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## 4.23 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Implementation of any build alternative would involve a commitment of a range of natural, physical, biological, human, and fiscal resources. Land that would be used in the construction of the build alternatives would be considered an irreversible commitment of resources, since it is unlikely that this land would ever be converted to another use.

Considerable amounts of fossil fuels, labor, and construction materials, such as cement and aggregate, would be irretrievably expended in the construction of the build alternatives. In addition, considerable amounts of labor and natural resources would be used in the fabrication and preparation of construction materials. These materials generally are not retrievable; however, at this time they are not in short supply. Irreversible impacts may be realized at gravel mining sites that are used by contractors; many of these sites are not properly reclaimed or impact mitigated. Construction also would require a substantial expenditure of funds that could not be used by any other project.

Considerable amounts of fossil fuels would be consumed for the proposed action in several ways. Cars and trucks would use predominately fossil fuels (i.e., gasoline, diesel fuels) for commuting, recreational transportation, and the movement of goods and services. Construction would consume fossil fuels during grading, material movement, and construction activities. Highway operation and maintenance would consume energy by highway interchange lighting, maintenance trucks, and snow plows.

The removal of vegetation for construction of additional roadbed and interchanges would result in an irretrievable loss of vegetation from the study area. This removal is deemed inconsequential in terms of the type of vegetation impacts in urban environments. Vegetation should be maintained or enhanced in some areas to promote soil stabilization and erosion control.

Fiscal resources required for the development of a potential project would be consumed and unavailable for other projects in the region. Additionally, construction labor forces would be committed to the project with such expenditure of effort not being replaceable. However, the effort expended would benefit the travelers of the roadway and communities relying on the roadway for connectivity to other communities.

Construction materials such as aggregate for concrete, petroleum products for asphalt, and the operation of construction equipment would not be retrievable. However, these irretrievable losses are in exchange for the benefits provided by the roadway.

The existing transportation facility components (pavement, bridge structures, etc.) affected by this project have varying design lives. The design life for many of these facilities will be modified through replacement, reinforcement, and pavement overlay between now and when the project is constructed. Removal of any transportation facility components that have not yet achieved their design life would be considered an irretrievable loss. Many of the existing facilities throughout the project will have also achieved or passed their design life at the point in time when this project is constructed. Removal of these transportation facility components would not be considered an irreversible loss of roadway material utilization.

The commitment of these resources would be based on the concept that residents in the immediate areas, region, and state would benefit by the improved quality of the transportation system. Benefits would include improved accessibility and safety, savings in travel time, and greater availability of quality services. The benefits of the project are anticipated to outweigh the irreversible commitment of these resources.

Opportunities for increasing the use of sustainable practices to preserve, to the extent possible, vital natural resources should be explored. Sustainability is the wise use of our planet's natural resources such that the quality of life for future generations will not be compromised. Every effort should be made to use recycled materials for project activities to the extent allowed by good practice and construction specifications.



An innovative, sustainable approach for highway construction and operations, such as solar power systems for lighting and signals, use of alternative asphalt compounds that use rubber and other recycled materials, and water/stormwater management concepts to protect and conserve water resources should be considered for this project. In addition, construction equipment that uses ultra-low sulfur fuels should be encouraged.