



I-70 Mountain Corridor Record of Decision and Final Programmatic Environmental Impact Statement

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U.S. Department of Transportation
Federal Highway Administration

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Record of Decision

A. Background

The Federal Highway Administration (FHWA) and Colorado Department of Transportation (CDOT) (the lead agencies) published a Notice of Intent to prepare a Programmatic Environmental Impact Statement (PEIS) in 2000, in accordance with the Council on Environmental Quality and FHWA regulations for implementing the National Environmental Policy Act (NEPA). The PEIS, also referred to as a Tier 1 document, provides the basis for this Tier 1 Record of Decision (ROD). The Tier 1 ROD makes decisions to inform more specific decisions to be made in subsequent Tier 2 NEPA processes. The first tier EIS focuses on Corridor alternatives that address the broad issues of general location, mode choice, and capacity. The second tier or Tier 2 will address site-specific details regarding location-specific alternatives, alignments, impacts, costs, and mitigation measures. The tiered approach eliminates repetitive discussions of the same issues with each project on the Corridor and focuses attention on the actual issues ripe for decision at each level of environmental review. The Council on Environmental Quality regulations contained in Title 40 of the Code of Federal Regulations (CFR) Parts 1500 through 1508 authorize a tiered approach (see 40 CFR 1502.20 and 1508.28).

In 2004, the lead agencies released a Draft PEIS. After an extended comment period and consideration of substantial public and agency comments received on the 2004 Draft PEIS, CDOT convened a stakeholder committee, referred to as the Collaborative Effort Team, in 2007 to help the lead agencies shape improvements that met the purpose and need for the project and were acceptable to stakeholders. The Collaborative Effort Team was comprised of 27 members representing varied stakeholders of the I-70 Mountain Corridor, including the lead agencies, who were charged with coming to consensus about Corridor improvements. The Collaborative Effort Team provided a Consensus Recommendation for Corridor improvements; the Consensus Recommendation became the lead agencies' Preferred Alternative. The Collaborative Effort Team also recommended a long-term stakeholder engagement process to guide transportation improvements into the future.

In September 2010, the lead agencies released a Revised Draft PEIS to provide reader-friendly, concise information about the major findings of the I-70 Mountain Corridor NEPA process. The Revised Draft PEIS brought analysis of the 2004 Draft PEIS up to date and analyzed alternatives developed since the Notice of Intent, including the Preferred Alternative recommended as a result of the Collaborative Effort process. The Revised Draft PEIS replaced the 2004 Draft PEIS and is responsive to comments received on the 2004 Draft PEIS.

In March 2011, the lead agencies released a Final PEIS. The Final PEIS presents the final evaluation of improvements and associated environmental and social impacts of those alternatives for the Tier 1 NEPA process. The Final PEIS is incorporated into this ROD by reference. The Final PEIS describes, in detail, the decision-making process and summarizes the analysis of considerations for identifying the alternatives that were fully evaluated in the Final PEIS, their impacts, and ability to meet the purpose and need. In addition, the Final PEIS includes a Tier 1 discussion of the potential impacts to Section 4(f) resources and the relative potential for the Tier 1 alternatives to avoid the use of Section 4(f) property. **Appendix F** of the Final PEIS also includes a full accounting of all comments received on the Revised Draft PEIS and the lead agencies' responses to those comments.

On March 24, 2011, the lead agencies received the United States Fish and Wildlife Service's final programmatic biological opinion on impacts to 13 federally listed threatened and endangered species and one species that is a Candidate for listing under the Endangered Species Act in the Corridor. The opinion, which is included as **Appendix A** to the ROD, concurs with FHWA's broad determinations of effects to

threatened and endangered species and confirms the need for more detailed analysis in Tier 2 NEPA processes.

This Record of Decision is the final step in the Tier 1 NEPA process. It does not authorize any construction nor will it result in direct impacts. To carry out the improvements, subsequent Tier 2 NEPA processes will be completed to develop and evaluate specific projects consistent with this Tier 1 decision.

The Tier 1 decision includes three basic elements: travel mode, capacity, and general location. The Tier 1 decision selects the Preferred Alternative, which is described in **Section B** of this ROD and in Chapter 2 of the Final PEIS. The other alternatives, described in **Section C** of this ROD and Chapter 2 of the PEIS, are not selected. The decision to select the Preferred Alternative and, as a consequence, not to select the remaining alternatives, is a Tier 1 decision and will not be revisited at Tier 2 unless required by other laws. This is explained in **Section B** of this ROD and Question 4 in the Introduction of the PEIS.

This Tier 1 decision is subject to 23 United States Code (U.S.C.) 139(l)(1) and is final within the meaning of that law. The Federal Highway Administration will be issuing a notice in the *Federal Register* that any claims seeking judicial review of the Tier 1 decision on the proposed transportation improvements will be barred unless the claim is filed on or before 180 days after publication of the *Federal Register* notice.

B. Selected Alternative

The Federal Highway Administration approves the selection of the Preferred Alternative to provide transportation improvements in the I-70 Mountain Corridor through Colorado between Glenwood Springs and the western edge of the Denver metropolitan area (at C-470/Jeffco Government Center light rail station). The Tier 1 decision includes general location, travel mode, and capacity. This decision will not be revisited during Tier 2 NEPA processes unless other laws (such as the Clean Water Act) require revisiting it. This decision incorporates a commitment to regularly reassess (at least once every 2 years) how the Preferred Alternative is meeting transportation needs and adjust the implementation through the adaptive management approach included in the Preferred Alternative. There is also a provision that requires an assessment of the overall purpose and need and effectiveness of implementation of the Preferred Alternative in 2020 in light of the Tier 1 decision. At that time, the full range of improvements evaluated at Tier 1 may be reconsidered. The year 2020 was selected as a milestone based on the belief that the majority of the specific highway improvements were likely to be implemented, and more information on the feasibility of the Advanced Guideway System would be available if the Advanced Guideway System was not implemented by that time.

B.1 Description of the Preferred Alternative

The Preferred Alternative is a multimodal solution and includes three main components identified by the Collaborative Effort Team: 1) Non-infrastructure Components, 2) the Advanced Guideway System, and 3) Highway Improvements (see **Figure 1**). A specific Advanced Guideway System technology has not been identified and will be studied in a subsequent feasibility study; if feasible, it will be evaluated in one or more Tier 2 NEPA processes. The Preferred Alternative includes a range of improvement options from a Minimum Program of Improvements to a Maximum Program of Improvements. The Minimum Program of Improvements is detailed below.

Non-Infrastructure Related Components – Non-infrastructure-related components can begin in advance of major infrastructure improvements to address some of the issues in the Corridor today. Some of these components require actions and leadership by agencies, municipalities, and other stakeholders beyond the lead agencies. The Tier 1 decision includes non-infrastructure-related components that could be carried out with federal involvement in a Tier 2 NEPA process. Other non-infrastructure components, including those identified below and others not listed, could be carried out without federal involvement and would not require a Tier 2 NEPA process. When entities advance these strategies without federal

involvement, for example, if the I-70 Coalition (a coalition of Corridor governments) were to implement travel demand management strategies for increasing overnight stays in the Corridor, Tier 2 NEPA processes would not be required. The non-infrastructure strategies include, but are not limited to:

- Increased enforcement
- Bus, van, or shuttle service in mixed traffic
- Programs for improving truck movements
- Driver education
- Expanded use of existing transportation infrastructure in and adjacent to the Corridor
- Use of technology advancements and improvements to increase mobility without additional infrastructure
- Traveler information and other information technology systems
- Shift passenger and freight travel demand by time of day and day of week
- Convert day trips to overnight stays
- Promote high-occupancy travel and public transportation
- Convert single-occupancy vehicle commuters to high-occupancy travel and/or public transportation
- Implement transit promotion and incentives
- Other transportation demand management measures to be determined

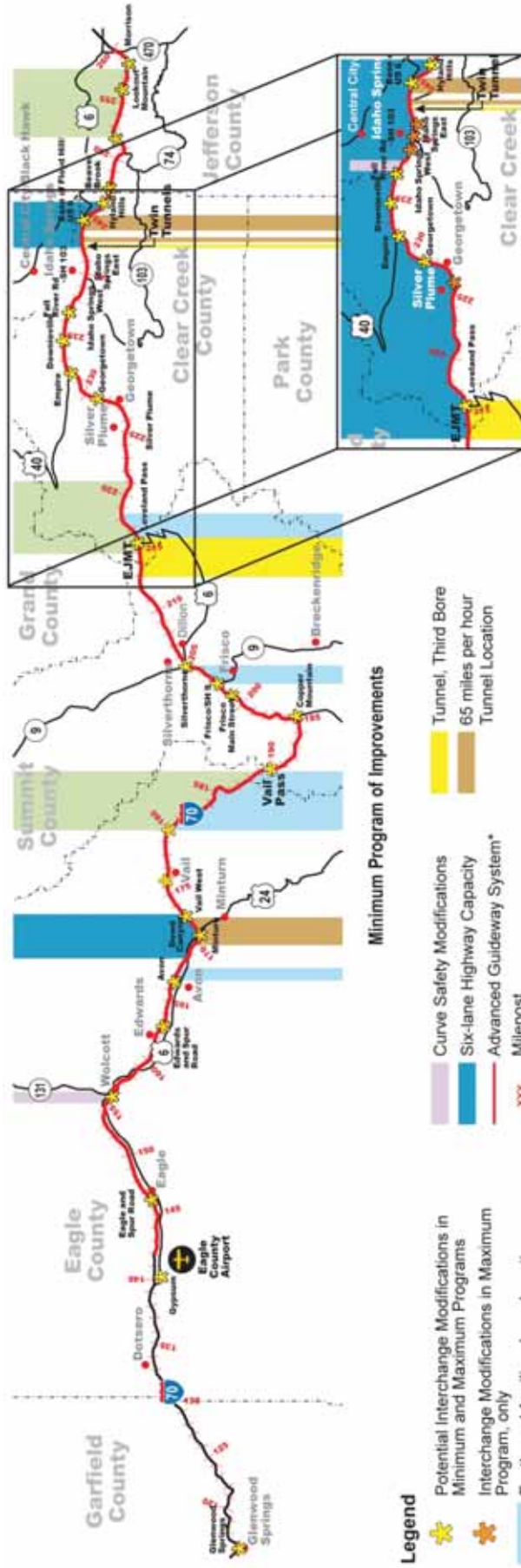
Advanced Guideway System – An Advanced Guideway System is a central part of the Preferred Alternative and includes a commitment to the evaluation and implementation of an Advanced Guideway System within the Corridor, including a vision of transit connectivity beyond the study area and local accessibility to such a system. Additional information is necessary to advance implementation of an Advanced Guideway System in the Corridor:

- Feasibility of high-speed rail passenger service
- Potential station locations and local land use considerations
- Transit governance authority
- Alignment
- Technology
- Termini
- Funding requirements and sources
- Transit ridership
- Potential system owner/operator
- Interface with existing and future transit systems
- Role of an Advanced Guideway System in freight delivery both in and through the Corridor

The Colorado Department of Transportation is committed to provide funding for studies in support of the additional information to assist the lead agencies and stakeholders with evaluation and implementation of an Advanced Guideway System. With its new Division of Transit and Rail, CDOT has secured some funding for these studies.

Highway Improvements – The Preferred Alternative includes highway improvements to address current Corridor conditions and future demands. These improvements will be planned taking into consideration all elements of the Preferred Alternative and local land use planning. The following safety, mobility, and capacity components are not listed in order of priority, are not subject to the parameters established for future capacity components, do not represent individual projects, and may be included in more than one description. They are listed in two categories: 1) “specific highway improvements” and 2) “other highway projects.” All of the improvements in both categories are included in the Minimum Program of Improvements. The specific highway improvements are called out specifically for the “triggers” for future highway and non-Advanced Guideway System transit improvements.

Figure 1. Preferred Alternative



Additions to Maximum Program of Improvements

The Maximum Program of Improvements includes all the Minimum Program of Improvements plus the additions shown here, including six-lane highway capacity from Eisenhower-Johnson Memorial Tunnel to the Twin Tunnels, four additional interchange modifications in Clear Creek County, and curve safety modifications at Fall River Road.

*Advanced Guideway System follows the general location of the I-70 highway but is not necessarily within the highway right-of-way.

- The specific highway improvements are:
 - Six-lane component from Floyd Hill through the Twin Tunnels (milepost [MP] 243 to MP 247) including a bike trail and frontage roads from Idaho Springs to Hidden Valley and Hidden Valley to US 6
 - Empire Junction (US 40 and I-70) interchange improvements (MP 232)
 - Eastbound auxiliary lane from Eisenhower-Johnson Memorial Tunnels to Herman Gulch (MP 215 to MP 218)
 - Westbound auxiliary lane from Bakerville to the Eisenhower-Johnson Memorial Tunnels (MP 215 to MP 221)
 - The other highway projects are:
 - Truck operation improvements, such as pullouts, parking, and chain stations (multiple locations)
 - Safety improvements west of Wolcott (MP 155 to MP 156)
 - Safety and capacity improvements in Dowd Canyon (MP 170 to MP 173)
 - Interchange improvements at the following locations:

– Glenwood Springs (MP 116)	– Frisco / Main Street (MP 201)
– Gypsum (MP 140)	– Frisco / SH 9 (MP 203)
– Eagle County Airport (part of No Action)	– Silverthorne (MP 205)
– Wolcott (MP 157)**	– Loveland Pass (MP 216)
– Eagle & Spur Road (MP 147)	– Georgetown (MP 228)
– Edwards & Spur Road (MP 163)	– Downieville (MP 234)
– Avon (MP 167)	– Fall River Road (MP 238)
– Minturn (MP 171)	– Base of Floyd Hill / US 6 (MP 244)
– Vail West (MP 173) / Simba Run	– Hyland Hills (MP 247)
– Vail (MP 176)**	– Beaver Brook (MP 248)
– Vail East (MP 180)**	– Evergreen Parkway / SH 74 (MP 252)**
– Vail Pass (East Shrine Pass Road (MP 190)**	– Lookout Mountain (MP 256)
– Copper Mountain (MP 195)	– Morrison (MP 259)
- ** After reevaluating safety and capacity needs in 2035 and 2050, these five interchanges (Wolcott, three interchanges in the Vail area, and the Evergreen Parkway interchange) were added to the list of interchange modifications included in the Minimal Action Alternative and carried forward to the Preferred Alternative Minimum Program of Improvements. While minor effects may occur to the environmental resources at these locations, the effects are not anticipated to be significant and would not change the comparative analysis or the recommendation at the Tier 1 level. New capacity and crash data will be used to evaluate interchange modifications in Tier 2 NEPA processes. Although not originally part of the Consensus Recommendation, the lead agencies coordinated with the Collaborative Effort Team regarding the addition of these five interchanges now included in the Preferred Alternative.
- Auxiliary lanes:
 - Avon to Post Boulevard (Exit 168) (eastbound) (MP 167–MP 168)
 - West of Vail Pass (eastbound and westbound) (MP 180–MP 190)
 - Frisco to Silverthorne (eastbound) (MP 202.7–MP 205.1)
 - Morrison to Chief Hosa (westbound) (MP 253–MP 259)

The non-infrastructure components, Advanced Guideway System, specific highway improvements, and other highway projects identified above comprise the **Minimum Program of Improvements**. In developing the Preferred Alternative, the Collaborative Effort Team recognized that the Minimum Program of Improvements may not provide adequate highway capacity to meet long-term transportation needs. Based on information available today, the Minimum Program of Improvements alone does not meet the 2050 purpose and need for the Corridor, and additional highway capacity will be required at some time before 2050. To address long-term needs, additional highway capacity improvements were added to the Minimum Program of Improvements to comprise the **Maximum Program of Improvements** with the condition that prior to taking action to add capacity, the Collaborative Effort Team must review and consider certain triggers (see **Section B.3, Adaptive Management Approach for Adding Capacity Beyond the Minimum Program of Improvements**). The use of triggers described in the Preferred Alternative is consistent with the vision of the Corridor, which recognizes that future travel demand and behavior is uncertain and that additional transportation solutions should be based on proven need. The triggers create a mechanism for defining specific timing and nature of the capacity improvements on the Corridor.

Chapter 2 of the Final PEIS and the *I-70 Mountain Corridor PEIS Alternatives Development and Screening Technical Report* (CDOT, March 2011) provide additional descriptions of the Preferred Alternative. Details of the decision regarding general location, travel mode, and capacity are included below. The discussion of capacity includes an explanation of a range of highway and transit capacity improvements and the adaptive management process by which these capacity improvements are approved under this decision. Tier 2 NEPA processes are required to make site-specific decisions regarding alignments alternatives as well as operational and other infrastructure improvements consistent with the Tier 1 decision. Tier 2 NEPA processes and decisions are also summarized below.

B.1.1 General Location

The general location of improvements follows the existing I-70 Mountain Corridor alignment and serves established Corridor communities. Throughout the Corridor, improvements may be north or south of the existing I-70 highway alignment, or within the highway median, but not necessarily within existing right-of-way. Future Tier 2 NEPA processes will clarify alignments, which in some locations may depart from the highway alignment. Locations of site-specific improvements, such as interchange modifications, curve safety modifications, and tunnel enhancements, are identified but specific designs, right-of-way requirements, construction methods, and other details will be developed in Tier 2 NEPA processes.

B.1.2 Travel Mode

The Preferred Alternative is a multimodal solution that combines the Advanced Guideway System and highway modes along with non-infrastructure components. Additional information is required to select a technology for the Advanced Guideway System, and the specific technology for that system will be identified during Tier 2 NEPA processes.

B.1.3 Capacity

This decision provides for adequate network capacity to meet travel demand to 2050. In this decision, capacity is measured by the combined capacity of the Advanced Guideway System and increased highway capacity, both of which are needed to meet 2050 network capacity. The following describes capacity for the Advanced Guideway System and highway, as well as the adaptive management approach for adding highway capacity beyond the Minimum Program of Improvements described above.

Advanced Guideway System

The Preferred Alternative includes new fixed guideway transit between the Eagle County Airport and the Jeffco Government Center light rail station in the Denver area. To meet travel demand needs, transit must have the capability to serve 25 percent of the trip demand, which equates to a minimum of 4,900

passengers per hour in 2035, during peak times (defined as summer Sundays, which represents the highest average traffic volumes). Based on the Tier 1 evaluation, this capacity requires double-track throughout the transit service area. The selection of a transit technology will depend on the limitations of transit technologies, such as seat capacity, speed, power needs, and ability to handle grades and curves, as well as the ability of transit technologies to attract riders to switch from highway travel to transit use. Although a specific technology for the Advanced Guideway System is not selected in this Tier 1 decision, an operable transportation system requires a minimum of 25 percent of trips (or 4,900 travelers) to shift from highway travel to transit. Travel demand modeling conducted at the Tier 1 level suggests that an Advanced Guideway System would be attractive to travelers and would, therefore, be capable of creating this shift. Ridership projections will be refined in a subsequent feasibility study.

Increased Highway Capacity

Highway capacity is provided by additional lane capacity as well as localized highway improvements to address bottlenecks, such as steep grades, that lead to congestion. Increased highway capacity approved under the Preferred Alternative includes a range of highway capacity improvements from a Minimum Program of Improvements to a Maximum Program of Improvements. The **Minimum Program** includes the following specific highway improvements: six-lane capacity from Floyd Hill through the Twin Tunnels, including a bike trail and frontage roads from Idaho Springs to Hidden Valley and Hidden Valley to US 6; Empire Junction (US 40 and the I-70 highway) interchange improvements; eastbound auxiliary lane from the Eisenhower-Johnson Memorial Tunnels to Herman Gulch; and westbound auxiliary lane from Bakerville to the Eisenhower-Johnson Memorial Tunnels. The Minimum Program also includes the following other highway projects: truck operation improvements, curve safety improvements west of Wolcott, safety improvements and six-lane highway capacity through Dowd Canyon, interchange improvements at 26 locations along the Corridor, and auxiliary lanes in four additional locations along the Corridor. Based on information available today, the Minimum Program of Improvements alone does not meet the 2050 purpose and need for the Corridor, and additional highway capacity is needed. To address long-term needs, additional highway capacity improvements were added to the Minimum Program of Improvements to comprise the Maximum Program of Improvements with the condition that prior to taking action to add capacity, the Collaborative Effort Team must review and consider certain triggers, which are explained below. The **Maximum Program** is comprised of all of the components of the Minimum Program plus six-lane capacity from the Eisenhower-Johnson Memorial Tunnels to the Twin Tunnels, four additional interchange modifications in the Idaho Springs area, and a curve safety modification project at Fall River Road. Based on information available today and for the purposes of this Tier 1 decision, all of the improvements identified in the Maximum Program of Improvements are assumed to be needed to meet the 2050 purpose and need.

Adaptive Management Approach for Adding Capacity beyond the Minimum Program of Improvements

This decision approves the Preferred Alternative as described with the condition that the Maximum Program of Improvements will be implemented only after evaluating the need for those improvements based on certain triggers. The use of triggers is consistent with the needs of the Corridor and recognizes that future travel demand and behavior are uncertain and that additional transportation solutions should be based on proven need. The triggers create a mechanism for defining specific timing and nature of the capacity improvements on the Corridor. This decision process considers the needs of the Corridor and triggers are a mechanism to determine actual additional capacity improvements. Based on the agreed-upon triggers, additional highway capacity improvements will proceed if and when:

- The specific highway improvements are complete and an Advanced Guideway System is functioning from the Front Range to a destination beyond the Continental Divide, OR
- The specific highway improvements are complete and Advanced Guideway System studies that answer questions regarding the feasibility, cost, ridership, governance, and land use are complete

and indicate that an Advanced Guideway System cannot be funded or implemented by 2025 or is otherwise deemed unfeasible to implement, OR

- Global, regional, or local trends or events have unexpected effects on travel needs, behaviors, and patterns and demonstrate a need to consider other improvements, such as climate change, resource availability, and/or technological advancements.

Ongoing stakeholder engagement is necessary to review these triggers. The Colorado Department of Transportation will convene a committee that retains the Collaborative Effort member profile to check in at least every 2 years to review progress made on the above triggers. At these check-in points, the committee will:

- Review the current status of all projects
- Identify unmet needs in the Corridor
- Consider the triggers in evaluating the need for additional capacity improvements beyond those specified in the Minimum Program of Improvements

In 2020, regardless of the status of the triggers, there will be a thorough reassessment of the overall purpose and need and effectiveness of the implementation of components of the Preferred Alternative. At that time, the full range of improvements evaluated at Tier 1 may be reconsidered. In addition, the Collaborative Effort stakeholder committee (including the lead agencies) may reconsider the full range of improvements evaluated in the Final PEIS, or pursue a new process because the context in which this Tier 1 decision was made is so changed that none of the alternatives evaluated in the Final PEIS meets future transportation needs. Global, regional, and local trends such as peak oil, climate change, technological advances, and changing demographics could affect these future transportation needs.

The reassessments required by this ROD can proceed in parallel with Tier 2 NEPA processes for individual projects. Preparation of a reassessment does not require ongoing Tier 2 NEPA processes to be halted, nor does it preclude the initiation or conclusion of other Tier 2 NEPA processes.

B.2 Tier 2 NEPA Processes and Decisions

To carry out improvements that have federal involvement outlined in this Tier 1 decision, subsequent NEPA processes, referred to as Tier 2 NEPA processes, will be required. Tier 2 NEPA processes will evaluate specific alternatives and alignments consistent with the Tier 1 decision. Examples of Tier 2 NEPA processes include, but are not limited to, decisions on interchanges, portions of interchanges, auxiliary lane(s), and transit and highway capacity improvements with logical end points.

B.2.1 Framework for Tier 2 NEPA Processes

Tier 2 NEPA processes implement portions of the Tier 1 Preferred Alternative and reflect the Tier 1 decision regarding mode, general location, and capacity. To be considered on its own in a Tier 2 NEPA process, a project must possess operational independence, and independent utility and constructible use.

- **Operational independence** means that the project can operate effectively and completely on its own.
- **Independent utility** means that a project is usable and a reasonable expenditure even if no additional transportation improvements in the area are made and has **constructible use**, meaning that the project can be constructed and provides independent benefit.

Tier 2 NEPA processes will be required to carry out the Tier 1 decision. The lead agencies may prepare for Tier 2 NEPA processes by initiating feasibility or technical studies at any time to support understanding of needed improvements and solidify approaches to deliver construction projects in a way that is adaptable to available funding. For example, these studies may precede detailed Tier 2 NEPA processes in cases where the lead agencies determine that the problem, context, or potential solution is

complex, or the scope of a potential project is so great that funding or financing the construction is not available.

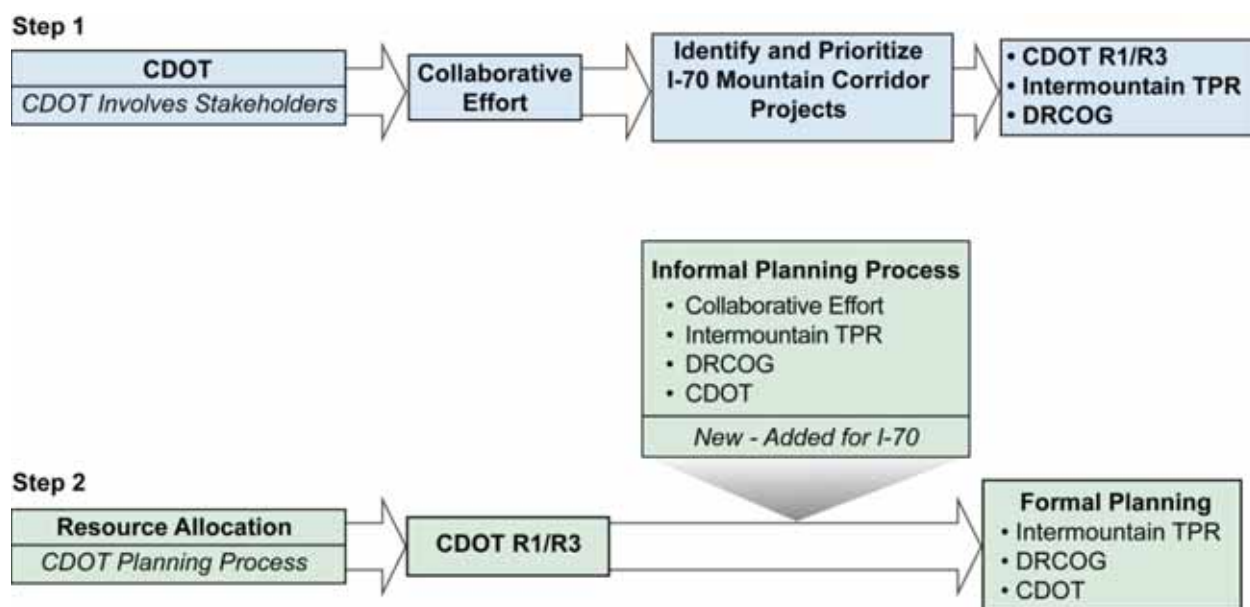
Depending on the size, scope, and context of individual projects, the lead agencies may satisfy NEPA obligations by preparing an EIS followed by a ROD, an Environmental Assessment (EA) resulting in either an EIS or a finding of no significant impact (FONSI), or a categorical exclusion. For each Tier 2 NEPA process that involves preparation of an EIS or EA, the lead agencies will establish a project-specific purpose and need, consider and evaluate alternatives, and understand and disclose the impacts of the alternative(s) prior to making decisions regarding activities that lead to construction or implementation. The lead agencies will commit to specific mitigation measures in each Tier 2 NEPA process.

The timing of implementation for the Tier 2 NEPA process will be determined through the statewide planning and programming process, which is carried out by CDOT in accordance with 23 CFR 450. Under those regulations, a project that involves federal funding can be implemented only if the project is included in the Statewide Transportation Improvement Program (STIP). The Colorado Department of Transportation uses 4P (Project Priority Programming Process) to prioritize projects including Tier 2 NEPA processes in the STIP. Federal regulations (23 CFR 450.216[a] through [o]) require all states to develop a STIP. Colorado develops its STIP in cooperation with the rural Transportation Planning Regions (TPRs) and Metropolitan Planning Organizations (MPOs), who have their own processes that include stakeholder outreach. Colorado Department of Transportation Engineering Regions initiate 4P, conduct priority programming, and submit projects for inclusion in the STIP. The governor, MPOs, and Transportation Commission have roles in approving the STIP. The final step in STIP approval is when the FHWA and Federal Transit Administration (FTA) approve the STIP. Stakeholders have a role during the statewide planning process by providing input on project priorities. Tier 2 NEPA processes can be amended into the STIP between formal planning cycles by the Colorado Transportation Commission. As conditions change, either through new legislation or changes in identified funding, the Colorado Transportation Commission may include Tier 2 NEPA processes in the STIP.

The I-70 Mountain Corridor falls within two CDOT Engineering Regions (Region 1 and Region 3), one TPR (the Intermountain TPR), and one MPO (the Denver Regional Council of Governments or DRCOG). As part of this I-70 Mountain Corridor ROD, CDOT commits to working with stakeholders to facilitate integration of their priorities into the formal 4P process. The Collaborative Effort Team has a defined role in this process.

Figure 2 indicates how implementation of the Preferred Alternative fits into CDOT's established planning process. The implementation process does not supersede the CDOT planning process. It is a tool to inform the planning process regarding priorities on the Corridor. In Step 1, CDOT and stakeholders communicate the priorities identified from the Tier 1 decision with the appropriate TPRs and MPOs. These priorities are communicated into the formal development of the planning process. As noted previously, the Collaborative Effort Team has a defined role (unique to the I-70 Mountain Corridor) in the process for prioritizing improvements of the Tier 1 decision. The lead agencies will continue to work with the Collaborative Effort Team according to the I-70 Mountain Corridor Collaborative Effort Operating Agreement and Protocols (**Appendix B**).

Figure 2. Prioritization and Implementation Plan for I-70 Mountain Corridor Improvements



Key of Abbreviations/Acronyms:

CDOT = Colorado Department of Transportation
R1/R3 = CDOT Region 1/Region 3

DRCOG = Denver Regional Council of Governments
TPR = Transportation Planning Region

All Tier 2 NEPA processes will adhere to the I-70 Mountain Corridor Context Sensitive Solutions process developed for the I-70 Mountain Corridor, the Stream and Wetland Ecological Enhancement Program (SWEEP) and A Landscape Level Inventory of Valued Ecosystem Components (ALIVE) Memoranda of Understanding, and the Section 106 Programmatic Agreement. These agreements are included as appendices to the Final PEIS and, as such, have been incorporated by reference. Tier 2 NEPA processes will also follow all other regulations and guidance in place at the time that the processes take place and will consider specific mitigation strategies outlined in **Table 1** of this decision.

B.2.2 Tier 2 NEPA Decisions

Tier 2 NEPA decisions will be made during Tier 2 NEPA processes. Some of the important decisions that will be made in Tier 2 NEPA processes include, but are not limited to:

- Technology and alignment of the Advanced Guideway System
- Details of the Advanced Guideway System operating plan and station locations
- Design speed for highway improvements (either 55 miles per hour [mph] or 65 mph)
- Specific locations of transportation improvements
- Designs for specific improvements, such as tunnels or interchange types
- Funding plans
- Consideration of avoidance and minimization of harm to potential Section 4(f) resources and approval of Section 4(f) uses
- Determination of least environmentally damaging preferred alternative (with regard to wetlands and waters of the United States per Section 404 of the Clean Water Act)
- Development and commitment to specific mitigation measures
- Construction staging and mitigation

Decisions regarding the Advanced Guideway System technology, Advanced Guideway System alignment, and highway design speed will affect future projects, regardless of whether the scope of the Tier 2 NEPA process that evaluates these decisions is Corridorwide or site-specific. In this way, the first Tier 2 NEPA processes that address these issues will set the stage for subsequent Tier 2 NEPA processes. Early Tier 2 NEPA processes may, therefore, need to expand analysis boundaries to ensure that the decision made in an early Tier 2 NEPA process does not preclude options or alternatives that could be considered or cause direct or indirect environmental impacts for future projects or, if the decision does restrict or create impacts for future projects, that the Tier 2 NEPA process evaluates and discloses those implications. For instance, selecting an Advanced Guideway System technology will need to be done in consideration of the broader transportation network, connections to that system outside the Corridor limits, and impacts that could occur as a result of integrating transportation networks. Likewise, some site-specific improvements, such as curve safety modifications, will need to consider a design speed standard, and this Tier 1 decision does not specify a design speed for the Corridor. Therefore, Tier 2 projects must be designed to accommodate both a 55 and 65 mph design speed, or a Tier 2 NEPA process will need to make a design speed decision for the Corridor.

C. Alternatives Considered and Not Selected

The lead agencies considered a total of 22 alternatives, including the No Action Alternative, for improvements to the I-70 Mountain Corridor. Many of the alternatives share common alternative elements. Action Alternatives fall into three primary categories: Minimal Action (non-infrastructure improvements and localized highway improvements), Single Mode (Transit alternatives or Highway alternatives), and Combination (combined Transit and Highway alternatives). The Combination alternatives include considerations for phased construction of one mode with preservation for future implementation of a second mode.

Only the Combination alternatives meet the 2050 purpose and need. Other alternatives were fully evaluated in the PEIS to provide an understanding of the range of improvements that could be implemented, types of impacts that would be associated with the range of improvements, and the relationship between meeting transportation needs and environmental and social impacts. The following alternatives were fully evaluated in the Final PEIS along with the Preferred Alternative. These alternatives are not selected and will not be developed further in Tier 2 NEPA processes unless other laws (such as the Clean Water Act) require revisiting them.

C.1 No Action Alternative

The No Action Alternative consists of ongoing highway maintenance and projects that have a committed source of funding within the fiscally constrained STIP in addition to other projects that have preceded this Tier 1 as a separate action, such as the Eagle Airport Interchange.

C.2 Minimal Action Alternative

The Minimal Action Alternative includes localized transportation improvements along the Corridor without providing major new highway capacity or dedicated transit components. These improvements include a transportation management program (including Transportation Demand Management, Transportation System Management, and Intelligent Transportation Systems), interchange modifications to 30 interchanges, auxiliary lane improvement for slow-moving vehicles at 12 locations, curve safety modifications in four locations, frontage road improvements from Hidden Valley to the US 6 Frontage Road, and bus service in mixed traffic. The Minimal Action Alternative forms the basis of localized improvements common to all Action Alternatives.

C.3 Single Mode Transit Alternatives

C.3.1 Rail with Intermountain Connection

The Rail with Intermountain Connection Alternative would provide rail transit service between the Eagle County Regional Airport and the Regional Transportation District's West Corridor Jeffco Government Center light rail station. Between Vail and the Jeffco Government Center light rail station, the rail would be primarily at-grade running adjacent to the I-70 highway. The segment between Vail and the Eagle County Airport would be constructed within the existing Union Pacific Railroad right-of-way. New track would be constructed between Vail and Minturn to complete the connection between the diesel and electric trains. This alternative includes elements of the Minimal Action Alternative, including auxiliary lane improvements at eastbound Eisenhower-Johnson Memorial Tunnels to Herman Gulch and westbound Downieville to Empire, and all other Minimal Action Alternative elements except for curve safety modifications at Dowd Canyon, buses in mixed traffic, and other auxiliary lane improvements.

C.3.2 Advanced Guideway System

The Advanced Guideway System Alternative would provide rail transit service between the Eagle County Regional Airport and the Jeffco Government Center light rail station with a 24-foot-wide guideway system that is capable of being fully elevated throughout its length. The specific technology for the Advanced Guideway System has not been defined but is intended to represent a modern, "state-of-the-art" transit system. For the purposes of analysis in the PEIS, the advanced guideway technology was assumed to be an urban magnetic levitation (maglev) transit system. However, the actual technology would be identified during Tier 2 NEPA processes. This alternative also includes the same Minimal Action elements as described for the Rail with Intermountain Connection Alternative.

C.3.3 Dual-Mode Bus in Guideway

This alternative includes a guideway located in the median of the I-70 highway with dual-mode buses providing transit service between the Eagle County Regional Airport and the Jeffco Government Center light rail station. This guideway would be 24 feet wide with 3-foot-high guiding barriers and would accommodate bidirectional travel. The barriers direct the movement of the buses and separate the guideway from general purpose traffic lanes. While traveling in the guideway, buses would use guidewheels to provide steering control, thus permitting a narrow guideway and providing safer operations. The buses use electric power in the guideway and diesel power when outside the guideway in general purpose lanes. This alternative also includes the same Minimal Action Alternative elements as described for the Rail with Intermountain Connection Alternative.

C.3.4 Diesel Bus in Guideway

This includes all components of the Bus in Guideway (Dual-Mode) Alternative except that the buses use diesel power at all times.

C.4 Single Mode Highway Alternatives

C.4.1 Six-Lane Highway (55 mph)

This alternative includes six-lane highway capacity in two locations: Dowd Canyon and between the Eisenhower-Johnson Memorial Tunnels and Floyd Hill. It also includes auxiliary lane improvements in four locations: eastbound Avon to Post Boulevard, both directions on the west side of Vail Pass, eastbound Frisco to Silverthorne, and westbound Morrison to Chief Hosa. The alternative also includes all Minimal Action Alternative elements except for buses in mixed traffic and other auxiliary lane improvements not needed in locations where six-lane capacity is provided.

C.4.2 Six-Lane Highway (65 mph)

This alternative is similar to the Six-Lane Highway (55 mph) Alternative because it includes the same locations for six-lane widening and all the Minimal Action Alternative elements except that the curve safety modification at Dowd Canyon is replaced by tunnels. The 65 mph design speed improves mobility better and addresses safety deficiencies in key locations such as Dowd Canyon and the Twin Tunnels. Both the 55 mph and the 65 mph design speed options are augmented by curve safety improvements, but the 65 mph design speed constructs tunnels in two of the locations: Dowd Canyon and Floyd Hill/Hidden Valley.

C.4.3 Reversible/High-Occupancy Vehicle/High-Occupancy Toll Lanes

This alternative is a reversible lane facility accommodating high-occupancy vehicles (three or more persons) and high-occupancy toll lanes. It changes traffic flow directions as needed to accommodate peak traffic demands. It includes two additional reversible traffic lanes from the west side of the Eisenhower-Johnson Memorial Tunnels to just east of Floyd Hill. From the Eisenhower-Johnson Memorial Tunnels to US 6, two lanes are built with one lane continuing to US 6 and the other lane to the east side of Floyd Hill. It also includes one additional lane in each direction at Dowd Canyon that is not barrier-separated or reversible. This alternative includes the same Minimal Action Alternative Elements as the Six-Lane Highway (55 mph) Alternative.

C.5 Combination Alternatives

C.5.1 Combination Six-Lane Highway with Rail with Intermountain Connection

This alternative combines Six-Lane Highway (55 mph) components with the Rail with Intermountain Connection transit components. It also includes all of the components of the Minimal Action Alternative except the auxiliary lane improvements; under this alternative, only the Morrison to Chief Hosa westbound auxiliary lane is included.

C.5.2 Combination Six-Lane Highway with Advanced Guideway System

This alternative combines Six-Lane Highway (55 mph) components with the Advanced Guideway System transit components. It also includes the same Minimal Action Alternative elements as the Combination Six-Lane Highway with Rail with Intermountain Connection Alternative.

C.5.3 Combination Six-Lane Highway with Bus in Guideway (Dual-Mode)

This alternative combines Six-Lane Highway (55 mph) components with the Bus in Guideway transit components. The bus technology for this alternative is dual-mode. It also includes the same Minimal Action Alternative elements as the Combination Six-Lane Highway with Rail with Intermountain Connection Alternative.

C.5.4 Combination Six-Lane Highway with Bus in Guideway (Diesel)

This alternative combines Six-Lane Highway (55 mph) components with the Bus in Guideway transit components. The bus technology for this alternative is diesel. It also includes the same Minimal Action Alternative elements as the Combination Six-Lane Highway with Rail with Intermountain Connection Alternative.

C.5.5 Combination Six-Lane Highway with Rail with Intermountain Connection, Preserve for Highway

This alternative includes the Rail with Intermountain Connection Alternative and preserves space to construct the Six-Lane Highway (55 mph) Alternative in the future.

C.5.6 Combination Six-Lane Highway with Rail with Intermountain Connection, Preserve for Transit

This alternative includes the Six-Lane Highway (55 mph) Alternative and preserves space to construct the Rail with Intermountain Connection Alternative in the future.

C.5.7 Combination Six-Lane Highway with Advanced Guideway System, Preserve for Highway

This alternative includes the Advanced Guideway System Alternative and preserves space to construct the Six-Lane Highway (55 mph) Alternative in the future.

C.5.8 Combination Six-Lane Highway with Advanced Guideway System, Preserve for Transit

This alternative includes the Six-Lane Highway (55 mph) Alternative and preserves space to construct the Advanced Guideway System Alternative in the future.

C.5.9 Combination Six-Lane Highway with Bus in Guideway (Dual-Mode), Preserve for Highway

This alternative includes the Bus in Guideway (Dual-Mode) Alternative and preserves space to construct the Six-Lane Highway (55 mph) Alternative in the future.

C.5.10 Combination Six-Lane Highway with Bus in Guideway (Dual-Mode), Preserve for Transit

This alternative includes the Six-Lane Highway (55 mph) Alternative and preserves space to construct the Bus in Guideway (Dual-Mode) Alternative in the future.

C.5.11 Combination Six-Lane Highway with Bus in Guideway (Diesel), Preserve for Highway

This alternative includes the Bus in Guideway (Diesel) Alternative and preserves space to construct the Six-Lane Highway (55 mph) Alternative in the future.

C.5.12 Combination Six-Lane Highway with Bus in Guideway (Diesel), Preserve for Transit

This alternative includes the Six-Lane Highway (55 mph) Alternative and preserves space to construct the Bus in Guideway (Diesel) Alternative in the future.

D. Basis for the Selection of the Preferred Alternative

The Preferred Alternative was developed out of a collaborative process between the lead agencies and Corridor stakeholders to develop an effective transportation solution that meets the following criteria:

- Improves safety and mobility for all users;
- Is responsive and adaptive to broader global trends that will affect future travel decisions;
- Meets the purpose and need and regulatory requirements;
- Preserves, restores, and enhances community and cultural resources;
- Preserves and restores or enhances ecosystem functions; and
- Is economically viable over the long term.

These criteria were developed as part of the Collaborative Effort process and represent the consensus among the Collaborative Effort Team, including the lead agencies, of common goals for a successful

transportation solution for the Corridor. The Preferred Alternative was tailored to meet these needs, and performance of the Preferred Alternative under each of the criterion is foundational to FHWA's decision to select the Preferred Alternative. The Federal Highway Administration, in collaboration with stakeholders, balanced and considered all of these factors in developing the Preferred Alternative. The Preferred Alternative is adopted as the best transportation option based on its ability to meet these criteria and because it performs best overall in meeting key transportation and environmental metrics.

Safety and Mobility. The Preferred Alternative improves safety and mobility for all users. Safety is improved with overall projected fatality rates of 30 to 40 percent less than the No Action Alternative. Safety for highway travel is improved through location-specific improvements in high crash areas and areas with known geologic hazard risks. Safety is also improved to the transportation system overall as the Preferred Alternative includes fixed guideway transit, which provides a safer means of transportation for travelers compared to highway travel, with markedly lower crash rates. Mobility is greatly enhanced under the Preferred Alternative. Congestion is reduced, and many more trips are accommodated in the Corridor, significantly improving mobility and accessibility for all Corridor users. The multimodal improvements provide for a long-term mobility solution, allowing the Corridor to meet network capacity needs in 2050.

Responsive and adaptive to broader global trends. The adaptive management approach to implementing improvements under the Preferred Alternative, as described in **Section B.1.3** of this ROD, is a key feature of the Preferred Alternative that distinguishes it from other Action Alternatives considered. The adaptive management approach to implementing improvements specifically addresses the potential for future global (and regional and local) changes to influence travel decisions and transportation needs. The adaptive management approach includes evaluation of transportation conditions and effectiveness of improvements at least every 2 years, with a thorough assessment of transportation conditions and effectiveness of improvements in 2020.

Meets purpose and need and regulatory requirements. A multimodal solution is necessary to meet travel demand for this Corridor. Of the Action Alternatives considered, only the Combination alternatives, including the Preferred Alternative, that include both highway and transit components can meet the 2050 purpose and need. The Preferred Alternative was developed in accordance with regulatory requirements and is selected with the commitment that all Tier 2 NEPA processes will comply with laws, regulations, and policies in place at time Tier 2 NEPA processes are initiated and implemented.

Preserves, restores, and enhances community and cultural resources. In developing the Preferred Alternative, the lead agencies agreed to several broad agreements and specific mitigation strategies to protect and enhance community and cultural resources. The I-70 Mountain Corridor Context Sensitive Solutions process was developed to guide all Tier 2 NEPA processes. The I-70 Mountain Corridor Context Sensitive Solutions process articulates a Context Statement for the Corridor and includes the Core Values developed by the lead agencies in collaboration with stakeholders to provide direction to achieve improvements that exceed expectations by incorporating goals for agencies, communities, and users. Historic context and respect for communities are core values. The I-70 Mountain Corridor Context Sensitive Solutions process includes processes that will be used on future studies, designs, and construction projects to ensure that planners, designers, and constructors incorporate these values into their decisions. The I-70 Mountain Corridor Section 106 Programmatic Agreement specifies how Section 106 requirements will be implemented for all Tier 2 NEPA processes involving potential impacts to cultural resources. Along with the Section 106 Programmatic Agreement, the lead agencies, in cooperation with Section 106 consulting parties, have completed a draft historic context for the Corridor that provides an understanding of the important historic themes and properties in the Corridor. The Preferred Alternative also includes consideration of a broad number of mitigation measures to enhance coordination with communities, businesses, residents, and travelers during Tier 2 NEPA processes and construction of improvements.

Preserves and restores or enhances ecosystem functions. Similarly to considerations for community and cultural resources, the lead agencies agreed to several broad agreements and specific mitigation strategies to preserve, restore, and enhance ecosystem functions. The A Landscape Level Inventory of Valued Ecosystem Components Memorandum of Understanding was developed in collaboration with wildlife professionals from federal and state agencies who identified wildlife habitat of high ecological integrity, wildlife habitat linkages, and barriers to wildlife crossings along the Corridor. The Memorandum of Understanding documents the lead agencies' commitment to identify mitigation and conservation measures during Tier 2 NEPA processes to reduce animal-vehicle collisions and increase habitat connectivity across the I-70 highway in the Corridor. The Stream and Wetland Ecological Enhancement Program Memorandum of Understanding was developed in collaboration with representatives from federal and state agencies, watershed associations, and special interest groups to identify and address environmental issues related to the improvement of wetlands, streams, and fisheries in the Corridor. The Memorandum of Understanding establishes common ground among agencies and organizations with interest in stream and wetland ecology in the Corridor to create mitigation strategies and systems and define collaboration among the interested parties. In addition to the SWEEP Memorandum of Understanding, the lead agencies have prepared and are committed to implementing Sediment Control Action Plans for major streams in the Corridor, as well as a number of other specific mitigation strategies to be considered in Tier 2 NEPA processes to integrate stream and wetland improvements in conjunction with construction and highway maintenance activities in the Corridor.

Is economically viable over the long term. The unique adaptive management approach to implementing the Preferred Alternative addresses economic viability over the long term because improvements can be defined, phased, and prioritized as needs dictate and funding allows. Overall, economically responsible improvements are based on the smallest improvements that can be made to meet needs, which is the foundation of the adaptive management approach. The transportation solution is financially and environmentally sustainable because it provides a long-term multimodal solution that increases travel options and cost choices for variety of Corridor travelers and is responsive to future conditions that cannot be predicted at this time. The commitment for detailed studies of the Advanced Guideway System will help identify a transit technology best suited for Corridor conditions and cost effectiveness.

Overall, the Preferred Alternative provides the best opportunity to meet the project purpose and need to increase capacity, improve accessibility and mobility, and decrease congestion for travel demand while minimizing environmental and community impacts, improving safety, and reducing implementation challenges due to its phased and adaptive approach. Additional transportation and environmental comparisons are detailed below.

D.1 Transportation Comparisons

In comparison to other alternatives, the Preferred Alternative, if fully implemented, performs the best on all transportation measures. The travel demand model used for this project includes an assessment of travel demand based on the various trips that occur in the Corridor. It accounts for seasonal, weekly, and daily patterns at key locations in the Corridor. Overall, the analysis shows that the Preferred Alternative, if fully implemented under the Maximum Program, results in the shortest weekday and weekend travel times, the least number of hours of weekday and weekend congestion, and the least annual hours of congestion throughout the Corridor. It also has the highest projected transit share and accommodates the most trips of any alternative and, therefore, does the best job of meeting unmet demand. Fatality rates are also projected to be lowest under the Preferred Alternative.

To compare the alternatives, the following transportation metrics were evaluated for 2035 conditions:

- Peak period, peak direction highway travel time for weekends and weekdays
- Peak direction congestion for weekends and weekdays

- Unmet demand (or additional trips accommodated) in relation to Corridor congestion
- Transit share (the percentage of travelers using transit)

In recognition of the need for a long-term sustainable transportation vision, the project analysis uses both a 2035 planning horizon and a longer 2050 planning horizon. Data for the year 2035 are based on available projections from a variety of sources and provide the foundation for developing and evaluating alternatives. The 2035 planning horizon also provides a milestone allowing projections to 2050. The ability to meet travel demand in 2050 is measured through an evaluation of network capacity. All of the metrics are discussed below.

D.1.1 Peak period peak direction highway travel time for weekends and weekdays

Highway travel times vary substantially among the alternatives and between weekends and weekdays. The Preferred Alternative travel times range from better than the Transit alternatives to about the same as the Combination alternatives. During peak conditions, the alternatives that provide additional highway capacity have faster highway travel times than those that maintain the existing highway capacity. During peak weekend conditions, the No Action Alternative has the longest travel times, followed by the Minimal Action Alternative and the Transit alternatives. The Combination alternatives, Highway alternatives, and Preferred Alternative have the shortest travel times, and are similar to one another. During peak weekday conditions, the Transit alternatives have the longest travel times, followed by the Minimal Action Alternative and the No Action Alternative. The Combination alternatives, Highway alternatives, and Preferred Alternative have the shortest travel times, and are similar to one another. Overall, weekend travel times tend to be longer than weekday travel times for the eastern portion of the Corridor, while weekday travel times tend to be longer than weekend travel times for the western portion of the Corridor.

D.1.2 Peak direction congestion for weekends and weekdays

Congestion varies substantially among alternatives and between weekends and weekdays. Congestion is defined as Level of Service F conditions and indicates stop-and-go traffic on the highway. Congestion is not measured for transit within a dedicated facility, as transit systems would have consistent travel times. In general, weekend westbound direction congestion occurs primarily in Jefferson County and weekend eastbound congestion occurs primarily in Clear Creek County. For weekdays, traffic congestion is forecast to occur primarily in Eagle County, followed closely by Jefferson County and Clear Creek County.

Transit improvements slightly increase highway congestion by attracting more person trips to the Corridor. Six-lane highway components reduce congestion because they increase highway capacity. For weekend conditions, the Preferred Alternative has congestion ranging from about the same as that of the Transit alternatives to about the same as that of the Combination alternatives. For weekday conditions, the Preferred Alternative has congestion ranging from better than that of the Transit alternatives to about the same as that of the Combination alternatives. The Minimal Action Alternative has more congestion than that of the No Action Alternative because the localized highway improvements attract more trips, but Corridor capacity improvements are not included.

D.1.3 Unmet demand (or additional trips accommodated) in relation to Corridor congestion

The ability of an alternative to provide additional capacity, measured by the amount of additional trips accommodated, does not directly relate to the ability of an alternative to reduce congestion. This is because of the effects of unmet demand. For example, the Transit alternatives accommodate more than 3.5 million additional trips per year but do not reduce congestion. The Highway alternatives provide less additional capacity than the Transit alternatives, measured by the number of additional trips

accommodated, but do a much better job at reducing congestion. The Combination alternatives provide increased capacity, as measured by the additional trips accommodated, and reduce overall congestion. The Preferred Alternative accommodates between 5 million and nearly 7.5 million trips per year beyond the No Action Alternative. This range compares to the Minimal Action Alternative, which accommodates less than 1 million additional trips per year, and the Highway alternatives, which accommodate between 2.5 million and 3 million additional trips per year. The Combination alternatives, including highway and transit improvements, all accommodate more than 7 million trips per year beyond the No Action Alternative. The Preferred Alternative, if fully implemented, and Combination Highway and Advanced Guideway System Alternative, accommodate the most trips because the Advanced Guideway System is the most attractive to riders of the transit technologies considered and, thus, attracts approximately 500,000 more riders than the Combination Highway and Bus in Guideway and Combination Highway and Rail with Intermountain Connection Alternatives.

D.1.4 Transit share (the percentage of travelers using transit)

The transit share demonstrates the ability of the alternatives to provide modal choices and remove vehicular traffic from the Corridor. Action Alternatives with transit provide much higher transit shares than Highway alternatives. Furthermore, Transit alternatives provide higher transit share than the Combination alternatives on weekends because the higher levels of congestion on the Corridor experienced with the Transit alternatives limits the amount of highway traffic, making transit appear more attractive and increasing transit share. Illustrating this trend, if only the Preferred Alternative Minimum Program of Improvements is implemented, transit share on weekends is higher (20 percent) than if the Preferred Alternative is fully implemented (14.5 percent).

D.1.5 Year in which network capacity is reached

The ability of the alternatives to accommodate the 2050 travel demand is measured by the year network capacity is reached. Network capacity is a measure of congestion tolerance and is generally defined as the capacity when average travel speed on the Corridor drops below 30 mph. The 30 mph threshold is used because average travel speeds below 30 mph are indicative of stop-and-go traffic congestion (or Level of Service F), traffic operations breaking down, and the system not operating efficiently or effectively.

The Combination alternatives, including the Preferred Alternative, are the only alternatives capable of providing adequate network capacity in 2050. The Minimal Action Alternative, Highway alternatives, and Transit alternatives reach network capacity between 2015 and 2040, with the Minimal Action Alternative performing most poorly, followed by the Transit alternatives and Highway alternatives.

Based on information available today, the Preferred Alternative meets the 2050 purpose and need when the Maximum Program of Improvements is fully implemented. What distinguishes the Preferred Alternative is its adaptive management approach to implementing improvements. Through the use of triggers and regular assessment of Corridor conditions and effectiveness of improvements, the Preferred Alternative is responsive and adaptive to future trends within the Corridor. The adaptive approach allows improvements to be implemented incrementally based on current needs. As a result, the impacts associated with full implementation of the Preferred Alternative can also be phased and may not occur if future needs, Corridor conditions, or travel behaviors change. The phased approach of the Preferred Alternative provides a unique opportunity for adapting transportation solutions to the environmental sensitivity and community values of the Corridor over time. It also provides ongoing opportunities to avoid and minimize environmental impacts and establish effective mitigation.

D.2 Environmental and Community Resource Impact Comparisons

The comparison of environmental and community resource impacts focuses on discernable and relevant comparisons among the alternatives, particularly with the Preferred Alternative. These comparisons

support the evaluation process that led to the selection of the Preferred Alternative. Impacts are presented before applying mitigation strategies; the application of mitigation strategies at Tier 2 to avoid or minimize adverse impacts, or enhance the qualities of resource conditions, will reduce adverse impacts of the Preferred Alternative. The following summarizes impacts of the Preferred Alternative in comparison to other Action Alternatives considered. For most resources, impacts of the Preferred Alternative fall in the range of the other Action Alternatives and are neither the highest nor lowest of the alternatives considered. Impacts of the Preferred Alternative are presented as a range because the adaptive management component of the Preferred Alternative (described in **Section B.1.3** of this ROD) allows it to be implemented based on future needs and associated triggers for further action. The range of impacts correlates from the Minimum Program of Improvements to the Maximum Program of Improvements.

D.2.1 Air Quality

For all alternatives (including the No Action Alternative), emissions of most criteria pollutants in 2035 and 2050 are less than current-day emissions, even though 2035 and 2050 traffic volumes are higher than 2000 volumes, because stricter regulations are being implemented and older, higher-polluting vehicles continue to be replaced by newer, low-polluting vehicles. The Highway alternatives increase vehicle miles traveled the most, and the Transit alternatives and Minimal Action Alternative increase them the least. Combination alternatives, including the Preferred Alternative, and the No Action Alternative fall in the middle of the range of alternatives for vehicle miles traveled. Between 2035 and 2050, this trend of decreasing emissions may slow as technological advances become less effective, and vehicle air pollutant emissions may correlate more directly with vehicle miles traveled.

Emissions of re-entrained dust and greenhouse gases do not follow trends of decreasing emissions because these pollutants are more related to vehicle miles traveled, and increases are expected accordingly. However, stricter regulations and more effective best management practices (BMPs) for roadway maintenance do have a positive effect on emissions from re-entrained dust.

D.2.2 Biological Resources

Vegetation

Alternatives with the largest footprint (the Highway alternatives and the Combination alternatives) have the greatest impact on vegetation (ranging between approximately 225 and 325 acres, respectively) because roadway expansion causes the greatest amount of land disturbance. The Advanced Guideway System Alternative has the fewest direct impacts (approximately 150 acres) due to its smaller footprint. The Preferred Alternative has a range of potential impacts (between approximately 200 and 225 acres) comparable to nearly all the Action Alternatives.

Wildlife

Direct impacts on wildlife include loss of habitat due to construction and the increased barrier effect due to new roadway or transit improvements. The greatest impact is from the Highway and Combination alternatives. The Preferred Alternative has a range of potential impacts comparable to nearly all other Action Alternatives.

Fisheries and Aquatic Species

Impacts on Gold Medal and “high-value” fisheries are greatest for the Combination alternatives and Rail with Intermountain Connection Alternative. The Preferred Alternative has a range of impacts comparable to the range of impacts between the Combination alternatives and Rail with Intermountain Connection Alternative.

Alternatives that add more traffic lanes, the Highway and Bus in Guideway Alternatives, require additional winter maintenance (such as the use of liquid deicers and traction sand), thereby leading to increased water quality impacts when compared to alternatives with less new roadway construction.

Protected Species

Impacts to protected species do not differ among the Action Alternatives. All Action Alternatives are likely to adversely affect most of the federally listed species determined to occur in the Corridor. Regarding impacts to United States Forest Service sensitive species, all Action Alternatives may adversely impact individuals but are not likely to result in a loss of viability or cause a trend to federal listing. Under all Action Alternatives, population effects on United States Forest Service Management Indicator Species are unlikely.

D.2.3 Wetlands

Action Alternative impacts range from a low of 15 acres of wetland and waters of the United States impacts for the Advanced Guideway System Alternative to 37 acres of impacts for the Combination Six-Lane Highway with Rail with Intermountain Connection Alternative. The Preferred Alternative impacts range from 16 to 32 acres of wetland and waters of the United States. Direct impacts to high-value fen wetlands are avoided by all of the Action Alternatives.

Section 404(b)(1) guidelines regarding impacts to wetlands and waters of the United States will be followed in Tier 2 NEPA processes when detailed designs are available to make specific impact determinations.

D.2.4 Water Quality

All Action Alternatives have an impact on water quality. This impact largely results from runoff from the I-70 highway and ranges from a low of a 2 percent increase to a high of a 43 percent increase in runoff. The Preferred Alternative ranges from a 16 to 24 percent increase in runoff compared to the No Action Alternative. However, mitigation measures and BMPs would be implemented with all of the build alternatives to reduce these impacts.

D.2.5 Geologic Hazards

Because the Corridor contains numerous areas of geologic hazards, any action along the Corridor could result in disturbance of geologic hazards. All of the Action Alternatives include mitigation for geologic hazards, helping reduce the risks of disturbance to sensitive areas. The Advanced Guideway System component may result in fewer impacts to travelers from geologic hazards because elevated portions allow debris or other materials to pass under the track with less effect on operations.

D.2.6 Regulated Materials and Historic Mining

All Action Alternatives have the potential to disturb regulated and hazardous materials, including underground storage tank/leaking underground storage tank sites and encountering residual spill material at spill sites. Construction of all Action Alternatives in Clear Creek County require the disturbance and reworking of many mine waste piles, including some designated Clear Creek/Central City Superfund sites. The Advanced Guideway System Alternative has the smallest footprint and results in fewer disturbances of hazardous sites. A higher degree of impact is expected for the Rail with Intermountain Connection Alternative, Highway alternatives in Clear Creek County, Combination alternatives, and the Preferred Alternative if the Maximum Program of Improvements is implemented. There are no direct impacts from the No Action Alternative because no disturbance of regulated and hazardous materials or mine waste would occur.

D.2.7 Land Use and Right-of-Way

All of the Action Alternatives directly impact properties due to right-of-way acquisition and the I-70 highway expansion into currently developed lands, and indirectly impact counties and communities surrounding the Corridor due to induced growth. In general, the Minimal Action Alternative acquires the fewest properties, and the Combination alternatives have the greatest right-of-way needs. The Transit and Highway alternatives fall in the middle range. The Preferred Alternative acquires few properties under the Minimum Program, similar to the Minimal Action Alternative, because it does not include some of the interchange improvements in Clear Creek County that the other alternatives include; if the Maximum Program is implemented, property impacts increase and become similar to those of the Combination alternatives.

Indirect impacts in the form of induced growth vary by mode. Transit alternatives are expected to concentrate induced growth in areas of existing or planned urban development; Highway alternatives are expected to distribute growth based on existing trends, resulting in more acres of developed land in rural areas; and Combination alternatives are expected to distribute growth equally between the transit and highway distribution scenarios, resulting in increased pressure in both urban and rural areas. The Preferred Alternative induces growth similar to the Transit alternatives, under the Minimum Program; if the Maximum Program is implemented, growth patterns become more similar to the Combination alternatives.

D.2.8 Social and Economic Values

Generally, the Combination alternatives provide the greatest economic benefits in the nine-county Corridor region; however, they also create the greatest growth and commuting pressures. The No Action and Minimal Action Alternatives likely suppress growth for all Corridor counties except Clear Creek County, which is not expected to see substantial growth effects under any of the alternatives, largely because Clear Creek County has less developable land. Other Corridor counties are more susceptible to effects of induced and economic growth. In Eagle County, the Transit alternatives, the Combination alternatives, and the Preferred Alternative likely increase growth pressure; the Highway alternatives also do so, but to a lesser extent. In Summit County, the Combination alternatives, including the Preferred Alternative, induce the greatest growth pressure. Growth in Garfield County is susceptible to changes in Eagle County because of the number of residents commuting to Eagle County for employment. Growth in Corridor counties not adjacent to the I-70 highway is less dependent on transportation conditions along the I-70 highway.

The Combination alternatives have the greatest positive effect on economic conditions; the Transit alternatives have a slightly lesser effect, and the Highway alternatives have the least effect. The Preferred Alternative is expected to affect economic growth similar to the Transit alternatives under the Minimum Program. If additional improvements of the Preferred Alternative Maximum Program are implemented by 2035, economic growth begins to be more similar to that of the Combination alternatives. By 2035, all Action Alternatives except the Minimal Action Alternative meet or surpass a Gross Regional Product of approximately \$45 billion per year. The No Action Alternative depresses the Gross Regional Product by nearly \$10 billion per year, a factor of more than one-fifth the potential level of economic activity for the region, due to increased highway congestion and reduced access to recreational and tourist amenities.

D.2.9 Environmental Justice

Based on the percentage and distribution of minorities and low-income households, none of the alternatives has direct effects on minority or low-income populations that are highly disproportionate and adverse in comparison to the population on a Corridorwide basis. Assessment of localized impacts is limited at this first tier of analysis and will be expanded in Tier 2 NEPA processes.

Alternatives that include transit potentially benefit low-income and minority residents who spend a high percentage of their income on automobile-related commuting expenses. Generally, the Combination alternatives, including the Preferred Alternative, provide the greatest commuting benefits to low-income residents by offering a range of transportation choices, but also have the greatest negative effect on affordable housing because improved access could disperse demand for housing and increase the cost of housing in outlying areas that are now more convenient to affluent second-home residents.

D.2.10 Noise

The No Action Alternative noise increases range from 0 decibels (dBA) to 2 dBA. The Minimal Action Alternative noise increases range from 0 to 4 dBA. The remaining Action Alternatives increase noise levels between 1 (imperceptible) and 5 dBA (noticeable). The Preferred Alternative noise increases range between 1 and 5 dBA, similar to those of the other Action Alternatives.

D.2.11 Visual Resources

Alternatives with larger footprints or more elevated features have higher levels of visual impact than those that add fewer new transportation components. The No Action and Minimal Action Alternatives create the least visual impact. The Transit alternatives add new modes to the landscape and have a greater visual impact than the Highway alternatives. The Advanced Guideway System Alternative generates a larger visual impact than the other Transit alternatives because it is planned to be elevated through most of the Corridor. The Combination alternatives result in the greatest adverse visual impact by adding both highway capacity improvements and transit components. The Preferred Alternative and Combination Highway and Advanced Guideway System Alternative have greater visual impacts than other Combination alternatives because they include the Advanced Guideway System, which is planned to be elevated (and more visually prominent) for much of its reach.

D.2.12 Recreational Properties

The Minimal Action Alternative directly affects 50 recreation sites, which is the fewest of the Action Alternatives. In general, the Transit alternatives directly impact fewer recreation sites than the Highway alternatives, and the Combination alternatives impact the most at up to 86. The Preferred Alternative directly impacts between 63 and 84 recreation sites. The No Action Alternative does not directly affect any recreation resources.

Expanded access and mobility from the I-70 highway improvements continue to benefit developed commercial recreational facilities on National Forest System lands, while increased visitation to other National Forest System land areas (both developed recreational facilities and dispersed recreation areas) strains the integrity of the natural resources located within these recreational environments. The Transit alternatives have higher increases in visitation than the Highway alternatives. The Combination alternatives and the Preferred Alternative have the highest increases in visitation.

D.2.13 Historic Properties

As many as 76 different properties could be directly affected by one or more of the Action Alternatives. Of the identified properties, only the No Action Alternative does not directly affect any historic properties. The Action Alternatives potentially affect between 48 and 70 historic properties. The Minimal Action Alternative affects the fewest, and the Combination alternatives affect the most. The impacts for the Preferred Alternative fall within the range of the other Action Alternatives. The actual number of historic properties affected could be higher or lower depending on the final eligibility determinations of these properties and the additional properties that could be identified through Tier 2 surveys.

D.2.14 Section 4(f) Properties

Section 4(f) properties include historic, wildlife, and waterfowl refuges, and recreational properties. The impacts for the Preferred Alternative range from 116 to 149 total properties (recreation and historic sites)

compared to the range of impacts for other Combination alternatives from 147 to 154. The Minimal Action Alternative and Single Mode alternatives affect fewer properties but do not meet the 2050 purpose and need.

Determinations regarding use of Section 4(f) properties will be followed in Tier 2 NEPA processes when detailed designs are available to make specific use determinations.

D.2.15 Energy Consumption

The Action Alternatives improve traffic flow and increase average peak-hour speeds, reducing overall energy consumption. The variation in total operational energy consumption among the alternatives, compared to the No Action Alternative, ranges from no difference in the case of some Transit alternatives, to 17 percent higher in the case of some Combination alternatives. The Preferred Alternative is among the lowest of all alternatives with expected increases ranging from 6 to 7 percent over the No Action Alternative by 2035.

D.2.16 Cumulative Impacts

Induced growth could substantially change land use patterns and affect quality of life, community services and infrastructure, and change the character and visual conditions of Corridor communities if local agencies do not manage growth in a coordinated manner. The No Action and Minimal Action Alternatives do not induce growth in the Corridor. The Combination alternatives induce the greatest amount of growth. However, the adaptive management approach of the Preferred Alternative allows improvements to be implemented over time, which may allow communities to better manage the growth effects associated with those improvements. The Highway and Transit alternatives induce less growth than the Combination alternatives. The Transit alternatives concentrate induced growth in urban areas, and the Highway alternatives distribute growth based on existing trends, resulting in additional rural development. Increased development of transportation and other infrastructure could result in habitat and wetland losses, reduce open space areas, and increase pollution (particularly sedimentation) of streams. Generally, the Combination alternatives cause the greatest cumulative impacts on habitat, wetlands, and water quality due to induced growth and more direct impacts related to their larger footprints. Transit alternatives have fewer cumulative impacts on these resources because they induce the least growth and have narrow footprints with few highway improvements. Highway alternatives fall in between the Transit and Combination alternatives.

Increased visitation to recreational resources may diminish the recreational resources and visitor experiences. While the Minimal Action Alternative likely suppresses projected increases in National Forest destination trips, the remaining Action Alternatives increase annual trips in the Corridor from 400,000 to more than 3 million. The increased visitation noticeably diminishes the quality of the recreation experience over time, unless the United States Forest Service implements management actions to balance visitor access with the health of the resource. The Colorado Department of Transportation has been coordinating closely with the United States Forest Service to mitigate any I-70 highway-related impacts and will continue to do so. Among the Combination alternatives, the adaptive management characteristics of the Preferred Alternative, combined with its transit component, present the best potential to alleviate cumulative impacts to recreation resources among the Combination alternatives.

D.3 Conclusion

In selecting the Preferred Alternative, FHWA considered a number of factors. Ultimately, four evaluation criteria differentiate the alternatives and warrant the decision to select the Preferred Alternative. The first criterion is the ability of the alternatives to meet the travel demand, specifically addressing unmet or latent demand in the Corridor, both now and in the future. The second is network capacity, defined as the ability of the transportation network to operate effectively through the year 2050. The third is the ability of the alternative to minimize environmental impacts in both the natural and human environments. The

last criterion is the need for a long-term solution with the recognition that projecting the travel demand and behavior out to 2050 is difficult based on information available today and that the decision should be able to be implemented incrementally and adapt with future changes.

The quantity of unmet demand led to the need for a multimodal solution. Unmet demand occurs when travelers want to make a trip but choose not to because of severe congestion, long travel times, or other unsatisfactory conditions. Travel decisions in the Corridor are particularly sensitive to travel conditions, and high levels of congestion suppress trips, resulting in latent demand. Because latent demand is high, merely adding highway lanes onto the interstate facility does not affect the level of congestion. This is because when capacity is added to the system, in general, it fills up with the unmet demand, and travel conditions remain congested. Only the Combination alternatives address unmet demand successfully, accommodating two to eight times more trips than the Minimal Action Alternative, Transit alternatives, and Highway alternatives. Another benefit of the Combination alternatives is that they offer travelers different travel options depending on their travel purposes. Of the Combination alternatives, the Preferred Alternative and the Combination Six-Lane Highway with Advanced Guideway System accommodate the most trips because the Advanced Guideway System is the most attractive of the transit technologies, as its higher speeds and amenities attract the most riders. The tradeoff with these alternatives is that they are the most expensive of all the Action Alternatives; design, construction, and operation would be more challenging due to the system's limited tolerances and the mountain environment in which it would operate; and questions remain about the Advanced Guideway System's technology and feasibility.

Another differentiating criterion in selecting the Preferred Alternative is the year network capacity is reached. Network capacity is a measure that indicates the level of system operations. Under the Transit alternatives, highway operations are only minimally affected, and highly congested conditions and poor operations remain on the I-70 highway. However, transit provides reliable trips with reasonable travel times to Corridor destinations. The Highway alternatives, which add an additional travel lane in parts of the Corridor, allow for some additional trips, but because of latent demand ultimately do little to affect the level of congestion on the I-70 highway despite more trips being taken. By 2050, operations on the I-70 highway with the Highway alternatives are as bad as existing conditions, if not worse. In addition, the Highway alternatives do not provide travelers trip choices with a reliable travel times. As noted previously, only the Combination alternatives and the Preferred Alternative are able to meet network capacity in 2050, as demand levels increase and the latent demand fills up the system. The Combination alternatives and the Preferred Alternative provide a choice for a trip with a reliable travel time and provide some additional capacity on the I-70 highway, which, combined with the fact that transit attracts trips off of the highway, allows for a decreased level of congestion and reasonable operations through 2050. All of the Combination alternatives are able to meet 2050 network capacity, but the Preferred Alternative is distinguished by its ability to accommodate more trips (discussed above) and minimize environmental impacts (discussed below).

In evaluating alternatives for the Corridor, the lead agencies and stakeholders were mindful that transportation needs be met in a manner that provides for and accommodates environmental sensitivity and respect for community values. Therefore, minimizing environmental impacts was a clear consideration for any action in the Corridor. Past activities of highway building and operations and maintenance have left obvious impacts on the human and natural environment in the Corridor. The lead agencies and stakeholders recognize that any action to address transportation needs would further affect the fragile mountain environment. Avoiding and minimizing social and economic impacts has been a consideration throughout the PEIS process and will continue through Tier 2. All of the Action Alternatives were developed to have the narrowest footprint possible. An assumption used for all of the alternatives in their development in the PEIS was that the alternatives would be designed to fit within the existing ROW to minimize footprint impacts. The actual location of the improvements will be determined in Tier 2 NEPA processes. Although the Minimal Action Alternative, Transit alternatives, and Highway alternatives have smaller footprints and result in fewer impacts, these alternatives do not solve the long-

term transportation problems so the focus turns to the Combination alternatives. As discussed in **Section E.5**, the lead agencies and stakeholders considered the tradeoffs between environmental impacts and meeting transportation needs, ultimately determining that Combination alternatives offered a long-term solution that is more environmentally sustainable and that the additional impacts associated with the Combination alternatives' larger footprints are necessary.

Stakeholders in the Corridor recognize that the cumulative impacts of the Combination alternatives are significant, and there is a desire in the Corridor to work on regional planning initiatives to reduce and minimize these impacts. Because of the broad decision being made in the Corridor, the level of detail of the cumulative impacts analysis is such that the alternatives were grouped into single mode highway, single mode transit and Combination alternatives for analysis. The Combination alternatives have the greatest cumulative effects of all of the alternatives. The Federal Highway Administration and CDOT recognize the tradeoff of all project impacts, including cumulative effects, is improved mobility in the Corridor.

After making the decision to accept the tradeoffs associated with the Combination alternatives, the lead agencies and stakeholders then focused on minimizing impacts of the Combination alternatives. Two features minimize the environmental impacts associated with the Preferred Alternative compared to the other Combination alternatives: the Advanced Guideway System and incremental implementation based on needs. The Combination alternatives generally include the same highway improvements and differ in their transit components. Both the Preferred Alternative and Combination Highway and Advanced Guideway System Alternative include the Advanced Guideway System. The Advanced Guideway System has a smaller footprint than either the Bus in Guideway or Rail with Intermountain Alternatives because it is capable of being elevated throughout its reach, resulting in a smaller footprint on the ground and provides a grade-separated barrier between highway and transit operations (as compared to at-grade operations, which require additional buffers to separate operations). The elevated nature of the Advanced Guideway System is also favored by stakeholders concerned with wildlife because it is thought to have less of a barrier effect to wildlife movements. The Preferred Alternative also has a staged approach to implementation that provides opportunities to minimize environmental impacts. First, the Preferred Alternative requires incremental highway improvements based on proven needs. Because highway improvements in the Maximum Program of Improvements will be implemented only after consideration of current conditions and needs, it provides more flexibility to implement a smaller footprint solution. Second, because the Preferred Alternative will be implemented incrementally over time, local governments have time to develop and implement land use strategies to minimize cumulative effects, which are largely related to land use.

The last criterion that differentiates the Preferred Alternative is the mechanisms that allows for the adaptive management approach to implementing highway capacity improvements, which recognize the uncertainty in future travel demand and behavior. Some stakeholders believe that if transit is designed to be highly effective, additional highway capacity will not be needed. By consensus, the triggers were included in the Preferred Alternative to evaluate improvements beyond the Minimum Program of Improvements. Although the triggers could have been included in any of the Action Alternatives, the focus and origination of the approach for triggers centered primarily around the Advanced Guideway System. Knowing that the transit alternative had to be highly effective with competitive travel times, the Advanced Guideway System is the most attractive of the transit alternatives. However, the unknown factors regarding the Advanced Guideway System in terms of technology, engineering, and overall financial feasibility are recognized. Based on these unknowns, the lead agencies and stakeholders agreed to move forward with providing additional highway capacity in the most congested areas to meet immediate congestion needs while pursuing implementation of an Advanced Guideway System to meet long-term travel needs. A time limit was placed on the pursuit of Advanced Guideway System such that by 2020, the overall decision would be revisited, again by consensus as defined by the Collaborative Effort Operating Agreement and Protocols (**Appendix B**).

Overall, only the Combination alternatives meet the 2050 purpose and need. Of the Combination alternatives, the Preferred Alternative is selected based on its ability to meet transportation needs better, minimize environmental and social impacts, and adapt to future conditions and needs.

E. Environmentally Preferable Alternative

The Council on Environmental Quality regulations (40 CFR 1505.2[b]) require the ROD to identify the environmentally preferable alternative. The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. The Council on Environmental Quality has clarified that the environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment, and that best protects, preserves, and enhances historic, cultural, and natural resources. The National Environmental Policy Act does not require an agency to select the environmentally preferred alternative.

The biological, physical, and cultural environment of the I-70 Mountain Corridor is delicate, and most improvements will have some degree of environmental impact. The environmental impact is generally proportional to the scope and extent of proposed improvements. Those with more features and larger footprints generally result in greater changes and impacts to the environment, while those that result in fewer changes or smaller footprints are generally environmentally preferable. Impacts for all Action Alternatives are greatest in areas where existing right-of-way is constrained and natural and community resources are closest to the areas of improvements, such as in the Idaho Springs area.

E.1 Combination Alternatives

Impacts of the Combination alternatives are predominantly at the higher end of the range of environmental and community impacts because they have larger footprints and resulting direct effect on resources, and because indirect effects of induced growth are greatest among the Combination alternatives. As a group, the Combination alternatives encompass the impacts of the Transit and Highway alternatives, result in the greatest impacts to most resources evaluated, and result in the greatest damage to the biological, physical, and cultural environment of the Corridor. The Combination alternatives are also the only alternatives that meet the 2050 purpose and need. Of the alternatives that meet the 2050 purpose and need, the Preferred Alternative is environmentally preferable.

The Combination alternatives combine induced growth from Transit and Highway alternatives, including concentrated growth in urban areas surrounding transit centers and distributed growth in rural areas along the highway. Growth in established communities along the I-70 highway is expected to be less than in unincorporated areas because of constraints and lack of developable land in existing Corridor communities, particularly in the eastern portion of the Corridor in Clear Creek County, Eagle County, Summit County, and Garfield County, which have more land area available for development, are all likely to experience this induced growth.

The difference in direct impacts of the Combination alternatives is generally related to the transit components, as all the Combination alternatives include the same non-infrastructure and highway components (although the Preferred Alternative differs in its implementation of highway components because of its adaptive management approach). Of the transit components, the Advanced Guideway System has a smaller footprint and results in slightly less direct impact to biological resources, wetlands, historic resources, recreation resources, and Section 4(f) resources than other transit modes. The smaller footprint of the Advanced Guideway System would also create relatively fewer disturbances to geologic hazards and regulated materials and historic mining sites than other transit modes. In addition to its smaller footprint, the Advanced Guideway System presents some advantages and flexibility over the other transit components for right-of-way needs and wildlife passage because it is capable of being elevated

throughout its length. Noise, land use, social and community values, environmental justice, and cumulative impacts are similar among transit components.

Because the Advanced Guideway System results in relatively less impact, the Combination Six-Lane Highway with Advanced Guideway System also results in fewer direct impacts than the Combination Six-Lane Highway with Rail with Intermountain Connection Alternative or Combination Six-Lane Highway with Bus in Guideway (dual-mode and diesel) Alternatives.

The primary difference between the Preferred Alternative and the Combination Six-Lane Highway and Advanced Guideway System Alternative is the inclusion of triggers. The triggers built into the Preferred Alternative limit the extent of the impacts because construction of transportation improvements is triggered incrementally when it is needed. This approach results in impacts being spread out over time and leaves open the potential that impacts will not be realized if transportation needs, travel behaviors, or local or global conditions change. The adaptive management component also allows the Preferred Alternative to be implemented in coordination with Corridor communities over time, providing a better opportunity to integrate transportation improvements with Corridor land use planning, allowing communities to better manage effects of economic and population growth, and presenting opportunities for mitigation measures to be tailored to conditions that exist at the time improvements are constructed.

E.2 Single Mode Alternatives

The Single Mode alternatives have less direct impact than the Combination alternatives because they include less infrastructure and have smaller footprints. The Single Mode alternatives are not able to accommodate 2050 travel demand. All reach network capacity between 2030 and 2040.

E.2.1 Transit Alternatives

Transit alternatives introduce a new travel mode for the Corridor and, as a result, change the Corridor conditions and growth patterns substantially. Transit alternatives accommodate many suppressed trips and greatly increase the capacity of the transportation network. Transit alternatives generally have fewer direct impacts to resources than the Highway alternatives but result in higher increases in visitation to the Corridor, use of recreational facilities, and changes in land use patterns, particularly around transit stations. Adding transit to the Corridor also changes commuting patterns, providing an opportunity for more people to live in the Corridor and commute to larger employment centers, especially the Denver metropolitan area. Transit alternatives induce growth, and social and community values in the Corridor communities would be expected to change as a result of this growth. Transit alternatives have smaller footprints and associated direct impacts to environmental and social resources than the Combination alternatives, and the Advanced Guideway System Alternative and Bus in Guideway Alternatives have smaller footprints than the Single Mode Highway alternatives. The Rail with Intermountain Connection Alternative has a relatively large footprint because it is at-grade and requires a large buffer to separate highway and transit operations.

E.2.2 Highway Alternatives

Highway alternatives also induce growth in the Corridor but to a much smaller degree than the Transit alternatives. The Highway alternatives add capacity, which allows for more visitation and trips, but do not change travel or growth patterns substantially. The Highway alternatives generally result in more direct impacts than the Transit alternatives. They increase the number of cars that can travel in the Corridor and, as a result, increase noise and air quality emissions. By adding travel lanes, the Highway alternatives increase sedimentation and roadway-related pollutants entering waterways. The increased travel lanes also increase winter maintenance requirements and associated sanding and deicing activities that affect surface waters. By expanding the highway footprint, problems with wildlife crossings and conflicts also

increase, and habitats areas are reduced. The Highway alternatives do include, however, mitigation strategies to improve water quality, wildlife passage, and noise.

E.3 Minimal Action Alternative

The Minimal Action Alternative addresses many location-specific transportation problems throughout the Corridor but does not add capacity or address the purpose and need to meet travel demand or improve mobility in the Corridor. However, because it does not substantially change the transportation infrastructure, adverse impacts to environmental and social resources under the Minimal Action Alternative are the least of the Action Alternatives. Both direct impacts of expanding footprints and indirect impacts of induced growth and changes in travel patterns are less in comparison to other Action Alternatives. The Minimal Action Alternative also includes mitigation strategies that not only offset some of the expected location-specific impacts to resources but also address existing problems in the Corridor related to water quality and wildlife passage. Because the Minimal Action Alternative results in the least impact and includes environmental mitigation to address existing environmental impacts in the Corridor, it is the environmentally preferable alternative. However, because it performs the worst of all Action Alternatives in meeting the purpose and need for this project, it is not FHWA's preferred alternative.

E.4 No Action Alternative

The No Action Alternative does not address either transportation problems or existing environmental impacts associated with the I-70 highway. It results in the fewest direct impacts of the alternatives considered. Induced growth would not occur under the No Action Alternative, and, therefore, this alternative also results in the fewest indirect and cumulative impacts. The No Action Alternative results in substantial impacts to the transportation network, including substantially longer travel times and more hours of congestion, adversely affecting mobility throughout the Corridor. Unmet demand and low transit share would persist under the No Action Alternative. Additionally, the No Action Alternative does not include systems to treat stormwater runoff and improve water quality, development and enhancement of wildlife crossings, or considerations for noise mitigation in areas affected by existing highway noise. Improvements in air quality related to improved traffic flow also would not be realized under the No Action Alternative.

E.5 Conclusion

In developing the alternatives for the I-70 Mountain Corridor, the lead agencies worked closely with stakeholders, including resource agencies, to evaluate impacts and balance those impacts with benefits of transportation improvements. As a result of stakeholder feedback to enable more long-term and sustainable solutions, the lead agencies reframed the purpose and need to address a longer planning timeframe. To understand the range of impacts related to transportation improvements, the lead agencies developed 22 alternatives. Of these, most do not meet the 2050 purpose and need. There is a tradeoff between meeting the needs of the project and direct impacts on resources. This is a tradeoff that FHWA considered carefully. Although the Minimal Action Alternative is environmentally preferable due to its lower direct and indirect impacts, it does not meet the long-term purpose and need for the Corridor. The decision to develop alternatives that could meet a long-term vision for the Corridor was a deliberate decision by the lead agencies and stakeholders, rooted in the belief that implementation of any improvements in the Corridor would have impacts and that working within a long-range purpose and need is ultimately more environmentally and socially sustainable. It was also recognized that a 2050 purpose and need could be implemented in phases, and this adaptive approach could be an effective way to evaluate impacts and develop effective mitigation measures as improvements are implemented and provide the necessary time for local governments to prepare land use policies.

F. Section 4(f) Discussion

The Federal Highway Administration is not approving use of any Section 4(f) resources as a result of this Tier 1 decision. The Federal Highway Administration cannot make a Section 4(f) approval at Tier 1 because the information available for this broad Tier 1 decision is not detailed enough to support an approval. However, in making this decision, FHWA carefully considered potential Section 4(f) uses of each Tier 1 alternative, evaluated avoidance alternatives, and included all possible planning to minimize harm available at Tier 1. In analyzing potential use of Section 4(f) resources, FHWA also consulted with Officials with Jurisdiction. After reviewing impact analyses and considering the opinions of Officials with Jurisdiction, FHWA has determined that there are no prudent and feasible avoidance alternatives at the Corridor level that avoid use of Section 4(f) resources. The Preferred Alternative appears to have the greatest potential to avoid and minimize impacts to Section 4(f) resources among alternatives that meet the 2050 purpose and need. The Advanced Guideway System component of the Preferred Alternative represents a clear opportunity to mitigate some of the potential uses, because it is capable of being elevated, creating a narrower footprint, and has the ability to move from side to side or in the median of the Corridor to avoid Section 4(f) resources. Additionally, the adaptive nature of the Preferred Alternative provides the best opportunity to guide growth and mitigate potential effects of induced growth on Section 4(f) resources.

Section 4(f) evaluations for projects in the Corridor will be completed during Tier 2 NEPA processes when sufficient detail on location, design, operations, and resources are available to determine Section 4(f) use. During Tier 2 NEPA processes, additional evaluation for avoidance alternatives for specific Section 4(f) resources and measures to minimize harm to the Section 4(f) resources will be made. For Section 4(f) compliance during Tier 2 NEPA processes, FHWA will further evaluate avoidance alternatives and a least overall harm assessment according to 23 CFR 774.3(c)(1). Tier 2 NEPA evaluations will include the following steps:

1. Conduct continued coordination with the Officials with Jurisdiction
2. Identify Section 4(f) resources within project area
3. Collect information needed to determine if there is a use of any Section 4(f) resource (including constructive use)
4. Conduct Section 4(f) evaluations to determine if there is a prudent and feasible avoidance alternative
5. Identify all possible planning to minimize harm
6. Develop a least-harm analysis if there is not a prudent and feasible avoidance alternative

G. Clarifications and Corrections from Final PEIS

Several minor corrections, clarifications, or additions to the Final PEIS are included in this ROD. These are described below.

In reproducing the comment letter from the Environmental Protection Agency, four bullet points related to water resources were inadvertently cut off from the letter reproduced in **Appendix F** of the Final PEIS. The Environmental Protection Agency pointed out this omission in comments provided on the Final PEIS, and the lead agencies have included the bullet points in the response to those comments. See page 53 of this document. Although these points were not physically reproduced in the Final PEIS, the lead agencies' original response to the comment letter addressed the content of the bullets, as described in the response to comments on the Final PEIS (see page 54 of this document).

The Preferred Alternative outlined in this Tier 1 decision is not required to be included in the fiscally constrained long-range plan. However, the Final PEIS does include a discussion of the financial outlook for implementing recommended transportation improvements. The *I-70 Mountain Corridor Financial*

Considerations Technical Report (CDOT, March 2011) provides an assessment of expected funding for the DRCOG portion of the project in Jefferson and Clear Creek counties from 2007. In the more current assessment (conducted by DRCOG in February 2011), the funding outlook shows even less funding available for Corridor improvements. The numbers presented in the Technical Report were based on the previous assessment. That estimate showed \$205 million in 2008 dollars (from \$850 million to \$645 million) or \$250 million in year of expenditure (YOE) dollars (from \$1.35 billion to \$1.08 billion) more than the current assessment.

Finally, a paragraph from Chapter 1 of the Revised Draft PEIS was inadvertently removed from the Final PEIS. The missing paragraph in **Section 1.6** explained how the four considerations of the Collaborative Effort (environmental sensitivity, respect for community values, safety, and ability to implement) will be carried forward and used to develop and screen project-level alternatives in subsequent Tier 2 processes. **Section 1.6** of the Final PEIS should be amended to include the following paragraph:

“Beyond the Final Programmatic Environmental Impact Statement, these four considerations will be carried forward and used to develop and screen project-level alternatives in subsequent Tier 2 processes. They will be used for comparing the alternatives that are developed to address the project-level transportation problems. While a transportation purpose and need will be developed at Tier 2 consistent with the Tier 1 decision, the identified purpose and need will be specific to the problem at the Tier 2 project location. However, the four considerations above will apply to each Tier 2 process so that any proposed solutions(s) at the Tier 2 level is developed in a manner that accommodates these four considerations.”

H. Mitigation Strategies

In this Tier 1 process, FHWA has identified mitigation strategies to avoid or minimize environmental harm that could result from implementing the Preferred Alternative. Practical measures were taken throughout the Tier 1 process to identify alternatives minimizing environmental and community impacts. These efforts centered on developing alternatives through the coordination of conceptual planning, design, and environmental studies, with the intent of minimizing alternative footprints. In addition, committees were formed to address issues and mitigation potential associated with sensitive resources; these committees helped identify a number of mitigation strategies they thought could be effective. The adaptive management approach to implementing the Preferred Alternative is itself an important mitigation strategy. It allows Tier 2 NEPA processes to be developed and implemented based on proven needs and allows mitigation measures to be developed based on conditions and impacts that exist when projects are implemented. To the extent possible at Tier 1, all practical measures to minimize environmental harm have been incorporated into this decision.

The Tier 1 decision does not approve any specific projects, will not result in construction, and will not directly cause environmental or community impacts. **Table 1** outlines the types of impacts that could occur from the Preferred Alternative, and identifies mitigation strategies that could avoid or minimize those impacts. Although mitigation strategies are identified at Tier 1 based on potential impacts, the decision on specific mitigation will be made on a project-by-project basis during Tier 2 NEPA processes. Specific mitigation measures and appropriate monitoring of mitigation commitments will become commitments as specific projects are developed and implemented.

Specific mitigation commitments will be identified during Tier 2 NEPA processes in response to specific Tier 2 project-related impacts. Final mitigation commitments at Tier 2 will be consistent with the mitigation strategies outlined below. Many of these strategies arise from the formal agreements described below, to which FHWA remains fully committed. Once the Tier 2 NEPA processes have determined specific mitigation commitments, FHWA will consider monitoring related to implementation and effectiveness of the mitigation commitments as appropriate.

Public and stakeholder involvement in the development of these mitigation strategies has been extensive. Stakeholders were involved in developing and evaluating mitigation strategies through participation in issue task forces, project committees, and specific agreements. In addition, mitigation was discussed extensively in the Revised Draft PEIS and in the Final PEIS. The public was afforded the opportunity to comment on both documents. Additional public and stakeholder involvement is envisioned during Tier 2 NEPA processes.

In addition to developing specific mitigation measures in Tier 2 NEPA processes based on the mitigation strategies presented in **Table 1**, FHWA commits to the following in Tier 2 NEPA processes:

1. Follow the I-70 Mountain Corridor Context Sensitive Solutions process, and comply with design criteria for engineering and aesthetic guidance to further minimize impacts on communities and the environment.
2. Apply the conditions set forth in the Programmatic Agreement among the consulting parties involving Section 106 of the National Historic Preservation Act.
3. Fulfill responsibilities set forth in the ALIVE Memorandum of Understanding to address issues related to improving wildlife movement and reducing habitat fragmentation in the Corridor.
4. Fulfill responsibilities set forth in the Biological Assessment/Biological Opinion developed in conjunction with the United States Fish and Wildlife Service.
5. Develop mitigation measures to offset impacts on species identified in the Biological Report for the White River National Forest and the Arapaho and Roosevelt National Forests.
6. Comply with the 404(b)(1) guidelines of the Clean Water Act.
7. Fulfill responsibilities set forth in the SWEEP Memorandum of Understanding to integrate aquatic resource needs (such as streams, wetlands, and riparian areas) with mitigation recommendations.
8. Integrate winter storm management and maintenance procedures into any of the proposed improvements. Highway alternative improvements throughout Clear Creek County will include snow storage areas in select locations to capture snow and other roadway runoff to reduce impacts on adjacent ecosystems.
9. Address identified total maximum daily load thresholds and implement the Sediment Control Action Plans developed specifically for Straight Creek and Black Gore Creek to identify methods to control the existing transport of winter sanding materials. Develop Sediment Control Action Plans for other Corridor areas such as the upper reaches of Clear Creek.
10. Develop information systems (such as advertising campaigns to support local businesses, signage with hours of operation, and detour plans) to inform affected communities, I-70 Corridor travelers, businesses, and homeowners about construction activities and schedules.
11. Comply with Section 4(f) regulations to further study of feasible and prudent avoidance alternatives and assess least overall harm according to 23 CFR 774.3(c)(1).

These commitments encompass the mitigation strategies recommended in the Consensus Recommendation.

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Climate and Air Quality Resources	<ul style="list-style-type: none"> Continued vehicular emissions of pollutants of concern globally and locally Vehicular emissions and dust generated during construction 	<p>The Colorado Department of Transportation will support policies and programs, as described below to improve air quality in the Corridor:</p> <ul style="list-style-type: none"> Support local jurisdiction efforts, such as those in Clear Creek County, to secure grants to help develop data that will better inform the air quality measurements and mitigation Support engine idling ordinance to restrict emissions produced from idling auto and commercial vehicles, especially buses, delivery trucks, etc. Continue to explore highway maintenance strategies to minimize the amount of sand used for winter maintenance and to remove the sand from the roadway to minimize re-entrained dust Continue to support regional, statewide, and national efforts to reduce air pollutants and comply with current air quality regulations <p>This document acknowledges some issues of air quality, particularly emissions of greenhouse gases, are global issues that are difficult to assess on a project-specific level. As such, the lead agencies are committed to working on these broad issues, as described in Chapter 4, Cumulative Impacts Analysis, while also incorporating measures to control air pollutant emissions locally. Because project alternatives are not anticipated to cause or result in violations of any National Ambient Air Quality Standards, most mitigation measures for air quality will center on controlling fugitive dust during construction, operations, and maintenance. The following conceptual techniques for mitigation of construction impacts could be considered:</p> <ul style="list-style-type: none"> Control fugitive dust through a fugitive dust control plan, including wetting of disturbed areas Use the cleanest fuels available at the time in construction equipment and vehicles to reduce exhaust emissions Keep construction equipment well maintained to ensure that exhaust systems are in good working order Control blasting and avoid blasting on days with high winds to minimize windblown dust from blasting, particularly near community areas Minimize dust from construction in or near tailing areas Conduct air quality monitoring during construction, including PM_{2.5} monitoring Investigate requirements or incentives for retrofitting construction vehicles and equipment to reduce emissions (e.g., idling equipment) <p>During Tier 2 NEPA processes, CDOT will conduct the following activities:</p> <ul style="list-style-type: none"> Develop specific and more detailed mitigation strategies and measures Develop BMPs specific to each project Adhere to any new laws and regulations that may be in place when Tier 2 NEPA processes are under way

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
<p>Biological Resources: Vegetation and Wildlife Habitat</p>	<ul style="list-style-type: none"> • Vegetation and habitat loss due to construction • Disturbance of nesting birds • Downstream impacts to aquatic species 	<p>The Colorado Department of Transportation will identify areas of potential habitat restoration, in coordination with the United States Forest Service and local entities. Construction work affecting migratory birds will comply with the requirements of the Migratory Bird Treaty Act and will be performed according to CDOT specifications to avoid impacts to migratory birds before and during construction. Additionally, mitigation of protected birds and fish downstream will comply with the South Platte Water Related Activities Program, the Platte River Recovery Implementation Program, and the Colorado River Recovery Implementation Program.</p>
<p>Biological Resources: Noxious Weeds</p>	<ul style="list-style-type: none"> • Introduction and/or spread of noxious weeds into lands adjacent to the I-70 Mountain Corridor 	<p>The Colorado Department of Transportation will manage the clearing and earthmoving operations to minimize the potential for weeds to infest new areas and/or increase in abundance through the construction disturbance area. This includes the application of BMPs to all construction sites to manage open soil surfaces and topsoil stockpiled for reuse, including landscape and planning designs that incorporate the use of native vegetation and integrated noxious weed controls. The Colorado Department of Transportation will prepare and implement Noxious Weed Management Plans for all projects, which are usually completed just prior to construction so they reflect the most recent federal and local noxious weed lists and guidance. Noxious Weed Management Plans will identify the status and location of noxious weed infestations in and near individual project areas and identify control methods (e.g., herbicides) and BMPs that will be used to eradicate or control weeds during and after construction. These BMPs generally include, but are not limited to, minimization of soil disturbance, use of native species in seeding and revegetation plans, use of weed-free hay, topsoil management, equipment cleaning and management, and coordination with relevant stakeholders such as County Weed Supervisors.</p>
<p>Biological Resources: Winter Maintenance</p>	<ul style="list-style-type: none"> • Increased sedimentation and salinization of streams in the I-70 Mountain Corridor 	<p>The Colorado Department of Transportation will limit the effects of winter maintenance by controlling the runoff of contaminants and winter maintenance materials to the greatest extent possible. The Colorado Department of Transportation will continue to refine its approach to winter maintenance in an effort to decrease the use of deicers and traction sand. Mitigation strategies will be designed to complement existing Sediment Control Action Plans on Straight Creek, Black Gore Creek, and Clear Creek.</p>
<p>Biological Resources: Habitat Connectivity and Animal Vehicle Collisions</p>	<ul style="list-style-type: none"> • A larger highway footprint increases the barrier effect of wildlife movement and the likelihood of animal-vehicle collisions 	<p>The lead agencies will follow the processes outlined in the ALIVE Memorandum of Understanding (see Appendix E) to reduce animal-vehicle collisions and increase habitat connectivity throughout the Corridor. This includes, but is not limited to, the use of underpasses or overpasses dedicated to wildlife movement, fencing, berms, and vegetation to guide wildlife to crossing structures, as well as signage to alert motorists of wildlife presence. In addition, existing natural features that enhance habitat connectivity, such as the Twin Tunnels Wildlife Land Bridge, will be protected, if feasible.</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Biological Resources: Aquatic Habitat	<ul style="list-style-type: none"> Increased sedimentation due to erosion and stormwater runoff Increased channelization due to stormwater runoff Loss of fish habitat due to construction in and/or adjacent to streams in the I-70 Mountain Corridor. 	<p>The lead agencies will incorporate the recommendations developed by the SWEEP Committee. In addition, CDOT will use BMPs and erosion control measures to reduce soil losses, soil inundation, and sedimentation in areas adjacent to the construction area and provide sufficient cross-slope drainage structures during new construction to allow natural hydrologic conditions to be maintained on both sides of the right-of-way. Fish habitat will be restored and replaced, using photo documentation to help return these areas to previous conditions.</p>
Wetlands and Other Waters of the United States	<ul style="list-style-type: none"> Direct loss of wetlands and other waters of the United States Reduced function of wetlands, fens, and other waters of the United States Changes in surface and subsurface hydrology and water quality (for example, inflows, sedimentation, and winter maintenance) that result in loss of either area or function Indirect impacts of sedimentation and stormwater runoff on wetlands and other waters of the United States during construction, during road maintenance operation, and post-construction 	<p>At the first tier, the focus of mitigation is on avoidance and minimization of impacts. Impact avoidance and minimization strategies were incorporated into the development of Action Alternative alignments and design concepts. However, while mitigation activities are expected to avoid and minimize impacts, some impacts on Corridor wetlands and other water resources are still likely. The Colorado Department of Transportation is committed to implementing the SWEEP Memorandum of Understanding as the foundation of mitigation for aquatic resource impacts during projects along the Corridor and its communities (see Appendix D, SWEEP Memorandum of Understanding). The SWEEP Committee will identify and recommend appropriate mitigation strategies, including design, implementation, and monitoring, to anticipate environmental impacts resulting from redevelopment of the Corridor. The SWEEP Committee will coordinate with the ALIVE Committee to increase the permeability of the I-70 Mountain Corridor to terrestrial and aquatic species to provide and maintain long-term protection and restoration of wildlife linkage areas, improve habitat connectivity, and preserve essential ecosystem components.</p> <p>Overall mitigation strategies provide the opportunity to reduce impacts and enhance wetland environments in the Corridor. Impacts on wetlands and other waters of the United States will be addressed more specifically for each project evaluated during Tier 2 NEPA processes. Additionally, CDOT's policy is to mitigate all impacts on a one-to-one per acre basis, regardless of whether the wetland is jurisdictional or non-jurisdictional. The Colorado Department of Transportation owns the Clear Creek Mitigation Bank, which has been set aside for wetland mitigation. This site is located just west of US 40.</p>
Water Resources	<ul style="list-style-type: none"> Increase existing mine waste, tailings, and drainage tunnels impacts (acids, minerals, additives) on watershed water quality through project disturbance of these areas Increased sedimentation and salt issues due to construction activities or increased road surface requiring winter maintenance Increased metals being released into the watershed due to disturbance of 	<p>The Colorado Department of Transportation will incorporate the following strategies to minimize and avoid potential environmental impacts on water resources from the proposed project.</p> <ul style="list-style-type: none"> Water resource mitigation recommendations developed by the SWEEP Committee will be integrated into Tier 2 NEPA processes. The Colorado Department of Transportation will work cooperatively with various local, state, and federal agencies and local watershed groups to avoid further impacts on and possibly improve Clear Creek water quality, including management of impacted mine waste piles and tunnels within the Corridor and through the use of appropriate BMPs during stormwater permitting. Local watershed initiatives will be incorporated into site-specific Action Alternative mitigation strategies, and mitigation will consider the goals of the local watershed planning entity. Detention basins for the collection of sediment as outlined in the Sediment Control Action Plans developed

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Water Resources	<p>baseline soils having high contents of these metals or due to increased roadway wash from stormwater runoff</p> <ul style="list-style-type: none"> The increase of hydraulic disruption (length of stream alteration) of tributary flows into the main creek, stream, and river channels The unnatural increase in water flow caused by induced growth in the area that influences the need to import water and the affects of these flows on the natural system 	<p>for the Black Gore Creek and Straight Creek corridors (Clear Creek Sediment Control Action Plan is under development) will be part of the mitigation strategy for this Corridor. Sediment Control Action Plans could be implemented concurrently with development of an Action Alternative, and will consider drinking water source protection.</p> <ul style="list-style-type: none"> The Colorado Department of Transportation is looking into ways to mitigate for winter maintenance activities beyond the implementation of SWEEP that will provide for sediment and stormwater catchment basins. Better training for snowplow staff so they know when they can minimize the use of sand or deicers if the roadway conditions do not require as much as for other times would help minimize the introduction of these contaminants over time. The Colorado Department of Transportation will manage construction impacts through the implementation of a Stormwater Management Plan that provides detailed guidance on the location, installation, and maintenance of stormwater BMPs for erosion and sediment control. A Stormwater Management Plan will be prepared for each construction project within the Corridor in accordance with the CDOT Standards and Specifications for Road and Bridge construction, specifically subsection 208 Erosion Control. The BMPs identified in the Stormwater Management Plan must be installed prior to commencement of construction activity and maintained throughout construction until the site has achieved stabilization and vegetation has been established. Efforts will be included in further design phases to minimize impacts to water quality and other water resources by refining placement of roadway and road piers to avoid impacts when feasible.
Geologic Hazards	<ul style="list-style-type: none"> Existing geologic hazards could be disturbed and exacerbated, adversely affecting safety, service, and mobility due to rockfalls, debris flows, mudflows, avalanches, landslides, and other hazards Construction could intersect areas of geologic instability (adverse jointing fracture patterns and/or bedding) and create geologic hazards Boring of new tunnels will generate large quantities of wastes that are difficult to manage and dispose of 	<p>The lead agencies will incorporate mitigation strategies learned from previous projects, such as:</p> <ul style="list-style-type: none"> Incorporating new design features to minimize slope excavation and follow natural topography Use of excavation and landscaping techniques to minimize soil loss and reverse existing erosion problems Use of rock sculpting, which involves blasting rock by using the existing rock structure to control overbreak and blast damage, to create a more natural-looking cut Use of proven techniques, such as rock-fall catchments, mesh, cable netting, and fences, as well as scaling and blasting, to address rockfalls from cut slope areas. Reuse of excavated material from tunnel construction onsite where possible. If materials are used on National Forest System lands, the lead agencies will follow the <i>Memorandum of Understanding Related to Activities Affecting the State Transportation System and Public Lands in the State of Colorado among the Federal Highway Administration, Colorado Department of Transportation, Bureau of Land Management, and United States Forest Service</i> Adhering to the <i>Programmatic Agreement among the Federal Highway Administration, Advisory Council on Historic Preservation, United States Forest Service, Colorado Department of Transportation and State Historic Preservation Officer Regarding Rockfall Mitigation Projects along Interstate 70 within the Georgetown-Silver Plume National Historic Landmark District (2009)</i>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Regulated Materials and Historic Mining	<ul style="list-style-type: none"> • Potential for impacting and/or acquiring properties contaminated by hazardous waste, petroleum products, and/or mining waste • Potential release of environmental contaminants into adjacent lands and streams from highway accidents and/or construction disturbance • Contamination from existing mine tailings and wastes from historic mines could be encountered in the Corridor 	<p>The Colorado Department of Transportation will take the following steps to minimize and avoid potential environmental impacts resulting from regulated materials and historic mine waste:</p> <ul style="list-style-type: none"> • Minimize property acquisition and disturbance of mine wastes, tailings, drainage tunnels, and areas adjacent to or within active/inactive leaking underground storage tank sites • Minimize impacts on the Clear Creek channel and floodplain both during and after disturbance of mine waste, tailings, and drainage tunnels • Manage mine waste and tailings materials onsite, when possible, to minimize disposal problems and costs • Minimize wind-blown dust from mine tailings on construction sites by wetting or appropriate other dust control measures. If dust control occurs near surface waters, ensure that proper stormwater management BMPs are in place to protect surface waters from runoff if water is applied excessively for dust control. • Manage mine waste and tailings materials under Colorado Department of Public Health and Environment and Environmental Protection Agency guidance and authority • Manage contaminated soil and groundwater under applicable Colorado Department of Public Health and Environment, Environmental Protection Agency, Division of Oil and Public Safety, and CDOT regulations and guidance • Follow CDOT procedures and other applicable guidance for storage and handling of regulated materials, as well as historic mine waste during construction activities • Work cooperatively with various local, state, and federal agencies and local watershed groups to avoid further impacts on and possibly improve water quality • Develop a monitoring and a sampling program, as necessary, to monitor contamination, with consideration of the mining history in the Corridor. Previous studies have identified the need to monitor and sample eight metals regulated under the Resource Conservation and Recovery Act due to extensive historic mining in the Corridor. • Any soil removed during trenching or augering will be conducted in accordance with specified health and safety regulations concerning the handling of soils with heavy metal content. <p>Leaking Underground Storage Tank Sites</p> <p>Disturbance of identified leaking underground storage tank sites will require coordination with the Division of Oil and Public Safety to ensure proper handling and disposal of contaminated materials (also see CDOT requirements and BMPs below). Construction activities associated with the alternatives may also uncover petroleum contamination from identified leaking underground storage tank sites or from leaking underground storage tank site contamination that was not indicated by research activities (or during subsequent research). Should contamination be discovered, construction activities will be temporarily halted until characterization/storage/disposal/ cleanup requirements can be discussed with the Division of Oil and Public Safety or a professional familiar with Division of Oil and Public Safety procedures and requirements.</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Regulated Materials and Historic Mining		<p>Non-petroleum contaminants might also be encountered and will be handled under Colorado Department of Public Health and Environment Solid Waste or Resource Conservation Recovery Act Hazardous Materials regulations and requirements, and Environmental Protection Agency toxic substances requirements, if applicable.</p> <p>Underground Storage Tank Sites</p> <p>Underground storage tanks from existing and historic service stations might also be encountered. Underground storage tanks must be removed according to Division of Oil and Public Safety requirements during excavation/construction activities for any of the alternatives where they are affected by the project footprint. Tank removal will include sampling and analysis of underlying soil and soil removal (if necessary) to meet Division of Oil and Public Safety designated standards.</p> <p>Dewatering</p> <p>Excavation and grading activities for all of the alternatives, especially those that will include tunnel construction, might encounter groundwater and require dewatering activities. Tunnel construction practices will include consolidation grouting to minimize inflow into the tunnel. However, dewatering activities will be required on the tunnel and at the waste disposal (spoil) areas. Permit acquisition (from Colorado Department of Public Health and Environment) for discharge of groundwater into nearby surface water will require water analyses, removal of specific contaminants to Colorado Department of Public Health and Environment and Environmental Protection Agency approved levels, and lowering of total suspended solids to acceptable levels. Groundwater treatment will be accomplished by filtration, air stripping for volatile compounds, or stage dewatering methods. A permit variance will be necessary for effluent parameters to meet discharge standards. Construction dewatering will require coordination with Colorado Department of Public Health and Environment to determine necessary treatment and handling of extracted water before final discharge/disposition.</p> <p>Acid Rock Drainage</p> <p>Excavation of road cuts in areas of mineralized rock will have the potential to introduce conditions for the leaching of metals from these excavated materials. Potential areas of mineralized rock requiring excavation will be specifically identified during Tier 2 NEPA processes. Tier 2 mitigation plans will ensure that acid rock drainage will not affect Corridor water quality through the implementation of appropriate BMPs and appropriate disposition activities for these materials.</p> <p>Metal Highway Structures</p> <p>Disturbance or replacement of highway structures such as painted guardrails, signs, or metal bridge components will require appropriate characterization and disposal according to Colorado Department of Public Health and Environment guidelines and requirements.</p> <p>Property Acquisition</p> <p>If acquisition and demolition of commercial or residential structures are required, inspections will be conducted for asbestos, heavy metal-based paints, and hazardous wastes, such as mercury-containing electronics, chemicals, and other regulated materials. Asbestos surveys will be conducted at previous demolition sites to determine if asbestos in soil is present. Hazardous substances discovered in these surveys will be subject to appropriate characterization and disposal</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Regulated Materials and Historic Mining		<p>according to Colorado Department of Public Health and Environment guidelines and requirements.</p> <p>Colorado Department of Transportation Requirements and Best Management Practices</p> <p>The Colorado Department of Transportation contractors are required to comply with Section 250, Environmental, Health and Safety Management of CDOT Standard Specifications, when applicable. The specifications provide guidelines and requirements for health and safety measures during construction, the investigation and testing of contaminated materials, and procedures to use if contamination is encountered during construction.</p> <p>All petroleum products and other hazardous materials, such as fuel and solvents, used for Action Alternatives' construction purposes will be handled and stored per CDOT BMPs to prevent accidental spillage or other harm to the project area. If suspected hazardous or petroleum products were encountered during construction, samples of the material will be collected and analyzed for metals, hydrocarbons, organic chemicals (volatile or semivolatile organic compounds), and other toxicity and characteristic parameters to determine what special handling and disposal requirements are appropriate. The telephone numbers for medical and emergency services will be maintained onsite. If any unplanned occurrence requires assistance, the site supervisor or designated person will contact the appropriate response team.</p> <p>Historic Mine Waste</p> <p>The Colorado Department of Public Health and Environment and Environmental Protection Agency coordination will be required for the handling of mine waste materials, and specific Colorado Department of Public Health and Environment and Environmental Protection Agency approval will be required for construction disturbance of sites that are currently designated as National Priority List sites within the Clear Creek/Central City Superfund Area. Other Clear Creek historic mining sites that pose considerable threats to Clear Creek will also require specific regulatory actions under the Comprehensive Environmental Response, Compensation, and Liability Act. Regulatory authority for mine tailings and waste falls under various state and federal programs, depending on where the waste is located and its designation under the Comprehensive Environmental Response, Compensation, and Liability Act. The Colorado Department of Public Health and Environment will be the lead agency (working with Environmental Protection Agency) for regulatory actions at the Clear Creek/Central City Superfund Area, and the Colorado Department of Public Health and Environment Solid Waste Division will have authority for mine tailings not covered by the Comprehensive Environmental Response, Compensation, and Liability Act.</p> <p>In addition, FHWA encourages "participation in transportation projects that include the use and redevelopment of contaminated sites when appropriate." Alternative implementation might offer a means to clean up contaminants that might not otherwise be addressed by means of the FHWA 1998 Brownfields Economic Redevelopment Initiative. The initiative, administered by the Environmental Protection Agency, provides assistance and incentives to agencies for the assessment, cleanup, and economic reuse of contaminated properties known as Brownfields.</p> <p>The Colorado Department of Transportation will attempt to avoid disturbance of mine waste wherever possible. If avoidance is not feasible, CDOT will characterize the mine materials and reuse the material onsite, if possible. Offsite disposal of mine waste materials will be the least</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Regulated Materials and Historic Mining		<p>desirable mitigation option. Long-term impacts will include the potential to release contaminants from disturbance of mine waste (or other contaminants encountered in soil or groundwater) during construction activities. Such impacts could be avoided with appropriate handling of materials and implementation of state-of-the-practice erosion and sediment control plans.</p> <p>Although contaminant sampling and testing have not yet specifically been performed for mine waste materials within the alternative footprints, it is expected (based on previous studies) that much of these waste materials will have relatively low levels of contaminants and will not be within or from sites requiring specific Comprehensive Environmental Response, Compensation, and Liability Act remedial actions. Such materials may be suitable for construction material uses, including backfill and landscaping. These materials will be stabilized and maintained during and after construction to minimize environmental impacts. In certain cases, highway improvements through proper handling and stabilization of these materials will serve to enhance environmental conditions in the Corridor.</p>
Land Use and Right-of-Way	<ul style="list-style-type: none"> The Action Alternatives increase the footprint of the I-70 highway and its interchanges. This impacts properties adjacent to the I-70 highway, primarily in Clear Creek County, as well as National Forest System lands and special use permits Induced growth likely occurs in Summit and Eagle counties, and in Garfield County, which is susceptible to changes in Eagle County Construction workers need temporary housing in the Corridor throughout the construction period. Affordable housing is not available and Corridor communities are concerned about the reuse of housing once construction is complete 	<p>The phased approach of the Preferred Alternative provides ongoing opportunities to avoid and minimize impacts to adjacent land use, establish effective mitigation, employ I-70 Mountain Corridor Context Sensitive Solutions, and implement future phases of the alternative based on future needs and associated triggers for further action. Primary mitigation strategies to avoid or reduce direct effects to adjacent properties include design refinement, particularly at interchanges, and physical measures such as the use of retaining walls or elevated structures.</p> <p>For any person(s) whose real property interests may be impacted by Tier 2 projects, the acquisition of those property interests will comply fully with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act). The Uniform Act is a federally mandated program that applies to all acquisitions of real property or displacements of persons resulting from federal or federally assisted programs or projects. It was created to provide for and ensure the fair and equitable treatment of all such persons. To further ensure that the provisions contained within this act are applied "uniformly," CDOT requires compliance with the Uniform Act, applicable Colorado statutes, and CDOT's right-of-way manual on any project for which it has oversight responsibility regardless of the funding source. Additionally, the Fifth Amendment of the United States Constitution provides that private property may not be taken for a public use without payment of "just compensation." All impacted owners will be provided notification of the acquiring agency's intent to acquire an interest in their property including a written offer letter of just compensation specifically describing those property interests. A Right-of-Way Specialist will be assigned to each property owner to assist them with this process.</p> <p>In certain situations, it may also be necessary to acquire improvements that are located within a proposed acquisition parcel. In those instances where the improvements are occupied, it becomes necessary to "relocate" those individuals from the subject property (residential or business) to a replacement site. The Uniform Act provides for numerous benefits to these individuals to assist them both financially and with advisory services related to relocating their residence or business operation. Although the benefits available under the Uniform Act are far too numerous and complex to discuss in detail in this document, they are available to both owner occupants and tenants of</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Land Use and Right-of-Way		<p>either residential or business properties. In some situations, only personal property must be moved from the real property and this is also covered under the relocation program. As soon as feasible, any person scheduled to be displaced shall be furnished with a general written description of the displacing agency's relocation program, which provides, at a minimum, detailed information related to eligibility requirements, advisory services and assistance, payments, and the appeal process. It shall also provide notification that the displaced person(s) will not be required to move without at least 90 days advance written notice. For residential relocatees, this notice cannot be provided until a written offer to acquire the subject property has been presented, and at least one comparable replacement dwelling has been made available. Relocation benefits will be provided to all eligible persons regardless of race, color, religion, sex, or national origin. Benefits under the Act, to which each eligible owner or tenant may be entitled, will be determined on an individual basis and explained to them in detail by an assigned Right-of-Way Specialist.</p> <p>Regarding workforce housing, the lead agencies will consider coordinating with local jurisdictions and federal housing authorities to create and implement a Workforce Plan addressing workforce housing needs and permanent housing strategies.</p> <p>The lead agencies will follow United States Forest Service standards and guidelines provided by White River National Forest and Arapaho and Roosevelt National Forests resource specialists for the protection of National Forest System lands. (See the <i>I-70 Mountain Corridor PEIS Land Use Technical Report</i> [CDOT, March 2011] for a list of these standards and guidelines categorized by forest and resource.) Any deviations from standards must be analyzed and documented in a Resource Management Plan amendment; deviations from guidelines require explanation of reasons for the deviations, but not a Resource Management Plan amendment. Tier 2 NEPA processes will include conceptual mitigation plans for impacts on United States Forest Service special use permits, including measures such as maintaining access to permitted areas and uses during construction, relocating permitted structures and utility easements, and minimizing interruptions to service during construction.</p> <p>The Colorado Department of Transportation will consider an approach to promote and assist communities, as possible, in the adoption of more comprehensive, regional growth management plans that can be applied to Tier 2 NEPA processes. The recommendations for this approach include exploring the possibility of creating grants for communities that lack the resources to develop a growth plan; working with local councils of government and the Colorado Department of Local Affairs to assist with funding; and promoting the consideration of open space as community separators, or view sheds distinguishing communities, including studies led by the United States Forest Service and Bureau of Land Management. While the lead agencies will consider this type of policy approach, efforts to control growth are greatly dependent on local planning and community political direction.</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
<p>Social and Economic Values</p>	<ul style="list-style-type: none"> Induced growth likely occurs in Summit and Eagle counties, and in Garfield County, which is susceptible to changes in Eagle County Construction causes congestion and delay for residents and visitors in the Corridor and restricts visitor access to businesses 	<p>The phased approach of the Preferred Alternative allows ongoing opportunities to avoid and minimize economic impacts, establish effective mitigation, and employ I-70 Mountain Corridor Context Sensitive Solutions. Corridorwide coordination, state involvement and support, and localized efforts to control growth and maintain quality of life would improve the ability of Corridor communities to maintain and protect social and economic values.</p> <p>The lead agencies will coordinate a variety of construction mitigation strategies to avoid and minimize construction impacts on Corridor communities. This may include the development of a Tier 2 Public Involvement and Marketing Plan or other strategies. Some of the construction mitigation strategies that would be considered are listed below. This list is not inclusive, and the lead agencies will develop specific mitigation strategies, in concert with the Corridor communities, during Tier 2 NEPA processes in response to specific impacts.</p> <ul style="list-style-type: none"> Not permitting lane restrictions in the peak direction during peak periods. Providing optimal spacing between work zones would allow traffic flow to recover between work zones. Requiring contractors to demonstrate that there is no reasonable alternative to a proposed lane closure. When lane restrictions and closures are required, CDOT will work with local communities to minimize impacts on local traffic and transit services. If actual total closure and/or stoppage of traffic are needed, they will be advertised and communicated to the public in advance of when they would occur. Maintaining community and business access to the highest degree possible. Information technologies, such as well-placed and highly visible signs, provide safe and efficient access during construction activities. Determining an appropriate scheduling approach to day versus night work during Tier 2 NEPA processes. Considering public concerns about local mobility in CDOT construction contracts and traffic control strategies. Holding public meetings at critical construction phases to provide information and discuss mitigation strategies. Providing construction information exchange centers in the Corridor for public input and up-to-date construction information. Including as public information strategies media advisories, variable message signs, advance signs, a telephone hotline, real-time web cameras, the use of intelligent transportation systems and technology in construction work zones, a construction project website, and alternate route advisories. As each construction phase is undertaken, working with communities to identify community representatives. These persons will partner in the construction traffic control program and provide assistance/feedback to the traffic control team. Providing emergency responders' traffic control information. In an emergency, responders contact the traffic control office, provide their approximate arrival time at the

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Social and Economic Values		<p>construction zone, and traffic control could provide a clear path through the construction zone.</p> <ul style="list-style-type: none"> • Providing effective directional signage. • Being sensitive to blockage during prime business hours. • Providing outreach to impacted businesses as early as possible before any construction. • Identifying business relocation opportunities. • Coordinating with local chambers and town economic offices to help develop promotional strategies during construction. • Establishing a specialized website for businesses to access construction schedules that might affect their businesses. <p>Mitigation will consider strategies to address the disparity in the distribution of benefits and impacts that might result from construction activities. Tier 2 NEPA processes will include strategies to avoid and minimize construction impacts on Clear Creek communities, including, but not limited to:</p> <ul style="list-style-type: none"> • Considerations for peak seasonal traffic (e.g., cessation of construction activities during ski season weekends) • Accessibility to Idaho Springs businesses • Assisting the county with historic tourism marketing • Developing a site-specific Tier 2 interpretive signage plan <p>The lead agencies will address safety issues on the I-70 highway, which will reduce the number of crashes on the highway. This will reduce the frequency of emergency response to crashes on the I-70 highway, which, in turn, will reduce local community emergency services costs.</p>
Environmental Justice	<ul style="list-style-type: none"> • No highly disproportionate and adverse effects to communities on a Corridorwide level • Potential for pockets of minority- or low-income populations to be adversely affected, particularly near proposed facilities and construction 	<p>Mitigation strategies for social and economic resources will apply to all communities in the Corridor and also would benefit minorities and low-income populations. If Tier 2 NEPA processes conclude that disproportionately high or adverse impacts would occur to low-income or minority populations, CDOT will work to avoid, minimize, or mitigate such impacts. Tier 2 NEPA processes that occur in populated areas will consider pockets of minority and/or low-income populations that may require additional attention and/or mitigation for such issues as listed below:</p> <ul style="list-style-type: none"> • Localized air quality impacts • Noise impacts • Shading from elevated structures or walls • Residential and business relocations • Changes in access or travel patterns • Loss of community cohesion <p>The lead agencies will consider mitigation, enhancement measures, and offsetting benefits when determining whether there will be disproportionately high and adverse effects on minority and low-income populations. If after considering these factors, a disproportionately high impact to minority or low-income populations is identified, the project "will only be carried out if further mitigation</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Environmental Justice		measures or alternatives that would avoid or reduce the disproportionately high and adverse effects are not practicable. In determining whether a mitigation measure or an alternative is 'practicable,' the social, economic (including costs) and environmental effects of avoiding or mitigating the adverse effects will be taken into account" (FHWA, 1998).
Noise	<ul style="list-style-type: none"> • Without noise mitigation, projected noise levels exceed noise abatement criteria (NAC) in some areas of the Corridor under most or all alternatives. • During construction, intermittent noise from diesel-powered equipment ranges from 80 to 95 dBA at a distance of 50 feet. Impact equipment such as rock drills and pile drivers generate louder noise levels. 	<p>The lead agencies do not propose any specific mitigation strategies at this time but will consider a full range of mitigation options in Tier 2 NEPA processes to reduce highway noise for impacted communities. See the <i>I-70 Mountain Corridor PEIS Noise Technical Report</i> (CDOT, March 2011) for details. Mitigation options will be considered in Tier 2 NEPA processes in accordance with current FHWA guidance and rulemaking on noise mitigation. Options that may be considered include noise walls, noise berms, concrete barriers, creation of noise buffer areas, enforcing engine compression brake muffler use, noise insulation of buildings, pavement type, active noise control, cut-and-cover tunnels, and adjusting vertical and horizontal alignments.</p> <p>The Federal Highway Administration does not consider pavement type as noise mitigation at this time, because the long-term effectiveness of pavement types in noise mitigation has not yet been proven. Active noise control and cut-and-cover tunnels are also not considered as noise mitigation by FHWA, although CDOT may consider them in addition to other federally approved noise mitigation measures.</p> <p>The Colorado Department of Transportation will work with local planning agencies to minimize noise effects on planned development in the Corridor. Generally, the most practical noise mitigation strategy to avoid or reduce direct effects in the Corridor includes the construction of noise barriers (walls or berms). The lead agencies will follow the I-70 Mountain Corridor Context Sensitive Solutions Aesthetic Guidelines and consider adding landscaping or vegetation to soften transitions between transportation facilities and adjacent community land uses. In some areas, topography may reduce the effectiveness of noise barriers—for example, when receptors sit higher than the road—and Tier 2 NEPA processes will conduct project-specific noise analyses to determine where noise barriers would be effective mitigation. Other strategies to mitigate noise impacts, such as land acquisition for buffer zones and altering the horizontal and vertical alignment, are effective but may be less practical in the Corridor because of topographic and development constraints. Construction noise impacts could be mitigated by limiting work to certain hours of the day when possible, requiring the use of well-maintained equipment, and other strategies.</p>
Visual Resources	<ul style="list-style-type: none"> • Alternatives change landscape setting and scenery in sensitive viewsheds • Change within sensitive viewsheds: <ul style="list-style-type: none"> ▪ Adjacent to the interstate (views from communities and recreation areas) ▪ From the interstate itself (views from I-70) • Compliance with United States Forest 	<p>Mitigation strategies for visual resources will be defined in Tier 2 NEPA processes in coordination with Corridor communities and will focus on reducing visual contrast associated with implementation of Action Alternatives. Any Tier 2 NEPA process involving transit will impact the entire Corridor. Because visual contrast is most closely associated with the addition of structural elements and changes to landform characteristics, mitigation measures will consider efforts to minimize impacts related to both landform and structures.</p> <p>Development of mitigation strategies will involve the review of United States Forest Service, Bureau of Land Management, and other jurisdictions' visual standards. The lead agencies will refer to the I-70 Mountain Corridor Context Sensitive Solutions Aesthetic Guidelines and create a site-specific</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
<p>Visual Resources</p>	<p>Service and Bureau of Land Management visual resource management prescriptions</p>	<p>Tier 2 Aesthetic Plan and Lighting Plan. Additionally, the lead agencies will consider creation of a Visual Impact and Mitigation Plan for each Tier 2 NEPA process that addresses the following items:</p> <ul style="list-style-type: none"> • Past visual impacts and scarring • Project-related visual impacts • Consideration of mitigation strategies for both that includes: <ul style="list-style-type: none"> ▪ Review and consideration of all United States Forest Service, Bureau of Land Management, and other jurisdictions' visual standards (as agreed to or amended) ▪ Non-obstructed views of narrow canyons to valleys, rivers, etc. • Adopt rockfall mitigation measures • Minimal use of signage, light poles, guard rails, or other infrastructure elements, where safety permits • Use of vertical and horizontal alignments to preserve views of items such as rivers, canyons, etc. • Use minimum amount of road cuts, fills, turnarounds, etc.
<p>Recreation Resources and Section 6(f) Resources</p>	<ul style="list-style-type: none"> • The Action Alternatives increase the footprint of the I-70 highway and its interchanges, impacting recreation resources adjacent to the Corridor. • Induced growth in the Corridor and induced recreation trips by visitors from outside the Corridor increase the use of recreation resources accessed by the I-70 highway. • Construction temporarily restricts access to some recreation resources and temporarily closes or detours some trails and bike paths. Construction causes congestion and delay for recreation visitors traveling on the Corridor. 	<p>The phased approach of the Preferred Alternative allows for ongoing opportunities to avoid and minimize impacts to recreation resources, establish effective mitigation, and employ I-70 Mountain Corridor Context Sensitive Solutions. Primary mitigation strategies to avoid or reduce direct effects to recreation resources include replacement or enhancement of functions of parklands or trails; design efforts to minimize the area of impact; and realignment of affected trails. The lead agencies will consider principles applied to the Glenwood Canyon recreation resources—including the bike path, hiking amenities, and river access—during development of mitigation for impacted recreation resources elsewhere in the Corridor. The lead agencies must mitigate any impacts to Section 6(f) resources with replacement lands of equal value, location, and usefulness as the impacted lands. Other strategies to mitigate direct impacts may include the following: facilitate efficient access to recreation sites from transportation networks; include outdoor recreation and tourism in the CDOT regional planning processes; consider intermodal transportation networks and transportation hub development; consider off-peak use incentives; consider river access “hot spots” mitigation actions; increase the capability to access recreation sites on mountain passes from road networks. Mitigation of indirect impacts would include strategies outlined in the <i>Statewide Comprehensive Outdoor Recreation Plan</i> (Colorado State Parks, 2008) and United States Forest Service consideration of forest management plans and the continuing and evolving use of forest management techniques. The availability of resources and funding for implementation of recreation and land management techniques is a major factor in the accommodation of increased visitation and protection of recreation resources. The <i>Statewide Comprehensive Outdoor Recreation Plan</i> suggests these goals can potentially be achieved by establishing funding partnerships through regional collaborative forums and through state/federal cost-share agreements to renovate federal properties. Mitigation of construction impacts on bike paths, trail heads, and other recreational amenities would include maintaining pedestrian and bicycle access during construction and addressing special</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
<p>Recreation Resources and Section 6(f) Resources</p>		<p>events to maintain access during those times. Mitigation strategies to accommodate the demand for recreation-oriented trips on the I-70 highway during construction include minimizing lane closures or reductions during peak travel weekends. Section 3.8, Social and Economic Values, provides additional mitigation strategies for providing timely and accessible public information on construction activities.</p>
<p>Historic Properties</p> <ul style="list-style-type: none"> • All Action Alternatives affect historic properties directly and indirectly. • Based on currently identified properties, between 48 and 70 historic properties could be directly affected by one or more of the Action Alternatives. • Additional properties are affected by the change in visual setting in the Corridor that has an adverse effect on the historic character and integrity of the Corridor and individual properties. 		<p>Historic context is one of the core values of the I-70 Mountain Corridor Context Sensitive Solutions process, and the lead agencies, in cooperation with the State Historic Preservation Office, are developing documentation for seven dominant historic themes in the Corridor. The lead agencies commit to using this context on future projects to guide and inform evaluation of historic properties in the Corridor and will consider historic context in developing designs for future projects in the Corridor.</p> <p>Mitigation for adverse effects to historic properties will not occur until Tier 2 NEPA processes when historic properties are identified through intensive survey and enough information is available to determine effects to those properties. Strategies for mitigation and Section 106 compliance for Tier 2 NEPA processes are well defined in two relevant Programmatic Agreements:</p> <ul style="list-style-type: none"> • Strategies for consultation, treatment, monitoring, and recovery for sites of importance to tribes are described in the <i>Section 106 Tribal Consultation Process for the I-70 Mountain Corridor Programmatic Agreement</i>. • The <i>I-70 Mountain Corridor Project Programmatic Agreement</i> (included in Appendix B, I-70 Mountain Corridor Section 106 Programmatic Agreement) stipulates how consultations will occur and how each phase of the Section 106 process will be carried out in Tier 2 NEPA processes. Mitigation strategies for historic properties are included in Section VI of the Programmatic Agreement (Resolution of Adverse Effects). <p>The lead agencies will develop specific and more detailed mitigation strategies and measures, and develop BMPs specific to each project, during Tier 2 NEPA processes. The lead agencies will also adhere to any new laws and regulations that may be in place when Tier 2 NEPA processes are under way.</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Section 4(f) Properties	<p>Potential Use of Section 4(f) Properties</p> <ul style="list-style-type: none"> • Historic: <ul style="list-style-type: none"> ▪ Properties listed on or eligible for the National Register of Historic Places ▪ National Historic Landmarks ▪ Properties listed on or eligible for the State Register of Historic Places • Parks, Recreation Areas, and Wildlife Refuges: <ul style="list-style-type: none"> ▪ Recreations Areas ▪ Wildlife Refuges ▪ Trails ▪ River Access 	<p>The Section 4(f) discussion in the PEIS includes all possible planning to minimize harm to the extent that the level of detail available in the PEIS allows. Actions have been taken at this Tier 1 level to ensure that opportunities to minimize harm are not precluded in subsequent Tier 2 NEPA processes. These actions include development of the I-70 Mountain Corridor Section 106 Programmatic Agreement and development of the I-70 Mountain Corridor Context Sensitive Solutions process. Section VI of the Section 106 Programmatic Agreement contains specific mitigation strategies, such as allowing variances from CDOT design standards to minimize physical damage or encroachment on historic properties, to minimize harm to Section 4(f) historic resources. Historic context is one of the core values identified in the I-70 Mountain Corridor Context Sensitive Solutions process. An example of promoting historic context through the I-70 Mountain Corridor Context Sensitive Solutions process includes developing strategies to support heritage tourism and historic preservation efforts in the Corridor. Other opportunities to minimize harm that have been identified at the first Tier, but may be more refined during Tier 2 processes, include: narrowing outside shoulders for the highway, potentially fully elevating the Advanced Guideway System, implementing structured or tunneled highway lanes, and adjusting the alignment of the Advanced Guideway System to the south side of Idaho Springs to avoid Section 4(f) properties north of the highway.</p>
Paleontology	<ul style="list-style-type: none"> • Paleontological resources could be disturbed during construction activities that affect sensitive geologic units. Damage would be permanent. 	<p>All construction in areas of moderate or high paleontological sensitivity in the Corridor will include pre-construction survey and evaluation, construction monitoring, implementation of a Worker Awareness Training Program, and spot-check monitoring of sensitive formations during construction. All work will be overseen by the CDOT staff paleontologist or other qualified and permitted paleontologist and will follow CDOT's <i>Paleontology Analysis and Documentation Procedures</i> (CDOT, 2006). In the event of discovery of unanticipated fossil remains such as unexpected concentrations of fossils, unusually large specimens, or unexpected discoveries in sediments, all ground disturbances in the area will cease immediately. The qualified paleontologist and appropriate project personnel will be notified immediately to assess the find and make further recommendations.</p> <p>Mitigation will follow the <i>Society of Vertebrate Paleontology Standard Guidelines</i> (Society of Vertebrate Paleontology, 1995) for treatment of sensitive paleontological resources and <i>CDOT Paleontology Analysis and Documentation Procedures</i> (CDOT, 2006).</p>

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
Energy	<ul style="list-style-type: none"> Increased vehicle miles of travel Increased use of fuel and materials (for example, aggregate) during construction 	<p>Mitigation strategies for energy impacts will be developed and refined in Tier 2 NEPA processes in the context of a specific project. However, mitigation strategies that typically apply to construction projects to reduce impacts are addressed below. Construction and operational impacts will be mitigated through implementation of appropriate BMPs.</p> <p>The following conceptual strategies could be included to reduce energy consumption during construction:</p> <ul style="list-style-type: none"> Limiting the idling of construction equipment; Encouraging employee carpooling or vanpools for construction workers; Encouraging the use of the closest material sources (for example, aggregate, concrete); Locating construction staging areas close to work sites; Using cleaner and more fuel-efficient construction vehicles (for example, low-sulfur fuel, biodiesel, or hybrid technologies); Using alternative fuels and asphalt binders; and Implementing traffic management schemes that minimize motorist delays and vehicle idling. <p>The following conceptual strategies included as non-infrastructure components of the Preferred Alternative could reduce operational energy consumption:</p> <ul style="list-style-type: none"> Carrying out maintenance activities during periods of reduced traffic volumes; Encouraging greater use of transit through measures such as incentive programs; Working with chambers of commerce or tourist organizations to encourage resort operators to offer incentives for visitors who use transit or who use low-emission or alternative fuel vehicles; and Promoting carpooling for regular facility users.
Cumulative Impacts	<ul style="list-style-type: none"> Induced growth could substantially change land use patterns and affect quality of life, community services and infrastructure, and change the character and visual conditions of Corridor communities if local agencies do not manage growth in a coordinated manner. Increased development of transportation and other infrastructure could result in habitat and wetland losses, reduce open space areas, and increase pollution (particularly sedimentation) of streams. Increased visitation to recreational resources may diminish the recreational 	<ul style="list-style-type: none"> Coordinate with Clear Creek County communities regarding implementation of a marketing program that would include an approach to marketing for historic tourism to address the possible disparate distribution of benefits and impacts from construction activities. Follow the processes outlined in the ALIVE Memorandum of Understanding (see Biological Resources) to increase the ability of wildlife, particularly protected species, to cross the highway and transit infrastructure throughout the Corridor. Implement the strategies discussed previously to address mobile source air toxics (MSATs) and greenhouse gas emissions. Implement the SWEEP Memorandum of Understanding and recommendations of the SWEEP Committee to address stream impairment and benefit aquatic resources. Implement the mitigation commitment to reduce the effect of the Corridor visual scars from the original I-70 highway construction. Implement aesthetic guidelines prepared as part of the I-70 Mountain Corridor Context Sensitive Solutions program for establishing an aesthetically positive visual experience for all viewers.

Table 1. Mitigation Strategies

Resource Topic	Potential Impacts	Mitigation Strategies
<p>Cumulative Impacts</p>	<p>resources and visitor experiences.</p> <ul style="list-style-type: none"> • Increased travel will increase vehicle-related emissions and increase greenhouse gases. 	<ul style="list-style-type: none"> • To avoid any negative effects of induced growth, Corridor counties could coordinate regional growth management. The <i>I-70 Mountain Corridor PEIS Land Use Technical Report</i> (CDOT, March 2011) summarizes all current county and municipal plans including strategies for balancing the impacts of growth with sustaining environmental quality. • Address MSATs and greenhouse gas emissions through the following program-level activities: <ul style="list-style-type: none"> ▪ Developing truck routes/restrictions with the goal of limiting truck traffic in proximity to facilities with sensitive receptor populations, including schools. (Note: This is a statewide activity and does not apply specifically to the Corridor.) ▪ Continuing research about pavement durability opportunities with the goal of reducing the frequency of resurfacing and/or reconstruction projects. ▪ Developing air quality educational materials for citizens, elected officials, and schools that are specific to transportation issues. ▪ Offering outreach to communities to integrate land use and transportation decisions to reduce growth in vehicle miles traveled, such as smart growth techniques, buffer zones, transit-oriented development, walkable communities, access management plans, etc. ▪ Committing to research additional concrete additives that would reduce the demand for cement. ▪ Expanding Transportation Demand Management efforts statewide to better utilize the existing transportation mobility network. ▪ Continuing to diversify the CDOT fleet by retrofitting diesel vehicles, specifying the types of vehicles and equipment contractors may use, purchasing low-emission vehicles such as hybrids, and purchasing cleaner-burning fuels through bidding incentives where feasible. Incentivizing is the likely vehicle for this. ▪ Exploring congestion and/or right-lane only restrictions for motor carriers. ▪ Funding truck parking electrification (mostly via exploring external grant opportunities). ▪ Researching additional ways to improve freight movement and efficiency statewide. ▪ Committing to incorporating ultra-low sulfur diesel for non-road equipment statewide—likely using incentives during bidding. ▪ Developing a low volatile organic compound-emitting tree landscape specification (basically specifying which trees emit fewer volatile organic compounds).

I. Comments on Final PEIS

The Final PEIS was released on March 11, 2011. All agencies and individuals who provided comments on the Revised Draft PEIS received a copy of the Final PEIS. The notice of availability of the Final PEIS was published in the *Federal Register* on March 11, 2011, indicating a 30-day review period ending on April 11, 2011.

I.1 Final PEIS Comment Summary

The lead agencies received comments from 13 agencies, organizations, and individuals. Comments were received in the form of letters and emails. After the comment period ended, each comment document was assigned a unique identification number and was delineated by topic to address multiple comments provided by each commenter, resulting in 41 discrete comments. The lead agencies responded to each comment individually, and each comment received is presented next to the corresponding response.

Comments covered a variety of topics discussed in the Final PEIS, including historic resources, funding and project prioritization, biological resources, and economic and community impacts. Some comments require explanation or clarification. Others request more detailed information than can be addressed with information at the Tier 1 level; these details will be addressed in Tier 2 NEPA processes. No comments resulted in changes or corrections to the PEIS.

I.2 Responses to Individual Comments

The comments are grouped by commenter into four categories and assigned identification numbers within these categories. Comments received from state and federal agencies are classified as SF-XX. Comments received from local governments and elected officials are classified as LO-XX. Comments received from organizations and interest groups are classified as ORG-XX. Comments received from individuals are classified as IND-XX. Each comment is delineated by topic, and these topics are assigned identification letters. For example, a comment document from an individual that provides two separate comments is delineated into two discrete comments: IND-XX-A and IND-XX-B.

The comments are organized alphabetically by type of commenter, as listed in **Table 2**. The comments and responses follow in the same order as listed in **Table 2**.

Table 2. Index of Comments Received on the Final PEIS

Name	Document ID	Source
State and Federal Agencies		
Colorado State Publications Library	SF-01	Email
Environmental Protection Agency	SF-02	Letter
National Trust for Historic Preservation	SF-03	Letter
Colorado Historical Society / Colorado State Historic Preservation Officer	SF-04	Letter
Local Governments		
Clear Creek County Commissioners	LO-01	Letter
Jefferson County Historical Commission	LO-02	Letter
Organizations and Interest Groups		
Center for Native Ecosystems, et al.	ORG-01	Letter
Denver Regional Council of Governments	ORG-02	Email
Partners for Access to the Wood	ORG-03	Email
Individuals		
Burchenal, Shan	IND-01	Email
Carpenter, John	IND-02	Email
Hamelin, Rob	IND-03	Email
Mulcahy, Mike	IND-04	Email

Comments

Source: Letter
Document Number: SF-01
Name: Colorado State Publications Library
City, Zip Code: Denver, 80202

A I've been trying to access www.i70mtnCorridor.com for the last two days to view the I-70 West Environmental Study online, but the page is not loading – I'm getting a time out error. You may want to check with your web administrator.

Did you know that state agencies are required to deposit copies of all publications and reports into the State Publications Library? I looked at the list of libraries that are receiving print copies, but didn't see our library on the list. Could you please send a print copy of the study to the State Publications Library?(201 E. Colfax Ave, Room 314, Denver CO).

Responses

Response to SF-01

- A. A copy of the Final Programmatic Environmental Impact Statement (PEIS) was sent to the State Publications Library as you requested, and Colorado Department of Transportation (CDOT) staff has received notice of this requirement. The lack of access to the project website was resolved with you via email during the comment period.

Comments

Source: Letter
Document Number: SF-02
Name: U.S. Environmental Protection Agency
City, Zip Code: Denver, 80202

A The U.S. Environmental Protection Agency (EPA) Region 8 has reviewed the I-70 Mountain Corridor Final Programmatic Environmental Impact Statement (PEIS) in accordance with EPA's responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4321, *et seq.*, and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609. This Final PEIS was prepared by the U.S. Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT).

PROJECT DESCRIPTION

CDOT and FHWA are proposing transportation improvements to increase capacity, improve accessibility and mobility, and decrease congestion along the 144 mile-long I-70 Mountain Corridor from Glenwood Springs in the west to C-470 in the east in Colorado. This Final PEIS, a "Tier 1" document, analyzes proposed alternatives to meet the purpose and need for this action. The Tier 1 decision identifies general capacity, mode, and location for transportation improvements in the Corridor and establishes the framework for future project-level activities. Mitigation strategies for natural resources are described in this Final PEIS, but specific mitigation measures for each resource will be addressed in the subsequent Tier 2 NEPA documents.

B Alternatives considered for meeting the purpose and need for the projects ranged from the No Action Alternative, to transportation management, to action alternatives that included highway improvements, bus, rail, an Advanced Guideway System, and a combination of these components. The Preferred Alternative is a combination of the following: (1) transportation management; (2) a minimum or maximum program of highway improvements (i.e., highway widening, auxiliary lanes, interchange improvements, curve safety modifications, and third bores at the Eisenhower-Johnson Memorial Tunnel and at Twin Tunnels) for either 55 miles per hour (mph) or 65 mph; and (3) the Advanced Guideway System, a technology that has yet to be developed. The transportation agencies are planning on using an adaptive management approach to the Preferred Alternative that allows transportation improvements to be implemented over time.

Air Quality

C EPA appreciates the additional language that was added to section 3.1.6 to address our comments on the Revised Draft PEIS. This new language also stated that additional MSAT analyses will be performed for populated areas along the corridor that will include quantitative emissions analyses. In addition, we are pleased with the statement in section 3.1.7 that air quality monitoring during construction, including PM_{2.5}, is being considered.

Responses

Response to SF-02

- A.** Comment noted with a minor clarification regarding mitigation strategies. The Programmatic Environmental Impact Statement (PEIS) describes mitigation strategies for both natural and built environment resources.
- B.** Comment noted with a minor clarification to the description of the Preferred Alternative. The comment letter refers to "a minimum or maximum program of highway improvements..." (emphasis added). Highway improvements are a range of a minimum to maximum program of improvements. Although a seemingly minor wording change, the description of the Preferred Alternative as a range is important since, based on information available today, the Minimum Program alone does not meet the 2050 purpose and need and the Maximum Program is needed and approved as part of this Record of Decision. The adaptive management component of the Preferred Alternative requires review of transportation conditions before improvements beyond the Minimum Program are implemented, however.
- C.** Comment noted.

Comments

Source: Letter
Document Number: SF-02
Name: U.S. Environmental Protection Agency
City, Zip Code: Denver, 80202

D EPA looks forward to the Tier 2 analysis of the I-70 Mountain Corridor projects that will provide specific detailed discussions, data, and other information necessary to address the specific environmental impacts and mitigation associated with the Preferred Alternative. With this premise in mind, EPA offers the following comments with regard to the Final PEIS:

- **Air Emissions Data:** Section 3.1, Climate and Air Quality Resources, page 3.1-3, Table 3.1-1 and section 3.1, page 24, Table 6 of the Climate and Air Quality Technical Report: We note that EPA's Compilation of Air Pollutant Emission Factors AP-42, Chapter 13.2.1 for estimating re-entrained road dust emissions was updated as of January, 2011. This was officially announced in the Federal Register on February 4, 2011 (see 76 FR 6328). For Tier 2 projects, EPA recommends using these revised emission factors as they are current information and will show greatly reduced re-entrained road dust calculated emissions for paved roads.

- 1.) **Air Emissions Tier 2 Process:** Section 3.1, Climate and Air Quality Resources, page 3.1-6, section 3.1.6: The last sentence of paragraph one of this section states "... and will use the Environmental Protection Agency's latest air quality model, MOVES, where appropriate." EPA appreciates this additional commitment. The current version of MOVES – MOVES2010a – was released by EPA in late August, 2010 and there will likely be subsequent versions. Please check our website, <http://www.epa.gov/oaq/models/moves/index.htm>, for the latest version when Tier 2 NEPA documents are developed.

E

EPA thanks FHWA and CDOT for addressing some of the comments regarding stormwater concerns. EPA agrees with CDOT that because the PEIS will lead to multiple Tier 2 processes and separate construction projects, CDOT can acquire separate permits for each project. EPA will review the Tier 2 NEPA documents and provide comments on the appropriate permitting mechanism for these separate projects.

The last four bullets of EPA's detailed water resources comments were missing from Appendix F Response to Comments. The missing bullets related to the Total Maximum Daily Load (TMDL). EPA anticipates that during the Tier 2 processes, CDOT will provide information for how each separate construction project will comply with the TMDL for stormwater construction discharges.

Responses

Response to SF-02 (continued)

- D.** Thank you for identifying the updated information for estimating re-entrained road dust emissions. The lead agencies will conduct Tier 2 NEPA processes in accordance with United States (U.S.) Environmental Protection Agency (EPA) and the Federal Highway Administration (FHWA) guidance available at the time the analyses are conducted and will comply with current practices and standards for modeling and estimating air pollutants, as noted in **Section 3.1.6** of the Final PEIS.
- E.** The last four bullet points of your comment on water resources were inadvertently cut off from your letter reproduced in **Appendix F** of the Final PEIS. We apologize for this omission, and have included those bullet points here for reference:

- "Best Management Practices (BMPs) for recognizing, diverting, and potentially treating waters that have been exposed to historical mine wastes;
- Requirements for post-construction monitoring of stormwater runoff from management practices (e.g., detention basins) to ensure compliance with existing water quality standards and/or existing pollutant load allocations;
- Provisions to ensure compliance with existing total maximum daily loads (TMDLs) during and post-construction (e.g., 70 percent re-vegetation of cut-and-fill slopes and removal of at least 25 percent of the traction sand applied annually from the confluence of Straight Creek and the Blue River to the west portal of the Eisenhower tunnel); and
- Provisions to ensure compliance with water quality standards in areas where water quality standards have been exceeded but TMDLs have not yet been approved."

(continued on next page)

Comments

Source: Letter
Document Number: SF-02
Name: U.S. Environmental Protection Agency
City, Zip Code: Denver, 80202

Environmental Justice

F EPA commends FHWA and CDOT for adding language and graphics (i.e., Figure 3.9 I map showing minority and low income populations across the corridor) to the Environmental Justice (EJ) chapter. EPA also appreciates the additional outreach to potential EJ communities in the project area that included a small group meeting, distribution of information packets, phone briefings with building managers where identified populations live, and working with churches and conducting information briefings after church services.

Most of our concerns regarding EJ have been addressed at the Tier 1 level. However, we encourage detailed analysis in Tier 2 regarding impacts to minority, low-income, and tribal communities in regards to construction impacts, economic and social impacts, air and water impacts, and cumulative impacts. EPA still contends that due to the location of low-income populations near the I-70 corridor through most of the study area, there is likely to be a disproportionate impact to these populations over the general population and this should be considered further in Tier 2 analyses.

General Comments

G EPA appreciates that more detailed explanations of the resource study areas and that Table 3.3-1, which was missing in the Revised Draft PEIS, were added to the Final PEIS. Thank you for the opportunity to provide comments on the I-70 Mountain Corridor Final PEIS. If you have any questions or would like to discuss our comments or rating, please contact me at 303-312-6004 or the lead reviewer of this project, Carol Anderson, at 303-312-6058.

Responses

Response to SF-02 (continued)

E. (continued from previous page)

Although these points from your comment were not physically reproduced in the Final PEIS, our comment response to your comment SF-02-I did address the content of these points. Specifically, CDOT will ensure the appropriate permit is acquired for each separate project, will add mitigation measures (many of those mentioned in your comment and contained within in the *I-70 Mountain Corridor PEIS Water Resources Technical Report*, included electronically on CD-ROM in Volume 3 of the PEIS technical Reports and on the project website) to the water quality protection specifications for construction projects, and will comply with specific Sediment Control Action Plans that are developed for sensitive or impaired waters. These mitigation measures and Sediment Control Action Plans will be refined during Tier 2 NEPA processes. Additionally, recommendations made by the Stream and Wetland Ecological Enhancement Program (SWEEP) Committee will be integrated into project development, such as sediment control and stream restoration measures.

F. The Environmental Protection Agency's agreement with additional outreach and information provided in the Final PEIS is noted.

As noted in **Section 3.1.9** of the PEIS, Tier 2 NEPA processes will include but are not limited to refined identification of and impact analysis for minority and low-income populations, including potential construction impacts, economic and social impacts, air and water impacts, and cumulative impacts, for minority and low-income populations residing near specific improvement areas. No tribal communities exist within the Corridor. Tribal consultation is documented in **Section 3.13** of the PEIS and in **Appendix B, Section 106 Programmatic Agreement**, to the PEIS.

G. Thank you for the acknowledgement that the changes in the Final PEIS address your comments on the Revised Draft PEIS related to resource study areas and Table 3.3-1. The lead agencies thank you for your review of the Final PEIS.

Comments

Source: Letter
Document Number: SF-03
Name: National Trust for Historic Preservation
City, Zip Code: Denver, 80202

A Thank you for the opportunity to comment on the Final PEIS (PEIS) for the I-70 Mountain Corridor. We are supportive of the Preferred Alternative and of the groundbreaking process by which it was developed.

We very much appreciate CDOT addressing the comments we offered on the Draft PEIS. The questions and comments we raised in our November 5, 2010 letter, including questions about the emphasis on CSS, the 4(f) Section's buffer zone language, how early action projects will be treated and the need for access to all materials and websites mentioned in the PEIS, were satisfactorily addressed in the Final. We were especially gratified to see the increased emphasis on CSS which we believe will be transformative for the corridor and hopefully be translated to future CDOT projects statewide.

As we've stated before, the true test of this document will be how successfully it stands the test of time in guiding projects that are yet to be developed or even conceived. We believe that the PEIS's visionary nature will help to make this possible and again congratulate CDOT on its new approach to planning for major highway projects in our state. We look forward to continuing to participate in Section 106 consultation and NEPA reviews as the Tier 2 projects unfold.

Thank you for your consideration.

Responses

Response to SF-03

- A. Thank you for your review and support of the Preferred Alternative and your involvement in the Programmatic Environmental Impact Statement (PEIS) process. Thank you also for the acknowledgement that our responses to your comments on the Revised Draft PEIS and resulting changes in the Final PEIS address your previous comments. The lead agencies look forward to the National Trust's continued involvement in future Tier 2 NEPA processes.

Comments

Source: Letter
Document Number: SF-04
Name: Colorado Historical Society
City, Zip Code: Denver, 80202

Thank you for your correspondence dated March 8, 2011 and received by our office on March 10, 2011 regarding the review of the above-mentioned project.

After review of the Final Programmatic Environmental Impact Statement (PEIS), many of our comments from the draft PEIS were addressed in a good manner. We also appreciate the additional attention given to the collaborative effort and collaborative alternative. We only had two minor comments in regards to the final PEIS:

- A** • The final PEIS defines indirect effects on page 3.13-6 as "visual, noise, and access changes to the historic setting of the Corridor." According to 36 CFR 800.5, indirect effects also include atmospheric changes, vibrations, and effects that can happen later in time, such as change in historic land use.
- B** • What is the relationship between the Final PEIS and the recent study of the Twin Tunnels by transportation experts for CDOT?

C Again, thank you for the opportunity to comment on the final PEIS. We look forward to continued consultation under the Programmatic Agreement for tier 2 projects. If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Manager, at (303) 866-4678.

Responses

Response to SF-03

- A.** Thank you for your review and the acknowledgement that our responses to your comments on the Revised Draft Programmatic Environmental Impact Statement (PEIS) and resulting changes in the Final PEIS address many of your previous comments. The lead agencies look forward to working with the State Historic Preservation Office in implementing future Tier 2 projects in accordance with the Section 106 Programmatic Agreement.
- B.** Thank you for this clarification. On the same page, the Final PEIS acknowledges these categories of indirect effects by stating: "Indirect effects generally include changes to a property's setting or use, or the introduction of visual, atmospheric, or audible elements that diminish a property's historic integrity." The Final PEIS also acknowledges the consulting parties' interest in the analysis of indirect effects in crafting the Section 106 Programmatic Agreement (see **Section 3.13.3**). The potential effects of land use changes on historic properties is described in **Chapter 4, Cumulative Impacts Analysis**. The lead agencies acknowledge that a detailed understanding of indirect effects is limited for Tier 1 analysis but are committed to thorough analysis in Tier 2 National Environmental Policy Act (NEPA) processes, in accordance with the Section 106 Programmatic Agreement.
- C.** The Final PEIS identifies the Twin Tunnels as a choke point for congestion, and many comments on the Revised Draft PEIS related to the need for improvements in this area specifically. In late February 2011, CDOT convened a week-long design "visioning workshop" that included local, national, and international design and construction experts to discuss a variety of short-term mobility options to aid in the alleviation of congestion in the Twin Tunnels area. The workshop's short-term Technically Recommended Concept does not preclude and is consistent with the long-term, comprehensive solution outlined in the Final PEIS and Record of Decision. The Colorado Department of Transportation intends to move forward with the Twin Tunnels improvements as a Tier 2 NEPA process and will be forming a project leadership team, engaging in discussions with stakeholders, and developing a funding plan in the near term.

Comments

Source: Letter
Document Number: LO-01
Name: Clear Creek County Commissioners
City, Zip Code: Georgetown, 80444

A Clear Creek County is pleased to endorse the Final Programmatic Environmental Impact Study (FPEIS) for the I 70 Mountain Corridor prepared by the Colorado Department of Transportation (CDOT) Region 1. The Preferred Alternative selected in the FPEIS accurately reflects the Consensus Recommendation made by the Collaborative Effort group of which Clear Creek County was a participating member. The County fully supports the choice of the Preferred Alternative.

B The County expressed concerns that the Purpose and Need statement continue to emphasize environmental sensitivity, community values, along with increases in capacity, accessibility, mobility and safety. Section ES.5 and Chapter 1 Purpose and Need Section 1.6 have alleviated those concerns. The County will continue to press for those considerations to be utilized in the screening, as well as the development, of alternatives in Tier 2 projects as that suggested wording was not incorporated.

C The definition of Context Sensitive Solutions and CDOT Region 1 commitment to its process and guidelines has been well clarified in ES 12 and clearly restated in the Introduction 7, 8, and 9. The statement in Introduction 5 "Regardless of class (of NEPA action) all Tier 2 processes will adhere to the Mountain Corridor Context Solutions process developed for the I 70 Mountain Corridor" is a significant future reference for CDOT and the County.

D The description of the Advanced Guideway System in Chapter 2 as "capable of being fully elevated" is acceptable to Clear Creek. The discussion of the flexibility of alignment and technology accurately mirror the agreement reached through the Collaborative Effort.

E The environmental and community values analysis and suggested mitigation strategies remain a focal point for the County. Many of our resources such as air, water and wildlife and community concerns such as economic health and noise tolerance are at a "tipping point" where even minimal impact causes significant harm. Recreational opportunities, historical properties and visual resources are the principal attractors for Clear Creek communities which are sustained on tourist revenues. Deterioration of those amenities can not be acceptable to Clear Creek County. The County intends to be proactive in Tier 2 environmental and community analysis and the design of Context Sensitive Solutions.

F The County appreciates that the development of the SWEEP and ALIVE agreements will present a forum for the ongoing review and discussion of water and wildlife issues. Clear Creek County is participating in the current Sediment Control Action Plan and Wetland Bank projects as well as SWEEP and ALIVE. Wildlife health and habitat connectivity is a priority for Clear Creek.

Responses

Response to LO-01

- A.** Thank you for your involvement in the Programmatic Environmental Impact Statement (PEIS) process and your support of the Preferred Alternative and Tier 1 decision. Thank you also for your acknowledgement throughout your letter that the edits made to the Final PEIS address your comments on the Revised Draft PEIS.
- B.** As you note, the PEIS purpose and need states that alternatives must meet transportation needs and provide for and accommodate environmental sensitivity, respect for community values, safety, and ability to implement. Additionally, the PEIS (**Section ES.20** and **Section 2.7**) acknowledges that the criteria developed by the Collaborative Effort, which include community and environmental considerations, will continue to be used as criteria of effectiveness in future projects. The County will have opportunities to participate in Tier 2 projects, and CDOT looks forward to your active participation in defining criteria and developing alternatives for specific Tier 2 NEPA processes. (We were not able to find the suggested language referenced in your comment letter on the Revised Draft PEIS.)
- C.** Comment noted.
- D.** Comment noted.
- E.** Your concerns are noted. The lead agencies look forward to the continued involvement of Clear Creek County in environmental and community impact analysis and alternatives development in future Tier 2 NEPA processes. Tier 2 NEPA processes will define the affected area and conduct impact analyses in more detail that is localized to the specific project area.
- F.** Comment noted.

Comments

Source: Letter **Name: Clear Creek County Commissioners**
Document Number: LO-01 **City, Zip Code: Georgetown, 80444**

G Air quality is a more difficult issue. As the FPEIS acknowledges, Clear Creek, where numerous citizens live up against the Interstate in a tight valley where heavy air does not escape, does not have sufficient air quality measurements. The FPEIS makes the assumption that the Environmental Protection Agency regulations will be sufficient to improve overall air quality. This does not seem appropriate without empirical data to support findings. With CDOT's cooperation the County will pursue funding for appropriate air quality studies. The County deems such information necessary to pursue Tier 2 projects.

H Chapter 3.8 Section 3.8.5 Social and Economic Values does state the unique impact on Clear Creek and the projected lack of benefits accruing to the County from the proposed improvements. Section 3.8.6 suggests that further analysis of local county economic impacts will be undertaken at the Tier 2 level. As the PEIS does not disaggregate the socio/economic impacts, the County feels that it is imperative that the Tier 2 level economic and social analyses be county specific. Those impacts and their mitigation will help guide the County in decision making on future projects. Environmental Justice is part of these considerations. The County appreciates and will cooperate with the Tier 2 analysis of pockets of minority and low-income population promised in Chapter 3.9 Section 3.9.7.

I Chapter 3.8, Section 3.8.5 also recognizes that Clear Creek's emergency response expenses are disproportionately high. However, the study erroneously concludes that impacts on emergency service are "unlikely since measurable induced growth in the county is not anticipated." This ignores the high portion of emergency calls that are highway related. Compensation for highway related cost will continue to be a Clear Creek issue.

Responses

Response to LO-01 (continued)

G. The PEIS analyzed air quality on a regional, Corridorwide basis; location-specific analysis will be conducted during Tier 2 NEPA processes. **Section 3.1.5** of the PEIS does find that, on a Corridorwide basis, most pollutant concentrations are likely lower in 2035 than today because of stricter regulations controlling emissions and older, higher-polluting vehicles being replaced by new lower-polluting vehicles. However, the PEIS concludes that localized areas may have higher ambient concentrations of Mobile Source Air Toxics (MSATs) in particular, under the Action Alternatives, and these are likely most pronounced along roadway sections in Clear Creek County between Silver Plume and Idaho Springs and in the Vail Valley. The PEIS also acknowledges that beyond 2035, the trend of decreasing emissions may slow, and pollutant emissions may correlate more directly with vehicle miles traveled as technological advances become less effective.

As noted in **Section 3.1.6** of the PEIS, CDOT will conduct project-specific Tier 2 NEPA processes in accordance with national guidance, include localized air quality modeling where appropriate, demonstrate conformity with regional air quality plans, and conduct quantitative MSAT emissions analysis in populated areas along the Corridor when warranted by traffic volumes (which will generally exceed the level at which FHWA guidance requires such analysis). The Colorado Department of Transportation will consider any air quality monitoring or studies sponsored by Clear Creek County during these processes.

H. As you note, the PEIS states that during Tier 2 NEPA processes, the lead agencies will conduct further analysis of local county economic impacts and will evaluate local impacts on areas of concern for minority and low-income populations identified by local municipalities.

I. The PEIS discusses both direct and indirect impacts to emergency services. The connection drawn in the comment incorrectly correlates the two conclusions.

(continued on next page)

Comments

Source: Letter
Document Number: LO-01
Name: Clear Creek County Commissioners
City, Zip Code: Georgetown, 80444

Chapter 3.10 reports that “no outside agencies regulate noise studies or impact analyses”. That is evident. Noise is the overwhelming negative impact from the Interstate. Clear Creek County is not in agreement with the method of noise analysis which averages noise over an hour in a region where noise spiking is the most prevalent disruption, nor the placement of the noise receptors e.g. under the highway. The measurement of noise and mitigation for noise will be a prominent discussion on Tier 2 projects which impact residential areas. An ordinance regulating night time construction noise is certainly a consideration.

J

Responses

Response to LO-01 (continued)

- I. (continued from previous page)
- The PEIS concludes that safety improvements to the highway likely reduce pressures on emergency response related to highway crashes (top of page 3.8-5). It further concludes that this improvement in highway safety results in direct benefits, especially for Clear Creek County because the county's I-70 highway-related emergency response expenses are disproportionately high.
- As you note in your comment, the indirect impacts discussion in **Section 3.8.5** of the PEIS (bottom of page 3.8-5) concludes that indirect impacts (not related to the highway) on Clear Creek County's emergency services are unlikely since measurable induced growth is not anticipated.
- J. The Colorado Department of Transportation conducts noise analysis in accordance with federal and state noise policies, which use average noise levels over the “loudest hour” of the day. The lead agencies understand residents' concerns about spikes in noise levels from engine compression brakes, and have discussed this issue in the *I-70 Mountain Corridor PEIS Noise Technical Report* (included electronically on CD-ROM in Volume 4 of the PEIS technical Reports and on the project website). The United States Environmental Protection Agency limits the noise level of trucks, including the noise generated by the engine brake, to 87 A-weighted decibels (dBA) at a distance of 50 feet. However, noise levels can reach nearly 100 dBA when the muffler is disconnected, a practice that is prohibited by state law. The key to reducing engine brake noise levels is the inspection and maintenance of standard mufflers on all large trucks and enforcing existing state law, which imposes a \$500 fine on commercial trucks without mufflers.
- Regarding the placement of noise receptors, the primary purpose of the noise study conducted for the PEIS was to provide the lead agencies and stakeholders the ability to compare noise levels among alternatives. Noise receptors were placed in representative locations in the Corridor to compare and contrast noise among alternatives and identify mitigation strategies that could be considered during Tier 2 NEPA processes.

(continued on next page)

Comments

Source: Letter	Name: Clear Creek County Commissioners
Document Number: LO-01	City, Zip Code: Georgetown, 80444

Visual Resources, Chapter 3.11 are another sensitive area. The County appreciates the recognition that our visitors are here for the scenery. The selection of numerous major vistas in Clear Creek illustrates the point. The County will have a more difficult time defending these vistas from a growing army of signs than from Tier 2 transportation projects. In that regard the commitment to the Aesthetic Guidelines is welcome.

The directives to Tier 2 in Chapter 3.13, Historic Properties, are particularly important to Clear Creek. Of particular interest and agreement is the APE (Area of Potential Effect) Boundary directive. The Historic Context developed by CDOT is discussed throughout the document as a National Register Multi Property Document Form (MPDF). It is the County's understanding the Context will not be filed as an MPDF. The Context is excellent and it should be clear that it will be utilized in Tier 2 considerations of historical resources whether or not it is an adopted MPDF.

K

L

Responses

Response to LO-01 (continued)

- J. (continued from previous page)
 Generally, receptors were placed approximately 250 feet from the I-70 highway; this distance is close enough to the I-70 highway to experience impacts from changes in noise levels and is representative of many residences near the I-70 highway.
 In some cases, receptors at this distance are higher than the highway, and in other cases, they are lower than the highway. During Tier 2 NEPA processes, noise measurements will be taken at noise-sensitive receptors adjacent to the alternatives being studied, and a thorough assessment of potential noise impacts and mitigation will be conducted.
 The PEIS states that construction noise is subject to local ordinances. Outside of Vail (i.e., Clear Creek County communities), construction noise is subject to "nuisance" codes. However, as noted in **Section 3.10.4** of the PEIS, limiting work hours is identified as a potential mitigation strategy for construction noise.
 The Colorado Department of Transportation is required to comply with current federal regulations and guidance for Tier 2 NEPA processes.
 Comment noted. As carried forward to the Record of Decision, the lead agencies have committed to following the I-70 Mountain Corridor Context Sensitive Solutions process, which includes the Aesthetic Guidelines, on all Tier 2 NEPA processes.
- K.
 The lead agencies agree and are committed to establishing the project-specific Area of Potential Effects (APE) for historic properties in Tier 2 NEPA processes in accordance with Stipulation III of the Section 106 Programmatic Agreement.
- L.
 With regard to the historic context, the lead agencies, in coordination with Section 106 consulting parties, have not determined the final format of the contexts' documentation but are committed to using them in Tier 2 NEPA processes as your comment recommends. Although the Executive Summary (**Section ES.11**) and Introduction (page I-10) of the PEIS reference the Multiple Property Documentation Form as the format that the Historic Context Working Group recommended and the format in which the draft historic contexts have been developed, neither the historic section of the PEIS (**Section 3.13**) nor the Section 106 Programmatic Agreement specify a format for the contexts. However, the commitment to use the historic contexts to guide future Tier 2 NEPA processes is included in **Section G** of the Record of Decision. The Record of Decision and Section 106 Programmatic Agreement are binding commitments whether the contexts are filed as Multiple Property Documentation Forms or published in another format.

Comments

Source: Letter
Document Number: LO-01
Name: Clear Creek County Commissioners
City, Zip Code: Georgetown, 80444

M Chapter 3.14, Section 4(f) Discussion, addressing the specific requirements of the Transportation Act is virtually a document within a document. The County appreciates the underscoring of the importance of the Clear Creek Greenway Plan and the Georgetown Silver Plume National Historic Landmark District in Sections 3.14.5 and 3.14.6 and the description of the difficulty of “feasible and prudent avoidance” of these resources. The County will press for not only “minimizing harm” but also promoting means by which to enhance these valuable assets in the Tier 2 transportation processes. The limitations placed on fixed guideway transit in Section 3.14.7, pages 22 and 23 are noted as are the potential actions for “minimizing harm” in Section 3.14.27. Clear Creek County supports the clear rationale for the choice of the Preferred Alternative as it relates to recreational and historical resources discussed in Sections 3.14.9 and 3.14.12. The directives for Tier 2 Section 4(f) process in Section 3.14.8 and in the six step process outlined in the concluding section 3.14.13 will serve as guidance to stakeholders as well as transportation agencies and reflect the CSS process.

N In the opening statement of the Mitigation Summary, Chapter 3.19, the listing of the laws and agreements will be helpful to stakeholders as Tier 2 projects move forward. The CSS statement should include commitment to the CSS process as well as the criteria and aesthetic guidance.

Responses

Response to LO-01 (continued)

M. Section 4(f) is a separate requirement from NEPA and has specific documentation requirements. Although included within the PEIS as allowed and appropriate within Section 4(f) requirements, the specific evaluation requirements for Section 4(f) necessitate the “document within a document” approach observed.

With regard to the Clear Creek Greenway Plan and Georgetown Silver Plume National Historic Landmark District, the lead agencies recognize the importance of these resources to Clear Creek County and the applicability of Section 4(f) evaluation requirements for these and other properties in Tier 2 NEPA processes. Section 4(f) specifically requires FHWA to consider alternatives with “least overall harm” to resources if there is no prudent and feasible avoidance alternative. The least overall harm determination is made after applying mitigation, which could include consideration of enhancements as suggested.

Your agreement with the selection of the Preferred Alternative under Section 4(f) requirements is noted, as is your agreement with the process outlined in **Section 3.14.13** of the PEIS for Tier 2 Section 4(f) evaluations. As implied in your comment, the limitations of fixed guideway transit referenced on pages 3.14-22 and 3.14-23 are the reasons that the single mode fixed guideway transit alternatives do not meet purpose and need and are, therefore, not feasible and prudent avoidance alternatives. The Record of Decision approves the Preferred Alternative’s mode decision, which is for a multimodal program of highway improvements and Advanced Guideway System. Single mode and other alternatives considered in the PEIS will not be reconsidered for Section 4(f) or NEPA documentation in Tier 2 NEPA processes. Tier 2 NEPA process may approve single mode improvements, but always with consideration of the Tier 1 decision.

N. As stated in **Section G** of the Record of Decision (and **Section 3.19** of the PEIS), the lead agencies are committed to following laws, regulations, and policies in place at the time Tier 2 NEPA processes are initiated. The listing of those requirements will be developed and presented in Tier 2 documentation. A comprehensive listing of applicable laws and regulations is not included in this PEIS as the implementation of the Preferred Alternative is likely to occur over many years, and such a listing would become dated.

(continued on next page)

Comments

Source: Letter
Document Number: LO-01
Name: Clear Creek County Commissioners
City, Zip Code: Georgetown, 80444

Overall, even with consideration of these comments, this is an excellent document. Together the agencies and stakeholders have come a long way from where we started. Clear Creek County looks forward to the Record of Decision and moving forward on projects as a cooperative partner.

○

Responses

Response to LO-01 (continued)

- N. (continued from previous page)
- The commitment to the I-70 Mountain Corridor Context Sensitive Solutions (CSS) process includes all aspects of the program, including the articulation of the context statement and core values, and specific design and aesthetics guidelines. The I-70 Mountain Corridor CCS process is described in **Appendix A** to the PEIS, which is also included by reference in the Record of Decision.
- O. Thank you for your involvement in the PEIS process. The lead agencies look forward to Clear Creek County's continued involvement in future Tier 2 NEPA processes.

Comments

Source: Letter	Name: Jefferson County Historical Commission
Document Number: LO-02	City, Zip Code: Golden, 80401

A The Jefferson County Historical Commission (JCHC) has reviewed the Colorado Department of Transportation (CDOT) and Federal Highway Administration (FHWA) *Final Programmatic Environmental Impact Statement (DPEIS) for the I-70 Mountain Corridor* and the *Historic Properties and Native American Consultation* technical report. We appreciate the opportunity to present the following comments:

Final PEIS

Page 3.13-2, para 3, last sentence: The PEIS states that the data from the Office of Archaeology and Historic Preservation (OAHP) is not complete for Section 106 compliance. This, combined with a windshield survey, provides only enough background for general analysis. Although we agree that this level of analysis is appropriate for a programmatic EIS, we believe that the OAHP database is not necessarily the most up-to-date database of local cultural resources. Please contact the JCHC for the current list of locally significant historic properties.

B Figure 3.13-1 shows more than 30 known listed or eligible historic properties in Jefferson County. However, the 2004 the Revised Reconnaissance Survey of the Interstate 70 Mountain Corridor between Glenwood Springs and C-470 in Colorado (January 2005), lists 11 sites eligible or listed in the National Register of Historic Places (NRHP) (I-70 Mountain Corridor DPEIS Historic Properties and Native American Consultation Technical Report, Appendix D—August 2010). Table 2 of the Technical Report lists 13 properties on the NRHP. However, Table 4 in the Technical Report lists six properties officially eligible for the NRHP. There are discrepancies among the PEIS, the technical report, and the revised survey report that are difficult for the lay reader to understand.

Responses

Response to LO-02

- A.** As you note, the Programmatic Environmental Impact Statement (PEIS) acknowledges that the Office of Archaeology and Historic Preservation (OAHP) records are not complete or correct for Section 106 compliance and that additional survey and evaluation of historic properties will occur in Tier 2 NEPA processes. However, the Section 106 process undertaken for the PEIS is appropriate for a Tier 1 level analysis and has been supported by the State Historic Preservation Office and other parties. The PEIS also commits to continued coordination with consulting parties, including the Jefferson County Historical Commission. As part of that coordination, consulting parties will have an opportunity to identify local cultural resources of importance. All properties will be evaluated according to National Register of Historic Places criteria for significance, and all evaluations will comply with the *I-70 Mountain Corridor Section 106 Programmatic Agreement* included as **Appendix B** to the PEIS.
- B.** The lead agencies acknowledge that the numeric accounting of historic properties for this project is difficult, as the records were gathered over time, the majority of properties included do not have official National Register of Historic Places status, and the size of the Corridor results in a very large number (more than 2,000) of properties considered. To simplify the accounting in the PEIS, impact analysis properties were grouped by National Register of Historic Places status, including properties listed on the National Register, properties listed on the State Register, properties officially eligible for the National Register, nationally significant interstate properties, and all other properties that are treated as eligible for evaluation purposes. The numbers presented in these categories are consistent among the PEIS and *I-70 Mountain Corridor PEIS Historic Properties and Native American Consultation Technical Report* (included electronically on CD-ROM in Volume 5 of the PEIS technical reports and on the project website), as explained below.
- As described in **Section 3.13.2** (page 3.13-2) of the PEIS (and **Section 5.2.1** of the *I-70 Mountain Corridor PEIS Historic Properties and Native American Consultation Technical Report*), file searches were conducted in 2003 and 2009. The second file search conducted in 2009 provided an update to the information presented in the 2004 Draft PEIS and 2004 Reconnaissance Report.
(continued to next page)

Comments

Source: Letter	Name: Jefferson County Historical Commission
Document Number: LO-02	City, Zip Code: Golden, 80401

Technical Report

Section 3.3 Local Input, page 4, para 2: states that all local county governments with historic preservation ordinances or boards were consulted. Representatives from Clear Creek County, Summit County, and Glenwood Springs identified properties of local historic interest. The Jefferson County Historic Commission is not listed as having given input in 2001, 2202, and 2004. Please clarify if the JCHC was consulted and when.

C

Responses

Response to LO-02 (continued)

B. (continued from previous page)

The 2004 Reconnaissance Report, which is presented as **Appendix D** to the *I-70 Mountain Corridor PEIS Historic Properties and Native American Consultation Technical Report* and was included because it provides narrative and pictorial background not reproduced in the Technical Report, contains file search data from 2003 only. Therefore, the information presented in the tables in the Reconnaissance Report is outdated and is not meant to be consistent with the updated data provided in the PEIS or Technical Report.

Tables 2 and 4 of the *I-70 Mountain Corridor PEIS Historic Properties and Native American Consultation Technical Report* provide a summary of the National Register-listed and officially eligible properties excerpted from **Appendix B** of the Technical Report, which presents the combined file search data in tabular form. These sources show a total of 13 National Register listed properties, six officially eligible properties, and one nationally significant interstate feature within Jefferson County. Of these, only the Genesee Bridge, a nationally important interstate feature, is potentially affected by the Preferred Alternative.

The mapping presented in Figure 3.13-1 does appear to be an error and includes more properties than the National Register listed and Officially Eligible categories. This figure is intended to provide a graphic overview of concentrations of properties along the Corridor and as a result of the mapping error shows more properties in Jefferson County than have been listed or recorded as officially eligible. The map was not used for impact analysis, and the error in the display of sites does not affect conclusions at the Tier 1 level. Tier 2 NEPA processes will include intensive surveys, mapping, and impact analysis.

C. The lead agencies recognize and appreciate Jefferson County Historic Commission's involvement in the PEIS as a consulting party, as listed in Table 1 of the Technical Report.

According to our records, Jefferson County Historic Commission (Debra Andrews), along with a number of other municipalities and organizations, was contacted to be a Section 106 consulting party for the I-70 Mountain Corridor in September 2004. Jefferson County Historic Commission (Lucy Bambrey) submitted comments on the 2004 Draft PEIS in May 2005.

(continued on next page)

Comments

Source: Letter	Name: Jefferson County Historical Commission
Document Number: LO-02	City, Zip Code: Golden, 80401

D Section 6. Environmental Consequences of the Technical Report addresses potential direct and indirect impacts on historic properties listed in or eligible for the NRHP. However, under the Tier 1 analysis, this analysis is incomplete and misleading to the lay reader without a full inventory within Jefferson County.

Again, we appreciate the opportunity to be involved as an interested party in the NEPA process for the I-70 Mountain Corridor.

Responses

Response to LO-02 (continued)

- C. (continued from previous page)
Between 2004 and 2008, we provided information to consulting parties but do not show active participation of Jefferson County Historic Commission in the PEIS prior to 2008 when Dennis Dempsey became the primary contact for Jefferson County Historic Commission. As a consulting party, you will continue to receive information and be invited to participate in Tier 2 NEPA processes.
- D. The direct impacts presented in **Section 3.13.6** of the Final PEIS and **Section 6.1** of the *I-70 Mountain Corridor PEIS Historic Properties and Native American Consultation Technical Report* (included electronically on CD-ROM in Volume 5 of the PEIS technical reports and on the project website) are "based on the historic properties identified to date," with the recognition that the identification of properties is incomplete. The opening sentence of **Section 6** of the Technical Report states: "Determining effects on historic properties at the Tier 1 level is by definition an inconclusive process, as comprehensive surveys of historic properties were not conducted to identify historic properties, and conceptual alignments, footprints, and construction areas developed at the Tier 1 level do not provide adequate detail to assess effects to properties." The analysis is admittedly incomplete for the entire Corridor, including areas within Jefferson County. However, it is not misleading, as the limitations on the data identifying historic properties and its conclusions are clearly stated throughout both the PEIS and Technical Report. The approach to Tier 1 analyses is supported by the State Historic Preservation Office and other parties.

Thank you for your review and comments on the Final PEIS. The lead agencies look forward to the Jefferson County Historical Commission's continued involvement in future Tier 2 NEPA processes.

Comments

Source: Letter
Document Number: ORG-01

Name: Center for Native Ecosystems, et al.
City, Zip Code: Denver, 80202

A On behalf of Center for Native Ecosystems (CNE), Wild Connections, Colorado Environmental Coalition, Defenders of Wildlife and Western Environmental Law Center (WELC), please accept these formal comments on the I-70 Final Programmatic Environmental Impact Statement (FPEIS). We appreciate the opportunity to comment, and hope that the following recommendations will assist CDOT in incorporating the most effective wildlife mitigation measures into the Record of Decision (ROD).

Please find below follow-up comments to a few of CDOT/FHWA's responses to the comments submitted in November 2010 on the I-70 Revised Draft Programmatic Environmental Impact Statement (Revised DPEIS) by CNE et al. (please see original comments for citations):

Original Comment 1:

However, clarification on the comprehensiveness of mitigation measures is needed in this section. For example, Fencing is shown to be most effective when combined with multiple crossing structures for wildlife (Clevenger 2000).

Recommendation 1: A comprehensive suite of mitigation tools must be employed in order to improve permeability for wildlife. As expressly recognized in the ALIVE MOU (see Table 1 Linkage Interference Zones and Recommended Mitigation), wildlife crossing structures are an integral part of nearly all of the recommended mitigation measures and should be considered and implemented in conjunction with any fencing. We recommend that you add verbiage in this section that states that wildlife crossings, such as underpasses and overpasses, must be placed at regular intervals and tied together with wildlife fencing to ensure their success.

As an example of piecemeal, premature and ineffective implementation of the recommended mitigation measures from the ALIVE MOU, CDOT is currently constructing miles of wildlife fencing alone on I-70 near Eagle, CO. Such fencing projects, and the wildlife crossings that must accompany them in order for them to be effective, are the subject of the current PEIS and are being undertaken prior to a Record of Decision being issued. Further, while this fencing may reduce animal-vehicle collisions in the direct vicinity of the fencing, it often pushes those collisions to the end of the fencing and does not increase permeability for wildlife. Actions that are taken prior to a final Record of Decision, and that did not have an environmental review process, are premature.

Response 1, in part, found in the FPEIS:

The Colorado Department of Transportation, in coordination with the ALIVE committee, will continue to examine wildlife permeability along the Corridor, incorporating, as feasible, the most readily available current data. Wildlife crossing structure designs will be designed to maximize driver safety and accommodation of wildlife movement using currently available scientific data during Tier 2 processes, which will include measures such as fencing, overpasses and underpasses where appropriate, and signage...Near Eagle, between Dotsero and Wolcott, there are an estimated 29 opportunities for large

Responses

Response to ORG-01

A. Comment noted.

Comments

Source: Letter **Name: Center for Native Ecosystems, et al.**
Document Number: ORG-01 **City, Zip Code: Denver, 80202**
animals to cross the I-70 highway, equating to a crossing every 0.8 miles. A large animal is never more than 0.4 miles from a crossing area; this distance falls within the Colorado Division of Wildlife recommended guideline of providing a crossing opportunity every 0.5 mile. The addition of wildlife fencing does not preclude the usage of these existing structures by wildlife or the addition of new structures. Fencing and/or additional wildlife crossings are intended to direct wildlife to use current or future crossing structures.

I-70 Final PEIS, Appendix F, p. 202

Follow-up comment 1:

B Again we applaud the lead agencies for their continued commitment to the ALIVE MOU and using the most current science and best management practices, this response highlights further that exact need. According to data from the Eco-Logical project¹ which consists of a comprehensive inventory of all structures at least 1 meter in diameter found in the I-70 Mountain Corridor, there are 28 structures between Dotsero and Wolcott. However, it is questionable as to whether or not they all present crossing opportunities for large animals as is stated above. Several structures are pipe culverts and even some of the larger structures may not be appropriate for large animals. While it is agreed that wildlife fencing does not preclude use of these existing structures by wildlife, the opposite is also true. Just because these structures are there does not mean that wildlife will use them if they are not the appropriate design for the target species. Again, even though fencing may be perceived as the most economical solution to address safety issues along the highway (and therefore easier to fund first), CDOT should not be employing singular wildlife mitigation measures that will increase the road barrier effect without increasing permeability for wildlife.

¹ The I-70 Mountain Corridor Eco-Logical project is being conducted by CDOT, Western Transportation Institute, Center for Native Ecosystems, ECO-resolutions, and Colorado Watershed Assembly and is due to be completed in summer of 2011.

Original Comment 2:

We would also like to commend you on the inclusion of an elevated Advanced Guideway System (AGS) in the Preferred Alternative. The AGS will not only improve mobility and reduce congestion, but will also reduce the barrier effect of I-70 by reducing the number of vehicles on the road.

Response 2 found in the FPEIS:

The Preferred Alternative proposes both transit and highway improvements through the I-70 Mountain Corridor. The transit component of the Preferred Alternative provides an

Responses

Response to ORG-01 (continued)

B. The quoted response to comment ORG-26-C from the Final Programmatic Environmental Impact Statement (PEIS) does not include the full response. As noted in a portion of the response not included at left, CDOT conducted an environmental review of the need for wildlife fencing and ramps of the referenced wildlife fencing project near Eagle (under a Categorical Exclusion) in close cooperation with the Colorado Division of Wildlife. This evaluation and coordination with the Colorado Division of Wildlife for this specific area concluded that existing undercrossings provide adequate permeability across the I-70 highway, and that the addition of fencing would improve safety for animals and motorists. Note that the data referenced in the follow-up comment on the number of crossings is similar to the data referenced and considered by CDOT and the Colorado Division of Wildlife. Additionally, as noted in **Section 5** of the Introduction to the PEIS, some planning, design, construction, and maintenance activities can take place before signing a Record of Decision. These activities are early action projects and are common elements to all the Action Alternatives identified in Chapter 2 of the PEIS and have a clear need. Early action projects listed in this section include I-70 Wildlife Fencing.

The Colorado Department of Transportation recognizes that fencing is not a singular solution and that the impact conclusion and recommended mitigation measures for this project may or may not be the same as for another project evaluation. The Colorado Department of Transportation evaluated, and will continue to evaluate, fencing as one measure in a suite of mitigation measures that, when combined effectively, increase permeability, reduce the barrier effect, and ultimately improve connections and reduce wildlife mortality in the Corridor while improving safety for highway users. Further, CDOT commits to following the processes outlined in the A Landscape Level Inventory of Valued Ecosystem Components (ALIVE) Memorandum of Understanding to increase habitat connectivity and reduce animal-vehicle collisions.

Comments

Source: Letter
Document Number: ORG-01
Name: Center for Native Ecosystems, et al.
City, Zip Code: Denver, 80202
Advanced Guideway System that is capable of being fully elevated between the Eagle County Regional Airport and Jeffco Government Center light rail station in Golden with stops throughout the Corridor. This guideway will be elevated in areas that have identified important wildlife linkages but may not be elevated in urban areas where stations are proposed or through tunnels. The Advanced Guideway System will both shift some travel from roadway to transit and will accommodate more persons trips than could be provided by highway improvements alone. However, the Preferred Alternative does not reduce the volume of highway traffic; the highway improvements accommodate greater volumes of traffic to accommodate an additional 5.0- 7.5 million trips of unmet demand, those trips otherwise not taken due to congestion.

I-70 Final PEIS, Appendix F, p. 205

Follow-up comment 2:

It is understood that the AGS may not be elevated in urban areas where stations are proposed or through tunnels, we urge the lead agencies to elevate this system wherever possible. Not only will this improve mobility and reduce congestion, it is the best transit alternative for alleviating the barrier effect of I-70 for wildlife movement. We look forward to the opportunity to comment on this at the Tier 2 level.

Original Comment 3:

Canada lynx

The revised PEIS understates the substantial effect of direct highway mortality on the Southern Rockies Canada Lynx population and should cite CDOW roadkill data. Because the Canada Lynx is a threatened species and its population numbers are still low, direct mortality and roadkill have an extremely significant impact on the existence of a viable lynx population in the Southern Rockies, and in Colorado. The surrounding habitat along the I-70 Corridor is documented to be good lynx habitat with lynx being identified in the White River National Forest and surrounding areas (CDOW 2005). According to the 2001 Progress report, "Human-caused mortality factors such as gunshot and vehicle collision are the highest cause of death for lynx > 8 months post-release (CDOW 2001)." Even more striking, is that according to the 2009 CDOW Progress Report to the U.S. Fish and Wildlife Service, 14 out of the 118 lynx mortalities from 1999-2009 were due to roadkill, representing almost 12% of lynx mortalities (CDOW 2009). With one known den in southcentral Wyoming (CDOW 2009), it is important to ensure lynx can move throughout the state, including north of I-70.

Responses

Response to ORG-01 (continued)

- C. Your preference for an elevated Advanced Guideway System where possible is noted. We look forward to your participation and comments on Tier 2 NEPA processes for the Advanced Guideway System.

Comments

Source: Letter
Document Number: ORG-01
Name: Center for Native Ecosystems, et al.
City, Zip Code: Denver, 80202

The Biological Report should be updated to reflect the recent announcement by CDOW, deeming the reintroduction to be a success (CDOW 2010a). CDOW has found that lynx recruitment into the Southern Rockies population equals or exceeds mortality over an extended period of time. In other words, there is now a self-sustaining population in the Southern Rocky Mountain region. The discussion on lynx in the Biological Report (BR-33), however, tries to minimize the importance of Colorado's lynx for lynx viability throughout its range.

In light of climate change, the Southern Rockies region could become a refugia for the species throughout its range. Studies have predicted that the snowline will rise (Beniston 2003) and that snow accumulation will especially be affected at elevations at or below 4921 ft. (Martin and Durand 1998). The Southern Rockies region has a higher mean elevation than other areas where lynx currently exist: Colorado (6,800 ft), Wyoming (6,500 ft), Utah (6,100 ft), New Mexico (5,700 ft) as compared to Montana (3,400 ft), Idaho (5,000 ft), Washington (1,700 ft), Minnesota (900 ft) and Maine (500 ft) (U.S. Census 2010). Some projections suggest that rising temperatures may result in a substantial decline in lower-elevation snowpack (below 8200 ft./2500 m.) by the mid-21st century, with more modest declines at elevations above 8200 ft. The combined results of several studies suggest that elevation is a factor in changes in snowpack, and that increases in rain vs. snow, reduction in snow water equivalent, and decreases in snowpack, will be of smaller magnitude at elevations above 8200 ft. (Knowles et al. 2006, Regonda et al. 2005, Udall and Bates 2007, Mote et al. 2005, Pierce et al. 2008, Jain 2008, Christenson and Lettenmaier 2006, Ray et al. 2008). Occurrences of Canada lynx in the Southern Rockies are at higher elevations (4,100-12,300 feet) than other areas in the contiguous United States, especially compared to areas outside of the western United States (McKelvey et al. 2000). Some models predict that over the next 100 years sub-alpine fir core range will remain strong in the Southern Rocky Mountains (Natural Resources Canada 2007). Therefore, the higher elevation habitat in the Southern Rockies might provide a refugia for lynx making this population more important than is thought to be the overall persistence of the species in the lower 48-states. This also means that the importance of insuring safe passage for species such as lynx across I-70 is even more important.

Response 3, in part, found in the FPEIS:

A minimum of 13 wildlife crossings will be installed with a maximum number of 25 possible. These crossings will be installed in the 13 LIZs identified by the ALIVE Committee. Ten of these areas are located in lynx habitat and will feature crossings appropriate for lynx. The ALIVE Memorandum of Understanding (Appendix A, I-70

Responses

Response to ORG-01 (continued)

Comments

Source: Letter
Document Number: ORG-01
Name: Center for Native Ecosystems, et al.
City, Zip Code: Denver, 80202

Mountain Corridor PEIS Context Sensitive Solutions) and Section 6.2.1 of the I-70 Mountain Corridor PEIS Programmatic Biological Assessment include descriptions and locations of the LZs. If the maximum number of crossings (25) is installed, the program will be reassessed for its effectiveness.

I-70 Final PEIS, Appendix F, p. 207

Follow-up comment 3:

D To the best of the submitters' knowledge, a maximum of 25 crossing structures has not been mentioned in any of the previous NEPA documentation for the I-70 Mountain Corridor. The lead agencies should not use an arbitrary pre-set maximum number that may or may not reflect the needs of the species in the area. We remind the lead agencies that they have committed to a minimum of 1 crossing per linkage interference zone instead of the minimum of 13 referenced above. The necessary number of crossing structures in each identified area, both in and out of identified linkage interference zones, should be determined only after a thorough assessment of the connectivity needs of wildlife in the area has been completed. Using an arbitrarily pre-set maximum number undermines the processes outlined in the ALIVE MOU to reduce animal-vehicle collisions and increase habitat connectivity throughout the Corridor.

Thank you for the opportunity to comment again on this crucial project.

Responses

Response to ORG-01 (continued)

D. The ALIVE Memorandum of Understanding identifies 13 linkage interference zones. The minimum number of crossings listed (13) equals one crossing per linkage interference zone. The lead agencies recognize and agree that at least one crossing must be provided in each linkage interference zone but the necessary number of crossings in each linkage interference zone needs to be determined through assessment of the connectivity needs of wildlife in that area, not set arbitrarily. The Colorado Department of Transportation, in coordination with the ALIVE Committee, will continue to examine wildlife permeability along the Corridor, incorporating, as feasible, the most readily available current data.

The commenter is correct that neither the Revised Draft PEIS nor Final PEIS references a maximum number of 25 crossings. The 25 crossings was identified in the *I-70 Mountain Corridor Programmatic Biological Opinion* (USFWS, 2011) issued by the United States Fish and Wildlife Service, which states on page 11 that a maximum of 25 wildlife crossings is possible within the linkage interference zones but also acknowledges that the locations are undergoing verification and refinement and that the program may need to be reassessed for its effectiveness. As stated previously, the lead agencies are participating with the ALIVE Committee in assessing crossing locations and numbers and have not determined that 25 is a maximum number of crossings that would be provided.

The lead agencies thank you for your review and comments on the Final PEIS.

Comments

Source: Email	Name: Denver Regional Council of Governments
Document Number: ORG-02	City, Zip Code: Denver, 80203

A DRCOG staff has reviewed the Final PEIS and technical appendices for the I-70 Mountain Corridor. We have two comments which should be considered in future steps, such as with the preparation of the Record of Decision (ROD):

- The F-PEIS and Financial Considerations Technical Report (p. 9) reflect funding values from an older version of the DRCOG Fiscally Constrained 2035 Regional Transportation Plan. The most recent plan adopted in February 2011 identifies a much lower amount of funding for the corridor (within the DRCOG region) in the amount of \$645 million in 2008 dollars (~\$1,080 in YOE). The ROD should reflect funding levels identified in the most recently adopted Fiscally Constrained RTP.

B - The FEIS did not clearly reference the federally directed MPO planning and funding process that would need to be followed for project programming and expenditures within the Jefferson County portion of the corridor (e.g. page ES-25). The ROD should make note of this as applicable.

We thank you for all of the hard work and time put into PEIS process over the past several years.

Responses

Response to ORG-02

- A. Thank you for the clarification. As Tier 2 National Environmental Policy Act (NEPA) processes proceed and specific funding plans are developed, the lead agencies will consult the current Regional Transportation Plan. As a Tier 1 Record of Decision, neither a funding plan nor a reference to specific funding levels for the Corridor is included in the implementation plan. **Section B.2.1, Framework for Tier 2 NEPA processes**, discusses the framework for prioritizing and programming Tier 2 NEPA processes, and current funding levels will by necessity be taken into account during the programming of Tier 2 NEPA processes in the Statewide Transportation Improvement Plan.
- B. **Section B.2.1, Framework for Tier 2 NEPA processes**, in the Record of Decision provides an expanded discussion of the Project Priority Programming Process and its relationship to federal regulations. The text identifies roles of metropolitan planning organizations in developing and approving the Statewide Transportation Improvement Plan and notes that the I-70 Mountain Corridor falls within the boundaries of the Denver Regional Council of Governments' metropolitan planning organization.
- Thank you for your review and comments on the Final Programmatic Environmental Impact Statement (PEIS). The lead agencies look forward to the continued involvement of the Denver Regional Council of Governments in future Tier 2 NEPA processes.

Comments

Source: Email
Document Number: ORG-03
Name: Partners for Access to the Woods
City, Zip Code: Granby, 80446

I would like to request an electronic copy of the PEIS.

I would also like to ask a question about the map found in the Land Use Technical Report - Page 15, Fig 3.

What does 3.5 green mean?

Thank you.

Responses

Response to ORG-03

- A. Per your request, an electronic copy of the Programmatic Environmental Impact Statement (PEIS) was sent to you during the Final PEIS review period. Regarding your question about the land use map in the *I-70 Mountain Corridor PEIS Land Use Technical Report* (included electronically on CD-ROM in Volume 4 of the PEIS technical reports and on the project website), the numbers in the colored areas in Figure 3 represent eight general categories of lands managed by the United States Forest Service. The decimal places represent sub-categories of land uses, as explained on page 14 of the report. Lands designated as Category 3 are managed for a "Balance of Ecological Values with Human Occupancy." The sub-categories, including Sub-Category 3.5, are backcountry recreation areas, as described on page 16 of the report.

Comments

Source: Email

Name: Shan Burchenal

Document Number: IND-01

City, Zip Code: Denver, 80202

A Could you please define PEIS? It is not defined in the document we just received.

B I tried to visit the website www.i70mntncorridor.com and got an error message.

C Thank you for your helpful response. I was able to access the website through the link you provided. What an enormous body of work! I reviewed the Table of Contents and it took me 10+ minutes. I do plan to read through sections of it when I have more time. I personally would love to see some type of rail system added, so I hope we can find a way to satisfy most of the key constituents and (importantly!) pay for it. In making the final decision, will the various impacts during the construction phase be taken into consideration at all?
Again, thank you for your help.

Responses

Response to IND-01

- A. An Environmental Impact Statement (EIS) is a document describing the potential effects of a project on the social and natural environment. An EIS is prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) and its implementing regulations (40 Code of Federal Regulations Parts (CFR) 1500 through 1508) when a federal action, such as major roadway construction or reconstruction, may have a significant effect on the environment. A Programmatic EIS (PEIS) is an EIS that is prepared to evaluate broad decisions to inform more specific decisions. Specific regulations defining this process can be found in 40 CFR 1502.20. A more complete description of how this process is applied to this project can be found in **Section 2** of the Introduction in the PEIS.
- In the case of the I-70 Mountain Corridor, the Colorado Department of Transportation (CDOT) and Federal Highway Administration (FHWA) prepared a PEIS to evaluate and recommend a broad program of improvements for the Corridor. The proposed improvements are referred to as the Preferred Alternative and are described in Chapter 2 of the PEIS. This broad analysis is referred to as Tier 1 of the NEPA process. The Tier 1 decision will not directly result in construction or impacts. To carry out the program of improvements, subsequent NEPA processes, referred to as Tier 2 NEPA processes, will be initiated to develop and evaluate specific projects consistent with the Tier 1 decision.
- This information was also added to the project website. Thank you for pointing out the omission.
- B. This issue was resolved via email during the Final PEIS review period, and your subsequent comment (IND-03-C) confirmed you were able to access the website.
- C. The Colorado Department of Transportation does not have sufficient funding identified to implement the Preferred Alternative, and additional revenue, leadership, and support from the citizens of Colorado will be required to implement the Preferred Alternative. **Chapter 5, Financial Considerations** of the PEIS summarizes the cost of the Preferred Alternative, the sources of CDOT's funding (and its limitations), and other potential funding sources.
- (continued on next page)

Comments

Source: Email
Document Number: IND-01
Name: Shan Burchenal
City, Zip Code: Denver, 80202

Responses

Response to IND-01 (continued)

- C. (continued from previous page)
- The PEIS evaluates construction impacts in each resource section in **Chapter 3, Affected Environment and Environmental Consequences**. Specifically, **Section 3.X.5** of each resource section evaluates construction impacts under the heading "How does construction of the alternatives affect XX resource?" This document, the *I-70 Mountain Corridor Record of Decision*, considers the impacts discussed in the PEIS—including construction impacts—and selects the Preferred Alternative to address the transportation needs in the I-70 Mountain Corridor.

Comments

Source: Email

Name: John Carpenter

Document Number: IND-02

City, Zip Code: Golden, 80401

I own a house in the Riva Chase subdivision in Jefferson County. This subdivision borders the I-70 mountain corridor that is currently under review. I believe that the noise from I-70 into this residential subdivision needs to be addressed with any future modifications to the corridor. As part of the design, a noise wall should be installed along the portion of I-70 that borders the Riva Chase subdivision in order to mitigate the environmental impact to the residents of this subdivision.

Responses

Response to IND-02

- A. As noted in response to your comment IND-198 on the Revised Draft Programmatic Environmental Impact Statement (PEIS), the Advanced Guideway System and a westbound highway auxiliary lane are proposed through the segment of the I-70 highway in which the Riva Chase subdivision is located. Noise measurements will be taken and a thorough assessment of potential noise impacts will be evaluated during Tier 2 National Environmental Policy Act (NEPA) processes. Noise abatement may be warranted if existing or projected noise levels are above noise abatement criteria (66 dBA average for the loudest hour of the day) or if noise levels increase substantially (10 dBA or more). Since the likely noise source for your area is the Advanced Guideway System, the noise analysis would follow Federal Transit Administration procedures. If warranted, all feasible and reasonable mitigation measures will be assessed during Tier 2 NEPA processes.

Comments

Source: Email

Document Number: IND-03

Name: Rol Hamelin

City, Zip Code: Vail, 81657

A Not sure if you are right one to comment to but your email was conveniently advertised.

Another traffic mitigating factor would be to ban all semis from 1800 Friday till 2200 sunday, as is the law throughout the entire EU. And this works very well. Sure trucking organizations will holler but they are a major cause of the frequent long closures. Just last weekend one flipped and closed both directions at Silverthorne for several hours. Then I 70 reopened only to be closed again both directions for another semi crash; this one a hazmat!! I 80 is an option for them.

B Also in europe your insurance is invalid if you are involved in a traffic accident without winter tires from 1 Nov.-31 Mar.

Responses

Response to IND-03

A. The restriction of trucks on an interstate facility is regulated by the Federal Highway Administration (FHWA) pursuant to Title 23 of the Code of Federal Regulations (CFR) 658.11. This could include restrictions such as time of day. The process identified in 23 CFR 658.111 includes coordination with local governments, analysis of effects to mobility and safety for all interstate users, and ultimate approval by FHWA.

Many freight operations have some scheduling flexibility and, as a result, avoid peak travel/ congestion times to the extent possible. However, other freight operations have more strict delivery timing requirements and must operate in the Corridor regardless of traffic conditions (for example, bulk mail, food service, scheduled packaged delivery, and just-in-time shipments). Additionally, limited truck parking resources and Federal Hours-of-Service regulations further limit options for the commercial vehicle driver in the I-70 Mountain Corridor. It should be noted that the portion of heavy trucks varies greatly along the Corridor; there are more trucks on weekdays compared to weekends.

The lead agencies considered and advanced a slow-moving vehicle plan as a transportation management alternative element, included as a non-infrastructure component of the Preferred Alternative. Some of the elements of that plan are specifically targeted at truck traffic, such as improved chain-up stations and rest areas. Improved chain-up areas and enhanced traveler information strategies have already been recently installed in some Corridor locations by the Colorado Department of Transportation (CDOT). The majority of the truck traffic in the Corridor has destinations within the Corridor study area, and alternate routes are not practical.

The Colorado Department of Transportation is committed to improving safety and mobility of all of the users of the I-70 highway and will continue to explore all options available to do so.

B. Winter travel in the Colorado mountains presents some unique driving challenges. Colorado's Chain Law, as it is commonly known, requires commercial vehicles to carry chains between September 1 and May 30 when driving on the I-70 highway in Colorado or be fined for noncompliance. The Colorado Department of Transportation could consider extending Chain Law requirements to passenger vehicles as part of a separate action unrelated to this PEIS, but such a requirement is not a part of the Preferred Alternative for the I-70 Mountain Corridor Programmatic Environmental Impact Statement (PEIS). The Colorado Department of

(continued on next page)

Comments

Source: Email

Name: Rol Hamelin

Document Number: IND-03

City, Zip Code: Vail, 81657

C The passes get a lot of high winds now with the changing climate. Visibility is practically nil and bright reflectors on both sides, each direction, would help greatly! California and Wyoming has this and it is much easier to keep your bearings, especially when passing or being passed by a semi!

Good luck and thanks for listening.

Responses

Response to IND-03 (continued)

- B. (continued from previous page)
- Transportation has message signs, park-and-ride locations, rockfall mitigation, better emergency response plans, and roadside safety enhancements.
- C. Including reflectors along the highway was not specifically identified as a non-infrastructure strategy but could be considered as the list of non-infrastructure components is not limited to those listed in the Final PEIS. Additionally, reflectors could be added as design features of future construction projects, such as was done along Berthoud Pass on U.S. 40.

Comments

Source: Email	Name: Mike Mulcahy
Document Number: IND-04	City, Zip Code: Silverthorne, 80498

I agree with Ed Quillen's editorial!!!

Editorial: I-70 traffic plan worth the price

By The Denver Post -
Posted: 03/02/2011 01:00:00 AM MST

So, anyone have \$55 million lying around? Dig under the couch cushions and check your old pants pockets, because for \$55 million, the Colorado Department of Transportation could make permanent highway improvements to reduce congestion on Interstate 70 in and around the Twin Tunnels near Idaho Springs. It's a relatively modest sum, considering the state's general fund is \$7 billion, but CDOT doesn't have an extra \$55 million stashed anywhere.

Still, we think CDOT should make this portion of I-70 — a long-studied but never-acted-upon corridor — a priority for funding, and should explore all funding options to make this improvement a reality.

A team of outside construction experts met in Colorado last week to brainstorm possible solutions to the congestion that bogs down traffic at the tunnels. They came up with several ideas, but settled on a preferred option that calls for widening the eastbound bore of the Twin Tunnels to three lanes and adding a third lane to eastbound I-70 between the east end of Idaho Springs and the base of Floyd Hill.

The option also includes flattening out the 45 mph curve in the eastbound lanes of I-70 just west of the Hidden Valley exit to allow for 55 mph traffic, according to a Denver Post story by Jeffrey Leib.

The Twin Tunnels are considered a choke point on I-70, snarling eastbound traffic especially as skiers head home in the winter and outdoor enthusiasts head down the hill in summer months. The congestion is not only aggravating for motorists, it also can be costly for business if goods can't be shipped through the corridor in a timely manner.

It would be a shame to let this plan sit on a shelf, buried under dust and a pile of good intentions.

The Colorado legislature recently hiked vehicle registration fees to help fix some 125 deficient bridges in the state, but the FASTER fees, as they're known, also created a pool of money that can be tapped for this type of project.

Also, we've always been intrigued by the concept of tolling on that portion of I-70 — if it can be done without the tollbooths that would slow traffic. (On E-470 and the Northwest Parkway, motorists are simply billed after a camera snaps a shot of their license plate.)

CDOT earlier explored the idea of creating "zipper lanes" on winter Sundays to ease congestion. It involved converting a lane of westbound I-70 on both sides of the Twin Tunnels to a reversible eastbound lane using moveable barriers.

Responses

Response to IND-04

- A. The referenced article refers to support for near-term improvements to the Twin Tunnels and encourages the Colorado Department of Transportation (CDOT) to proceed with the Twin Tunnels improvements and abandon the "zipper lane" proposal suggested by the Colorado Legislature and studied by CDOT in the summer/fall of 2010.
- The Final Programmatic Environmental Impact Statement (PEIS) identifies the Twin Tunnels as a choke point for congestion, and many comments on the Revised Draft PEIS related to the need for improvements in this area specifically. In late February 2011, CDOT convened a week-long design visioning workshop that included local, national and international design and construction experts to discuss a variety of short-term mobility options to aid in the alleviation of congestion in the Twin Tunnels area. The identified short-term improvements do not preclude the long-term, comprehensive solution outlined in the Final PEIS and Record of Decision. The Colorado Department of Transportation intends to move forward with the Twin Tunnels improvements as a Tier 2 National Environmental Policy Act (NEPA) process and will be forming a project leadership team, engaging in discussions with stakeholders, and developing a funding plan in the near term.

Comments

Source: Email
Document Number: IND-04

Name: Mike Mulcahy
City, Zip Code: Silverthorne, 80498

It would have cut travel times between Georgetown and Evergreen in half on the limited number of winter Sundays but would double the travel time for westbound motorists.

And it was expensive.

"Why spend \$25 million to \$40 million [on zipper lanes] for 17 days a year when I'm giving you three lanes, 365 days a year for \$55 million?" asked Peter Kozinski, an engineer on CDOT's I-70 mountain corridor team.

Why, indeed.

CDOT should scrap any notion of zipper lanes and make paying for this project a priority.

Responses

Response to IND-04 (continued)

J. Decision

Based on the information provided in the Final I-70 Mountain Corridor PEIS, the FHWA has selected the Preferred Alternative to address the transportation needs for the I-70 Mountain Corridor. This decision was made after careful consideration of all identified social, economic, and environmental impacts and input received from agencies, organizations, and the public.

6/16/11

Date



John M. Cater
Division Administrator