

4.3.6 Visual/Aesthetics

As outlined in Appendix G of the *CEQA Guidelines*, would the project substantially degrade the existing visual character or quality of the site and its surroundings?

During the four to five year construction period, all build alternatives will result in a substantial change in the visual character of the study area. All build alternatives will require the removal of substantial amounts of existing landscaping and vegetation during construction, resulting in a substantial negative visual impact. The Replace and Widen Alternative, With Detour Option would also require the construction of a detour road and structure north of the existing Doyle Drive alignment to re-route traffic around construction areas. The temporary visual impacts can be reduced to a *less than significant* level under CEQA with the incorporation of mitigation.

4.3.7 Geology and Soils: Seismic

As outlined in Appendix G of the *CEQA Guidelines*, would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving strong seismic ground shaking or seismic-related ground failure, including liquefaction? Or would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

All alternatives will be susceptible to strong seismic ground shaking and the potential for seismic-related ground failure. Additionally, each alternative is located in an area that is susceptible to liquefaction. Design features associated with all build alternatives will minimize the impacts to a *less than significant* level under CEQA.

4.4 No Impacts

The Doyle Drive Project will have no significant impacts under CEQA to the areas of farmland, population and housing, public services, recreation, and utility and service systems. Through implementation of the *Transportation Management Plan* prepared as part of this project, there will be no significant transportation/traffic related impacts.

4.4.1 Climate Change

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 gas¹ (GHG) emissions reduction and climate change research and

¹ Greenhouse gases related to human activity include: Carbon dioxide, Methane, Nitrous oxide, Tetrafluoromethane, Hexafluoroethane, Sulfur hexafluoride, HFC-23, HFC-134a*, and HFC-152a*

policy have increased dramatically in recent years. 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.

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 percent 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 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.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change.

According to a recent white paper by the Association of Environmental Professionals "An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change; therefore, the issue of global climate change is by definition a cumulative impact."²

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, Caltrans has created and is implementing the *Climate Action Program at Caltrans* (December 2006).

One of the main strategies in the Caltrans' *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. Relieving

² Michael Hendrix and Cori Wilson, "Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents," Association of Environmental Professionals, April 27, 2007.

congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in GHG emissions. “

Caltrans recognizes the concern that carbon dioxide emissions raise for climate change. However, modeling and gauging the impacts associated with an increase in GHG emissions levels, including carbon dioxide, at the project level is not currently possible. No federal, state or regional regulatory agency has provided methodology or criteria for GHG emission and climate change impact analysis. Therefore, Caltrans is unable to provide a scientific or regulatory based conclusion regarding whether the project's contribution to climate change is cumulatively considerable

4.5 Environmentally Superior Alternative

CEQA Guidelines (Section 15126.6(e)(2)) require that an environmentally superior alternative be identified among the alternatives considered. The environmentally superior alternative is generally defined as the alternative which would result in the least adverse environmental impacts to the project site and surrounding area. If the No-Project (No-Build) Alternative is found to be the environmentally superior alternative, the document must identify an environmentally superior alternative among the other alternatives.

The No-Build Alternative would best avoid impacts as compared to the proposed build alternatives; and hence, it is the environmentally superior alternative. Although the No-Build Alternative would not result in any physical impacts to the environment, it would fail to meet the purpose and need of the project. The No-Build Alternative would fail to provide the long-term seismic, structural and traffic benefits associated with replacing Doyle Drive and would therefore not be considered an environmentally superior alternative in the long-term.

Each build alternative meets the purpose of the project and the overall impacts associated with each are similar. The main differences in impacts between the Replace and Widen Alternative, Presidio Parkway Alternative, and Preferred Alternative can be found in the areas of visual resources, vehicular access to the Presidio, roadway runoff and pollutant loading, wetlands, geology and soils, land use, and historic features.

Visually the Presidio Parkway Alternative and Preferred Alternative will provide improved views from within the Presidio, while the Replace and Widen Alternative would continue to obstruct views that are currently blocked by the existing roadway. The Replace and Widen Alternative, No-Detour Option would raise the low-viaduct approximately two meters (six feet) which would increase the view blockage and visual dominance of the structure.

Vehicular access to the Presidio differs for the Replace and Widen Alternative, Presidio Parkway Alternative, and Preferred Alternative. Access for the Replace and Widen Alternative is available from Doyle Drive via the on- and off-ramps