

4.25 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Summary

Packages 1, 2, 4, and the Combined Alternative Package (Preferred Alternative) may affect environmental resources that are both regulated and not regulated at the federal, state, or local levels. Impacts can include the consumption of natural resources such as fossil fuels and raw materials such as gravel. The type of package selected may also affect community resources such as landfill capacity. In most cases, such impacts cannot be quantified and cannot be avoided entirely. These impacts should be minimized to the extent practicable. Sustainable practices incorporated into project planning, construction, and maintenance can minimize impacts.

As part of its environmental ethic and policy, the Colorado Department of Transportation (CDOT) encourages its staff, consultants, and contractors to identify opportunities and methods to reduce the impact of projects and programs on environmental resources. This includes a commitment to allow innovative programs and flexibility in project planning, construction, and maintenance for the use of sustainable processes and materials. This may include such concepts as:

- Natural resource conservation
- Waste minimization
- Materials reuse
- Minimal use of native virgin materials
- Conservation and efficient use of water and energy
- Air pollution prevention
- Preference for “green” purchasing (including recycled and minimally processed items)
- Preference for locally available resources

CDOT and the Regional Transportation District encourage the identification and incorporation of proven materials that are longer lasting and require less maintenance, when use of such materials is consistent with meeting primary obligations for providing a safe and efficient transportation system. Alternative materials and practices must meet the performance goals of the construction specifications, demonstrate legitimate expenditure of public funds, and comply with all other applicable laws and regulations.

Irreversible and irretrievable resource commitments are related to the use of non-renewable resources and the effects that use of these resources would have on future generations. Irreversible effects primarily result from use or destruction of a specific resource (e.g., energy from hydrocarbons and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored after implementing a proposed action.

Implementation of any of the build packages involves a commitment of a range of natural, physical, human, and fiscal resources. Regardless of the build package implemented, use of non-renewable resources during the project may be irreversible since a large commitment of such resources makes removal or non-use thereafter unlikely. Land use in construction is considered an irreversible commitment during the time period the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway is no longer needed, the land could be converted to another use. At present there is no reason to believe such conversion would be necessary or desirable. Direct, and particularly indirect impacts, may commit future generations to similar uses. Also, irreversible damage may result from environmental accidents associated with project construction and operation.

Considerable amounts of fossil fuels, labor, and highway construction materials would be expended and large amounts of labor and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable; however, their use is not expected to have an adverse effect on the continued availability of these resources. Construction would also require a substantial expenditure of funds, which are not fully retrievable (refer to Chapter 5.0, Financial Analysis).

The following are anticipated irreversible and irretrievable commitment of resources associated with the construction and operation of any of the packages:

- Commitment of labor and energy during construction, including the consumption of fossil fuels associated with the use of construction equipment.
- Use of materials required to construct the project infrastructure, including aggregate, cement, and petroleum products.
- Commitment of energy in the form of petroleum products and natural gas during the bus rapid transit operation.
- Commitment of between 108 and 281 additional acres of land for right-of-way acquisition.
- Commitment of 43 to 52 acres of public parks and open space.
- Commitment of labor, energy, and materials already expended completing east bound on-ramp, bus pull-out, and southwest loop interim improvements for the McCaslin Boulevard interchange at United States Highway 36 (US 36). These commitments of labor, energy, and materials (which have already been made) would be irretrievably lost because Packages 2, 4, and the Combined Alternative Package (Preferred Alternative) would require their removal.
- Irrecoverable and irreversible commitments of labor, funding, energy, and materials would occur during the full build out of US 36. Some planned improvements to US 36, such as queue jumps, would occur prior to construction of Phase 1 of the Combined Alternative Package (Preferred Alternative) and would need to be reconstructed as part of the implementation of the Combined Alternative Package (Preferred Alternative). As a result, some elements of the Combined Alternative Package (Preferred Alternative) would need to be reconstructed as phases are completed, which would result in irretrievable losses of labor, funding, energy, and materials. However, the decision to proceed this way was made due to existing funding limitations. The elements of Phase 1, including managed lanes, queue jumps, and the bikeway, are anticipated to provide a substantial benefit to corridor users and would therefore offset the irreversible impacts. For more information on phasing, see Chapter 8, Phased Project Implementation.

The commitment of resources is based on the concept that residents of the immediate area, state, and region would benefit from the improved quality of the transportation system. These benefits are anticipated to outweigh the commitment of these resources. The benefits of the new transportation system would mirror the needs of the project:

- Increase trip capacity
- Expand access
- Provide congestion relief
- Expand mode of travel options
- Increase efficiency of transit service
- Update outdated highway facilities