Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance under CEQA

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental policy Act (NEPA). The FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 USC 327. The Department is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an environmental impact study (EIS) or some lower level of environmental documentation will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, requires a lead agency to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the State CEQA Guidelines require that the lead agency make several mandatory findings of significance, which also could trigger the preparation of an EIR. There are no types of actions under NEPA that parallel the mandatory findings of significance under CEQA. This chapter discusses the effects of this project and the CEQA significance determination.

3.1.1 Thresholds of Significance

Different agencies may use different thresholds for determining the need for mitigation. For the purpose of the impact discussions in this chapter, significance conclusions are provided in the context of CEQA and State CEQA Guidelines requirements only. The following significance conclusions are made in this chapter.

- **No impact:** This level of significance is used for impacts where there is clearly no impact.
- **Less than significant:** This level of significance is used for impacts where there would be an impact, but the degree of the impact would not meet or exceed the identified thresholds.
- **Less than significant with mitigation incorporated:** This level of significance is used for impacts that would meet or exceed the identified thresholds but would be reduced to a less-than-significant level through the implementation of mitigation measures.
- **Unavoidable Significant:** This level of significance describes significant impacts for which mitigation to reduce the significant impact to a less-than-significant level is not available or feasible.

The thresholds for determining significance of impacts for the various resource areas derived from the State CEQA Guidelines and professional practice and the CEQA checklist provided in Appendix G of this document.

3.2 Discussion of Significance of Impacts

Those project effects that are considered impacts under CEQA only are fully discussed here. Impacts that are also considered effects under NEPA are listed here, and are fully discussed in Chapter 2 under the appropriate resource heading. Significance conclusions are based upon implementation of the environmental commitments listed in Section 3.4 below.

3.2.1 Less-than-Significant Impacts of the Proposed Project

Less-than-significant impacts resulting from the proposed project occur in the following resource areas: Aesthetics (Visual), Air Quality (including Energy), Biological Resources, Community, Cultural, Farmland, Geology and Soils, Hydrology and Water Quality, Noise, Paleontology, Population and Housing, Traffic and Transportation, and Utilities

Impact VIS-1: Degradation of Visual Quality with Adverse Affects to a Scenic Vista

Impact VIS-3: Alteration of Existing Visual Character from Project Sound Walls

Impact VIS-4: Temporary Decrease of Visual Quality during Construction

Impact VIS-5: Creation of a Source of Light and Glare

The new eastbound truck scales would require lighting in an area that is currently an unlit agricultural field. Although this impact would be partially offset by the removal of lighting at the existing truck scales, the total change is expected to be an increase in light and glare.

As directed by the Department, appropriate light and glare screening measures, including the use of downward cast lighting and motion sensored lighting, shall be incorporated into project design. This standard procedure ensures that this impact would be less than significant.

Impact AQ-1: Temporary Increase in Ozone Precursor (ROG and NO_x) and PM10 Emissions during Grading and Construction Activities

Impact AQ-2: Potential Violations of Carbon Monoxide National Ambient Air Quality Standards

Impact AQ-3: Conformity with the Regional Transportation Plan

Impact AQ-4: Potential Generation of Significant Levels of Air Toxics Emissions

Impact AQ-5: Decrease in Regional Ozone Precursors (ROG and NOx) CO, and PM10 and PM 2.5 emissions Associated with Project Operations

Impact EN-1: Increase in Direct Energy Consumption at Cordelia Facility

Impact EN-2: Increase in Regional Vehicle Energy Consumption

Impact EN-3: Increase in Consumption of Indirect Energy Types

Impact EN-4: Increase in Carbon Dioxide Emissions and Potential Impacts on Global Warming

Impact EN-5: Contribution to Cumulative Effects on Non-renewable Natural Resources

Impact NC-1: Adverse Impact on Riparian Woodland

Impact NC-2: Cumulative Loss of Riparian Woodland

Impact NC-3: Disturbance of Valley Oak Woodland during Construction

Construction of the truck scales would not result in any permanent loss of valley oak woodland (see Figure 2.3-1). There is 0.03 acre of valley oak woodland adjacent to the project area. This small area of trees would be avoided during construction, and no direct impacts on valley oak woodland will occur.

Indirect impacts on oak woodland vegetation could occur outside the temporary impact zone as a result of adjacent construction activity and damage from equipment. Construction could cause indirect impacts on trees in the oak woodland due to long-term damage through excessive pruning before construction begins. Measures that would be implemented as part of the proposed project (Measures NC-1a through NC-1d) would protect adjacent vegetation during construction, and therefore, this impact would be less than significant.

Impact NC-4: Cumulative Loss of Valley Oak Woodland

No direct loss of valley oak woodland would be caused by the project. Indirect impacts can be caused adjacent disturbances to valley oak woodland and have the potential to add to the cumulative loss of these natural communities. The historic extent of oak woodlands has declined in California generally, as well as Solano County specifically, due to conversion for agriculture and development. Measures that would be implemented as part of the proposed project (Measures NC-1a through NC-1e) and therefore, the project's contribution to cumulative impacts on oak woodland would be less than significant.

Impact WOW-1: Adverse Impacts on Perennial Wetland Drainage

Impact WOW-2: Disturbance of Perennial Drainage during Construction

Impact WOW-3: Disturbance of Jurisdictional Seasonal Drainages during Construction

Impact WOW-4: Cumulative Loss of Perennial Wetland Drainage, Perennial Drainage, and Seasonal Drainage

Impact WOW-5: Impacts on Nonjurisdictional Seasonal Wetlands

Construction would involve the placement of fill, resulting in direct permanent effects on nonjurisdictional seasonal wetland habitat within the construction area. Construction would result in a permanent loss of approximately 0.13 acre of nonjurisdictional seasonal wetland for the improvements to the I-80/SR 12E connector (W-111 and W-112) (see Figure 2.3-1). This acreage is based on the USACE field verification of the delineation. Seasonal wetlands that are isolated from jurisdictional drainages are not under USACE jurisdiction, but would be considered waters of the state that would be regulated by the RWQCB through waste discharge requirements (WDRs).

Additional temporary impacts during project construction and indirect impacts caused by sedimentation or modification of hydrology could occur in seasonal wetlands that lie outside the project footprint. However, implementation of the Measures NC-1a, NC-1b, WOW-1, and WOW-3 would avoid temporary and indirect impacts on seasonal wetlands. Therefore this impact is considered less than significant.

Impact WOW-6: Disturbance of Nonjurisdictional Seasonal Drainages during Construction

Construction of the project would involve the installation of culverts and placement of fill for road widening, resulting in direct disturbance of nonjurisdictional seasonal drainages. A total of 0.10 acre of nonjurisdictional roadside and irrigation ditches would be removed for construction, and 0.08 acre would be temporarily affected. Roadside ditches that function as a storm drain system would be replaced with a new system, where necessary, to convey drainage along roadways. These features have negligible beneficial uses, as defined by the RWQCB (California Regional Water Quality Control Board 2007). No additional compensatory measures would be implemented for nonjurisdictional roadside or irrigation ditches. Implementation of Measures

NC-1a, NC-1b, WOW-1, and WOW-3 would avoid and minimize temporary and indirect impacts on nonjurisdictional seasonal drainages. Therefore this impact is considered less than significant.

Impact WOW-7: Cumulative Loss of Seasonal Wetland and Seasonal Drainage

Implementation of the proposed project, in combination with other local and regional projects, would contribute to the cumulative loss of wetlands and drainages that are regulated as waters of the State. Seasonal wetlands may occur in historic vernal pool habitats, but have lost many of their natural characteristics because of disturbance and development. Historically, vernal pool complexes were widespread in Solano County, but have been degraded or lost due to development for agriculture and commercial and residential construction. Seasonal drainages in the project area are constructed in uplands and do not represent an altered natural feature. The project would contribute incrementally to cumulative impacts on wetlands and drainages within Solano County and the Suisun Bay hydrologic unit (HUC 18050001) caused by similar bridge modification projects, new bridge construction, road widening projects, and urban development.

Indirect impacts can be caused by the accumulation of sediment in wetlands and drainages resulting from adjacent disturbances and have the potential to add to the cumulative loss of wetland and drainage habitat.

Measures that would be implemented as part of the proposed project (Measures WOW-1, WOW-3 and WQ-2) would reduce this impact and therefore the projects contribution would be less than cumulatively considerable.

Impact NT-1: Loss of Native Trees

Construction would remove native trees in the riparian habitat adjacent to Suisun Creek. Impacts on native trees that occur within riparian woodlands are addressed under Section 2.3.1. Native trees provide important habitat for wildlife and provide other ecological functions and values. The loss or disturbance of native trees, particularly oaks, is of concern to local and state agencies. Measure NC-1e would be implemented as part of the proposed project and therefore, this impact would be less than significant.

Impact NT-2: Cumulative Loss of Native Trees

Implementation of the proposed project, in combination with other local and regional projects, would contribute to the cumulative loss of native trees, including oak trees, in Solano County. The project would contribute incrementally to Solano County cumulative impacts on native trees caused by similar bridge modification projects, new bridge construction, road widening projects, and urban development. Indirect impacts can be caused adjacent disturbances that damage native trees and have the potential to add to the cumulative loss of these trees.

Measure NC-1e, which would be implemented as part of the proposed project, would address these cumulative impacts on native trees and therefore the project would not contribute to a cumulative impact.

Impact AS-1: Loss of White-tailed Kite Habitat

Impact AS-2: Loss of White-tailed Kite Nesting Habitat and Potential Disturbance to Nesting White-tailed Kites

Impact AS-3: Potential Loss of Burrowing Owl Habitat

Impact AS-4: Potential Disturbance to Nesting Loggerhead Shrikes

Impact AS-5: Potential Disturbance to Nesting Birds and Raptors

Impact AS-6: Potential Disturbance of Swallow Nests

Impact AS-7: Potential Disturbance of Roosting Bats

Impact AS-8: Cumulative Loss and Disturbance of Nesting Migratory and Special-status Birds

Impact TES-1: Potential Disturbance to Nesting Swainson's Hawk

Impact TES-2: Permanent and Temporary Impacts on Potential Swainson's Hawk Foraging Habitat

Impact TES-3: Direct Impact on Valley Elderberry Longhorn Beetle Habitat

Impact TES-4: Potential Indirect Impacts on California Red-Legged Frog Habitat during Construction

Impact TES-5: Potential Direct Impact on California Red-Legged Frog during Construction

Impact TES-6: Temporary and Permanent Loss of California Red-Legged Frog Upland Habitat

Impact TES-7: Impacts on Fish Habitat Structure

Impact TES-8: Water Temperature Impacts

Impact TES-9: Impacts on Water Quality

Impact TES-10: Impacts on Fish from Noise and Other Disturbances

Impact TES-11: Impacts on Fish Movement and Potential Spawning Habitat

Impact TES-12: Cumulative Loss of Swainson's Hawk Nesting and Foraging Habitat

Impact TES-13: Cumulative Impact on Valley Elderberry Longhorn Beetle

Impact TES-14: Cumulative Impact on California Red-legged Frog

Impact IPS-1: Potential Introduction and Spread of Invasive Plant Species during Construction

Impact IPS-2: Cumulative Spread of Invasive Plant Species

Impact CR-1: Inadvertent Disturbance or Destruction of Buried Archaeological Resources

Though no known archaeological resources are present within the project area and none were discovered during excavations conducted in association with the Extended Phase I study, it is possible that buried resources are present within the project area. It is possible that ground disturbing activities associated with construction could disturb or destroy archaeological deposits. If these resources were eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), their destruction or disturbance would be considered a significant impact. However, implementation of Measure CR-1 would ensure that this impact would be less than significant.

Impact CR-2: Inadvertent Disturbance or Destruction of Human Remains

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.

No human remains are known to be located in the project area. However, there is always the possibility that unmarked burials may be unearthed during construction. Measures that would be implemented as part of the proposed project (Measure CR-2) would ensure this impact is less than significant.

Impact GEO-1: Exposure of People to Injury or Structures to Damage from Strong Groundshaking, Seismic-Related Ground Failure, or Liquefaction

Impact GEO-2: Potential Construction-Related Soil Erosion and Sedimentation

Impact GEO-3: Potential Damage to Facilities and Injury to the Public from the Presence of Expansive Soils

Impact HYD-1: Impacts on Hydraulic Capacity at Suisun Creek Bridge

Impact HYD-2: Impacts on the Hydraulic Capacity of Raines Drain

Impact HYD-3: Impact on Floodplain

Impact HAZ-1: Potential for Exposure of Construction Workers or Nearby Land Uses to Previously Unknown Hazardous Materials

Impact HAZ-2: Potential for Exposure of Known Hazardous Materials to Humans or the Environment

Impact HAZ-3: Potential for Exposure of Humans and the Environment to Hazardous Conditions from the Accidental Release of Hazardous Materials

Impact PALEO-1: Potential Disturbance or Destruction of Paleontological Resources in a Sensitive Area

Impact PALEO-2: Potential Destruction of Buried Paleontological Resources or Unique Geologic Features

Impact PALEO-3: Damage to Buried Paleontological Resources as a Result of Pile Driving

Impact WQ-1: Increased Runoff and Paved Area

Impact WQ-2: Potential Water Quality, Erosion and Sediment Control Issues during Construction

Impact WQ-3: Potential to Require Dewatering during Construction

Impact NOI-1: Exposure of Noise-sensitive Land Uses to increased traffic noise

Impact NOI-2: Exposure of Noise-sensitive Land Uses to construction noise

Impact NOI-3: Contribution to Cumulative Traffic Noise Impact

Impact REL-1: Displacement of Two Residences

Impact UT-1: Impacts on Police, Fire, and Emergency Service Providers during Construction

Impact TRA-2: Improved Conditions or No Change at Most Freeway System Analysis Locations in 2015

Impact TRA-3: Ramp Intersections Operating at LOS F in the A.M. and P.M. Peak Hours in 2015

Impact TRA-4: Temporary Disruption of Traffic patterns and Emergency Services during Construction Impact

TRA-6: Improved Conditions or No Changes at Most Freeway System Analysis Locations in 2035

Impact TRA-7: Intersections Operating at LOS F in the A.M. and P.M. Peak Hours in 2035

Impact LU-1: Minor Land Acquisition of Five Parcels and Full Acquisition of Eight

3.2.2 Significant Environmental Effects of the Proposed Project

Significant impacts resulting from the proposed project occur in the following resource areas: Land Use and Planning. Implementation of the mitigation measures listed in Section 3.3 will reduce these impacts to less than significant levels.

Impact FA-1: Direct Conversion of Important Farmlands

Measure FA-1 has been identified to reduce this impact to a less than significant level.

3.2.3 Unavoidable Significant Environmental Effects

No unavoidable significant impacts are expected to result from the proposed project.

3.2.4 Growth Inducing Impacts

As discussed in section 2.1.2, the proposed project would not be growth inducing. The project would accommodate existing and future truck traffic. It would not attract residential or commercial development, increase infrastructure capacity, or encourage rezoning. While the project would improve traffic flow on I-80, it would not do so to the extent necessary to induce additional travel demand. Therefore, there would be no growth-inducing impacts.

3.2.5 Climate Change

Regulatory Setting

Although climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to GHG emissions reduction and climate change research and policy have increased dramatically in recent years. (GHGs related to human activity, as identified in AB 32, include: CO_2, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23, HFC-134a*, and HFC-152a*.) In 2002, with the passage of AB 1493, California launched an innovative and proactive approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the ARB to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations will apply to automobiles and light trucks beginning with the 2009 model year.

On June 1, 2005, California Governor Arnold Schwarzenegger signed EO S-3-05. The goal of this EO is to reduce California's GHG emissions to: 2000 levels by 2010, 1990 levels by 2020, and 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that the ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." EO S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team (CAT).

With EO S-01-07, Schwarzenegger set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10% by 2020.

Climate change and GHG reduction is also a concern at the federal level; at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. However, California, in conjunction with several environmental organizations and several other states, sued to force the EPA to regulate GHGs as a pollutant under the CAA (*Massachusetts vs. Environmental Protection Agency et al.*, U.S. Supreme Court No. 05–1120. 549 U.S. 497 [argued November 29, 2006 and decided April 2, 2007]). The court ruled that GHGs do fit within the CAA's definition of a pollutant and that the EPA does have the authority to regulate GHGs. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions.

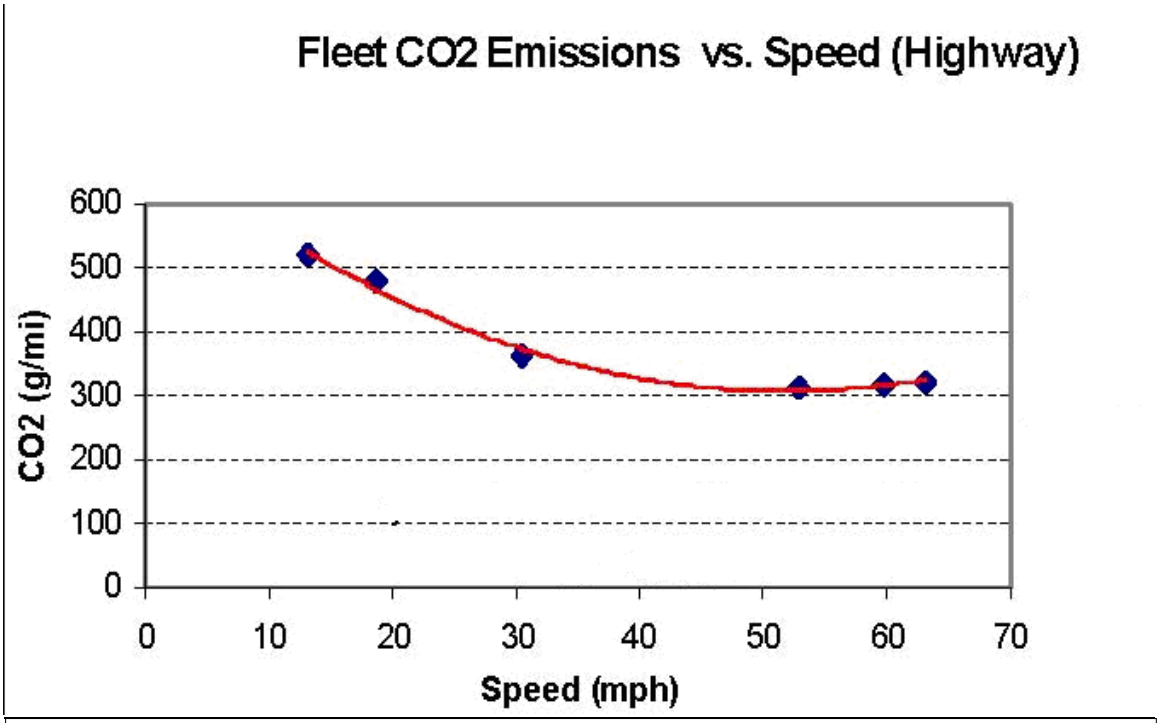
Affected Environment

According to a recent white paper by the Association of Environmental Professionals (Hendrix and Wilson 2007), "an individual project does not generate enough GHG emissions to significantly influence global climate change. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs (Hendrix and Wilson 2007).

The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98% of California's GHG emissions are from the burning of fossil fuels and that 40% of all human-made GHG emissions are from transportation, the Department has created and is implementing its Climate Action Program (California Department of Transportation and Business, Transportation, and Housing Agency 2006). Transportation's contribution to GHG emissions is dependent on three factors: the types of vehicles on the road, the type of fuel the vehicles use, and the time/distance the vehicles travel.

One of the main strategies in The Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of CO_2 from mobile sources, such as automobiles, occur at stop-and-go speeds (0–25 mph) and at speeds over 55 mph; the most severe emissions occur from 0-25 mph (see Figure 3-1 below). Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in GHG emissions.

Figure 3-1. Changes in CO_2 Emissions and Vehicle Speeds



Source: Center for Clean Air Policy— http://www.ccap.org/Presentations/Winkelman%20TRB%202004%20(1-13-04).pdf

Estimates of CO_2 emissions are a byproduct of the air quality modeling that is done for CO hot spot analysis. The estimated CO_2 emissions for the proposed project in 2015 are 494,000,000 tons/year, and the estimated emissions for the no-project scenario for the same year are 492,000,000 tons/year. For the year 2035, the estimated CO_2 emissions for the project are 547,000,000 tons/year, and the estimated emissions for the no-project scenario for the same year are 539,000,000 tons/year. The changes in CO_2 levels associated with the project represent increases of 0.4% and 1.4% in 2015 and 2035 from existing conditions, respectively. The proposed project is expected to reduce congestion and vehicle time delays. The traffic study (Fehr & Peers 2008b) states that the project would improve traffic flow by reducing the queue of the backup onto I-80. As stated in section 2.2.8, "Energy," improved traffic flow on the arterial motorway would actually slightly increase CO_2 emissions by increasing the speed of traffic. Although improved traffic flow is a goal of the Department, increases in traffic speed will lead to an increase in CO_2 emissions because CO_2 emissions directly correlate with increased fuel use. It should be noted that CO_2 emissions numbers are only useful for a comparison between alternatives. The numbers are not necessarily an accurate reflection of what the true CO_2 emissions will be because CO_2 emissions are dependent on other factors that are not part of the model, such as the fuel mix, rate of acceleration, and the aerodynamics and efficiency of the vehicles. (EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components.) In addition, it is difficult to track how much of the emissions would be "new" emissions, as opposed to existing emissions that would just transfer to another route.

Conclusion

The Department recognizes the concern that CO_2 emissions pose for climate change, but accurate modeling of GHG emission levels, including CO_2 at the project level, is not currently possible. Although some organizations have offered a range of recommendations, no federal, state, or regional regulatory agency has adopted specific methodology or criteria for GHG emission and climate change impact analysis. Therefore, the Department is unable to provide a scientific or regulatory based conclusion regarding whether the project's contribution to climate change is cumulatively considerable.

The Department continues to be actively involved in the Governor's Climate Action Team (CAT) as the ARB works to implement AB 1493 and help achieve the targets set forth in AB 32. Many of the strategies the Department is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Schwarzenegger's Strategic Growth Plan (SGP) calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $107 in transportation funding during the next decade. As shown on the figure below, the SGP targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The SGP proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together yield the promised reduction in congestion. The SGP relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements. In addition to the SGP, purchasing carbon credits is another option to reduce the CO_2 emissions substantially or to "no increase."

3.3 Mitigation Measures for Significant Impacts under CEQA

The measure to reduce the significant impact to a less than significant level is listed below.

Measure FA-1: Compensate for Conversion of Important Farmland, Including Prime Farmland

To compensate for the conversion of important farmland, permanent agricultural easements are recommended to be acquired or funds provided to an agricultural land trust. To mitigate for agricultural lands directly affected by the project, it is recommended that long-term land use restrictions such as agricultural conservation easements be obtained over Prime Farmland within Solano County at a 1:1 ratio (1 acre protected for every 1 acre directly affected). Lands under an agricultural conservation easement are considered to have higher agricultural value than other agricultural land in the project area. As such, the mitigation for the loss of lands under ease mentis recommended to be implemented at a higher ratio of 1:1.25. Consultation with the California Department of Conservation and the Solano Land Trust is ongoing (Appendix A). Final mitigation requirements will be presented in the final environmental document.

3.4 Environmental Commitments

Measures that will be implemented as part of the proposed project are listed below. The full text of most of these measures are provided in Chapter 2. Measures described in full here apply only to impacts under CEQA.

Measure EN-4: Implement Climate Action Program

Measure NC-1a: Install Construction Barrier Fencing around the Construction Area to Protect Sensitive Biological Resources Outside of the Construction Area

Measure NC-1b: Conduct Environmental Awareness Training for Construction Employees

Measure NC-1c: Retain a Biological Monitor to Conduct Daily Visits during Construction around Suisun Creek

Measure NC-1d: Avoid and Minimize Potential Indirect Disturbance of Riparian Communities

Measure NC-1e: Compensate for Temporary and Permanent Loss of Riparian Vegetation

Measure WOW-1: Compensate for Permanent Loss of Seasonal Wetland

Measure WOW-3: Protect Water Quality and Prevent Erosion in Drainages and Wetlands

Measure AS-2: Conduct Preconstruction Nesting Bird and Raptor Surveys and Establish a No-Disturbance Buffer, if Necessary

Measure AS-3a: Conduct Preconstruction Surveys for Active Burrowing owl Burrows and Implement the California Department of Fish and Game Guidelines for Burrowing Owl Mitigation, if Necessary

Measure AS-3b: Compensate for Loss of Burrowing Owl Nesting Habitat if Owls are Present

Measure AS-6: Install Exclusion Netting on the Undersides of Bridges to Prevent Swallows from nesting Adjacent to New Bridge Construction

Measure TES-2: Compensate for Loss of Swainson's Hawk Foraging Habitat

Measure TES-3: Compensate for Direct Effects on Valley Elderberry Longhorn Beetle Habitat

Measure TES-4: Construct During the Dry Season

Measure TES-5: Conduct Preconstruction Surveys and Construction Monitoring for California Red-legged Frogs

Measure TES-6: Compensate for Loss and Disturbance of California Red-legged Frog Habitat

Measure TES-7: Retain and Improve Habitat Structure

Measure TES-9: Implement Water Quality Impact Avoidance Measures

Measure TES-10: Implement Construction Restrictions

Measure IPS-1: Avoid the Introduction and Spread of Invasive Plants

Measure CR-1: Stop Work if Buried Resources Are Discovered Inadvertently

If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a archaeologist who meets the Secretary of the Interior's qualification standards can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the STA, Caltrans, the State Historic Preservation Officer, and other appropriate agencies. Appropriate treatment measures may include development of avoidance or protection methods, archaeological excavations to recover important information about the resource, research, or other actions determined during consultation.

Measure CR-2: Comply with State Laws Relating to Native American Remains

If human remains of Native American Origin are discovered during project construction, it will be necessary to comply with state laws relating to the disposition of Native American burials, which fall under the jurisdiction of the NAHC (PRC Section 5097). If any human remains are discovered or recognized in any location other than a dedicated cemetery, the City of West Sacramento will be contacted and there will be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains, until:

- the Yolo County coroner has been informed and has determined no investigation of the cause of death is required, or
- if the remains are of Native American origin, the descendents of the deceased Native Americans have made 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 as provided in PRC Section 5097.98 or the NAHC is unable to identify a descendant or the descendant fails to make a recommendation within 24 hours after being notified by the NAHC.

Measure GEO-3: Conduct a Site-Specific Geotechnical Investigation for Expansive Soils and Design Project Facilities to Avoid or Minimize Damage

Measure PALEO-1: Prepare and Implement Mitigation and Monitoring Plan for Paleontological Resources in Sensitive Area

Measure WQ-2: Prepare and Implement Stormwater Pollution Plan and Best Management Practices