



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 maintenance plan and revise BMPs as needed. This mitigation commitment has been included in Table 3-1 of this FONSI.