland, approximately 8 acres are Farmland of Statewide Importance, and approximately 20 acres are Prime Farmland. Individual project-level analysis will need to be conducted to determine the precise extent of agricultural conversions related to each of these projects. Because individual Investment Program projects are likely to result in conversion of important agricultural land, these impacts are considered significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects listed under the Investment Program, shall consider implementation of mitigations measures to minimize or eliminate impacts as part of the design of the project, where feasible and based on project-and site-specific considerations, including but not limited to those identified below.

Mitigation Measure Ag-1: Agricultural Land Protection. Where construction of new or expanded transportation facilities could result in the conversion of important agricultural lands to transportation uses, mitigation measures may include, but are not limited to:

- a. Require project relocation or corridor realignment, where feasible, to avoid farmland, especially Prime Farmland;
- b. Acquire conservation easements on other farmland that is at least equal in quality and size, providing partial compensation for the direct loss of agricultural land;
- c. Maintain and expand agricultural land protections such as urban growth boundaries;
- d. If a Williamson Act contract is terminated, a ratio greater than 1:1 of land equal in quality shall be set aside in a conservation easement, as recommended by the Department of Conservation;
- e. Institute new farmland protection measures in the project area or elsewhere in the County through the use of long-term restrictions on land use, such as 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.) or 10-year Williamson Act contracts (Government Code Section 51200 et seq.);
- f. Assess mitigation fees that support the commercial viability of the remaining agricultural land in the project area, County, or region. Establish a mitigation bank that invests these mitigation fees in agricultural infrastructure, water supplies, marketing, etc.;
- g. Minimize severance and fragmentation of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access;
- h. Require berms, buffer zones, setbacks, and fencing to reduce land use conflicts between new development and farming uses and to protect the functions of farmland;
- i. Require implementation of other conservation tools available from the California Department of Conservation's Division of Land Resource Protection.
- j. Compensatory mitigation may be achieved in advance of impacts through the purchase or creation of mitigation credits or the implementation of mitigation projects through Regional Advance Mitigation Planning (RAMP), as deemed appropriate by

the permitting agencies. Steps towards the development of a RAMP program for CTP transportation projects (including those projects that may adversely affect agricultural lands) are identified on page 2.5-38 of the Draft EIR.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate protection strategies from Mitigation Measure Ag-1, the extent of agricultural conversions would be effectively reduced. However, particularly given recent growth in East County and the related need to provide transportation improvements to relieve congestion in the area, certain transportation projects will likely result in unavoidable impacts on agricultural land. Site-specific or project-specific conditions may preclude the reduction of these impacts to less than significant levels, and it cannot be concluded with certainty that all impacts on agricultural lands could be avoided. Therefore, there may still be instances in which impacts to agricultural lands remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable (SU) for purposes of this program-level analysis. (Draft EIR, pp. 2.4-8 through 13; Final EIR p. 7-9.)

E. Biological Resources

1. Candidate, Sensitive, and Special-Status Species

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP have a substantial adverse effect on candidate, sensitive, or special-status species either directly or through habitat modifications?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.5-20 through 34.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

Special-Status Species

New transportation projects pursuant to the 2017 CTP may be located in areas occupied or potentially occupied by special-status plants and animals, or that would occur near (within 0.5 mile) known occurrences of special-status species. Transportation projects are assumed to involve the use of typical construction activities that are known to affect special-status species or their habitats. Impacts to these resources could include direct mortality, loss of preferred habitat, habitat fragmentation, interference with movement patterns, and reduced reproductive output. These impacts could occur during the construction and/or operational phases of individual transportation improvement projects. These impacts could contribute to the further reduction of rare, endangered or threatened, and other special-status species and decreases in overall population size of plants and animals.

Potential effects on special-status species include the temporary and permanent removal or conversion of vegetation and habitat necessary for species breeding, feeding, dispersal or sheltering. Construction activities such as ground clearing, earth moving, and grading could result in direct mortality of special-status plants and wildlife, entrapment in open trenches, and general disturbance due to noise or vibration during construction activities. Construction-generated fugitive dust accumulation on surrounding vegetation and construction-related erosion, runoff, and sedimentation could degrade the quality of adjacent vegetation communities, affecting their ability to support special-status plants and wildlife.

Direct long-term impacts on special-status plant and wildlife species could result from transportation improvements that occur within or adjacent to grassland, oak woodland, shrub lands, or coastal marsh and/or estuarine habitats. Transportation improvements in these vegetation communities have the potential to decrease and degrade habitat and result in significant long-term impacts on special-status plant and wildlife species. Other transportation projects could also contribute incrementally to habitat loss or degradation for special-status plant or wildlife species. Long-term increases in the volume of vehicular traffic and expansion of existing roads or development of new roads in rural areas are expected to result in increased road casualties to special-status wildlife species.

Increases in pavement areas and traffic can result in a reduction in habitat or habitat use. A mile of roadway with a 50-foot width of pavement results in the loss of over 6 acres of habitat, an amount capable of supporting, for example, a viable population of a sensitive plant or a pair of burrowing owls. Project appurtenances such as streetlights, increased traffic capacities, and heightened noise also contribute to changes in the frequency and manner of habitat use. Road building can increase predation rates on sensitive species by providing new avenues of predator access. In the case of avian predators, perching sites are created along fences and signposts. Augmented populations of native predators can have significant impacts on sensitive species. Potential indirect and cumulative effects on special-status species could occur due to habitat fragmentation, increased human intrusion into wildland areas, introduction of invasive species, disruption of migratory corridors, and a resulting reduction in biological diversity. Because implementation of the 2017 CTP may result in adverse impacts on special-status plants and wildlife, these impacts are considered potentially significant.

Critical Habitat

Impacts on critical habitat could include temporary or permanent habitat loss. Degradation of areas that have high conservation value for these species could also occur in association with transportation improvement projects, where such projects would be within or adjacent to critical habitat, through the introduction of night lighting, increases in ambient noise levels, and the introduction of invasive species and predators. Implementation of transportation projects could also result in the introduction of, or increases in, additional vehicular pressures in areas designated as critical habitat where such pressures do not currently exist.

Most impacts on critical habitat for terrestrial species would occur as a result of widening (or otherwise expanding) roads that are on the boundary of, or that traverse critical habitat. For example, potential impacts on salmonid critical habitat and stream degradation could occur as a result of increased impervious surfaces and surface runoff, decreases in water quality due to increased point source pollution, and erosion and sedimentation during construction. Potential impacts on aquatic habitat include numerous creek and stream crossings that are not expected to impede fish passage or reduce the critical habitat acreage, but which may have temporary, indirect adverse impacts on aquatic habitat if projects result in increased sedimentation or other fill into these waters during construction activities. Because implementation of the 2017 CTP may result in permanent and/or temporary impacts on designated critical habitat for federally listed species, these impacts are considered potentially significant.

Migratory Bird Treaty Act Species and Nesting Birds

Nesting habitat for raptors could occur near individual transportation improvement projects. While some species—such as golden eagles, northern harriers, or short-eared owls—require relatively undisturbed wildland habitats for nesting, other species—such as red-tailed hawks, Cooper’s hawks, and great horned owl—are more adaptable and are increasingly found inhabiting and reproducing in urban areas. Transportation improvement projects constructed during bird breeding seasons (typically January 15 to September 15) could disturb nesting birds and MBTA-protected species. Project-related disturbances could result in the direct loss of nests, fertile eggs, or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a take by the CDFW and would be considered a significant impact. Because implementation of the 2017 CTP would potentially affect nesting birds and MBTA species, and in some cases would occur in or near sensitive habitat, these impacts are considered potentially significant.

Investment Program

Special-status Species

Focused surveys have not been conducted to determine the locations and extent of special-status species populations. Therefore, the analysis in this programmatic EIR conservatively assumes that special-status species would be present within the impact footprint of those transportation projects that are located within, or that transect a known special-status species occurrence. Such projects could:

- Increase the width of certain roadway footprints and potentially result in direct and indirect impacts on candidate, sensitive, and special-status species. Habitat loss and

fragmentation associated with these types of improvements is expected to be lower than for those projects sited in previously undeveloped areas.

- Involve new roadway projects or transit corridors that would result in impacts on special-status species. Impacts would include temporary and permanent removal or conversion of vegetation and habitat, habitat fragmentation, reduced genetic diversity, increased predation, and direct mortality.

There are several transportation projects and new or expanded transit projects listed under the Investment Program that could result in impacts on special-status species. These specific projects that may be constructed near potentially occurring special status wildlife and plant species are shown in Figures 2.5-1 and 2.5-2 of the Draft EIR, respectively.

Individual project-level analysis will need to be conducted to determine whether these or other future projects would either directly or indirectly affect special-status species of concern. However, because certain transportation projects listed in the Investment Program are located within proximity to known special-status species occurrences, they have a greater potential to result in reduced natural habitat and habitat fragmentation. Because these individual Investment Program projects have the potential to adversely affect special-status species, these impacts are considered potentially significant.

Critical Habitat

There are several transportation projects and new or expanded transit projects that lie within or adjacent to areas designated by the U.S. Fish and Wildlife Service (USFWS) as critical habitat for federally listed species. These transportation projects and their associated potentially affected critical habitat are as follows:

- Improve interchange at SR-160 / Main Street (Delta smelt)
- SR-4 widening from Balfour Road to Walnut (Delta smelt and vernal pool fairy shrimp)
- SR-4/March Creek Road interchange (Delta smelt)
- Widen Brentwood Boulevard from Balfour Road to Chestnut Street (Delta smelt)
- Widen SR-4 from 2 to 4 lanes, March Creek Road to San Joaquin County (Delta smelt)
- Byron Airport connector (vernal pool fairy shrimp, Contra Costa goldfields)
- SR-239, New 4-lane freeway from Brentwood to the I-205 / I-580 interchange (Delta smelt, California red-legged frog, vernal pool fairy shrimp, Contra Costa goldfields)
- Byron Highway improvements (Delta smelt, vernal pool fairy shrimp, Contra Costa goldfields)

Individual project-level analysis will need to be conducted to determine whether these or other future projects would actually adversely affect critical habitat. However, because these transportation projects are located within or near identified critical habitat areas, they have a greater potential to result in degradation of critical natural habitat and habitat fragmentation. Because these individual projects have the potential to adversely affect critical habitat, these impacts are considered potentially significant.

Migratory Bird Treaty Act Species and Nesting Birds

The potential presence of nesting birds and MBTA species is highly localized, and this EIR cannot definitively rule out or specifically identify individual project effects on these birds or their nests. Prior to detailed and site-specific investigation, any number of individual transportation projects listed under the Investment Program may potentially affect nesting birds and MBTA species, and in some cases would occur in or near sensitive habitat. These impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Bio-1A: Special Status Species. Project sponsors shall prepare a biological resources assessments for specific projects proposed in areas containing, or likely to contain habitat for special-status plants and wildlife. The assessment shall be conducted by qualified professionals pursuant to adopted protocols and agency guidelines. Where the biological resources assessment establishes that mitigation is required to avoid direct and indirect adverse effects on special-status plant and wildlife species, mitigation shall be developed. Mitigation shall be consistent with the requirements of NEPA, CEQA, USFWS, and CDFW regulations and guidelines, in addition to requirements of any applicable and adopted HCP/NCCP, or other applicable plans developed to protect species or habitat. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible based on project-and site-specific considerations include, but are not limited to:

- a. In support of NEPA, CEQA, USFWS, and CDFW permitting processes for individual projects, biological surveys shall be conducted as part of the environmental review process to determine the presence and extent of sensitive habitats and/or species in the project vicinity. Surveys shall follow established methods and shall be undertaken at times when the subject species is most likely to be identified. In cases where impacts to State- or federal-listed plant or wildlife species are possible, formal protocol-level
- b. Surveys may be required on a species-by-species basis to determine the local distribution of these species. Consultation with the USFWS and/or CDFW shall be conducted early in the planning process at an informal level for projects that could adversely affect federal or state candidate, threatened, or endangered species to determine the need for further consultation or permitting actions. Projects shall obtain incidental take authorization from the permitting agencies as required prior to project implementation.
- c. Project designs shall be reconfigured, whenever practicable, to avoid special-status species and sensitive habitats. Projects shall minimize ground disturbances and construction footprints near sensitive areas to the extent practicable.

- d. Where habitat avoidance is infeasible, compensatory mitigation shall be implemented through preservation, restoration, or creation of special-status wildlife habitat. Loss of habitat shall be mitigated at an agency-approved mitigation bank or through individual mitigation sites as approved by USFWS and/or CDFW. Compensatory mitigation ratios shall be negotiated with the permitting agencies. Mitigation sites shall be monitored for a minimum of five consecutive years after mitigation implementation or until the mitigation is considered to be successful. All mitigation areas shall be preserved in perpetuity through either fee ownership or a conservation easement held by a qualified conservation organization or agency, establishment of a preserve management plan, and guaranteed long-term funding for site preservation through the establishment of a management endowment.
- e. Project activities near sensitive resources shall be completed during the period that best avoids disturbance to plant and wildlife species present (e.g., May 15 to October 15 near salmonid habitat and vernal pools) to the extent feasible.
- f. Individual projects shall minimize the use of in-water construction methods in areas that support sensitive aquatic species, especially when listed species could be present.
- g. In the event that equipment needs to operate in any watercourse with flowing or standing water, a qualified biological resource monitor shall be present at all times to alert construction crews to the possible presence of California red-legged frog, nesting birds, salmonids, or other aquatic species at risk during construction operations.
- h. If project activities involve pile driving or vibratory hammering in or near water, interim hydro-acoustic threshold criteria for fish shall be adopted as set forth by the Interagency Fisheries Hydro-acoustic Working Group, as well as other avoidance methods to reduce the adverse effects of construction to sensitive fish, piscivorous birds, and marine mammal species.
- i. Construction shall not occur during the breeding season near riparian habitat, freshwater marshlands, and salt marsh habitats that support nesting bird species protected under the federal ESA, MBTA, or California Fish and Game Code (e.g., yellow warbler, tricolored blackbird, California clapper rail).
- j. A qualified biologist shall locate and fence off sensitive resources before construction activities begin and, where required, shall inspect areas to ensure that barrier fencing, stakes, and setback buffers are maintained during construction.
- k. For work sites located adjacent to special-status plant or wildlife populations, a biological resource education program shall be provided for construction crews and contractors before construction activities begin.
- l. Biological monitoring shall be particularly targeted for areas near identified habitat for federally and state-listed species. A “no take” approach shall be taken whenever feasible during construction near special-status plant and wildlife species.
- m. Efforts shall be made to minimize the negative effects of light and noise on listed and sensitive wildlife.

- n. Compliance with existing local regulations and policies, including those of the applicable HCP/NCCP, that exceed or reasonably replace any of the above measures protective of special-status species.

Mitigation Measure Bio-1B: Critical Habitat. During the design and review of individual projects, implementing agencies and project sponsors shall consider implementation of mitigation measures for critical habitat. Mitigation measures to be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations include, but are not limited to:

- a. Informal consultation with the USFWS and/or NMFS shall be conducted early in the environmental review process to determine the need for further mitigation, consultation, or permitting actions. Formal consultation is required for any project with a federal nexus.
- b. Project designs shall be reconfigured to avoid or minimize adverse effects on the primary constituent elements of designated critical habitats when they are present in a project vicinity.
- c. Compliance with existing local regulations and policies, including those of the applicable HCP/NCCP, that exceed or reasonably replace any of the above measures protective of critical habitat.

Mitigation Measure Bio-1C: Migratory and Nesting Birds: Implementing agencies and/or project sponsors shall consider implementation of mitigation measures for MBTA species and nesting birds, including but not limited to those identified below. Implementing agencies shall require project sponsors to conduct pre-construction breeding bird surveys for specific projects proposed in areas containing, or likely to contain, habitat for nesting birds. The survey shall be conducted by appropriately trained professionals pursuant to adopted protocols agency guidelines. Where a breeding bird survey establishes that mitigation is required to avoid direct and indirect adverse effects on nesting raptors and other protected birds, mitigation will be developed. Such mitigation shall be consistent with the requirements of CEQA, USFWS, and CDFW regulations and guidelines, in addition to requirements of any applicable and adopted HCP/NCCP, or other applicable plans developed to protect species or habitat. Mitigation measures that shall be considered by implementing agencies and/or project sponsors where feasible based on project-and site-specific considerations include, but are not limited to:

- a. Perform preconstruction surveys not more than two weeks prior to initiating vegetation removal and/or construction activities during the breeding season (i.e., February 1 through August 31).
- b. Establish a no-disturbance buffer zone around active nests during the breeding season until the young have fledged and are self-sufficient, when no further mitigation would be required. Typically, the size of individual buffers ranges from a minimum of 250 feet for raptors to a minimum of 50 feet for other birds but can be adjusted based on an evaluation of the site by a qualified biologist in cooperation with the USFWS and/or CDFW.

- c. Provide buffers around nests that are established by birds after construction starts. Direct take of nests, eggs, and nestlings is still prohibited and a buffer must be established to avoid nest destruction. If construction ceases for a period of more than two weeks, or vegetation removal is required after a period of more than two weeks has elapsed from the preconstruction surveys, then new nesting bird surveys must be conducted.
- d. Comply with existing local regulations and policies, including those of the applicable HCP/NCCP, that exceed or reasonably replace any of the above measures protective of nesting birds.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measures Bio-1A through -1C, these measures would reduce significant impacts to candidate, sensitive, or special-status species. Pursuant to Mitigation Measure Bio-1A, project sponsors must prepare biological resource assessments and initiate consultation with the USFWS and CDFW regarding any special status species potentially affected by their project. The USFWS reviews projects that may jeopardize federally listed species or adversely modify federally designated critical habitat. While both federal and non-federal actions may affect listed species, only federal actions that may adversely modify federally designated critical habitat require consultation with the USFWS. Any action with a federal nexus (e.g., actions that use federal funds or require a federal permit), however, is subject to consultation requirements. Individual projects are also subject to existing state and local regulations. Projects are required to meet the provisions of the California ESA by initiating consultation with the CDFW prior to construction, if there is the potential for special-status species to occur in the project vicinity. Despite the required consultation and permitting requirements of the resource agencies, there may be instances in which site-specific or project-specific conditions preclude the reduction of all project impacts to candidate, sensitive, or special-status species to less than significant levels, such that impacts may remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.5-20 through 34.)

2. Sensitive Natural Communities and Wetlands

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP have a substantial adverse effect on sensitive natural communities or on federally protected wetlands?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.5-34 through 38.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially

lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

Sensitive Natural Communities

Within Contra Costa County there are numerous sensitive natural communities identified by the CDFW, due to their rarity or unique biological functions and values. These sensitive natural communities are protected under state or local plans and ordinances. Protected natural communities within Contra Costa County include but are not limited to alkali meadow, alkali seep, cismontane alkali marsh, coastal brackish marsh, coastal and valley freshwater marsh, northern claypan vernal pool, northern coastal salt marsh, northern maritime chaparral, serpentine bunchgrass, valley needlegrass grassland and valley sink scrub. New transportation projects pursuant to the 2017 CTP that are located near protected plant communities could cause an incremental loss of these community types through conversion or removal of natural vegetation. Impacts on sensitive natural communities generally occur when projects are developed in previously undeveloped areas in the more rural or wildland portions of the County. However, many sensitive natural communities occur on unique soil types (e.g., serpentinite-derived soils) which are known to occur in urban as well as non-urban areas. The potential for impacts in more urbanized areas cannot be ruled out. Those transportation projects pursuant to the 2017 CTP that involve expansion of existing roadways where adjacent habitat has already been degraded through past and ongoing disturbance, could result in further substantial impacts on sensitive natural communities.

Wetlands

New transportation projects pursuant to the 2017 CTP could also directly or indirectly impact wetlands, and some transportation projects could have direct or indirect impacts on other waters of the U.S. (i.e., streams, rivers, lakes, San Francisco Bay, etc.) and riparian habitat within the region.

Potential impacts include the temporary disturbance or permanent loss of jurisdictional waters and wetlands, loss or degradation of stream or wetland function, incremental degradation of wetland habitats, and fragmentation of streams and wetlands. Jurisdictional waters in the region vary from relatively small, isolated roadside areas, wet meadows, and vernal pools to major streams and rivers, bays and estuaries, to tidal, brackish, and freshwater marshes. Any fill of jurisdictional waters would be considered a significant impact. Construction of transportation improvement projects could also increase the potential for stormwater runoff to carry a variety of pollutants into wetlands, streams, and bays. Construction runoff often carries grease, oil, and heavy metals into natural drainages and urban stormwater systems. Furthermore, particulate

materials generated by construction could be carried by runoff into natural waterways and could generate sedimentation in area streams. These impacts are considered significant.

Investment Program

The potential presence of wetlands and small areas of sensitive natural communities can be highly localized, and this EIR cannot definitively rule out, or specifically identify individual project effects. Prior to detailed and site-specific investigation, any number of individual transportation projects proposed under the Investment Program for the 2017 CTP may involve adverse effect on sensitive natural communities or on federally protected wetlands.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Bio-2A: Sensitive Natural Communities. During the design and review of individual projects, implementing agencies and project sponsors shall seek to reduce impacts on sensitive natural communities. Mitigation measures that shall be implemented by implementing agencies and/or project sponsors, in compliance with existing regulatory and policy requirements and based on project-and site-specific considerations, include but are not limited to:

- a. In accordance with CDFW guidelines and other instruments protective of sensitive or special-status natural communities, project sponsors shall avoid and minimize impacts on sensitive natural communities when designing and permitting projects. Where applicable, projects shall conform to the provisions of special area management or restoration plans, such as the Suisun Marsh Protection Plan or the East Contra Costa County HCP, which outline specific measures to protect sensitive vegetation communities.
- b. If any portion of a special-status natural community is permanently removed or temporarily disturbed, the project sponsor shall compensate for the loss. If such mitigation is required by the implementing agency, the project sponsor shall develop a restoration and monitoring plan that describes how compensatory mitigation will be achieved, implemented, maintained, and monitored. At a minimum, the restoration and monitoring plan shall include clear goals and objectives, success criteria, specific vegetation enhancement plans (e.g., plant palette, soils, irrigation, etc.), specific monitoring periods and reporting guidelines, and a maintenance plan.
- c. The following minimum performance standards (or other standards as required by the permitting agencies) shall apply to any compensatory mitigation for special-status natural communities:
 - o Compensation shall be provided at a minimum 1:1 ratio for restoration and preservation, but shall in all cases be consistent with mitigation ratios set forth

in locally applicable plans (e.g., general plans, HCP/NCCPs) or in project-specific permitting documentation.

- Compensatory mitigation may be a combination of on-site restoration, creation, or enhancement; or off-site restoration, preservation and/or enhancement; or purchase of mitigation credits. Compensatory mitigation may also be achieved through RAMP banking, as deemed appropriate by the permitting agencies.
 - In general, any compensatory mitigation shall be monitored for a minimum of five years and will be considered successful when at least 75 percent cover (or other percent cover considered appropriate for the vegetation type) of installed vegetation has become successfully established.
- d. Compliance with existing local regulations and policies, including the East Contra Costa County HCP/NCCPs (where applicable), that exceed or reasonably replace any of the above measures protective of jurisdictional sensitive and special-status natural communities.

Mitigation Measure Bio-2B: Wetlands. During the design and review of individual projects, implementing agencies and project sponsors shall seek to reduce impacts on wetlands and other waters of the United States. Mitigation measures that shall be implemented by implementing agencies and/or project sponsors, in compliance with existing regulatory and policy requirements and based on project-and site-specific considerations, include but are not limited to:

- a. Implementing agencies shall require project sponsors to prepare biological resource assessments for specific projects proposed in areas containing, or likely to contain, jurisdictional waters. The assessment shall be conducted by qualified professionals in accordance with agency guidelines and standards. The assessment shall identify specific mitigation measures for any impact that exceeds significant impact thresholds. Mitigation measures shall be consistent with the requirements of wetland permitting agencies, and/or follow an adopted HCP/NCCP or other applicable plans promulgated to protect jurisdictional waters or other sensitive habitats.
- b. In keeping with the “no net loss” policy for wetlands and other waters, project designs shall be configured, whenever possible, to avoid wetlands and other waters and avoid disturbances to wetlands and riparian corridors in order to preserve both the habitat and the overall ecological functions of these areas. Projects shall minimize ground disturbances and construction footprints near such areas to the extent practicable.
- c. Where avoidance of jurisdictional waters is not feasible, project sponsors shall minimize fill and the use of in-water construction methods, and only place fill with express permit approval from the appropriate resources agencies (e.g., USACE, RWQCB, CDFW, Bay Conservation and Development Commission) and in accordance with applicable existing regulations, such as the CWA or local stream protection ordinances.
- d. Project sponsors shall arrange for compensatory mitigation in the form of mitigation bank credits, on-site or off-site enhancement of existing waters, or new wetland

creation, in accordance with applicable existing regulations and subject to approval by the USACE, RWQCB, CDFW, Bay Conservation and Development Commission. If compensatory mitigation is required by the implementing agency, the project sponsor shall develop a restoration and monitoring plan that describes how compensatory mitigation will be achieved, implemented, maintained, and monitored. At a minimum, the restoration and monitoring plan shall include clear goals and objectives (including success criteria); specifics on restoration, creation and/or enhancement plans (e.g., plant palette, soils, irrigation); specific monitoring periods and reporting guidelines; and a maintenance plan. The following minimum performance standards (or other standards as required by the permitting agencies) shall apply to any wetland compensatory mitigation:

- Compensation shall be provided at a minimum 1:1 ratio for restoration and preservation, but shall in all cases be consistent with mitigation ratios set forth in locally applicable plans (e.g., general plans, HCP/NCCPs), or in project-specific permitting documentation.
- Compensatory mitigation may be a combination of on-site restoration, creation, or enhancement; off-site restoration, preservation and/or enhancement; or purchase of mitigation credits. Compensatory mitigation may also be achieved through RAMP banking, as deemed appropriate by the permitting agencies.
- In general, any compensatory mitigation shall be monitored for a minimum of five years and will be considered successful when at least 75 percent cover (or other percent cover considered appropriate for the vegetation type) of installed vegetation has become successfully established.

Mitigation Measure Bio-2C: Regional Advance Mitigation Plan: To the extent that compensatory mitigation for impacts to sensitive natural communities and/or wetlands is required of the implementing agency or project sponsor, compensatory mitigation may be achieved through development of, and participation in an RAMP banking program. Steps towards development of a RAMP for CTP transportation projects include:

- a. Developing support among implementing agencies and project sponsors within the County for a county-wide region-based advanced mitigation approach, and identifying policy and funding issues.
- b. Developing geographically specific plans that assess expected habitat mitigation demand from planned infrastructure projects, and identify possible mitigation approaches in advance of any impacts.
- c. Securing regulatory agency acceptance and approval of the RAMP mitigation approach and identifying partners willing to sign cost-share agreements.
- d. Secure monetary support for the approved RAMP. Funding for implementation of a RAMP would likely be independent of any individual transportation project budget, but would be funded based on an estimate the aggregate of county-wide mitigation demand. Ideally, funds would come from a “revolving fund” that has been established by the Authority specifically for advance mitigation.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measures Bio-2A and -2B, impacts related to sensitive natural communities or federally protected wetlands would be reduced to levels of less than significant. These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to determine that they would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. Project sponsors will be required to obtain applicable permits from the appropriate agencies and must comply with permit conditions to protect jurisdictional waters and other sensitive habitat. In accordance with USACE, EPA, USFWS, RWQCB, and CDFW guidelines, a goal of “no net loss” of wetland acreage and value is required, wherever possible through avoidance of the resource. Where avoidance is not possible, mitigation for wetland impacts would be based on project-specific wetland mitigation plans, subject to approval by the USACE, RWQCB, and CDFW, and potentially Bay Conservation and Development Commission, and California Coastal Commission. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis.

Mitigation Measure Bio-2C (RAMP) identifies a compensatory mitigation strategy identified by CCTA that can and should be implemented by implementing agencies and individual project sponsors, pursuant to the regulatory requirements of Mitigation Measures Bio-2A and -2B. The compensatory mitigation strategies that can be achieved through development of, and participation in an RAMP banking program could allow mitigation funding for transportation projects to be directed to agreed-upon conservation priorities and allow for the establishment, enhancement, preservation, and/or restoration of habitat reserves that enhance the sustainability of natural systems by protecting or restoring connectivity of natural communities. These strategies would need to be coordinated with, and consistent with ESA §7(a) (1), the California Fish and Game Code section 2055, the Rivers and Harbors Appropriation Act section 10, and the CWA section 404 and 401. (Draft EIR, pp. 2.5-34 through 38.)

3. Wildlife Movement

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP interfere substantially with wildlife movement or wildlife corridors, or impede the use of native wildlife nursery sites?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.5-39 through 42.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could potentially result in reduced natural habitat and habitat fragmentation, particularly if they occur within the Essential Connectivity Area (ECA) as mapped in Contra Costa County. New roadways and transit corridors can result in loss of breeding habitat, can divide an animal's home range, adversely affect movement corridors, and geographically isolate species populations. Transportation projects may directly encroach on wildlife corridors, particularly when direct habitat removal occurs, or when sites are adjacent to open space or streams. Substantial encroachment on wildlife corridors would be considered a potentially significant impact.

The 2017 CTP also includes expansions or enhancements of existing highways or other transportation routes within existing urban corridors. In these urban areas, many migratory corridors have already been fragmented and degraded to the point where their function as linkages is either limited, or has been lost altogether. However, urban areas that including waterways, riparian corridors and contiguous or semi-contiguous expanses of habitat may still facilitate wildlife movement.

Investment Program

Several transportation projects and new or expanded transit projects listed in the Investment Program could result in impacts on wildlife movement, including fragmentation, degradation, and loss of migratory corridors. These specific projects include those identified as being within ECAs are as follows:

- Improve I-80 / SR-4 interchange, modify Willow Avenue ramps
- Mount Diablo Boulevard and Moraga Road congestion mitigation project
- SR-4 / I-680 HOV connection and ramps
- Contra Costa Boulevard widening
- I-60 / Concord Avenue interchange improvements
- Iron Horse Trail overcrossing at Sycamore Valley Road
- I-680 transit investments
- Contra Costa Boulevard Complete Streets
- BART Pleasant Hill Station capacity expansion
- BART Walnut Creek Station capacity expansion

Individual project-level analysis will need to be conducted to determine whether these or other future projects would adversely affect wildlife corridors. However, because certain transportation projects are located within identified ECAs, they have a greater potential to result in reduced natural habitat and habitat fragmentation. Because individual Investment Program projects p have the potential to adversely affect wildlife corridors and wildlife movement, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Bio-3: Wildlife Movement: During the design and review of individual projects, implementing agencies and project sponsors shall seek to reduce impacts on wildlife corridors. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- a. Prepare detailed analyses for individual projects affecting ECA lands to determine what wildlife species may use these areas, and what habitats those species require. Projects that would not affect ECA lands but that are located within or adjacent to open lands, including wildlands and agricultural lands, shall also assess whether or not significant wildlife corridors are present, what wildlife species may use them, and what habitat those species require. The assessment shall be conducted by qualified professionals and according to any applicable agency standards.
- b. Mitigation shall be consistent with the requirements of CEQA and/or follow the adopted East Contra Costa County HCP/NCCP (as may be applicable), or other relevant plans developed to protect species and their habitat, including migratory linkages.
- c. Construct wildlife friendly overpasses and culverts
- d. Fence major transportation corridors in the vicinity of identified wildlife corridors
- e. Use wildlife friendly fences that allow larger wildlife such as deer to get over, and smaller wildlife to go under
- f. Limit wildland conversions in identified wildlife corridors
- g. Retain wildlife friendly vegetation in and around developments
- h. Comply with existing local regulations and policies, including applicable East Contra Costa County HCP/NCCP policies where applicable, that exceed or reasonably replace any of the above measures.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Bio-3, these measures would require assessments of whether significant wildlife corridors are present in project areas, minimize wildland conversions in identified wildlife corridors, implement wildlife-friendly design features, and comply with other regulations and policies to protect wildlife corridors. Impacts related to reductions in wildlife movement, fragmentation of wildlife corridors, or impediments to the use of native wildlife nursery sites could be reduced to levels of less than significant.

However, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the

mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable (SU) for purposes of this program-level analysis. (Draft EIR, pp. 2.5-39 through 42.)

F. Cultural Resources

1. Candidate, Sensitive, and Special-Status Species

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP cause a substantial adverse change in the significance of a historical resource?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.6-14 through 16.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could result in impacts on significant historical resources, including buildings and structures. Historical resources are by nature specific to their local context. As such, impacts on these resources resulting from implementing transportation improvements would occur at the local level. Projects in areas with known historical sites or in communities with established historic preservation programs would have the highest potential to result in significant historic resource impacts. Transportation improvements that would introduce new visual elements or involve ground-disturbing activities also have the potential to result in significant historic resource impacts. Such projects could adversely affect the aesthetic and physical integrity of historic districts and buildings. A higher incidence of conflict with historical sites is likely in urban areas settled or developed more than 45 years ago. Projects in or traversing rural lands could also have significant impacts related to sites that are singular examples of a historical setting, or to structures whose historic value and significance have not been previously evaluated and recognized.

The degree and extent of impact depends on project-specific analysis that includes a determination of the value—i.e., the eligibility for national, state, or local recognition—of any historic resource recognized within a proposed alignment or project area. Given the magnitude and location of new transportation improvements involving construction activities, it is possible that significant impacts on historical resources could occur. Examples of potential impacts resulting from transportation projects include damage to or destruction of a structure or property that is a designated historic resource; or roadway improvements that substantially alter the

character of a designated historic structure or district. Because implementation of the 2017 CTP may adversely affect historical resources, these impacts are considered potentially significant.

Investment Program

Individual transportation projects and new or expanded transit projects as listed under the Investment Program could result in impacts on historical resources at the local level. Significant historical resource impacts have the potential to occur when implementing projects in areas with known historical sites or in communities with established historic preservation programs. Transportation improvements that would introduce new visual elements or involve ground-disturbing activities also have the potential to result in significant historical or cultural resource impacts. Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the 2017 CTP would adversely affect historical resources. Individual Investment Program projects have the potential to adversely affect historical resources, and these impacts are considered potentially significant.

Mitigation Measures

At the local level, all transportation projects are subject to project-specific environmental review to determine any necessary mitigation measures. Local projects may need to obtain cultural resource studies per standard local requirements and follow site-specific construction recommendations. Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects listed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Cul-1: Historical Resources. Mitigation measures to be considered by implementing agencies and/or project sponsors, where feasible and based on project- and site-specific considerations include, but are not limited to:

- Realign or redesign projects to avoid impacts on known historic resources where possible.
- Requiring an assessment by a qualified professional of structures greater than 40 years in age within the area of potential effect to determine their eligibility for recognition under State, federal, or local historic preservation criteria.
- When a project has been identified as potentially affecting a historic resource, a historical resources inventory should be conducted by a qualified architectural historian. The study should comply with CEQA Guidelines section 15064.5(b), and, if federal funding or permits are required, with section 106 of the NHPA of 1966 (16 United States Code § 470 et seq.). Study recommendations shall be implemented.
- If avoidance of a significant architectural/built environment resource is not feasible, additional mitigation options include, but are not limited to, specific design plans for historic districts, or plans for alteration or adaptive re-use of a historical resource that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings.

- Complying with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect historic resources.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects proposed under the Investment Program, incorporate all feasible mitigation measures described above, impacts related to historical resources would be reduced to levels of less than significant. These measures are tied to existing regulatory procedures for addressing historic resources for responsible agencies and project sponsors, and it is reasonable to assume these measures would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. However, there may be instances in which site-specific or project-specific conditions preclude the reduction of all project impacts to less than significant levels. CCTA cannot require local implementing agencies to adopt the mitigation measures pertaining to local regulations and policies, and it is ultimately the responsibility of the local lead agency or project sponsor to determine and adopt such mitigation. For purposes of a conservative analysis, therefore, impacts related to historical resources under the 2017 CTP, including those transportation projects proposed under the Investment Program, remain significant and unavoidable. (Draft EIR, pp. 2.6-14 through 16.)

2. Archaeological and Paleontological Resources

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP cause a substantial adverse change in the significance of an archaeological or paleontological resource?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.6-16 through 19.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could result in impacts on significant archaeological or paleontological resources if the projects include ground-disturbing construction activities. Archaeological or paleontological remains could be inadvertently unearthed during ground-disturbing activities associated with road construction, road widening, extension projects, or other projects. Archaeological resources can be impacted directly by ground-disturbing activities which can damage or destroy the integrity of the data or disrupt the cultural and religious integrity contained in the resource. Demolition of or substantial damage to significant archaeological resources is considered a significant impact.

As with historical resources, archaeological and paleontological resources are by nature specific to their local context, and as such, impacts on these resources resulting from implementing transportation improvements would occur at the local level. Transportation improvements could result in impacts on archaeological or paleontological resources if the projects include ground-disturbing construction activities. Projects involving excavation, grading, or soil removal in previously undisturbed areas have the greatest likelihood to encounter significant archaeological or paleontological resources. Likewise, the establishment of staging areas, temporary roads, and any other temporary facilities necessary for construction activities could potentially impact archaeological cultural resources.

Projects in locations of high sensitivity, such as historic bay margins, ridgetops, mid-slope terraces, hill bases, alluvial flats and inland valleys are more likely to encounter cultural resources. Most transportation corridors follow valleys and drainage areas which often correspond with historic settlement patterns. Transportation projects involving improvements within existing urban areas, within existing transportation corridors, or to existing infrastructure or operations are less likely to impact archaeological resources since these projects are in already-disturbed areas that may have been subject to previous cultural resource surveys.

The degree and extent of impacts depends on project locations. Project-specific analysis is required to determine the precise area of impact and the eligibility for national, state, or local, recognition of any cultural resource identified within a project area. Because implementation of the 2017 CTP may have the potential to adversely affect archaeological or paleontological resources, these impacts are considered potentially significant.

Investment Program

The potential presence of archaeological or paleontological resources can be highly localized, and this EIR cannot definitively rule out, or specifically identify individual project effects. Under the Investment Program, those transportation projects and new or expanded transit projects involving excavation, grading, or soil removal in previously undisturbed areas have the greatest likelihood to encounter significant archaeological resources. The degree and extent of impacts depends on individual project locations.

Individual project-level analysis will need to be conducted to determine the potential presence of, the area of impact, and the eligibility for national, state, or local, recognition of archaeological or paleontological resources. If identified within a project area, future projects could adversely affect archaeological or paleontological resources. Because individual transportation projects pursuant to the 2017 CTP have the potential to adversely affect archaeological resources, these impacts are considered potentially significant.

Mitigation Measures

At the local level, all transportation projects are subject to project-specific environmental review to determine any necessary mitigation measures. Local projects may need to obtain cultural resource studies per standard local requirements and follow site-specific construction recommendations. Implementing agencies and/or project sponsors of those transportation

projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Cul-2: Archaeological Resources. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- Pursuant to Government Code Sections 65351 and 65352, in-person consultation shall be conducted with Native American tribes and individuals with cultural affiliations where the project is proposed to determine the potential for, or existence of, cultural resources, including cemeteries and sacred places, prior to project design and implementation stages.
- Prior to construction activities, project sponsors shall retain a qualified archaeologist to conduct a record search at the appropriate Information Center of the California Archaeological Inventory to determine whether the project area has been previously surveyed and whether resources were identified. When recommended by the Information Center, project sponsors shall retain a qualified archaeologist to conduct archaeological surveys prior to construction activities.
- Preparation of a research design and testing plan should be developed in advance of implementation of the construction project, in order to efficiently facilitate the avoidance of cultural sites throughout the development process.
- If record searches and field surveys indicate that the project is located in an area rich with archaeological resources, project sponsors should retain a qualified archaeologist to monitor any subsurface operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property.
- Written assessments should be prepared by a qualified tribal representative of sites or corridors with no identified cultural resources but which still have a moderate to high potential for containing tribal cultural resources.
- Upon “late discovery” of prehistoric archaeological resources during construction, project sponsors shall consult with the Native American tribe as well as with the “Most-Likely-Descendant” as designated by the NAHC pursuant to Public Resources Code 5097.
- Preservation in place is the preferred manner of mitigating impacts on archeological sites because it maintains the relationship between artifacts and the archeological context, and it may also avoid conflict with religious or cultural values of groups associated with the site. This may be achieved through incorporation within parks, green-space, or other open space by re-designing project using open space or undeveloped lands. This may also be achieved by following procedures for capping the site underneath a paved area. When avoiding and preserving in place are infeasible based on project- and site-specific considerations, a data recovery plan may be prepared according to CEQA Section 15126.4. A data recovery plan consists of: the documentation and removal of the archeological deposit from a project site in a manner consistent with professional (and regulatory) standards; the subsequent inventorying, cataloguing, analysis, identification, dating, and interpretation of the artifacts; and the production of a report of findings.

- Complying with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect archaeological resources.

Mitigation Measure Cul-3: Paleontological Resources. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- Prior to construction activities, project sponsors should retain a qualified paleontologist to conduct a record search using an appropriate database, such as the University of California–Berkeley Museum of Paleontology to determine whether the project area has been previously surveyed and whether resources were identified. As warranted, project sponsors should retain a qualified paleontologist to conduct paleontological surveys prior to construction activities.
- Preparation of a research design and testing plan should be developed in advance of implementation of the construction project, in order to efficiently facilitate the avoidance of cultural sites throughout the development process.
- If record searches and field surveys indicate that the project is located in an area rich with paleontological, and/or geological resources, project sponsors should retain a qualified paleontologist to monitor any subsurface operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property.
- Complying with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect paleontological or geologic resources.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects proposed under the Investment Program, incorporate all feasible mitigation measures and comply with all existing regulatory requirements described above, the impacts on archaeological or paleontological resources would be less than significant. These measures are tied to existing regulatory procedures for addressing historic resources for responsible agencies and project sponsors, and it is reasonable to assume these measures would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. However, there may be instances in which site-specific or project-specific conditions preclude the reduction of all project impacts to less than significant levels. CCTA cannot require local implementing agencies to adopt the mitigation measures pertaining to local regulations and policies, and it is ultimately the responsibility of the local lead agency or project sponsor to determine and adopt such mitigation. For purposes of a conservative analysis, therefore, impacts related to archaeological and paleontological resources under the 2017 CTP, including those transportation projects proposed under the Investment Program, remain significant and unavoidable. (Draft EIR, pp. 2.6-16 through 19.)

3. Tribal Cultural Resources

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP cause a substantial adverse change in the significance of a tribal cultural resource?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.6-21 through 23.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP may adversely affect tribal cultural resources. As with other cultural resource impacts, impacts to tribal cultural resources are by nature specific to their local context, and as such, impacts could occur at the local level. Because implementation of the 2017 CTP has the potential to adversely affect tribal cultural resources, these impacts are considered potentially significant.

Investment Program

As part of the 2013/2014 legislative session, AB 52 established a new class of resources under CEQA, tribal cultural resources, and requires that lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation once the lead agency determines that the application for the project is complete. CCTA sent the Notice of Preparation to the NAHC in compliance with AB 52. No requests for consultation were received from the tribes pursuant to AB 52 and no tribal concerns or tribal cultural resources have been identified. (Draft EIR, pp. 2.6-21 and 22.)

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects could result in impacts on tribal cultural resources. Future projects will be required to prepare site-specific project-level analysis to fulfill CEQA requirements, which may include additional AB 52 consultation that could lead to the identification of tribal cultural resources. Although there have been no tribal cultural resources identified as meeting any of the Public Resources Code Section 5024.1(c) criteria, it is possible that tribal cultural resources could be identified during analysis of subsequent projects. As with other cultural resource impacts, impacts to tribal cultural resources are by nature specific to their local context, and as such, impacts could occur at the local level. Because individual projects pursuant to the 2017 CTP have the potential to adversely affect tribal cultural resources, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Cul-5: Tribal Cultural Resources. If the implementing agency determines that a project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process required under Public Resources Code Section 21080.3.2, implementing agencies and/or project sponsors shall implement the following measures where feasible and necessary to address site-specific impacts to avoid or minimize the significant adverse impacts:

- Within 14 days of determining that a project application is complete, or to undertake a project, the lead agency must provide formal notification, in writing, to the tribes that have requested notification of proposed projects in the lead agency's jurisdiction. If it wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. The lead agency must begin the consultation process with the tribes that have requested consultation within 30 days of receiving the request for consultation. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.
- Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource (Public Resources Code Section 21084.3 (a)). If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, new provisions in the Public Resources Code describe mitigation measures that, if determined by the lead agency to be feasible, may avoid or minimize the significant adverse impacts (Public Resources Code Section 21084.3 (b)). Examples include:
 1. Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 2. Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - a. Protecting the cultural character and integrity of the resource
 - b. Protecting the traditional use of the resource
 - c. Protecting the confidentiality of the resource.
 3. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 4. Protecting the resource.

Implementation of the above mitigation requires performance of legal procedures for the identification of tribal cultural resources associated with subsequent projects. To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects proposed under the Investment Program, incorporate all feasible mitigation measures described above, and to the extent that early notice is provided to tribes and requested consultation is conducted,

impacts on tribal cultural resources will be less than significant. Because notice and consultation are required by existing regulations that are law and binding on responsible agencies and project sponsors, it is reasonable to determine that these measures would be implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. However, there may be instances in which site-specific or project-specific conditions preclude the reduction of all project impacts to less than significant levels. CCTA cannot require local implementing agencies to adopt the mitigation measures pertaining to local regulations and policies, and it is ultimately the responsibility of the local lead agency or project sponsor to determine and adopt such mitigation. For purposes of a conservative analysis, therefore, impacts related to historical resources under the 2017 CTP, including those transportation projects proposed under the Investment Program, remain significant and unavoidable. (Draft EIR, pp. 2.6-21 through 23.)

G. Hazards and Hazardous Materials

1. Hazardous Materials Sites

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in projects located on sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.8-12 through 17.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

There are several thousand sites where prior contamination of soil and/or groundwater is known to have occurred in Contra Costa County, but the following generalized conclusions can be reached:

- Open space areas are generally considered to have a low potential to encounter hazardous materials during construction activities. These areas may have historically contained agricultural practices that included the application of pesticides, herbicides and other hazardous substances. Historical application of these substances can result in shallow soil and groundwater contamination throughout the area, which may pose a risk to new road construction or widening.
- Commercial and mixed-use areas are considered to have a moderate potential to encounter hazardous materials during construction. Areas of Contra Costa County that contain commercial and mixed uses generally have a higher density pattern. These areas

are generally more likely to contain uses such as gasoline stations, dry cleaners and film developers that could have, in the past, used hazardous materials.

- Industrial areas such as those located in the western part of the county near oil refineries are considered to have a high potential to encounter hazardous conditions due to current and historic operations and land uses in these areas. In general, these locations are near San Pablo Bay, but also include areas near Carquinez Straits and the Sacramento River and Delta.
- In addition, areas located on or near existing major roadways are considered to have a high potential to encounter hazardous conditions, specifically aerially deposited lead. Major roadways and transportation corridors in areas that have recently been developed (i.e., Brentwood, Byron, and portions of Antioch) are less likely to have high aerially deposited lead concentrations since most of the major roadways in these areas were built or greatly expanded after tetraethyl lead was phased out of gasoline.

New transportation projects pursuant to the 2017 CTP would include construction earthwork activities that would disturb underlying soils and possibly groundwater, potentially resulting in exposure to previously released hazardous materials. Because implementation of the 2017 CTP may result in exposure to these hazardous materials and wastes which could cause adverse effects to construction workers, the public, or the environment, these impacts are considered potentially significant.

Investment Program

The potential presence of hazardous materials can be highly localized, and this EIR cannot definitively rule out, or specifically identify individual project effects. Prior to detailed and site-specific investigation, any number of individual transportation projects listed under the Investment Program may involve adverse effects related to hazardous materials sites. No site-specific or project-specific studies were conducted for transportation projects listed under the Investment Program. The locations of these transportation projects were compared with generalized maps of known areas of prior contamination from various sources. Figure 2.8-1 in the Draft EIR provides broad information on potential areas of hazardous materials, based on available databases that include known releases of hazardous materials (the DTSC EnviroStor database and the SWRCB GeoTracker database). Based on this broad comparison to nearby sites with known prior releases of hazardous materials as recorded in existing databases, and generalized assumptions about land use characteristics), the following new roadway improvement projects are considered to have at least a moderate potential to encounter hazardous materials during construction:

- Improving the I-80/SR-4 interchange by modifying the Willow Avenue ramps
- Modifications to the I-680/Marina Vista interchange
- Contra Costa Boulevard widening through Walnut Creek
- Widening Brentwood Boulevard from Balfour Road to Chestnut Street in Brentwood
- Northern Waterfront Goods Movement Infrastructure

The following proposed improvements to existing roadways have a high potential to encounter hazardous conditions, specifically aerially deposited lead:

- Integrated Corridors (“Smart” freeways/traffic smoothing)
- Eastbound extension of high-occupancy vehicle (HOV) lane, I-680 to SR-242
- Improvements to the interchange at SR-160/Main Street in Antioch

Transit, bicycle, or pedestrian improvement projects would involve earthwork activities that are likely to disturb underlying soils or groundwater during construction, with resulting limited potential to result in exposure to previous hazardous materials contamination, including:

- I-680/Concord Avenue interchange improvements
- Contra Costa Blvd Complete Streets

Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the 2017 CTP would result in impacts related to hazardous materials sites. Because individual Investment Program projects pursuant to the 2017 CTP could potentially result in exposure to previous hazardous materials contamination, causing potentially significant adverse effects to construction workers, the public or the environment, these impacts are considered potentially significant.

Mitigation Measures

A common practice when property changes hands for the purpose of development (including new transportation projects, roadways and transit facilities) is the preparation of a Phase I Environmental Site Assessment (Phase I ESA) in order to research and disclose the prior uses of the site and the likelihood that residual hazardous materials and/or waste might be present. In most instances implementing agencies will require submittal of a Phase I report prior to approval of or implementation of a transportation project. Preparation of and compliance with a Phase I ESA for properties at risk of potential hazardous materials and/or waste contamination would avoid adverse impacts associated with build-out of transportation uses. If a Phase I ESA indicates the presence or potential presence of contamination, a site-specific Phase II ESA could then test soil and/or groundwater. Based on the outcome of a Phase II ESA, remediation of contaminated sites under federal and State regulations administered at the local level could be required prior to development. Construction activities that have soil contingency plans in place can avoid potential exposure of unidentified hazardous materials if suspected contaminated subsurface materials are handled appropriately.

Implementing agencies and/or project sponsors of the transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Haz-2a, Phase I Investigations and Implementation. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- a. Determining whether specific transportation project sites are listed as a hazardous materials and/or waste site pursuant to Government Code Section 65962.5.
- b. Requiring preparation of a Phase I ESA in accordance with the American Society for Testing and Materials ASTM-E-1527-05 standards for any listed sites or sites with the potential of residual hazardous materials and/or waste as a result of location

and/or prior uses. For work requiring any demolition or renovation, the Phase I ESA shall make recommendations for any hazardous building materials survey work that shall be done.

- c. Implementing recommendations included in a Phase I ESA prepared for a site.
- d. If a Phase I ESA indicates the presence or likely presence of contamination, the implementing agency shall require a Phase II ESA, and recommendations of the Phase II ESA shall be fully implemented.
- e. For work requiring any demolition or renovation, the Phase I ESA shall make recommendations for any hazardous building materials survey work that shall be done.
- f. Requiring construction contractors to prepare and implement soil management contingency plans which provide procedural guidance on the handling, notification, and protective measures to be taken in the event of encountering suspected contamination or naturally occurring asbestos.

Mitigation Measure Haz-2b, Site Safety Plan. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- a. A Site Safety Plan should be prepared and implemented prior to initiation of any construction/development activities on roadways known to contain significant concentrations of aerially deposited lead to reduce health and safety hazards to workers and the public.
- b. A Lead Compliance Plan to prevent or minimize worker exposure shall be prepared.
- c. Minimization measures to address ADL could include removing ADL soil, and/or balancing soil removal and fill to maximize reuse of ADL soil in the project area and not generate a hazardous waste. Handling of material containing ADL must result in no visible dust migration. A means of controlling dust must be available at all times when handling material in work areas containing ADL at hazardous waste concentrations.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measures Haz-2a and Haz-2b, these measures would reduce significant impacts from hazardous materials because they would ensure that proper identification of risks occurs and provide development recommendations that would minimize human exposure to materials of concern. It is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects sponsors taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. Furthermore, it is standard practice and required protocol for all Caltrans and BART projects to implement measures consistent with those identified above. It is also local government practice and standard to similarly implement measures consistent with those identified above. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains

significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.8-12 through 17.)

H. Hydrology and Water Resources

1. Flood Hazards

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP place new structures and facilities within a 100-year flood hazard area, which would impede or redirect flood flows; or 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?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.9-23 through 26.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could place structures within a 100-year flood hazard area or 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. Construction of new transportation projects that intersect areas mapped within the 100-year flood hazard area would potentially increase the ability to obstruct or exacerbate floodwaters, exposing structures to future flooding and resulting in potential damage or human risk. Those projects that do intersect 100-year flood hazard areas could involve support structures or other above ground improvements in the floodway that could potentially obstruct floodwaters at some locations. Placement of structures within a floodplain can displace floodwaters and alter the base flood elevations in the surrounding areas. Structures can form a backwater effect, resulting in an increase in the flood elevation level upstream and in neighboring areas. Drainage areas could also be altered by highway corridors, in which floodwaters could be detained by medians and along the roadside.

Federal, state, and local floodplain requirements combined with ongoing flood protection projects would minimize the potential impact of the transportation projects at the regional and local level. Because implementation of the 2017 CTP may place structures within a 100-year flood hazard area or 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, these impacts are considered potentially significant.

Investment Program

The Investment Program includes certain transportation projects and new or expanded transit projects that could place structures within a 100-year flood hazard area or expose people or structures to a significant risk of loss, injury or death involving flooding. These transportation projects included in the Investment Program that may be in or pass through previously identified flood-prone areas include the following:

- West County Transit Improvements
- Expand Amtrak Capitol Corridor Service

Individual project-level analysis will need to be conducted to determine whether these or other future projects pursuant to the 2017 CTP would result in adverse effects related to flood hazards. Individual projects pursuant to the Investment Program must comply with Caltrans, Contra Costa Flood Control and Water Conservation District, and local regulatory (i.e., local public works) agency design standards for projects within a FEMA-designated 100-year flood zone. The project proponent or local jurisdiction shall be responsible for assessing the effects of the project on flood flows, as appropriate. Because individual Investment Program projects pursuant to the 2017 CTP have the potential to place structures within a 100-year flood hazard area or expose people or structures to a significant risk of loss, injury or death involving flooding, these impacts are considered potentially significant.

Mitigation Measures

Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

Mitigation Measure Hydro-2: Flood Hazards. To reduce the impact of flood hazards, implementing agencies shall conduct or require project-specific hydrology studies for projects proposed to be constructed within floodplains to demonstrate compliance with Executive Order 11988, the NFIP, National Flood Insurance Act, Caltrans Highway Design Manual, Cobey-Alquist Floodplain Management Act, as well as any further FEMA or state requirements that are adopted at the local level. These studies shall identify project design features or mitigation measures that reduce impacts on either floodplains or flood flows to a less than significant level such as requiring minimum elevations for finished first floors, typically at least one foot above the 100-year base flood elevation, where feasible based on project- and site-specific considerations. For the purposes of this mitigation, less than significant means consistent with these federal, state, and local regulations and laws related to development in the floodplain. Local jurisdictions shall, to the extent feasible, appropriate, and consistent with local policies, prevent development in flood hazard areas that do not have demonstrable protections.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Hydro-2, this measure would reduce significant impacts from flooding by ensuring that appropriate protections and design measures are implemented.

These measures are tied to existing regulations that are law and binding on responsible agencies and project sponsors, and it is reasonable to assume these measures would be

implemented for all future transportation projects pursuant to the 2017 CTP, including those transportation projects proposed to be implemented under the Investment Program. However, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.9-23 through 26.)

I. Land Use, Population, Housing, and Employment

1. Residential or Business Disruption or Displacement

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in substantial permanent residential or business disruption, or displacement of substantial numbers of existing population and housing?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.10-16 through 18.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

This assessment evaluates potential direct impacts due to physical disruptions to existing communities, including displacement of residents or businesses because of future transportation improvements. The analysis involves assumptions based on limited available information, since in some cases the 2017 CTP's transportation projects are still in the conceptual design phase, rather than at the project-specific level.

New transportation projects pursuant to the 2017 CTP include the construction of new arterials, the widening of freeways, new commuter rail facilities, funding for bus operations and express bus service, the expansion of school bus programs, and other transportation improvements within the county that increase accessibility and connectivity in the county as a whole. In general, most of the projects that comprise the 2017 CTP also involve work within existing rights of way, which are assumed less likely to disrupt existing homes, businesses, and neighborhoods. Those projects that require a new alignment or the extension of an existing right-of-way generally occur on the edges of urban areas and form connections between existing routes. New road or highway projects, extensions of transit infrastructure projects, and major

interchange projects are assumed to have a higher potential to divide existing communities, while areas with road widening and other projects along established transportation rights-of-way are assumed to have a lower potential to divide existing communities or neighborhoods in the long-term.

The potential for permanent community disruption resulting from the 2017 CTP is minimal for the following reasons:

- Transportation improvements with the highest risk of community disruption are new freeways, expressways, or rail lines on alignments that pass through existing urban areas or pockets of development in rural areas, resulting in potential residential or business displacements or blocking of access to community amenities.
- Many projects in the 2017 CTP expand interconnections between neighborhoods and communities through improved bus service, bike lanes, sidewalks, transit connections, and other similar improvements. The 2017 CTP and its list of transportation projects have been developed in collaboration with local governments with the intention of enhancing the quality of life in existing communities and neighborhoods (e.g., operating Bus Rapid Transit along major corridors, and implementing transit accessibility, and bicycle and pedestrian improvement projects).
- Long-term division and displacement of existing land uses is less likely to occur because of the CCTA's priority for transportation improvements that are consistent with local General Plans. The 2017 CTP and its list of transportation projects have been developed in a "bottom-up" process that includes the same local jurisdictions that control land use decisions and General Plans.

Certain projects pursuant to the 2017 CTP may result in displacement of existing homes and businesses, and possibly divisions within existing neighborhoods. The 2017 CTP is considered to have a cumulatively significant impact related to residential or business disruption, with the potential for displacement of people and/or housing. Because implementation of the 2017 CTP may result in residential or business disruption or displacement, these impacts are considered potentially significant.

Investment Program

The 2017 CTP's Investment Program includes a very limited list of transportation projects or new or expanded transit projects that might individually result in direct physical disruptions to existing communities, including potential displacement of residents or businesses. The Investment Program does not include any transportation improvements of the type that generate the highest risk of community disruption. There are no new freeways or arterial roads that pass through existing urban areas, or through pockets of development in rural areas. The alignment for the one new freeway that is proposed pursuant to the Investment Program (new SR-239), does not pass through an urban area or a rural community. Its alignment is primarily through open and agricultural lands.

The Investment Program does include a number of roadway widenings (e.g., widening Brentwood Boulevard and Contra Costa Boulevard). The final alignment of these and potentially other road-widening projects could result in displacement of existing homes and businesses.

Individual project-level analysis will need to be conducted to determine whether these or other future projects would result in direct physical disruptions to existing communities or physical displacement. Because individual Investment Program projects may result in residential or business disruption or displacement, these impacts are conservatively considered significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure LU-2: Anti-Displacement and Disruption Strategies. Implementing agencies and/or project sponsors shall consider implementation of mitigation measures for new or expanded transportation projects that could result in long-term division or displacement of existing housing, businesses and neighborhoods, where feasible based on project-and site-specific considerations, including but not limited to the following:

- a. Corridor realignment should be considered by the project sponsor, where feasible, to avoid displacement and division of neighborhoods, and to maintain or improve accessibility.
- b. Preparation and execution of relocation assistance plans. At a minimum, relocation assistance plans will include:
 - o Criteria for replacement housing;
 - o Reimbursement levels for moving costs and differential housing costs to those eligible for relocation assistance;
 - o Construction schedules that allow adequate time for all commercial and industrial businesses to find and relocate to adequate substitute sites; and
 - o Reimbursement levels for the costs associated with relocating a business to an acceptable facility, including search costs and criteria for payment in lieu of relocation if a business cannot be relocated without a substantial loss of existing patronage.

The 2017 CTP does not include any transportation improvements of the type that generate the highest risk of community disruption, but does include roadway-widening projects that could potentially result in displacement of existing homes and businesses. To the extent that such transportation projects pursuant to the 2017 CTP (including those individual projects proposed under the Investment Program) incorporate all feasible mitigation measures described above, impacts related to residential or business disruption or displacement would be reduced to levels of less than significant.

However, CCTA cannot require local implementing agencies to adopt the above mitigation measures, and it is ultimately the responsibility of the local lead agency or project sponsor to determine and adopt mitigation. Therefore, it cannot be ensured that these mitigation measures would be implemented in all cases. For purposes of a conservative analysis, therefore,

impacts related to residential or business disruption or displacement under the 2017 CTP, including those transportation projects proposed under the Investment Program, remain significant and unavoidable. (Draft EIR, pp. 2.10-16 through 18.)

2. Construction-Related Community Disruption

Threshold: Would the construction of new or expanded transportation facilities pursuant to the 2017 CTP result in temporary, short-term disruption of adjoining residential or business land uses?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.10-19 and 20.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

Construction-related activities associated with new transportation projects pursuant to the 2017 CTP are likely to cause short-term disruption of adjoining land uses. To some degree, all transportation projects that involve construction could cause short-term disruption to existing homes, businesses, and neighborhoods. The significance of this disruption will depend on the scale, nature, and location of the improvement. Larger projects would be most likely to result in a significant disruption to businesses, homes and neighborhoods. The impacts of smaller-scale projects (such as bicycle lanes and operational improvements) would likely be more localized and of shorter duration. Projects that are located within immediate proximity to businesses or homes would be more likely to result in such impacts than projects within more rural areas, even when the project is larger. Because implementation of the 2017 CTP may result in short-term construction-period impacts, these impacts are considered potentially significant.

Investment Program

The Investment Program's transportation projects and new or expanded transit projects could individually result in short-term construction-period impacts. These impacts may include construction noise, dust, diesel engine emission and traffic disruptions. These construction-related activities are likely to cause short-term disruption of adjoining land uses. The significance of this disruption will depend on the scale, nature, and location of the improvement. These construction-period impacts, although of a short-term duration, may be significant. Individual project-level analysis will need to be conducted to determine whether Investment Program projects would adversely affect adjoining land uses. Because individual Investment Program projects have the potential to a result in short-term construction-period impacts, these impacts are considered significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure LU-3: Construction-Related Disruptions. Implementing agencies and/or project sponsors shall consider implementation of mitigation measures for new or expanded transportation projects that could result in short-term disruption to existing housing, businesses and neighborhoods, where feasible based on project-and site-specific considerations, including but not limited to the following:

- a. Regulate construction operations to minimize traffic disruptions and detours, and to maintain safe traffic operations;
- b. Ensure construction operations are limited to regular business hours where feasible; and
- c. Control construction dust and noise (see further mitigation details in the Air Quality and Noise chapters of this EIR).

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects proposed under the Investment Program, incorporate all feasible mitigation measures described above, impacts related to construction-related short-term disruption of existing residences or businesses would be reduced to levels of less than significant.

However, CCTA cannot require local implementing agencies to adopt the above mitigation measures, and it is ultimately the responsibility of the local lead agency or project sponsor to determine and adopt mitigation. Therefore, it cannot be ensured that these mitigation measures would be implemented in all cases. For purposes of a conservative analysis, therefore, impacts related to residential or business disruption or displacement under the 2017 CTP, including those transportation projects proposed under the Investment Program, remain significant and unavoidable. (Draft EIR, pp. 2.10-19 and 20.)

J. Noise

1. Construction Noise and Groundborne Vibration

Threshold: Would construction of new or expanded transportation facilities pursuant to the 2017 CTP result in a violation of the standards contained within the General Plans and noise ordinances of applicable jurisdictions?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.11-16 through 19.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of

employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP would involve construction activity, resulting in localized increases in ambient noise levels in the areas surrounding those projects. Construction-related noise and vibration impacts of transportation projects pursuant to the 2017 CTP would depend on the extent of construction being undertaken. Such impacts could include temporary annoyance to nearby residents and workers and violation of local noise standards. Construction noise would be most significant when it takes place near sensitive land uses or when it occurs at night or in early morning hours. Construction activities with the potential for resulting in significant noise or vibration impacts would be those for which pile driving or other similar invasive foundation work would be required. Generally speaking, these types of activities are associated with construction of elevated freeways, flyovers, overpasses, or other structures requiring substantial structural support. Construction-related vibration impacts are localized in nature and depend on local soil conditions and the proximity to residential receptors.

Construction noise mitigation normally required by Caltrans' Standard Specifications and Standard Special Provisions, as well as local city and county ordinances, would be implemented for individual transportation projects that include construction activities. Standards generally limit construction activities to times when construction noise would have the least effect on adjacent land uses, and would require such measures as properly muffling equipment noise, locating equipment as far from sensitive receptors as possible, and turning off equipment when not in use. Some jurisdictions may also have property line or other noise level limits that must be adhered to during construction. These standards, however, would not eliminate all construction-related noise since complete mitigation may not be possible for certain projects, such as those that require pile driving and those that occur near sensitive receptors. Because implementation of the 2017 CTP may result in a violation of the standards contained within the general plans and noise ordinances of applicable jurisdictions, these impacts are considered potentially significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects could result in a localized increase in ambient noise levels and may result in a violation of the standards contained within the general plans and noise ordinances of applicable jurisdictions.

Construction-related noise and vibration impacts of individual transportation projects pursuant to the Investment Program would depend on the extent and location of construction being undertaken, as well as the proximity to sensitive receptors. Significant construction-related noise or vibration impacts would potentially occur for individual transportation projects that may include pile driving or other similar invasive foundation work (e.g., elevated freeways, flyovers, overpasses).

Individual project-level analysis will need to be conducted to determine whether the Investment Program's future projects would result in a violation of the standards contained within the General Plans and noise ordinances of applicable jurisdictions. Because individual Investment Program projects have the potential to result in a violation of the standards contained within the General Plans and noise ordinances of applicable jurisdictions and because complete mitigation may not be possible for certain projects, these impacts are considered potentially significant.

Mitigation Measures

Mitigation measures that shall be considered by implementing agencies and/or project sponsors for construction of transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, where feasible and based on project-and site-specific considerations, include but are not limited to:

Mitigation Measure Noise-1A: Construction Noise. Implement one or more of the following set of noise attenuation measures under the supervision of a qualified acoustical consultant:

- a. Restrict construction activities to permitted hours as defined under local jurisdiction regulations (e.g., Alameda County Code restricts construction noise to between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on weekend).
- b. Properly maintain construction equipment and outfitting construction equipment with the best available noise suppression devices (e.g., mufflers, silencers, wraps).
- c. Prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors.
- d. Locate stationary equipment such as generators, compressors, rock crushers, and cement mixers as far from sensitive receptors as possible.
- e. Erect temporary plywood noise barriers around the construction site when adjacent occupied sensitive land uses are present within 75 feet.
- f. Implement "quiet" pile-driving technology (such as pre-drilling of piles and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions.
- g. Use noise control blankets on building structures as buildings are erected to reduce noise emission from the site.
- h. Use cushion blocks to dampen impact noise from pile driving.

Mitigation Measure Noise-1B: Construction Noise and Vibration. Implement one or more of the following set of vibration attenuation measures under the supervision of a qualified acoustical consultant if pile driving and/or other potential vibration-generating construction activities are to occur within 60 feet of a historic structure.

- a. The project sponsors shall engage a qualified geotechnical engineer and qualified historic preservation professional and/or structural engineer to conduct a pre-construction assessment of existing subsurface conditions and the structural integrity of nearby (within 60 feet) historic structures subject to pile-driving activity. If recommended by the pre-construction assessment, for structures or facilities within

60 feet of pile-driving activities, the project sponsors shall require groundborne vibration monitoring of nearby historic structures. Such methods and technologies shall be based on the specific conditions at the construction site such as, but not limited to, the pre-construction surveying of potentially affected historic structures and underpinning of foundations of potentially affected structures, as necessary.

- b. The pre-construction assessment shall include a monitoring program to detect ground settlement or lateral movement of structures in the vicinity of pile-driving activities and identify corrective measures to be taken should monitored vibration levels indicate the potential for building damage. In the event of unacceptable ground movement with the potential to cause structural damage, all impact work shall cease and corrective measures shall be implemented to minimize the risk to the subject, or adjacent, historic structure.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measures Noise-1A and -1B, these measures would reduce significant construction-period noise and vibration impacts. However, because site conditions are unique, it cannot be concluded with certainty that all construction-period noise and vibration impacts could be avoided. Projects that require pile driving can generate noise levels above 100 dBA at 50 feet, and the most effective mitigation measures may only result in relatively modest reductions. There may also be instances in which site-specific or project-specific conditions preclude the effective implementation of all mitigation measures, and construction-period noise and vibration impacts may remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.11-16 through 19.)

2. Operational Noise—Traffic

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in highway noise levels that exceed the FHWA Noise Abatement Criteria or increase above existing levels?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.11-19 through 22.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could result in highway noise levels that exceed the FHWA noise abatement criteria or increase above existing levels. Projects with the potential for significant direct noise impacts include new roadways, roadway extensions, and roadway widenings.

New roadways and roadway extensions could result in significant increases in noise since they could introduce a much higher level of traffic noise along a corridor in which traffic noise is currently negligible or distant. As a rule of thumb, a doubling of traffic volume approximately results in a 3 dBA increase in noise, which is the minimum change in noise level required for the change to be perceivable. The impact of such new roadways and roadway extensions would depend upon the types and proximity of sensitive land uses (e.g., residences and schools) along the new roadway alignment and the effectiveness of noise mitigation features included in their design. By redistributing traffic on the existing roadway network, these projects may have significant adverse and/or beneficial noise impacts in the project vicinity. Adverse noise impacts would occur along roads to which traffic would be diverted, and beneficial noise impacts would occur along roads from which traffic would be diverted.

The *Plan Bay Area EIR* (2013) included a region-wide analysis of noise impacts resulting from the proposed investments in transit operations and expansion, as well as a supportive land use pattern that focuses growth in higher-density areas near transit services. *Plan Bay Area* includes certain transportation improvement projects also include in the 2017 CTP. The *Plan Bay Area EIR* (2013) analysis found that transportation projects could result in increases or redistribution of traffic on local expressways and arterial roadways that could change roadside noise levels. Table 2.6-6 in the *Plan Bay Area EIR* identifies the total roadway miles of potentially affected roadways (freeways, expressways, and arterials) that would result in noise levels exceeding 66 dBA for each county and the Bay Area as a whole by the year 2040.

Specifically for Contra Costa County, the majority (94.7 percent) of all freeway miles on the modeled roadway network already exceeds 66 dBA under existing conditions. This percentage increases by 5 percent by 2040. Relative to existing conditions, roadway noise levels along freeways would experience the highest increase. The arterial roadway miles that approach or exceed the FHWA noise abatement criteria would increase by 1.5 percent. The percentage of expressways that meet the 66 dBA criterion would also increase. The expressway miles that approach or exceed the FHWA noise abatement criteria would increase by nearly 1%.

Increases in freeway and expressway miles approaching the FHWA noise abatement criteria over the existing conditions would result from implementing transportation projects pursuant to the 2017 CTP, and this change would represent a potentially significant noise impact. Project sponsors are required to review and consider local land use policies (including noise ordinances and policies) in preparation of their project applications, and local governments are responsible for long-term land use planning related to noise issues and considering the

appropriate location of sensitive receptors in relation to existing transportation corridors. Despite these sources of oversight and regulation, the potential exists for a significant change in the noise environment compared to existing conditions, particularly for uses that are already nearby roadways and not insulated sufficiently to address the new level of noise. As a result, this impact is considered potentially significant. Because implementation of the 2017 CTP may result in highway noise levels that exceed the FHWA noise abatement criteria or increase above existing levels, these impacts are considered potentially significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects that could result in local noise impacts related to vehicle travel. The potential for the operation of individual transportation improvement projects pursuant to the 2017 CTP to result in highway noise levels that exceed the FHWA noise abatement criteria or increase above existing levels is considered significant.

Additional project-level analysis must be conducted for individual projects to determine the significance of impacts based on the project and the existing and projected noise levels. Project-level analysis may or may not find significant noise impacts. Noise mitigation for these new projects may have the additional benefit of reducing noise in communities that would otherwise continue to experience adverse noise impacts from existing and future traffic had the improvements not occurred.

If federal funding is used for projects, mitigation measures should conform to applicable FHWA noise abatement criteria. These commitments obligate project sponsors to implement measures that would minimize or eliminate any significant impacts. Noise mitigation for freeway widenings typically involves construction of soundwalls, and depending upon their height and length and the surrounding terrain, these soundwalls can reduce impacts of these projects to a level of less than significant and can even reduce traffic noise to levels below existing conditions.

Because individual Investment Program projects pursuant to the 2017 CTP have the potential to result in highway noise levels that exceed the FHWA noise abatement criteria or increase above existing levels, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Noise-2: Traffic Noise. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to:

- a. Adjustments to proposed roadway or transit alignments to reduce noise levels in noise sensitive areas. For example, below-grade roadway alignments can effectively reduce noise levels in nearby areas.
- b. Techniques such as landscaped berms, dense plantings, reduced-noise paving materials, and traffic calming measures in the design of their transportation improvements.
- c. Contributing to the insulation of buildings or construction of noise barriers around sensitive receptor properties adjacent to the transportation improvement.
- d. Use land use planning measures, such as zoning, restrictions on development, site design, and buffers to ensure that future development is noise compatible with adjacent transportation facilities and land uses.
- e. Construct roadways so that they are depressed below-grade of the existing sensitive land uses to create an effective barrier between new roadway lanes, roadways, rail lines, transit centers, park-n-ride lots, and other new noise generating facilities.
- f. Maximize the distance between noise-sensitive land uses and new noise-generating facilities and transportation systems.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Noise-2, these measures would likely be capable of reducing traffic noise levels to below the FHWA noise abatement criteria, or to levels that would not exceed existing site-specific conditions. However, because site conditions are unique, it cannot be concluded with certainty that these mitigation measures could be implemented in all cases, and there may be instances in which site-specific or project-specific conditions preclude the reduction of all traffic-related noise impacts to less than significant levels and traffic noise impacts may remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.11-19 through 22.)

3. Operational Noise—Transit

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in transit noise levels that exceed the allowable noise exposure permitted under the FTA criteria?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.11-22 and 23.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable.

Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could result in transit noise levels that exceed the allowable noise exposure permitted under the FTA criteria. Extension of rail transit service to new areas of Contra Costa County could result in exposure of existing sensitive land uses to noise levels in excess of standards developed by the FTA. The degree of this potential impact would depend upon the type (diesel or electric powered) and frequency of rail pass-by events and the existing ambient noise level at the existing receptor. Transit projects would result in potentially significant impacts resulting from permanent increases in noise to existing sensitive receptors along the extended transit alignment that would require mitigation. Implementation of the 2017 CTP may result in transit noise levels that exceed the allowable noise exposure permitted under the FTA criteria, these impacts are considered potentially significant.

Investment Program

Under the Investment Program for the 2017 CTP, proposed transportation projects and new or expanded transit projects could result in transit noise levels that exceed the allowable noise exposure permitted under the FTA criteria. Individual project-level analysis will need to be conducted to determine the significance of impacts based on the project and the existing and projected noise levels. Noise mitigation for these new projects may have the additional benefit of reducing noise in communities that would otherwise continue to experience adverse noise impacts from existing and future transit had the improvements not occurred. Specifically, BART or rail extensions would introduce a new source of groundborne vibration along their alignments. Since the FTA would almost certainly be involved in any BART extension, the criteria set forth in the Regulatory Setting above would be used on a project-by-project basis for determining whether mitigation must be considered in East Contra Costa BART Extensions project development. Because individual Investment Program projects pursuant to the 2017 CTP have the potential to result in transit noise levels exceedances, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Noise-3: Transit Noise. Prior to project approval, the implementing agency for a transportation project shall ensure that the transportation project sponsor applies the following mitigation measures to achieve a site-specific

exterior noise performance standard as reflected in Figure 2.11-1 for sensitive land uses, as applicable for rail extension projects:

- a. Using sound reduction barriers such as landscaped berms and dense plantings
- b. Locating rail extension below grade
- c. Using methods to resilient damped wheels
- d. Using vehicle skirts
- e. Using under car acoustically absorptive material
- f. Installing sound insulation treatments for impacted structures

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate Mitigation Measure Noise-3, these measures would reduce significant noise impacts related to transit noise. However, because site conditions are unique, it cannot be concluded with certainty that site-specific exterior noise performance standard for sensitive land uses can always be achieved, and there may be instances in which transit operation-related noise impacts remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable (SU) for purposes of this program-level analysis. (Draft EIR, pp. 2.11-22 and 23.)

K. Visual Resources

1. Views, Scenic Resources, and Visual Character

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP affect visual resources by blocking panoramic views or views of significant landscape features or landforms, by substantially damaging scenic resources that would alter the appearance of or from designated or eligible scenic highways, and/or substantially degrading the existing visual character or quality of the site and its surroundings?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.12-6 through 9.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP could result in regional short-term visual impacts from the blockage of public views by construction equipment and scaffolding, temporary lighting, and exposed excavation and slope faces. Many of the transportation projects pursuant to the 2017 CTP would not result in significant construction impacts, as they involve transit route improvements, road operations and maintenance, and pedestrian and bicycle improvements which all involve minimal construction, if any. However, major capital projects that require new construction have the potential to result in substantial regional visual impacts during construction due to their visibility from public vantage points. Construction on such projects could take several months to several years. Due to the short-term nature of construction-related impacts, this impact would be less than significant.

Highway widening and new construction associated with major transportation projects pursuant to the 2017 CTP would have the potential to affect views of rural or open space areas, damage scenic resources along a designated or eligible scenic highway, and/or to substantially degrading the existing visual character or quality of the site and its surroundings. Because implementation of the 2017 CTP may result in regional visual impacts, these impacts are considered potentially significant.

Investment Program

Under the Investment Program for the 2017 CTP, there are several proposed transportation projects and new or expanded transit projects that could result in long-term impacts on the County's visual resources through the introduction of new features that block existing views, or new features that are not consistent with the visual character of their existing surroundings. The addition of incongruous elements may degrade views of sensitive scenic areas. Those projects that could result in potentially significant visual impacts are those that are located along or adjacent to a designated or eligible state scenic highway or other scenic routes or vistas, and that widen roadways (with the potential for mature tree removal) or construct new roadway segments include:

- SR-4 Bypass (segment 3, Phase 1) - Modification of an eligible Scenic Highway and increased visual contrast with adjoining farmland.
- Future e-BART Station and extension to Brentwood - Increased visual contrast with adjoining farmland.
- Airport Connector - Increased visual contrast with adjoining farmland.
- Byron Highway Improvements - Increased visual contrast with adjoining farmland.
- SR-239 – New 4-lane freeway from Brentwood to the I-205/I-580 Interchange - Increased visual contrast with adjoining farmland.

Individual project-level analysis will need to be conducted to determine whether these or other future Investment Program projects pursuant to the 2017 CTP would degrade views of sensitive scenic areas. Because individual Investment Program projects pursuant to the 2017

CTP have the potential to adversely affect visual resources, these impacts are considered potentially cumulatively significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, where feasible and based on project-and site-specific considerations, including but not limited to those identified below.

Mitigation Measure Vis-1a: Minimize Intrusions into Views. Where construction of new or expanded transportation facilities could adversely alter views over the long-term, mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible based on project-and site-specific considerations, include, but are not limited to:

- a. Reduce the visibility of construction staging areas by fencing and screening these areas with low contrast materials consistent with the surrounding environment, and by revegetating graded slopes and exposed earth surfaces at the earliest opportunity.
- b. Site or design projects to minimize contrast in scale and massing between the project and surrounding natural forms and urban development, and to minimize their intrusion into important viewsheds.
- c. Use see-through safety barrier designs (e.g., railings rather than walls) when feasible.
- d. Develop interchanges and transit lines at the grade of the surrounding land to limit view blockage wherever possible.
- e. Use natural landscaping to minimize contrasts between the projects and existing natural and human-made features, and design landscaping along highway corridors in rural and open space areas to add significant natural elements and visual interest to soften the hard edged, linear travel experience that would otherwise occur.
- f. Contour the edges of major cut and fill slopes to provide a more natural looking finished profile.
- g. Identify, preserve, and enhance scenic vistas to and from hillside areas and other visual resources.
- h. Ensuring that new development in or adjacent to existing communities is compatible in scale and character with the surrounding area by promoting a transition in scale and architecture character between new buildings and established neighborhood, and requiring pedestrian circulation and vehicular routes to be well integrated.
- i. Comply with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect visual resources.

Mitigation Measure Vis-1b: Design Studies. Where feasible and based on project-and site-specific considerations, conduct design studies for projects in designated or eligible State Scenic Highway corridors. Consider the “complete” highway system and develop project design considerations to minimize the impacts on the quality of the views of visual experience that originally qualified the highway for Scenic Highway designation.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects proposed under the Investment Program, incorporate all feasible mitigation measures described above, impacts on scenic views and vistas would be reduced to levels of less than significant by reducing their visibility, minimizing contrast in scale and massing, using natural landscaping and ensuring compatible in scale and character with the surroundings of visually sensitive areas. However, because site conditions are unique, it cannot be concluded with certainty that all views, scenic resources and visual character impacts could be avoided. Therefore, there may still be instances in which these visual resources impacts would remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.12-6 through 9.)

2. Incongruous Visual Elements—Soundwalls

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP result in the construction of new soundwalls along arterials could add visual elements that are incongruous with the existing character of an area?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.12-9 through 11.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

Soundwalls are used to reduce noise levels in residential areas surrounding transportation infrastructure, usually high-speed or high-volume segments of roadways. New transportation projects pursuant to the 2017 CTP could include soundwalls, which would affect the visual character of streetscapes and arterial corridors. Soundwalls associated with these projects would reduce visual interest and sense of place, while also limiting views and sunlight from adjoining areas. Architectural relief, landscaping, and visual screening, which are now customary requirements for new soundwall projects, would soften the contrasts. Nonetheless, views into and out of affected neighborhoods would likely be blocked. It is not possible to identify the extent of blocked views at the program level and prior to final project design. Since there are so

few soundwall projects pursuant to the 2017 CTP, it is expected that this impact can be reduced or avoided with appropriate mitigation. Because implementation of the 2017 CTP may result in visual impacts from soundwalls, these impacts are considered potentially significant.

Investment Program

Under the Investment Program for the 2017 CTP, there are no proposed transportation projects or new or expanded transit projects that could result in visual impacts from soundwalls. Identification of the precise locations and height of soundwalls that could be constructed in unknown at this time, would require further, more detailed engineering studies to be conducted as the projects are developed. CCTA conservatively assumes that some of the projects will require the construction of new soundwalls or that widening projects may require increased height of existing soundwalls.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Vis-2: Soundwall Design. Where construction of new or expanded transportation facilities may require associated soundwalls, mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible based on project-and site-specific considerations include using soundwall construction and design methods that account for visual impacts, as follows:

- a. Use transparent panels to preserve views where soundwalls would block views from residences.
- b. Use landscaped earth berm or a combination wall and berm to minimize the apparent soundwall height.
- c. Construct soundwalls of materials whose color and texture complements the surrounding landscape and development.
- d. Design soundwalls to increase visual interest, reduce apparent height, and be visually compatible with the surrounding area.
- e. Landscape the soundwalls with plants that screen the soundwall, preferably with either native vegetation or landscaping that complements the dominant landscaping of surrounding areas.
- f. Develop new or expanded roadways below the grade of surrounding areas to minimize the need for tall soundwalls.

The Investment Program does not specifically identify any transportation projects that indicate the need or intent to construct new soundwalls. However, detailed design and subsequent site-specific analysis may ultimately indicate the need for soundwalls. To the extent that any future transportation projects pursuant to the 2017 CTP, including those individual projects proposed under the Investment Program, may ultimately require or propose soundwalls, incorporation of all feasible design-related methods described in Mitigation Measure Vis-2

above would reduce associated visual impacts. However, site conditions are unique and it cannot be concluded with certainty that all visual impacts associated with soundwalls could be avoided. There may be instances in which the visual impacts of new or expanded soundwalls would remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that Mitigation Measures listed under Vis-2: Soundwall Design can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable for purposes of this program-level analysis. (Draft EIR, pp. 2.12-9 through 11.)

3. Light and Glare

Threshold: Would new or expanded transportation facilities pursuant to the 2017 CTP adversely affect visual resources by creating new substantial sources of light and glare?

Finding: Significant and unavoidable. (Draft EIR, pp. 2.12-11 through 12.) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR. (State CEQA Guidelines, section 15091(a)(1).) However, impacts would still remain significant and unavoidable. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measure or project alternatives identified in the EIR. (State CEQA Guidelines, section 15091(a)(3).)

Explanation:

2017 CTP

New transportation projects pursuant to the 2017 CTP are not likely to significantly increase the amount of light and glare at the county-wide or local level, as most improvements will take place on existing facilities that already are existing sources of light and glare. A limited number of new proposed roadways in rural areas could introduce a new source of light and glare, but the marginal increases in light and glare from additional vehicle headlights, new reflective signage, new streetlights, new intersection control devices, and other potential improvements are considered less than significant. In most cases, new transportation projects will be aligned with planned development projects and other existing facilities, which will help to reduce aesthetic impacts. Because implementation of the 2017 CTP may result in several new transportation projects in rural areas that could introduce light and glare where no sources currently exist, these impacts are considered potentially significant.

Investment Program

Within the assumed financial constraints of the 2017 CTP, several proposed transportation projects and new or expanded transit projects could result in light and glare impacts in rural or open space areas. These projects include, but are not necessarily limited to:

- SR-4 Bypass (segment 3, Phase 1) - Modification of an eligible Scenic Highway and increased visual contrast with adjoining farmland.
- Airport Connector - Increased visual contrast with adjoining farmland.
- Byron Highway Improvements - Increased visual contrast with adjoining farmland.
- SR-239 – New 4-lane freeway from Brentwood to the I-205/I-580 Interchange - Increased visual contrast with adjoining farmland.

Individual project-level analysis will need to be conducted to determine whether these or other future Investment Program projects pursuant to the 2017 CTP would result in adversely light and glare effects. Because individual Investment Program projects pursuant to the 2017 CTP have the potential to result in light and glare where no sources currently exist, these impacts are considered potentially significant.

Mitigation Measures

Implementing agencies and/or project sponsors of those transportation projects pursuant to the 2017 CTP, including those individual transportation projects proposed under the Investment Program, shall consider implementation of mitigations measures, including but not limited to those identified below.

Mitigation Measure Vis-3: Control of Light and Glare. Where construction of new or expanded transportation facilities could adversely affect visual resources by creating new substantial sources of light and glare, implementing agencies and/or project sponsors shall seek to minimize and control glare. Mitigation measures that shall be considered by implementing agencies and/or project sponsors, where feasible and based on project-and site-specific considerations, include but are not limited to

- a. Planting trees along transportation corridors to reduce glare from the sun;
- b. Shielding transportation lighting fixtures to minimize off-site light trespass;
- c. Limiting the use of reflective materials, such as metal;
- d. Using non-reflective material, such as paint, vegetative screening, matte finish coatings, and masonry;
- e. Comply with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect visual resources.

To the extent that transportation projects pursuant to the 2017 CTP, including those individual projects listed under the Investment Program, incorporate the design-related methods for reducing light and glare as identified in Mitigation Measure Vis-3, these measures could reduce significant impacts to less than significant levels. However, because site conditions are unique, it cannot be concluded with certainty that all light and glare impacts could be avoided, and there may still be instances in which light and glare impacts may remain significant and unavoidable.

Furthermore, it is ultimately the responsibility of implementing agencies and individual project sponsors to determine and adopt mitigation. Pursuant to CEQA Guidelines section 15091(a)[3], CCTA believes that these mitigation measures can and should be adopted, and projects taking advantage of CEQA Streamlining provisions of this EIR must apply the mitigation measures described above to address site-specific conditions. However, CCTA cannot require implementing agencies and individual project sponsors to adopt the above mitigation measures. Therefore, this impact remains significant and unavoidable (SU) for purposes of this program-level analysis. (Draft EIR, pp. 2.12-11 through 12.)

SECTION 5. FINDINGS REGARDING CUMULATIVE ENVIRONMENTAL IMPACTS. The Authority hereby finds as follows:

Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively significant. CEQA defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (CEQA Guidelines § 15355). “‘Cumulatively considerable’ means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects” (CEQA Guidelines § 15065(a)(3)). This means that cumulative impacts can result from individually minor but collectively significant projects taking place over time.

The 2017 CTP, which includes countywide transportation improvements in support of planned growth, is a cumulative plan by definition. As such, the environmental analysis included throughout this EIR is a cumulative analysis compliant with the requirements of CEQA and the CEQA Guidelines. All of the impacts addressed in Chapters 2.1 through 2.12 of the Draft EIR are considered cumulative and therefore are not repeated here. (Draft EIR, pp. 3.2-11 and 12.)

SECTION 6. FINDINGS REGARDING SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES. According to Sections 15126(c) and 15126.2(c) of the State CEQA Guidelines, an EIR is required to address any significant irreversible environmental changes that would occur should the proposed project be implemented. Generally, a project would result in significant irreversible environmental changes if any of the following would occur:

- The project would involve a large commitment of non-renewable resources;
- The primary and secondary impacts of the project would generally commit future generations to similar uses;
- The project involves uses in which irreversible damage could result from any potential environmental accidents; or
- The proposed consumption of resources is not justified.

Irretrievable commitments of non-renewable resources associated with transportation improvements in the 2017 CTP would include:

- Consumption of significant amounts of nonrenewable energy for construction, maintenance, and operation of transportation improvements, even if energy use rates do not exceed existing use rates.

- Use of building materials, fossil fuels, and other resources for construction, maintenance, and operation of transportation improvements.
- Conversion of some resource lands, such as agricultural land, habitat areas, and other undeveloped lands into transportation uses.
- Degradation of ambient air quality through the increase of harmful particulate matter caused by a cumulative increase in vehicle exhaust.
- Emission of greenhouse gases that will contribute to global climate change.

(Draft EIR, pp. 3.2-7 and 8.)

SECTION 7. FINDINGS REGARDING GROWTH INDUCING IMPACTS.

According to Section 15126.2(d) of the State CEQA Guidelines, growth-inducing impacts of the proposed Project shall be discussed in the EIR. Growth-inducing impacts are those effects of the proposed Project that might foster economic or population growth or the construction of new housing, either directly or indirectly, in the surrounding environment. According to CEQA, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Growth Projections

Contra Costa County, already one of the most populous counties in the Bay Area, is expected to grow substantially between now and 2040. The Association of Bay Area Governments (ABAG) provides forecasts of where new households and jobs will likely occur in the Bay Area based on overall regional forecasts developed by the California Department of Finance. *Projections 2013* forecast a substantial increase in population, households, jobs, and employed residents within Contra Costa County and the Bay Area as a whole from 2010 to 2040. Many of the impacts identified in Chapters 2.1 through 2.12 of the Draft EIR stem from this growth.

Growth-inducing Effects of 2017 CTP

The quality of the transportation system serving Contra Costa County has a limited role in stimulating overall growth compared to factors related to land use policy. Various studies have examined the effect of transportation improvements that have increased accessibility to land use. These studies have investigated both rail systems (including Bay Area Rapid Transit) and freeways. Generally, these studies have found a clear and significant relationship only for the early freeways. Rail studies and studies of more recent freeways have not always shown a consistent relationship. These studies suggest several reasons why recent transportation improvements have had such minor impacts on land use. They include the following:

- Local general plans and other land use regulations, zoning, and local political attitudes limit the ability of developers to respond to changes in accessibility.
- The Measure J Growth Management Plan, which requires a multi-jurisdictional cooperative planning process and includes a regional transportation mitigation program, strengthens the land use transportation connection, helping to mitigate growth-inducing effects.

- The significant amount of development already in place means that changes in land use that respond to changes in accessibility could take many years to become evident.
- The lack of vacant or developable land will mean that developers can not respond quickly to changes in accessibility.
- Most important, recent changes in accessibility have been too small to change the cost of travel significantly within the urban area.
- In a majority of instances in Contra Costa, transportation improvements are merely “catching up” to serve existing or planned development, rather than influencing the pattern of development.

It is unlikely that the transportation improvements contemplated in the 2017 CTP and its investment Program would be of sufficient magnitude (especially compared to the in-place transportation system), to stimulate new growth beyond the projected 28% increase in population and 36% increase in jobs forecast for the County or the 30% increase in population and 33% increase in jobs forecast for the Bay Area as a whole. This is due to the following factors:

1. Historically, transportation investment in general, and increased transportation capacity in particular, lag behind growth. The proposed CTP’s Investment Program adds approximately 53 lane miles to the baseline of over 12,450 lane miles within the County, for a total of only a +0.04% increase in lane miles. The proposed CTP’s Investment Program includes improvements to approximately 89 lane miles of freeways and arterials within Contra Costa, for a total of only a +0.07% increase in land mile improvement, most of which are Express Lanes and high-occupancy vehicle lanes on many of the County’s most congested freeway corridors. These roadway improvements and lane mile increases occur at lower rates than the projected 28% increase in population and 36% increase in jobs for Contra Costa County. The situation is likely to continue with the limited fiscal resources for expansion of transportation system capacity.
2. Due to the maturity of development in Contra Costa, and the existing transportation system and mode choices already available, incremental corridor improvements are expected to play a minimal role in attracting or inducing new development. The regional health of the economy, the diversity of arts and cultural activities, the stature of the educational system, the strength of local, regional and international markets, and inter-regional transportation costs are all more likely to influence location decisions.
3. The cost of gasoline coupled with a burgeoning concern for sustainable development and climate change seem to be resulting in changes in local land use and investment decision-making geared toward fewer car trips, smaller cars, transit accessibility, infill development, and overall reduced environmental impacts.

Overall mobility in Contra Costa will be more constrained in 2040 than it was in 2010, even with implementation of the 2017 CTP. There will be more peak period congestion and more total vehicle hours of delay. The increases in total countywide travel activity, however, are not caused by implementation of the 2017 CTP. The levels of vehicle hours of delay and average delay per trip are higher under the No Project condition that they would be under the Investment Program, indicating that these impacts are due to projected regional growth in population, jobs, and workers, rather than the transportation infrastructure of the 2017 CTP. To the extent that the transportation network has a substantial effect on countywide growth, it is likely that insufficient transportation infrastructure may decrease, rather than increase the projected rates of population and employment growth.

The 2017 CTP would result in significant investments and improvements in the regional transportation system in support of planned growth. Many of the projects under the 2017 CTP would involve repairing or upgrading existing transportation facilities within urban areas. Numerous projects involve improving transit, bicycle and pedestrian access, including Safe Routes to School projects, and most of the arterial projects focus on operational improvements, such as improving intersections and signals, or on “complete streets” improvements. In almost all cases, these projects are designed to maintain or improve facilities within the urban limit lines adopted per the Measure J Growth Management Program to serve the needs of existing development and planned growth, including the growth identified in *Plan Bay Area*, the Regional Transportation Plan adopted by ABAG and Metropolitan Transportation Commission in 2013.

Potential Exception

There is a new roadway project included in the 2017 CTP, which may be an exception to these general rules pertaining to growth inducement. The 2017 CTP includes construction of a new, 4-lane freeway (State Route 239 – Tri-Link) from the City of Brentwood to the Interstate 205/Interstate 580 interchange, with associated interchange improvements. Construction of this new freeway represents the largest component of the CTP Investment Program’s addition to countywide lane miles. There are significant limitations to any new development along this freeway (e.g., the Measure J Urban Limit Line in Contra Costa County, and Measure D in Alameda County). However, this new freeway would create a new regional connection between Contra Costa and Alameda/San Joaquin Counties, and would potentially relieve a certain amount of congestion, at least in the short-term, on I-580 over the Altamont pass, on Byron Highway, and on Vasco Road. For employed residents in East Contra Costa, SR-239 would improve access to jobs located in San Joaquin County; employed residents in San Joaquin County would experience improved access to jobs in East and Central Contra Costa. The SR-239 Project, however, is proposed to adhere to the Measure J Urban Limit Line constraints, and will have strict access control; only one interchange (at the Airport Connector) is proposed between I-205/I-580 and SR-4. Furthermore, the SR-239 Project would be financially feasible only if operated as a toll facility. The cost of the toll, coupled with limited access to new developable lands, would adequately mitigate any growth-inducing effects. (Draft EIR, pp. 3.2-8 through 11.)

SECTION 8. FINDINGS REGARDING ALTERNATIVES

A. PROJECT OBJECTIVES

The Project is intended to meet the following objectives:

Goal 1: Support the efficient, safe, and reliable movement of people and goods using all available travel modes.

- **EFFICIENCY:** Increase the efficiency of highways and arterial roads through capital investments, operational enhancements, and use of technology.

- PARTNERSHIPS: Engage in partnerships with jurisdictions and other agencies to identify and implement strategies for managing congestion and increasing multimodal mobility.
- SEAMLESS NETWORKS: Eliminate gaps in the existing highway and arterial system, especially those in the regional HOV lane and express lane network.
- STREET AND ROADWAY IMPROVEMENTS: Improve the highway and arterial system to influence the location and nature of anticipated growth in accordance with the General Plans of local jurisdictions and consistent with the CCTA's adopted CTP.
- FREIGHT MOVEMENT: Identify new strategies to improve freight movement on freeways and rail lines to improve air quality and the safety and efficiency of goods movement

Goal 2: Manage growth to sustain Contra Costa's economy, preserve its environment, and support its communities.

- COOPERATIVE PLANNING: Continue to require cooperative transportation and land use planning among Contra Costa County, cities, towns, and transportation agencies.
- REGIONAL PLANNING: Participate in a regional cooperative land use planning process with agencies both within and outside of Contra Costa.
- LAND USE: Support land use patterns within Contra Costa that make efficient use of the transportation system consistent with the General Plans of local jurisdictions.
- DEVELOPMENT IMPACTS: Require local jurisdictions to (i) evaluate and report on the impacts of land use decisions on the transportation system, (ii) identify capital and/or operational improvements needed for development, and (iii) have new growth pay its fair share of the cost of such improvements.
- LAND USE-TRANSPORTATION LINKAGES: Link transportation investments to support (i) a voter-approved urban limit line endorsed by the County and each city and town, (ii) new developments which enhance transportation efficiency and economic vitality, and (iii) infill and redevelopment in existing urban and brownfield areas.
- SUSTAINABILITY: Ensure that new transportation projects are environmentally sustainable and fiscally viable, increase safety, respect community character, promote environmental justice, and maintain or enhance the quality of life of our communities.
- ELECTRIC VEHICLES: Help local jurisdictions develop a connected and coordinated network for electric vehicles.

Goal 3: Expand safe, convenient, and affordable alternatives to the single-occupant vehicle.

- TRANSIT SERVICE EXPANSION: Help fund the expansion of existing transit services and regional express lanes, and maintenance of existing operations, including BART, bus transit, school buses, and paratransit.
- TRANSIT SERVICE COORDINATION: Link transit investments to increased coordination and integration of public transit services, and improved connections between travel modes.
- COMPLETE STREETS: Require local jurisdictions to incorporate policies and standards for "complete streets" that support transit, bicycle and pedestrian access in new developments and in infill development areas (e.g., PDAs) and transit priority areas.
- WALKWAYS AND TRAILS: Support transit-oriented and pedestrian-friendly developments, and invest in trails, walkways, and pedestrian-oriented improvements.

- **ALTERNATE MODES:** Promote the formation of more carpools and vanpools, and greater use of transit, bicycling, and walking.
- **SERVING ALL CONTRA COSTANS:** Support the expansion of a coordinated system of transit and paratransit service to address the mobility needs of low-income, elderly, young and disabled travelers, households without cars, single-parent households, and people paying more than 50 percent of their income for rent.
- **EXPANDED BICYCLE FACILITIES:** Encourage local jurisdictions and other agencies to develop a connected and coordinated system of bicycle facilities through financial assistance, technical support and other aid and encouragement.
- **PRICING PROGRAMS:** Support congestion pricing and parking pricing programs, transportation demand management programs and other innovative strategies that reduce greenhouse gas emissions.
- **SAFE ROUTES TO SCHOOL:** Support Safe Routes to School projects and programs.

Goal 4: Maintain the transportation system.

- **STABLE FUNDING SOURCES:** Advocate for stable sources of funds for transit operations and other programs that support the transportation system.
- **MAINTENANCE:** Require and fund programs for effective preventive maintenance and rehabilitation of the transportation system (deferred maintenance).
- **LONG-TERM NEEDS:** Ensure funding that will maintain the long-term health of all components of the transportation system.

Goal 5: Continue to invest wisely to maximize the benefits of available funding.

- **PERFORMANCE MEASURES:** Use performance measures to evaluate and compare transportation investments.
- **MATCHING FUNDS:** Seek matching funds, whenever possible, and offer incentives and priority funding to projects that provide greater return on investment.
- **PUBLIC-PRIVATE FUNDING PARTNERSHIP:** Develop public-private partnerships and pursue innovative financing mechanisms to accelerate project delivery.
- **LEVERAGING:** Use Measure J funds to leverage State, federal and other funding whenever possible.
- **EQUITY:** Consider the needs of all areas and communities in Contra Costa in funding decisions to ensure fairness in CCTA's transportation investments.

B. ALTERNATIVES SELECTED FOR ANALYSIS IN THE EIR

The following alternatives to the Project were considered in detail in the EIR. These alternatives are rejected for the various reasons as set forth below.

1. Alternative 1—No Project Alternative

Description: Section 15126.6(e) of the State CEQA Guidelines requires evaluation of the No Project Alternative. As described in the State CEQA Guidelines, the purpose of describing

and analyzing the No Project Alternative is to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project. However, “no project” does not necessarily mean that development will be prohibited. The No Project Alternative includes what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

For purposes of the EIR, the No Project Alternative (2040) consists of those projects and programs deemed committed, as defined by MTC’s Committed Funds and Projects Policy. These projects are not subject to further discretionary action at a program level by CCTA because the projects are fully funded and are too far along in the project development process to consider withdrawing support. In general, committed projects are projects that have received environmental clearance and have full funding plans or are funded exclusively with local funds. This definition is also consistent with the No Project Option as evaluated in the 2013 RTP/SCS in the *Plan Bay Area EIR*. A number of individual projects that were included in the 2013 RTP list of committed project have already been constructed, and are now included in the baseline condition. Transportation projects under the No Project Alternative (2040) have already been individually evaluated at a project-specific level, and no further environmental review at the countywide, programmatic scale is necessary.

Impacts: Compared to the Project, this alternative would result in a more substantial impact to vehicle miles traveled per capita; vehicle hours of delay; average speeds; transit ridership; indirect construction-related GHG emissions by 2040.

Compared to the Project, this alternative would result in a less substantial impact to: relative impacts on communities of concern. (Draft EIR, pp. 3.1-9 through 21.)

Objectives and Feasibility: The No Project Alternative (2040) represents the possibility that the Project is not approved, and as such, it would not meet any of the Project objectives. The No Project Alternative does include those transportation projects and programs that have been deemed committed, and that are expected to be implemented irrespective of any decisions regarding adoption of the 2017 CTP. (Draft EIR, p. 3.1-14.)

Findings: The Authority rejects this alternative on the following grounds, each of which provides sufficient justification for rejection of this alternative: 1) Alternative 1 fails to meet any of the Project’s objectives. Therefore, Alternative 1 is eliminated from further consideration.

2. Alternative 2—2013 Regional Transportation Plan Alternative

Description: Alternative 2, the 2013 Regional Transportation Plan Alternative, consists of those additional transportation projects and programs that are already included within Metropolitan Transportation Commission’s 2013 Regional Transportation Plan and are an integral part of *Plan Bay Area* and its Sustainable Communities Strategy. These projects and programs were included in the 2013 *Plan Bay Area* and were previously analyzed on a programmatic basis in its associated Environmental Impact Report. A number of these 2013 Regional Transportation Plan transportation projects and programs have also undergone

individual project-specific environmental review, have been (or are being) considered for approval by local and/or sponsoring agencies, and have an identified if not fully committed funding source. These projects and programs are expected to be implemented unless changed or modified pursuant to the forthcoming 2017 Regional Transportation Plan. The projects and programs included under this alternative are those that can be funded through use of the approximate \$3.7 billion in revenue (2017 constant dollars) from the 2013 Regional Transportation Plan.

Impacts: Compared to the Project, this alternative would result in a less substantial impact to: vehicle miles traveled per capita; vehicle GHG emissions reductions, per SB 375; sea level rise; particulate matter emissions; relative impacts to communities of concern; agricultural land conversion, Williamson Act conflicts, and other changes affecting farmland; candidate, sensitive, and special-status species; conflicts with state or local conservation plans or ordinances; historical resources; archeological and paleontological resources; human remains; tribal cultural resources; seismic hazards; soil erosion; hazardous materials transport; hazardous materials sites; water quality; flood hazards; residential or business disruption or displacement; views, scenic resources, and visual character; and light and glare.

Compared to the Project, this alternative would result in a more substantial impact to: vehicle hours of delay; average speeds; non-single occupant vehicle mode share; transit ridership; and consistency with the Clean Air Plan.

Compared to the Project, this alternative's impact on the following would be relatively the same or similar to that of the proposed Project: direct transportation-related GHG emissions by 2040; indirect construction-related GHG emissions by 2040; impede GHG attainment goals; conflict with GHG reduction policies; construction-period emissions and fugitive dust; operational criteria pollutants; mobile source toxic air contaminant emissions; sensitive natural communities and wetlands; geologic instability and soil expansion; construction-period hazardous materials; airport hazards; emergency response and evacuation; wildland fire hazards; groundwater; drainage and runoff; growth inducement; construction-related community disruption; community separation; conflicts with land use plans and policies; construction noise and groundborne vibration; operational noise-traffic; operational noise-transit; and incongruous visual elements-soundwalls. (Draft EIR, pp. 3.1-110 through 112.)

Objectives and Feasibility: Alternative 2 would have the following ability to meet the Project objectives when compared with the Project:

- Alternative 2 would *meet to a lesser degree* the objective to support the efficient, safe, and reliable movement of people and goods using all available travel modes (Goal 1). It alternative would make fewer improvements overall and fewer improvements to the county's roadway system resulting in higher levels of vehicle delay and lower speeds. It also would not eliminate as many gaps in the transportation system or make the same level of investments in innovation included in the Project. Alternative 2 would not provide the same level of support for goods movement and economic development.
- Alternative 2 would *meet to a lesser degree* the objective to manage growth to sustain Contra Costa's economy, preserve its environment, and support its communities (Goal 2). It would provide less support for goods movement and improvements relied on in local

general plans. Alternative 2 would also result in higher levels of GHG emissions; however, it would avoid some of the impacts resulting from construction of those improvements.

- Alternative 2 would *meet to a lesser degree* the objective to expand safe, convenient, and affordable alternatives to the single-occupant vehicle (Goal 3). It would provide fewer improvements that would support walking, bicycling, transit use, and carpooling.
- Alternative 2 would *meet to a lesser degree* the objective to maintain the transportation system (Goal 4). It would provide significantly less support for maintaining the transportation system.
- Alternative 2 would *meet to a lesser degree* the objective to continue to invest wisely to maximize the benefits of available funding (Goal 5). It would provide less overall funding and fewer opportunities for leveraging local investments and public/private partnerships.

While implementation of Alternative 2 could help achieve most of the basic Project Objectives, it would do so to a substantially lesser degree than the Project. (Draft EIR, pp. 3.1-23 and 24.)

Findings: The Authority rejects this alternative on the following grounds, each of which provides sufficient justification for rejection of this alternative: 1) Alternative 2 meets to a lesser degree all of the Project's five goals; 2) Alternative 2 fails to meaningfully reduce the impacts of vehicle hours of delay, average speeds, non-single occupant vehicle mode share, transit ridership, and consistency with the Clean Air Plan. Therefore, Alternative 2 is eliminated from further consideration.

3. Alternative 3—Emphasis on Transit Improvements Alternative

Description: Alternative 3, the Transit Improvement Project Emphasis Alternative, represents a prioritized list of projects and programs specifically intended to encourage transit use, walking, and bicycling, and seeks to provide a balanced approach to transportation that supports vibrant and healthy communities. The highest level of investments under this alternative occurs in transit capital and operations, including rail and express and local bus service. This alternative maximizes investment in pedestrian and bicycle improvements, emphasizing improved transit, bicycle and walking connections to work, schools, and businesses districts. Alternative 3 also includes the additional transportation projects and programs that are already included within Metropolitan Transportation Commission's 2013 Regional Transportation Plan (see Alternative 2).

Impacts: Compared to the Project, this alternative would result in a less substantial impact to: vehicle miles traveled per capita; non-single occupant vehicle mode share; transit ridership; vehicle GHG emission reductions, per SB 375; conflicts with GHG reduction policies; sea level rise; consistency with the Clean Air Plan; operational criteria pollutants; particulate matter emissions; relative impacts to communities of concern; agricultural land conversion, Williamson Act conflicts, and other changes affecting farmland; candidate, sensitive, and special-status species; wildlife movement; conflicts with state or local conservation plans or

ordinances; seismic hazards; soil erosion; hazardous materials transport; hazardous materials sites; operational noise-traffic; views, scenic resources, and visual character; light and glare.

Compared to the Project, this alternative would result in a more substantial impact to: vehicle hours of delay; average speeds; water quality; flood hazards.

Compared to the Project, this alternative's impact on the following would be relatively the same or similar to that of the proposed Project: direct transportation-related GHG emissions by 2040; indirect construction-related GHG emissions by 2040; impede GHG attainment goals; conflicts with GHG; construction-period emissions and fugitive dust; mobile source toxic air contaminant emissions; sensitive natural communities and wetlands; historical resources; archaeological and paleontological resources; human remains; tribal cultural resources; geologic instability and soil expansion; construction-period hazardous materials use; airport hazards; emergency response and evacuation; wildland fire hazards; groundwater; drainage and runoff; residential or business disruption or displacement; construction-related community disruption; community separation; conflicts with land use plans and policies; construction noise and groundborne vibrations; operational noise-transit; incongruous visual elements-soundwalls.

Compared to the Project this alternative would have a less than substantial specific impact relative to the Project on growth inducement, but would off-set this environmental benefit by causing a more substantial impact elsewhere. (Draft EIR, pp. 3.1-110 through 112.)

Objectives and Feasibility: Alternative 3 would have the following ability to meet the Project objectives compared to the Project:

- Alternative 3 would *meet to a lesser degree* the objective to support the efficient, safe, and reliable movement of people and goods using all available travel modes (Goal 1). This alternative would make fewer improvements overall and fewer improvements to the county's roadway system resulting in higher levels of vehicle delay and lower speeds. It also does not eliminate as many gaps in the transportation system or make the same level of investments in innovation included in the Project. This alternative also does not provide the same level of support for goods movement and economic development. This alternative would, however, reduce VMT per capita relative to the Project, and make more investments in transit facilities and operation.
- Alternative 3 would *meet to a similar degree* the objective to manage growth to sustain Contra Costa's economy, preserve its environment, and support its communities (Goal 2). This alternative would provide fewer benefits for goods movement and roadway reliability than the Project and would not support roadway innovation and operational improvements to the same degree as the Project. It would, however result in fewer GHG emissions and lessened impacts from forecast increases in vehicle miles traveled per capita.
- Alternative 3 would *meet to a greater degree* the objective to expand safe, convenient, and affordable alternatives to the single-occupant vehicle (Goal 3). The emphasis on transit improvement projects under this alternative would lead to increased rates of transit use and walking in the county.

- Alternative 3 would *meet to a lesser degree* the objective to maintain the transportation system (Goal 4). This alternative would provide less support to maintain the transportation system.
- Alternative 3 would *meet to a lesser degree* the objective to continue to invest wisely to maximize the benefits of available funding (Goal 5). This alternative would not provide the opportunities for public/private partnerships that the Project would provide nor the extent of opportunities for leveraging given the types of projects that would be funded.

Alternative 3, the Transit Improvement Project Emphasis Alternative, would further all of the Project objectives. While it would support alternatives to driving and better air quality results due to its emphasis on transit projects and programs, it would meet to a lesser degree the objectives of system reliability, reduced delay, and support for economic development and innovation than the Project, due to its inclusion of fewer transportation projects and programs than the Project. (Draft EIR, p. 3.1-56.)

Findings: The Authority rejects this alternative on the following grounds, each of which provides sufficient justification for rejection of this alternative: 1) Alternative 3 meets to a lesser degree Goals 1 and 4 of the Project; 2) Alternative 3 fails to meaningfully reduce the impacts of vehicle hours of delay; average speeds; water quality; and flood hazards. Therefore, Alternative 3 is eliminated from further consideration.

4. Alternative 4—Emphasis on Transit, Bicycle, and Pedestrian Programs Alternative

Description: Alternative 4, the Transit, Bicycle, and Pedestrian Improvement Program Emphasis Alternative represents a program-oriented approach that focuses specifically on greenhouse gas emissions reduction, mitigating the impacts of travel, and addressing climate change. The highest level of investment under this alternative occurs in expanded and improved transit operations, intended to reduce vehicle miles traveled as well as overall vehicle trips. Roadway improvement projects are focused on those that emphasize safety. Alternative 4 also includes the additional transportation projects and programs that are already included within Metropolitan Transportation Commission’s 2013 Regional Transportation Plan (see Alternative 2).

Impacts: Compared to the Project, this alternative would result in a less substantial impact to: vehicle miles traveled per capita; non-single occupant vehicle mode share; transit ridership; vehicle GHG emission reductions, per SB 375; conflicts with GHG reduction policies; sea level rise; consistency with Clean Air Plan; particulate matter emissions; relative impacts to communities of concern; agricultural land conversion, Williamson Act conflicts, and other changes affecting farmland; candidate, sensitive, and special-status species; sensitive natural communities and wetlands; wildlife movement; conflicts with state or local conservation plans or ordinances; historical resources; archaeological and paleontological resources; human remains; tribal cultural resources; soil erosion; hazardous materials transport; hazardous materials sites; water quality; flood hazards; growth inducement; residential or business disruption or displacement; community separation; operational noise-traffic; operational noise-transit; views, scenic resources, and visual character; light and glare.

Compared to the Project, this alternative would result in a more substantial impact to: vehicle hours of delay; average speeds; seismic hazards.

Compared to the Project, this alternative's impact on the following would be relatively the same or similar to that of the proposed Project: direct transportation-related GHG emissions by 2040; indirect construction-related GHG emissions by 2040; impede GHG attainment goals; construction-period emissions and fugitive dust; operational criteria pollutants; mobile source toxic air contaminant emissions; geologic instability and soil expansion; construction-period hazardous materials use; airport hazards; emergency response and evacuation; wildland fire hazards; construction-related community disruption; conflicts with land use plans and policies; construction noise and groundborne vibration; incongruous visual elements-soundwalls. (Draft EIR, pp. 3.1-110 through 112.)

Objectives and Feasibility: Alternative 4 would have the following ability to meet the Project objectives compared to the Project

- Alternative 4 would *meet to a lesser degree* the objective to support the efficient, safe, and reliable movement of people and goods using all available travel modes (Goal 1). This alternative would make fewer improvements overall and fewer improvements to the county's roadway system resulting in higher levels of vehicle delay and lower speeds. It also would not eliminate as many gaps in the transportation system or make the same level of investments in innovation included in the Project. This alternative would not provide the same level of support for goods movement and economic development. This alternative would, however, reduce VMT per capita relative to the Project, and make more investments in bicycle and pedestrian facilities.
- Alternative 4 would *meet to a similar degree* the objective to manage growth to sustain Contra Costa's economy, preserve its environment, and support its communities (Goal 2). This alternative would, on the one hand, lessen air quality and GHG impacts and support community livability through pedestrian and bicycle improvements. It also would include support for a regional advance mitigation program. On the other hand, it would not provide the improvements to roadway safety and operations and goods movement that would support economic vitality in the county. It also lacks the emphasis on innovation.
- Alternative 4 would *meet to a greater degree* the objective to expand safe, convenient, and affordable alternatives to the single-occupant vehicle (Goal 3). This alternative would increase investments in bicycle and pedestrian improvements compared to the Project and would result in higher levels of walking, bicycling and transit use.
- Alternative 4 would *meet to a lesser degree* the objective to maintain the transportation system (Goal 4). This alternative would provide less support to maintain the transportation system. While Alternative 4 includes substantially more investments in local street maintenance than does the Project, the CCTA's conclusion that Alternative 4 would meet to a lesser degree the goal to maintain the transportation system is based on a more balanced and holistic view of transportation maintenance, beyond just local street maintenance. Goal 4 of the CTP includes objectives that address: a stable sources of

funds for transit operations and other programs that support the transportation system; funding programs for effective preventive maintenance and rehabilitation of the entire transportation system (i.e., deferred maintenance); and ensuring funding that will maintain the long-term health of all components of the transportation system. The conclusion that Alternative 4 would meet these objectives to a lesser degree than the proposed Investment Program is based on this Alternative's emphasis on transit-based programs, with lesser funding for individual transportation projects that address all transportation infrastructure (i.e., freeways and arterial projects, and transit capital projects). While Alternative 4 does include more funding allocation for local street maintenance and improvements than does the Investment Program or other alternatives, it does not address a more balanced investment in maintenance and improvement of all transportation infrastructure systems.

- Alternative 4 would *meet to a lesser degree* the objective to continue to invest wisely to maximize the benefits of available funding (Goal 5). This alternative would not provide the opportunities for public/private partnerships that the Project would provide nor the extent of opportunities for leveraging given the types of projects that would be funded. It would allow similar opportunities for the use of performance measures in selecting projects for funding. Alternative 4 is based on the assumption that local funds can be leveraged with other State and federal funding sources to achieve the full \$8 billion funding as presumed under the Investment Program and each of the other alternatives. This planning assumption is based on the premise that new State and federal funding sources for the types of programs included in Alternative 4 may become more available over time. However, the CCTA's conclusion that Alternative 4 would meet Goal 5 to a lesser degree is based on CCTA's experience in obtaining leveraged funds. Goal 5 of the CTP includes objectives that address: seeking matching funds, whenever possible, and offering incentives and priority funding to projects that provide greater return on investment; developing public-private partnerships and pursuing innovative financing mechanisms to accelerate project delivery; and using Measure J funds to leverage State, federal and other funding whenever possible. The conclusion that Alternative 4 would meet these objectives to a lesser degree than the proposed Investment Program is based on CCTA's experience leveraging local funds with different types of State and federal funding programs. CCTA has been able to leverage Measure C and Measure J funds by a factor of up to three-to-one (or three dollars from other sources for every Measure C or Measure J dollar) for transportation and transit capital projects and infrastructure. Leveraging of State and federal funding for the types of programs included in Alternative 4 has, in the Authority's experience, been closer to one-to-one.

Ultimately, Alternative 4 would further all of the Project objectives, though some objectives would be met to a lesser degree than under the Project. (Draft EIR, p. 3.1-84.)

Findings: The Authority rejects this alternative on the following grounds, each of which provides sufficient justification for rejection of this alternative: 1) Alternative 4 meets to a lesser degree Goals 1, 4, and 5 of the Project; 2) Alternative 4 fails to meaningfully reduce the impacts of vehicle hours of delay; average speeds; and seismic hazards. Therefore, Alternative 4 is eliminated from further consideration.

C. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

State CEQA Guidelines Section 15126.6(e)(2) indicates that an analysis of alternatives to a project shall identify an Environmentally Superior Alternative among the alternatives evaluated in an EIR. The State CEQA Guidelines also state that, should it be determined that the No Project Alternative is the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives.

Significant and unavoidable impacts were identified under the proposed Project and each of the Alternatives. Overall, most differences between the proposed Project and the Alternatives are a matter of degree, rather than of significance as compared to CEQA thresholds. Alternative 4 reduced the potential for significant and unavoidable impacts under the following topics: Agriculture, Candidate, Sensitive, and Special-Status Species (Biological Resources); Residential or Business Disruption or Displacement (Land Use); and Light and Glare (Visual Resources). All other Project-related impacts are either less than significant or can be reduced to less than significant with implementation of mitigation measures identified in this EIR.

No Project

In this instance, failure to approve the Project as proposed is unlikely to result in preservation of the existing environmental conditions. The No Project Alternative consists of those transportation projects and programs that have already undergone individual project-specific environmental review, have been approved by a local and/or sponsoring agency, have a committed funding source, and some of which are already under construction. Not approving the Project would not have any effect on these projects and programs, which will be implemented irrespective of any decisions regarding adoption of the 2017 CTP. The practical result of not approving the Project would be a delay in the CCTA's adoption of a CTP update. The Measure J Growth Management Program, which was approved by the voters of Contra Costa in November 2004, requires that CCTA periodically update the CTP. Postponing the adoption of the CTP update would most likely result the existing 2009 CTP becoming more obsolete, would impede the ability of the RTPCs to implement the Action Plans, and would impede the CCTA's abilities to implement the strategies needed to address the current transportation and growth issues facing Contra Costa County, and the resultant environmental impacts. There are no practical assumptions or reasonable scenarios that would result in permanent preservation of the existing environmental setting.

Alternative 4: Emphasis on Transit, Bicycle, and Pedestrian Programs

The environmental effects of Alternative 4 would be similar to those of the Project, but the focus on multimodal programs rather than capital projects would result in fewer on-the-ground projects, which would in turn reduce the relative magnitude of many environmental effects as compared with the proposed Project. Alternative 4 would reduce significant and unavoidable impacts of the Project for sea level rise (GHG Emissions and Climate Change), candidate, sensitive and special-status species (Biological Resources), residential or business

disruption or displacement (Land Use), and light and glare (Visual Resources). Alternative 4 would also lessen the degree of Project-related impacts pertaining to the following topics:

- Transportation and circulation (VMT, non-SOV mode share, and transit ridership)
- GHG emissions (vehicle GHGs, conflicts with GHG reduction policies)
- Air quality (consistency with Clean Air Plan, particulate matter emissions, and relative impacts to COCs)
- Agricultural lands
- Biological resources (sensitive natural communities, wildlife movement, conflicts with state or local conservation plans)
- Cultural resources
- Geology and soils (soil erosion)
- Hazards and hazardous materials (hazardous materials transport, hazardous material sites)
- Hydrology and water resources (water quality, drainage and runoff, flood hazards)
- Land use (growth inducement, community separation)
- Noise (operational noise – traffic, operational noise – transit)
- Visual resources (views, scenic resources, and visual character)

Alternative 4 is environmentally superior as compared with the Project. On balance, the environmental effects of Alternative 4 are comparatively less than those of the Project. Impacts to special status species and impacts related to increased light and glare (which are identified as significant impacts of the Project) can be avoided under Alternative 4. Because Alternative 4 would result in impacts that are reduced as compared with the Project, it is environmentally superior to the Project and all other alternatives considered in this EIR. (Draft EIR, pp. 3.1-113 and 114.)

STATEMENT OF OVERRIDING CONSIDERATIONS
**Final Environmental Impact Report for the 2017 Contra Costa Countywide
Comprehensive Transportation Plan**

The Contra Costa Transportation Authority (“CCTA” or the “Authority”) hereby declares that, pursuant to State CEQA Guidelines Section 15093, the Authority has balanced the benefits of the 2017 Countywide Comprehensive Transportation Plan (“2017 CTP or the “Project”) against any unavoidable environmental impacts in determining whether to approve the Project. Pursuant to the State CEQA Guidelines, if the benefits of the Project outweigh the unavoidable adverse environmental impacts, those impacts may be considered “acceptable.”

Having reduced the adverse significant environmental effect of the Project to the extent feasible by adopting the Mitigation Measures contained in the EIR, the MMRP, and the Findings, having considered the entire administrative record on the Project, and having weighed the benefits of the Project against its unavoidable adverse impact after mitigation, the Authority has determined that each of the following social, economic, and environmental benefits of the Project separately and individually outweigh the potential unavoidable adverse impacts and render those potential adverse impacts acceptable based upon the following overriding considerations:

- The Project supports the efficient, safe, and reliable movement of people and goods using all available travel modes.
- The Project manages growth to sustain Contra Costa County’s economy, preserve its environment, and support its communities.
- The Project expands safe, convenient, and affordable alternatives to the single-occupant vehicle.
- The Project maintains the transportation system.
- The Project continues to invest wisely to maximize the benefits of available funding.

The Authority hereby declares that the foregoing benefits provided to the public through the approval and implementation of the Project outweigh the identified significant adverse environmental impacts of the Project that cannot be mitigated. The Authority finds that each of the Project benefits separately and individually outweighs all of those unavoidable adverse environmental effects identified in the EIR and therefore finds those impacts to be acceptable.