Chapter 3 California Environmental Quality Act Evaluation

3.1 Determining Significance under the California Environmental Quality Act

The proposed project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration 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 and the National Environmental Policy Act. The Federal Highway Administration's responsibility for environmental review, consultation, and any other action required in accordance with the National Environmental Policy Act 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 U.S. Code 327. Caltrans is the lead agency under the California Environmental Quality Act and the National Environmental Policy Act.

One of the primary differences between the National Environmental Policy Act and the California Environmental Quality Act is the way significance is determined.

Under the National Environmental Policy Act, significance is used to determine whether an Environmental Impact Statement, or some lower level of documentation, will be required. The National Environmental Policy Act requires that an Environmental Impact Statement 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 the California Environmental Quality Act may not be of sufficient magnitude to be determined significant under the National Environmental Policy Act. Under the National Environmental Policy Act, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. The National Environmental Policy Act does not require that a determination of significant impacts be stated in the environmental documents.

The California Environmental Quality Act, on the other hand, does require Caltrans 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 Environmental Impact Report must be prepared.

Each significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the California Environmental Quality Act Guidelines list a number of mandatory findings of significance, which also require the preparation of an Environmental Impact Report. There are no types of actions under the National Environmental Policy Act that parallel the findings of mandatory significance under the California Environmental Quality Act. This chapter discusses the effects of this project and California Environmental Quality Act significance.

3.2 Discussion of Significance of Impacts

Less than Significant Effects of the Proposed Project

Water Quality

The project could result in adverse impacts to water quality during construction. A Storm Water Pollution Prevention Plan will be developed for the project and will outline construction Best Management Practices to be used to minimize adverse effects on water quality.

Migration Corridors

Various terrestrial wildlife species are likely to use the creeks and tributaries in the area, as important movement corridors. Creation of wildlife underpasses or similar structures, particularly along creeks and other natural features that run under the highway, and placement of fencing to direct animals to safe crossing areas would reduce impacts to wildlife species in the project area.

Special Status Plants and Animals

Special status plant and animal species or their habitats and sensitive natural communities are not likely to be adversely affected by the project, if the avoidance and minimization measures discussed in Chapter 2 are implemented.

Threatened and Endangered Species

The following threatened and endangered species are present within the project area: Howell's alkali grass (*Puccinellia howellii*), wolverine (*Gulo gulo*), bald eagle (*Haliaeetus leucocephalus*), and northern spotted owl (*Strix occidentalis caurina*). The project is not likely to adversely affect these species if the avoidance and minimization measures discussed in Chapter 2 are implemented. Mitigation measures, if needed, for impacts to special status species will be determined in consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Game.

Construction

Temporary traffic delays would occur during construction of the project. A Traffic Management Plan would be developed to implement methods to reduce impacts from construction activities, minimize delays for motorists, and provide a safe construction zone. The plan will also address cumulative impacts resulting from other concurrent construction projects within the State Route 299 corridor.

Significant Environmental Effects of the Proposed Project

Cultural Resources

The proposed project would adversely affect one historic property. The State Historic Preservation Officer and Caltrans will negotiate a Memorandum of Agreement, which will include stipulations to take into account the project's effects on these properties. The Memorandum of Agreement will ensure that the adverse effects of the project are resolved by implementing and completing Data Recovery and Environmentally Sensitive Areas Action Plans.

Riparian Habitat

The project would disturb up to 0.45 acre of riparian vegetation. Riparian habitat losses would be mitigated through a combination of replacement and enhancement of existing riparian habitat. Replacement of any losses would be at a proposed ratio of 1:1 and enhancement would be at a ratio of 2:1. During the final project design, a revegetation and restoration plan will be developed to provide detailed plans for replacement and enhancement, preferably within the project area.

Oak Woodlands

The project could result in up to 95.1 acres of direct impacts to oak-dominated woodlands, depending on the alternative selected. Caltrans would compensate for the impacts to oak woodlands by in-kind creation/restoration and preservation of oak woodlands on abandoned sections of the existing roadway alignment, as well as on newly acquired parcels as needed.

Wetlands and Other Waters of the U.S.

Depending on the alternative, the proposed project would permanently impact between 0.40 and 0.42 acre of potentially jurisdictional wetlands and between 0.76 and 1.00 acre of other waters of the United States. With the implementation of Best Management Practices, temporary impacts to jurisdictional wetlands and other waters of the U.S. are not expected to occur. Compensatory mitigation is necessary to offset permanent wetland losses. Compensation for potential impacts to federally jurisdictional wetlands

would be mitigated at a ratio to be determined in consultation with the U.S. Army Corps of Engineers.

While the U.S. Army Corps of Engineers does not typically require mitigation for waters under the jurisdiction of the State, the Regional Water Quality Control Board frequently does. Compensation for potential impacts to State jurisdictional waters would be mitigated at a ratio to be determined in consultation with the Regional Water Quality Control Board.

Unavoidable Significant Environmental Effects

Visual/Aesthetics

Construction of the project would result in a substantial alteration to the visual environment. Methods of construction in this area are, to a large extent, dictated by terrain and geologic conditions. The prevalence of decomposed granitic soils is just one of the elements that limit feasible construction options. Construction would result in large, bare cut and fill slopes, which will conflict with the intent of the Trinity Scenic Byway designation. Although visual impacts will be reduced through the implementation of minimization and mitigation measures, the project will nevertheless result in significant impacts to visual resources.

Mitigation Measure for Significant Impacts under CEQA

Mitigation of significant visual impacts will consist of the following:

- Re-contour disturbed areas and construction access roads to a natural appearance.
- Minimize vegetation removal within the project corridor.
- Prepare abandoned highway for revegetation by removing asphalt and base materials where feasible, ripping the original ground and incorporating soil and/or amendments to facilitate plant growth.
- Use an open style rail on any guardrail placed within the project limits.
- Vegetate stabilized soil areas with native plant species, by either using by hydroseeding or containerized plants.
- Use color (stain and/or paint) and textures that minimize reflectivity, glare and unnatural appearances on walls that are constructed for the project.

3.3 Climate Change under the California Environmental Quality Act

While 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 greenhouse gas[1] (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with emissions of GHG related to human activity that include carbon dioxide (CO2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane) and HFC-152a (difluorothane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the Air Resources Board (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 however, in order to enact the standards California needed a waiver from the U.S. Environmental Protection Agency (EPA). EPA denied the waiver in December 2007. See California v. Environmental Protection Agency, 9th Cir. Jul. 25, 2008, No. 08-70011. However, on January 26, 2009, it was announced that EPA will reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks, which will take effect in 2012. . On June 30, 2009 EPA granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. The granting of the waiver will also allow California to implement even stronger standards in the future. The state is expected to start developing new standards for the post-2016 model years later this year.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that ARB create a plan, which

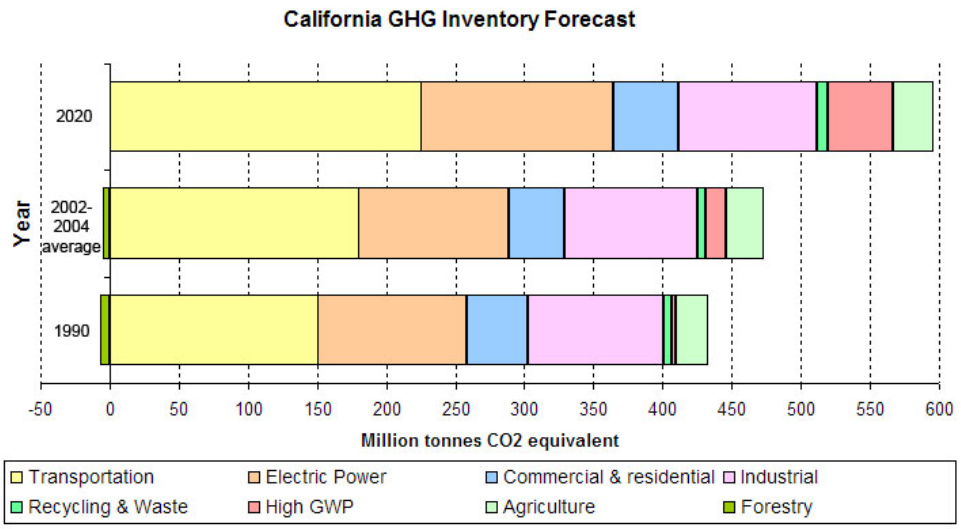
[1] Greenhouse gases related to human activity, as identified in AB 32, include: Carbon dioxide, Methane, Nitrous oxide, Tetrafluoromethane, Hexafluoroethane, Sulfur hexafluoride, HFC-23, HFC-134a*, and HFC-152a*.

includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020. The low carbon fuel standard was adopted by CARB in April 2009.

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 Clean Air Act (*Massachusetts vs. Environmental Protection Agency et a.)* The court ruled that GHGs do fit within the Clean Air Act's definition of a pollutant, and that EPA does have the authority to regulate GHGs. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting greenhouse gas emissions. EPA is investigating rule making that would apply to GHG emissions.

According to Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.



Taken from : http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Figure 3-1 California Greenhouse Gas Inventory

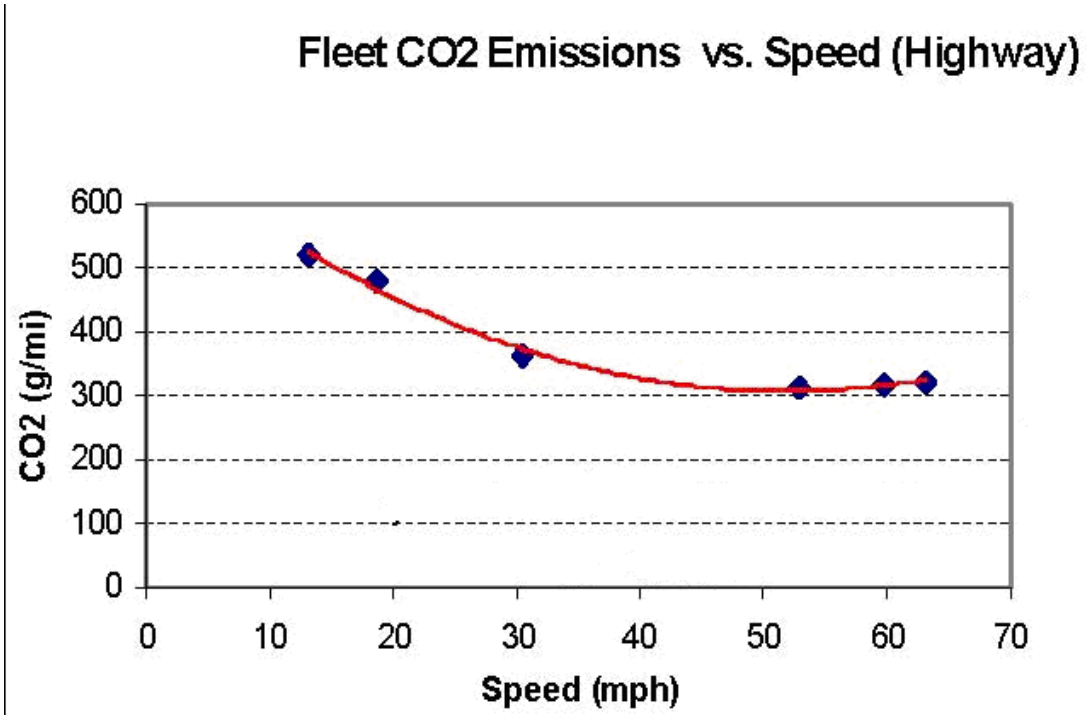
Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006), Caltrans has created and is implementing the Climate Action Program that was published in December 2006. This Document can be found at: **http://www.dot.ca.gov/docs/ClimateReport.pdf**.

Project Analysis

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 carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph; the most severe emissions occur from 0-25 miles per hour. To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, GHG emissions may be reduced.

The Buckhorn Grade Improvement Project will reduce traffic congestion and increase the overall speed within the project limits by widening the travel lanes, adding truck passing lanes, and realigning the curves to a design speed of 45 miles per hour. With the construction of the project, the vehicle miles traveled will remain the same and the

speeds will increase from a design speed of 25 to 45 miles per hour to a design speed of 45 miles per hour. Figure 3-2 shows the effect that speed has on CO_2 emissions. At an average speed of 25 miles per hour, an automobile produces approximately 400 grams per mile of CO_2 and at 45 miles per hour, the CO_2 emissions are reduced to approximately 300 grams per mile. This would have a positive effect on the GHG emissions generated in the project area when compared with the No Build Alternative.



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

Figure 3-2 Fleet CO2 Emissions vs. Speed (Highway)

CEQA Conclusion

Daily CO_2 emissions would be expected to decrease as a result of the project. It is Caltrans determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following sections.

Greenhouse Gas Construction Emissions

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

Assembly Bill 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $238.6 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding through 2016.[2] As shown on Figure 3-3 below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan 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 Strategic Growth Plan 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.

[2] Governor's Strategic Growth Plan, Fig. 1 (http://gov.ca.gov/pdf/gov/CSGP.pdf)

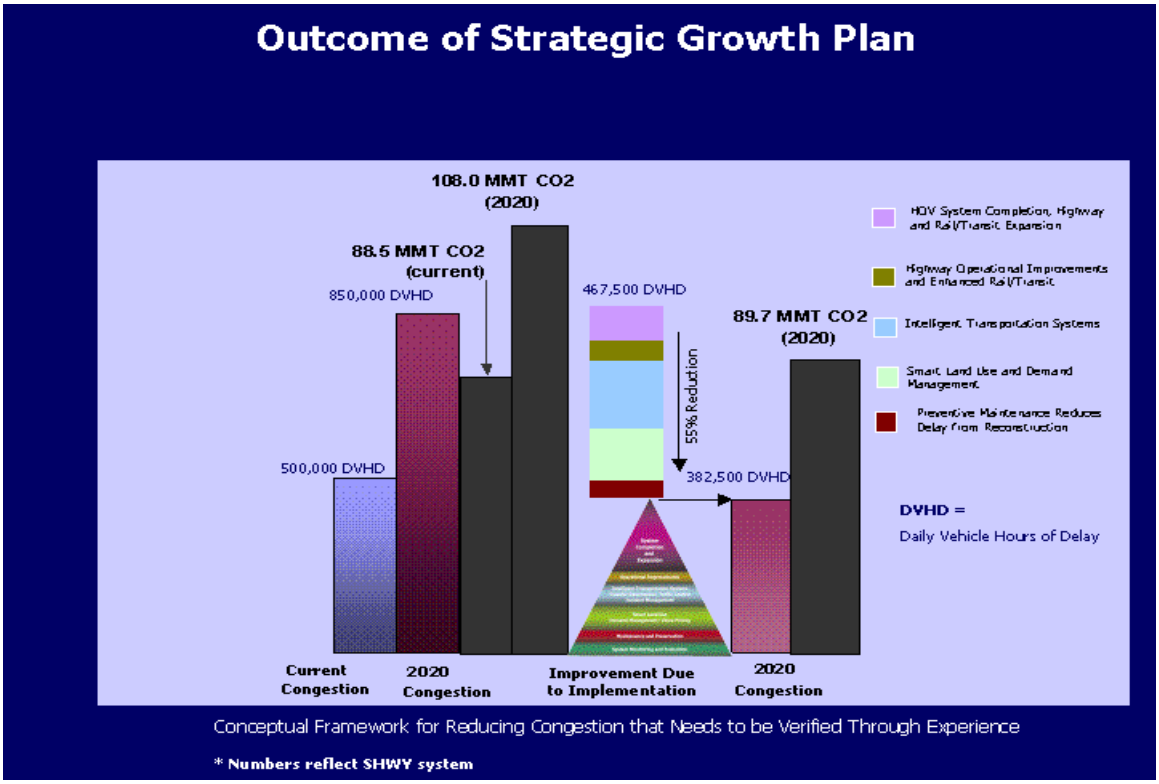


Figure 3-3 Outcome of Strategic Growth Plan

As part of the Climate Action Program at Caltrans (December 2006, **http://www.dot.ca.gov/docs/ClimateReport.pdf**), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by EPA and CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Table 3.1 summarizes the Department and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. For more detailed information about

each strategy, please see Climate Action Program at Caltrans (December 2006); it is available at http://www.dot.ca.gov/docs/ClimateReport.pdf.

Table 3.1 Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.007	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated

Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC	Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversificati on	Division of Equipment	Department of General Services	Fleet Replacement B20 B100	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team	Energy Conservation Opportunities	0.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries	2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 .36	3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs	Goods Movement Action Plan	Not Estimated	Not Estimated
Total				2.72	18.67