

### 3.18 Short-Term Uses versus Long-Term Productivity

#### 3.18.1 What is the relationship between local short-term uses and long-term productivity and why is it important to this project?

The balance or tradeoff between short-term uses and long-term productivity needs to be defined in relation to the proposed activity in question. Each resource must be provided with its own definitions of short-term and long-term (40 Code of Federal Regulations 1502.16).

Short-term impacts and uses of the environment are generally associated with the construction phase of the project. Localized impacts on air quality, water quality, and noise result in short-term losses in revenue for local businesses and cause disruption and inconvenience to local residents. These impacts need to be assessed relative to the long-term gains associated with a project to determine if impacts are generally acceptable or can be mitigated by the benefits of the project. This section summarizes the short-term and long-term impacts of the alternatives; these impacts and proposed mitigation strategies are described in more detail in respective resource sections (**Sections 3.1 through 3.16**) and in **Chapter 4, Cumulative Impacts Analysis**.

#### 3.18.2 What process was used to determine the impacts of short-term uses on long-term productivity due to this project?

The process for determining whether or not the proposed action results in short-term uses of resources—which could lead to long-term benefits—considered localized and short-term impacts in the Corridor relative to long-term benefits within the Corridor, the region, and the State.

#### 3.18.3 What are the areas of interest related to short-term uses and long-term productivity in the Corridor?

Short-term impacts on existing noise levels, water quality, air quality, aesthetic surroundings, or economic development are concerns to local and regional stakeholders. Traffic delays during construction could disrupt daily activities for local residents.

#### 3.18.4 How do the alternatives affect short-term uses and long-term productivity?

The No Action Alternative results in greater impacts to long-term productivity than any of the Action Alternatives. Fewer temporary impacts (or short-term uses of resources) are associated with the No Action Alternative. Impacts on long-term productivity associated with ongoing operations and maintenance are negligible. Localized construction impacts due to planned and funded construction projects could occur within the Corridor. Current deficiencies (such as congestion and decreased mobility and accessibility) remain in the Corridor. Reduced traffic safety, mobility, and loss of economic growth opportunities remain.

The Action Alternatives assist in the long-term productivity of the Corridor by improving accessibility and mobility and increasing capacity to allow for long-term economic growth along the Corridor. Air quality improves due to reduced traffic congestion, and long-term economic benefits are realized through improved material and product distribution throughout the State, as well as increased local economic activity. The Action Alternatives improve safety and overall emergency response times. These long-term beneficial effects of the Action alternatives outweigh the potentially great, but mitigable short-term impacts on the environment resulting primarily from project construction.

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The Highway alternatives and highway portion of the Combination alternatives result in greater construction impacts on the Clear Creek County communities located along the Corridor, due to the amount of construction required to accommodate these alternatives. Long-term productivity benefits are realized throughout the Corridor, but it is possible in Clear Creek County that the long-term benefits realized may not totally offset the proportions of the impacts realized by these communities. Initially, the Transit Alternatives and the Preferred Alternative have less effect on the communities, but there are still impacts to natural resources and delays and disruption due to construction. Due to the adaptive nature of implementation of the program of improvements, construction of the Preferred Alternative should only occur based on a proven need; therefore, construction can be “staged” to minimize some of the short-term uses.

Under the No Action Alternative and Minimal Action Alternative, economic growth is suppressed and that suppression likely continues to 2050.

#### 3.18.5 What are the project effects on resources in 2050?

The exact degree to which short-term uses associated with construction impacts communities between 2035 and 2050 is unknown. Analyses indicate that increased economic growth is delayed if construction is spread out over a longer period of time. The effects of construction (during which time economic growth is slowed) in comparison to the period after construction when the rate of growth increases results in delayed economic revenue to the region and to the State. If construction of the Preferred Alternative occurred intermittently over a longer period of time, average annual economic growth rates may not be as high between now and 2050 as if construction occurred in the near future over a short period of time. The adaptive management approach of the Preferred Alternative allows Corridor improvements to be implemented over time, when communities feel they are able to appropriately manage the indirect effects associated with those improvements. This could be a beneficial effect, slowing economic growth to a rate at which communities can accommodate the associated pressures.

Short-term uses associated with the Action Alternatives include:

- Loss of soil through erosion and fugitive dust
- Temporary disruption of traffic in the proposed construction areas
- Temporary degradation of air quality due to reduced traffic speed through construction zones
- Temporary impacts on businesses and residents as a result of detours or modifications of access and emergency vehicle response time
- Temporary impacts on water resources as a result of increased run-off, chemical compounds, or disturbance of geological substrate during construction
- Decreased trips to recreational areas as a result of congestion and delay associated with construction
- Increased energy consumption during construction
- Temporary visual impacts associated with construction staging during construction for Corridor travelers
- Potential for light and noise pollution affecting adjacent residential areas during construction
- Temporary noise and/or vibration impacts due to construction
- Temporary use of land for construction staging and storage of materials

The long-term benefits associated with the Action Alternatives include:

- Improving safety within the Corridor
- Decreasing the overall travel times within the Corridor
- Improving product and material distribution

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- Improving accesses to businesses within the travel corridor
- Improving emergency vehicle access
- Modernizing existing transportation infrastructure to accommodate future demands
- Creating a more environmentally sustainable and aesthetically pleasing corridor
- Improving air quality within the Corridor by reducing traffic congestion

Although localized and temporary impacts occur during construction, they are consistent with the goals of improved long-term benefits and mobility for the Corridor, the region, and the State. Construction impacts are detailed in **Sections 3.1 through 3.16**.

#### 3.18.6 What will be addressed in Tier 2 processes?

As projects are defined in greater detail during Tier 2 processes, additional short-term uses may be identified, including, but not limited to:

- Locations of construction easements
- Locations of anticipated water quality impacts
- Locations of noise impacts due to construction
- Locations of any impairment to parks and recreation resources due to construction
- Temporary visual impacts on historic structures due to implementation of the proposed action

#### 3.18.7 What are the mitigation strategies for short-term uses?

Specific mitigation strategies (such as, employment of best management practices) will be identified in Tier 2 processes to offset temporary impacts due to construction near or adjacent to natural, biological, or man-made resources. For resource-specific mitigation strategies, see **Section 3.19, Mitigation Summary**.

Short-term impacts due to construction may be unavoidable, but these can be greatly offset by the long-term productivity associated with the proposed action. Because projects are often identified in the comprehensive planning process, the short-term impacts will normally be consistent with the maintenance and enhancement of long-term productivity because the process takes into account the needs and goals of the communities for land use, transportation, environmental protection, and economic development.

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