3.6 Significant Irreversible Environmental Changes Resultant from Project

This section of the EIR addresses potential environmental effects resulting from Project implementation which would be irreversible due to the consumption of non-renewable resources or the wasteful, inefficient, or unnecessary consumption of energy resources.

3.6.1 Significant Irreversible Environmental Changes

Per Section 15127 of the *State CEQA Guidelines*, an EIR is required to analyze potential irreversible changes for projects that involve: (a) adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency; (b) adoption by a Local Agency Formation Commission of a resolution making determinations; or, (c) preparation of an environmental impact statement pursuant to the National Environmental Policy Act. Since the proposed Project involves none of these actions, this issue is not applicable.

3.6.2 Energy Resources

Energy consumption with regard to the movement of vehicles is generally limited to the consumption of fossil fuels such as gasoline and diesel. Approximately one-half of all petroleum products consumed in California are transportation-related (Department of Energy 2009). Although various federal and State policies and plans have been enacted to reduce consumer fuel consumption, demand remains relatively high; however, the use of both low-emission and alternative-fuel vehicles continues to grow.

In 1994, the U.S. Environmental Protection Agency (USEPA) adopted the first set of emission standards (Tier 1) for all new off-road diesel engines greater than 37 kilowatts (kW). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing NO_X emissions from these engines by 30 percent. The USEPA Tier 2 and Tier 3 standards for off-road diesel engines are projected to further reduce emissions by 60 percent for NO_X and 40 percent for particulate matter from Tier 1 emission levels. In 2004, the USEPA issued the Clean Air Non-road Diesel Rule, which will cut emissions from off-road diesel engines by more than 90 percent.

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration is responsible for establishing new and revising existing vehicle standards. The fuel economy standard has averaged 27.5 miles per gallon (mpg) for new passenger cars since 1990 and 20.7 mpg for new light trucks (gross vehicle weight of 8,500 pounds or less) since 1996, but heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not subject to fuel economy standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States.

3.6.2.1 Project Energy Consumption

Short-Term Construction

Project implementation would result in construction of streetscape improvements along the Project corridor that would involve the commitment of energy and non-renewable fossil fuels for construction

materials, equipment operation, and transport of construction materials and workers. Such commitment of resources would be similar to that of other roadway improvement projects of a similar size and nature. This commitment of resources would be considered irreversible and irretrievable, except for the possible recycling of raw materials. These resources are generally not in short supply and their use would not have an adverse effect on their continued availability. In addition, Project compliance with the City's Climate Action Plan would ensure that Project implementation would not result in inefficient, wasteful, or unnecessary fuel consumption.

Long-Term Operations

The Project is intended to reduce vehicle trips through the use of alternative means of transportation, including bike lanes and supporting facilities (i.e., bike racks), access to public transit (bus system), and a safer pedestrian environment (sidewalks and enhanced crosswalks). By reducing auto dependency, the Project would reduce energy demands and consumption of non-renewable resources. As irreversible commitments of non-renewable resources would still occur, these commitments would be considered an acceptable use of non-renewable resources in light of enhanced opportunities for multi-modal transportation.