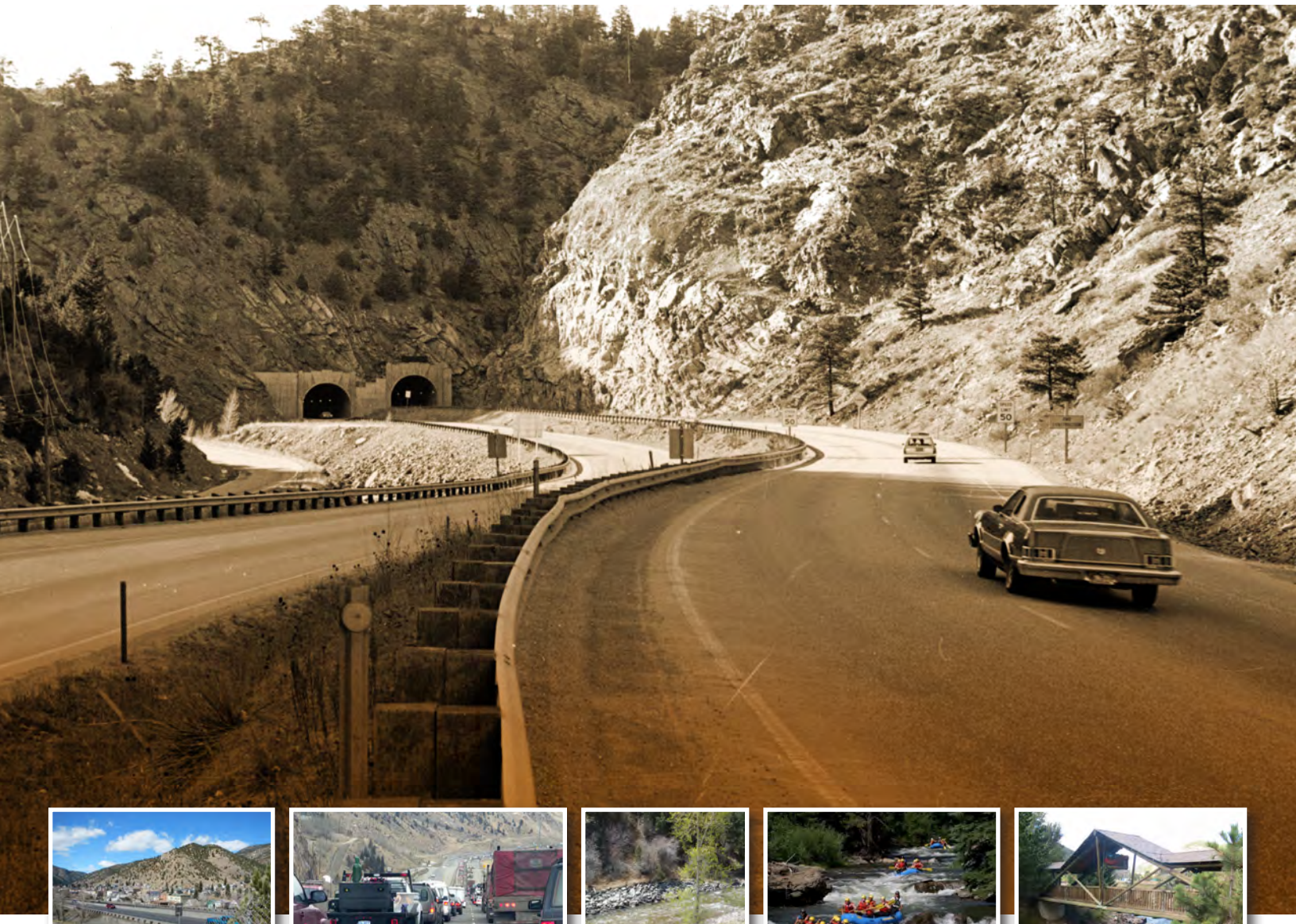
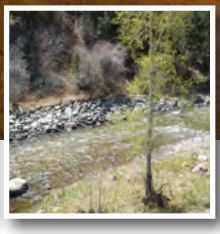
TWIN TUNNELS

Finding of No Significant Impact and Section 4(f) Finding

Clear Creek County
CDOT Project Number C0703-379

OCTOBER 2012





Twin Tunnels Environmental Assessment
Idaho Springs/Clear Creek County

DOT
DEPARTMENT OF TRANSPORTATION

U.S. Department of Transportation
Federal Highway Administration

Project C0703-379

Twin Tunnels

Finding of No Significant Impact and Section 4(f) Finding

Clear Creek County

Submitted Pursuant to:
42 U.S.C. 4332 (2)(c) and 49 U.S.C. 303

by the
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
and
COLORADO DEPARTMENT OF TRANSPORTATION

Submitted by:

10-17-12

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Date

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Date

Approved by:

10-17-2012

For John M. Cater
Division Administrator, Colorado Division
Federal Highway Administration

Date

The Federal Highway Administration may publish a notice in the Federal Register, pursuant to 23 United States Code (USC) § 139(1), once the Record of Decision is approved. If such notice is published, a claim arising under Federal law seeking judicial review of a permit, license, or approval issued by a Federal agency for a highway or public transportation capital project shall be barred unless it is filed within 150 days after publication of a notice in the Federal Register announcing that the permit, license, or approval is final pursuant to the law under which the agency action is taken, unless a shorter time is specified in the Federal law pursuant to which judicial review is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

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Acronyms and Abbreviations

AGS	Advanced Guideway System
ALIVE	A Landscape-Level Inventory of Valued Ecosystem Components
BMP	best management practice
CBC	concrete box culvert
CDOT	Colorado Department of Transportation
CFR	Code of Federal Regulations
CO	carbon monoxide
CPW	Colorado Parks and Wildlife
CR	County Road
CSS	context sensitive solutions
EA	Environmental Assessment
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GHG	greenhouse gas
HSP	Health and Safety Plan
I-70	Interstate 70
MMP	Materials Management Plan
mph	miles per hour
MSATs	mobile source air toxics
NEPA	National Environmental Policy Act
NO_x	oxides of nitrogen
OHWM	ordinary high water mark
OSHA	Occupational Safety and Health Administration
PBA	Programmatic Biological Assessment
PEIS	Programmatic Environmental Impact Statement
SCAP	Sediment Control Action Plan
SH	State Highway
SPWRAP	South Platte Water Related Activities Program
SWEEP	Stream and Wetland Ecological Enhancement Program
SWMP	Stormwater Management Plan
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled

Chapter 1. Introduction

1.1 Where is the Twin Tunnels project located, and what does the project include?

The Twin Tunnels are located on Interstate 70 (I-70) on the east side of Idaho Springs in Clear Creek County, Colorado. They are a key feature of the I-70 Mountain Corridor between Glenwood Springs and the Denver metropolitan area, and serve as a visual gateway to Idaho Springs and Clear Creek County. **Figure 1-1** illustrates the I-70 Mountain Corridor and the Twin Tunnels project location. **Figure 1-2** presents the context statement and core values developed for this project.

The Twin Tunnels project will add an additional lane of highway capacity and improve roadway geometry for approximately 3 miles of eastbound I-70 from the East Idaho Springs Interchange, through the Twin Tunnels, to the base of Floyd Hill where the project ties into an existing three-lane section. The eastbound bore of the Twin Tunnels will be expanded to accommodate the widened roadway section.

1.2 What is the purpose of this document?

This Finding of No Significant Impact (FONSI) completes the National Environmental Policy Act (NEPA) process for the Twin Tunnels Environmental Assessment (EA). It conveys the Federal Highway Administration (FHWA) and Colorado Department of Transportation (CDOT) decision to implement the Proposed Action for the Twin Tunnels project. It also describes the final decisions about the roadway width, alignment, and operating scenario for the Proposed Action. The FONSI commits to mitigation measures that will be included in implementation of the Proposed Action; clarifies and updates the EA and Section 4(f) conclusions, as necessary; and responds to questions and comments raised by agencies, organizations, and the public during the public comment and review period.

CDOT initiated the Twin Tunnels EA in September 2011 and held agency and public scoping meetings on September 26 and September 27, 2011, respectively. Various project teams, including stakeholder teams, met throughout the EA process to develop and refine the Proposed Action, evaluate impacts, and recommend mitigation measures. The EA was released for public and agency review in July 2012. A public hearing was held on July 25, 2012, and the formal comment period ran from July 5 to August 4, 2012. Chapter 5 of the FONSI elaborates on the public and agency input to the EA and includes responses to all comments received.

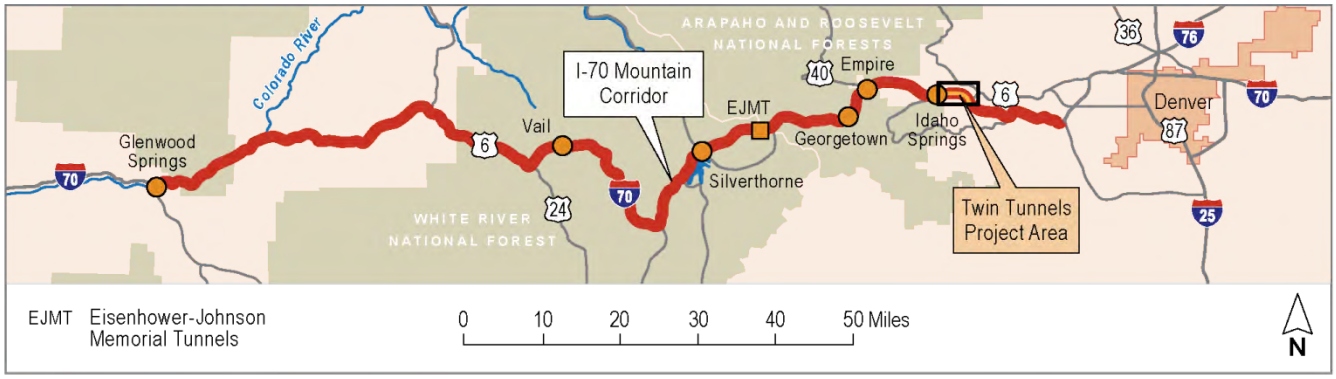
The decision to implement the Proposed Action is based on the analysis of social and environmental impacts presented in the attached EA and summarized in Chapter 3 of this document, and the consideration of public and agency input received throughout the NEPA process and during the formal EA comment period. This FONSI concludes that, based upon the impacts presented in the EA and considering the project's environmental benefits and committed mitigation measures, no significant environmental or social impact would result from the Twin Tunnels project given the project's context and the intensity of those impacts.

1.3 What is the I-70 Mountain Corridor Programmatic Environmental Impact Statement, and how does it relate to the Twin Tunnels project?

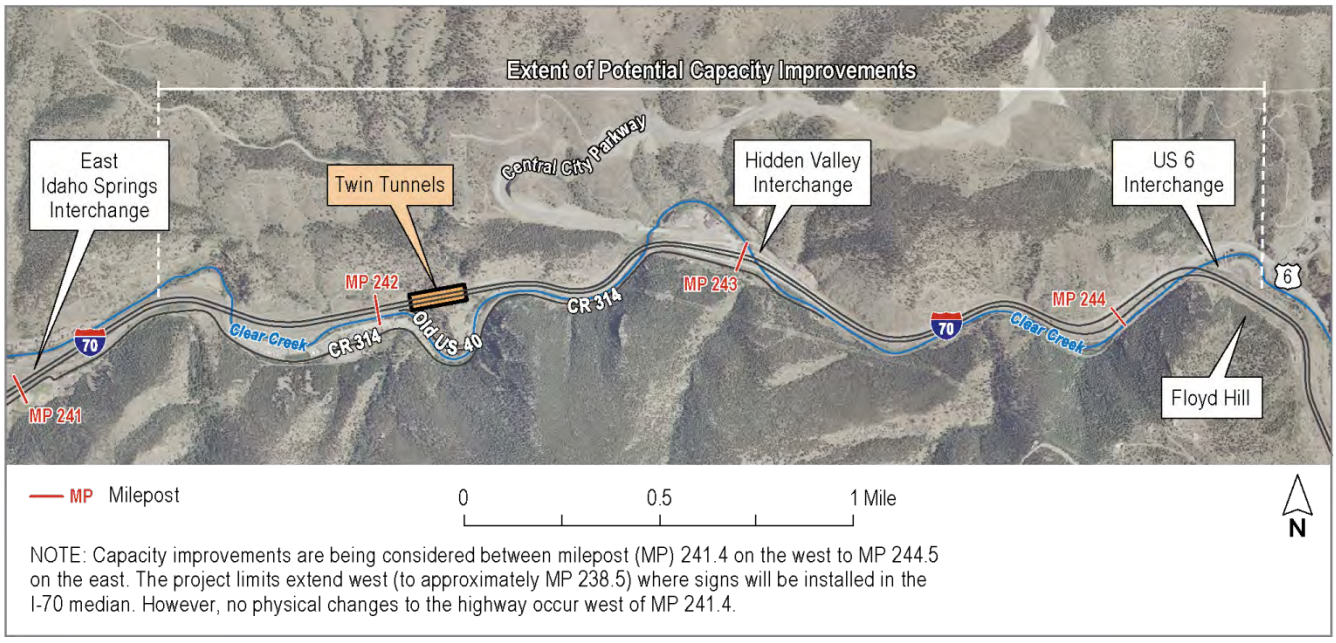
The I-70 Mountain Corridor Programmatic Environmental Impact Statement (I-70 PEIS) was completed in June 2011. It laid out a plan for the general location, travel mode, and capacity for transportation improvements along 144 miles of I-70 between Glenwood Springs and the western edge of the Denver metropolitan area, including the Twin Tunnels area. The I-70 PEIS did not authorize any construction but rather presented a framework for subsequent Tier 2 NEPA processes to be completed so that specific projects consistent with the Tier 1 decision can be developed and implemented. The Twin Tunnels EA is a Tier 2 NEPA process.

Figure 1-1. I-70 Mountain Corridor and Twin Tunnels Project Location Maps

I-70 Mountain Corridor



I-70 Twin Tunnels Project



NOTE: Capacity improvements are being considered between milepost (MP) 241.4 on the west to MP 244.5 on the east. The project limits extend west (to approximately MP 238.5) where signs will be installed in the I-70 median. However, no physical changes to the highway occur west of MP 241.4.

The Twin Tunnels project focuses attention on one of the I-70 Mountain Corridor's most problematic areas—the Twin Tunnels. The Proposed Action supports a portion of the highway capacity needs approved by the I-70 PEIS and provides immediate safety improvements and congestion relief for I-70 Mountain Corridor travelers. While it concentrates on eastbound I-70 improvements, the Proposed Action is consistent with and does not preclude other transportation improvements identified in the I-70 PEIS in this location, such as westbound highway improvements, addition of an Advanced Guideway System (AGS) transit system through the area, or realignment of the highway to support a higher design speed. The eastbound lane widening in the Proposed Action has been designed carefully to maximize options for vertical and horizontal alignments for future highway

improvements and future AGS while minimizing work that may need to be redone as part of these future projects. Expansion of the tunnel was planned to fit future transportation facilities that may require expansion of the westbound bore and/or a third bore through the mountain.

Figure 1-2. Twin Tunnels Project Context Statement and Core Values

Context Statement

I-70 is Colorado's only east-west Interstate, providing a link over the Continental Divide, interstate commerce, and mountain access.

Blasted through a geological feature and contained within a narrow canyon, the Twin Tunnels symbolize Colorado's historic endeavors to improve access to and from the mountains. Currently occupying this canyon are Clear Creek, the Frontage Road (CR 314), and I-70. The vision for the future includes an Advance Guideway System with existing transportation facilities.

The Twin Tunnels are a gateway for arriving and departing the mountains, provide a natural crossing for wildlife, and connect local communities to national and regional services. Parallel to I-70 is Clear Creek, a natural and recreational resource. The tunnels now are a constriction to travel and create a safety problem.

Core Values

The Twin Tunnels Project acknowledges core values for the area:

Wildlife

Wildlife, wildlife habitat, migration routes, and access to Clear Creek.

Community

Tourist destinations and community facilities, including the Scott Lancaster Trail and Bridge, the wastewater treatment plant, the planned Clear Creek Greenway, the frontage road, and Clear Creek.

Mobility

Mobility through safe and reliable transportation facilities.

Safety

Safe travel for people and goods.
Safety for emergency responders and maintenance workers.
A **safe** crossing for wildlife.

Gateway

A primary access and visual **gateway** to the Mountain Mineral Belt, historic Idaho Springs, and Front Range communities.

History

History as a defining element of Clear Creek County. Celebrating the cultural resources associated with mining and mining towns, and the first successful tunneling operation as part of the construction of I-70 west through Colorado's mountains.

Clear Creek

Clear Creek, as a clean, high-quality water resource, a recreational asset, an aquatic resource with sustainable fisheries' habitat, a drinking water source, and a defining natural feature of the corridor.

1.4 How did the Twin Tunnels Environmental Assessment use the I-70 Mountain Corridor Context Sensitive Solutions process?

A key commitment of the I-70 PEIS was that all projects on the I-70 Mountain Corridor will use the principles of context sensitive solutions (CSS) and follow the I-70 Mountain Corridor CSS process as described in Appendix A of the I-70 PEIS. The I-70 Mountain Corridor CSS process consists of guidance developed specifically for the Corridor in collaboration with stakeholders. The guidance includes a 6-Step Decision Process, Design Criteria and Aesthetic Guidance, and a Context Statement and Core Values for the I-70 Mountain Corridor.

The Twin Tunnels EA applied the CSS guidance and principles. The Twin Tunnels EA established a Project Leadership Team, developed a Context Statement and Core Values specific to the project, and followed the 6-Step Decision Process. A project Technical Team and several Issue Task Forces were established to provide guidance and expertise in developing and refining the Proposed Action, developing methodologies for data collection and analyses, and providing input into impact evaluation and mitigation recommendations. Project teams dedicated substantial energy and time collaborating with CDOT and FHWA, and their input shaped the Proposed Action so that it reflects the core values identified for the project. Chapter 5 provides more information on these teams and their input to the EA. Appendix C of the EA (included on the attached CD) summarizes how the I-70 Mountain Corridor CSS process was used during this Tier 2 NEPA process to achieve a context sensitive solution in the Proposed Action.

1.5 Why is this project needed?

The purpose of the Twin Tunnels project is to improve eastbound highway safety and mobility in the Twin Tunnels area of the I-70 Mountain Corridor. The project is needed to address safety concerns and mobility challenges due to high traffic volumes and geometric conditions (narrow tunnel, sharp roadway curves) that result in inconsistent and slow travel times through and west of the project area.

When compared to similar Colorado interstate highways, the 3-mile segment of I-70 in the Twin Tunnels area experiences a high number of crashes, registering a total of 625 crashes between 2006 and 2010. The majority (65 percent) of crashes occur in the eastbound direction, where heavy congestion, tight curves, and drivers traveling too fast for conditions (either weather or curves) are the primary contributing factors. Most crashes occur around the horizontal curves, particularly the sharpest curve near Hidden Valley, which is the highest crash location in the project area.

Mobility through the project area is hampered by traffic congestion, most prominently in the eastbound direction on Sunday afternoons, as recreational travelers make their way back from mountain communities to the Denver metropolitan area. The Twin Tunnels are a primary choke point for traffic on I-70. Eastbound traffic on winter and summer Sunday afternoons is often slowed from 65 miles per hour (mph) to less than 30 mph for 4 to 8 hours, with backups extending past Georgetown and sometimes reaching the Eisenhower-Johnson Memorial Tunnels, nearly 30 miles away. By 2035, extreme congestion (travel speeds averaging less than 20 mph) extending from the Twin Tunnels west to Georgetown is projected to occur 75 percent of the time between 9 a.m. and 11 p.m. on Sundays.

Additional information about the purpose and need for the Twin Tunnels project is included in Chapter 1 of the EA.

Chapter 2. Proposed Action

2.1 What is the Proposed Action for the Twin Tunnels project?

The Proposed Action for the Twin Tunnels will add a third eastbound travel lane and consistent 10-foot outside shoulder along eastbound I-70 between the East Idaho Springs Interchange and the base of Floyd Hill, where the project will connect to an existing third travel lane. The eastbound bore of the Twin Tunnels will be expanded to accommodate the wider roadway section, and the existing tunnel portal face will be removed and replaced. The Proposed Action will also straighten the eastbound curve west of the Hidden Valley Interchange, where the highest number and most serious crashes in the project area occur. Other features of the Proposed Action, which are described in Chapter 2 of the attached Twin Tunnels EA, include a new bridge over Clear Creek at Hidden Valley, retaining walls, median barriers, sediment basins and water quality treatment features, spill containment structures, reconstruction of the truck chain-up station west of the tunnels, new wildlife fencing, and new signage. **Figure 2-1** illustrates features of the Proposed Action.

In developing the Proposed Action, CDOT and FHWA evaluated several variations, including a range of roadway widths, alignments widening toward Clear Creek or toward the median, and scenarios for operating the new travel lane as either a general purpose or "free" lane or a managed lane, where users would pay a fee to use the additional lane during peak periods. As described in the following sections, after fully evaluating and disclosing the impacts of the roadway and operating scenario variations in the EA, CDOT and FHWA have determined that the 50-foot roadway section is preferred and that the new lane will operate as a managed lane. CDOT and FHWA have also decided to adjust the alignment for a short distance east of Hidden Valley to widen toward the median rather than toward Clear Creek as described in the EA. This minor design modification does not introduce significant impacts; the minor changes in impacts resulting from the alignment shift are described in **Section 4.1.2** of this FONSI. The Proposed Action is the preferred alternative for Twin Tunnels improvements, and CDOT and FHWA have decided to implement it with the variations described here.

2.1.1 What roadway and tunnel widths does the Proposed Action include?

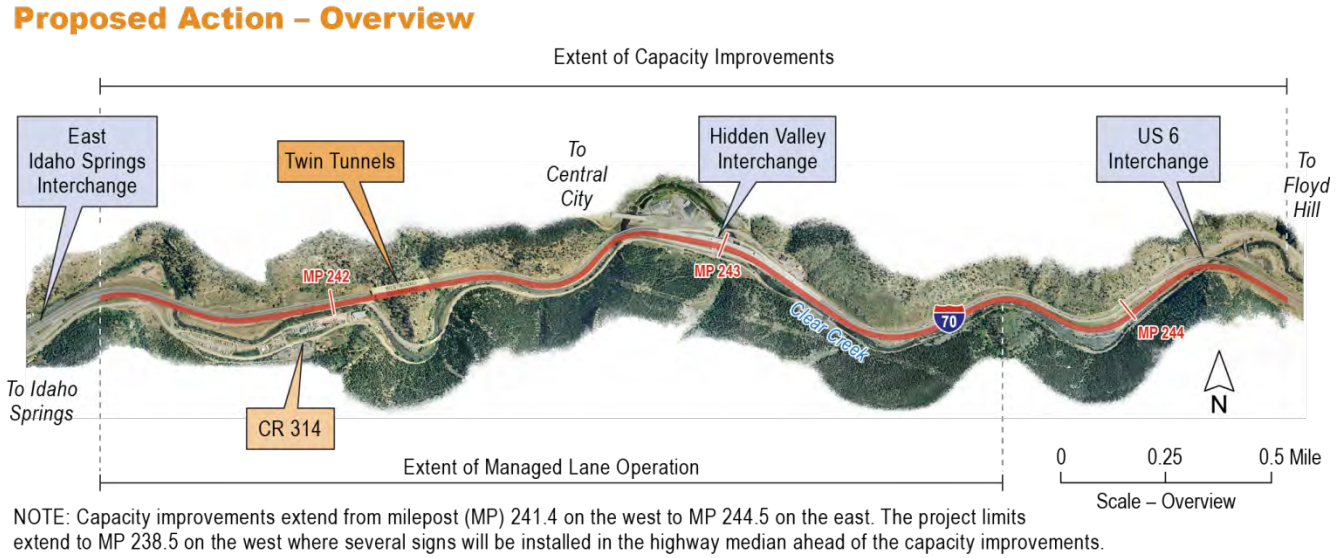
A consistent 50-foot roadway section will be constructed throughout the project limits. This section includes three 12-foot travel lanes, a 10-foot outside shoulder, and a 4-foot inside shoulder.[1] The tunnel will be slightly wider at 53 feet to allow for 1.5-foot barriers next to the shoulders to protect the tunnel walls and to allow vertical clearance for taller vehicles. **Figure 2-2** illustrates the selected roadway and tunnel sections.

CDOT and FHWA evaluated two roadway widths for the portion of the project west of Hidden Valley and presented this analysis in the EA. The roadway sections varied from 50 to 56 feet based on an inside shoulder width of between 4 and 10 feet. The 56-foot roadway section was considered in this area to allow consideration of a range of tunnel sections. This approach provided a full comparison of the benefits of a wider tunnel section with the environmental impacts, technical challenges, and costs.

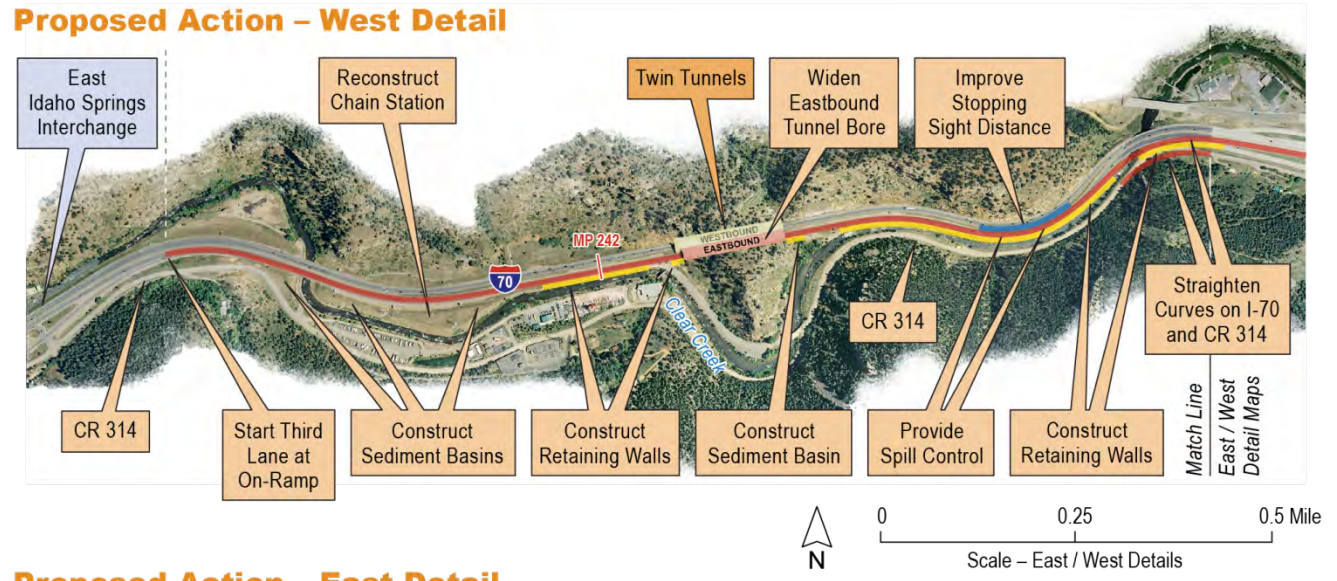
Widening the tunnel is the most costly feature of the Proposed Action. It is likely that the eastbound bore will only be widened once, and CDOT and FHWA wanted to consider a tunnel that provided a full standard roadway section for an interstate, which would be three 12-foot lanes, two 10-foot shoulders, and two 2.5-foot walkways for a total of 61 feet. This tunnel section is more than twice the width of the current 28-foot tunnel width. Because tunnels are so costly, it is common for them to be constructed at less than full roadway standards.

[1] At the Hidden Valley Interchange where the roadway is wider, the existing 10-foot inside shoulder will be maintained.

Figure 2-1. Twin Tunnels Proposed Action - Overview and Detail Maps



NOTE: Capacity improvements extend from milepost (MP) 241.4 on the west to MP 244.5 on the east. The project limits extend to MP 238.5 on the west where several signs will be installed in the highway median ahead of the capacity improvements.



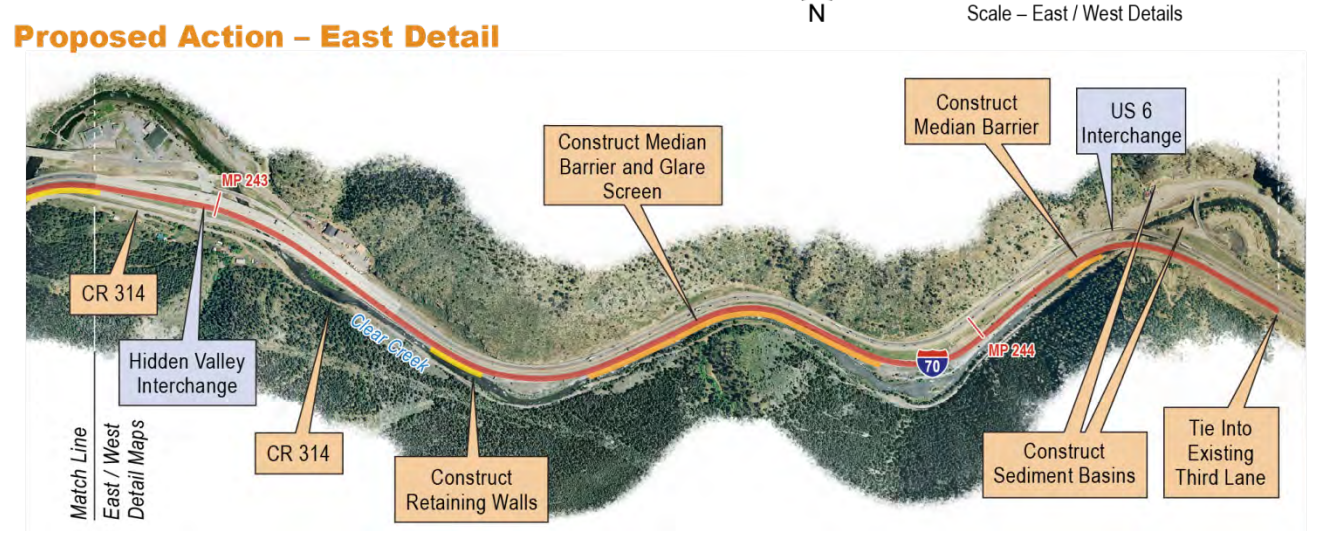
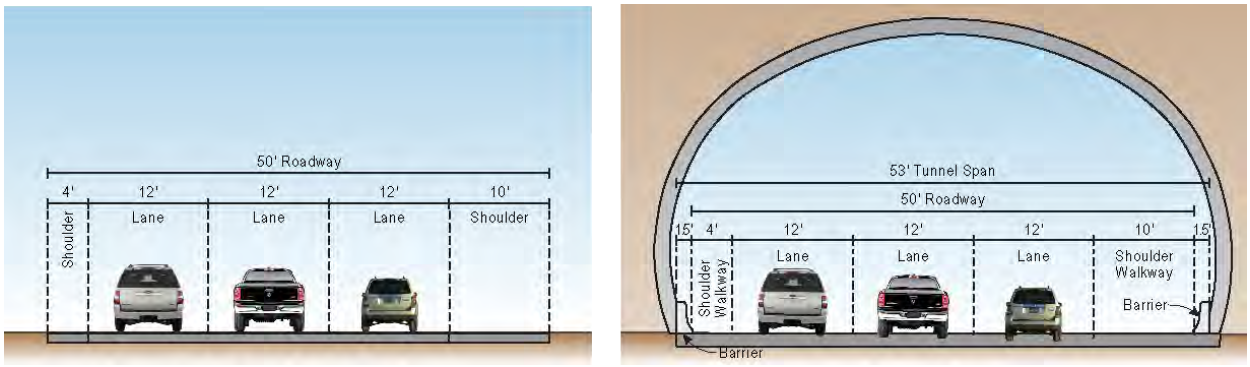


Figure 2-2. Roadway and Tunnel Sections



CDOT and FHWA ultimately decided to implement the 50-foot roadway section based on its ability to meet the project's safety and mobility needs with lesser environmental impacts, cost, and technical complications. The 50-foot roadway section disturbs less established vegetation, reduces habitat impacts, and represents less of a barrier to wildlife attempting to cross I-70. The narrower roadway width also results in less impervious surface, which reduces water quality treatment needs and long-term roadway maintenance requirements. Additionally, preliminary cost estimates suggest that enlarging the tunnel to accommodate the wider roadway section would be exponentially more expensive and present serious geotechnical challenges in maintaining the physical integrity of both the eastbound and westbound tunnel bores. Finally, the I-70 PEIS Preferred Alternative includes other transportation improvements in the Twin Tunnels area (as described in Section 2.8 of the EA), and less rework would be anticipated with the 50-foot eastbound roadway section.

2.1.2 How will CDOT operate the new travel lane?

CDOT will operate the new lane as a managed lane. The existing two travel lanes will continue to operate as general purpose lanes (that is, no fees would be charged for travel in the existing lanes). The managed lane is a concept that CDOT is implementing or considering for all new capacity projects in congested areas. Managed lanes impose a fee during congested periods to maintain travel flows and a reliable travel time in the managed lane. CDOT will impose a fee for use of the lane during peak periods of congestion, which currently occur on Sundays and holidays during the summer and winter seasons. When the managed lane is operating, all vehicles in the lane will pay a fee—likely between $1 and $3—and trucks will pay an additional fee (surcharge). The lane will operate as a general purpose lane at all other times.

The Twin Tunnels EA evaluated both managed lane and general purpose lane scenarios for the new lane. After consideration of the analysis presented in the EA, along with agency and public comments, CDOT has selected the managed lane scenario because it meets the mobility and safety needs of the project better than the general purpose lane option. It is also more consistent with environmental and societal realities of funding and implementing transportation improvements.

The biggest benefit of the managed lane is that it allows CDOT to maintain free-flowing traffic volumes in the managed lane, providing reliable and slightly shorter travel times for travelers in the managed lane, as well as greater flexibility for emergency responders to bypass backups and react to incidents during congested periods. The managed lane meets mobility needs better than the general purpose lane where travel time is less predictable. Improved traffic flows also decrease energy consumption and improve air quality.

The managed lane approach is also more responsive to the current climate for transportation improvements, with funding constraints limiting CDOT's ability to expand capacity, resulting in a need to change travel patterns to make current infrastructure operate more effectively. Managed lanes provide an incentive for users to change travel patterns and drive during less congested periods and/or increase vehicle occupancy or transit use to defray toll costs. The ability of managed lanes to change travel patterns is especially beneficial in the Mountain Corridor where peak period congestion is severe but only occurs 1 to 2 days a week in the summer and winter months and much of the time, the existing infrastructure is adequate to serve travel demand.

2.1.3 What is the alignment of the expanded roadway?

The Proposed Action widens the roadway to the south in most locations, as described in the Twin Tunnels EA. However, for about a half-mile distance between Hidden Valley and the US 6 exit at the bottom of Floyd Hill (between mileposts 243.3 and 243.9), CDOT decided to change the design to shift the alignment north toward the median. The change in the design is illustrated in **Figure 2-3**.

The alignment shift fills in a portion of the median, which is a variation from the I-70 Mountain Corridor design criteria, but removes the need to build approximately 2,900 feet of retaining walls next to Clear Creek. This design change reduces the visual impact to recreation users in the creek, reduces construction activities and potential temporary erosion impacts near Clear Creek, and reduces construction costs. It also makes sense for the future because other transportation projects are planned for the area. When westbound improvements, the AGS, or higher design speeds are implemented, eastbound I-70 may be realigned again, and the retaining walls in Clear Creek would no longer be needed. The median shift provides safety benefits because the new design replaces guardrail with walls and incorporates headlight glare protection; headlight glare is a problem in this area because the median is narrow, and eastbound and westbound lanes are in close proximity.

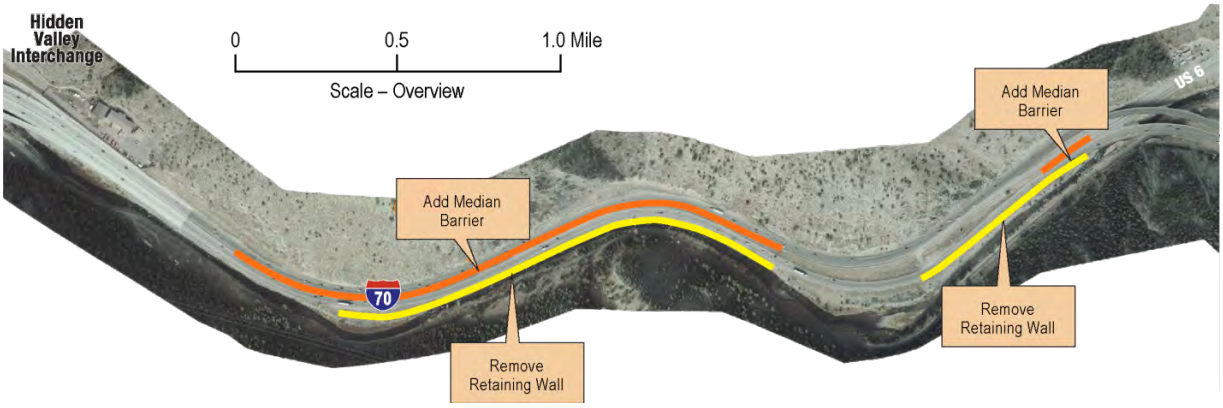
CDOT presented this design change at the public hearing, and comments, particularly from creek recreationalists, indicated support for the change. CDOT and FHWA also discussed the median shift at length with the Project Leadership Team and Technical Team. These teams went through a systematic process of evaluating the proposal and found the alignment shift in this specific location supportive of the core values and other evaluation criteria because it reduced visual and physical impacts to the creek, saved money, improved constructability, and maintained flexibility in implementing future projects. A variance for the I-70 Mountain Corridor Design Criteria was endorsed by consensus of the Project Leadership Team and Technical Team.

2.2 How will CDOT construct the Proposed Action?

Construction of the Proposed Action will begin in November 2012 and will be completed by the spring of 2014. Construction will occur with three sequential packages: preparation (Package 1), eastbound tunnel and I-70 construction (Package 2), and restoration (Package 3). Tunnel expansion is the most complicated construction activity and will occur from approximately March to October 2013. Tunnel work will require eastbound I-70 to be detoured around the tunnels (along a portion of old US 40 and County Road [CR] 314), as shown by the pink line in **Figure 2-4**. The detour is expected to be in place after the 2012-2013 ski season, with eastbound I-70 lanes reopening to traffic through the reconstructed eastbound tunnel by the 2013-2014 ski season. In addition to the detour route, a separate construction access road will be constructed between the two eastbound portals, as illustrated by the green line in **Figure 2-4**.

Between November 2012 and March 2013, CDOT will prepare the detour and construction access road, construct portions of retaining walls and the Hidden Valley bridge over Clear Creek, and prepare or construct other elements that do not require closure of I-70. When the detour is in place (between March and October 2013), eastbound I-70 will be closed between the Twin Tunnels and Hidden Valley, and CR 314 will carry interstate traffic and be closed to local through traffic. Bicycle and pedestrian access along the Scott Lancaster Memorial Trail will be maintained along a shared use path next to the detour route, and local residential and business access from CR 314 will be provided. In October 2013, the reconstructed

Figure 2-3. Alignment Shift and Wall Removal East of Hidden Valley



eastbound I-70 highway will open to traffic. Between November 2013 and March 2014, CDOT will restore the detour route and the construction access road, and CR 314 will reopen to local traffic.

As noted and illustrated in **Figure 2-4**, CDOT will implement a construction access road in concert with other elements of the Proposed Action. The Twin Tunnels EA was released with a Companion Report providing details about the construction access road (also referred to as the portal-to-portal access road). The Companion Report evaluated impacts of the construction access road and recommended mitigation measures to restore the access road and improve the impacted riparian area. Chapter 3 of this FONSI includes a summary of the impacts and mitigation for the access road. CDOT and FHWA intend to implement this element of the project as part of the Proposed Action and commit to the mitigation measures outlined in the Companion Report and integrated into the mitigation requirements for the Proposed Action as described in Chapter 3 (**Table 3-1**).

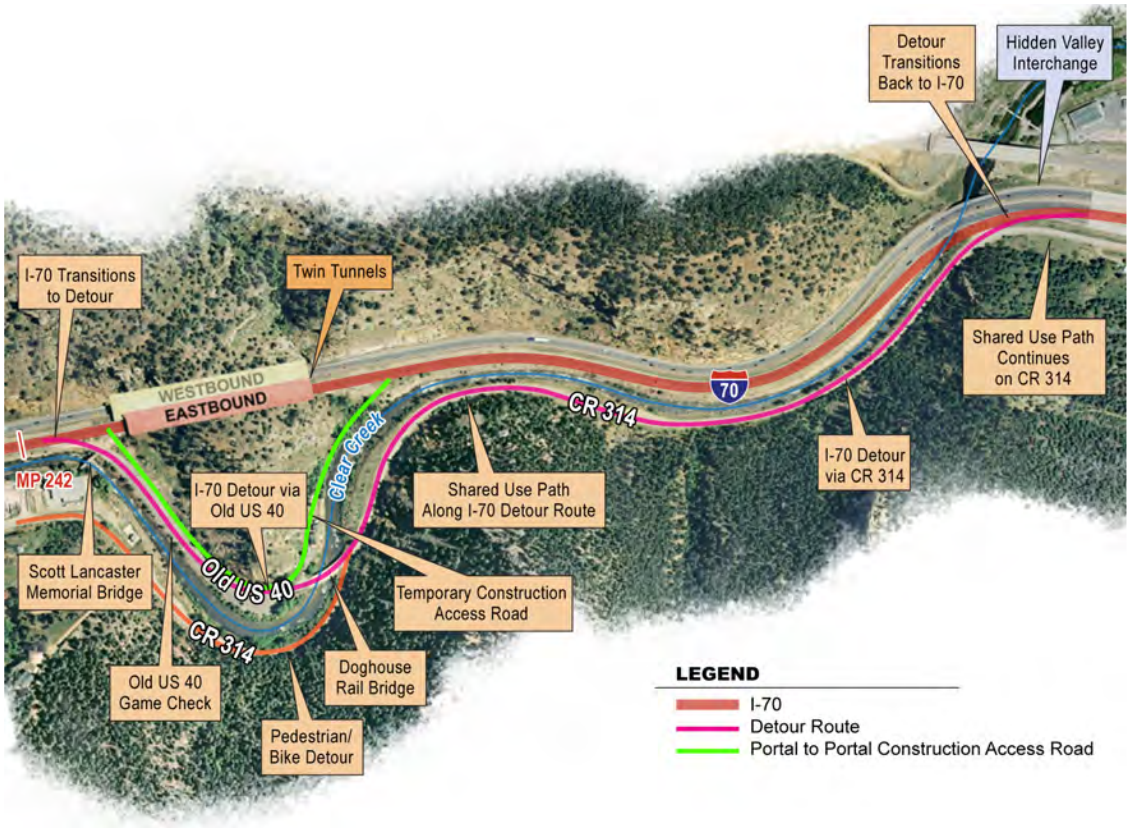
2.3 What is the status of funding for the Twin Tunnels project?

In October 2011, the Colorado Transportation Commission approved allocating $60 million for the Twin Tunnels project from federal and state sources. After refining the Proposed Action between November 2011 and June 2012, the revised cost estimate now totals just under $100 million. The Transportation Commission is in the process of allocating additional funds to the project.

In order to add the construction funding for the Twin Tunnels project to its long-range transportation plan, CDOT applied to amend the Denver Regional Council of Governments (DRCOG) 2035 Metro Vision Regional Transportation Plan (2035 MVRTP) in Cycle 1 of 2012 (during DRCOG's initial call for Policy amendments in calendar year 2012). DRCOG is the metropolitan planning organization for the nine-county Denver metropolitan area, including Clear Creek County and the Twin Tunnels area of I-70. The 2035 MVRTP Cycle 1 amendment was approved by the DRCOG Board of Directors on September 19, 2012.

Implementation of the project will begin immediately (November 2012). The reconstructed eastbound I-70 will be open to traffic in October 2013, and construction of all project elements, including restoration and mitigation, will be completed in the spring of 2014.

Figure 2-4. Detour Plan



Chapter 3. Summary of Impacts, Mitigation Measures, and Permit Requirements

3.1 What are the impacts of the Proposed Action, and how will they be mitigated?

The EA analyzed impacts of the Proposed Action and No Action in detail, and identified no significant adverse impacts to the environment resulting from the Proposed Action with the mitigation included in **Table 3-1**. As summarized here, the Proposed Action provides a number of benefits and results in minor and moderate adverse impacts resulting in the finding of no significant impacts. Most of the minor and moderate adverse impacts occur during the construction period and can be mitigated effectively using best management practices (BMPs).

The Proposed Action has a number of permanent transportation benefits, including improving safety, reducing congestion, and providing more reliable travel times for local residents, corridor visitors, interstate travelers, and emergency responders. The project is expected to reduce crashes between 20 and 35 percent compared to the No Action. The project is expected to reduce the average travel time between Georgetown and the top of Floyd Hill by approximately 26 minutes over the No Action during peak travel periods in 2035. The managed lane will maintain free-flow traffic speeds during peak periods of congestion, providing a reliable travel time choice. Improved travel conditions provide other localized social and economic benefits by providing safer travel conditions for Idaho Springs residents commuting, shopping, or visiting Evergreen or Denver. Improving traffic flows also benefits air quality because emissions of two criteria pollutants (oxides of nitrogen [NO_x] and carbon monoxide [CO]) and mobile source air toxics (MSATs) are reduced when congestion (and vehicle idling) is reduced.

The Proposed Action includes a number of features that will permanently improve environmental conditions in the project area. Sediment control and spill containment features will be constructed to reduce sediment and pollutant loads entering Clear Creek and improve water quality. Wildlife crossings under I-70 will be improved at the new Hidden Valley Bridge and a culvert west of the tunnels, and trees will be removed to improve wildlife visibility and reduce potential for wildlife-vehicle crashes. A barbed wire fence west of the tunnel will be replaced with more wildlife-friendly fencing to reduce animal entrapment. A noise barrier will be constructed near the west end of the tunnel portal to reduce traffic noise impacts along the Scott Lancaster Memorial Trail. Restoration of the detour route and construction access road will permanently enhance Clear Creek County's Greenway recreation resources along old US 40 (game check area) and along Clear Creek north of the Doghouse Rail Bridge.

Some minor to moderate adverse impacts will result from the Proposed Action, and mitigation measures have been included to further minimize effects. The Proposed Action results in an adverse effect to one historic property, the Twin Tunnels (5CC1189.3). Enlarging the eastbound bore of the Twin Tunnels and removing and replacing its portal face adversely affects the historic characteristics of the tunnel, including its design, material, workmanship, and feeling. As mitigation, CDOT will document the tunnel's history and create interpretive and educational materials celebrating the tunnel's historic importance (see Programmatic Agreement supplement in the electronic appendix). Highway users and recreationalists will experience minor to moderate visual impacts from the Proposed Action's new walls, signs, and expanded highway footprint. Where possible, the design of the Proposed Action has been modified to lessen the height of retaining walls and consolidate highway signs. The Proposed Action also integrates design principles of the I-70 Mountain Corridor Aesthetic Guidance, which defines aesthetics and identifies specific design treatments to lessen the visual impacts of the highway on its surroundings. Recreational resources will be affected by the removal of one of seven boating accesses to river activities on Clear Creek and minor reduction of parking at the Kermitts Trailhead. These impacts have a minor effect on Clear Creek recreational activities overall and no effect on planned recreational improvements for the Clear Creek County Greenway. Finally, the Proposed Action will permanently convert approximately 6 acres of terrestrial wildlife habitat to transportation use. Nearly all (98 percent) of the habitat lost is degraded, disturbed roadside habitat that has minimal wildlife value.

Construction activities, including preparation and operation of the I-70 detour and construction access road, will result in a number of impacts, most of which occur only during the construction period and can be minimized by employing BMPs. Traffic delays, changes in accesses, and dust, noise, and vibration from

construction and blasting activities will adversely affect social and economic resources, recreation resources, wildlife, water quality, and air quality. Detour operations and I-70 closures will increase emergency response times, increase travel time on I-70, and potentially reduce traveler recreation and patronage at local businesses, especially during peak travel periods. Although recreational access to trails, fishing, and rafting will be maintained, recreationalists may experience delays or may avoid the area during construction. CDOT and the contractor will implement a comprehensive public information plan to disseminate construction information, notify highway users about closures and delays, and provide clear signage or other information about how travelers can access local businesses and destinations. Economic impacts to Idaho Springs may also be offset by increased construction spending and patronage to local businesses. Wildlife also will be displaced by noise and construction activity, and some increased mortality of wildlife may occur as habitat is disturbed. Colorado Parks and Wildlife (CPW) will place salt blocks on the north side of I-70 to encourage big horn sheep to stay away from the tunnels during blasting. If an increase in animal-vehicle collisions is observed, additional fencing may be installed to keep wildlife out of the construction area. Construction in or near Clear Creek, including retaining wall construction bridge construction and demolition, and installation and use of the construction access road will disturb riparian areas and increase the potential for soil erosion and sedimentation within Clear Creek. Sedimentation and in-stream work could affect water quality and aquatic habitat. The contractor will obtain and follow stipulations of required water quality permits and BMPs to minimize effects on Clear Creek. The Colorado Parks and Wildlife (CPW) will conduct surveys of trout spawning areas in the fall of 2012. Prior to conducting construction activities near Clear Creek, CDOT, in coordination with CPW, will evaluate potential impacts associated with construction activities in and around Clear Creek and implement appropriate mitigation or BMPs to reduce impacts to trout species and habitat during construction. In addition, as part of its Intergovernmental Agreement with Clear Creek County, CDOT has committed to stream enhancements upstream of Hidden Valley that will permanently improve aquatic habitat, including spawning areas, in the Twin Tunnels area after construction is complete.

Table 3-1 provides a detailed list of mitigation commitments that will be implemented to minimize impacts identified as part of the Proposed Action. Mitigation measures for the construction access road included in the Portal to Portal Companion Report have been integrated into **Table 3-1**. The table summarizes the activities that trigger mitigation, along with the location where the activity occurs and the impact that the activity causes. The additional information about the triggering activities provides flexibility for the contractor or CDOT to modify the activity and further avoid impacts. If the impact is avoided, the mitigation would not be required. For example, mitigations 55 through 58 apply to nighttime construction activities. If the contractor does not conduct nighttime construction, the mitigations would not be required or implemented. **Table 3-1** is based on the list of mitigation commitments included in Appendix A of the EA and has been revised to include updates, clarifications, and additional commitments resulting from the review of comments received on the EA. CDOT will use **Table 3-1** to track mitigation commitments through the design and construction of the Proposed Action.

Table 3-1. Summary of Impacts and Committed Mitigation Measures

Mitigation Commitment #	Mitigation Category	Activity Triggering Mitigation	Location of Activity Triggering Mitigation	Impact from NEPA Document	Commitment From Mitigation Table In Source Document	Responsible Agency[1]	Life Cycle Phase[2] Mitigation to be Implemented	Source Document of Mitigation Commitment and Page Number
1	Air Quality	Increase in I-70 future traffic volumes.	Within Twin Tunnels project area.	Re-entrained road dust (PM_{10}) will increase as traffic volumes continue to increase (compared to both existing conditions and the No Action).	In the I-70 Twin Tunnels area, CDOT will continue its ongoing practice of minimizing the use of road sanding as safety permits.	CDOT	Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.8-6
2	Air Quality	Increase in I-70 future traffic volumes.	Within Twin Tunnels project area.	Re-entrained road dust (PM_{10}) will increase as traffic volumes continue to increase (compared to both existing conditions and the No Action).	When road closures occur, CDOT maintenance crews will clean the roadway if it can be safely performed in conjunction with the other activities at the site. CDOT will station and maintain a street sweeper at its Hidden Valley maintenance yard for this purpose.	CDOT	Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.8-6
3	Air Quality	Increased maintenance activities to control re-entrained dust.	Within Twin Tunnels project area.	Increased maintenance operations (to control re-entrained road dust due to increased traffic volumes) could increase trackout and dust generation by maintenance vehicles.	CDOT has a maintenance yard north of I-70 at the Hidden Valley Interchange (Exit 243) and will implement measures to minimize any trackout by CDOT vehicles at that location.	CDOT	Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.8-6
4	Air Quality	Operation of eastbound I-70 detour during construction.	CR 314 between the Doghouse Rail Bridge and Hidden Valley interchange.	Increased dust closer to nearby residences and immediately adjacent to a temporary shared use path.	Review the detour route and utilize BMPs to minimize opportunities for fugitive dust to reach the roadway.	CDOT	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.8-7
5	Air Quality	Operation of eastbound I-70 detour during construction.	CR 314 between the Doghouse Rail Bridge and Hidden Valley interchange.	Increased dust closer to nearby residences and immediately adjacent to a temporary shared use path.	Ensure that roadside soils are stabilized and that the detour route is swept prior to opening CR 314 for detour use.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.8-7
6	Air Quality	Construction activities involving earth moving and storage of fill and rock products.	Within Twin Tunnels project area.	Increase in fugitive dust emissions near earth moving activities.	Prepare and implement a fugitive dust control plan that includes wetting of disturbed areas.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.8-7 and Twin Tunnels Portal to Portal Access Road Companion Report Page 7-2
7	Air Quality	Construction activities involving earth moving and storage of fill and rock products.	Within Twin Tunnels project area.	Potential disturbance of mine tailings and release of dust that could contain contaminants within the project area.	Complete a project-specific Materials Management Plan (MMP) and Health and Safety Plan (HSP) that detail site-specific standard operating procedures regarding dust from mine tailings that could be disturbed during construction.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.8-7
8	Air Quality	Construction activities involving earth moving and storage of fill and rock products.	Within Twin Tunnels project area.	Potential disturbance of mine tailings and release of dust that could contain contaminants within the project area.	Implement dust suppression BMPs to prevent potential mine wastes from being exposed in the air.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.8-7
9	Air Quality	Construction activities involving earth moving and storage of fill and rock products.	Within Twin Tunnels project area.	Potential disturbance of mine tailings and release of dust that could contain contaminants within the project area.	Minimize construction activities in or near known tailing areas.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.8-7
10	Air Quality	Commuting of construction workers.	Within Twin Tunnels project area.	Localized increase of vehicle emissions from workers commuting to project site.	Prepare a plan indicating where construction workers will park their personal vehicles and how they will shuttle or otherwise efficiently be transported to and from the work site to begin and end their shifts.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.8-7
11	Air Quality	Tunnel blasting operations.	Twin Tunnels eastbound bore.	Increased risk of exposure to dust emissions to nearby residents and recreational users from blasting activities.	In accordance with Colorado Air Quality Regulation No. 1 (5CCR1001-3), use all available practical methods that are technically feasible and economically reasonable in order to minimize fugitive dust emissions from blasting activities.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.8-7
12	Air Quality	Tunnel blasting operations.	Twin Tunnels eastbound bore.	Increased risk of exposure to dust emissions by nearby residents and recreational users from blasting activities.	CDOT will conduct PM_{10} monitoring to assess the impacts of tunnel excavation, using the data for adaptive mitigation. The PM_{10} monitors will be set up some months ahead of tunnel blasting to facilitate monitoring protocol establishment, equipment testing, and acquire short term baseline data. The monitoring will be geared toward PM_{10} levels during blasting activities, not U.S. Department of Labor Occupational Safety and Health Administration-level of EPA long-term targets. The monitoring will provide a concentration alert threshold that will immediately trigger additional implementation of construction BMPs to address dust. Tunnel boring activities will not be halted for alerts. Once the tunnel bore is completed, the monitoring will cease. The Twin Tunnels EA Air Quality Technical Memorandum, included as an electronic attachment to the FONSI, provides additional detail about PM_{10} monitoring during construction.	CDOT	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.8-7

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Table 3-1. Summary of Impacts and Committed Mitigation Measures

Mitigation Commitment #	Mitigation Category	Activity Triggering Mitigation	Location of Activity Triggering Mitigation	Impact from NEPA Document	Commitment From Mitigation Table In Source Document	Responsible Agency[1]	Life Cycle Phase[2] Mitigation to be Implemented	Source Document of Mitigation Commitment and Page Number
13	Air Quality	Construction of Portal to Portal Construction Access Road.	Along the construction access road.	Increase in fugitive dust emissions along construction access road.	The contractor will prepare and implement a fugitive dust control plan that includes regular watering of the road surface to minimize fugitive dust.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Pages 3-1 and 7-2
14	Aquatic Resources	Use of hazardous materials during construction	Within Twin Tunnels project area.	Hazardous materials used during construction may spill and be carried into Clear Creek, degrading water quality and aquatic resource habitat.	Complete a project-specific Materials Management Plan (MMP) that details standard operating procedures regarding the management of hazardous materials that may be required to be used during construction.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.11-4 and Page 3.18-5
15	Aquatic Resources	Transportation of hazardous materials through the project area.	Within Twin Tunnels project area.	Hazardous materials transported along I-70 may spill and be carried into Clear Creek, degrading water quality and aquatic resource habitat.	Hazardous spill containment structure locations have been identified and the feasibility of BMPs will be evaluated to assess their potential effectiveness in reducing hazardous waste discharge to Clear Creek.	CDOT	Final Design and Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.11-4
16	Aquatic Resources	Operation and maintenance of additional roadway lane.	Within Twin Tunnels project area.	Potential degradation of water quality and aquatic habitat due to increased runoff and sediment into Clear Creek.	Three different drainage inlet sediment trap concept designs have been developed to accommodate various drainage conditions anticipated for the Proposed Action. These traps will be installed as part of the drainage system in locations where surface water is discharged to Clear Creek. Locations for surface sediment basins have also been identified in the plan and will be constructed as part of the drainage system.	CDOT	Project Design and Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.11-4
17	Aquatic Resources	Construction equipment entering Clear Creek	Within Twin Tunnels project area.	Introduction of undesirable or nuisance species such as mud snails, zebra/quagga mussels, and whirling disease from contaminated construction equipment entering Clear Creek.	The contractor will remove all mud, plans and debris from the equipment (tracks, turrets, buckets, drags, teeth, etc.) and steam pressure wash equipment that has been previously used in another stream, river, lake, reservoir, pond or wetland to meet the “certified clean” standard and kill any undesirable or nuisance species.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels FONSI, page 4-5
18	Aquatic Resources	Retaining wall construction during brown trout spawning (October through June).	Areas adjacent to and immediately upstream from brown trout redds.	Sedimentation from erosion of disturbed soils covering eggs incubating in the stream substrate.	CPW will conduct a spawning survey in fall 2012 prior to construction to identify locations of active brown trout spawning near retaining wall construction. If spawning occurs adjacent to retaining wall construction, the contractor will implement appropriate BMPs, in coordination with and as approved by CPW and CDOT, to minimize impacts. Implementation of the planned stream enhancement outlined in the Intergovernmental Agreement between CDOT and Clear Creek County will permanently improve spawning areas in the Twin Tunnels project area after construction is complete.	CDOT/CPW/ Contractor	Project Construction (Pre-Construction, Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.11-4
19	Aquatic Resources	Retaining wall construction during brown trout spawning (October through June).	Areas adjacent to and immediately upstream from brown trout redds.	Sedimentation from erosion of disturbed soils covering eggs incubating in the stream substrate.	Erosion control BMPs will be established at each retaining wall location to avoid or minimize sedimentation within Clear Creek.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.11-4
20	Aquatic Resources	Construction of stream crossings during brown trout spawning (October through June).	Adjacent to I-70 bridge over Clear Creek west of Hidden Valley Interchange.	Potential disturbance of brown trout spawning areas during installation and removal of temporary stream crossings.	CPW will conduct a spawning survey in fall 2012 prior to construction to identify locations of active brown trout spawning. Based on the results of the survey, the contractor will implement appropriate BMPs, in coordination with and as approved by CPW and CDOT, to minimize impacts to spawning areas along Clear Creek throughout the construction area. A preliminary survey conducted in September 2012 indicated that the stream crossing area does not contain suitable conditions for spawning. CDOT will coordinate with CPW regarding placement and timing of installation and removal of stream crossings. Implementation of the planned stream enhancement outlined in the Intergovernmental Agreement between CDOT and Clear Creek County will permanently improve spawning areas in the Twin Tunnels project area after construction is complete.	CPW/CDOT/ Contractor	Project Construction (Pre-Construction, Package 1, Package 2, and Package 3)	Twin Tunnels FONSI Page 4-5
21	Aquatic Resources	Runoff from construction.	Within Twin Tunnels study area.	Impacts to aquatic resources as a result of sedimentation from erosion, degrading water quality.	Implement appropriate BMPs for erosion and sediment control according to the *CDOT Erosion Control and Storm Water Quality Guide* (CDOT, 2002), develop a stormwater management plan (which includes water quality monitoring by the construction contractor to ensure effectiveness of temporary construction BMPs), and implement and monitor any project-specific BMPs recommended by CPW to reduce impacts of sedimentation to aquatic resources during construction.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.11-4

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22	Aquatic Resources	Construction and operation of Portal to Portal Construction Access Road during brown trout spawning (October through June).	Along the construction access road between the eastbound tunnel entrance and exit, adjacent to Clear Creek.	Sedimentation from erosion of disturbed soils covering eggs incubating in the stream substrate.	CPW will conduct a spawning survey in fall 2012 prior to construction to identify locations of active brown trout spawning. If spawning occurs adjacent to the construction access road, the contractor will implement appropriate BMPs, in coordination with and as approved by CPW and CDOT, to minimize sedimentation impacts during construction. Implementation of the planned stream enhancement outlined in the Intergovernmental Agreement between CDOT and Clear Creek County will permanently improve spawning areas in the Twin Tunnels project area after construction is complete.	CDOT/CPW/ Contractor	Project Construction (Pre-Construction, Package 1, Package 2, and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-4
23	Aquatic Resources	Construction and operation of Portal to Portal Construction Access Road during brown trout spawning (October through June).	Along the construction access road between the eastbound tunnel entrance and exit, adjacent to Clear Creek.	Sedimentation from erosion of disturbed soils covering eggs incubating in the stream substrate.	The contractor will implement appropriate BMPs for erosion and sediment control according to the *CDOT Erosion Control and Storm Water Quality Guide* (CDOT, 2002), develop a stormwater management plan (which includes water quality monitoring by the construction contractor to ensure effectiveness of temporary construction BMPs), and implement any project-specific BMPs recommended by CPW to reduce impacts of sedimentation to aquatic resources during construction. Implementation of the planned stream enhancement outlined in the Intergovernmental Agreement between CDOT and Clear Creek County will permanently improve spawning areas in the Twin Tunnels project area after construction is complete.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-4
24	Aquatic Resources	Construction and operation of Portal to Portal Construction Access Road during brown trout spawning (October through June).	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Loss of mature riparian vegetation and associated shading and fish food source.	The contractor will water newly planted trees and shrubs by truck. CDOT will require a 2- to 5-year establishment warranty or incentive specification of the contractor to ensure successful establishment of newly planted trees.	Contractor/ CDOT	Project Construction (Package 3) and Operations, Maintenance, and Monitoring	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-4
25	Aquatic Resources	Removal of mature riparian vegetation for construction and operation of the Portal to Portal Construction Access Road.	Between old US 40 and I-70 east of eastbound tunnel portal, adjacent to Clear Creek.	Loss of mature riparian vegetation and associated shading and fish food source.	Riparian trees and shrubs removed will be replaced as stipulated in CDOT's *Guidelines for Senate Bill 40 Wildlife Certification*, which states that trees removed during construction, whether native or non-native, shall be replaced with a goal of 1:1 replacement based on a stem count of all trees with diameter at breast height of 2 inches or greater. Shrubs removed during construction, whether native or non-native, will be replaced based on their pre-construction areal coverage. In all cases, all such trees and shrubs will be replaced with native species. Because the impacted area contains older trees (60 years old or older), CDOT has committed to additional riparian habitat restoration, as described in the Intergovernmental Agreement between CDOT and Clear Creek County.	CDOT/ Contractor	Project Construction (Package 1 and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-4
26	Aquatic Resources	Removal of mature riparian vegetation for construction and operation of Portal to Portal Construction Access Road.	Between old US 40 and I-70 east of eastbound tunnel portal, adjacent to Clear Creek.	Loss of mature riparian vegetation and associated shading and fish food source.	Loss of riparian vegetation will be offset by the creation of 34,400 square feet of riparian habitat connected to the natural function of the creek. The existing riparian area is elevated above Clear Creek with drainage from the Twin Tunnels being a major water source for the area. The new riparian habitat will be created by regrading and lowering the existing manmade bench that is currently elevated as much as 6 to 8 feet above the creek. This will effectively return the area to natural riparian conditions. The regrading effort for riparian habitat mitigation will include the reconstruction of the natural terraces that are associated with western rivers and streams. Each terrace supports a different native ecosystem based on its relative relationship to the water table. The revegetation effort will be focused on re-establishing the different and unique ecosystems. All large trees, measured at 2 inches or more (in caliper) measured 4 feet above ground level, will be replaced at a minimum of one for one. Long pole plantings will be used. The final vegetation mitigation ratio will be determined through subsequent discussions with CPW and Clear Creek County.	CDOT/ Contractor	Project Construction (Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-4

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27	Energy	Ongoing road maintenance.	Twin Tunnels project area.	Fuel consumption and greenhouse gas (GHG) emissions due to maintenance vehicles and equipment from routine maintenance of I-70.	For ongoing road maintenance, CDOT will keep maintenance equipment well maintained and use cleaner fuels, such as low-sulfur diesel, when possible.	CDOT	Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.19-5
28	Energy	Ongoing road maintenance.	Twin Tunnels project area.	Fuel consumption and GHG emissions due to idling vehicles delayed by maintenance activities conducted during peak travel periods.	CDOT will conduct maintenance activities (such as, roadway sweeping) during off-peak periods when feasible to reduce potential for idling vehicles caused by delays from CDOT maintenance operations.	CDOT	Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.19-5 and 3.19-6
29	Energy	Operation of construction equipment.	Twin Tunnels project area and staging areas.	Fuel consumption and GHG emissions.	Use the cleanest fuels available at the time (for example, low-sulfur fuel or biodiesel) in construction equipment and construction vehicles to reduce GHG emissions. Use fuel-efficient construction vehicles (for example, hybrid technologies) when possible.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.19-5
30	Energy	Operation of construction equipment.	Twin Tunnels project area and staging areas.	Fuel consumption and GHG emissions due to poorly performing construction equipment.	Keep construction equipment well maintained.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.19-5
31	Energy	Operation of construction equipment.	Twin Tunnels project area and staging areas.	Fuel consumption and GHG emissions due to idling of construction equipment.	Prepare and implement a plan to minimize the idling of construction equipment.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.19-5
32	Energy	Commuting of construction workers.	Twin Tunnels project area and staging areas.	Increase in vehicle miles traveled (VMT) due to workers commuting to construction staging areas.	Prepare a plan indicating where construction workers will park their personal vehicles and how they will shuttle or otherwise efficiently be transported to and from the work site to begin and end their shifts.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.19-5
33	Energy	Construction equipment travelling between project area and staging areas.	Twin Tunnels project area and staging areas.	Fuel consumption due to construction equipment VMT.	Staging areas will be located as close as possible to the project area.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.19-5
34	Energy	Traffic management during construction.	I-70 approaching Twin Tunnels project area from east or west.	Fuel consumption and GHG emissions due to idling vehicles delayed on I-70 due to construction.	Implement traffic management techniques that minimize motorist delays and vehicle idling (see mitigation measures in the Transportation Mitigation Category).	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.19-6
35	Energy	Road maintenance during construction.	Within Twin Tunnels project area.	Fuel consumption and GHG emissions due to idling vehicles delayed by maintenance activities.	Conduct maintenance activities (such as, roadway sweeping) during periods of re#27 asduced traffic volumes when feasible to reduce idling vehicles.	CDOT	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.19-5 and 3.19-6
36	Geology	Construction of new rock cuts and widened tunnel portals.	New rock cuts along I-70 and CR 314.	Public safety risk due to potential rockfall hazards of new rock cuts or tunnel blasting. Large failures can cause road closures and increased maintenance.	Prior to blasting, the rock mass will be evaluated for the likelihood of rockfall occurring, and permanent rockfall mitigation will be implemented during construction and in the design of the new portals to reduce construction risks.	CDOT/ Contractor	Project Design and Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.17-5
37	Geology	Construction of new rock cuts.	New rock cuts along I-70 and CR 314.	Public safety risk due to potential rockfall hazards during construction. Large failures during construction can cause road closures and extra maintenance.	Implement temporary construction BMPs to minimize rockfall potential.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.17-6
38	Geology	New rock cuts and widened tunnel portals.	New rock cuts along I-70 and CR 314.	New cut slope areas increase risks of rockfall, increase public safety risk, and introduce potential for large failures that cause road closures and increased maintenance.	Use proven techniques (such as rockfall catchments, mesh, cable netting, fences, scaling, and blasting) to address rockfall from new cut slope areas.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.17-5
39	Geology	Tunnel portal excavation and construction of new slopes and new retaining walls.	Excavations at proposed fill walls, temporary median walls, tiered cut wall along CR 314, and the Twin Tunnels portals. Fill slopes occur throughout the study area.	Erosion can increase sediment transport through stormwater runoff into Clear Creek.	Manage erosion and surface water away from water sources and ensure that appropriate, temporary BMPs are in place to prevent migration of sediment from waste piles, slopes, and excavations.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.17-6
40	Historic Resources	Tunnel expansion.	Twin Tunnels eastbound bore.	Adverse effect to and Section 4(f) use of the Twin Tunnels historic property.	Fulfill stipulations of the Twin Tunnels project supplement to the I-70 Mountain Corridor Section 106 Programmatic Agreement. Stipulations include archival documentation and interpretive mitigation in the form of a historical film and signage.	CDOT	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.6-5

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41	Historic Resources	Ground-disturbing construction activities that result in unexpected discovery of cultural remains that could have historic significance or be important to Native American tribes.	Within Twin Tunnels project area.	Inadvertent damage to historic properties that are unexpectedly discovered during construction.	Follow Section 107.23 of CDOT's Standard Specifications for Road and Bridge Construction for procedures regarding unexpected discoveries during construction.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.6-5
42	Historic Resources	Ground-disturbing construction activities that result in unexpected discovery of cultural remains that could have historic significance or be important to Native American tribes.	Within Twin Tunnels project area.	Inadvertent damage to historic properties that are unexpectedly discovered during construction.	Follow process outlined in 36 CFR 800.12 regarding Section 106 compliance during emergency situations.	CDOT	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.6-5
43	Historic Resources	Construction on I-70 and detour route.	CR 314 along detour route.	Damage to locally important sites.	Ahead of any construction activity, walk through project area with Clear Creek County historian(s) to review construction footprint in relation to sites identified as locally important to determine if these sites have potential to be disturbed during construction.	CDOT	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.6-5
44	Historic Resources	Construction on I-70 and detour route.	CR 314 along detour route.	Damage to locally important sites.	If located within or adjacent to the construction footprint, fence locally important sites to protect them from construction damage.	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.6-5
45	Land Use and Right-of-Way	Property acquisition.	Chain station reconstruction west of Twin Tunnels.	Acquisition of undevelopable property.	Comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.	CDOT	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.4-6
46	Land Use and Right-of-Way	Operation of detour on CR 314.	CR 314 between Doghouse Rail Bridge and Hidden Valley Interchange.	Loss of local access for local travelers on CR 314.	Provide a detailed construction and detour plan to residents and business owners in the surrounding area as far in advance as possible.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.4-6
47	Land Use and Right-of-Way	Operation of detour on CR 314.	CR 314 between Doghouse Rail Bridge and Hidden Valley Interchange.	Loss of local access for local travelers on CR 314.	Provide safe, effective, well-placed, and highly visible directional signage for access to properties along CR 314 during the detour.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.4-6
48	Land Use and Right-of-Way	Temporary Easement for Portal to Portal Construction Access Road.	Clear Creek County-owned property south of Twin Tunnels.	Temporary easement required for property access.	Comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.	CDOT	Project Construction (Package 1)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-1
49	Land Use and Right-of-Way	Construction and operation of Portal to Portal Construction Access Road.	Clear Creek County-owned property south of Twin Tunnels.	Potential damage to septic system.	The extent of the septic system will be determined prior to construction activities; if system is located within the Portal to Portal Construction Access Road alignment, it will be bridged with crane mats or a steel plate will be installed to avoid damage to the septic tanks and pump station.	Contractor	Project Construction (Pre-Construction)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-1
50	Land Use and Right-of-Way	Construction and operation of Portal to Portal Construction Access Road.	Clear Creek County-owned property south of Twin Tunnels.	Potential damage to septic system, pump stations, leach field, household wells, and structures on property.	Pre- and post-construction inspection of the septic system facilities, household wells, and residential structure(s) will be performed. Any damage identified during the post-construction inspection will be repaired at the expense of the contractor.	Contractor	Project Construction (Pre-Construction and Package 2)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-1
51	Land Use and Right-of-Way	Construction and operation of Portal to Portal Construction Access Road.	Clear Creek County-owned property south of Twin Tunnels.	Potential damage to septic system, pump station, leach field, household well, and structures on property.	High-visibility markings will be used to identify septic system facilities, household wells, and residential structures, where needed. Any property damages shall be repaired at the expense of the contractor.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-1
52	Land Use and Right-of-Way	Construction and operation of Portal to Portal Construction Access Road.	Clear Creek County-owned property south of Twin Tunnels.	Loss of mature riparian vegetation and associated shading and fish food source.	The temporary easement will include a 2- to 5-year agreement for right-of-entry to the property for the continued care, repair, and replacement of newly planted vegetation associated with riparian habitat mitigation.	CDOT	Project Construction (Package 1, Package 2, Package 3) and Operations, Maintenance, and Monitoring	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-1
53	Noise	Capacity Improvements that meet the definition of a Type I Project.	I-70 adjacent to Scott Lancaster Bridge.	Continued traffic noise levels in exceedance of CDOT noise abatement criteria.	Construct a noise barrier, in accordance with CDOT Noise Analysis and Abatement Guidelines, proceeding west from the west portal of the eastbound tunnel to reduce noise levels at the Scott Lancaster Bridge.	CDOT/ Contractor	Project Construction (Package 2 or Package 3)	Twin Tunnels Environmental Assessment Page 3.9-6
54	Noise	Nighttime construction.	Adjacent to residential receptors at Hidden Valley and west tunnel portal.	Nighttime construction noise at residential receptors.	Limit night work to areas away from residences at Hidden Valley and west portal when feasible.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.9-6

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Mitigation Commitment #	Mitigation Category	Activity Triggering Mitigation	Location of Activity Triggering Mitigation	Impact from NEPA Document	Commitment From Mitigation Table In Source Document	Responsible Agency[1]	Life Cycle Phase[2] Mitigation to be Implemented	Source Document of Mitigation Commitment and Page Number
55	Noise	Nighttime construction.	Adjacent to residential receptors at Hidden Valley and west tunnel portal.	Nighttime construction noise at residential receptors.	Use well-maintained equipment, particularly with respect to mufflers.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.9-6
56	Noise	Nighttime construction.	Adjacent to residential receptors at Hidden Valley and west tunnel portal.	Nighttime construction noise at residential receptors.	If CDOT receives complaints from nearby residents about nighttime construction noise, the contractor will monitor noise at residents immediately adjacent to construction activities. If hourly equivalent noise levels exceed 66 dBA between 10 PM and 7 AM, CDOT will provide affected residents hotel vouchers for the duration of the construction activity causing elevated noise levels.	CDOT	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.9-6
57	Noise	Tunnel blasting.	Twin Tunnels eastbound bore.	Noise impacts at nearby residences and recreation facilities.	Develop a communication protocol in coordination with Idaho Springs, Clear Creek County, and law enforcement agencies to inform local residents, businesses, and the traveling public about blasting schedules. Techniques may include notices on Variable Message Signs, websites, social media, and traditional media outlets.	CDOT/ Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.9-6
58	Noise	Tunnel blasting.	Twin Tunnels eastbound bore.	Noise impacts at nearby business and commercial facilities.	During initial blasting at the entrance to the eastbound bore, the contractor will monitor the air blast overpressure at business structures susceptible to damage. Based on monitoring results, an engineer will determine potential risks and need for additional mitigation, and the contractor will implement recommended mitigation.	CDOT/ Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.9-6
59	Noise	Tunnel blasting.	Twin Tunnels eastbound bore.	Noise impacts at nearby residences and recreation facilities.	During initial blasting at the entrance to the eastbound bore, CDOT will monitor 24-hour noise levels at nearby residences and recreation areas (such as the trail) to determine if additional temporary mitigation is feasible.	CDOT	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.9-6
60	Noise	Construction of Portal to Portal Construction Access Road.	Along the construction access road.	Noise resulting from the construction and operation of the Portal to Portal Construction Access Road adjacent to Clear Creek would disrupt the relative quiet experience for anglers and rafters on Clear Creek and bicyclists and pedestrians using the trail.	Use well-maintained equipment, particularly with respect to mufflers.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report 7-7
61	Paleontology	Ground disturbing construction activities	Within Twin Tunnels project area.	Discovery of subsurface bones or other potential fossils.	Halt work and contact CDOT Staff Paleontologist to assess significance and make recommendations. Implement recommendations, which may include work stoppage around area, additional monitoring, or other activities.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.0-1
62	Recreation Resources	Realignment of I-70.	I-70 west of Hidden Valley Interchange.	Reduction in long-term recreational river access due to removal of “Below Box” Boating Access.	Consider boating access in Final Design, and do not preclude long-term use of other fishing and boating access locations in the study area to preserve adequate recreational river access.	CDOT/ Contractor	Project Design	Twin Tunnels Environmental Assessment Page 3.5-6
63	Recreation Resources	Design and operation of water quality treatment features.	Kermitts Boating Access on Clear Creek near junction of US 6 and I-70.	Potential for reduced parking at Kermitts Boating Access.	Design and construct water treatment features so as not to preclude parking at the Kermitts Boating Access.	CDOT/ Contractor	Project Design and Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.5-6
64	Recreation Resources	Design and operation of water quality treatment features.	Kermitts Trailhead (planned) near US 6/I-70 Interchange.	Potential for reduced parking at Kermitts Trailhead.	Design and construct water quality treatment features so as not to preclude parking at the Kermitts Trailhead.	CDOT/ Contractor	Project Design and Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.5-6
65	Recreation Resource	Design and construction of retaining walls.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Retaining walls would constitute a visual impact to recreational users on the Scott Lancaster Memorial Trail, also a Section 4(f) recreation resource.	Proposed Action design includes shoulder widths that are less than the AASHTO standards to minimize the height of retaining walls along Clear Creek and reduce visual impacts from Scott Lancaster trail.	CDOT	Project Planning and Project Design	Twin Tunnels Environmental Assessment Section 4.8 Page 4-22
66	Recreation Resources	Operation of the detour in proximity to the Scott Lancaster Bridge.	Scott Lancaster Bridge.	Potential damage to the bridge from errant vehicles.	Provide an anchored concrete barrier between the Scott Lancaster Bridge and detour traffic to protect the bridge from errant vehicles.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.5-7
67	Recreation Resources	Closure and resurfacing of the game check area.	On old US 40 between the Scott Lancaster Bridge and Doghouse Rail Bridge (game check area).	Conversion of game check area to a detour route during construction, and temporary use of Section 4(f) recreation property.	After eastbound interstate traffic is returned to I-70, restore the game check area per agreements in the June 24, 2012 Intergovernmental Agreement between CDOT and Clear Creek County.	CDOT/ Contractor	Project Construction (Package 3)	Twin Tunnels Environmental Assessment Page 3.5-7

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68	Recreation Resources	Closure and resurfacing of the Scott Lancaster Memorial Trail during operation of the detour.	On CR 314 between the Doghouse Rail Bridge and Hidden Valley Interchange (Scott Lancaster Memorial Trail).	Conversion of the Scott Lancaster Memorial Trail to a detour route and temporary use of this Section 4(f) recreation resource during use of the detour.	Detour bicycle and pedestrian traffic by providing a barrier-separated, paved, 8-foot-wide shared use path to maintain pedestrian and bicycle access during closure of portions of the Scott Lancaster Memorial Trail. After eastbound interstate traffic is returned to the I-70 corridor, restore the Scott Lancaster Memorial Trail to existing conditions (which include I-70 Frontage Road Phase 1 improvements).	Contractor	Project Construction (Package 1 and Package 2)	Twin Tunnels Environmental Assessment Page 3.5-7
69	Recreation Resources	Operation of eastbound I-70 detour during construction.	On CR 314 between the Doghouse Rail Bridge and Hidden Valley Interchange.	Temporary closure of Unnamed Fishing Access 400 feet east of the Doghouse Rail Bridge and Unnamed Boating Access 1,400 feet east of the Doghouse Rail Bridge.	Restore accesses after construction so as not to preclude long-term use of the area for fishing and boating access to Clear Creek. The Unnamed Boating Access, which will be formalized with six parking spaces during the Frontage Road Phase 1 improvements, will be restored to that condition.	Contractor	Project Construction (Package 3)	Twin Tunnels Environmental Assessment Page 3.5-7
70	Recreation Resources	Construction and restoration of I-70 detour route and construction of retaining wall along CR 314.	On CR 314 between Doghouse Rail Bridge and Hidden Valley Interchange.	Construction-related delays for pedestrians and bicycles during preparation and restoration of the I-70 detour and construction of retaining walls.	Maintain pedestrian and bicycle access during construction by ensuring that one lane on the frontage road is available for pedestrian, bicycle, and vehicular traffic, and this lane will be managed using flaggers to direct two-way operation of traffic.	Contractor	Project Construction (Package 1 and Package 3)	Twin Tunnels Environmental Assessment Page 3.5-7
71	Recreation Resources	Construction and restoration of grade changes on CR 314.	On CR 314 near Doghouse Rail Bridge and curve west of Hidden Valley Interchange.	Temporary impediment to and temporary use of recreational trail activities due to closure of Scott Lancaster Memorial Trail, a Section 4(f) recreation property.	All attempts will be made to maintain bike traffic on the path, but when significant grade changes or other activities that present safety risks occur, a bike shuttle would be used to ensure continued access to recreational trail activities.	Contractor	Project Construction (Package 1 and Package 3)	Twin Tunnels Environmental Assessment Page 3.5-7
72	Recreation Resources	Rock blasting; I-70 Clear Creek bridge demolition, girder, and deck work; Doghouse Rail Bridge rehabilitation.	Twin Tunnels vicinity and west of Hidden Valley Interchange.	Temporary impediment to recreational river activities including boating and fishing due to periodic closures of Clear Creek.	Unless necessitated by safety concerns, river closures due to rock blasting, bridge demolition, or bridge rehabilitation will not occur during rafting season (June through August).	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.5-8
73	Recreation Resources	Rock blasting; I-70 Clear Creek bridge demolition, girder, and deck work; Doghouse Rail Bridge rehabilitation.	Twin Tunnels vicinity and west of Hidden Valley Interchange.	Temporary impediment to recreational river activities including boating and fishing due to periodic closures of Clear Creek.	CDOT will coordinate with rafting companies prior to construction to develop communication protocols in the event of unanticipated river closures during rafting season. If river closures are necessary during rafting season, CDOT will communicate with rafting companies in accordance with agreed upon protocols.	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.5-8
74	Recreation Resources	Rock blasting; I-70 Clear Creek bridge demolition, girder, and deck work; Doghouse Rail Bridge rehabilitation.	Twin Tunnels vicinity and west of Hidden Valley Interchange.	Potential safety risks to anglers and pedestrians adjacent to the construction zone.	Construction areas near the banks of the creek will be fenced off to prevent access by anglers or other pedestrians.	Contractor	Project Construction (Package 1 and Package 2)	Twin Tunnels Environmental Assessment Page 3.5-8
75	Recreation Resources	Rock blasting; I-70 Clear Creek bridge demolition, girder, and deck work; Doghouse Rail Bridge rehabilitation.	Twin Tunnels vicinity and west of Hidden Valley Interchange.	Potential safety risks to anglers and pedestrians adjacent to the construction zone.	Temporary signage will be placed along Clear Creek to warn recreationalists of rock blasting activities and provide sources of information on the project and potential river closures.	Contractor	Project Construction (Package 1 and Package 2)	Twin Tunnels Environmental Assessment Page 3.5-8
76	Recreation Resources	Rock blasting; I-70 Clear Creek bridge demolition, girder, and deck work; Doghouse Rail Bridge rehabilitation.	Twin Tunnels vicinity and west of Hidden Valley Interchange.	Potential safety risks to anglers and pedestrians adjacent to the construction zone.	A safety-critical zone will be established in the vicinity of rock blasting. Cyclists, pedestrians, and anglers will be evacuated from this zone before, during, and after rock blasting (approximately 30-minute durations).	Contractor	Project Construction (Package 1 and Package 2)	Twin Tunnels Environmental Assessment Page 3.5-8
77	Recreation Resources	Foundation work for I-70 bridge over Clear Creek.	I-70 bridge west of Hidden Valley Interchange.	Potential safety risks to boaters in Clear Creek adjacent to and traveling through the construction zone.	Spotters will be stationed upstream of the bridge to alert boaters of the construction and alert construction crews of approaching boats.	Contractor	Project Construction (Package 1 and Package 2)	Twin Tunnels Environmental Assessment Page 3.5-8
78	Recreation Resources	Foundation work for I-70 bridge over Clear Creek.	I-70 bridge west of Hidden Valley Interchange.	Potential safety risks to boaters in Clear Creek adjacent to and traveling through the construction zone.	Construction activities that present a safety risk to boaters will be stopped temporarily until the boaters have passed through the construction area. CDOT will coordinate with rafting companies regarding protocols for on-river communication between spotters and boaters during construction.	Contractor	Project Construction (Package 1 and Package 2)	Twin Tunnels Environmental Assessment Page 3.5-8
79	Recreation Resources	Foundation work for I-70 bridge over Clear Creek.	I-70 bridge west of Hidden Valley Interchange.	Potential safety risks to anglers and pedestrians adjacent to the construction zone.	Construction areas near the banks of the creek will be fenced off to prevent access by anglers or other pedestrians.	Contractor	Project Construction (Package 1 and Package 2)	Twin Tunnels Environmental Assessment Page 3.5-8
80	Recreation Resources	Construction staging.	Kermitts Trailhead (planned) near US 6/I-70 Interchange.	Potential disruption and temporary use of Kermitts Trailhead use, a Section 4(f) recreation property.	Maintain trail access and some parking capacity.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.5-8

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81	Recreation Resources	Construction staging.	Kermitts Trailhead (planned) near US 6/I-70 Interchange.	Potential damage to and temporary use of Kermitts Trailhead, a Section 4(f) property.	Restore area after construction so as not to preclude long-term use of the area for trail access.	Contractor	Project Construction (Package 3	Twin Tunnels Environmental Assessment Page 3.5-8
82	Recreation Resources	Construction staging.	Kermitts Boating Access on Clear Creek near US 6/I-70 Interchange.	Potential disruption to Kermitts Boating Access use.	Maintain boating access and some parking capacity.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.5-8
83	Recreation Resources	Construction staging.	Kermitts Boating Access on Clear Creek near US 6/I-70 Interchange.	Potential damage to Kermitts Boating Access.	Restore area after construction so as not to preclude long-term use of the area for boating access.	Contractor	Project Construction (Package 3)	Twin Tunnels Environmental Assessment Page 3.5-8
84	Regulated Materials	Exposure of mine waste during construction activities.	Within Twin Tunnels project area.	Potential to encounter mine wastes located within areas of excavation.	Complete a project-specific Materials Management Plan (MMP) that details site-specific standard operating procedures regarding the identification, sampling, handling, and disposal of mine-related wastes that could be encountered during construction of this project.	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.18-5
85	Regulated Materials	Exposure of mine waste during construction activities.	Within Twin Tunnels project area.	Potential to encounter mine wastes located within areas of excavation.	Complete a Health and Safety Plan (HSP) to address potential mine wastes that could be uncovered during construction.	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.18-5
86	Regulated Materials	Exposure of mine waste during construction activities.	Within Twin Tunnels project area.	Potential to encounter mine wastes located within areas of excavation.	Implement BMPs to prevent potential mine wastes from being exposed in the air (dust suppression) or impacting surface waters, in particular Clear Creek (Stormwater Management Plan [SWMP]).	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-5
87	Regulated Materials	Exposure of mine waste during construction activities.	Within Twin Tunnels project area.	Potential worker exposure to mine wastes located within areas of excavation.	Workers on this project must follow CDOT Specification 250 – Environmental, Health, and Safety Management during excavation activities at this site.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-5
88	Regulated Materials	Exposure of mineralized rock during construction activities.	Eastbound tunnel and construction access road haul route (for disposal of tunnel wastes from blasting).	Release of contaminants and migration to Clear Creek.	Encapsulate mineralized rock generated during blasting activities beneath the roadway pavement, away from groundwater, to prevent chemical reactions that could dissolve contaminants into the water. Such interactions could cause the release of contaminants and migration into Clear Creek. If encapsulation is not feasible, mineralized rock will be removed from the project area to an appropriate disposal site.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.18-5
89	Regulated Materials	Blasting of Twin Tunnels.	Twin Tunnels eastbound bore.	Excessive vibration resulting from blasting activities could damage underground storage tanks associated with the Idaho Springs Wastewater Treatment Plant.	The contractor's blasting plan will be developed based on a predetermined vibration threshold that ensures no damage will be done to those facilities. Monitoring will be conducted to ensure those thresholds are not exceeded. If the thresholds are approached or exceeded, the contractor's blasting plan may need to be revised.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.18-5
90	Regulated Materials	Demolition or rehabilitation of bridge structures.	I-70 bridge west of Hidden Valley Interchange and Doghouse Rail Bridge.	Potential worker exposure to lead-based paint.	Notify contractor that lead-based paint is located on the Hidden Valley Bridge over Clear Creek and the Doghouse Rail Bridge.	CDOT	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-6
91	Regulated Materials	Demolition or rehabilitation of bridge structures.	I-70 bridge west of Hidden Valley Interchange and Doghouse Rail Bridge.	Potential for release of lead into the environment.	If possible, components that will require demolition will be removed in such a manner as to ensure lead is not released and properly recycled.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-6
92	Regulated Materials	Demolition or rehabilitation of bridge structures.	I-70 bridge west of Hidden Valley Interchange and Doghouse Rail Bridge.	Potential worker exposure to lead-based paint.	The contractor will avoid sanding, cutting, burning, or otherwise causing the release of lead from paint on these structures. If this is not possible, the lead must be abated properly.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-6
93	Regulated Materials	Demolition or rehabilitation of bridge structures.	I-70 bridge west of Hidden Valley Interchange and Doghouse Rail Bridge.	Potential worker exposure to lead-based paint.	U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Regulation 1926.62 will be consulted for worker protection prior to work on these structures. Worker health and safety precautions in compliance with OSHA must be followed to limit worker exposure to lead. Work will be completed on these structures in accordance with CDOT Specification 250.04, as well as the MMP and HSP.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-6
94	Regulated Materials	Demolition or rehabilitation of bridge structures.	I-70 bridge west of Hidden Valley Interchange and Doghouse Rail Bridge.	Potential worker exposure to lead-based paint.	Workers on this project must follow CDOT Specification 250 – Environmental, Health, and Safety Management during excavation activities at this site.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-6
95	Regulated Materials	Demolition or rehabilitation of bridge structures.	I-70 bridge west of Hidden Valley Interchange and Doghouse Rail Bridge.	Potential worker exposure to asbestos and release of asbestos into the environment.	Any disturbance to regulated asbestos-containing materials will require proper abatement in accordance with CDPHE and EPA regulations prior to disturbance of that material. Non-regulated asbestos-containing materials are treated like any other solid waste as long as the disturbance does not render it friable.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-6

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96	Regulated Materials	Demolition or rehabilitation of bridge structures.	I-70 bridge west of Hidden Valley Interchange and Doghouse Rail Bridge.	Potential worker exposure to asbestos and release of asbestos into the environment.	Comply with CDOT Specification 250.07 – Asbestos-Containing Material Management.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.18-6
97	Section 4(f)[3]	Design and construction of retaining walls.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Retaining walls would constitute a visual impact to recreational users on the Scott Lancaster Memorial Trail, a Section 4(f) recreation resource.	Proposed Action design includes shoulder widths that are less than the AASHTO standards to minimize the height of retaining walls along Clear Creek and reduce visual impacts from Scott Lancaster trail.	CDOT	Project Design	Twin Tunnels Environmental Assessment Section 4.8 Page 4-22
98	Social and Economic Resources	Operation of eastbound I-70 detour during construction.	On CR 314 between the Doghouse Rail Bridge and Hidden Valley Interchange.	Loss of local access for adjacent properties and local travelers on CR 314.	Provide a detailed construction and detour plan to residents and business owners in the surrounding area as far in advance as possible.	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.2-7
99	Social and Economic Resources	Operation of eastbound I-70 detour during construction.	On CR 314 between the Doghouse Rail Bridge and Hidden Valley Interchange.	Loss of local access for adjacent properties and local travelers on CR 314.	Provide safe, effective, well-placed, and highly visible directional signage for access to properties along CR 314 during the detour.	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.2-7
100	Social and Economic Resources	Closure of eastbound lanes on I-70.	I-70 from entrance to eastbound tunnel to Hidden Valley Interchange.	Increase in emergency response travel times between Clear Creek County and hospitals in Jefferson County.	Provide a shoulder of adequate width for emergency vehicle access on the detour route during construction.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-7
101	Social and Economic Resources	Closure of eastbound lanes on I-70.	I-70 from entrance to eastbound tunnel to Hidden Valley Interchange.	Increase in emergency response travel times between Clear Creek County and hospitals in Jefferson County.	Provide traffic control contact information to emergency responders. In an emergency, responders will contact the CDOT traffic control office, provide their approximate arrival time at the construction zone, and traffic control will provide a clear path through the construction zone.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-7
102	Social and Economic Resources	Closure of eastbound lanes on I-70.	I-70 from entrance to eastbound tunnel to Hidden Valley Interchange.	Increase in emergency response travel times between Clear Creek County and hospitals in Jefferson County.	Notify emergency service providers (Colorado State Patrol, sheriff, local police, fire dispatchers, ambulance providers, etc.) of the timing of impending closures for blasting or other reasons.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-7
103	Social and Economic Resources	Closure of eastbound lanes on I-70.	I-70 from entrance to eastbound tunnel to Hidden Valley Interchange.	Economic losses due to reduced through-traveler patronage at local businesses.	Develop a public information plan and work with local public information officers to disseminate construction information to the traveling public to encourage business patronage during construction.	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.2-7
104	Social and Economic Resources	Closure of eastbound lanes on I-70.	I-70 from entrance to eastbound tunnel to Hidden Valley Interchange.	Economic losses due to reduced through-traveler patronage at local businesses.	Implement public information strategies such as 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 to alert travelers to construction activities and encourage business patronage during construction.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-7
105	Social and Economic Resources	Closure of eastbound lanes on I-70.	I-70 from entrance to eastbound tunnel to Hidden Valley Interchange.	Economic losses due to reduced through-traveler patronage at local businesses.	Provide well-placed and highly visible signage to direct patrons to businesses.	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.2-7
106	Social and Economic Resources	Closure of eastbound lanes on I-70.	I-70 from entrance to eastbound tunnel to Hidden Valley Interchange.	Increased commuting travel times between Idaho Springs and the Denver metropolitan area.	Work with Idaho Springs and Clear Creek County to identify community representatives who will partner in the construction traffic control program and provide assistance/ feedback to the traffic control team to minimize inconvenience.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-7
107	Social and Economic Resources	Closure of eastbound lanes on I-70.	I-70 from entrance to eastbound tunnel to Hidden Valley Interchange.	Increased commuting travel times between Idaho Springs and the Denver metropolitan area.	Hold public meetings at critical construction phases to provide information and discuss mitigation strategies. Provide a construction information exchange center near the construction area for public input and up-to-date construction information.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-7
108	Social and Economic Resources	Closure of eastbound lanes on I-70.	West of Twin Tunnels and east of Hidden Valley Interchange.	Increase in travel times due to lane closure.	Work requiring closure of one lane will be conducted at night as much as possible. Avoid all daytime construction lane closures during peak directional periods.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-7
109	Social and Economic Resources	Construction of highway and retaining walls on I-70.	West of Twin Tunnels and east of Hidden Valley Interchange.	Increase in emergency response travel times between Clear Creek County and hospitals in Jefferson County.	Provide contact information for the traffic control personnel to the emergency responders. In an emergency, responders will contact the traffic control office, provide their approximate arrival time at the construction zone, and traffic control will provide a clear path through the construction zone when feasible.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-8

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[3] Additional mitigation measures for impacts to Section 4(f) recreation and historic resources are listed in the Historic Resources and Recreation Resources sections of this table.

Table 3-1. Summary of Impacts and Committed Mitigation Measures

Mitigation Commitment #	Mitigation Category	Activity Triggering Mitigation	Location of Activity Triggering Mitigation	Impact from NEPA Document	Commitment From Mitigation Table In Source Document	Responsible Agency[1]	Life Cycle Phase[2] Mitigation to be Implemented	Source Document of Mitigation Commitment and Page Number
110	Social and Economic Resources	Construction of highway and retaining walls on I-70.	West of Twin Tunnels and east of Hidden Valley Interchange.	Increase in emergency response travel times between Clear Creek County and hospitals in Jefferson County.	Notify emergency service providers (Colorado State Patrol, sheriff, local police, fire dispatchers, ambulance providers, etc.) of the timing of impending closures.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.2-8
111	Social and Economic Resources	Roadway closures for blasting and closure of eastbound lanes on I-70 during construction and detour operation.	Within Twin Tunnels project area.	Delays to school bus travel times.	Consider Clear Creek County School District busing schedules when developing the traffic control plan, distribute the public information plan to Clear Creek County School District prior to construction, and include the School District in public information updates during construction. .	CDOT/ Contractor	Project Construction (Pre-Construction, Package 1, Package 2, and Package 3)	Twin Tunnels Finding of No Significant Impact Page 4-3
112	Terrestrial Wildlife	Widening of I-70 eastbound lane and adding a through lane.	East portal of Twin Tunnels–riparian area that extends upgradient from Clear Creek.	Loss of riparian habitat (trees and shrubs).	Riparian trees and shrubs removed during construction will be replaced as stipulated in CDOT's *Guidelines for Senate Bill 40 Wildlife Certification*, which state that trees removed during construction, whether native or non-native, shall be replaced with a goal of 1:1 replacement based on a stem count of all trees with diameter at breast height of 2 inches or greater. Shrubs removed during construction, whether native or non-native, will be replaced based on their pre-construction areal coverage. In all cases, all such trees and shrubs will be replaced with native species.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.10-7
113	Terrestrial Wildlife	Reconstruction of the bridge on I-70 over Clear Creek west of Hidden Valley Interchange. This area was identified in the Clear Creek Junction Linkage Interference Zone.	I-70 bridge west of Hidden Valley Interchange.	Potential to decrease wildlife connectivity if existing bench under the bridge is not extended. In addition, the upstream side of the creek is steep and large rip rap on the south side of the existing bridge inhibits wildlife movement.	When this bridge is replaced, the existing bench under the bridge will be extended to improve wildlife movement under the bridge. The approach on the upstream side of Clear Creek will be softened and large riprap will be replaced with smaller substrate to allow animals to move more freely.	Contractor	Project Construction (Package 1 and Package 2)	Twin Tunnels Environmental Assessment Page 3.10-7
114	Terrestrial Wildlife	Operation and maintenance of I-70.	Within Twin Tunnels project area.	Existing fence north of I-70 and west of the Twin Tunnels entraps wildlife	The existing barbed and woven wire fencing located north of I-70 between the west portal and Clear Creek will be replaced. The new fence will be a more wildlife friendly per CPW's recommendations and its publication, *Fencing with Wildlife in Mind* (Hanophy, 2009), and will consist of smooth wire and barbed wire. The new fence would continue to contain livestock.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.20-13
115	Terrestrial Wildlife	Widening eastbound I-70 west of the Twin Tunnels and adding a through lane.	I-70 from the entrance to tunnel west to Clear Creek.	Deicer salts, used for winter maintenance operations, attract sheep to the shoulder north of the highway, in an area that is obscured by upland trees, resulting in animal/vehicle collisions. On average, one sheep per year is hit by a vehicle at this location.	Upland (non-riparian) trees, primarily junipers and pines, will be removed north of I-70 outside the west portal of the westbound tunnel. This will improve westbound motorists' ability to visually detect sheep as motorists exit the tunnel and reduce the potential for animal-vehicle collisions.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.20-13
116	Terrestrial Wildlife	Widening eastbound I-70 west of the Twin Tunnels and adding a through lane.	Concrete box culvert (CBC) near milepost 242.	Widening I-70 creates a wider I-70 barrier for sheep movement and access to Clear Creek. The CBC presents an opportunity for wildlife crossing but its design is not conducive to wildlife movement or use.	To encourage use of the CBC by wildlife, a natural substrate will be placed along the bottom of the CBC, and baffles will be installed to retain the substrate and prevent scour. Material will also be used to fill in and level the drop-off at the CBC discharge point.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.20-13
117	Terrestrial Wildlife	Widening eastbound I-70 west of the Twin Tunnels and adding a through lane.	Concrete box culvert (CBC) near milepost 242.	Widening I-70 creates a wider I-70 barrier for sheep movement and access to Clear Creek. The CBC presents an opportunity for wildlife crossing but its design is not conducive to wildlife movement or use.	CDOT will replace the existing fencing near the entrance to the CBC, and instead of fencing across the drainage (like the existing condition), the fence will be tied into the CBC to encourage wildlife usage. On the exit of the CBC, the drainage will be left open.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.20-13
118	Terrestrial Wildlife	General construction activities associated with the Twin Tunnels project.	Within Twin Tunnels project area.	Garbage generated by construction crew could attract wildlife, particularly bears.	Construction crews will remove food and food-related garbage from construction site daily.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels FONSI Page 4-3
119	Terrestrial Wildlife	Use of temporary erosion control blankets for erosion control.	Twin Tunnels project area, where BMPs will control erosion adjacent to Clear Creek.	Potential snake mortality from entanglement in plastic mesh deployed for erosion control.	Erosion control blankets will have flexible natural fibers to allow for safe passage of snakes through the erosion control blanket.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.10-7
120	Terrestrial Wildlife	Widening of I-70 eastbound lane and adding a through lane.	Twin Tunnels project area–riparian and wetland habitat adjacent to Clear Creek.	Loss of vegetation and impacts to sensitive habitats beyond the needed construction footprint.	Wetland/riparian areas not required to be impacted by the project will be protected from construction activities by temporary and/or construction limit fencing.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.10-8

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Table 3-1. Summary of Impacts and Committed Mitigation Measures

Mitigation Commitment #	Mitigation Category	Activity Triggering Mitigation	Location of Activity Triggering Mitigation	Impact from NEPA Document	Commitment From Mitigation Table In Source Document	Responsible Agency[1]	Life Cycle Phase[2] Mitigation to be Implemented	Source Document of Mitigation Commitment and Page Number
121	Terrestrial Wildlife	Closure of eastbound lanes on I-70 and use of CR 314 detour.	Approximately 1,200 feet of old US 40 alignment (game check area)	Potential for increased animal/vehicle collisions in the vicinity of the Twin Tunnels land bridge while the eastbound I-70 detour is in place. In addition, deicing liquids and salt placed on old US 40 (game check area) during the eastbound I-70 detour may attract big horn sheep down to the roadway in the vicinity of the Twin Tunnels land bridge.	A 10-foot-high temporary wildlife fence will be constructed along the north side of old US 40 (game check area). The fencing is intended to keep wildlife off the north side of old US 40 (game check area) and prevent big horn sheep from coming down to access the roadway while the eastbound I-70 detour is in place. The fence will be removed when the eastbound I-70 detour is no longer in place.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.10-8
122	Terrestrial Wildlife	Closure of eastbound lanes on I-70 and use of CR 314 detour.	Approximately 1,200 feet of old US 40 alignment (game check area)	Potential for increased animal/vehicle collisions in the vicinity of the Twin Tunnels land bridge while the eastbound I-70 detour is in place. In addition, deicing liquids and salt placed on old US 40 (game check area) during the eastbound I-70 detour may attract big horn sheep down to the roadway in the vicinity of the Twin Tunnels land bridge.	If an increase in animal/vehicle collisions is observed during operation of the eastbound I-70 detour, temporary fencing will be considered on the south side of the roadway.	CDOT/ Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.10-8
123	Terrestrial Wildlife	Closure of eastbound lanes on I-70 and use of CR 314 detour.	Approximately 1,200 feet of old US 40 alignment (game check area)	Potential for increased animal/vehicle collisions in the vicinity of the Twin Tunnels land bridge while the eastbound I-70 detour is in place. In addition, deicing liquids and salt placed on old US 40 (game check area) during the eastbound I-70 detour may attract big horn sheep down to the roadway in the vicinity of the Twin Tunnels land bridge.	Temporary lighting will be used on the eastbound I-70 detour to improve safety and detection of wildlife on the roadway.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.10-8
124	Terrestrial Wildlife	Closure of eastbound lanes on I-70 and use of CR 314 detour.	Approximately 1,200 feet of old US 40 alignment (game check area)	Deicing liquids and salt placed on old US 40 (game check area) during the eastbound I-70 detour may attract big horn sheep to the roadway in the vicinity of the Twin Tunnels land bridge. Potential for increase in animal-vehicle collisions.	CPW will place salt blocks on the north side of I-70 before blasting begins to encourage sheep to use an area away from the tunnel and roadway during operation of the eastbound I-70 detour.	CPW	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.10-8
125	Terrestrial Wildlife	Construction-related disturbance between April 1 and August 31.	Twin Tunnels project area in the vicinity of active nests.	Potential loss of eggs or young of nesting migratory birds.	If construction is to commence between April 1 and August 31, follow CDOT specification 240-Protection of Migratory Birds. To avoid impacts to nesting birds in accordance with the MBTA, a qualified biologist will conduct a nest survey prior to construction. If active nests are found during construction, coordination with CPW and USFWS is required to determine an appropriate course of action, which may include, but is not limited to, a delay in construction to avoid the breeding season	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.10-7
126	Terrestrial Wildlife	Construction of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Loss of vegetation, including sensitive habitat and riparian area.	Riparian trees and shrubs removed will be replaced as stipulated in CDOT's *Guidelines for Senate Bill 40 Wildlife Certification*, which states that trees removed during construction, whether native or non-native, shall be replaced with a goal of 1:1 replacement based on a stem count of all trees with diameter at breast height of 2 inches or greater. Shrubs removed during construction, whether native or non-native, will be replaced based on their pre-construction areal coverage. In all cases, all such trees and shrubs will be replaced with native species. Because the impacted area contains older trees (60 years old or older), CDOT has committed to additional riparian habitat restoration, as described in the Intergovernmental Agreement between CDOT and Clear Creek County.	CDOT/ Contractor	Project Construction (Package 1 and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-2
127	Terrestrial Wildlife	Construction of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Loss of vegetation, including sensitive habitat and riparian area.	Loss of riparian vegetation will be offset by the creation of 34,400 square feet of riparian habitat connected to the natural function of Clear Creek. The existing riparian area is elevated above the creek with drainage from the Twin Tunnels being a major water source for the area. The new riparian habitat will be created by regrading and lowering the existing manmade bench that is currently elevated as much as 6 to 8 feet above the creek. This will effectively return the area to natural riparian conditions and improve habitat.	CDOT/ Contractor	Project Construction (Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-2

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Table 3-1. Summary of Impacts and Committed Mitigation Measures

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128	Terrestrial Wildlife	Construction of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Loss of vegetation, including sensitive habitat and riparian area.	The regrading effort for riparian habitat mitigation will include the reconstruction of the natural terraces that are associated with western rivers and streams. Each terrace supports a different native ecosystem based on its relative relationship to the water table. The revegetation effort will be focused on re-establishing the different and unique ecosystems. All large trees, measured at 2 inches or more (in caliper) measured 4 feet above ground level, will be replaced at a minimum of one for one. Long pole plantings will be used. The final vegetation mitigation ratio will be determined through discussions with CPW and Clear Creek County.	CDOT/ Contractor	Project Construction (Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-3
129	Terrestrial Wildlife	Construction of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Loss of vegetation, including sensitive habitat and riparian area.	New trees and shrubs for riparian habitat mitigation must be watered by truck. A 2- to 5-year establishment warranty or incentive specification must be required of the contractor.	Contractor	Project Construction (Package 3) and Operations, Maintenance, and Monitoring	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-3
130	Terrestrial Wildlife	Vegetation disturbance and ground clearing.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential for establishment and spread of noxious weeds.	An Integrated Noxious Weed Management Plan will be developed during final design and implemented during construction to prevent the spread of noxious weeds into temporary disturbance areas.	Contractor	Project Design and Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Twin Tunnels Portal to Portal Access Road Companion Report Page 7-3
131	Terrestrial Wildlife	Vegetation disturbance and ground clearing.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential for establishment and spread of noxious weeds.	Reseed and protect temporary disturbance areas with CDOT-approved BMPs and avoid disturbance to existing vegetation to the maximum extent possible.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Twin Tunnels Portal to Portal Access Road Companion Report Page 7-3
132	Terrestrial Wildlife	Vegetation disturbance and ground clearing.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential for establishment and spread of noxious weeds during construction.	Seed, mulch, and mulch tackifier will be applied in phases throughout construction. See mix will be certified weed-free.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Twin Tunnels Portal to Portal Access Road Companion Report Page 7-3
133	Terrestrial Wildlife	Vegetation disturbance and ground clearing.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential for establishment and spread of noxious weeds.	Where permanent seeding operations are not feasible due to seasonal constraints (e.g., summer and winter months), disturbed areas will have certified weed-free mulch and mulch tackifier applied to prevent erosion and noxious weeds from establishing.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Twin Tunnels Portal to Portal Access Road Companion Report Page 7-3
134	Terrestrial Wildlife	Vegetation disturbance and ground clearing.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential for establishment and spread of noxious weeds.	Minimize disturbance and limit time that disturbed areas are allowed to remain non-vegetated.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-3
135	Threatened and Endangered Species	Construction activities that cause water depletions, including water used for compaction, cement mixing, detention ponds, dust control, and dewatering for access and construction in and near Clear Creek.	Within Twin Tunnels project area.	Platte River species could be impacted by construction activities causing water depletions in tributaries such as Clear Creek.	Mitigation for impacts caused by water depletions on federally listed species will be addressed by FHWA and CDOT through the South Platte Water Related Activities Program. This will include yearly reporting to the USFWS of water usage per the Programmatic Biological Assessment and the subsequent Biological Opinion signed by USFWS on April 4 2011.	CDOT/ FHWA	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.12-4
136	Transportation and Safety	Drivers traveling on I-70 at night.	Locations along I-70 in the Twin Tunnels project area, as determined by safety analyses.	Crashes at night.	Existing lighting will be reviewed to make sure current light fixtures are operating as designed.	CDOT	Project Design	Twin Tunnels Environmental Assessment Page 3.1-9
137	Transportation and Safety	Drivers traveling on I-70 at night.	Locations along I-70 in the Twin Tunnels project area, as determined by safety analyses.	Crashes at night.	Safety will be monitored closely after construction to see if nighttime crash patterns persist that could be addressed with localized lighting treatments.	CDOT	Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.1-9
138	Transportation and Safety	Drivers traveling on I-70 at night.	Locations along I-70 in the Twin Tunnels project area, as determined by safety analyses.	Crashes at night.	Lighting will follow I-70 Mountain Corridor Aesthetics Guidance and the objectives of the Dark Sky Initiative.	CDOT	Project Design	Twin Tunnels Environmental Assessment Page 3.1-9
139	Transportation and Safety	Operation of the managed lane at night.	Entrance to managed lane.	Potential for crashes at entrance to managed lane.	Lighting and safety conditions at the managed lane entrance will be further evaluated during final design. If lighting near the managed lane entrance is determined to be necessary to improve safety conditions, lighting will follow I-70 Mountain Corridor Aesthetics Guidance and the objectives of the Dark Sky Initiative.	CDOT	Project Design and Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.1-9

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140	Transportation and Safety	Construction on or adjacent to I-70.	Construction and operation of the detour from I-70 to CR 314.	Increased potential for crashes.	There will be extensive warning of the detour for eastbound traffic so that drivers can slow to the posted speed limit of 35 mph.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.1-10
141	Transportation and Safety	Construction on or adjacent to I-70.	Construction and operation of the detour from I-70 to CR 314.	Increased potential for crashes.	Colorado State Patrol and local police will be encouraged to monitor speeds during off-peak periods when enforcement activities will not create traffic congestion.	CDOT	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.1-10
142	Transportation and Safety	Construction on or adjacent to I-70.	Between East Idaho Springs Interchange and base of Floyd Hill.	Traffic shifts from I-70 to less-capable facilities such as SH 9 and US 285.	As feasible on weekends and holidays, minimize I-70 construction activities that could shift travel to alternative routes (SH 9 and US 285, in particular).	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.1-10
143	Transportation and Safety	Construction on or adjacent to I-70.	Between East Idaho Springs Interchange and base of Floyd Hill.	Traffic shifts from I-70 to less-capable facilities such as SH 9 and US 285.	Monitor signal operations and timing on these alternative routes during peak periods and modify signal timing, if necessary.	CDOT	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.1-10
144	Transportation and Safety	Construction on or adjacent to I-70.	Between East Idaho Springs Interchange and base of Floyd Hill.	Disruption of emergency response.	Provide emergency responders traffic control contact information. In an emergency, responders will contact the CDOT traffic control office, provide their approximate arrival time at the construction zone, and traffic control will provide a clear path through the construction zone.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.1-10
145	Transportation and Safety	Construction on or adjacent to I-70.	Between East Idaho Springs Interchange and base of Floyd Hill.	Disruption of emergency response.	Notify emergency service providers (Colorado State Patrol, sheriff, local police, fire dispatchers, ambulance providers, etc.) of the timing of impending closures for blasting or other reasons.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.1-10
146	Transportation and Safety	Construction on or adjacent to I-70.	Between East Idaho Springs Interchange and base of Floyd Hill.	Potential difficulty accessing local businesses during construction.	Provide frequent and timely updates about construction activities and remind the public that the corridor is open except for necessary interruptions.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.1-10
147	Transportation and Safety	Construction on or adjacent to I-70.	Between East Idaho Springs Interchange and base of Floyd Hill.	Potential difficulty accessing local businesses during construction.	Signs notifying drivers of access to local business will be placed in both directions in advance of the East Idaho Springs Interchange (Exit 241).	Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.1-10
148	Transportation and Safety	Closure of eastbound lanes on I-70.	West of Twin Tunnels and east of Hidden Valley Interchange.	Traffic backups due to lane restriction during construction in the peak direction during peak periods.	Contractor will prepare a CDOT-approved project-specific lane closure strategy that minimizes lane closures during peak weekend travel. Any variances will be developed in close coordination with the contractor and approved by CDOT.	CDOT/ Contractor	Project Construction (Package 1)	Twin Tunnels Environmental Assessment Page 3.1-10
149	Transportation and Safety	I-70 closures during peak periods.	West of Twin Tunnels and east of Hidden Valley Interchange.	Traffic backups due to lane restriction during construction in the peak direction during peak periods may divert through trips onto local roads and cause congestion.	Create a traffic control plan to keep through-traffic from exiting I-70 and congesting local roads.	CDOT	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.1-10
150	Transportation and Safety	I-70 closures during peak periods.	On I-70 westbound; on eastbound I-70 and eastbound I-70 detour route.	Traffic backups.	Stoppages will be minimized to the greatest extent possible during peak periods (westbound Friday afternoon and Saturday morning, and eastbound Sunday afternoon). Advance signage along I-70 will provide warning of impending closures.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.1-10
151	Vegetation and Noxious Weeds	Construction and operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Loss of mature riparian trees and shrubs near the western side of the eastbound tunnel.	Loss of mature riparian vegetation will be offset by the creation of 34,400 square feet of riparian area connected to the natural function of Clear Creek. The existing riparian area is elevated above the creek with drainage from the Twin Tunnels being a major water source for the area. The new riparian area will be created by lowering the existing manmade bench that is currently elevated as much as 6 to 8 feet above the creek. This will effectively return the area to natural riparian conditions. The regrading effort for riparian habitat mitigation will include the reconstruction of the natural terraces that are associated with western rivers and streams. Each terrace supports a different native ecosystem based on its relative relationship to the water table. The revegetation effort will be focused on re-establishing the different and unique ecosystems. The Intergovernmental Agreement between CDOT and Clear Creek County provides a concept for the restoration. The final plan will evolve through discussions with CPW and Clear Creek County.	CDOT/ Contractor/ Clear Creek County/ CPW	Project Construction (Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-5
152	Vegetation and Noxious Weeds	Construction and operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential loss of riparian trees.	For minimal protection of trees older than 4 years outside of the direct impact area of the construction access road, the contractor will install barricades beyond the dripline; for each inch of diameter of the tree's trunk, the protection area will be extended an additional foot. For additional protection, a layer of wood chips (4 to 6 inches deep) will be placed around each tree prior to placement of the barricades.	Contractor	Project Construction (Package 1)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-5

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Table 3-1. Summary of Impacts and Committed Mitigation Measures

Mitigation Commitment #	Mitigation Category	Activity Triggering Mitigation	Location of Activity Triggering Mitigation	Impact from NEPA Document	Commitment From Mitigation Table In Source Document	Responsible Agency[1]	Life Cycle Phase[2] Mitigation to be Implemented	Source Document of Mitigation Commitment and Page Number
153	Vegetation and Noxious Weeds	Surface grading and MSE wall construction of the Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential loss of riparian trees and shrubs.	Riparian habitat (particularly older cottonwoods and river birch) will be protected from construction activities by properly installed construction limit fencing, to the greatest extent possible.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-5
154	Vegetation and Noxious Weeds	Vegetation disturbance and ground clearing.	Within Twin Tunnels project area.	Potential for establishment and spread of noxious weeds.	An Integrated Noxious Weed Management Plan will be developed during final design and implemented during construction to prevent the spread of noxious weeds into temporary disturbance areas.	Contractor	Final Design, Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Portal to Portal Access Road Companion Report Page 7-6
155	Vegetation and Noxious Weeds	Vegetation disturbance and ground clearing.	Within Twin Tunnels project area.	Potential for establishment and spread of noxious weeds.	Reseed and protect temporary disturbance areas with CDOT-approved BMPs and avoid disturbance to existing vegetation, to the maximum extent possible.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Portal to Portal Access Road Companion Report Page 7-5
156	Vegetation and Noxious Weeds	Vegetation disturbance and ground clearing.	Within Twin Tunnels project area.	Potential for establishment and spread of noxious weeds.	Seed, mulch, and mulch tackifier will be applied in phases throughout construction. Seed mix will be certified weed-free.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Portal to Portal Access Road Companion Report Page 7-5
157	Vegetation and Noxious Weeds	Vegetation disturbance and ground clearing.	Within Twin Tunnels project area.	Potential for establishment and spread of noxious weeds.	Where permanent seeding operations are not feasible due to seasonal constraints (e.g., summer and winter months), disturbed areas will have certified weed-free mulch and mulch tackifier applied to prevent erosion and noxious weeds from establishing.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Portal to Portal Access Road Companion Report Page 7-5
158	Vegetation and Noxious Weeds	Vegetation disturbance and ground clearing.	Within Twin Tunnels project area.	Potential for establishment and spread of noxious weeds.	Minimize the amount of disturbance and limit the amount of time that disturbed areas are allowed to remain non-vegetated.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5 and Portal to Portal Access Road Companion Report Page 7-6
159	Vegetation and Noxious Weeds	Vegetation disturbance and ground clearing.	Within Twin Tunnels project area.	Loss of riparian trees and shrubs from previous construction and during construction of the Proposed Action.	Enhance native vegetation along Clear Creek for wildlife habitat, water quality stabilization, and visual quality. Trees removed during construction shall be replaced with a goal of 1:1 replacement based on a stem count of all trees with diameter at breast height of 2 inches or greater. Shrubs removed during construction, whether native or non-native, will be replaced based on their pre-construction areal coverage. In all cases, all such trees and shrubs will be replaced with native species.	CDOT/ Contractor	Project Construction (Package 3)	Twin Tunnels Environmental Assessment Page 3.13-5
160	Visual Resources	Construction of new or expanded transportation elements	Within the Twin Tunnels project area.	Introduction of new or expanded transportation features in the project area changes the visual quality for both motorists and recreationalists using the project area.	Incorporate I-70 Mountain Corridor Aesthetic Guidance into the project design and vegetation/revegetation plans. Review specific design elements, such as lighting, walls, signs, etc. with the Project Leadership Team and Technical Team to ensure consideration of core values and local preferences,	CDOT	Project Design	Twin Tunnels Environmental Assessment Page 3.7-10
161	Visual Resources	Construction and operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Removal of vegetation that changes the visual setting of Clear Creek and the Scott Lancaster Memorial Trail.	CDOT Landscape Architect will evaluate riparian habitat mitigation sites for elevation, solar orientation, soil conditions, and Mountain Mineral Belt ecosystem type (subalpine, montane, foothills, or riparian).	CDOT	Project Design	Twin Tunnels Portal to Portal Access Road Companion Report, Page 7-1
162	Visual Resources	Construction and operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Replacement of riparian vegetation that is not appropriate for Mountain Mineral Belt ecosystem.	CDOT Landscape Architect will review plant selections for drought tolerance, salt and alkali tolerance, seedling vigor, fire-retardant characteristics, growth habit, suitable soil groups, and seeding rates; natural patterns and distribution of plants are the predominate landscape principle; ensure that the selected plant palette complements the site-specific existing vegetation; vary plant height, size, and width in restored plant communities.	CDOT	Project Design	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-1
163	Visual Resources	Construction and operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Changes to visual setting to motorists and recreationalists along Clear Creek and the Scott Lancaster Memorial Trail.	Minimize the linear effect of vegetation clearing when designing riparian revegetation plan.	CDOT	Project Design	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-2

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Table 3-1. Summary of Impacts and Committed Mitigation Measures

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164	Visual Resources	Construction and operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Changes to visual setting to motorists and recreationalists along Clear Creek and the Scott Lancaster Memorial Trail.	Mimic surrounding conditions of plant density and spacing, species composition, and plant community structure when designing riparian revegetation.	CDOT	Project Design	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-2
165	Visual Resources	Construction and operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Changes to visual setting to motorists and recreationalists along Clear Creek and the Scott Lancaster Memorial Trail.	When installing new vegetation in riparian area, blend existing rock and natural materials from the site with the landscape; save and reuse native rock, stumps, and other natural materials in conditions such as boulder fields, talus slopes, or ground cover that emulates the existing landscape; reuse of existing materials will be part of site design.	Contractor	Project Design and Project Construction (Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-2
166	Visual Resources	Installation and maintenance of erosion control BMPs	Within Twin Tunnels project area.	Changes to visual setting to motorists and recreationalists along Clear Creek and the Scott Lancaster Memorial Trail.	Remove visually obtrusive erosion-control devices, such as silt fences, plastic ground cover, and straw bales, as soon as areas are stabilized.	Contractor	Project Construction (Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-2
167	Water Quality	Use of hazardous materials during construction	Within Twin Tunnels project area.	Potential for water quality degradation due to spills of hazardous materials used during construction.	Complete a project-specific Materials Management Plan (MMP) that details standard operating procedures regarding the management of hazardous materials that may be required to be used during construction.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	
168	Water Quality	Transportation of hazardous materials through the project area.	Within Twin Tunnels project area.	Potential for water quality degradation due spills of hazardous materials transported along I-70.	Hazardous spill containment structure locations have been identified and the feasibility of BMPs will be evaluated to assess their potential effectiveness in reducing hazardous waste discharge to Clear Creek.	CDOT	Project Design	Twin Tunnels Environmental Assessment Page 3.16-8
169	Water Quality	Development of the Clear Creek SCAP	Within Twin Tunnels project area.	Clear Creek SCAP is not finalized	Finalize Clear Creek SCAP, and incorporate the Twin Tunnels project-specific sediment control BMPs into the final SCAP.	CDOT	Operations, Maintenance, and Monitoring (SCAP development)	Twin Tunnels FONSI Page 4-3
170	Water Quality	Operation and maintenance of additional roadway lane.	Within Twin Tunnels project area.	Water quality degradation due to increased stormwater runoff and associated sediment transport on impervious surfaces.	Three different drainage inlet sediment trap concept designs have been developed to accommodate various drainage conditions anticipated for the Proposed Action. These traps will be installed as part of the drainage system in locations where surface water is discharged to Clear Creek. Locations for surface sediment basins have also been identified in the plan and will be constructed as part of the drainage system.	CDOT	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.16-8
171	Water Quality	Winter roadway maintenance.	Within Twin Tunnels project area.	Potential for elevated sediment and chloride levels in Clear Creek due to use of traction sand and liquid and solid deicer salts.	Structural BMPs, such as detention basins, will be constructed to capture winter roadway maintenance traction sand and other solid material. Non-structural BMPs will include ongoing training of maintenance staff in the application of winter roadway maintenance materials.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3) and Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.16-8
172	Water Quality	Construction and operation of the Proposed Action.	Within Twin Tunnels project area.	Incomplete data regarding water quality and water quality trends in Clear Creek.	The I-70 Clear Creek water quality monitoring program (conducted from 2001-2005) in the Twin Tunnels/Hidden Valley reach will be restarted and operated before, during, and after construction to monitor water quality conditions. The duration of post-construction monitoring will be determined by CDOT. The water quality monitoring program will sample both ambient and runoff event (snowmelt or rainstorm) flows.	CDOT	Project Construction (Pre-Construction, Package 1, Package 2, and Package 3) and Operations, Maintenance, and Monitoring	Twin Tunnels Environmental Assessment Page 3.16-8 and 3.16-9
173	Water Quality	Ground disturbance exposing soils	Within Twin Tunnels project area.	Potential for stormwater runoff from disturbed construction areas to increase erosion and sediment transport in Clear Creek.	Implement appropriate temporary BMPs according to the CDOT Erosion Control and Stormwater Quality Guide (CDOT, 2002) to reduce erosion and control sediment being transported outside of construction areas, and develop a stormwater management plan, which includes water quality monitoring by the construction contractor to ensure effectiveness of temporary construction BMPs.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.16-9
174	Water Quality	Ground disturbance exposing soils	Within Twin Tunnels project area.	Potential for stormwater runoff from disturbed construction areas to increase erosion and sediment transport in Clear Creek.	Achieve permanent stabilization of bare soils through revegetation and permanent erosion controls measures, and through maintenance of temporary erosion controls and plantings to stabilize non-rocky areas.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.16-9; Twin Tunnels Portal to Portal Access Road Companion Report Page 7-6
175	Water Quality	Construction and operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential for stormwater runoff from Portal to Portal Construction Access Road to increase erosion and sediment transport in Clear Creek.	Implement appropriate temporary BMPs for erosion and sediment control according to the CDOT Erosion Control and Storm Water Quality Guide (CDOT, 2002) and develop a stormwater management plan, which includes water quality monitoring.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-6
176	Water Quality	Operation of Portal to Portal Construction Access Road.	Along the construction access road, adjacent to Clear Creek, west of the eastbound tunnel exit.	Potential failure of sediment control features on the Portal to Portal Construction Access Road to prevent additional sediment loading in Clear Creek.	An inspection and maintenance plan, including schedule, will be developed to ensure that the sediment control measures required for the Access Road are functioning as designed. The contractor will implement the inspection and maintenance plan and revise BMPs as needed.	CDOT/ Contractor	Project Construction (Pre-Construction, Package 1, Package 2, and Package 3)	Twin Tunnels FONSI Page 4-5

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177	Water Quality	Tunnel excavation.	Eastbound tunnel.	Potential impacts to water resources due to the potential exposure of mineralized rock and introduction of mineralized materials into water, which can increase loading of metals, dissolved solids, and suspended solids. Such interactions could cause the release of contaminants and migration into Clear Creek.	Encapsulate mineralized rock generated during blasting activities beneath the roadway pavement, away from groundwater, to prevent chemical reactions that could mobilize contaminants into water. If encapsulation is not feasible, mineralized rock will be removed from the project area to an appropriate disposal site.	Contractor	Project Construction (Package 2)	Twin Tunnels Environmental Assessment Page 3.16-9
178	Water Quality	Construction and operation of Portal to Portal Construction Access Road.	Residence near Doghouse Rail Bridge.	Disturbance of residence' septic systems (tank and/or pump station leach field).	The extent of the septic system will be determined prior to construction activities; if system is located within the Portal to Portal Construction Access Road alignment, it will be bridged with crane mats or a steel plate will be installed to avoid damage to the septic tanks and pump station.	Contractor	Project Design and Project Construction (Pre-Construction, Package 1, and Package 2)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-7
179	Water Quality	Construction and operation of Portal to Portal Construction Access Road.	Residence near Doghouse Rail Bridge.	Disturbance of residence' septic systems (tank and/or pump station leach field).	Pre- and post-construction inspection of the septic system facilities, household wells, and residential structure(s) will be performed. If any damage occurs, contractor will repair facilities.	Contractor	Project Construction (Pre-Construction and Package 2)	Twin Tunnels Portal to Portal Access Road Companion Report Page 7-7
180	Wetlands and Waters of the United States	General construction activities.	Within Twin Tunnels project area.	Potential disturbance of wetlands not within the direct construction footprint.	All wetlands delineated and mapped for the project will be protected from construction activities using properly installed construction limit fencing.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8 and Portal to Portal Access Road Companion Report Page 7-6
181	Wetlands and Waters of the United States	General construction activities.	Within Twin Tunnels project area.	Potential indirect impacts to wetlands and other waters of the United States from erosion and sedimentation.	Achieve permanent stabilization through revegetation and permanent erosion controls measures, and through maintenance of temporary erosion controls and plantings to stabilize non-rocky areas.	CDOT/ Contractor	Project Construction (Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8 and Portal to Portal Access Road Companion Report Page 7-6
182	Wetlands and Waters of the United States	Revegetation of soils, trees, and shrubs.	Within Twin Tunnels project area.	Change in nutrient levels affecting soil or vegetation in wetlands from runoff of fertilizers or other organic materials.	Fertilizers and/or hydro-mulching will not be allowed within 50 feet of wetlands.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8 and Portal to Portal Access Road Companion Report Page 7-6
183	Wetlands and Waters of the United States	Staging and stockpiling of materials in the construction staging areas.	Twin Tunnels staging and stockpiling areas.	Potential disturbance of wetland vegetation and pollutant discharges into sensitive habitats from construction staging and stockpiling.	Construction staging and materials stockpiling will be located greater than 50 feet from the edge of wetlands or the edge of Clear Creek, when possible, to avoid disturbance of vegetation and to prevent pollutant discharges into sensitive habitats. Specific locations will be determined during construction planning and, considering the narrowness of the corridor and limited areas available, this buffer may need to be reduced. If this buffer is not achievable, consider the placement of materials closer to the edge of wetlands or the edge of water and identify appropriate additional BMPs that would be required to minimize disturbance of vegetation and prevent pollutant discharges into sensitive habitats. BMPs will be determined on a site-by-site basis and any modifications will require CDOT environmental staff approval.	CDOT/ Contractor	Project Construction (Pre-Construction, Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8 and Portal to Portal Access Road Companion Report Page 7-6
184	Wetlands and Waters of the United States	Construction work and installation of retaining walls.	Within the Clear Creek 2-year floodplain.	Construction equipment use near ordinary high water mark (OHWM) (2-year floodplain) damages wetlands	Prohibit construction equipment from entering the OHWM except where identified on design plans.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8

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185	Wetlands and Waters of the United States	Construction work and installation of retaining walls.	Within the Clear Creek 2-year floodplain.	Fill of wetlands or waters of the United States.	Replacement of rip-rap along Clear Creek will be closely monitored to ensure that additional fill is not placed into the 2-year floodplain. Any additional encroachment into the 2-year floodplain would need to be identified in the Section 404 permit.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8
186	Wetlands and Waters of the United States	Construction work and installation of retaining walls.	Within the Clear Creek 2-year floodplain.	Pollutants from construction work areas enter into wetlands or other waters of the United States.	Ensure BMPs and containment structures are in place for work conducted within and adjacent to the 2-year floodplain to prevent concrete washout and other potential pollutants from reaching Clear Creek and wetlands.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8
187	Wetlands and Waters of the United States	Refueling construction vehicles and equipment.	Within the Clear Creek 2-year floodplain.	Fuel spills in refueling areas enter into wetlands or other waters of the United States.	Refuel equipment within designated refueling containment area away from floodplain, Clear Creek, and wetlands.	Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8
188	Wetlands and Waters of the United States	Bridge Reconstruction.	Within the Clear Creek 2-year floodplain at the I-70 bridge west of the Hidden Valley Interchange.	Bridge replacement involves work in Clear Creek that could directly and/or indirectly impact the Clear Creek 2-year floodplain.	CDOT will carefully monitor the bridge construction, demolition, and temporary stream crossing area to ensure that all identified mitigation commitments for work within the OHWM are implemented in this location. CDOT will closely monitor work around the Hidden Valley bridge to ensure compliance with the U.S. Army Corps of Engineers Section 404 permit.	CDOT/ Contractor	Project Construction (Package 1, Package 2, and Package 3)	Twin Tunnels Environmental Assessment Page 3.14-8

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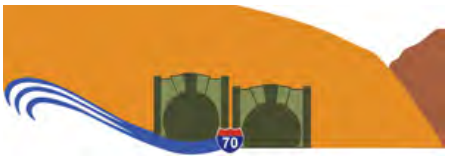
3.2 Permit Requirements

Table 3-2 lists the permits and plans that will be obtained prior to construction of the Proposed Action. If the permit or plan contains additional stipulations with which the contractor must comply during construction, those conditions will be added to **Table 3-1** and tracked with other mitigation commitments.

Table 3-2. Permit Requirements for the Proposed Action

Permit	Applicability	Permitting Agency
Federal		
Clean Water Action Section 404 Permit – Nationwide Permit 14	Impacts to wetlands and Waters of the United States; Nationwide Permit (NWO-2011-1778-DEN) issued on July 24, 2012	U.S. Army Corps of Engineers
I-70 Mountain Corridor Section 106 Programmatic Agreement, Twin Tunnels Supplemental Agreement	Adverse effects to the Twin Tunnels historic property; supplemental agreement identifies mitigation requirements and was signed on September 5, 2012.	Colorado State Historic Preservation Office and other signatory agencies
State		
Fugitive Dust Permit	Projects disturbing more than 25 acres of land and/or project duration is longer than 6 months	Colorado Department of Public Health and Environment
Demolition Permit	Bridge (and building) demolition; requires asbestos survey	Colorado Department of Public Health and Environment
CDPS General Permit for Stormwater Associated with Construction Activities (COR030000)	Projects disturbing more than 1 acre of land; requires Stormwater Management Plan	Colorado Department of Public Health and Environment
CDPS General Permit for construction Dewatering Activities (COG070000)	Excavations that encounter groundwater; additional requirements apply if contaminated groundwater is encountered	Colorado Department of Public Health and Environment
Materials Management Plan	Encounters with mine wastes, other contaminated soils or groundwater, or hazardous materials	Colorado Department of Public Health and Environment
Health and Safety Plan	Contaminated materials, including mine wastes, are encountered by workers	Office of Labor Occupational Safety and Health Administration, Colorado Department of Public Health and Environment
Colorado Senate Bill 40 Certification	Construction activities within riparian corridors; requires replacement of impacted vegetation	Colorado Division of Wildlife
Local		
Intergovernmental Agreement	Construction of the Twin Tunnels and Frontage Road projects and use of CR 314 in Clear Creek County; includes approval of some permits, such as road construction	Clear Creek County
Colorado House Bill 1041 Permit	Projects of statewide interest, such as development of I-70 and use of CR 314 as an I-70 detour; may include noise or other project-specific stipulations.	Idaho Springs
Other Local Permits	Construction and building activities, such as utility relocates, retaining walls, blasting, and grading	Idaho Springs, Clear Creek County



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Chapter 4. Updates and Clarifications to the Environmental Assessment

The Twin Tunnels EA provides the basis for this FONSI. Its conclusions are incorporated by reference with the updates and clarifications noted here.

4.1 What activities or decisions occurred since the Environmental Assessment was released?

The section describes four updates that occurred since the EA was released for public and agency review and comment.

4.1.1 Portal to Portal Access Road

The Twin Tunnels EA was released with the *Portal to Portal Access Road Companion Report*, which provided details and evaluated impacts of a construction access road adjacent to the detour route that would allow construction traffic to access the two sides of the tunnel separate from detour traffic. The report recommended mitigation measures to restore the access road and improve the impacted riparian area. The FONSI conveys the decision by CDOT and FHWA to move forward with the construction access road, and integrates the mitigation commitments outlined in the Companion Report into the project's mitigation commitments, as presented in **Table 3-1** in this FONSI.

4.1.2 Alignment shift east of Hidden Valley

The EA described roadway widening as occurring "entirely to the south, maintaining the existing (or left) edge of pavement in its current location." This design was illustrated in Appendix B of the EA. CDOT and FHWA have modified the design slightly in an approximately half-mile section between Hidden Valley and the US 6 exit (milepost 243.3 to milepost 243.9). The revised design, which is incorporated into the Proposed Action as explained in Chapter 2 of this FONSI, shifts the alignment into the I-70 median and away from Clear Creek between the Hidden Valley Interchange and the US 6 Interchange. This design refinement slightly increases visual impacts from the driver's perspective by removing a small grassy portion of the median and constructing a median barrier. Visual impacts from the creek perspective are decreased because retaining walls would no longer be needed. Neither design encroaches into the Clear Creek floodplain. However, the creekside alignment would disturb riparian areas along Clear Creek and increase the potential for temporary sedimentation into the creek during wall construction. Creek impacts are reduced with the revised alignment. Additionally, the alignment presents a substantial cost savings of about $5 million by not building as many retaining walls along Clear Creek. The revised alignment is easier to construct and preserves maximum flexibility in aligning future transportation improvements through the area, including westbound highway widening, future AGS, and realignments of both east and westbound highway lanes to achieve higher design speeds. Because this design modification presents a number of environmental benefits and does not introduce significant adverse impacts, no supplemental environmental analyses or mitigations are required.

4.1.3 Section 106 update

Section 3.6 of the EA describes how the Twin Tunnels project complied with Section 106 of the National Historic Preservation Act process by following the procedures outlined in the I-70 Mountain Corridor Section 106 Programmatic Agreement. The final step in the Section 106 process—resolving adverse effects—was completed after the EA was distributed. A supplement to the Section 106 Programmatic Agreement was signed on September 5, 2012 and is included electronically in the appendix to this document. The supplement stipulates FHWA and CDOT's obligations for mitigating adverse effect to the Twin Tunnels historic property, completes the Section 106 process, and contributes to the Section 4(f) commitment to include all measures to minimize harm in the Proposed Action.

4.1.4 Restoration of the old US 40 game check area

The EA commits to restoration of the detour route along the old US 40 game check area in a manner that supports Clear Creek County's Greenway system. Since the publication of the EA, CDOT and Clear Creek County have agreed upon the scope of restoration efforts and included those in the June 24, 2012, Intergovernmental Agreement between CDOT and Clear Creek County. The mitigation measures that were presented in Appendix A of the EA regarding restoration of the game check area have been consolidated into a single mitigation measure in **Table 3-1**, committing to restoration of the game check

area per agreements listed in the Intergovernmental Agreement.

This FONSI also clarifies that the stream enhancements in the game check area are included as part of the Twin Tunnels project. CDOT has committed to them as part of the Intergovernmental Agreement with Clear Creek County. The environmental impacts of the stream enhancements are beneficial and improve the stream conditions over the No Action.

4.2 What clarifications or corrections are noted for the Environmental Assessment analyses?

The following presents clarifications to the EA. The clarifications fall into five primary categories: transportation, sediment control, wildlife, cumulative effects, and mitigation. Clarifications are generally presented sequentially from first to last reference in the EA text.

4.2.1 Transportation conditions and impacts

- On page ES-5 in the section "What permanent benefits would occur?" the EA incorrectly stated the Proposed Action crash reduction rate would be 25 to 30 percent compared to the No Action. The correct projected crash reduction rate is 20 to 35 percent.
- The correct end date for the crash data presented on page 1-6 in Figure 1-4 is December 31, 2012, not December 3, 2012.
- The EA stated in Table 2-1 that the tolling option of "Toll only new lanes all the time" was eliminated because it would disproportionately impact local traffic. The tolling option was also eliminated because it would result in the underutilization of the managed lane during non-peak periods; the lane would only be needed (and used) during times of congestion in all three lanes (approximately 48 days a year currently and 100 days by 2035) and, therefore, would be an inefficient use of resources.
- Page 2-12 in Section 2.8 of the EA describes the specific highway improvements of the I-70 PEIS Preferred Alternative, including six-lane capacity between the Twin Tunnels and Floyd Hill and curve modifications east of the Twin Tunnels. This description is clarified to reflect that in the Twin Tunnels area, the I-70 PEIS Preferred Alternative also includes a bike trail and frontage road from Idaho Springs to US 6.
- On page 2-16 of the EA, the first paragraph of the Phase 2 construction discussion provided incorrect details about the timing and activities in Phase 2 of construction. Phase 2 construction is planned to begin in March 2013, not April 2013. CDOT will conduct blasting activities every 4 to 6 hours, not 24 to 48 hours, to expand the tunnel bore. Traffic on the detour route and in the westbound I-70 travel lanes, as well as recreation activities in Clear Creek, could be stopped for up to 30 minutes, not one hour, surrounding tunnel blasting.
- The EA incorrectly noted in Section 3.1.3 that DRCOG was the primary agency *involved* in the transportation analysis. DRCOG is the regional transportation planning agency responsible for this portion of Clear Creek County and was the primary agency *consulted* in the transportation analysis.
- On page 3.1-4 of the EA, the first sentence of the second paragraph stated, "Figure 3-1 shows the percentage of vehicles that would experience a range of speeds (from less than 10 mph to over 50 mph) during the study period (9:00 a.m. to 11:00 p.m.)." To clarify, the percentage of time spent at various travel speeds is for travel is between Georgetown and the top of Floyd Hill.
- On page 3.1-4 of the EA, the first sentence of the third paragraph incorrectly reported that speeds in the two general purpose lanes would drop below *30 mph* for much of the peak day. Speeds are actually projected to drop to less than *20 mph*.
- On page 3.1-6 of the EA, the first paragraph of the section "What is the effect of the Proposed Action on safety?" noted that improving the radius of the curve just west of the Hidden Valley interchange would improve crash totals by 75 percent. To clarify, the projected 75 percent crash improvement will occur only at that curve, not throughout the entire project area. (The entire project area is anticipated to experience a 20 to 35 percent crash reduction.)
- In Figure 2-13 on page 2-17 of the EA, the description of Phase 3 construction omitted that fascia walls along CR 314 will be installed along with the curve realignment along CR 314.
- On page 3.1-6 of the EA, the third paragraph of the section "What is the effect of the Proposed Action on safety?" noted there is a *potential* speed differential between the managed lane and adjacent general purpose lanes. To clarify, the speed differential is not a potential but will occur.

Speed differential is a key feature of managed lanes, because managed lanes provide free-flow traffic during congested periods and by design operate at higher speeds than adjacent general purpose lanes during these congested periods.

- An additional social impact not discussed in EA is the potential for delays to affect school bus travel times as a result of roadway closures for blasting and closure of eastbound lanes on I-70 during construction and detour operation. Although backups from the detour operation are not expected to be significant on weekdays, stoppages during tunnel blasting activities could result in delays that affect school bus operations and timeliness. To minimize this impact, CDOT and the contractor will consider Clear Creek County School District busing schedules when developing the traffic control plan, distribute the public information plan to Clear Creek County School District prior to construction, and include the School District in public information updates during construction. This mitigation commitment has been included in **Table 3-1** of this FONSI.

4.2.2 Clear Creek Sediment Control Action Plan

The EA discusses the Clear Creek Sediment Control Action Plan (SCAP) in relation to a number of resources in and around Clear Creek. Developing this plan is a commitment of the I-70 PEIS, and it is currently under development but has not been finalized. Because the Twin Tunnels project was designed before the Clear Creek SCAP was completed, specific water quality treatment features or other BMPs were developed for the Proposed Action specific to the Twin Tunnels project. These features will be implemented as part of the Twin Tunnels project and incorporated into the SCAP when it is finalized. The EA should have referred to the water quality treatment features (sediment control and spill containment) as project-specific elements of the Twin Tunnels project that will be incorporated into the final SCAP rather than features of the draft SCAP. This clarification is reflected in the recreation and water resources mitigation commitments listed in **Table 3-1** of this FONSI (originally presented in Appendix A of the EA).

4.2.3 Wildlife and threatened and endangered species analyses

- An additional impact of construction on wildlife, not mentioned in the EA, is that garbage generated by construction crews could serve as an attractant for wildlife, particularly bears, if it is not immediately removed from the area. To avoid this potential impact, construction crews will be required to remove food and food-related garbage from the construction site daily. This mitigation commitment has been included in **Table 3-1** of this FONSI.
- Another impact not identified in the EA includes the potential introduction of nuisance species into Clear Creek. To avoid this impact, the contractor will remove all mud, plants and debris from the equipment (tracks, turrets, buckets, drags, teeth, etc.) and steam pressure wash equipment that has been previously used in another stream, river, lake, reservoir, pond or wetland to meet the "certified clean" standard. This mitigation commitment has been included in **Table 3-1** of this FONSI.
- On page 3.10-4 of the EA, in section 3.10.6, the second paragraph stated that temporary direct effects on wildlife include mortality. To clarify, temporary direct effects include the *risk of* mortality.
- Special status species were defined on page 3.12-2 of the EA as listed species only. Special status species include species that have been listed and those that are proposed for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS). This clarification is noted, although currently no species proposed for listing but not listed are present in the project area; therefore, the species evaluated did not change, and the conclusions of impacts to special status species are unchanged.
- The citation in the first paragraph on page 3.12-3 of the EA is incorrectly attributed to USFWS 2012. The correct citation is "CDOT 2012. Email communication between Jim Eussen/CDOT and Robert Quinlan/Jacobs. March 22."
- The second paragraph on page 3.12-3 of the EA reported procedures for addressing Platte River depletions that have since been updated. The correct procedures are presented as follows:

  "In order to address the effects of South Platte River basin depletions on federally listed species downstream that depend on the river for their survival, CDOT, as a state agency, is participating in the South Platte Water Related Activities Program (SPWRAP). CDOT is cooperating with the Federal Highway Administration (FHWA) which provides a federal nexus for the project. In response to the need for formal consultation for the water used from the South Platte basin, FHWA has prepared a Programmatic Biological Assessment (PBA) dated February 2, 2012, that estimates total water usage until 2019. The PBA

addresses the following species: Least Tern (interior population) (*Sternula antillarum),* pallid sturgeon (*Scaphirhynchus albus)*, Piping Plover (*Charadrius melodus)*, western prairie fringed orchid (*Platanthera praeclara)*, and the Whooping Crane (*Grus americana)*. On April 4, 2012, the USFWS signed a Biological Opinion that concurs with this approach and requires a yearly reporting of water usage beginning the year that project construction commences. The water used for this project will be reported to the USFWS on a yearly basis during project construction as per the aforementioned consultation. Effects to species not addressed in the PBA or affected by causes other than water depletions to the South Platte, will be analyzed separately."

- Section 3.12 subsections "What indirect effects are anticipated?" and "What effects occur during construction?" of the EA state that CDOT participates in the Platte River Recovery Implementation Program and South Platte Water Related Activities Program (SPWRAP) to address South Platte River basin depletions. CDOT only participates in the SPWRAP.

4.2.4 Cumulative impacts analysis

- The footnote on page 3.20-4 of the EA is not clear about the need to complete specific highway improvements. To clarify, regardless of whether AGS is determined to be feasible, highway capacity improvements included in the Maximum Program would not be implemented until specific highway improvements are complete.
- Two corrections are made to the list of reasonably foreseeable future projects on page 3.20-3 of the EA. Improvement of Colorado Boulevard in Idaho Springs is added to the list. The renewable energy theme park is removed from the list, as Clear Creek County has not received preliminary plans for this project. These revisions do not change the conclusions of the cumulative impacts analysis.

4.2.5 Mitigation commitments

The remaining clarifications to the EA relate to mitigation commitments, which were presented throughout Chapter 3 and in Appendix A to the EA. **Table 3-1** in this FONSI revises the mitigation commitments originally presented in Appendix A of the EA to specify whether the contractor, or CDOT, or both are responsible for implementing specific mitigation measures. Mitigation commitments have also been revised to better clarify the activities and impacts that trigger those mitigation commitments. In addition to these general revisions, **Table 3-1** in the FONSI updates the following revisions to mitigation measures:

- On page 3.6-5 in the EA, in Table 3-16, CDOT committed to a walk-through with Clear Creek County historian(s) prior to construction. This purpose and scope of this mitigation measure has been clarified to indicate that the walk through is to review the construction footprint in relation to historic sites identified as locally important. If locally important resources are within or adjacent to the construction footprint, for those sites will be fenced to protect them from inadvertent damage.
- On page 3.9-6 in the EA, in Table 3-27, the mitigation measure regarding nighttime hotel vouchers has been clarified. If CDOT receives complaints from nearby residents about nighttime construction noise, the contractor will monitor noise at residents immediately adjacent to construction activities. If the noise level exceeds the hourly equivalent of 66 dBA between 10 PM and 7 AM, CDOT will provide affected residents hotel vouchers for the duration of the construction activity causing elevated noise levels.
- On page 3.9-6 in the EA, in Table 3-27, the mitigation measure to "install temporary noise barriers where applicable" has been removed. After further review of site conditions, temporary barriers are not feasible for the same reasons that permanent noise barriers are not feasible (that is, the limited space between residences and the roadway and the fact that residences are elevated above the roadway).
- On page 3.10-7 in the EA, in Table 3-29, for the mitigation measure regarding construction disturbance between April 1 and August 31, reference to CDOT Specification 240 - Protection of Migratory Birds – has been added. As noted in Table 3-1, this requirement also applies to the Portal to Portal Construction Access Road.
- On page 3.10-8 in the EA, in Table 3-29, the mitigation measure regarding commencing blasting as far in advance of lambing season as possible is not needed. Lambing does not occur in the vicinity of the Twin Tunnels project, and Table 3-1 in this FONSI no longer includes this mitigation measure.
- On page 3.11-4 in the EA, in Table 3-30, the mitigation measure for "Runoff from construction" has been changed to "CDOT will implement appropriate temporary BMPs for erosion and sediment control according to the CDOT Erosion Control and Storm Water Quality Guide (CDOT,

2002), develop a stormwater management plan (which includes water quality monitoring by the construction contractor to ensure effectiveness of temporary construction BMPs), and incorporate BMPs into the Clear Creek Sediment Control Action Plan."

- On page 3.11-4 in the EA, in Table 3-31, the mitigation measures referencing the CPW spawning survey and timing of the stream crossings have been revised. CPW conducted a preliminary survey in September 2012 for trout spawning habitat in Clear Creek in the vicinity of the proposed stream crossings west of the Hidden Valley Interchange. The survey determined that the area of the proposed stream crossing is too deep to support brown trout spawning and lacks a suitable cobble/pebble substrate. An area several hundred feet downstream of the proposed crossings contains some elements suitable for spawning. In the fall of 2012, the Colorado Parks and Wildlife (CPW) will conduct surveys of trout spawning areas within the entire reach of Clear Creek potentially affected by project construction, including the stream crossing, bridge construction, retaining walls, and Portal to Portal Access Road. Prior to conducting construction activities near Clear Creek, CDOT, in coordination with CPW, will evaluate potential impacts associated with construction activities in and around Clear Creek and implement appropriate BMPs to reduce impacts to trout species and habitat during construction. In addition, as part of its Intergovernmental Agreement with Clear Creek County, CDOT has committed to stream enhancements upstream of Hidden Valley that will permanently improve aquatic habitat, including spawning areas, in the Twin Tunnels area after construction is complete.
- On page 3.12-4 in the EA, in Table 3-32, the mitigation commitment for addressing Platte River depletions have been revised to reflect updated procedures, as described in Section 4.2.3 of this FONSI. For the *Activity* "Construction activities that can cause water depletions include water used for compaction…" the Impact column is changed from "Platte River fish species. . ." to "Platte River species ...." The mitigation description is revised to clarify that CDOT does not participate in the Platte River Recovery Implementation Program and provides additional information on reporting requirements. The revised *Mitigation* strikes and adds text as follows (new text is underlined): "Mitigation for impacts caused by water depletions on federally listed species will be addressed by FHWA and CDOT ~~participation in the Platte River Recovery Implementation Program and~~ through the South Platte Water Related Activities Program. ~~Water used for this project will be reported to the USFWS at the completion of the project.~~ This will include yearly reporting to the USFWS of water usage per the Programmatic Biological Assessment and the subsequent Biological Opinion signed by the USFWS on April 4 2012."
- On page 3.18-5 in the EA, in Table 3-44, the mitigation measures regarding seeking opportunities to eliminate daylight discharge of the groundwater drainage east of the Twin Tunnels and obtaining a CDPS Subterranean Dewatering Permit through CDPHE are deleted. CDOT will implement a tunnel groundwater discharge system that eliminates daylight discharge into surface water. This system protects water quality and will not require a permit from CDPHE.
- **Table 3-1** of the FONSI integrates mitigation commitments identified in the Portal to Portal Access Road Companion Report. CDOT will track all mitigation commitments in **Table 3-1**.
- CDOT will develop an inspection and maintenance plan during final design to ensure that the temporary sediment control measures required for the portal to portal construction access road are functioning as designed. The contractor will implement the inspection and maint**enance pl**an and revise BMPs as needed. This mitigation commitment has been included in **Table 3-1** of this FONSI.

Chapter 5. Coordination and Response to Comments

5.1 How was the public involved in the Twin Tunnels Environmental Assessment?

Public outreach occurred throughout the National Environmental Policy Act (NEPA) process and focused on the communities directly and indirectly affected by the Proposed Action. The Colorado Department of Transportation (CDOT) and Federal Highway Administration (FHWA) (the lead agencies) held a public scoping meeting on September 27, 2011, in Idaho Springs to elicit public input and help define the project scope. The lead agencies used mailings, email notifications, one-on-one meetings, newspaper and radio advertisements, flyers, and the project website to provide project information to the public. The lead agencies followed the I-70 Mountain Corridor Context Sensitive Solutions (CSS) process and established a Project Leadership Team, Technical Team, and Issue Task Forces that met and provided input regularly throughout the project. Members of these teams shared information with their respective organizations and constituents, acting as "ambassadors" for distributing project information. Chapter 5 in the Environmental Assessment (EA) describes in detail the roles of these teams and the public involvement and outreach activities that occurred prior to publication of the EA for public review.

The lead agencies published the EA, Section 4(f) Evaluation, and Portal to Portal Access Road Companion Report for public review and comment on July 5, 2012. The comment period ended on August 4, 2012. Copies of the EA were published electronically on the project website with hard copies sent to state and federal agencies, repositories, and Project Leadership Team members. Electronic notifications of the availability of the documents for review were emailed to the Technical Team, CDOT's I-70 subscribers list, and the project email list. A postcard announcing the EA and public hearing was mailed to the project mailing list of more than 4,000 individuals. Notices were also published in local newspapers, and flyers were distributed to community centers, grocery stores, churches, and other gathering spots along the corridor.

During the comment period, the lead agencies hosted a public hearing in Idaho Springs on July 25, 2012, to present the EA results and elicit comments on the EA and the access road proposal described in the Portal to Portal Access Road Companion Report. The hearing began with a 60-minute open house, followed by a presentation by the CDOT I-70 Mountain Corridor Manager. The hearing provided an opportunity for members of the public to view display boards, discuss the Proposed Action with members of the project team, and record their oral comments with a court reporter. The Public Hearing Summary Report, included electronically in the appendix, provides additional details about the public hearing.

Individuals and organizations submitted a total of 37 comment documents at the public hearing and via letters and emails during the comment period. **Table 5-1** of this document lists the individuals and organizations that provided comments, and **Table5-2** includes the text of the comments received and corresponding responses from the lead agencies.

5.2 How were local, state, and federal agencies and organizations involved in the Twin Tunnels Environmental Assessment?

The lead agencies coordinated with other local, state, and federal agencies throughout the NEPA process. The lead agencies hosted an agency scoping meeting at FHWA offices in Lakewood, Colorado, on September 26, 2011, to identify important issues for in-depth analysis and to identify additional environmental review and consultation/regulatory requirements from each agency's perspective. The lead agencies also held coordination meetings with individual agencies and with larger interagency teams, and many agencies participated on the Project Leadership Team, Technical Team, and/or Issue Task Forces.

The lead agencies coordinated with the following agencies and organizations throughout the NEPA process. Agencies that participated in the Technical Team (TT) and/or Issue Task Forces (ITF) are noted in parentheses.

Federal Agencies

- Advisory Council on Historic Preservation
- Bureau of Land Management (ITF)
- U.S. Army Corps of Engineers (TT, ITF)
- Natural Resources Conservation Service (ITF)

- U.S. Environmental Protection Agency (TT)
- U.S. Fish and Wildlife Service (TT, ITF)
- U.S. Forest Service (TT, ITF)
- National Park Service (ITF)

State Agencies

- Colorado Department of Public Health and Environment (CDPHE) – Air Pollution Control Division (TT)
- CDPHE – Water Quality Control Division
- CDPHE – Hazardous Materials and Waste Management Division
- Colorado Parks and Wildlife (TT, ITF)
- Colorado Water Quality Control Commission (ITF)
- State Historic Preservation Office (TT, ITF)

Local Agencies

- Clear Creek County (Commissioners [PLT, TT, ITF], Public Works [TT, ITF], Emergency Management Services [TT], Planning [TT, ITF], Open Space Commission [ITF], Floodplain Administrator)
- City of Idaho Springs (Mayor [PLT, TT, ITF], City Council, City Administrator)
- Denver Regional Council of Governments (TT)
- Jefferson County (TT)
- Summit County (TT)
- Town of Georgetown (ITF)

Organizations

- Clear Creek Watershed Foundation (ITF)
- Colorado Trout Unlimited (TT, ITF)
- Colorado Watershed Assembly (ITF)
- ECO-resolutions (ITF)
- Historical Society of Idaho Springs (ITF)
- Rocky Mountain Wild (ITF)
- Upper Clear Creek Watershed Association (TT, ITF)

Chapter 5 in the EA describes in detail agency participation and coordination prior to publication of the EA for public review. Appendix F of the EA includes written correspondence with agencies prior to the EA release. Correspondence received since the EA was published is included in the attached electronic appendix.

In advance of the public hearing, CDOT hosted a Technical Team meeting on July 24, 2012 to review the Twin Tunnels EA process and conclusions and to seek agency input about the EA, planned public hearing, and overall process. Verbal comments provided at the meeting indicated support for the NEPA and CSS approaches the lead agencies followed for the EA, as well as for the high level of agency involvement in developing and evaluating the Proposed Action.

Eight federal, state, and local agencies provided written comments on the EA, Section 4(f) Evaluation, and Portal to Portal Access Road Companion Report. **Table 5-2** in Section 5.4 of this document includes the written agency comments received during the comment period and corresponding responses from the lead agencies.

5.3 How will stakeholder involvement continue after the NEPA process is complete?

Public and agency coordination will continue as the Twin Tunnels project transitions from the NEPA phase to the design and construction phases. The core values established for the EA will continue to guide decision making in the design and construction phases. This approach is consistent with the I-70 Mountain Corridor CSS process, which envisions CSS principles being applied in each of CDOT's project life cycles.

The Project Leadership Team is continuing with similar members, and a new Technical Team has been chartered to provide input and expertise on specific design and construction details in the next life cycle phases. Both teams will continue to advise CDOT on public involvement and education methods and scope, and will act as public information ambassadors, especially in the construction phase.

CDOT and consultant environmental staff will monitor mitigation commitments, as outlined in **Table 3-1** in Chapter 3 of this FONSI. These staff will also work closely with the contractor to review opportunities to adapt construction methods to avoid activities that cause impacts.

CDOT will conduct an evaluation of the EA process, including the effectiveness of the CSS process followed, with the project teams to generate lessons learned and other ideas to improve future Tier 2 NEPA processes. This follow-up will occur for future phases as well. Similar to Appendix C in the EA, which summarizes how the Proposed Action in the EA considered and met CSS guidance, CDOT will specifically document how the CSS process was used in each future project phase.

5.4 Comments and Responses

The lead agencies received a total of 37 public and agency comment documents during the comment period. Six individuals provided oral comments at the public hearing on their own behalf or on behalf of a local agency or interest group. An additional five comments were submitted in writing at the public hearing. The remaining 26 written comments were received during the EA comment period. Some comments required clarifications or updates to the EA or Section 4(f) conclusions and/or project mitigation commitments, and these are noted in the comment responses and identified in Chapters 4 and 6 of this FONSI.

Table 5-1 provides an index of comments received, categorized by state or federal agency (SF), local agency or elected official (LO), organization (ORG), and individual (IND), and organized alphabetically by name within these categories. Each comment document was assigned a unique document identification number and delineated by topic to address multiple comments provided by each commenter, resulting in 137 discrete comments. Although some individuals and interest groups submitted multiple comments, each comment received is counted in the comment totals. **Table 5-2** presents individual comments side-by-side with the lead agencies' responses. **Table 5-2** is organized according to the organization categories and then sequentially by document ID.

Table 5-1. Index of Comments Received on the EA, Section 4(f) Evaluation, and Portal-to-Portal Access Road Companion Report

Name	Document ID	Source
State/Federal Agencies		
U.S. Forest Service	SF-01	Email
U.S. Environmental Protection Agency	SF-02	Letter
U.S. Department of the Interior	SF-03	Letter
Local Officials		
Idaho Springs Ward 1 City Council Member	LO-01	Public Hearing-Written
Clear Creek County Commissioners	LO-02	Letter
Denver Regional Council of Governments	LO-03	Letter
Clear Creek County School District	LO-04	Public Hearing-Oral
Idaho Springs Mayor	LO-05	Public Hearing-Oral
Organizations and Interest Groups		
Colorado Trout Unlimited	ORG-01	Letter
Colorado Trout Unlimited	ORG-02	Public Hearing-Oral
Individuals (in alphabetical order)		
Braman, Dick	IND-12	Letter
Braman, Dick	IND-23	Letter
Brown, Bruce	IND-19	Email
Doyle, Fred	IND-13	Email
Drexel, Grayson	IND-06	Email
Ebert, Dan	IND-21	Email
Fielder, Linda	IND-10	Email
Grannis, Pete	IND-08	Email
Harris, Alan	IND-03	Email
Helseth, Pete	IND-18	Email
Idol, Lorna	IND-20	Email
Idol, Lorna	IND-25	Public Hearing-Oral

Table 5-1. Index of Comments Received on the EA, Section 4(f) Evaluation, and Portal-to-Portal Access Road Companion Report

Name	Document ID	Source
Jb1938cha	IND-05	Email
Mayo, Gerald	IND-01	Email
Mayo, Gerald	IND-02	Email
McFadden, Sarah	IND-15	Public Hearing-Written
McFadden, Sarah	IND-22	Email
Moody, Donna	IND-16	Public Hearing-Written
Rutter, Ralph	IND-14	Public Hearing-Written
Rutter, Ralph	IND-27	Public Hearing-Oral
Sterett, Kent	IND-11	Email
Strauss, Richard	IND-17	Public Hearing-Written
Toohey, Tim	IND-26	Public Hearing-Oral
Tyron, Debbi	IND-04	Email
Van Ort, Rick	IND-07	Email
Wagstaff, Quincy	IND-24	Letter
Yeats, F.R.	IND-09	Email

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Alison Michael
Document Number: SF-1	**City, Zip Code:** Unknown

Hi David,

A I have a few comments on the T&E section of the Twin Tunnels EA. The second paragraph of section 3.10.6 on page 3.10-4 has a sentence that says, "Temporary direct effects include...mortality." Mortality is, I think, pretty permanent! Maybe they mean that the increased risk of mortality due to the project is temporary.

B On the next page, in the question: What effects occur during construction?" you could add garbage generated by the crew which can act as an attractant. This is especially important for bears, because you don't want them to become any more acclimated to people than they are already.

C Table 3-29 on page 3.10-7. I think that the Mitigation for "Construction-related disturbance between April 1 and August 31" needs to refer to CDOT's specs which call for preventing nesting by cutting down vegetation prior to the nesting season or removing nests before any eggs are laid to ensure that birds don't nest there and delay construction. There's a spec for bridges, too, and preventing nesting. Check with Jeff if you need those.

D Page 3.12-1, the second paragraph on the right-hand column: IPAC should be IPaC.

E Next paragraph, last sentence: I'm not sure what determination would be made in coordination with USFWS. Whether a BA is prepared?

F Section 3.12.3, page 3.12-2, second paragraph: Proposed species have "special status" too; we just don't have any right now.

G Next column, second paragraph states that, "Suitable habitat does exist within the South Platte River system downstream for the species identified on the South Platte River depletions list." Of course it does! The effect that this project has is to depletions, which in turn will affect the downstream species in Nebraska. I think that's the point that needs to be made. Anyway...I thought that sentence was kind of whacky.

H Same column, last paragraph, last sentence, there's a typo: "line" should be "lane“

Continued on next page

Responses

Response to SF-1

A. The referenced sentence has been clarified in Section 4.2.3 of the FONSI to note that “temporary direct effects include temporary habitat loss, construction noise disturbance, and increased *risk of* mortality.”

B. This impact has been added to the clarifications in Section 4.2.3 of the FONSI. An additional mitigation commitment has been included in **Table 3-1** of the FONSI requiring construction crews to remove food and food-related garbage from the construction site daily.

C. The mitigation measure in Table 3-29 of the EA has been clarified in Section 4.2.5 of the FONSI to include a reference to CDOT Specifications 240 - Protection of Migratory Birds.

D. The clarification is noted. The correct acronym for Information, Planning, and Conservation should be IPaC and not IPAC.

E. No “determination” will be made but consultation with U.S. Fish and Wildlife Service (USFWS) will be included during the Biological Assessment process, if needed and as appropriate during Tier 2 projects.

F. Section 4.2.3 of the FONSI clarifies that special status species include species that have been listed and those that are proposed for listing as threatened or endangered by USFWS. Currently, no species proposed for listing, but not listed, are present in the project area; therefore, the species evaluated did not change.

G. This section in the EA discusses the threatened or endangered species and habitats in the study area, including habitat for the species on the South Platte River depletions list. Section 3.12.5 of the EA describes the effects of depletions. Section 4.2.3 of the FONSI provides current procedures for addressing depletions (as provided in your comment SF-1-I).

H. You are correct that “line” should be “lane” in this location in the EA.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Alison Michael (continued)
Document Number: SF-1	**City, Zip Code:** Unknown

I Next page (3.12-3), second paragraph about downstream impacts: Jeff has an updated paragraph that addresses how CDOT/FHWA are dealing with Platte River depletions. The first and third paragraphs on the next column should reflect those same updates.

J Table 3-32 on the next page: the mitigation needs to be updated, and the impacts are to all the Platte River species, not just the fish, and it isn't the construction activities that cause the impact, but rather the depletions caused by the construction activities.

That's it. I also have a question that I'd like to talk to you about, and I don't have your current number.

Let me know if you have any questions.

Thanks,
Alison

Responses

Response to SF-1 (continued)

I. The current procedures for addressing depletions are noted in Section 4.2.3 of the FONSI as follows: "In order to address the effects of South Platter River basin depletions on federally listed species downstream that depend on the river for their survival, CDOT, as a state agency, is participating in the South Platte Water Related Activities Program (SPWRAP). CDOT is cooperating with the Federal Highway Administration (FHWA), which provides a federal nexus for the project. In response to the need for formal consultation for the water used from the South Platte basin, FHWA has prepared a Programmatic Biological Assessment (PBA) dated February 2, 2012, that estimates total water usage until 2019. The PBA addresses the following species: Least Tern (interior population) (*Sternula antillarum),* pallid sturgeon (*Scaphirhynchus albus)*, Piping Plover (*Charadrius melodus)*, western prairie fringed orchid (*Platanthera praeclara)*, and the Whooping Crane (*Grus americana)*. On April 4, 2012, the USFWS signed a Biological Opinion that concurs with this approach and requires a yearly reporting of water usage. The water used for this project will be reported to the USFWS at year's end after completion of the project as per the aforementioned consultation. Effects to species not addressed in the PBA or affected by causes other than water depletions to the South Platte will be analyzed separately."

Additionally, Section 4.2.3 of the FONSI clarifies that CDOT only participates in the SPWRAP to address South Platte River basin depletions and not the Platte River Recovery Implementation Program.

J. This mitigation measure has been revised in **Table 3-1** of this FONSI and noted as a clarification in Section 4.2.5 in the FONSI. The Impact column has changed from "Platte River fish species. . ." to "Platte River species ...." and the mitigation description is revised to clarify that CDOT does not participate in the Platte River Recovery Implementation Program and provides additional information on reporting requirements. The revised mitigation strikes and adds text as follows (new text is underlined): "Mitigation for impacts caused by water depletions on federally listed species will be addressed by FHWA and CDOT ~~participation in the Platte River Recovery Implementation Program and~~ through the South Platte Water Related Activities Program. ~~Water used for this project will be reported to the USFWS at the completion of the project.~~ This will include yearly reporting to the USFWS of water usage per the Programmatic Biological Assessment and the subsequent Biological Opinion signed by the USFWS on April 4 2012."

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Letter **Name:** Suzanne Bohan, EPA **Document Number:** SF-2 **City, Zip Code:** Denver, 80202	**Response to SF-2** A. Comment noted.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

AUG 1 2012

Ref: 8EPR-N

Mr. John Cater
Division Administrator
Federal Highway Administration
12300 W. Dakota Avenue, Suite 180
Lakewood, CO 80228

Mr. Donald E. Hunt
Executive Director
Colorado Department of Transportation
4201 E. Arkansas Avenue
Denver, CO 80222

Re: Twin Tunnels Environmental Assessment

Dear Mr. Cater and Mr. Hunt:

A

Thank you for providing the U.S. Environmental Protection Agency (EPA) the opportunity to review the Environmental Assessment (EA) and the Portal to Portal Access Road Companion Report for the Twin Tunnels project and to participate on the Technical Team for the past 10 months. Our comments are provided for your consideration pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

This project involves a 3-mile stretch of I-70 from the Idaho Springs interchange to the bottom of Floyd Hill. To increase safety and mobility and to reduce traffic congestion in this section of the interstate highway, the Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT) are proposing to: (1) add a third eastbound travel lane plus shoulders, (2) widen the eastbound tunnel, (3) flatten curves and improve sight distance by adding median/retaining walls, (4) replace the eastbound bridge over Clear Creek just west of Hidden Valley and (5) build transitions to and use a 1-mile segment of County Road 314, a frontage road, as a detour. In addition, FHWA and CDOT propose building an approximately 1,500-foot access road north of the detour road for construction traffic and emergency responders, as needed. This action was analyzed in the companion report, but not in the EA because it was proposed by the construction contractor after the EA analysis had been completed.

The EA provided an excellent discussion about how FHWA and CDOT have avoided most project impacts and are providing mitigation and monitoring for unavoidable ones. Following are our comments.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Letter **Name:** Suzanne Bohan, EPA (continued) **Document Number:** SF-2 **City, Zip Code:** Denver, 80202	**Response to SF-2 (continued)**

Air Quality

B The EPA appreciates the level of air quality detail provided in the EA and the technical reports, particularly the fact that EPA's MOVES2010a Model was used for estimating emissions from the project's 2010 base year and 2035 build year for criteria pollutants and mobile source air toxics emissions. It appears that these models were used appropriately, and we are comfortable that the air quality impacts are accurately presented in this EA, resulting in protection of human health and air quality-related values. We also are pleased that FHWA and CDOT presented information about greenhouse gas emissions from the Twin Tunnels project and worked closely with the Colorado Department of Public Health and Environment to monitor air quality impacts by installing two PM_{10} monitors on the east and west sides of the project area during the blasting and material removal portion of the project.

Water Quality

C While we understand that the proposed construction access road, described and analyzed in the companion report, will improve safety by moving construction vehicles as well as first responders off the detour road, we have concerns about impacts to the environment caused by building and using the access road. The proposed mitigation is to grade the road sloping to the north or west to avoid sedimentation of nearby Clear Creek. The EPA understand that these grading and sediment control measures will be included in the Finding of No Significant Impacts and we recommend that this mitigation include an inspection and maintenance schedule to ensure that the sediment control measures are working as designed.

General

D The public involvement process utilized throughout this Tier 2 NEPA process for the Twin Tunnels project was inclusive and transparent. We observed that when concerns were raised, FHWA and CDOT quickly responded. The EPA particularly appreciated the discussion about safety issues regarding the potential for a managed lane during peak driving periods.

Again, thank you for the opportunity to review the EA and companion report. If you have any questions, please contact me at 303-312-6925 or Carol Anderson of my staff at 303-312-6058.

Sincerely,

for Suzanne J. Bohan
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

cc by email:
Melinda Urban, Federal Highway Administration
David Singer, Colorado Department of Transportation

B. Comment noted.

C. As noted in **Table 3-1** of this FONSI, CDOT will implement appropriate best management practices (BMPs) for erosion and sediment control according to the *CDOT Erosion Control and Stormwater Quality Guide* (CDOT, 2002), and will develop a stormwater management plan, which includes water quality monitoring. A new mitigation measure has been added to **Table 3-1** in the FONSI, per your request, stating that an inspection and maintenance plan, including schedule, will be developed to ensure that the sediment control measures required for the access road are functioning as designed. The new mitigation measure is also referenced as a clarification to the EA in Section 4.2.5 of this FONSI.

D. Comment noted.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Department of Interior
Document Number: SF-3	**City, Zip Code:** Denver, 80225

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Denver Federal Center, Building 67, Room 118
Post Office Box 25007 (D-108)
Denver, Colorado 80225-0007

IN REPLY REFER TO

August 9, 2012

9043.1
ER-12/0485

Mr. John Cater
Division Administrator
Federal Highway Administration
Colorado Division
12300 West Dakota Avenue, Suite 180
Lakewood, CO 80228

Dear Mr. Cater:

Thank you for the opportunity to review the Environmental Assessment and Draft Section 4(f) Evaluation for the Twin Tunnels Project, Clear Creek County, Colorado. The Department of the Interior (Department) has reviewed the document, and hereby submits these comments to you as an indication of our thoughts regarding this project.

FISH AND WILDLIFE RESOURCES

A The U.S. Fish and Wildlife Service's (USFWS) Colorado Field Office has already provided comments on the I-70 Twin Tunnels project regarding compliance with the Endangered Species Act directly to the Colorado Department of Transportation. The USFWS has been involved with project as a member of various technical teams since the beginning.

SECTION 4(f) EVALUATION COMMENTS

B We understand that a Preferred Alternative for this project has not been selected, in which case, we cannot concur that there is no feasible or prudent alternative to the Preferred Alternative selected in the document.

C For historic properties, we appreciate that you have coordinated with the Colorado State Historic Preservation Office (SHPO) and that they have concurred on a determination of adverse effect for the project. We understand that mitigation measures will be developed and documented in a revised Programmatic Agreement. We also appreciate that you have conducted tribal consultation.

D For parklands, we understand that there will be temporary use of two resources, the Scott Lancaster Trail and a planned game check area, both of which are under Clear Creek County

Responses

Response to SF-3

A. Comment noted.

B. The nomenclature "Preferred Alternative" was not used in the EA. Instead, the EA used the term "Proposed Action" to denote the preferred alternative. The Section 4(f) evaluation, presented in Chapter 4 of the EA, described the Proposed Action as the preferred alternative and presented avoidance alternatives to the Proposed Action in determining that no feasible or prudent alternatives to the Proposed Action exist. As noted in Chapter 7 of this Finding of No Significant Impact, the Proposed Action is the Preferred Alternative that has been selected.

C. As noted in Section 4.1.3 of the FONSI, a supplement to the I-70 Mountain Corridor Section 106 Programmatic Agreement was signed on September 5, 2012 and is included electronically in the appendix to this document. The supplement stipulates FHWA and CDOT's obligations for mitigating adverse effect to the Twin Tunnels historic property, completes the Section 106 process, and contributes to the Section 4(f) commitment to include all measures to minimize harm in the Proposed Action.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Department of Interior (continued)
Document Number: SF-3	**City, Zip Code:** Denver, 80225

D (con't) jurisdiction. We appreciate that you have sought and received concurrence from Clear Creek County on the Section 4(f) *de minimis* finding.

E In conclusion, until there is a Preferred Alternative and a signed Programmatic Agreement, we cannot concur that there is no feasible or prudent alternative to the Preferred Alternative selected in the document, and that all measures have been taken to minimize harm to these resources.

We appreciate the opportunity to review this document. Should you have questions about the Section 4(f) Evaluation comments, please contact Cheryl Eckhardt, Environmental Compliance Specialist, National Park Service, Intermountain Region at 303.969.2851.

Sincerely,

Robert F. Stewart
Regional Environmental Officer

cc:
SHPO CO – Edward Nichols (ed.nichols@chs.state.co.us)
DOT CO – Timothy J. Harris, Anthony R. DeVito (Anthony.Devito@dot.state.co.us)

Responses

Response to SF-3 (continued)

D. Section 4.6.2 of the Twin Tunnels Section 4(f) Evaluation documents the temporary use of the Scott Lancaster Memorial Trail and the Game Check Area Park (planned). No *de minimis* impacts are noted for these park properties and therefore, no concurrence was sought or obtained from Clear Creek County. However, CDOT has coordinated closely with Clear Creek County, and CDOT and Clear Creek County have entered into an Intergovernmental Agreement, which, among other issues, documents the agreement about the scope of restoration efforts for the temporary use of these recreation resources.

E. As noted in response to your previous comments (SF-3-B and SF-3-C), CDOT and FHWA have selected a preferred alternative and executed a supplement to the I-70 Mountain Corridor Section 106 Programmatic Agreement. As stated in Section 6.2 of the FONSI, FHWA has made a determination that no feasible or prudent alternative to the permanent use of the Twin Tunnels historic property and the temporary uses of the two recreation properties exists.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** David Nickum, Colorado Trout Unlimited
Document Number: ORG-01	**City, Zip Code:** Golden, 80401

David Nickum
Executive Director
Colorado Trout Unlimited

August 1, 2012

David Singer
Colorado Department of Transportation
425C Corporate Circle
Golden, CO 80401

Re: **Comments on the Environmental Assessment for the Twin Tunnels Project**
I-70 Mountain Corridor Project

Dear Mr. Singer:

Colorado Trout Unlimited (CTU) has reviewed the Environmental Assessment and Section 4(f) document prepared by the Federal Highway Administration (FHWA) and Colorado Department of Transportation (CDOT). CTU has been an active participant in the I-70 Corridor Project, as well as the Twin Tunnels site specific studies. We have participated in the PLT and SWEEP committees for Twin Tunnels.

As a member of the Collaborative Effort we participated in the development of the Preferred Alternative, which provided for the Twin Tunnels project. While CTU continues to support the Twin Tunnels Project that support is based on an assumption that planning for the project will afford reasonable protection for the environment and that any impacts would be mitigated. Unfortunately, this Environmental Assessment still leaves doubts whether impacts identified in the document will be adequately mitigated. The deficiencies in this Environmental Assessment can be summarized around several key issues. They include:

- Environmental Impacts are present that are not adequately mitigated
- Other Areas of Concern

A

Environmental Impacts are present that are not adequately mitigated
Section 3.11 refers to a Sediment Control Action Plan (SCAP) as one of the commitments available to project managers to address potential impacts. But, at the time this EA was released that SCAP was still a draft study which could change. An unapproved draft plan cannot be used as mitigation. CDOT should either complete the SCAP before completion of this EA or discontinue referring to it as a policy document.

B

The EA discusses impacts to and mitigation for aquatic resources. But CTU has significant concerns regarding the analysis presented. We agree that there is a self-sustaining population of brown trout supplemented by stocked rainbow trout. And we agree there are populations of other species typical in a mountain stream. However, we are concerned that CDOT is yet to conduct a redd survey to identify key spawning

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization
Denver Office: 1536 Wynkoop Street, Suite 100, Denver, CO 80202
PHONE: (303) 440-2937 FAX: (303) 440-7933 EMAIL: dnickum@tu.org

Responses

Response to ORG-01

A. Regarding reference to the draft Clear Creek Sediment Control Action Plan (SCAP), CDOT agrees. The draft SCAP was not intended to be used as a commitment document for the Twin Tunnels project. Section 4.2.2 of this FONSI clarifies that the SCAP is currently under development but has not been finalized. Because the Twin Tunnels project was designed before the SCAP was completed, CDOT referred to the draft SCAP for appropriate water quality treatment feature locations and Best Management Practices (BMPs), and developed these features specific to the Twin Tunnels project. These features will be implemented as part of the Twin Tunnels project and incorporated into the SCAP when it is finalized, as part of the adaptive management for the Twin Tunnels project. This clarification is reflected in the water quality mitigation commitments listed in **Table 3-1** of this FONSI (originally included in Appendix A of the EA).

B. In September 2012, Colorado Parks and Wildlife (CPW) conducted a preliminary survey for trout spawning habitat in Clear Creek in the vicinity of the proposed stream crossings west of the Hidden Valley Interchange. The preliminary survey determined that the area of the proposed stream crossings is too deep to support brown trout spawning and lacks a cobble/pebble substrate. An area several hundred feet downstream of the proposed crossings contains some elements suitable for spawning. In the fall of 2012, the Colorado Parks and Wildlife (CPW) will conduct surveys of trout spawning areas within the entire reach of Clear Creek potentially affected by project construction, including the stream crossing, bridge construction, retaining walls, and the Portal to Portal Access Road. Prior to conducting construction activities near Clear Creek, CDOT, in coordination with CPW, will evaluate potential impacts associated with construction activities in and around Clear Creek and implement appropriate BMPs to reduce impacts to trout species and habitat during construction. In addition, as part of its Intergovernmental Agreement with Clear Creek County, CDOT also has committed to stream enhancements upstream of Hidden Valley that will permanently improve aquatic habitat, including spawning areas, in the Twin Tunnels area after construction is complete.

   CDOT disagrees that, even if spawning occurred in the direct area of the stream crossings, the implementation of the stream crossings could result in the loss of a whole class of trout in Clear Creek since spawning occurs throughout Clear Creek and populations are typically sustained by recruitment from fry (recently hatched trout) upstream. The information regarding the CPW surveys and mitigation commitments is reflected in Section 4.2.5 and the aquatic resources section of **Table 3-1** in this FONSI.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** David Nickum, Colorado Trout Unlimited (continued)
Document Number: ORG-01	**City, Zip Code:** Golden, 80401

B (cont)

habitats, raising the question of how they'll be able to avoid it. This is particularly important in the areas where bridges will be replaced. CDOT has advised that a stream crossing will be needed (twice) to accommodate bridge construction. CDOT has correctly noted that spawning and incubation for brown trout is an approximate 6 month process. Brown trout start that process in September and end it in late March. Section 2.9 shows that bridge construction is likely to occur between December 2012 and March 2013 which coincides with trout incubation. If there are redds in the creek in the vicinity of the bridges (and the stream crossing) then there's good potential for losing a whole class of trout. CDOT needs to define how it will avoid this potentially significant impact.

C

Section 3.11 makes an argument that there are no permanent impacts to the Creek but that conclusion isn't validated by the evidence. The analysis is flawed because it fails to accurately display the effects from installing and removing the temporary stream crossing. Installing the crossing will result in short term increases in sedimentation that would (1) be damaging to resident fish through scouring and (2) have longer term effects if redds are found in the area.

D

Section 3.11 says that CDOT will replace habitat damaged during development.

> ***"Fish habitat will be restored and replaced using photo documentation to help return these areas to previous conditions."***

While we applaud CDOT's stated willingness to mitigate impacts it is causing, in previous meetings CDOT has adamantly refused to mitigate impacts. We assume this statement is a change in policy and CDOT is willing to discuss what its mitigation responsibilities are. We also think there are better ways to address this problem. During the Programmatic EIS process a Streams, Wetlands, Ecological Enhancement Program (SWEEP) Memorandum of Understanding made provisions for improving aquatic habitat through collaborative partnerships. Under the agreement money from impact mitigation can be leveraged against other sources to build a partnership-based project that maximizes benefits to the environment. CTU would like to see this project move in that direction.

E

Table 3-30 addresses mitigation for aquatic species. The first item in the table says:

> ***"CDOT will implement the adaptive mitigation identified in the Clear Creek Sediment Control Action Plan, which allows for flexibility in the number, sizing, type, and locations of BMP structures, while controlling all drainage entering Clear Creek".***

As indicated elsewhere, as of the date of this EA the SCAP was still hasn't been finalized and hasn't been adopted as agency policy. It's inappropriate to reference this draft document as a mitigation tool.

Responses

Response to ORG-01 (continued)

C. After CPW's review of the crossing location and its assessment that the area does not provide suitable spawning habitat, CDOT has determined that no direct impact to spawning areas will occur from installation of the stream crossings. However, CDOT agrees that installing the crossings could result in short-term increases in sedimentation and has committed to installing and monitoring the effectiveness of BMPs to reduce sediment transport from construction areas. The sedimentation and any resultant impacts to redds (should redds exist downstream of the crossing area) from the increased sedimentation will be temporary. After removal of the stream crossings and any BMPs to limit sediment transport downstream, the following spring runoff event will flush any built up sediment as happens each spring. As such, these impacts are considered temporary.

D. CDOT is obligated to mitigate impacts incurred by CDOT projects and respectfully disagrees that we have refused to mitigate impacts caused by CDOT projects. For the impacts identified for the Twin Tunnels project, CDOT has committed to specific mitigation measures as outlined in **Table 3-1** of this FONSI and has gone "above and beyond" with planned stream enhancements to be implemented in coordination with the restoration of CR 314 and the construction access road. CDOT will continue to coordinate with the SWEEP committee and other stakeholders, as appropriate, to not only mitigate impacts but identify and pursue opportunities to enhance aquatic habitat through these collaborative partnerships, such as with the stream enhancements. CDOT is open to partnering with others to leverage and expand benefits from our planned stream enhancements.

E. As noted in response to your previous comment (ORG-01-A), clarification regarding specific water quality treatment features and BMPs developed for the Twin Tunnels project and their incorporation into the SCAP when it is finalized are reflected in the mitigation commitments in **Table 3-1** of this FONSI.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** David Nickum, Colorado Trout Unlimited (continued)
Document Number: ORG-01	**City, Zip Code:** Golden, 80401

F

Table 3-31 identifies potential mitigation for short term impacts, i.e. impacts from construction. An item emphasizing the temporary stream crossing is shown with a commitment to coordinate with the Colorado Division of Parks and Wildlife (CPW). We believe that kind of mitigation without boundaries isn't enough. The temporary crossing is one of the most potentially significant impacts to aquatic resources. There needs to be contingencies, particularly if redds or significant populations of fish are present in that area. Will CDOT abandon the idea of a temporary crossing, or will they try to convince CPW that such losses are within acceptable limits? There is a SWEEP committee for this project and any activity on the stream should be coordinated with that group, as well as CPW.

Other Areas of Concern

G

Section 2.1 of the EA describes the project which provides the basis for impact analysis. Included is a discussion of the need to replace a bridge on the eastern edge of the project area. What isn't included is any discussion of how that replacement will take place. This is important because, depending on the methods chosen, there could be significant short term impacts to the environment. We were advised on June 7 that CDOT is considering constructing a stream crossing near the bridge in two segments. The crossing will use large culverts to bypass the creek and then dump gravely material over the culverts to create the roadbed. As this feature will likely affect water quality and aquatic life in the creek, it needs to be fully described in the EA.

H

Section 2.9 identifies the need to re-construct a portion of US 40 which will serve as part of the detour. However, the section doesn't describe the need for a temporary haul road essentially portal to portal. As in the case of the stream crossing, this haul road has the potential to cause significant damage to wetlands and Clear Creek. FHWA must incorporate a description of the haul road into the final EA.

I

Trout Unlimited is very concerned about the proposals in the EA and their possible effect on aquatic resources. Fortunately, there is a clear and reasonable course for addressing these concerns and resolving debate over impacts: the issues can be resolved using the procedures identified in the SWEEP MOU. SWEEP was established as a means of addressing likely impacts to aquatic resources and to provide a means to improve an existing aquatic ecosystem. Using the power of public/private partnerships we have an opportunity to not only migtigate the impacts of the project but also find a way to enhance a river back to a more natural state, helping to reduce the historic impacts on it. We urge CDOT and FHWA to embrace that approach, and to ensure that the impacts of this project are thus appropriately mitigated.

Sincerely,

David Nickum

Responses

Response to ORG-01 (continued)

F. As noted in response to your previous comment (ORG-01-B), suitable trout spawning habitat does not exist in the area of the stream crossing so redds will not be directly affected by the crossings. If the CPW follow-up survey finds that trout spawning occurs downstream of the crossing, the contractor will develop appropriate BMPs, in coordination with CPW and the SWEEP committee, and implement these BMPs to minimize indirect impacts to spawning areas from sedimentation. This information is reflected in Section 4.2.5 and the aquatic resources section of **Table 3-1** in this FONSI.

G. Bridge replacements are common elements of transportation projects and are routinely accomplished with no significant environmental effects. Construction methods for bridge replacements are not typically determined until after projects are fully designed, well after the NEPA process has been completed. However, because contractor has been engaged early for the Twin Tunnels project and the contractor recommends stream crossings be employed for bridge demolition and construction, environmental impacts were considered. Table 3-31 in the EA addresses potential impacts and mitigation for construction of the stream crossings. As part of the coordination with CPW committed to in the EA, CPW will conduct surveys of trout spawning areas within the entire reach of Clear Creek potentially affected by project construction, including installing and removing the stream crossings, bridge construction and demolition, retaining wall construction, and construction and operation of the portal-to-portal construction access road. As noted in response to your previous comments, the preliminary survey confirmed that the crossing area is not suitable for spawning. The FONSI has included updated information about potential spawning impacts in Section 4.2.5.

H. The Twin Tunnels Portal to Portal Access Road Companion Report issued with the EA describes the proposed haul road, anticipated impacts, and mitigation. Section 2.2 of this FONSI clarifies that the construction access road is part of the Proposed Action. Section 4.1.1 of this FONSI notes that CDOT and FHWA will move forward with the construction access road, and the FONSI integrates the mitigation commitments outlined in the Companion Report into the project's mitigation commitments, as presented in **Table 3-1** of this FONSI.

I. As noted in response to your previous comment (ORG-01-D), CDOT is planning stream enhancements as part of the Twin Tunnels project in coordination with the restoration of the game check area. The Intergovernmental Agreement (IGA) between CDOT and Clear Creek County specifies stream channel improvements and provides a concept of the planned improvements; as details of the restoration and enhancements are refined, details of the IGA may also be refined. CDOT will continue to work with the SWEEP committee, Colorado Trout Unlimited, and other stakeholders, as appropriate, through the collaborative partnership set forth in the SWEEP Memorandum of Understanding (MOU).

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Gary Frey, Colorado Trout Unlimited
Document Number: ORG-02	**City, Zip Code:** Golden, 80401

REPORTER'S TRANSCRIPT OF PUBLIC HEARING
HEARING DATE: Wednesday, July 25, 2012

Good evening. My name is Gary Frey. I'm speaking tonight on behalf of Colorado Trout, Limited, regarding the environmental assessment on the Twin Tunnels Project. We've been an active participant in planning for part of the development, having been a member of the collaborative network which actually developed the Proposed Action, worked on several Proposed Actions project leadership teams and technical teams, and help in the development of the streams, wetlands, ecological enhancement program, the program that looked at aquatic resources.

A

We say that CTU supports the plan to expand the capacity of the Twin Tunnels and recognizes that it's consistent with the Proposed Action identified in the Programmatic EIS for I-70. That said, we are concerned about the potentially significant impacts to aquatic resources in the project area. The agencies, which are Colorado Department of Transportation and the Federal Highway Administration, correctly note that there is a self-sustaining population of brown trout in the project area. They also note that there will be short-term impacts from construction, mostly from sedimentation and changes in water quality, which CTU believes is also accurate.

But the severity of those impacts is understated, and the mitigation offered is inaccurate to truly mitigate those impacts. As an example, the EA cites using a sediment control action plan that uses best management practices to minimize impacts from sedimentation. But this SCAP is still under development and only exists as a draft. It's highly unusual to reference an approved document as an agency policy for mitigation because there are no assurances that it will ever be completed. Further, the BMPs cited aren't identified in the body of the EA, making it difficult to determine their actual effectiveness. The agency should either complete the SCAP or not rely on it as a mitigation tool.

Continued on next page

Responses

Response to ORG-02

A. As noted in response to comment ORG-01-A, the Clear Creek Sediment Control Action Plan (SCAP) was not intended to be used as a commitment document for the Twin Tunnels project. Section 4.2.2 of this FONSI clarifies that the SCAP is currently under development but has not been finalized. Because the Twin Tunnels project was designed before the SCAP was completed, specific water quality treatment features or other BMPs were developed for the Proposed Action specific to the Twin Tunnels project. These features will be implemented as part of the Twin Tunnels project and incorporated into the Clear Creek SCAP when it is finalized. This clarification is reflected in the recreation and water resources mitigation commitments listed in **Table 3-1** of this FONSI (originally included in Appendix A of the EA).

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Gary Frey, Colorado Trout Unlimited (continued)
Document Number: ORG-02	**City, Zip Code:** Golden, 80401

B

Another area of significant concern is the installation of the stream crossings and the temporary haul road. Sedimentation is likely, and impacts could be severe given the time of year they'll occur. The agencies have admitted they don't know where spawning beds are and, hence, can't actively predict outcomes. An extensive survey of fishery habitat is needed before these actions are taken, and as I understand that. The agencies will be receiving a letter on CTU's other concerns regarding environmental impacts. All of the comments address or can be addressed without having to make major changes to the EA.

C

I'd like to kind of shift gears a little bit here. There's a better way. Those of us who either live in the basin or use the creek realize that this stream, this unique stream, provides a wide array of opportunities. Fishing, rafting, and other recreational pursuits, to water supply, and habitat with a diverse population of aquatic and terrestrial species are just a few of the benefits the creek provides. We also know it's a stressed stream, having suffered the consequences of industrial development, primarily mining, residential expansion and interstate highway development. Realizing this, CTU worked with our colleagues at the Clear Creek Watershed Foundation, which is based right here in Idaho Springs, and the agencies to develop the SWEEP program which is embodied in a memorandum of understanding, an MOU. The foundation of this program is to address the aquatic issues in a way that uses the power of private and public partners to expand our limited resources, not just make attempts to sustain the status quo.

We all recognize that development brings environmental impact to our resources. SWEEP's goal is to not just fix those impacts, but to improve the resource, leveraging the cost of mitigation against other sources of funding to actually enhance the situation.

We are proposing that agencies embrace the concept of SWEEP -- they are signators to the MOU -- and support development of a stream restoration project in the project area. Such an effort or plan was started at the January 19, 2012 meeting of the SWEEP committee.

Continued on next page

Responses

Response to ORG-02 (continued)

F. As noted in response to comment ORG-01-B, in September 2012, Colorado Parks and Wildlife (CPW) conducted a preliminary survey for trout spawning habitat in Clear Creek in the vicinity of the proposed stream crossings west of the Hidden Valley Interchange. The preliminary survey determined that the area of the proposed stream crossings is too deep to support brown trout spawning and lacks a cobble/pebble substrate. An area several hundred feet downstream of the proposed crossings contains some elements suitable for spawning. In the fall of 2012, CPW will conduct surveys of trout spawning areas within the entire reach of Clear Creek potentially affected by project construction, including the stream crossing, bridge construction, retaining walls, and the Portal to Portal Access Road. Prior to conducting construction activities near Clear Creek, CDOT, in coordination with CPW, will evaluate potential impacts associated with construction activities in and around Clear Creek and implement appropriate BMPs to reduce impacts to trout species and habitat during construction. In addition, as part of its Intergovernmental Agreement with Clear Creek County, CDOT also has committed to stream enhancements upstream of Hidden Valley that will permanently improve aquatic habitat, including spawning areas, in the Twin Tunnels area after construction is complete. This information is reflected in Section 4.2.5 and the aquatic resources section of **Table 3-1** in this FONSI.

C. As noted in response to comments ORG-01-I and ORG-01-D, CDOT is planning stream enhancements in coordination with the restoration of the game check area. The Intergovernmental Agreement (IGA) between CDOT and Clear Creek County specifies stream channel improvements and provides a concept of the planned improvements; as details of the restoration and enhancements are refined, details of the IGA may also be refined. CDOT will continue to work with the SWEEP committee, Colorado Trout Unlimited, and other stakeholders, as appropriate, through the collaborative partnership set forth in the SWEEP Memorandum of Understanding (MOU).

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Gary Frey, Colorado Trout Unlimited (continued)
Document Number: ORG-02	**City, Zip Code:** Golden, 80401

D

A mechanism for getting the job done already exists. An intergovernmental agreement has recently been signed between CDOT and Clear Creek County. The idea is multi-purpose but references the need for stream restoration. The only element missing is a startup plan to allow the process to proceed. The startup money could be identified as the reasonable value of the impacts caused by project development.

The agency should be immediately begin negotiations with the county to make the necessary changes to the IGA which will allow this project to happen.

On a more personal note, as Trout Unlimited and the water foundation, we've developed three projects to the river to enhance fishing, and a fourth one has been there. Those have a value of approximately a million dollars. We believe that Clear Creek is recreational and a fishery resource. And obviously, we get a little upset when others come along and want to impact that without doing their fair share. And I know that the agencies want to do their fair share. We'll gladly participate with those parties and provide any assistance if us, as an NGO, can. Thank you for the opportunity to comment.

Responses

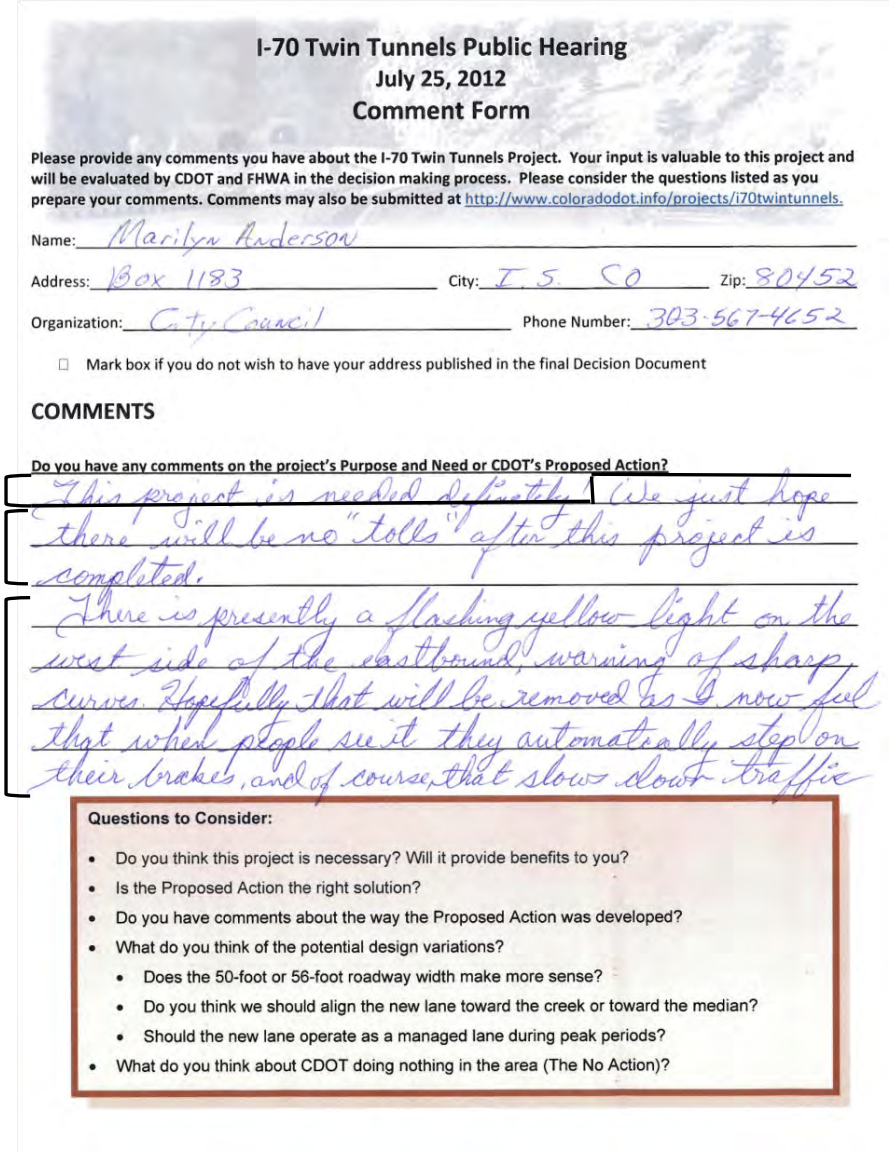
Response to ORG-02 (continued)

D. CDOT continues to follow the I-70 PEIS SWEEP MOU and supports the development of stream restoration projects in the project area. CDOT recognizes the recreational and fishery resources provided by Clear Creek. The existing Intergovernmental Agreement between CDOT and Clear Creek County (signed in June 2012) details CDOT's commitments to Clear Creek channel improvements, along with other landscape and riparian improvements, and assigns financial commitments to those improvements, providing the startup plan upon which others, such as Trout Unlimited, could participate.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Comment Sheet	**Name:** Marilyn Anderson
Document Number: LO-01	**City, Zip Code:** Idaho Springs, 80452



I-70 Twin Tunnels Public Hearing
July 25, 2012
Comment Form

Please provide any comments you have about the I-70 Twin Tunnels Project. Your input is valuable to this project and will be evaluated by CDOT and FHWA in the decision making process. Please consider the questions listed as you prepare your comments. Comments may also be submitted at http://www.coloradodot.info/projects/i70twintunnels.

Name: Marilyn Anderson

Address: Box 1183 City: I.S. CO Zip: 80452

Organization: City Council Phone Number: 303-567-4652

☐ Mark box if you do not wish to have your address published in the final Decision Document

COMMENTS

Do you have any comments on the project's Purpose and Need or CDOT's Proposed Action?

A This project is needed definitely. We just hope
B there will be no "tolls" after this project is
completed.

C There is presently a flashing yellow light on the
west side of the eastbound, warning of sharp
curves. Hopefully that will be removed as I now feel
that when people see it they automatically step on
their brakes, and of course that slows down traffic

Questions to Consider:

- Do you think this project is necessary? Will it provide benefits to you?
- Is the Proposed Action the right solution?
- Do you have comments about the way the Proposed Action was developed?
- What do you think of the potential design variations?
  - Does the 50-foot or 56-foot roadway width make more sense?
  - Do you think we should align the new lane toward the creek or toward the median?
  - Should the new lane operate as a managed lane during peak periods?
- What do you think about CDOT doing nothing in the area (The No Action)?

Responses

Response to LO-01

A. Comment noted.

B. As described in Section 2.1.2 of this FONSI, CDOT will operate the new third lane as a managed lane and charge a fee for use of the new lane only during peak periods of congestion to maintain a reliable travel time in the managed lane. No fees would be imposed for travel in the two existing general purpose lanes. Section 3.2, *Social and Economic Resources*, in the EA concluded that the charge for use of the managed lane is not expected to affect local or regional travelers negatively because it will operate only during peak periods, which are often avoided by local travelers, and the two general purpose lanes will remain free of charge. When the managed lane is operating, all vehicles in the lane will pay a fee—likely between $1 and $3—and trucks will pay an additional fee or surcharge. Outside of peak travel periods when I-70 is congested, the managed lane will operate with no fees.

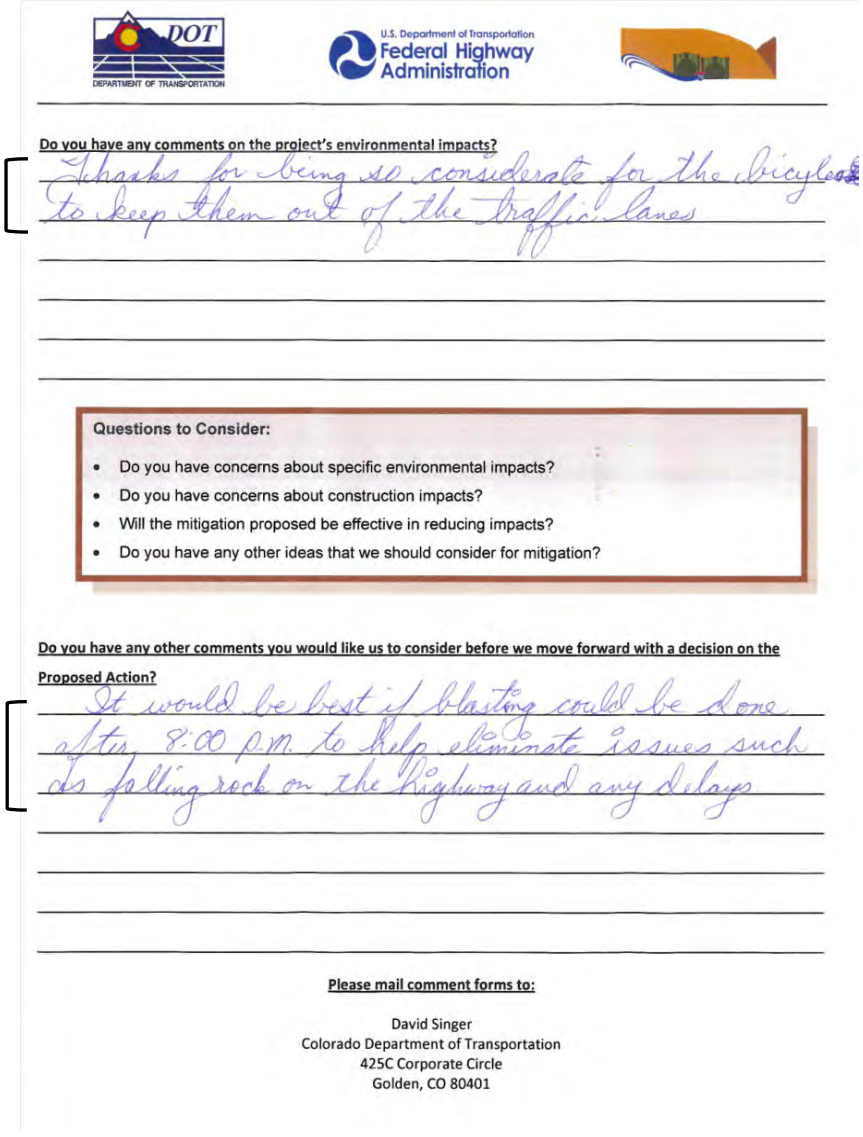
C. The flashing yellow sign warns motorists of upcoming curves. This warning is especially important for trucks, which have increased rollover risks when traveling too fast through curves. Although the Proposed Action addresses the most problematic low-speed curve west of Hidden Valley, the area east of the tunnels will remain curvy, and the sign will continue to be needed.

Slowing through the tunnel does occur but as described in Section 1.4.2 of the EA, other factors cause of slowing of travel speeds through this segment of I-70. Motorists slow to safely navigate tight curves, and motorists slow on the approach to the tunnels due to the real and perceived narrowing of the tunnels. The tunnels have lower capacity than surrounding sections of the highway, as illustrated in Figure 1-8 in the EA, creating congestion during peak periods. The Proposed Action implements a consistent three-lane roadway width and design speed through the tunnel and the project area and will increase capacity by 62 percent through the tunnel, from 3,200 vehicles per hour (vph) up to 5,500 vph.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Comment Sheet	**Name:** Marilyn Anderson (continued)
Document Number: LO-01	**City, Zip Code:** Idaho Springs, 80452



DOT
DEPARTMENT OF TRANSPORTATION

U.S. Department of Transportation
Federal Highway Administration

Do you have any comments on the project's environmental impacts?

D

Thanks for being so considerate for the bicyclers to keep them out of the traffic lanes

Questions to Consider:

- Do you have concerns about specific environmental impacts?
- Do you have concerns about construction impacts?
- Will the mitigation proposed be effective in reducing impacts?
- Do you have any other ideas that we should consider for mitigation?

Do you have any other comments you would like us to consider before we move forward with a decision on the Proposed Action?

E

It would be best if blasting could be done after 8:00 p.m. to help eliminate issues such as falling rock on the highway and any delays

Please mail comment forms to:

David Singer
Colorado Department of Transportation
425C Corporate Circle
Golden, CO 80401

Responses

Response to LO-01 (continued)

D. Comment noted.

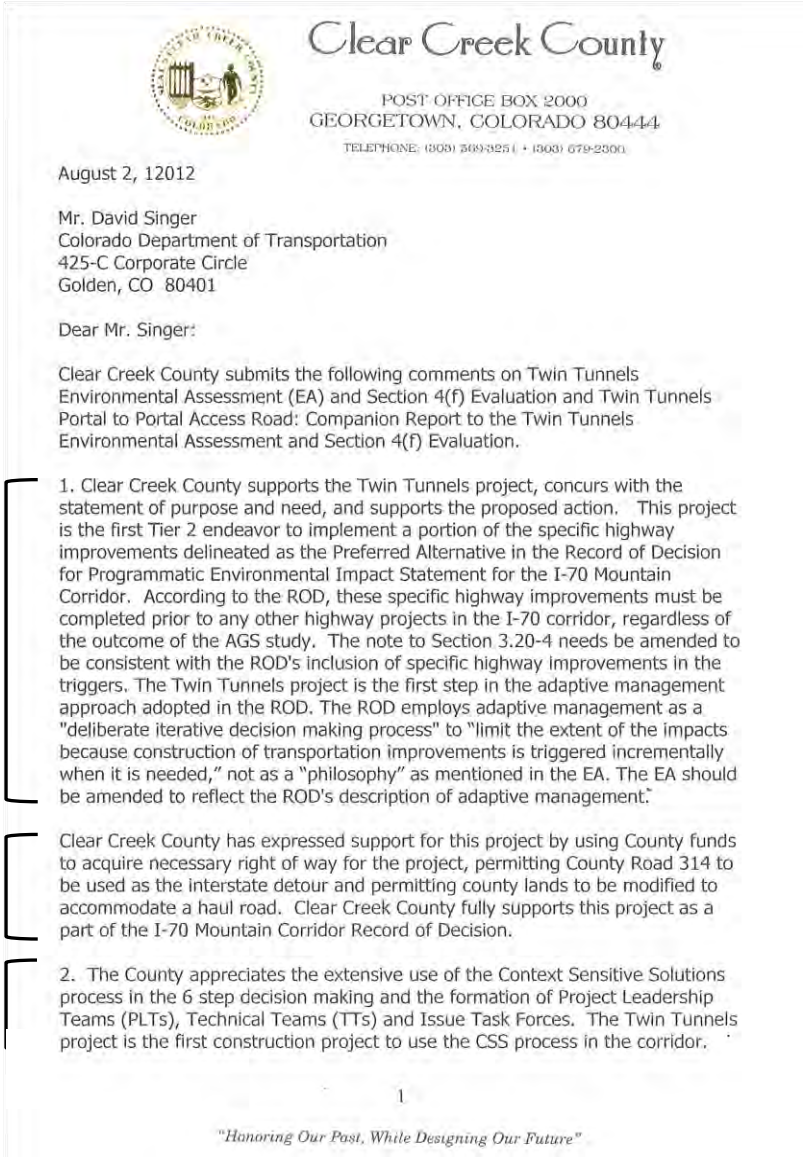
E. As described in Section 3.1.6 in the EA (and clarified in Section 4.2.1 of this document), CDOT will conduct blasting activities every 4 to 6 hours to expand the tunnel bore, and each blast could result in up to 30 minute delays in the westbound direction and less in the eastbound direction. Blasting during peak travel periods—Friday afternoons and early evenings, Saturday mornings, and Sunday afternoons and evenings—will be limited to the extent possible. However, limiting blasting only to certain times of the day, such as after 8:00 pm, would extend the time required for the tunnel expansion and result in longer closure of the eastbound I-70 lanes through the tunnel and use of the detour on County Road (CR) 314.

As described in Section 3.17, *Geology*, in the EA and **Table 3-1** of this FONSI, CDOT has committed to measures to mitigate the risks of rockfall hazards to public safety during construction and tunnel widening. Specifically, CDOT will incorporate permanent rockfall mitigation during construction and in the design of the new tunnel portals; CDOT will evaluate the rock mass for the likelihood of rockfall occurring, prior to blasting; and CDOT will use proven techniques, such as rockfall catchments, mesh, cable netting, fences, scaling, and blasting, to address rockfall hazards.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Clear Creek County
Document Number: LO-02	**City, Zip Code:** Georgetown, 80444



Clear Creek County

POST OFFICE BOX 2000
GEORGETOWN, COLORADO 80444
TELEPHONE: (303) 569-3251 • (303) 679-2300

August 2, 12012

Mr. David Singer
Colorado Department of Transportation
425-C Corporate Circle
Golden, CO 80401

Dear Mr. Singer:

Clear Creek County submits the following comments on Twin Tunnels Environmental Assessment (EA) and Section 4(f) Evaluation and Twin Tunnels Portal to Portal Access Road: Companion Report to the Twin Tunnels Environmental Assessment and Section 4(f) Evaluation.

A

1. Clear Creek County supports the Twin Tunnels project, concurs with the statement of purpose and need, and supports the proposed action. This project is the first Tier 2 endeavor to implement a portion of the specific highway improvements delineated as the Preferred Alternative in the Record of Decision for Programmatic Environmental Impact Statement for the I-70 Mountain Corridor. According to the ROD, these specific highway improvements must be completed prior to any other highway projects in the I-70 corridor, regardless of the outcome of the AGS study. The note to Section 3.20-4 needs be amended to be consistent with the ROD's inclusion of specific highway improvements in the triggers. The Twin Tunnels project is the first step in the adaptive management approach adopted in the ROD. The ROD employs adaptive management as a "deliberate iterative decision making process" to "limit the extent of the impacts because construction of transportation improvements is triggered incrementally when it is needed," not as a "philosophy" as mentioned in the EA. The EA should be amended to reflect the ROD's description of adaptive management.

B

Clear Creek County has expressed support for this project by using County funds to acquire necessary right of way for the project, permitting County Road 314 to be used as the interstate detour and permitting county lands to be modified to accommodate a haul road. Clear Creek County fully supports this project as a part of the I-70 Mountain Corridor Record of Decision.

C

2. The County appreciates the extensive use of the Context Sensitive Solutions process in the 6 step decision making and the formation of Project Leadership Teams (PLTs), Technical Teams (TTs) and Issue Task Forces. The Twin Tunnels project is the first construction project to use the CSS process in the corridor.

1

"Honoring Our Past, While Designing Our Future"

Responses

Response to LO-02

A. Section 4.2.4 of the FONSI provides a clarification to the note you reference on page 3.20-4 of the EA, clarifying that the specific highway improvements must be implemented before other highway improvements regardless of the outcome of the Advanced Guideway System (AGS) feasibility study. Chapter 2 in the EA describes the Twin Tunnels project as one of the specific highway improvements that must be completed before other highway improvements can occur in the I-70 Mountain Corridor.

The adaptive management approach is a key component of the I-70 PEIS Preferred Alternative, as noted in your comment and reinforced by the EA. Chapter 1 of the EA describes how the Twin Tunnels project supports the adaptive implementation of the I-70 PEIS Preferred Alternative, focusing on an immediate problem in response to transportation conditions and needs in the Corridor. Section 2.7 of the EA discusses how the Twin Tunnels project was prioritized consistent with the I-70 PEIS Preferred Alternative adaptive management approach. Section 2.8 of the EA describes in detail how the Twin Tunnels project relates to the ultimate improvements approved by the I-70 PEIS Record of Decision. CDOT committed to the adaptive management approach in the I-70 PEIS Record of Decision and will continue to fulfill this commitment on future projects in the Corridor.

The use of the word "philosophy" in Section 1.7 of the EA is interchangeable with "approach" and does not change or lessen the commitment to adaptive management described in the I-70 PEIS Record of Decision.

B. Comment noted.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses

Source: Letter	**Name:** Clear Creek County (continued)
Document Number: LO-02	**City, Zip Code:** Georgetown, 80444

C

The Core Values and Context statements were developed with stakeholder involvement and the PLT worked well. CSS also contains tools for guiding design: criteria for general goals, seven specific engineering criteria agreed upon by CDOT, and Aesthetic Guidelines for each design segment of the corridor. These tools are referred to in the EA but their implementation was not tracked, nor was the use of these project planning tools transmitted to the project engineers or construction manager in the final design phase. For example, the EA claims (at 2.1.4, Appendix C, and elsewhere) to incorporate the CSS Design Criteria and the Aesthetic Guidelines, but the final design engineering for median width and other project components would dispense with these criteria, specifically with regard to retention of median width. None of the many PLT, TT, and Issue Task Force discussions on compliance with the Aesthetic Guidelines are recorded. As this first project will guide future projects, a CSS tracking system should be established. The ROD indicates that a CSS Corridor Manager will be assigned by CDOT. Chapter 3.4.1 of the EA indicates CDOT's decision that the position is unnecessary. That decision should be reconsidered.

3. The mitigation commitments for environmental consequences to resources described in the EA are very uneven, some being very specific, others left out entirely. The following are areas of concern to Clear Creek County:

D

- 3.2 Social and Economic Resources: Construction notification and access during construction is clearly defined. However, 3.2.6 states "the conclusions of this Tier 2 process analysis are that nearby businesses may experience some reduction in business during the construction period" but no analysis is projected to determine whether that reduction actually occurs.

E

- 3.5 Recreation Resources: The EA contains no commitment to the agreed upon improvements to the Game Check station as a recreational node in the Clear Creek Greenway Plan. 3.5-6 simply states "After construction this area would be returned to existing conditions (or better) for use as an informal parking area and trailhead". The area does not show up at all in the mitigation commitments in Table 3-13. Reference should be made to the Intergovernmental Agreement with Clear Creek County for the rehabilitation of the Game Check Station following the detour. Reference should also be made to the I-70 PEIS Record of Decision that identifies completion of the bike trail from Idaho Springs to US 6 as part of the Preferred Alternative.

F

- 3.6 Historic Properties: The analysis is thorough and references the addendum to the 106 Programmatic Agreement that is under development. Clear Creek appreciates the expressed concern for locally important historic sites.

2

Response to LO-02 (continued)

C. Comment noted.

D. Section 3.2 , *Social and Economic Resources*, of the EA acknowledges the broad I-70 PEIS conclusion that economic losses during construction could negatively affect businesses but concludes for the Twin Tunnels project the effects of business losses would be minor because traffic projections indicate only 4 percent of current vehicle traffic will divert to other routes, one of which is a local road through Idaho Springs. Additionally, the EA concludes that businesses in Idaho Springs and Clear Creek County will benefit from local construction spending by workers and the purchase of local goods and services for construction.

E. The EA was in production at the time the Intergovernmental Agreement between CDOT and Clear Creek County was signed. Section 4.1.4 of this FONSI describes the commitment to restore the game check area in a manner that supports Clear Creek County's Greenway system per the Intergovernmental Agreement between CDOT and the county. Additionally, the mitigation measures in Appendix A of the EA regarding restoration of the game check area have been consolidated into a single mitigation measure in **Table 3-1** of this FONSI, committing to restoration of the game check area per agreements listed in the Intergovernmental Agreement.

Section 4.2.1 of the FONSI clarifies that the specific highway improvements of the I-70 PEIS Preferred Alternative include the bike trail and frontage road from Idaho Springs to US 6, along with six-lane capacity between the Twin Tunnels and Floyd Hill and curve modifications east of the Twin Tunnels.

F. Your comment is noted. The Section 106 Programmatic Agreement supplement has now been executed, and a copy is included electronically in the appendix to this document. Implementing the supplement to the Section 106 Programmatic Agreement is a mitigation commitments included in the historic resources of **Table 3-1** of this FONSI. **Table 3-1** reiterates the intent and clarifies the scope of fencing and protection of locally important sites during construction.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Clear Creek County (continued)
Document Number: LO-02	**City, Zip Code:** Georgetown, 80444

G

- 3.7 Visual Resources: The EA acknowledges persistent, permanent impacts to these resources, yet there are no mitigation commitments. The statements in 3.7-7 that "CDOT will avoid and minimize negative adverse impacts to the visual resources in incorporating the I-70 Mountain Corridor Aesthetic Guidelines into the project design," and "CDOT has committed to the use of these criteria for the design of the project" are vague and confuse CSS criteria and guidelines. No record exists in the EA of the lengthy and detailed discussions between Clear Creek County and CDOT regarding the CSS Engineering Design Criteria specific to retention of the median and of Guidelines specific to the appearance of both cut and fill walls. Rather, the EA's statement that the, "Lead agencies will refer to the Aesthetic Design Guidelines and create a site-specific Tier 2 Aesthetic Plan and Lighting Plan mitigation strategies, " suggests those discussions were not meaningful. The EA should acknowledge the discussions conducted pursuant to the CSS process, pledge to implement a visual resources mitigation plan based upon the consensus reached through that process, and as described in Section 5 of these comments, describe the application of specific mitigation features to specific project components.

H

CDOT entered into an Intergovernmental Agreement with Clear Creek County that provides for use of County Road 314 as a detour during Twin Tunnels construction. That agreement includes commitments by CDOT to construct final aesthetic treatment of recently installed walls on County Road 314 during the Twin Tunnels project. This project component should be included in the EA, particularly in Section 2.9.3 and Figure 2-13 addressing restoration of the detour.

I

- 3.8. Air Quality: The analysis is thorough and mitigation in keeping with required standards.

J

- 3.9 Noise: Clear Creek appreciates the commitment to a sound wall to protect the Scott Lancaster Bridge and the Game Check recreational node. Regarding Mitigation Commitments for Temporary Noise Impacts (Table 3-27). We also appreciate the inclusion of hotel vouchers for residents during periods of nighttime construction.

K

- 3.10 Terrestrial Wildlife: Clear Creek appreciates the commitment to the wildlife passage under the new highway bridge. The protection of the bighorn sheep and other terrestrial wildlife during construction is detailed in the EA but not in the Companion Report for the Portal to Portal Access Road. In Appendix B to that report, the meeting summary from the Colorado Parks and Wildlife meeting of May 16, 2012, seven mitigation measures for bighorn sheep were specifically mentioned. However, these

3

Responses

Response to LO-02 (continued)

G. Section 5.3 of the FONSI describes the ongoing involvement of the Project Leadership and new Technical Team in the design and construction details, and the EA acknowledged the contributions of stakeholders in developing the Proposed Action concept during the NEPA life cycle phase (Section 5.1.1 and Appendix A of the EA). CDOT's commitment to following the I-70 Mountain Corridor Aesthetic Guidance has been demonstrated in the discussions during the design and construction life cycles. Discussions specific to the alignment shift into the median east of the Hidden Valley Interchange are documented in Section 2.1.3 of this FONSI, as noted in response to your previous comment (LO-02-C). Discussions regarding the appearance of cut and fill walls are being tracked as part of the final design life cycle phase to be incorporated into the final design. Additionally, the Intergovernmental Agreement between CDOT and Clear Creek County defines the commitment to follow the aesthetic guidance regarding cut and fill walls.

H. CDOT acknowledges the commitment to construct final aesthetic treatment on walls on CR 314 is documented in the Intergovernmental Agreement between CDOT and Clear Creek County. Section 4.2.1 of this FONSI clarifies that Phase 3 of the construction sequence includes installation of fascia on CR 314 retaining walls.

I. Comment noted.

J. Comment noted.

K. Fencing described in Table 3-29 of the EA follows the length of detour that coincides with old US 40 and the old game check area; it is intended to keep bighorn sheep and other terrestrial wildlife from crossing the detour road during its operation. This fencing will originate near the entrance of the eastbound tunnel and extend along old US 40 to the portal to portal construction access road. Fencing the portal to portal access road was considered by CDOT and Colorado Parks and Wildlife (CPW), as described in Appendix B of the Portal to Portal Access Road Companion Report:"…Fencing adjacent to the access road was discussed as one possible mitigation measure. It was noted that money would [be] better spent fencing the north side of I-70 adjacent to the west bound lanes (east of the Twin Tunnels) where in the last five years (2006 through May 2012) three bighorn sheep have been killed and recovered from this location." Based on this discussion, the low frequency of truck traffic on the access road (1 to 2 trucks per hour), and the low speed (a maximum of approximately 25 mph) of the construction trucks, fencing the construction access road is not recommended or included in the Proposed Action.

Table 3-1 of this FONSI, measures 115 and 121 through 124, provide specific measures to discourage bighorn sheep from being on the road, including removal of existing trees near the west portal of the west tunnel to improve visibility, temporary wildlife fencing along the north side of old US 40 (game check area), temporary lighting, placement of salt blocks on the north side of I-70 to keep sheep away from the detour and construction access road, and consideration of temporary fencing on the south side of the detour if an increase in animal/vehicle collisions is observed. These measures were deemed to be the most appropriate and applicable measures to reduce animal/vehicle collisions in the project area.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Clear Creek County (continued)
Document Number: LO-2	**City, Zip Code:** Georgetown, 80444

K (con't)

appear to be measures that are permanent in nature and do not necessarily address the temporary haul road condition and the potential for animal-vehicle collisions along that route. The mitigation chart Table 7-1 in the Companion Report makes no mention at all of this issue. The only mitigation mentioned is in the EA Table 3-29. Please clarify this mitigation commitment regarding the impacts created by the haul road..

L

- 3.11 Aquatic Resources: This is an area of major concern. Table 3.11-4 lists the "possibility of discussion about a spawning survey". A commitment must be made to that survey and to mitigation if damage during the spawning is unavoidable.

M

- 3.13: Vegetation and Noxious weeds: In Table 3-35, the EA indicates that an "Integrated Noxious Weed Management Plan" will be developed. It is not clear that that plan will include the disinfection procedures recommended in Appendix B of the Companion Report. The commitment to disinfection of construction vehicles should be clear.

N

- 3.16 Water Quality: Section 3.16.6 does not reference and incorporate the data on page 45 of Technical Memorandum 11, Appendix B: Twin Tunnels Discharge Analytical Results and Surface Water Discharge Permit Limits. It would be helpful to have comments from the SWEEP Committee in order to understand if additional mitigation should be identified for the potential permit limit exceedances for arsenic, lead, manganese, mercury and selenium.

O

- 3.20 Cumulative Impacts: The list of foreseeable future actions does not include: (1) The expected replacement of the bridge at Kermitts; (2) The expected widening of the westbound lanes from Floyd Hill to the Twin Tunnels; (3) The expected widening of the westbound Twin Tunnels bore; (4) The completion of work on Colorado Boulevard in Idaho Springs;(5) Phase 2 work on County Road 314. Some of these future plans are already impacting the design of this project. All of these projects will certainly add to cumulative impact. The EA limits "reasonably foreseeable" transportation projects to "the funded components of the I-70 Mountain Corridor PEIS Preferred Alternative," whereas one of the EA's criteria for identifying "reasonably foreseeable" projects includes those that are "a foreseeable future phase of an existing project, or the project would likely occur within the 2035 planning horizon." Furthermore, several of the transportation projects listed in 3.20.3 are not "components of the I-70 Mountain Corridor PEIS Preferred Alternative." Please revise the EA accordingly.

4

Responses

Response to LO-2 (continued)

L. CPW conducted a preliminary survey for trout spawning habitat in Clear Creek in the vicinity of the proposed stream crossings west of the Hidden Valley Interchange. The survey determined that the area of the proposed stream crossing area is too deep to support brown trout spawning and lacks suitable cobble/pebble substrate. An area several hundred feet downstream of the proposed crossing area contains some elements suitable for spawning. In the fall of 2012, the Colorado Parks and Wildlife (CPW) will conduct surveys of trout spawning areas within the entire reach of Clear Creek potentially affected by project construction, including the stream crossing, bridge construction, retaining walls, and the Portal to Portal Access Road. Prior to conducting construction activities near Clear Creek, CDOT, in coordination with CPW, will evaluate potential impacts associated with construction activities in and around Clear Creek and implement appropriate BMPs to reduce impacts to trout species and habitat during construction. In addition, as part of the Intergovernmental Agreement with Clear Creek County, CDOT has committed to stream enhancements upstream of Hidden Valley that will permanently improve aquatic habitat, including spawning areas, in the Twin Tunnels area after construction is complete. This information is reflected in Section 4.2.5 and the aquatic resources section of **Table 3-1** in this FONSI.

M. The Integrated Noxious Weed Management Plan to be developed during final design will include procedures for removing soils and vegetation from construction equipment to minimize the introduction or spread of noxious weeds. The recommendation for disinfection procedures are to prevent the spread of invasive aquatic species/whirling disease. A mitigation has been added to **Table 3-1** to require the contractor to wash equipment that has been used in another stream prior to use for the Twin Tunnels project to avoid the introduction of nuisance aquatic species.

N. Section 3.18.4 (EA, pages 3.18-2 and 3.18-3; Table 3-44, page 3.18-5) notes that adaptive mitigation will be used during design to eliminate daylight discharge, or to apply for any required discharge permits if needed. The exceedances noted were for surface water standards, if the tunnels discharge directly to surface water. Drainage from the expanded eastbound tunnel and drainage from the existing westbound tunnel will be intercepted so no daylighting or discharge to surface water occurs. Details of analytical methods, exceedances, and differences between surface and groundwater standards can be discussed with the SWEEP committee.

O. The list of transportation projects in Section 3.20.3 of the EA includes currently funded transportation projects in the study area. The expected replacement of the bridge at the US 6 interchange at Kermitts, widening of the westbound tunnel and lanes from Floyd Hill to the tunnels, and Phase 2 work on CR 314 are not currently funded or listed in a current transportation plan and, therefore, are not included in the list of reasonably foreseeable future actions for the purposes of the cumulative impacts analysis. The note regarding components of the I-70 PEIS Preferred Alternative is a clarification that only funded components of the I-70 PEIS Preferred Alternative (Frontage Road Phase 1 and AGS feasibility study) are included in the list of reasonably foreseeable future projects.

Section 4.2.4 of the FONSI includes a clarification that improvements to Colorado Boulevard in Idaho Springs are added to the list of reasonably foreseeable future projects. The inclusion of this project does not change the conclusions of the cumulative impacts analysis.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Clear Creek County (continued)
Document Number: LO-02	**City, Zip Code:** Georgetown, 80444

P

- Under Development Plans: At 3.20-3 the EA indicates Clear Creek County has received preliminary plans for a Renewable Energy Theme Park. Clear Creek County has not received such plans.

Q

- Under Visual Resources: The impacts of the proposed action are not "minor", however, it should be noted many impacts are occurring in previously disturbed areas. The replacement of- old highway riprap with walls that are vegetated at the base may be a visual improvement. It is an opportunity to mitigate some previous harm to the environment.

R

4. Section 4(f). Although not formally required, Clear Creek County concurs with the de minimis finding for all historic properties with the exception of the Twin Tunnels themselves. A formal concurrence by Clear Creek County with the de minimis finding for the parklands and recreational resources owned by the County has not yet been completed. It is a remaining action item.

S

It should be noted that the Section 4(f) analysis as stated in Section 4.4-1 is based on cross sections which would "widen the roadway entirely to the south, maintaining the existing inside (or left) shoulder of the existing travel lanes".

T

Minor editorial note: Under 4.10, page 4-30: JoAnn Sorensen is the Clear Creek County Land Use Director. Cindy Neely is a consultant for Clear Creek County.

U

5. Public Involvement and Agency Coordination. The stakeholder involvement through the PLT, TT, and Issue Task Forces has been intensive and ongoing. The CSS process has been employed extensively to the credit of CDOT. A difficulty remains with the description of the CSS tools. Chapter 5.3 minimizes the role of the Engineering Design Criteria and the Aesthetic Guidelines. Appendix C confuses the overall Corridor criteria for design implementation and the seven specific engineering criteria. The groups of criteria should be separated into two tables. The Engineering criteria should be stated as they are not yet widely in practice. A table should be created to indicate the aesthetic guidelines which were applicable to the project and how they were applied. Any commitments to the guidelines should be reflected in 3.7, visual resources mitigations.

V

Although this Environmental Assessment process has not yet been concluded, work on final design is proceeding. There are likely to be footprint and/or design changes suggested. We recognize that the impact analyses for the EA were based on a footprint that included creek-side retaining walls between Hidden Valley and Kermitts. Please review all impact analyses for this area if a change in footprint is pursued. We recognize the value of the proposed footprint change and support the effort to pursue a design variance, but please note that it is also important to Clear Creek County that if the change creates a narrowed or

5

Responses

Response to LO-02 (continued)

P. Section 4.2.4 of this FONSI clarifies that Clear Creek County has not received preliminary plans for a renewable energy theme park and that this project is removed from the list of reasonably foreseeable future projects. The removal of this project does not change the conclusions of the cumulative impacts analysis.

Q. The analysis of cumulative impacts to visual resources in the EA states that the Twin Tunnels Proposed Action would have minor to moderate visual impacts, as concluded in Section 3.7, *Visual Resources*, in the EA. The more detailed description of these impacts in Section 3.7 of the EA states that the Proposed Action would cause visual impacts in an area of existing disturbance (the I-70 highway). The I-70 Mountain Corridor CSS Aesthetic Guidance includes the design strategy of providing space for landscape screening treatments in front of walls visible to adjacent communities. The availability of space to provide this screening along the Clear Creek bank is being studied during final design. Additionally, the alignment shift into the median east of the Hidden Valley Interchange removes the majority of the retaining walls that were originally proposed along Clear Creek in this area.

R. Chapter 6 of this FONSI clarifies that the Section 4(f) use of the two recreational properties (the Scott Lancaster Memorial Trail and the planned Game Check Area Park), as documented on page 4-15 of the EA, is a temporary use. Neither of these properties was determined to have a *de minimis* impact, and no further action or concurrence by the county is required regarding these properties.

S. Chapter 6 of this FONSI clarifies that the realignment of the portion of the roadway east of Hidden Valley toward the median does not change the Section 4(f) uses identified, and no revision to the Section 4(f) evaluation is needed.

T. Chapter 6 of this FONSI clarifies that Cindy Neeley is a consultant for Clear Creek County, not the Clear Creek County Land Use Director.

U. Section 5.3 of the EA describes how the CSS process was incorporated into the EA as a Tier 2 NEPA process (Phase 2 in CDOT's life cycle phases). Appendix C to the EA describes how the Proposed Action, as developed in the NEPA phase, reflects the core values and design criteria. The I-70 Mountain Corridor CSS process, as described and committed to in Appendix A of the PEIS, notes that the CSS process applies to each of CDOT's life cycle phases. Aesthetic decisions require additional engineering, so the EA notes that as the design develops, CDOT will consider and reflect the I-70 Mountain Corridor Aesthetic Guidance. That process of evaluating and selecting aesthetic treatments is continuing as part of the design and construction phases. A tracking tool similar to Table 2 in Appendix C of the EA will be used in life cycle phases beyond the NEPA phase to track and document the application of the engineering design criteria and aesthetic guidance to the project in subsequent life cycle phases.

V. See next page.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Clear Creek County (continued)
Document Number: LO-02	**City, Zip Code:** Georgetown, 80444

V (con't)

eliminated median, this will be a temporary condition. When work on westbound I-70 proceeds, it is our expectation that the median will be restored. It is also our understanding that any change from any of the design or mitigation described in the EA will be reviewed in detail by the Project leadership Team prior to implementation.

This is an expedited eight-month EA effort. CDOT staff and consultants should be proud of their extraordinary effort to keep the Twin Tunnels project on schedule. Hopefully, Clear Creek County's comments reflect our role as a critical, but willing, partner. We hope to see our suggestions incorporated in the Twin Tunnels Final EA and ROD.

Sincerely,

CLEAR CREEK BOARD OF COUNTY COMMISSIONERS

Kevin J. O'Malley, Chairman

Joan Drury, Commissioner

Timothy J. Mauck, Commissioner

6

Responses

Response to LO-02 (continued)

V. Section 4.1.2 of this FONSI describes the differences in impacts between the alignment shift into the median east of the Hidden Valley Interchange and the alignment analyzed in the EA. The discussion includes visual, floodplain, riparian, and water quality impacts and concludes that the design modification presents a number of environmental benefits and does not introduce significant adverse impacts, and no supplemental environmental analyses or mitigations are required.

Additionally, Section 2.1.3 of this FONSI describes the presentation to the public, Project Leadership Team, and Technical Team of the alignment shift into the median east of the Hidden Valley Interchange, public support for that design change, and the Project Leadership and Technical Teams' endorsement of the variance from the design criteria. Any future changes to the Proposed Action or mitigation measures presented in this FONSI will be reviewed with the Project Leadership Team and Technical Team during the design and construction life cycle phases of the CSS process for the Twin Tunnels project.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Steve Cook, DRCOG
Document Number: LO-03	**City, Zip Code:** Unknown

Staff of DRCOG offer the following comments regarding the Twin Tunnels Environmental Assessment (July 2012) and asks that they be clarified in or considered for the FONSI:

A. Related to Table 2-1: As previously commented, we do not understand how the "Toll only new lane all the time" option will disproportionately impact local traffic.

B. To fairly present the options, denote clearly within text that the GP lanes under the managed lane scenario will operate worse than in the 3 GP scenario (e.g. Page 2-5 and on Page 3.1-4, we note travel in the two general purpose lanes would drop below 20 mph (not 30 mph) for much of the peak day).

C. Suggest the FONSI properly depict DRCOG's role with the transportation analysis. Text at the start of section 3.1.3 describes DRCOG as the "primary agency involved in the transportation analysis." That is not the case.

D. Suggest the FONSI expand or clarify the description of the comparative affects of the "without a managed lane"/ 3 GPL scenario. The EA provides significant text regarding the managed lane scenario in the section titled, "What is the effect of the Proposed Action with a managed lane on mobility" but there is no comparable section on the 3 GPL scenario.

E. Clarify in the FONSI how a toll would really encourage carpooling as stated in section 3.1.6 of the EA. e.g. Are there modeling results based on an assumed toll to back up the statement? Or, clarify the expected level of the toll during peak days.

F. The FONSI should accurately depict and consider safety impacts. For example page 3.1-6 notes there is the potential for speed variation of the managed lane from the GP lanes. That operating characteristic is actually a given, as it is the primary reason for implementing the managed lane during peak periods. Weaving/maneuvering of vehicles at the pre-entry point to the managed lanes should also be noted.

Responses

Response to LO-03

A. Section 4.2.1 of this FONSI clarifies the information in Table 2-1 of the EA, stating that this scenario would result in underutilization of the managed lane and is an inefficient use of resources.

B. Section 4.2.1 of this FONSI notes a clarification to the EA text related to the travel in the two general purpose lanes, which will drop below 20 mph (rather than 30 mph) much of the peak day.

C. Section 4.2.1 of this FONSI clarifies that the Denver Regional Council of Governments (DRCOG) is the primary agency *consulted* in the transportation analysis.

D. The EA includes the requested analysis on page 3.1-7 in the section titled "What is the effect of the Proposed Action with no managed lane on the peak day (Sunday) traffic?" No expansion or additional clarification is needed.

E. Currently, relatively few single-occupant vehicles travel on I-70 during periods of peak congestion (Sunday afternoons). The I-70 PEIS reports vehicle occupancy of 2.8, which is much higher than that experienced during the typical urban commute. The toll for the managed lane may encourage more carpooling in order to have an extra passenger to share the toll costs. However, because the anticipated tolls are relatively low ($1 to $3 dollars) and the existing vehicles have high occupancy, the increase in average vehicle occupancy may not be measurable.

F. Section 4.2.1 of this FONSI clarifies that speed differential is a operational characteristic of managed lanes: "…the speed differential [between the managed lane and general purpose lanes] is not a potential but will occur. Speed differential is a key feature of managed lanes, because managed lanes provide free-flow traffic during congested periods and by design operate at higher speeds than adjacent general purpose lanes during these congested periods."

Weaving and maneuvering of vehicles at the pre-entry point, along with the proposed design features to minimize safety concerns, are described in the second column on page 3.1-6 of the EA.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Kevin Moore, Clear Creek School Dist.
Document Number: LO-04	**City, Zip Code:** Unknown

REPORTER'S TRANSCRIPT OF PUBLIC HEARING
HEARING DATE: Wednesday, July 25, 2012

A Hi. I'm here on behalf of the Clear Creek School District. Well, we desire a plan that would minimize a disruption of our school buses on our school routes. Our buses currently pass through the tunnels about 12 times a day in the morning and about 11 times in the afternoon, plus a couple of activity buses later in the evening. We wanted to point out we have no buses passing in the area between 8:30 and 3:00 p.m. This is our major concern. We need to get the kids to school and not have them stuck in traffic where they're missing class. This is our concern. Thank you.

Responses

Response to LO-04

A. Section 3.1.6 in the EA concludes that during construction, weekday traffic will be largely unaffected, except for stoppages for tunnel blasting. The current highest weekday eastbound traffic volume through the tunnel is approximately 1,700 vehicles per hour (vph) (occurring from 4:00 to 5:00 pm), which is less than the 2,700 vph capacity of the detour. Stoppages for tunnel blasting could result in greater delays, resulting in the potential for delays to school bus travel times. Mitigation has been added to **Table 3-1** of this FONSI to commit CDOT to considering Clear Creek County School District busing schedules when developing the traffic control plan, distribute the public information plan to Clear Creek County School District prior to construction, and include the School District in public information updates during construction. Information regarding the potential for delays to school bus travel, and the commitment to consider busing schedules and include Clear Creek County School District in information updates is explained in Section 4.2.1 of this FONSI.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Jack Morgan, Mayor
Document Number: LO-05	**City, Zip Code:** Idaho Springs, 80452

REPORTER'S TRANSCRIPT OF PUBLIC HEARING
HEARING DATE: Wednesday, July 25, 2012

A

I'm a 30-year resident of our city. I'm also concerned about the economy of the city. About 80 percent of our money that comes here to operate our city government is sales tax. As Tony and a lot of these people know, I've attended quite a few of these meetings, and I can assure you that I think -- I see a lot of businesses here tonight, and we're going to probably have a windfall. The economy is going to really be good during this construction. And the reason I'm saying that, is there are going to be several hundred people working down there all of the time, and they're going to be filling up our motel/hotels, our restaurants, and it's going to be an inconvenience to the city. But I think the economic boom that we're going to derive from this is going to far override any inconvenience that we might have.

B

It's really heartwarming to so many people come out and get involved here. I want to thank Randy and everybody involved. This is really -- the bulk of this project is really federal money. It's your money coming from the federal government. The State has a smaller stake in this, and mostly with the redoing of 314. But the tunnel project is basically federal money that we're using. And I take my hat off to Randy, who's sitting up here in the blue shirt, he's working for the company to get money that wasn't even available. I don't know where he came from, but they got the money. For your information, it's $60,000,000 of federal money they're spending down there. And it's got the support from Governor Hickenlooper, the executive director of CDOT, Region 1 here, and all of the other people who have been involved, and I want to take my hat off to them. And I want to thank all of you for the cooperation that you've shown to the city staff and city government here. It's been really a highlight for me.

I would like to appeal to all of the citizens to support this project, to get behind it. I'd just like to thank the CDOT staff and people, and I think they deserve a real hand of appreciation.

Responses

Response to LO-05

A. The findings in Section 3.2.6 in the EA support your statement that construction is likely to benefit businesses in Clear Creek County and Idaho Springs if goods and services are purchased locally. Construction-related congestion could also result in some travelers "waiting out" delays by visiting Idaho Springs businesses, resulting in increased sales tax revenues.

B. Comment noted.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** Gerald Mayo **Document Number:** IND-01 **City, Zip Code:** Unknown	
A I think that this would significantly help the I-25 congestion. B I would also be in favor of developing it as a "Toll" or fee road. I would pay to use the better faster access and to help pay for the construction of this monumental project. Gerald Mayo	**Response to IND-01** A. Comment noted. If you are referencing I-70 (and not I-25), congestion, the Proposed Action will reduce congestion through this segment of I-70 when compared to the No Action condition. By widening the eastbound Twin Tunnels, this location will no longer be the choke point of eastbound congestion. The Proposed Action will not affect I-25 congestion. B. As described in Section 2.1.2 of this FONSI, CDOT has identified the managed lane operating scenario as part of the Proposed Action. CDOT will charge a fee for use of the lane only during peak periods of congestion, which typically occur on Sundays and holidays during the summer and winter months. The lane will operate as a general purpose lane, free of charge, at all other times. Although tolls can generate revenue to pay for construction, the managed lane for this project is intended to help maintain free-flow conditions and reliable travel times during peak periods and is not expected to generate significant revenue for construction.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Gerald Mayo
Document Number: IND-02	**City, Zip Code:** Unknown

A Just another thought. If the center lane were to become the toll access then it could be used as "East Bound" or West Bound as necessary to help congestion. Still utilizing it as a Fee or Toll access lane.

Gerald Mayo

Responses

Response to IND-02

A. CDOT considered the possibility of implementing a reversible lane in the I-70 Mountain Corridor using the existing lane capacity (see I-70 Reversible Lane Georgetown to Floyd Hill Feasibility Study attached as a reference document in the appendix) and found many physical and operational challenges to this concept.

To operate the new lane in this project as a reversible lane is not practical to meet the project purpose and need for alleviating eastbound safety and mobility concerns or to address future westbound needs. A reversible toll lane would require a wider project footprint to accommodate an adequate safety buffer to separate eastbound and westbound traffic. The reversible toll lane would require a tunnel bore wider than the 61-foot bore examined in the EA and would result in much greater environmental impacts and higher construction costs than the Proposed Action. Additionally, a third lane in the westbound direction through the project area would not connect to an existing third lane at either end of the project; the existing third lane in the westbound direction ends at the top of Floyd Hill and would, thus, have little effect on reducing westbound congestion in the project area.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** Alan Harris **Document Number:** IND-03 **City, Zip Code:** Unknown	**Response to IND-03**
While enlarging the Twin Tunnels may ultimately be a necessary solution, I would urge consideration of a few less costly and more rapidly implemented remedies first. A 1. Going eastward on I-70 the speed limit decreases at the tunnels from 65 to 60 to 55 and then 50 mph. That in and of itself is enough to cause congestion as traffic comes to a slowdown at that juncture. Leave the speed limit at 65 mph and encourage traffic to move quickly through the tunnels rather than obstruct them. Trucks would have to go slower and stay in the right hand lane. The highway can be safely negotiated at the higher speed. B 2. Brighten the lights inside the tunnels and paint murals on the walls and ceilings, a trompe l'oeil effect, to make drivers believe they are still outside and not within the confines of a tunnel. This may also reduce the slowing and congesting effect of entering a tunnel. If these types of solutions work more costly and time consuming projects would be unnecessary. If after a reasonable trial period they do not help the problem more involved projects can always be implemented. Thank you for your consideration. Alan Harris	A. As discussed in Section 1.4.1 in the EA, excessive travel speeds through the curves in the Twin Tunnels project area are the main cause of crashes, with nearly 60 percent of drivers involved in crashes traveling at 60 mph or faster. Posted speed limits throughout the Twin Tunnels project area (and the I-70 Mountain Corridor) vary due to the roadway geometry (steep grades, tight curves). As described in Section 1.4.2 of the EA and noted in the response to comment LO-01-C, in addition to slowing for tight curves, motorists slow on the approach to the tunnels due to the real and perceived narrowing of the tunnels. The tunnels have lower capacity than surrounding sections of the highway, as illustrated in Figure 1-8 in the EA, creating congestion during peak periods. For these reasons, CDOT has determined that tunnel widening, in addition to safety and design speed improvements, is required. B. Under the Proposed Action, CDOT is considering options for tunnel lining that are brighter and more reflective, as well as creating an overhang entrance to the tunnel, which will allow more options to improve lighting for the tunnel entrance, which has been identified as a factor causing slowing through the tunnels as you also observe. Over the years, CDOT has changed both the paint and lighting in the tunnel to try to improve the “black hole” effect of the Twin Tunnels. The walls have been painted a lighter color, but the lining material is flat (not reflective) and dulls with exhaust and other vehicle emissions. Lighting at the tunnel has been upgraded and various lighting arrangements have been attempted. However, the flat face of the tunnel entrance makes it difficult to effectively light the interior, while not creating glare at the exterior entrance. Because of these difficulties in improving the “black hole” tunnel effect, CDOT has determined that tunnel widening, in addition to lighting improvements, is required.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** Debbie Tryon **Document Number:** IND-04 **City, Zip Code:** Unknown Mr Singer, A Why can't you demolish the tunnels entirely? They have caused numerous problems for decades. I am not sure what purpose they serve anyway. Debbi Tryon .	**Response to IND-04** A. Removing the tunnels entirely was an option studied and ultimately eliminated from further consideration as part of the I-70 PEIS and the subsequent Twin Tunnels visioning workshop. As noted in the I-70 PEIS, the Twin Tunnels is an important land bridge for wildlife crossing I-70. Removing the tunnels would likely have adverse environmental impacts, generate large quantities of waste materials, and create an area prone to rockslides and other geologic hazards that would be difficult to manage. The Twin Tunnels visioning workshop conducted in 2011 concluded removing the tunnels would create excessive environmental impacts, have an unreasonably high cost, and would require closure of the entire interstate during construction. For these reasons, the visioning workshop did not carry this alternative forward, consistent with the conclusions of the I-70 PEIS. As a result of these previous analyses, demolishing the tunnels entirely was not an alternative evaluated as part of the Twin Tunnels EA.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** jb1938cha@q.com **Document Number:** IND-05 **City, Zip Code:** Unknown	
A Widening the eastbound bore to three lanes is an admirable undertaking and will certainly help with traffic flow, but, after it is done, the apparent bottleneck will be the westbound tunnel, at least by comparison. If you can, try to allow space to widen it to three lanes later. I realize we can only do so much at one time, but it would be tragic if the work on the eastbound bore precluded doing likewise on the westbound side. The mountainside to the north is formidable, and would not yield easily to excavation.	**Response to IND-05** A. CDOT is committed to completing westbound improvements in the Twin Tunnels area as well, including adding a third lane from Floyd Hill and widening the westbound tunnel bore. Eastbound improvements were prioritized for this project because the immediate safety and mobility needs are greater in the eastbound direction, as noted in Section 1.7 of the EA. Your observation of the challenges of westbound improvements is correct and is also discussed in Section1.7 of the EA. Section 2.8 in the EA explains how the Twin Tunnels project has been developed to preserve options for future westbound widening and other transportation improvements planned for the area, including the future Advanced Guideway System (AGS) transit improvements or realignment of the highway to support a higher design speed.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Grayson Drexel
Document Number: IND-06	**City, Zip Code:** Unknown

Thank you very much for inviting comments from the general public as CDOT and FHWA contemplate this project.

I have driven this piece of road regularly since 1968. I arrived in Colorado at that time and was then and continue to be an avid outdoors person.

I have owned and currently own mountain property. I have climbed all the state's 14ers and I have camped and backpacked extensively across the mountain region. I give this brief preamble because I do feel my travels have given me a sharp eye towards our roads and highways. As my climbing companions and I would drive down to Lake City or over by Ridgway on a beautifully resurfaced and painted highway, often it would seem ours was the only car on the road and we'd joke about how indeed we got the benefit of "our highway dollars at work".

I imagine you folks know way more than I about engineering, grading, curve angles, speeds and all aspects of highway and tunnel construction. Given that, I don't think I've got any ideas you haven't considered. But there is one absolutely obvious issue that affects not just this stretch of I 70, but the entire mountain corridor: slow moving trucks.

A

In the case of the Twin Tunnels, the trucks slow down as they approach (and the flashing warning sign saying "slow down" is hard to ignore) the tunnel then they stay slow through the curves. Add bad weather and they might be crawling. Impatient right lane drivers try to weave around them cutting left lane drivers off and driving in a fashion which causes others all around them to slow. Then the trucks get to Floyd Hill and go even slower. In my opinion, if trucks were restricted from driving east during peak periods and west at peak periods (the location of the Dumont Weigh Station westbound, with its upgrade exit creates logjams as bad as the tunnel east bound) huge delays would be averted.

Continued on next page

Responses

Response to IND-06

A. CDOT recognizes that trucks and other slow-moving vehicles present mobility challenges in the mountains. CDOT is already implementing some activities specifically targeted at truck traffic, such as improved chain-up stations and rest areas, and enhanced traveler information strategies throughout the I-70 Mountain Corridor. The Twin Tunnels Proposed Action includes improving the chain-up station in the project area, as well as improving the lowest speed curve in the project area west of Hidden Valley. You are correct that trucks have a particularly hard time negotiating tight curves and have a higher risk of rollover when driving too fast through those curves.

Your comment notes that peak period truck restrictions would be a viable alternative for alleviating congestion throughout the I-70 Mountain Corridor in addition to or perhaps instead of the Proposed Action. CDOT has considered truck restrictions and other transportation management elements to improve freight movement through the Corridor. CDOT worked closely with stakeholders, including the Colorado Motor Carriers Association, to study the mobility and safety challenges along I-70 and develop the I-70 Mountain Corridor Preferred Alternative presented in the I-70 PEIS.

Through the analysis conducted for the I-70 PEIS, CDOT and FHWA concluded that truck restrictions alone would not address the mobility challenges and do not meet the needs of interstate highway users, which include freight trucks. As described in the I-70 PEIS, 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 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 restrict 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 by day of week; there are more trucks on weekdays compared to weekends.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments		Responses
Source: Email	**Name:** Grayson Drexel (continued)	
Document Number: IND-06 (continued)	**City, Zip Code:** Unknown	

A (cont)

I realize trucks haul needed items and the owners pay big taxes. Markets need products to sell. Basic economy is affected. I get that. But 40 years of driving I 70 east of the divide in both directions has hammered home again and again that trucks cause big traffic trouble. They are usually slow on the inclines, they get stuck, they frighten people when they do go fast and they can be completely exasperating when they pass one another.

In my opinion, figure out a way to keep big trucks off the road from Golden to Dillon during peak westbound travel times, and off the road from Dillon (and Fraser) to Golden during peak eastbound travel times and a host of congestion problems might be solved.

B

Another thought: somebody must have considered just taking out the hillside where the tunnels bore through, using the displaced fill to widen the lanes and just have no tunnels. Isn't Georgetown Hill similar typography?

Thanks again, very much,

Grayson Drexel
1616 Ajax Lane
Evergreen, CO. 80439

Response to IND-06 (continued)

B. As pointed out in response to IND-04-A, removing the tunnels entirely was an option studied and ultimately eliminated from further consideration as part of the I-70 PEIS and the subsequent Twin Tunnels visioning workshop. As noted in the I-70 PEIS, the Twin Tunnels is an important land bridge for wildlife crossing I-70. Removing the tunnels would likely have adverse environmental impacts, generate large quantities of waste materials, and create an area prone to rockslides and other geologic hazards that would be difficult to manage.

The Twin Tunnels visioning workshop conducted in 2011 concluded removing the tunnels would create excessive environmental impacts, have an unreasonably high cost, and would require closure of the entire interstate during construction. For these reasons, the visioning workshop did not carry this alternative forward, consistent with the conclusions of the I-70 PEIS. As a result of these previous analyses, demolishing the tunnels entirely was not an alternative evaluated as part of the Twin Tunnels EA.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Rick Van Ort
Document Number: IND-07	**City, Zip Code:** Unknown

A Why can't we just do right and do three lanes in EACH direction?

B Charge a toll (twice what it should be, but only charge it in one direction so as to not bog down traffic going both east and westbound). Make it $20.00 on Friday after noon and until Monday 9am. Maybe $10.00 at all other times.

C OR to really make traffic move faster start ticketing people in the left lane for going slow or for not pulling over when finished passing. I get sick and tired of passing in the right hand lane ALL the time when going up and down from skiing. And make ALL trucks keep in the right lane when going up hill - it works great in Europe! Also people KEEP RIGHT EXCEPT TO PASS and that too works great.

Sorry I can't attend your sessions. Rick Van Ort

Responses

Response to IND-07

A. Capacity expansion in the westbound direction is included in the I-70 PEIS Preferred Alternative, which CDOT and FHWA approved in the I-70 PEIS Record of Decision in June 2011. CDOT has committed to implement westbound improvements in the Twin Tunnels area, including a third travel lane from Floyd Hill and expansion of the westbound tunnel bore, as part of the I-70 PEIS Preferred Alternative. However, as noted in Section 1.7 of the EA, eastbound improvements in the Twin Tunnels area were prioritized because eastbound congestion is more pronounced and occurs over a longer period, and crash history indicates greater safety concerns in the eastbound direction. Westbound improvements are more costly and complex to construct due to the rock cuts and creek impacts that will result. Making incremental improvements, such as eastbound-only improvements, is consistent with the I-70 PEIS adaptive management approach to improving the Corridor in response to evolving transportation conditions and needs.

B. If you are suggesting CDOT toll all lanes at all times, CDOT considered this option, as described in Section 2.1.2 and Table 2-1 in the EA, and determined that a managed lane is the most appropriate operating scenario for this project.

   Additionally, a range of tolling prices were used to analyze the congestion pricing approach of the managed lane. The minimum toll for passenger vehicles evaluated was $0.25 , and the maximum toll evaluated for passenger vehicles was $50. As described in Section 2.1.2 of this FONSI, CDOT will operate the new third lane as a managed lane and charge a fee only during peak periods of congestion. When the managed lane is operating, all vehicles in the lane will pay a fee—likely between $1 and $3—and trucks will pay an additional fee or surcharge. Initial modeling suggests that a maximum toll of $3 will allow the managed lane to operate a free flow conditions, and $10 or $20 fees would not be necessary. Outside of peak travel periods when I-70 is congested, the managed lane will operate with no fees.

C. Mobility challenges occur throughout the I-70 Mountain Corridor and have multiple causes, depending on the location. High traffic volumes, steep grades, and slow-moving vehicles are among a few of the issues that have been identified. Throughout the Corridor, slow-moving traffic is encouraged to stay in the right lane, and on steep grade sections, trucks are limited to climbing in the right lane. On a Corridor-wide level, the I-70 PEIS Preferred Alternative includes locations for auxiliary lanes on steep hills for slow-moving vehicles, similar to the existing third lane on the eastbound approach up Floyd Hill, along with increased enforcement and a slow-moving vehicle plan.

   The issue of slow-moving vehicles is not the primary mobility challenge in the Twin Tunnels project area. Instead, high traffic volumes, the narrow tunnel, and tight curves present constraints that slow traffic. The Proposed Action will add a third lane to relieve the mobility issues.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Pete Grannis
Document Number: IND-08	**City, Zip Code:** Unknown

David: Couple comments as an every week and weekend winter and half as much during the summer user of the I70 corridor:

A This is long overdue and the start of a good idea. I wonder why this was not done when the last redo of this area was performed? (10 years ago or so??) The current mess should have been anticipated then, I am surprised it was not.

B BOTH sides of the tunnel should be expanded and a third lane added to west bound I70 to roughly the same point. The morning ski commute weekends is backed up from the bottom of Floyd hill's west side right over the top and down to the east side very frequently. The need is obvious westbound as well. Given traffic volume now which we can be sure will continue to grow make this one project. Obviously the method would need to be sequential or the traffic consequences would be paralyzing, probably will be very unpleasant anyway.

Responses

Response to IND-08

A. The Twin Tunnels project is the first major improvement project on I-70 in the mountains in approximately 20 years. If the "last redo" you are referring to is the construction of the Central City Parkway and Hidden Valley Interchange, the purpose of that project was to provide access to Central City from I-70 and not to address transportation issues on I-70.

CDOT (and other stakeholders) have been aware of problems on the I-70 Mountain Corridor for many years. More than 10 years ago, CDOT initiated the I-70 Mountain Corridor Programmatic Environmental Impact Statement (PEIS) to evaluate transportation problems and solutions on the I-70 Mountain Corridor from Glenwood Springs to the Denver area. In June 2011, FHWA and CDOT issued a Record of Decision for the I-70 Mountain Corridor that authorized a broad, multimodal set of improvements for the corridor and authorized project-level, or Tier 2 processes, to proceed. The Twin Tunnels project is the first project to be proposed under the Record of Decision; additional construction projects will be initiated in the future as funding is identified.

B. As noted in response to comment IND-07-A, capacity expansion in the westbound direction is included in the I-70 PEIS Preferred Alternative, and CDOT intends to implement westbound improvements in the Twin Tunnels area. However, as noted in Section 1.7 of the EA, eastbound improvements in the Twin Tunnels area were prioritized because eastbound congestion is more pronounced and occurs over a longer period, and crash history indicates greater safety concerns in the eastbound direction. Westbound improvements are more costly and complex to construct due to the rock cuts and creek impacts that will result. Making incremental improvements, such as eastbound-only improvements, is consistent with the I-70 PEIS adaptive management approach to improving the Corridor in response to evolving transportation conditions and needs.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Document Number:** IND-08	**Name:** Pete Grannis (continued) **City, Zip Code:** Unknown
C The card I received in the mail also mentioned you are considering a toll lane during peak periods. I completely and totally oppose this! This will leave those that cannot afford the toll still stuck in the same mess while the more affluent whiz by next to them. (I could afford this by the way, so this is not self interest) I think it would be very unfair to improve the road with everyone's tax dollars and then render the improvement unusable to those that could afford their taxes least in the first place! (many of whom would be residents of Idaho Springs) VERY bad idea, and it is just a band aid to quiet those with perhaps a bit more pull and an elitist attitude with state agencies. If the purpose is to improve traffic flow, a carpool only lane is a way better idea, and I would say that it should be a more than two per car lane! Those that carpool should benefit from that activity, which decreases traffic, pollution and oil consumption. (also not a self interest statement, I drive up solo some of the time to work at Arapahoe Basin and at a gallery in Georgetown) I carpool with friends and family the rest of the time, two to five in the car. D Get er done! Go for it! On a separate subject and as an extremely regular user of I70 during winter months for the last 25 years:	**Response to IND-08 (continued)** C. As described in Section 2.1.2 of the FONSI, CDOT will operate the new third lane as a managed lane, and will charge a fee—likely between $1 and $3—for its use in peak congestion periods to maintain a reliable travel time in the managed lane. At first, the managed lane would operate only on Sundays during peak congestion, but could extend to weekday periods as congestion grows over time. Section 3.3, *Environmental Justice*, in the EA concluded that the charge for use of the managed lane is not anticipated to result in a meaningful financial burden for lower-income drivers. A managed lane added to the existing general purpose lanes would provide additional transportation options for all commuters, regardless of incomes, as drivers can choose to pay the charge when a faster, more reliable trip is necessary. Public (and possibly private) buses would be able to use the managed lane for free. CDOT will collect tolls via license plates or transponders and will accommodate offsite alternative payment options. For these reasons, the managed lane is not anticipated to meaningfully or disproportionately affect lower-income populations. D. The I-70 Mountain Corridor experiences a high existing vehicle occupancy of 2.8 persons per vehicle during peak periods (weekends) and, therefore, a carpool lane would not serve as the solution for improving capacity and reducing congestion in the Corridor. In the I-70 PEIS, CDOT and FHWA evaluated alternatives to provide new high-occupancy vehicle (HOV)/high-occupancy toll (HOT) lanes through the Corridor that could be used only for buses, carpools, or low-occupancy vehicles that have paid a toll; the evaluation found that HOV/HOT lanes alone would not be an effective way to control peak period congestion because of the already high vehicle occupancy.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** Pete Grannis (continued) **Document Number:** IND-08 **City, Zip Code:** Unknown	**Response to IND-08 (continued)**
E TRUCKS in bad winter weather cause far more problems with traffic flow than any other source. One truck immobilized on a gradient by the driver ignoring chain laws is worse by far than my many bretheren that feel immortal in their SUV's. (They are jerks too for sure, my SUV never goes off the road or sideways into a ditch, no traction is no traction even with 4 wheels after all!) The hourly tunnel closures when Loveland Pass is closed for hazmat vehicles to use the tunnel make the traffic problems much worse as you can only well know. The patrol car speed control thing is a band aid let's face it. It does help a bit in good weather by eliminating slinky behavior in the traffic pattern, but when the weather goes in the tank and the trucks fail to chain up (or do chain up and still cannot make the gradient) it is called off as there is no more speed to control.	E. As noted in response to comment IND-06-A, CDOT recognizes that trucks and other slow-moving vehicles present mobility challenges in the mountains. CDOT is already implementing some activities specifically targeted at truck traffic, such as improved chain-up stations and rest areas and enhanced traveler information strategies throughout the I-70 Mountain Corridor. The Twin Tunnels Proposed Action includes improving the chain-up station in the project area and improving the low-speed curve west of Hidden Valley to provide more consistent travel speeds through the area. The issue of slow-moving vehicles and truck movements is not the primary mobility challenge in the Twin Tunnels project area. Instead, high traffic volumes, the narrow tunnel, and tight curves present constraints that slow traffic.
F IDEA: On weekends do this: (especially in bad weather obviously, and peak weekends) Saturday am: NO TRUCKS from 6:30-10 am. Saturday pm: NO TRUCKS from 2:30-5pm. (less traffic returning to Denver than Sunday night) Sunday am: NO TRUCKS from 7-9:30 am. (less traffic going to the mountains than Saturday morning) Sunday pm: NO TRUCKS from 2-6:30 pm (by far the most traffic of all times) Yes it's a federal highway, but it is the weekend, we do pay for the roads also and the trucks with proper notice can either time their trips to pass thru this area not at other times, take a break and wait or go thru Wyoming on 80 if they are going transcontinental. I've been watching this problem for 25 years, and this would help more than a new lane most all the time and would help the whole road to Summit County, not just that one curve. Whew! Thanks for listening! Pete Grannis	F. Your comment notes that truck restrictions would be a viable alternative for alleviating congestion throughout the I-70 Mountain Corridor in addition to or instead of the Proposed Action. As noted in response to comment IND-06-A, CDOT spent the last 10 years working with stakeholders, including the Colorado Motor Carriers Association, to study the mobility and safety challenges along I-70 from trucks and other vehicles. The approved I-70 Mountain Corridor Preferred Alternative includes highway, transit, and non-infrastructure components and addresses immediate and long-term transportation needs in the corridor. Non-infrastructure components include transportation management elements to improve freight movement through the Corridor. Truck restrictions alone would not address the mobility challenges and do not meet the needs of interstate highway users, which include freight trucks. As described in the I-70 PEIS, 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 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 by day of week; there are more trucks on weekdays compared to weekends.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** F. R. Yeatts
Document Number: IND-09	**City, Zip Code:** Golden,

Please accept this brief written comment regarding the Twin Tunnels Project:

A The Twin Tunnels-to-Floyd Hill project may be a worthy up-grade of I70, but I don't see how it significantly relieves the over-all congestion problem. Therefore, I believe that the money required for this project should be saved and applied to a more comprehensive solution. Thank you.

Sincerely,
F. R. Yeatts
Golden, Colorado

Responses

Response to IND-09

A. Comment noted. The Twin Tunnels project is a component of a comprehensive solution for the I-70 Mountain Corridor, as approved in June 2011 by the I-70 Mountain Corridor PEIS Record of Decision. The Twin Tunnels project alone will not solve I-70 congestion but it will provide immediate relief for congestion in the eastbound direction in one of the most congested bottlenecks of the corridor during peak periods. However, CDOT recognizes the need for additional improvements and is committed to implementing the complete I-70 PEIS Preferred Alternative; additional projects will be initiated in the future as funding is identified.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Linda Feidler
Document Number: IND-10	**City, Zip Code:** Idaho Springs, 80452

A "Fixing" EB I-70 isn't our only concern now. Traffic has become worse since the zip line has gone in in Dumont. Saturday, July 21, from 11:00 am – 3:30 pm, the traffic WEST bound was nothing but stop and go which meant people just HAD to get off at the east end of Idaho Springs and go through town. Of course, traffic became stop and go all the way through town, Miner Street as well as Colorado Blvd. So "fixing" EB I-70 isn't going to solve but only half of the problem it would appear.

B It is highly likely that I will have to liquidate my business this fall. Quilters are mostly women and they are unwilling to deal with the traffic congestion and construction. Those living in the Denver-Metro area will find it easier to shop closer to home regardless of what I can offer as a market niche. Customers I get from Lake, Summit, Eagle, Routt, Moffat, Grand, and Gilpin are already planning their trips around necessary errands and appointments because of gas prices AND the traffic congestion. Can accommodate THEIR hours?

Holy smokes, I'm ready to move away and I've lived here for 40 years.

Hen House Quilts
Linda Feidler, Chief Chick
Linda@HenHouseQuilts.net
www.HenHouseQuilts.net

USPS: PO Box 3302
UPS or FedEx: 1800 Colorado Blvd, Unit 1
Idaho Springs, CO 80452
303-567-4092
303-567-4093 Fax

Responses

Response to IND-10

A. With respect to the operation of the zip line, CDOT understands that land uses adjacent to the interstate could attract attention from motorists, resulting in slower travel speeds. However, the regulation of land use and businesses is a function of cities and counties, and is not under CDOT's purview. No permits or approvals from CDOT, such as an access request, were requested or needed for the zip line.

As noted in response to comment IND-07-A, CDOT is committed to capacity expansion in the westbound direction of I-70 in the Twin Tunnels area as well. However, as noted in Section 1.7 of the EA, eastbound improvements in the Twin Tunnels area were prioritized because eastbound congestion is more pronounced and occurs over a longer period, and crash history indicates greater safety concerns in the eastbound direction. Westbound improvements are more costly and complex to construct due to the rock cuts and creek impacts that will result.

B. If customers have difficulty accessing your business due to congestion, the Twin Tunnels project will improve traffic conditions over the No Action (that is, doing nothing).

During construction, CDOT will work with Idaho Springs and businesses to minimize potential economic impacts to businesses such as yours. CDOT has identified specific measures to mitigate economic effects, as listed in **Table 3-1** of this FONSI. Measures include the development of a public information plan and public information strategies such as 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 to alert travelers to construction activities. CDOT will provide well-placed and highly visible signage to direct patrons to businesses.

We have included your business on the project mailing list for construction notices.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Kent Sterett
Document Number: IND-11	**City, Zip Code:** Unknown

David

In an effort to better understand the process, we have several questions:

A
- Who owns the property that is adjoining or affected by the project?
- Is any of the adjoining property publicly owned?
- If so is any of the affected or adjoin property owned by the Forest Service?

B
- The area and scope of the project involves public safety, view scape, mine waste that was used as fill in previous years, water quality in Clear Creek, areas frequented by endangered species and historical sites. How was the decision made to use an EA as opposed to an EIS made?
- Both the Guanella project and the I-70 project were deemed to require a full multiyear EIS implementation, why is this being handled with only an EA?

Continued on next page

Responses

Response to IND-11

A. Section 3.4, *Land Use and Right-of-Way*, in the EA describes the parcels surrounding the project, which are both privately and publicly owned. The public parcel ownership includes the U.S. Forest Service and Clear Creek County. One vacant property, under private ownership, will be partially acquired to accommodate the reconstruction of the truck chain station. No other right-of-way acquisitions are needed for the Proposed Action.

B. CDOT completed the I-70 PEIS and Record of Decision, as noted in next comment (IND-11-C). The Twin Tunnels project tiered from the analysis presented in the I-70 PEIS. Based on CDOT's knowledge of the project area from the I-70 PEIS and the fact that the majority of the project can be built within existing I-70 right-of-way, significant impacts were not expected, and CDOT conducted an EA to evaluate potential impacts. The EA fully evaluated impacts to 19 resources, including public safety, visual resources, mine waste, water quality, wildlife, threatened and endangered species, and historic resources, which are evaluated in Sections 3.1, 3.7, 3.18, 3.16, 3.10, 3.12, and 3.6 in the EA, respectively. As concluded in Chapter 8 of this FONSI document and supported by the analysis of impacts, benefits, and committed mitigation measures presented in the EA and consideration of public and agency comments, FHWA and CDOT have determined that the Twin Tunnels project will not result in significant impacts to these or other resources. An EIS, therefore, is not needed for this project.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** Kent Sterett (continued) **Document Number:** IND-11 **City, Zip Code:** Unknown	**Response to IND-11 (continued)**
C • To what degree were the studies referenced in the recent I-70 EIS used or referenced in this project EA? Are they being updated or expanded to assure their coverage of this location? Please respond to the e-mail address Thank you!	C. As explained in Section 1.1 in the EA, the Twin Tunnels project was conducted as a Tier 2 NEPA process consistent with and drawing upon the conclusions, recommendations, and approvals of the Tier 1 I-70 PEIS. Chapter 3 and Table 3-1 in the EA describe how the Twin Tunnels project addresses Tier 2 commitments from the I-70 PEIS. As noted in Section 1.6 in the EA, the Twin Tunnels EA reflects the recommendations and analysis of many previous studies, including the I-70 PEIS. The Twin Tunnels EA presents current analysis based on the Proposed Action, incorporates relevant data from previous studies, and refines the conclusions of past studies as they relate to the Proposed Action and current conditions in the Twin Tunnels project area. However, the Twin Tunnels project does not update past studies. A link to this comment response has been emailed to you as requested.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Dick Braman
Document Number: IND-12	**City, Zip Code:** Idaho Springs, 80452

Dick Braman
4145 Rd. 275
Idaho Springs, CO 80452

Dear Mr. Singer,

A Thanks for listening to my objections to the alterations of the east-bound bore of the Twin Tunnels and the expansion of the roadway to three lanes on Monday, July 16, 2012. This proposal, as outlined, must be scrapped, mainly because of the traffic congestion that will ensue due to the speed of traffic on the diversionary frontage road around the construction.

Continued on next page

Responses

Response to IND-12

A. CDOT is aware of the public's concern over congestion and travel delays during construction. CDOT has taken a number of steps to minimize travelers' inconvenience. Construction of the Proposed Action has been planned to minimize the length of time the detour will be in place, including working extended hours throughout the duration of the I-70 closure. The detour will be in place approximately 6 to 7 months and outside of ski season.

The detour route has been carefully designed and planned and is expected to operate smoothly most of the time. It is approximately 1 mile long and will operate at 35 mph; it has sufficient capacity to handle I-70 traffic during weekdays and non-peak weekend hours. As described in Section 3.1 in the EA, CDOT has conducted traffic analysis to evaluate the delays that could occur during construction and has concluded that weekday traffic should be largely unaffected as a result of the detour route and speeds. Stoppages during tunnel blasting will increase delays, but queues resulting from traffic closures for blasting should dissipate within an hour. The worst-case weekend peak traffic delays will be approximately 30 minutes longer than existing travel times. CDOT fully evaluated the impacts of construction and has determined the mobility and safety benefits gained under the Proposed Action offset the temporary impacts, and CDOT is pursuing final design and construction of the Proposed Action.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Letter **Name:** Dick Braman (continued) **Document Number:** IND-12 **City, Zip Code:** Idaho Springs, 80452	**Response to IND-12 (continued)**

B

The logical alternative to this idea is to construct an entirely new tunnel adjacent to the existing tunnel that would accommodate a 50 mph two-lane frontage road, which during those peak congestive periods, with the aid of red and green traffic control lights, would convert into two east-bound lanes total, a huge improvement over the current design proposal.

Since the construction of this frontage road and its tunnel will be south of I-70, there will be no interference with the traffic flow on I-70 and no resulting congestion. This is a bit of conjecture, but I believe the cost of an entirely new tunnel would be only half the cost of alterations to the existing tunnel and adding a new lane of traffic. That would be prohibitive, I would think.

Because my proposal would end the congestion on I-70 for at least the six months of construction time and due to the fact it results in four lanes of east-bound traffic, this is a compelling reason to adopt this alternative proposal.

Sincerely,

Dick Braman

B. Section 2.8 in the EA describes the ultimate improvements through the Twin Tunnels project area approved by the I-70 PEIS Record of Decision. Constructing a third bore for the eastbound alignment at this time could preclude construction of the future Advanced Guideway System (AGS), the alignment of which is currently under study. A third bore for the Twin Tunnels project was also studied in the Twin Tunnels Section 4(f) evaluation, and the conclusion was a third bore would cost twice as much and require twice as long to construct compared to the Proposed Action. In light of the need to accommodate other improvements in the Twin Tunnels area (described in detail in Section 2.8 in the EA and the Preferred Alternative in the I-70 PEIS), constructing a new tunnel adjacent to the existing eastbound bore is not feasible to meet the needs of the Twin Tunnels project.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Fred Doyle
Document Number: IND-13	**City, Zip Code:** Evergreen, 80439

A I think adding a third bore to the tunnels is a great idea and should be approved.

Two other items should also be considered:

B
1. Add bright lights to the inside of the tunnels so that there is no perception of driving into a dark hole. Even the picture on the project website shows the problem. Motorist slow down prior to entering the tunnel because of the light difference. Bright lights would allow motorists to proceed at speed through the existing tunnels. This change could be done very quickly and at very low cost.

C
2. Address the new zip line facility west of Idaho Springs. The existence of this new business is causing severe rubber necking on weekends in both directions. If this is not addressed, the modifications to the tunnels will have no effect on travel times to and from the mountain areas. The disruption is unacceptable and should have been considered before granting the operating permit. I suggest some type of visual screen for weekend operation, or restricting operations if traffic tie ups continue.

Fred Doyle
1636 Ajax Lane
Evergreen, CO. 80439

303-670-5854

Responses

Response to IND-13

A. Comment noted. To clarify, CDOT is widening the *existing* eastbound bore to accommodate a third lane of traffic. CDOT is not adding a third tunnel bore under the Proposed Action. The responses to comments IND-05-A and IND-12-B note that a third tunnel bore may be part of a future action but is not part of the Twin Tunnels Proposed Action.

B. As noted in response to comment IND-03-B, CDOT is considering options for tunnel lining that are brighter and more reflective, as well as creating an overhang entrance to the tunnel, which will allow more options to improve lighting for the tunnel entrance. The final aesthetics of the portal faces and specific lighting design will be consistent with the I-70 Mountain Corridor Aesthetic Guidance and the objectives of the Dark Sky Initiative.

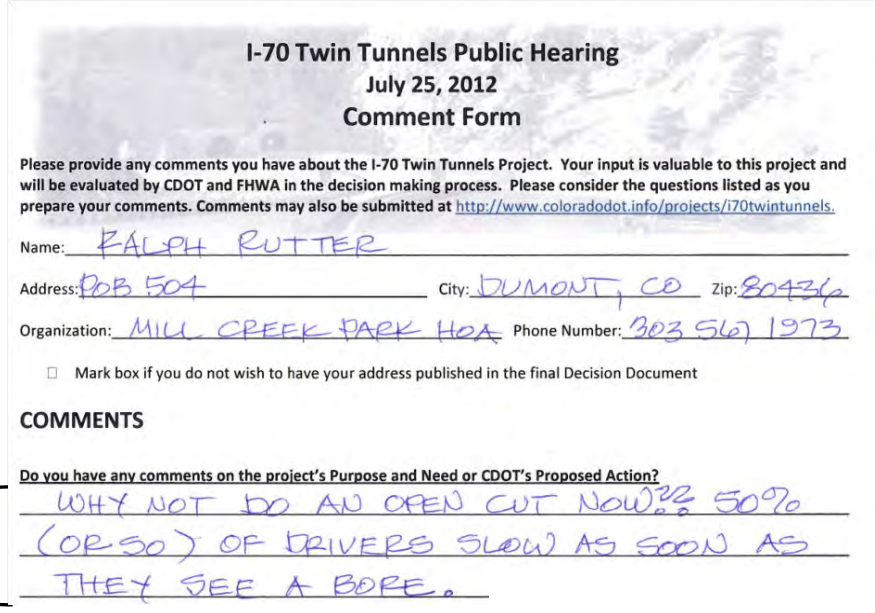
Over the years, CDOT has changed both the paint and the lighting in the tunnel to try to improve the "black hole" effect of the Twin Tunnels. The walls have been painted a lighter color, but the lining material is flat (non-reflective) and dulls with exhaust and other vehicle emissions. Lighting at the tunnel has been upgraded and various lighting arrangements have been attempted. However, the flat face of the tunnel entrance makes it difficult to effectively light the interior, while not creating glare at the exterior entrance. Because of these difficulties in improving the "black hole" tunnel effect, CDOT has determined that tunnel widening, in addition to lighting improvements, is required.

C. As noted in response to comment IND-10-A, with respect to the operation of the zip line, CDOT understands that land uses adjacent to the interstate could attract attention from motorists, resulting in slower travel speeds. However, the regulation of land use and businesses is a function of cities and counties, and is not under CDOT's purview. CDOT has no jurisdiction over the approval of the zip line, and no permits or approvals from CDOT, such as an access request, were requested or needed for the zip line.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Comment Sheet	**Name:** Ralph Rutter
Document Number: IND-14	**City, Zip Code:** Dumont, 80436



I-70 Twin Tunnels Public Hearing
July 25, 2012
Comment Form

Please provide any comments you have about the I-70 Twin Tunnels Project. Your input is valuable to this project and will be evaluated by CDOT and FHWA in the decision making process. Please consider the questions listed as you prepare your comments. Comments may also be submitted at http://www.coloradodot.info/projects/i70twintunnels.

Name: RALPH RUTTER

Address: POB 504 City: DUMONT, CO Zip: 80436

Organization: MILL CREEK PARK HOA Phone Number: 303 567 1973

☐ Mark box if you do not wish to have your address published in the final Decision Document

COMMENTS

Do you have any comments on the project's Purpose and Need or CDOT's Proposed Action?

WHY NOT DO AN OPEN CUT NOW?? 50% (OR SO) OF DRIVERS SLOW AS SOON AS THEY SEE A BORE.

A

Continued on next page

Responses

Response to IND-14

A. As pointed out in response to comment IND-04-A, removing the tunnels entirely was an option studied and ultimately eliminated from further consideration as part of the I-70 PEIS and the subsequent Twin Tunnels visioning workshop. As noted in the I-70 PEIS, the Twin Tunnels is a important land bridge for wildlife crossing I-70. Additionally, removing the tunnels would likely have adverse environmental impacts, generate large quantities of waste materials, and create an area prone to rockslides and other geologic hazards that would be difficult to manage.

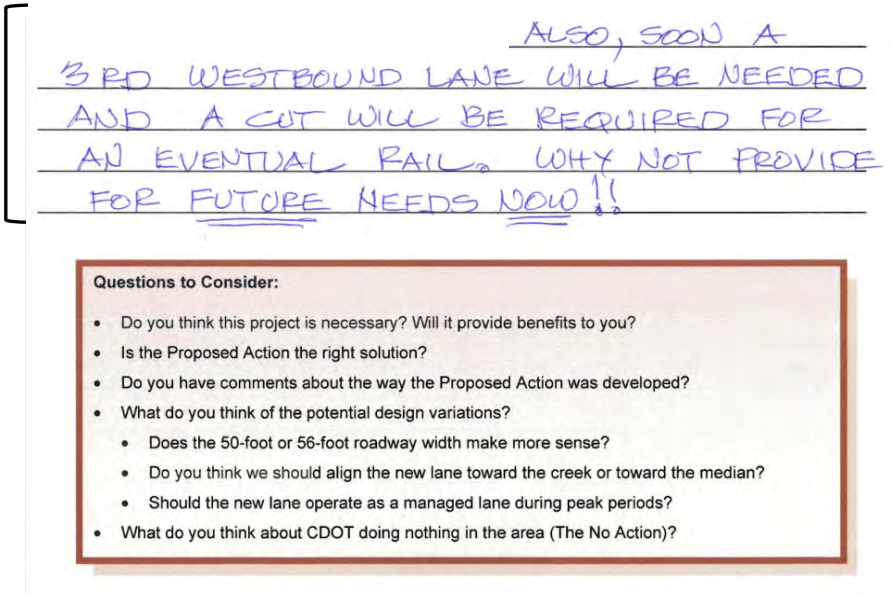
The Twin Tunnels visioning workshop conducted in 2011 concluded removing the tunnels would create excessive environmental impacts, have an unreasonably high cost, and would require closure of the entire interstate during construction. For these reasons, the visioning workshop did not carry this alternative forward, consistent with the conclusions of the I-70 PEIS. As a result of these previous analyses, demolishing the tunnels entirely was not an alternative evaluated as part of the Twin Tunnels EA.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Comment Sheet	**Name:** Ralph Rutter (continued)
Document Number: IND-14	**City, Zip Code:** Dumont, 80436

B



Responses

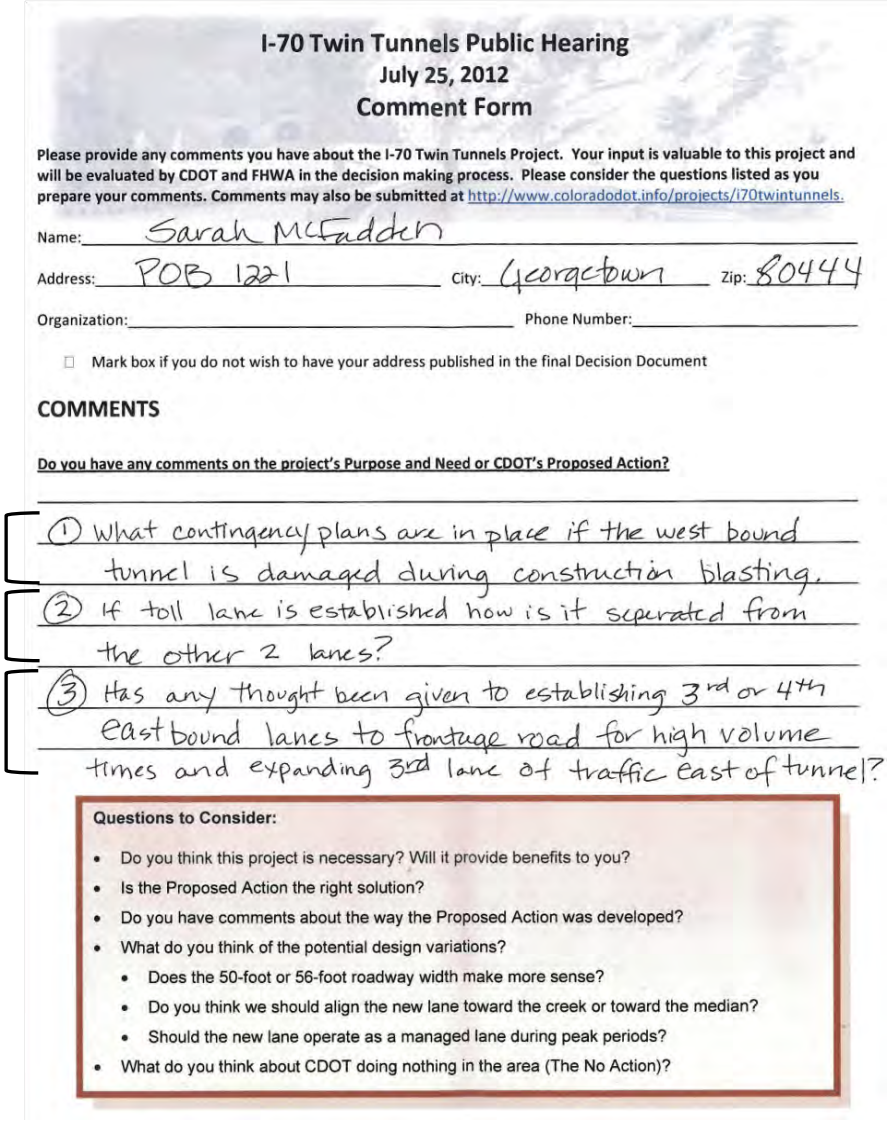
Response to IND-14 (continued)

B. Capacity expansion in the westbound direction and an Advanced Guideway System (AGS) transit system are included in the I-70 PEIS Preferred Alternative, which CDOT and FHWA approved in the I-70 PEIS Record of Decision in June 2011, and CDOT intends to implement these improvements in the Twin Tunnels area as part of the I-70 PEIS Preferred Alternative. However, as noted in Section 1.7 of the EA and as described in response to comment IND-07-A, eastbound improvements in the Twin Tunnels area were prioritized because eastbound congestion is more pronounced and occurs over a longer period, and crash history indicates greater safety concerns in the eastbound direction. Westbound improvements are more costly and complex to construct due to the rock cuts and creek impacts that will result. Making incremental improvements, such as eastbound-only improvements, is consistent with the I-70 PEIS adaptive management approach to improving the Corridor in response to evolving transportation conditions and needs.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Comment Sheet	**Name:** Sarah McFadden
Document Number: IND-15	**City, Zip Code:** Georgetown, 80444



I-70 Twin Tunnels Public Hearing
July 25, 2012
Comment Form

Please provide any comments you have about the I-70 Twin Tunnels Project. Your input is valuable to this project and will be evaluated by CDOT and FHWA in the decision making process. Please consider the questions listed as you prepare your comments. Comments may also be submitted at http://www.coloradodot.info/projects/i70twintunnels.

Name: Sarah McFadden

Address: POB 1221 City: Georgetown Zip: 80444

Organization: _____ Phone Number: _____

☐ Mark box if you do not wish to have your address published in the final Decision Document

COMMENTS

Do you have any comments on the project's Purpose and Need or CDOT's Proposed Action?

A (1) What contingency plans are in place if the west bound tunnel is damaged during construction blasting.

B (2) If toll lane is established how is it seperated from the other 2 lanes?

C (3) Has any thought been given to establishing 3rd or 4th eastbound lanes to frontage road for high volume times and expanding 3rd lane of traffic east of tunnel?

Questions to Consider:

- Do you think this project is necessary? Will it provide benefits to you?
- Is the Proposed Action the right solution?
- Do you have comments about the way the Proposed Action was developed?
- What do you think of the potential design variations?
  - Does the 50-foot or 56-foot roadway width make more sense?
  - Do you think we should align the new lane toward the creek or toward the median?
  - Should the new lane operate as a managed lane during peak periods?
- What do you think about CDOT doing nothing in the area (The No Action)?

Responses

Response to IND-15

A. Ahead of construction, CDOT will develop an Incident Management Plan, which will identify alternate routes that motorists can travel to avoid I-70 if travel is reduced to one lane of travel in each direction. Currently, if the westbound tunnel is damaged during eastbound tunnel blasting, CDOT plans to route westbound traffic onto the detour route (CR 314) near Hidden Valley and reduce traffic to one lane in each direction on the detour.

CDOT is performing routine tunnel maintenance on the westbound tunnel lining from September to October 2012. During part of that time, the westbound tunnel will be closed to traffic, and westbound traffic will need to be routed onto the eastbound travel lanes. CDOT is constructing a crossover at this time and will maintain the crossover until blasting of the eastbound tunnel is completed in October 2013.

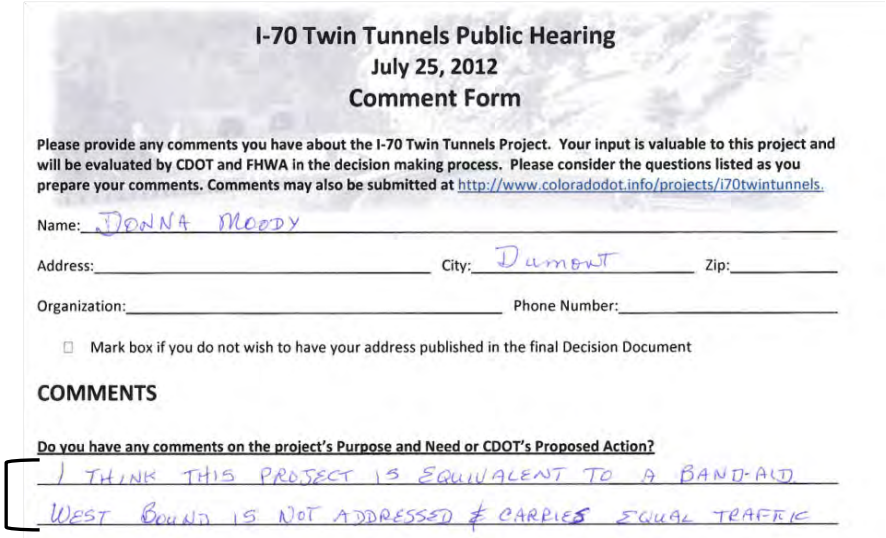
B. As noted in Section 2.1.2 of the EA, the managed lane will operate in the left lane, with vehicles entering east of the East Idaho Springs Interchange and exiting west of the US 6 Interchange. Because the lane will be operated as a general purpose lane the majority of the time, it is not planned to be separated by a buffer or barrier. CDOT could re-stripe the road in the future to provide up to a 2-foot buffer separation if needed to maintain safety or operations. As noted in Section 3.3.6 of the EA, CDOT will collect tolls via license plates or transponders to accommodate offsite payment so that drivers do not have to stop to enter or exit the managed lane.

C. CDOT is in the process of widening the frontage road (CR 314) in the vicinity of the Twin Tunnels to improve local travel for vehicles, bicyclists, and pedestrians. CR 314 is the only local east-west road in the project area. Adding eastbound interstate lanes to CR 314 would result in a loss of local connectivity. Also, the alignment of the CR 314 would not support interstate speeds. Instead, adding a third lane to I-70 through the Twin Tunnels project area improves mobility for interstate users so that CR 314 can remain primarily a local road, and it can serve as an alternate route for I-70 users during accidents, peak travel times, severe weather, construction, or maintenance on I-70.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Comment Sheet	**Name:** Donna Moody
Document Number: IND-16	**City, Zip Code:** Dumont, 80436



I-70 Twin Tunnels Public Hearing
July 25, 2012
Comment Form

Please provide any comments you have about the I-70 Twin Tunnels Project. Your input is valuable to this project and will be evaluated by CDOT and FHWA in the decision making process. Please consider the questions listed as you prepare your comments. Comments may also be submitted at http://www.coloradodot.info/projects/i70twintunnels.

Name: DONNA MOODY

Address: _____ City: Dumont Zip: _____

Organization: _____ Phone Number: _____

☐ Mark box if you do not wish to have your address published in the final Decision Document

COMMENTS

Do you have any comments on the project's Purpose and Need or CDOT's Proposed Action?

A I THINK THIS PROJECT IS EQUIVALENT TO A BAND-AID
WEST BOUND IS NOT ADDRESSED & CARRIES EQUAL TRAFFIC

Continued on next page

Responses

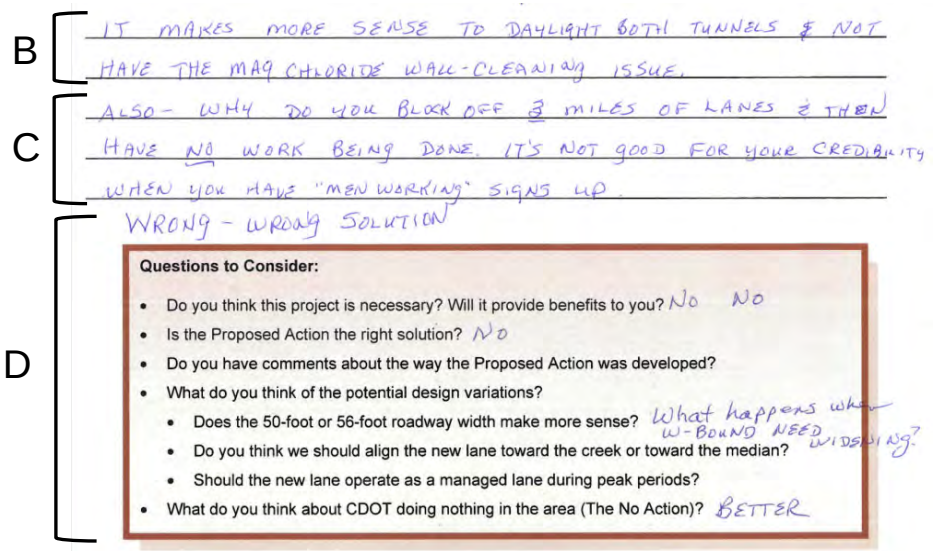
Response to IND-16

A. You are correct that westbound lanes generally carry a similar volume of traffic as eastbound lanes; however, peak volumes are much higher in the eastbound direction due to the concentration of traffic returning from the mountains on Sunday afternoons. Peak traffic volumes in the westbound direction are spread out more over Friday afternoons, Saturday mornings, and Sunday mornings. As noted in response to comment IND-07-A, CDOT intends to implement westbound improvements in the Twin Tunnels area and capacity expansion in the westbound direction is included in the I-70 PEIS Preferred Alternative, which CDOT and FHWA approved in the I-70 PEIS Record of Decision in June 2011. However, as noted in Section 1.7 of the EA, eastbound improvements in the Twin Tunnels area were prioritized because eastbound congestion is more pronounced and occurs over a longer period, and crash history indicates greater safety concerns in the eastbound direction. Westbound improvements are more costly and complex to construct due to the rock cuts and creek impacts that will result. Making incremental improvements, such as eastbound-only improvements, is consistent with the I-70 PEIS adaptive management approach to improving the Corridor in response to evolving transportation conditions and needs.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Comment Sheet	**Name:** Donna Moody (continued)
Document Number: IND-16	**City, Zip Code:** Dumont, 80436



Continued on next page

Responses

Response to IND-16 (continued)

B. As noted in response to comment IND-04-A, removing the tunnels entirely was an option studied and ultimately eliminated from further consideration as part of the I-70 PEIS and the subsequent Twin Tunnels visioning workshop. As noted in the I-70 PEIS, the Twin Tunnels is a important land bridge for wildlife crossing I-70. Additionally, removing the tunnels would likely have adverse environmental impacts, generate large quantities of waste materials, and create an area prone to rockslides and other geologic hazards that would be difficult to manage.

The Twin Tunnels visioning workshop, conducted in 2011, concluded removing the tunnels would create excessive environmental impacts, have an unreasonably high cost, and would require closure of the entire interstate during construction. For these reasons, the visioning workshop did not carry this alternative forward, consistent with the conclusions of the I-70 PEIS. As a result of these previous analyses, demolishing the tunnels entirely was not an alternative evaluated as part of the Twin Tunnels EA.

C. CDOT routinely closes lanes to traffic for maintenance or pre-construction purposes, and the work being performed may not always be obvious to passers-by. In recent months, CDOT closed one eastbound lane through the Twin Tunnels to install electronic variable message signs that will provide information about the Twin Tunnels project, and the eastbound left lane was closed to traffic due to repairs required for a sinkhole at the Hidden Valley Interchange. Additionally, CDOT has been surveying near the Twin Tunnels and performing stability checks on the tunnels, as well as performing routine tunnel maintenance on the westbound tunnel lining. During the tunnel maintenance efforts, CDOT tested the detour for the eastbound direction of travel.

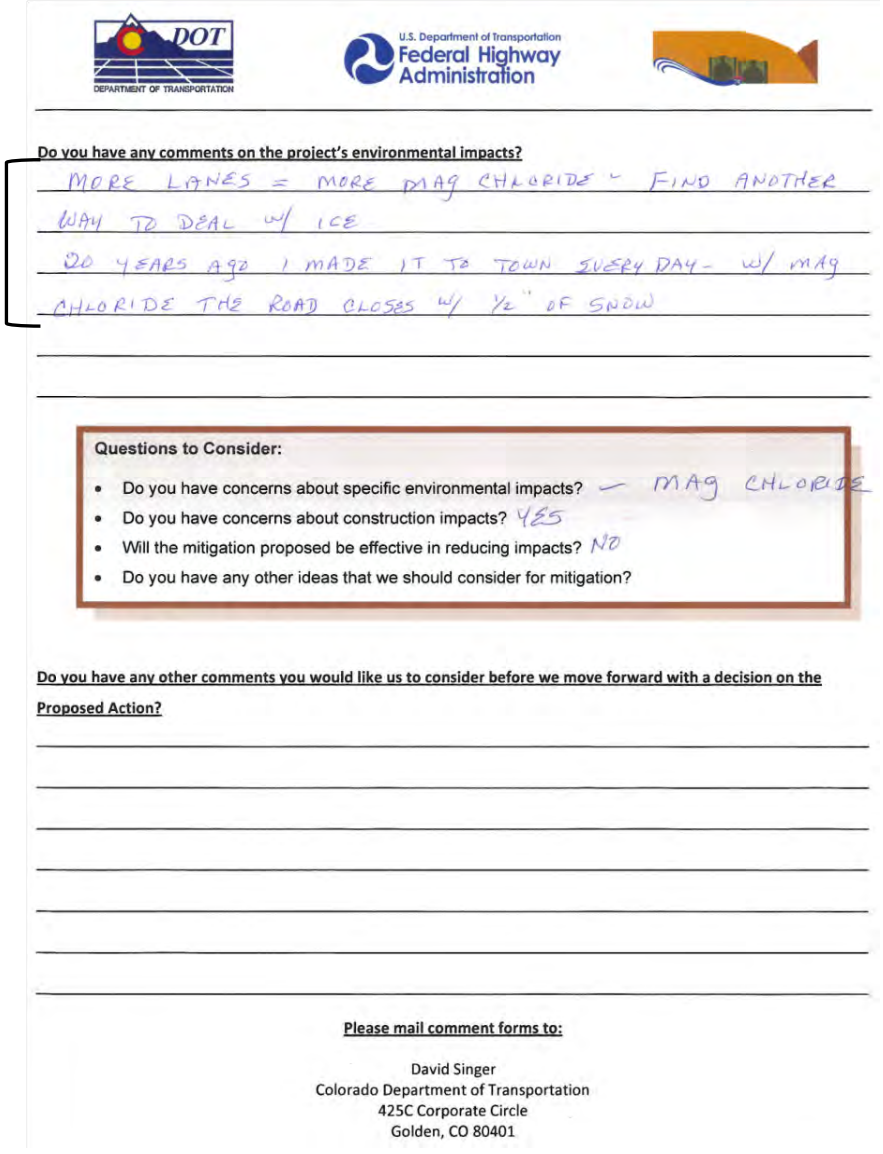
D. Your opposition to the Proposed Action is noted.

Regarding the need and timing of westbound widening, Section 2.8 in the EA explains that the Twin Tunnels project has been developed to preserve options for future westbound widening. The project does not preclude future westbound highway or tunnel improvements, future Advanced Guideway System (AGS) transit improvements, or realignment of the highway to support a higher design speed, as identified in I-70 PEIS. Expansion of the eastbound tunnel is being planned to fit future transportation facilities that may require expansion of the westbound bore and/or a third bore through the mountain. See also response to comment IND-07-A.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Comment Sheet	**Name:** Donna Moody (continued)
Document Number: IND-16	**City, Zip Code:** Dumont, 80436



DOT
DEPARTMENT OF TRANSPORTATION

U.S. Department of Transportation
Federal Highway Administration

Do you have any comments on the project's environmental impacts?

D

MORE LANES = MORE MAG CHLORIDE - FIND ANOTHER WAY TO DEAL W/ ICE

20 YEARS AGO I MADE IT TO TOWN EVERY DAY - W/ MAG CHLORIDE THE ROAD CLOSES W/ ½" OF SNOW

Questions to Consider:

- Do you have concerns about specific environmental impacts? — MAG CHLORIDE
- Do you have concerns about construction impacts? YES
- Will the mitigation proposed be effective in reducing impacts? NO
- Do you have any other ideas that we should consider for mitigation?

Do you have any other comments you would like us to consider before we move forward with a decision on the Proposed Action?

Please mail comment forms to:

David Singer
Colorado Department of Transportation
425C Corporate Circle
Golden, CO 80401

Responses

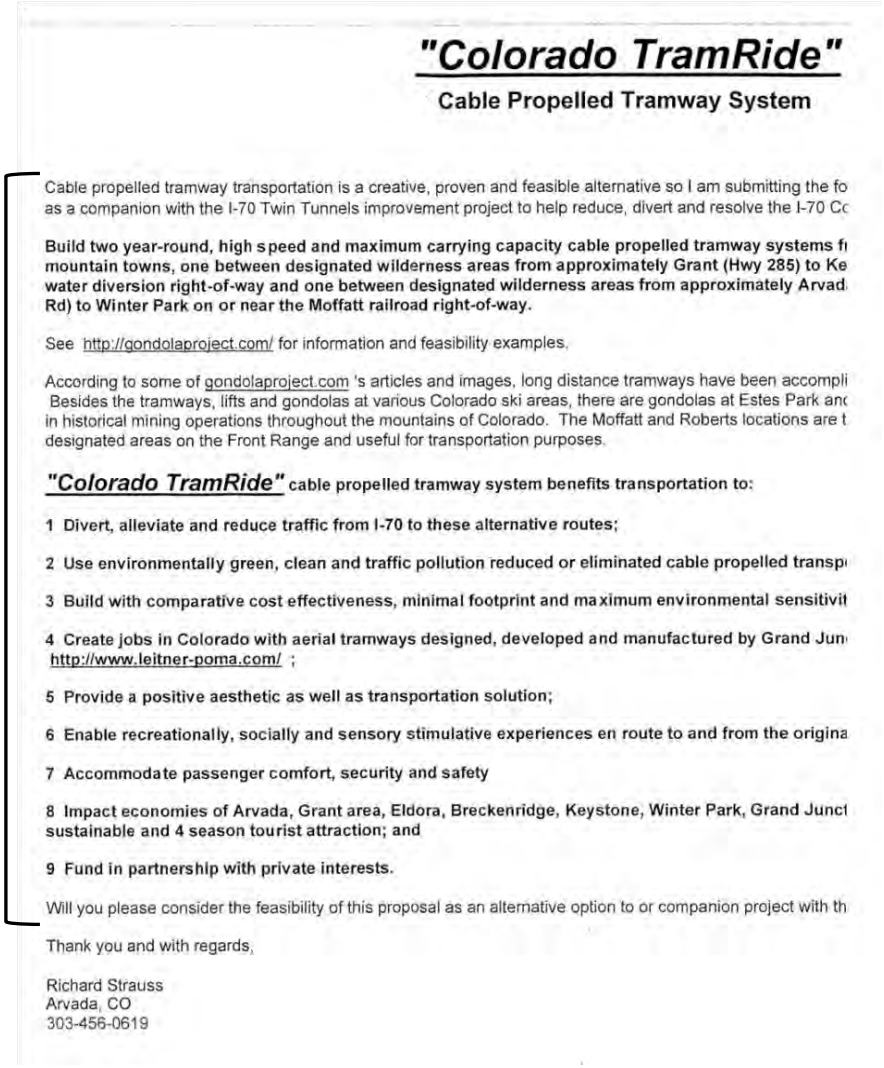
Response to IND-16 (continued)

D. You are correct that adding lane miles will require additional maintenance and more use of snow and ice removal agents. CDOT has explored a number of snow and ice removal options and has increased the application of liquid deicers, such as magnesium chloride, because it sticks to the road better than traction sand and salt (sodium chloride) and has a longer-lasting deicing effect. Additionally, less of the chemical is needed to keep roads from freezing in comparison to salt, and it has a lower freezing point than salt. The use of magnesium chloride reduces sediments, such as sand and salt, from entering Clear Creek during runoff. Magnesium chloride is less corrosive than calcium chloride or sodium chloride for steel and concrete. Additionally, magnesium chloride presents fewer impacts to water quality than sanding, which can increase sedimentation of adjacent streams.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Richard Strauss
Document Number: IND-17	**City, Zip Code:** Arvada,



"Colorado TramRide"

Cable Propelled Tramway System

Cable propelled tramway transportation is a creative, proven and feasible alternative so I am submitting the fo as a companion with the I-70 Twin Tunnels improvement project to help reduce, divert and resolve the I-70 Cc

Build two year-round, high speed and maximum carrying capacity cable propelled tramway systems fi mountain towns, one between designated wilderness areas from approximately Grant (Hwy 285) to Ke water diversion right-of-way and one between designated wilderness areas from approximately Arvad Rd) to Winter Park on or near the Moffatt railroad right-of-way.

See http://gondolaproject.com/ for information and feasibility examples.

According to some of gondolaproject.com 's articles and images, long distance tramways have been accompli Besides the tramways, lifts and gondolas at various Colorado ski areas, there are gondolas at Estes Park anc in historical mining operations throughout the mountains of Colorado. The Moffatt and Roberts locations are t designated areas on the Front Range and useful for transportation purposes.

"Colorado TramRide" cable propelled tramway system benefits transportation to:

1 Divert, alleviate and reduce traffic from I-70 to these alternative routes;

2 Use environmentally green, clean and traffic pollution reduced or eliminated cable propelled transp

3 Build with comparative cost effectiveness, minimal footprint and maximum environmental sensitivit

4 Create jobs in Colorado with aerial tramways designed, developed and manufactured by Grand Jun http://www.leitner-poma.com/ ;

5 Provide a positive aesthetic as well as transportation solution;

6 Enable recreationally, socially and sensory stimulative experiences en route to and from the origina

7 Accommodate passenger comfort, security and safety

8 Impact economies of Arvada, Grant area, Eldora, Breckenridge, Keystone, Winter Park, Grand Junct sustainable and 4 season tourist attraction; and

9 Fund in partnership with private interests.

Will you please consider the feasibility of this proposal as an alternative option to or companion project with th

Thank you and with regards,

Richard Strauss
Arvada, CO
303-456-0619

A

Responses

Response to IND-17

A. CDOT evaluated a range of transportation solutions in the I-70 Mountain Corridor PEIS. A transit solution in the form of an Advance Guideway System (AGS) was included in the approved I-70 PEIS Record of Decision and is CDOT's planned transit solution for the corridor. The I-70 PEIS concluded that the AGS achieves competitive travel times, addresses I-70 highway congestion, and increases travel capacity better than other transit options. The selection of the specific technology to be used for AGS will be made in subsequent feasibility studies and related Tier 2 processes.

As explained in Appendix F, *Response to Comments*, in the I-70 PEIS Record of Decision, to be considered a feasible transit option, the mode of transit needs to be part of the solution to reduce congestion and increase capacity on the I-70 Mountain Corridor, and the system needs to have competitive travel times and be able to accommodate the harsh mountain environment and steep grades. While the tram technology might accommodate the steep grades, the wind speeds through the I-70 Mountain Corridor would render the tram inoperable at times. It does not provide travel times competitive with highway travel times and, therefore, does not adequately address I-70 highway congestion. A tram system does not have the ability to meet the peak-hour peak-direction capacity requirement, which is the minimum capacity needed to adequately provide transit service and meaningfully reduce highway congestion in the peak hour and peak direction.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** Pete Helseth **Document Number:** IND-18 **City, Zip Code:** Evergreen,	**Response to IND-18**
David, A I'm generally quite satisfied with the design engineering of the project, especially having had the chance to participate in its development. B But I haven't been involved in the discussions about the Managed Lane, and would like to provide the following comment on it for the EA: If a Managed Lane is indeed implemented, I think its use should be predicated on increasing mobility. To that end, a priority should be given to vehicles that are carrying the most occupants. I don't like the idea of a Managed Lane's use being fee-based, as in the case of a so-called Lexus Lane. Thanks, Pete Helseth Evergreen, CO	A. Comment noted. B. As described in Section 2.1.2 of the FONSI, CDOT will operate the new third lane as a managed lane and will charge a fee for its use only during peak congestion periods, which typically occur on Sundays and holidays during the summer and winter months, to maintain reliable travel times in the managed lane. The lane will operate as a general purpose lane, free of charge, at all other times. It's primary purpose is to increase mobility and travel reliability during peak periods (not to generate revenue). As noted in response to comment IND-08-D, the I-70 Mountain Corridor experiences a high existing vehicle occupancy of 2.8 persons per vehicle and, therefore, providing priority to carpools would not serve as the solution for improving capacity and reducing congestion in the Corridor since most of the cars traveling in the peak periods are carpools. In the I-70 PEIS, CDOT and FHWA evaluated alternatives to provide new high-occupancy vehicle (HOV)/high-occupancy toll (HOT) lanes through the Corridor that could be used only for buses, carpools, or low-occupancy vehicles that have paid a toll; the evaluation found that HOV/HOT lanes alone would not be an effective way to control congestion because of the already high vehicle occupancy. Additionally, as concluded in Section 3.2, *Social and Economic Resources*, in the EA and as described in the response to comment IND-08-C, the charge for use of the managed lane is not expected to negatively affect local or regional travelers because it will operate only during peak periods, which are often avoided by local travelers, and the two general purpose lanes will remain free of charge.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Bruce Brown
Document Number: IND-19	**City, Zip Code:** Idaho Springs, 80452

Mr. Singer:

I appreciated the informative CDOT presentation regarding the twin tunnels on Wednesday night. Can more information be provided regarding the anticipated use of Explosives.

A. What is the expected frequency of the use of explosives?

B. How far will the use be heard into the Town of Idaho Springs and at what decibel rate?

C. It was stated that the use of explosives could impact the integrity of the existing Westbound bore. What is the 'worst case scenario' for impacting the structural integrity of the westbound bore during construction that presumably could expand the scope of construction and cause the Westbound traffic to be closed.

Thanks for your help.

Bruce Brown

Responses

Response to IND-19

A. As described in Section 3.1.6 in the EA (and clarified in Section 4.2.1 of this document), CDOT will conduct blasting activities every 4 to 6 hours to expand the tunnel bore. Blasting during peak traffic periods will be limited to the extent possible. These peak periods are anticipated to be Friday afternoons and early evenings, Saturday mornings, and Sunday afternoons and evenings.

B. CDOT is unable to predict exact blasting noise levels with the current available information. As noted in Section 3.9 of the EA, at the beginning of construction, the blasting will be done at both ends of the portal. As the work progresses, the blasting will be inside of the tunnel. It is anticipated noise from the blasting inside the tunnel will be largely muffled by the mountain. The closest residential structure is 750 feet from the tunnel portal and is not expected to be impacted by the air blast overpressure. However, blasting noise levels will be noticeable and bothersome to humans and wildlife in the vicinity. As noted in **Table 3-1** in this FONSI, during initial blasting at the entrance to the west side of the east portal, CDOT will monitor 24-hour noise levels at sensitive receptors to determine if additional temporary mitigation is required.

C. As discussed in response to comment IND-15-A, if the westbound tunnel is damaged during eastbound tunnel blasting, CDOT will route westbound traffic onto the detour route (CR 314) near Hidden Valley and reduce traffic to one lane in each direction. Additionally, ahead of construction, CDOT will develop an Incident Management Plan, which will identify alternate routes that motorists can travel to avoid I-70 if travel is reduced to one lane of travel in each direction.

CDOT is performing routine tunnel maintenance on the westbound tunnel lining from September to October 2012. During part of that time, the westbound tunnel will be closed to traffic, and westbound traffic will need to be routed onto the eastbound travel lanes. CDOT is constructing a crossover at this time and will maintain the crossover in place until blasting of the eastbound tunnel is completed in October 2013.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Lorna Idol
Document Number: IND-20	**City, Zip Code:** Evergreen, 80437

Hello Mr. Singer,

Following are the questions I raised at the Public Hearing for I-70 Twin Tunnels Project on July 25, 2012:

A
1. What will be the percentage of Coloradans employed by the Wisconsin-based contractor? [A high percentage is vital to growth for our state economy.]

B
2. No mention was made of provision for biking lanes in the finished project? This consideration was only included for the detour project. Why was this overlooked? Will it be included? [We have a tremendous amount of bikers in our mountain areas and numerous bikeathons and races.]

C
3. Regarding the proposed managed lane with a toll fee about 5% of the time on Sundays, why not make this an HOV lane instead? [In the latter case, access to the faster lane would be more equitable across populace income levels, and HOV access could be used when a car has four or more passengers.]

Continued on next page

Responses

Response to IND-20

A. Edward Kraemer and Sons, Inc., the general contractor on the Twin Tunnels project, was founded in Wisconsin, and the company has had a presence in Colorado since 1984, when the Castle Rock, Colorado, office was opened. The Twin Tunnels project will be managed and staffed by the Castle Rock office.

B. Consistent with the Clear Creek County Greenway plan, bicycle and pedestrian accommodations along I-70 in the Twin Tunnels project area are provided along the frontage road (CR 314) alignment. As described in Section 2.9.2 in the EA, when I-70 is reopened after construction, the west and east portions of the detour route connecting I-70 to CR 314 will be removed, and CR 314 will be restored to its pre-detour condition with one travel lane in each direction and a buffer-separated shared-use path for pedestrian and bicycle use on the north side of the road. Pedestrians and bicyclists will be rerouted back to the existing trail location over the Scott Lancaster Memorial Bridge. The old US 40/game check area will be restored to a local bicycle trail.

C. As noted in response to comment IND-08-D, the I-70 Mountain Corridor experiences a high existing vehicle occupancy of 2.8 persons per vehicle and, therefore, a carpool lane would not serve as the solution for improving capacity and reducing congestion in the Corridor. In the I-70 PEIS, CDOT and FHWA evaluated alternatives to provide new high-occupancy vehicle (HOV)/high-occupancy toll (HOT) lanes through the Corridor that could be used only for buses, carpools, or low-occupancy vehicles that have paid a toll; the evaluation found that HOV/HOT lanes alone would not be an effective way to control congestion because of the already high vehicle occupancy.

As noted in response to comment IND-08-C and as described in Section 2.1.2 of the FONSI, CDOT will operate the new third lane as a managed lane and will toll the lane in peak congestion periods to maintain a reliable travel time in the managed lane. CDOT considered the potential for the managed lane to disproportionately affect low-income residents and determined that the charge for use of the managed lane is not expected to negatively affect local or regional travelers because it will operate only during peak periods, which are often avoided by local travelers, and the two general purpose lanes will remain free of charge. This analysis is provided in Section 3.2, *Social and Economic Resources*, and Section 3.3, *Environmental Justice*, in the EA.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** Lorna Idol (continued) **Document Number:** IND-20 **City, Zip Code:** Evergreen, 80437	
D 4. Regarding the future decision to be made regarding adding a fill wall versus narrowing the median, which option is less expensive?	**Response to IND-20 (continued)** D. As described in Section 2.1.3 of this FONSI, shifting the roadway alignment into the center median instead of widening to the outside reduces construction costs. The estimated cost savings is $5 million.
E 5. Would the proposed fill wall create the same types of weather problems with severe road icing as does the use of flyways (raised highways) in Texas?	E. Ice formation on bridges and elevated roadways is often a result of cold air that flows under the structures, reducing the temperature of the concrete or asphalt and creating a condition that allows moisture to freeze, particularly when temperatures hover close to freezing for longer periods of time. The only segment in the project area where I-70 is elevated is the bridge over Clear Creek at Hidden Valley and the Hidden Valley Interchange. The roadway remains on grade throughout the rest of the project area. Therefore, the concern of icing as it relates to elevated flyways is not applicable in this setting.
F 6. Why hasn't a railroad option been considered? What is the difference in cost to use the existing railway system to Winter Park and adding new railways in places on I-70 where there are not railways? This railway could run from DIA to Silverthorne and greatly reduce the number of tourist traffic on the I-70 corridor?	F. During the development of the I-70 PEIS Preferred Alternative, several modes of transit, including rail, were examined to determine the viability of their operations and their ability to reduce congestion in the I-70 Mountain Corridor. To address the purpose and need for the I-70 PEIS, it was recognized by the CDOT, FHWA, and local communities that a fixed guideway system needs to be part of the solution and that the system needs to have competitive travel times and be able to accommodate the harsh mountain environment and steep grades. The I-70 PEIS studied a conventional rail alternative, called the Rail with Intermountain Connection Alternative; expansion of the existing rail corridor from Denver through the Moffat Tunnel, Winter Park, and Glenwood Springs; and increasing the frequency of service for the Winter Park ski train that was discontinued in 2009. As described in the I-70 PEIS, none of these transit alternatives was selected as the transit component of the I-70 PEIS Preferred Alternative. The Rail with Intermountain Connection alternative would use existing railways and add new railways along I-70; it would cause more environmental impacts than other transit alternatives. Expansion of the existing rail corridor through the Moffat Tunnel would not meet the needs of the I-70 Mountain Corridor. Increasing the Winter Park ski train service frequency is infeasible due to the volume of freight traffic through the Moffat Tunnel. For these reasons, new transit service is necessary to meet the needs of the I-70 Mountain Corridor.
G Please advise me as to who will have access to the public hearing questions that we raised. Thank you for your consideration of my questions. Lorna Idol	

Continued on next page

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments		Responses
Source: Email	**Name:** Lorna Idol (continued)	**Response to IND-20-F (continued)** F. (continued) The transit component of the I-70 PEIS Preferred Alternative provides an Advanced Guideway System (AGS) as a long-term solution to improve capacity and reduce congestion in the Corridor. The technology that addresses the AGS performance criteria could be a currently undiscovered and unproven technology or it could be a variation of an existing rail technology. CDOT is currently conducting a study to further define the feasibility of the AGS and its technology and to address the funding, power supply, operations, ridership, costs/benefits, and other related issues. The I-70 PEIS Preferred Alternative focuses on transit between the Eagle County Airport and the Jeffco Center Station near the I-70 and C-470 interchange. CDOT is currently conducting an Interregional Connectivity Study to examine the feasibility of connecting statewide rail lines to the Regional Transportation District (RTD) FasTracks system, which includes service to Denver International Airport (DIA). These connections would serve trips between Silverthorne and DIA as noted in your comment. G. All comments submitted during the public comment period are contained in this **Table 5-2** and are part of the public record.
Document Number: IND-20	**City, Zip Code:** Evergreen, 80437	

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Email	**Name:** Dan Ebert
Document Number: IND-21	**City, Zip Code:** Idaho Springs

A

I am the operator of both Two Brothers Deli and the Buffalo Restaurants in Idaho Springs. Last week during the stability check on the Twin Tunnels Traffic was stopped east bound before the Western most exit in Idaho Springs. During these stoppages cars were kept out of Idaho Springs for fear that Colorado Blvd. would back up. At a meeting discussing this plan I was told that this is a test for 2013 tunnel construction and traffic management. My main concern is the east bound traffic and how it reacts after a stoppage. Once released they will have one thing on their mind "Lets Get Out Of Here". Thus not stopping in Idaho Springs to spend money for fear of getting trapped again.

If this is the plan for next summer and stoppages are scheduled for specific times, they have to be spaced such that the traveling public knows they can exit, shop, eat, etc. without running the risk of getting caught again. Stoppages need to be spaced at least four hours apart and the travelers notified with signage. Simply saying "expect 20 minute delays" is not adequate.

Dan Ebert

Responses

Response to IND-21

A. As described in Section 3.1.6 in the EA (and clarified in Section 4.2.1 of this document), CDOT will conduct blasting activities every 4 to 6 hours to expand the tunnel bore. Tunnel blasting requires that all traffic be stopped for approximately 10 minutes before and 10 minutes (eastbound) to 20 minutes (westbound) after each detonation (although this may increase to 30 minutes under certain circumstances).

As noted in Chapter 5 of this FONSI, CDOT is working with the Project Leadership Team and Technical Team during the design and construction phases to obtain input and expertise on public involvement and education methods and scope. CDOT continues to discuss at these meetings how to ensure that travelers can enter Idaho Springs and access businesses during a closure through signage and other public information options, while discouraging cut-through traffic by travelers trying to bypass the closure of I-70.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Email **Name:** Sarah McFadden **Document Number:** IND-22 **City, Zip Code:** Unknown A Hi, I was at the public hearing and submitted some questions on paper but something has been bothering me since the hearing. It was said that a big part of why drivers slow down at the tunnels is due to the lighting and paint color of the tunnels. How come new lighting and new paint have not been used to see if that could be an easy, cheap problem solver? Seems like it would be the first thing that should have been tried. Thanks, Sarah McFadden	**Response to IND-22** A. As noted in response to comment IND-03-B, CDOT is considering options for tunnel lining that are brighter and more reflective, as well as creating an overhang entrance to the tunnel, which will allow more options to improve lighting for the tunnel entrance, which has been identified as a factor causing slowing through the tunnels. Over the years, CDOT has changed both the paint and the lighting in the tunnel to try to improve the "black hole" effect of the Twin Tunnels. The walls have been painted a lighter color, but the lining material becomes flat and dulls with exhaust and other vehicle emissions. Lighting at the tunnel has been upgraded and various lighting arrangements have been attempted. However, the flat face of the tunnel entrance makes it difficult to effectively light the interior, while not creating glare at the exterior entrance. Because of these difficulties in improving the "black hole" tunnel effect, CDOT has determined that tunnel widening, in addition to lighting improvements, is required.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Dick Braman
Document Number: IND-23	**City, Zip Code:** Idaho Springs, 80452

Dick Braman
4135 Rd. 275
Idaho Springs, CO
80452

Mr. David Singer
CO Dept. of Transportation
425 C. Corporate Circle
Golden, CO 80401

July 31, 2012

Dear Mr. Singer,

A While you have created a solution to the weekend traffic congestion with your proposal of adding a third lane to the traffic on I-70 Eastbound, you have also created a monumental problem of traffic congestion on I-70 West of the tunnels during the construction period of perhaps 10 months or more. This is due to the fact that the by-pass road now under construction is totally inadequate even if you are able to maintain a speed of 30 to 35 MPH, which considering the tortuous route involved, seems unlikely. Naturally, this is going to back up traffic on the I-70each and every day, perhaps to Bakerville. A car will be lucky to maintain a 10 MPH speed where a 2 hour trip from Georgetown east to the tunnels will be the norm. I think you will agree that this is unacceptable. Since it will take a few more weeks to complete this by-pass road, I would like to propose a test of its capacity for a one day trial to see what will actually happen. It will probably be worthwhile to photograph this event from a helicopter as the congestion builds. By noon on the day of the test a reasonable person, such as yourself, will want to examine my alternate proposal more carefully.

Sincerely,

Dick Braman

Responses

Response to IND-23

A. As noted in the response to your comment IND-12-A, CDOT is aware of the public's concern over congestion and travel delays during construction. CDOT has designed the Proposed Action to minimize the length of time the detour will be in place. The detour is approximately 1 mile long and will operate at 35 mph; it has sufficient capacity to handle I-70 traffic during weekdays and non-peak weekend hours. As described in Section 3.1 in the EA, CDOT has conducted traffic analysis to evaluate the delays that could occur during construction and has concluded that weekday traffic should be largely unaffected as a result of the detour route and speeds. Stoppages during tunnel blasting will increase delays, but queues resulting from traffic closures for blasting should dissipate within an hour. The worst-case weekend peak traffic delays will be approximately 30 minutes longer than existing travel times. CDOT fully evaluated the impacts of construction and has determined the mobility and safety benefits gained under the Proposed Action offset the temporary impacts, and CDOT is pursuing final design and construction of the Proposed Action.

CDOT did conduct geotechnical testing over the summer (2012) that required traffic to temporarily stop at the tunnel. This offered an opportunity to test traffic stoppages for the upcoming construction project. As the testing progressed, CDOT continued to improve upstream signing placement as well as its notification to communities in the corridor. CDOT understands the need to minimize the length of closures. These practices will be applied to the Twin Tunnels detour required in 2013.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Letter	**Name:** Quincy Wagstaff
Document Number: IND-24	**City, Zip Code:** Denver, 80206

July 15, 2012

David Singer
Colorado Department of Transportation
425C Corporate Circle
Golden, CO 80401

Re: I-70 Twin Tunnels EA

Dear Mr. Singer,

In the words of the great Bert Kalmar,

A

I don't know what's in your E.A. -
It makes no difference anyway -
Whatever it is, I'm against it!
No matter what it is
Or who commenced it
I'm against it!

Your proposition may be good
But let's have one thing understood
Whatever it is, I'm against it!
And even when you've changed it
Or condensed it
I'm against it!

Sincerely,

Q.A. Wagstaff

Quincy A. Wagstaff
3317 E. Colfax Ave.
Denver, CO 80206

Responses

Response to IND-24

A. Comment noted. Please see Section 1.5 in this FONSI for information about why the project is needed. FHWA has approved the project and, as described in Chapter 8 in this FONSI, has determined the Preferred Alternative will have no significant impact on the environment.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Dr. Lorna Idol
Document Number: IND-25	**City, Zip Code:** Unknown

REPORTER'S TRANSCRIPT OF PUBLIC HEARING
HEARING DATE: Wednesday, July 25, 2012

Thank you. Hello. I'm Lorna Idol. I'm running for the Colorado House of Representatives from District 22, which is Jefferson County on the mountainside of Clear Creek at Monmouth where the county divides. So it's Evergreen, Bergan Park, Golden, Ken Caryl, Deckers, et cetera.

A I want to thank the team. I know it's a huge project, you've done some very hard work, and we thank you for that. We ask you to please make the top priority be the safety of our citizens.

B I have a couple of questions that I would like to ask, and I'll write them to you again as well. One of my questions is, I understand that the construction company that was -- the contractor company that was selected is based in Wisconsin but has been in Colorado as their branch for 30 years. So my question is, what percentage of the people who are working on this project will be Colorodans? And I think we have to -- that's a very important question as we work with our economy and our state.

C My second question is, what considerations have been put into place for the safety of the bicyclists. Once the new road is there, is there a bicycle lane? I understood there was one for the detour, but I wasn't clear on if there was one in the new proposed tunnel for the bicyclists. We have huge bicycle races and rides over the mountain in the summertime, and we have to take that into consideration.

D I wondered about the mitigation lane as to why you didn't want to do the HOV concept instead, which is where instead of paying to drive in that lane where we differentiate between those who have more money and those who have less, that we might want to think about HOV lanes where you can drive in if you're filling all the seats in your car, which would produce fewer cars going down to the road in the past.

Continued on next page

Responses

Response to IND-25

A. Comment noted. As described in Section 1.4 in the EA, part of the purpose of the Twin Tunnels project is to improve eastbound highway safety in the Twin Tunnels area of the I-70 Mountain Corridor. A high number of crashes occur in the project area related to tight curves, poor sight distance, inclement weather/poor road conditions, and congested traffic conditions.

The Proposed Action will improve safety by straightening the curve immediately west of Hidden Valley to bring the design speed up from 45 mph to 50 mph and to maintain the posted speed of 55 mph, consistent with the adjoining sections of the highway. By improving speed consistency and curve geometry, the curve modification is projected to reduce crashes by 75 percent in this location compared to the No Action. Throughout the 3-mile project limits, the Proposed Action is anticipated to decrease crashes by 20 to 35 percent. Section 3.1.6 in the EA provides more detailed information on safety benefits of the Proposed Action.

B. As noted in response to your comment IND-20-A, Edward Kraemer and Sons, Inc., the general contractor on the Twin Tunnels project, was founded in Wisconsin, and has had a presence in Colorado since 1984, when the Castle Rock, Colorado, office was opened. The Twin Tunnels project will be managed and staffed by the Castle Rock office.

C. As noted in response to your comment IND-20-B, bicycle and pedestrian accommodations along I-70 in the Twin Tunnels project area are provided along the frontage road (CR 314) alignment, consistent with the Clear Creek County Greenway plan. The Proposed Action does not include bicycle lanes on I-70 through the Twin Tunnels. As described in Section 2.9.2 in the EA, when I-70 is reopened after construction, the west and east portions of the detour route connecting I-70 to CR 314 will be removed, and CR 314 will be restored to its pre-detour condition with one travel lane in each direction and a buffer-separated shared-use path for pedestrian and bicycle use on the north side of the road. Pedestrians and bicyclists will be rerouted back to the existing trail location over the Scott Lancaster Memorial Bridge. The old US 40/game check area will be restored to a local bicycle trail.

D. As noted in IND-08-D and in response to your comment IND-20-C, the I-70 Mountain Corridor experiences a high existing vehicle occupancy of 2.8 persons per vehicle and, therefore, a carpool lane would not serve as the solution for improving capacity and reducing congestion in the Corridor.

(continued on next page)

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Dr. Lorna Idol (continued)
Document Number: IND-25	**City, Zip Code:** Unknown

REPORTER'S TRANSCRIPT OF PUBLIC HEARING
HEARING DATE: Wednesday, July 25, 2012

E Another question I had was, which costs less, to do the narrowing of the median, or putting the big retaining wall.

F And one of questions I had about the retaining wall concept is, do we have people who know and are thinking about the erosion and the extreme temperature changes and whether that's a safe option or not.

G On the overhang part, one of my questions is, because of our severe winters, does that make more ice accumulation under there, more cold air, which makes that part of the roads even more dangerous and slippery. That's one of the things that has been a big problem with the flyovers in Texas, and they don't have the weather that even begins to compare to ours.

Continued on next page

Responses

Response to IND-25 (continued)

D. (continued)
As noted in IND-08-C and as described in Section 2.1.2 of this FONSI, CDOT will operate the new third lane as a managed lane, and will toll the lane in peak congestion periods to maintain a reliable travel time in the managed lane.

CDOT considered the potential for the managed lane to disproportionately affect low-income residents and determined that the charge for use of the managed lane is not expected to negatively affect local or regional travelers because it will operate only during peak periods, which are often avoided by local travelers, and the two general purpose lanes will remain free of charge. This analysis is provided in Section 3.2, *Social and Economic Resources*, and Section 3.3, *Environmental Justice*, in the EA.

E. As noted in the response to your comment IND-20-D, shifting the roadway alignment into the center median instead of widening to the outside will provide an estimated cost savings of $5 million.

F. Construction of retaining walls in the Twin Tunnels project area is safe and will follow engineering design standards and account for geotechnical conditions in the project area. CDOT is aware of the challenges that the I-70 Mountain Corridor presents, including the amount of precipitation, large temperature ranges, and geologic constraints. CDOT has conducted geotechnical investigations throughout the Twin Tunnels project area and will design and construct the retaining walls to account for those conditions and incorporate design features that minimize slope excavation and follow natural topography.

G. As described in Section 2.1.1 in this FONSI, CDOT and FHWA have determined that a standard 50-foot roadway section will be constructed throughout the project limits as the Preferred Alternative. The 50-foot roadway width does not include a cantilevered section, or overhang. See also the response to your comment IND-20-E for additional information about why the concern of icing as it relates to elevated flyways is not applicable to the Twin Tunnels project.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Dr. Lorna Idol (continued)
Document Number: IND-25	**City, Zip Code:** Unknown

H Another question I have is, why – has there been consideration of using our existing railway system instead of building new strips of railroad in that area instead of lanes. I think we should consider it and do comparisons because I think that if we diverted most of our tourist traffic to DIA to railroads or trams and they weren't driving down the highways, we'd have fewer people driving during congested times and in the winter who don't know how to drive in the mountains in the winter.

Continued on next page

Responses

Response to IND-25 (continued)

H. As noted in the response to your comment IND-20-F, during the development of the I-70 PEIS Preferred Alternative, several modes of transit, including rail, were examined to determine the viability of their operations and their ability to reduce congestion in the I-70 Mountain Corridor. To address the purpose and need for the I-70 PEIS, it was recognized by CDOT, FHWA, and local communities that a fixed guideway system needs to be part of the solution and that the system needs to have competitive travel times and be able to accommodate the harsh mountain environment and steep grades.

The I-70 PEIS studied a conventional rail alternative, called the Rail with Intermountain Connection Alternative; expansion of the existing rail corridor from Denver through the Moffat Tunnel, Winter Park, and Glenwood Springs; and increasing the frequency of service for the Winter Park ski train that was discontinued in 2009. As described in the I-70 PEIS, none of these transit alternatives was selected as the transit component of the I-70 PEIS Preferred Alternative. The Rail with Intermountain Connection alternative would use existing railways and add new railways along I-70; it would cause more environmental impacts than other transit alternatives. Expansion of the existing rail corridor through the Moffat Tunnel would not meet the needs of the I-70 Mountain Corridor. Increasing the Winter Park ski train service frequency is infeasible due to the volume of freight traffic through the Moffat Tunnel. For these reasons, new transit service is necessary to meet the needs of the I-70 Mountain Corridor.

The transit component of the I-70 PEIS Preferred Alternative provides an Advanced Guideway System (AGS) as a long-term solution to improve capacity and reduce congestion in the Corridor. The technology that addresses the AGS performance criteria could be a currently undiscovered and unproven technology or it could be a variation of an existing rail technology. CDOT is currently conducting a study to further define the feasibility of the AGS and its technology and to address the funding, power supply, operations, ridership, costs/benefits, and other related issues.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments	Responses
Source: Public Hearing **Name:** Dr. Lorna Idol (continued) **Document Number:** IND-25 **City, Zip Code:** Unknown	**Response to IND-25 (continued)** (continued) The I-70 PEIS Preferred Alternative focuses on transit between the Eagle County Airport and the Jeffco Center Light Rail Station near I-70 and C-470. CDOT is currently conducting an Interregional Connectivity Study to examine the feasibility of connecting statewide rail lines to the RTD FasTracks system, which includes service to DIA. These connections would serve trips between Silverthorne and DIA as noted in your comment.
I wanted to know when you would have the projected cost figures for us. And I just want to remind everybody that the Colorado Department of Transportation is not funded through the state funds. It is funded primarily by the tax on gasoline, both state tax and the federal tax. But our citizenry has to know the project costs. So thank you so much for allowing me to raise questions, and thank you for listening to me.	I. CDOT estimates the total cost of the project to be just under $100 million. To clarify your comment on CDOT's funding, you are correct that CDOT's budget comes primarily from fees and taxes paid by the users of the state and national transportation systems, including motor fuel taxes as well as registration fees and permits, such as overweight/oversized, access permits, or right-of-way permits, and not from the state's general fund.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Tim Toohey
Document Number: IND-26	**City, Zip Code:** Unknown

REPORTER'S TRANSCRIPT OF PUBLIC HEARING
HEARING DATE: Wednesday, July 25, 2012

My name is Tim Toohey. I'm speaking on my own behalf as a fisherman and a conservationist. I have fished Clear Creek for over 30 years. I have fished the stream and affected area at least four or five times in the last couple years. I've caught many browns in this area. It isn't the best spot on Clear Creek to fish, but it does form a population of wild browns, "wild" meaning a self-sustaining population. They haven't been -- the state hasn't put fish in there, especially brown trout.

I know this project must be done. I use I-70 during the fishing season at least once or twice a week.

A But the problems I see are kind of two-fold, the first being the impact of the construction itself. I don't see the fish surviving right where they're going to build this road, the bypass.

B The second one is the sediment that will happen during the project and what that will do to the fisheries downstream. Directly below this area there's two very good fisheries, the Hidden Valley area, and that bike path that goes on down to Kermitts. Both of these areas have a lot of trout and are great fisheries. I'm worried that the sediment from this project will cover the spawning areas, cover the bugs the trout feed on, and eventually, hopefully not, kill the fish population in this area.

I would hope that the direct impact can be kept to a minimum and the sediment can be dealt with before it gets downstream.

C This being said, when the project is completed, I would hope that funds are available not just to restore the project area to what it was before the construction, but to do some actual remediation and make this area a very good fishery. Thank you.

Responses

Response to IND-26

A. Section 3.11, *Aquatic Resources*, in the EA, discusses the impacts of temporary erosion of disturbed soils, sedimentation downstream, and incidentally spilled fuels on fish and fish habitat in Clear Creek. Activities associated with roadway and retaining wall construction will disturb soils adjacent to Clear Creek and increase the potential for erosion of soils and sedimentation within Clear Creek. Sedimentation of substrate materials within Clear Creek will temporarily impact brown trout spawning habitat and forage species habitat. Retaining wall construction during brown trout spawning season (October through June) could result in sedimentation from erosion of disturbed soils covering eggs incubating in the stream substrate. Runoff from construction could impact water quality. **Table 3-1** in this FONSI identifies measures to mitigate impacts to aquatic resources during construction, such as the implementation of BMPs for erosion and sediment control.

B. CDOT recognizes the importance of Clear Creek as a fishery that both provides angling recreation and supports a naturally reproducing, sustainable brown trout population. CDOT also recognizes the potential for the sedimentation of Clear Creek substrate during construction activities adjacent to this important resource. As described in response to comment ORG-01-B, Colorado Parks and Wildlife will conduct a survey of spawning areas throughout the reach of Clear Creek affected by construction activities to identify spawning locations and recommend measures to minimize impacts to these areas. To avoid or minimize impacts to fish spawning areas and benthic invertebrate habitat downstream from the construction activities, CDOT will implement appropriate BMPs for erosion and sediment control according to the CDOT Erosion Control and Storm Water Quality Guide. CDOT will also develop a stormwater management plan (which includes water quality monitoring by the construction contractor to ensure effectiveness of temporary construction BMPs) and use adaptive mitigation identified in the Clear Creek Sediment Control Action Plan, as noted in **Table 3-1** in this FONSI. By implementing these erosion and sediment control practices, impacts to the fishery will be avoided or minimized.

C. As noted in response to comments ORG-01-I and ORG-01-D, CDOT is planning stream enhancements in coordination with the restoration of the Clear Creek County Greenway game check area (along the detour route). The Intergovernmental Agreement (IGA) between CDOT and Clear Creek County specifies stream channel improvements and provides a concept of the planned improvements; as details of the restoration and enhancements are refined, details of the IGA may also be refined. This stream enhancement will permanently improve aquatic habitat in this area of Clear Creek.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Ralph Rutter
Document Number: IND-27	**City, Zip Code:** Dumont

REPORTER'S TRANSCRIPT OF PUBLIC HEARING
HEARING DATE: Wednesday, July 25, 2012

Thank you. My name is Ralph Rutter. I live in the Dumont area. I use the tunnel quite a bit. I have an observation and a question.

A My observation is, over the years coming into that tunnel during congestion, and really other times too, is the lights – the pale lights flash. People see the bore and they reduce their speed. Now, that's substantiated by the fourth slide, where it showed 4,000 vehicles coming in two lanes, 3,200 through the tunnel, 4,000 going out. So that's my observation. And will the new bore eliminate that? I don't know.

Responses

Response to IND-27

A. The expanded tunnel bore will increase the capacity of I-70 through the tunnel so that the bottleneck you mention no longer occurs. As described in Section 1.4.2 of the EA, several factors lead to the slowing of travel speeds through this segment of I-70. Motorists slow to safely navigate tight curves, and motorists slow on the approach to the tunnels due to the real and perceived narrowing of the tunnels. The tunnels have lower capacity than surrounding sections of the highway, as illustrated in Figure 1-8 in the EA, creating congestion during peak periods. The Proposed Action implements a consistent roadway width and design speed through the tunnel and the project area, and will increase capacity by 72 percent through the tunnel, from 3,200 vehicles per hour (vph) up to 5,500 vph.

We are unsure if your mention of pale flashing lights refers to the flashing yellow lights on the roadside sign approaching the west entrance of the tunnel, or the lights inside the tunnel itself. If you are referring to the former, the flashing yellow sign warns motorists of upcoming curves. This warning is especially important for trucks, which have increased rollover risks when traveling too fast through curves. Although the Proposed Action addresses the most problematic low-speed curve west of Hidden Valley, the area east of the tunnels will remain curvy, and the sign will continue to be needed.

If you are referring to lights in the tunnel, under the Proposed Action, CDOT is considering options for tunnel lining that are brighter and more reflective, as well as creating an overhang entrance to the tunnel, which will allow more options to improve lighting for the tunnel entrance, which has been identified as a factor causing slowing through the tunnels as you also observe.

Table 5.2. Public and Agency Comments Received and Responses to Comments

Comments

Source: Public Hearing	**Name:** Ralph Rutter (continued)
Document Number: IND-27	**City, Zip Code:** Dumont

REPORTER'S TRANSCRIPT OF PUBLIC HEARING
HEARING DATE: Wednesday, July 25, 2012

B And we're talking about perhaps a managed lane. I wonder if that's managed by transponders, or if there's a full stop. Won't that reduce and eliminate the utility of that third lane?

C And finally the question. I've followed the discussion for several years on a PEIS regarding the eventual widening of all lanes and the guideway. And the question is, how much consideration was given to an open cut through that area? Just get the cut done, and then in the future the westbound can be handled through that cut. It facilitates the eastbound now, and it lets the guideway right through the middle. Thank you.

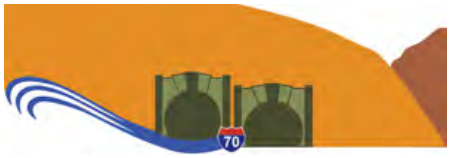
Responses

Response to IND-27 (continued)

B. As noted in Section 3.3.6 of the EA and in response to comment IND-15-B, CDOT will collect tolls via license plates or transponders to accommodate offsite payment so that drivers do not have to stop to enter or exit the managed lane.

C. As pointed out in response to comment IND-04-A, removing the tunnels entirely was an option studied and ultimately eliminated from further consideration as part of the I-70 PEIS and the subsequent Twin Tunnels visioning workshop. As noted in the I-70 PEIS, the Twin Tunnels is a important land bridge for wildlife crossing I-70. Removing the tunnels would likely have adverse environmental impacts, generate large quantities of waste materials, and create an area prone to rockslides and other geologic hazards that would be difficult to manage.

The Twin Tunnels visioning workshop conducted in 2011 concluded removing the tunnels would create excessive environmental impacts, have an unreasonably high cost, and would require closure of the entire interstate during construction. For these reasons, the visioning workshop did not carry this alternative forward, consistent with the conclusions of the I-70 PEIS. As a result of these previous analyses, demolishing the tunnels entirely was not an alternative evaluated as part of the Twin Tunnels EA.



Chapter 6. Updates and Clarifications to the Section 4(f) Evaluation

This chapter provides clarifications to the evaluation and makes a final determination about Section 4(f) use for the Twin Tunnels project. The appendix of this document contains the Section 4(f) Evaluation, which is included as Chapter 4 of the EA, and is incorporated by reference and forms the basis for the Section 4(f) determination presented here.

6.1 What clarifications or corrections are noted for the Section 4(f) evaluation?

The following presents clarifications to the Section 4(f) analysis.

- The FONSI makes a final determination about options considered for the Proposed Action, including the varying roadway cross section widths, operating the new lane as a managed or general purpose lane, and revising the design to realign a half-mile portion of the roadway east of Hidden Valley toward median. As noted in the Section 4(f) evaluation, these options do not affect the Section 4(f) findings, and no revision to the text is needed.
- The Section 4(f) use of the two recreational properties (the Scott Lancaster Memorial Trail and the planned Game Check Area Park), as described on page 4-15 of the EA, is a temporary use. Neither of these properties was determined to have a *de minimis* impact.
- The Section 4(f) evaluation contains several references to mitigation measures to be defined in an addendum to the I-70 Mountain Corridor Section 106 Programmatic Agreement. Rather than an addendum, the documentation is a supplement.
- The Section 106 Programmatic Agreement supplement has been signed and is included electronically in the appendix. Execution of the supplement contributes to the Section 4(f) commitment to include all measures to minimize harm in the Proposed Action.
- Page 4-30 references Cindy Neeley as the Clear Creek County Land Use Director. Cindy Neeley is a consultant for Clear Creek County, not the Clear Creek County Land Use Director.
- **Table 3-1** in the FONSI integrates mitigation measures to minimize harm in the Proposed Action. As noted in a footnote to Table 3-1, mitigations included for historic and recreation resources also apply to Section 4(f) and contribute to the Section 4(f) mitigation commitments.

As required in Title 23 of the Code of Federal Regulations (CFR) Part 774.5(a), the FHWA provided the Section 4(f) Evaluation for coordination and comment to the Department of the Interior. The Department of the Interior provided its comments back to the FHWA in a letter dated August 9, 2012. This letter and responses to their comments are contained in Chapter 5 of this document.

6.2 What is FHWA's determination of use for Section 4(f) properties?

Based on the analysis and supporting documentation provided in the Section 4(f) evaluation, included in Chapter 4 of the attached EA, FHWA has determined that there is no feasible and prudent avoidance alternative to the permanent use of land from the Twin Tunnels (5CC1189.3) and a temporary uses of land from the Scott Lancaster Memorial Trail and the parcel planned for the Game Check Area Park. The Proposed Action causes the least overall harm and includes all possible planning to minimize harm to these properties resulting from the Proposed Action, as demonstrated by the mitigation commitments presented in **Table 3-1**.

Chapter 7. Selection of the Preferred Alternative

Based on the analysis presented in the attached Twin Tunnels EA and Section 4(f) Evaluation and consideration of comments received as discussed in Chapter 5, FHWA, in coordination with CDOT, has determined that the Proposed Action described in Chapter 2 of this FONSI and Chapter 2 of the EA is the Preferred Alternative. The selection of the Preferred Alternative incorporates the decisions described in Chapter 2 of the FONSI that a 50-foot roadway section will be constructed throughout the project area, the new lane will operate as a managed lane during peak travel periods, the horizontal alignment of the roadway will be shifted toward the median for a half-mile section of the project east of Hidden Valley, and a temporary construction access road between the eastbound tunnel portals will be constructed and reclaimed. The selection of the Preferred Alternative also incorporates the mitigation commitments described in Chapter 3 of this FONSI.

Chapter 8. Finding of No Significant Impact

FHWA has determined that the Preferred Alternative described in Chapter 2 of this document will have no significant impact on the environment given project's environmental benefits and committed mitigation measures, and the project's context and the intensity of environmental impacts. This FONSI is based on the analysis presented in the Twin Tunnels EA and consideration of public and agency comments on the EA. The EA, included as an electronic attachment to this FONSI in Appendix A, has been independently evaluated by FHWA and determined to adequately and accurately describe the Proposed Action and discuss the purpose and need for the project, identify environmental issues and evaluate impacts of the proposed project, and develop and commit to appropriate mitigation measures as included in Chapter 3 of this FONSI. Responses to public and agency comments are included in Chapter 5 of this FONSI; some of the comments resulted in clarifications to the EA analysis, as presented in Chapter 4 of this FONSI. The EA and consideration of comments provide sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. FHWA and CDOT take full responsibility for the accuracy, scope, and content of the EA and the information presented in this FONSI.