



120TH AVENUE TO SH 7



RECORD OF DECISION 2



September 2015

STATUTE OF LIMITATIONS

A notice will be published in the Federal Register, pursuant to 23 United States Code §139(l), indicating that the Federal Highway Administration (FHWA) has taken the final action to approve the North I-25: 120th Avenue to SH 7 project. Claims seeking judicial review of this federal action must be filed within 150 days after the date of the notice.

INFORMATION AVAILABILITY

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NORTH I-25 RECORD OF DECISION2

The *North-25 Record of Decision 2* (CDOT, 2015a) is available electronically at <https://www.codot.gov/projects/north-i-25-eis> or in hard copy format. Please contact either of the individuals listed above to obtain a copy.

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ACRONYMS AND ABBREVIATIONS

APEN	Air Pollutant Emission Notice
BMPs	Best management practices
BRT	bus rapid transit
CER	Cost Estimate Review
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CDPS	Colorado Discharge Permit System
CFR	Code of Federal Regulations
CPW	Colorado Parks and Wildlife
DIA	Denver International Airport
DOT	Department of Transportation
DRCOG	Denver Regional Council of Governments
DUS	Denver Union Station
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FY	Fiscal Year
I-25	Interstate 25
MMP	Materials Management Plan
MOVES	Motor Vehicle Emissions Model
MVRTP	Metro Vision Regional Transportation Plan
NEPA	National Environmental Policy Act
NFRMPO	North Front Range Metropolitan Planning Organization
NRHP	National Register of Historic Places
OAHP	Office of Archaeology and Historic Preservation
OPS	Oil and Public Safety
PBO	Programmatic Biological Opinion
PEL	Planning and Environmental Linkages
PM ₁₀	Particulate matter less than 10 microns in diameter
RAMP	Responsible Acceleration of Maintenance and Partnerships
ROD1	Record of Decision1

ROD2	Record of Decision2
RTP	Regional Transportation Plan
SB	Senate Bill
SH	State Highway
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
STIP	Statewide Transportation Improvement Program
TAC	Technical Advisory Committee
TIP	Transportation Improvement Program
TNM2.5	Traffic Noise Model 2.5
U.S.	United States
USFWS	U.S. Fish and Wildlife Service
WCR	Weld County Road

BACKGROUND

This Record of Decision 2 (ROD2) documents the final agency decision for improvements to Interstate 25 (I-25) between 120th Avenue and State Highway 7 (SH 7). It is the final step in the National Environmental Policy Act (NEPA) process for this section of I-25, which started with a Notice of Intent to prepare an Environmental Impact Statement (EIS) in 2003.

The Preferred Alternative discussed in this ROD2 consists of adding one additional lane in each direction of I-25. The additional lane will be an Express Lane; open to buses, vanpools, and carpools (with three or more people in the car) for free, and also to single-occupant vehicles if they pay a toll.

These improvements are selected now because traffic congestion on this stretch of I-25 has become more pronounced, as development in the area continues and new people move in to live and work. Census data show that employment has grown by as much as 90 percent and population by as much as 24 percent between 2000 and 2010 (HDR, 2015f). In recent years there have been numerous new developments, including Larkridge shopping center at SH 7, Orchard Town Center, the new development just south of E-470/Northwest Parkway that includes commercial, retail, and residential; the new St. Anthony's North Health Campus located at 144th Avenue and I-25 in the southwest quadrant; the Cabela's development located at 144th Avenue and I-25 in the southeast quadrant; and new residential plans on both sides of I-25. (Locations of these new developments are noted in Figure 3, page 9) The transportation improvements are also being done because this project was chosen by the Colorado Transportation Commission to receive Responsible Acceleration of Maintenance and Partnerships (RAMP) funding.

This ROD2 also reviews information contained in the *North I-25 Final Environmental Impact Statement (FEIS)* (CDOT, 2011a) and in the *North I-25 Revised Section 4(f) Evaluation* (CDOT, 2011b) and discusses changes in legislation, regulations, or guidance and existing conditions or future conditions.

1.0 INTRODUCTION

The *North I-25 Record of Decision* (ROD1) (CDOT, 2011c) was the final step in the NEPA process for only a portion of the Preferred Alternative identified in the FEIS, referred to as Phase 1. The ROD1 stated a commitment on behalf of the Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT) (lead agencies) that the lead agencies intend to work toward implementing the FEIS Preferred Alternative in its entirety. As additional funding is identified and included in the fiscally constrained Regional Transportation Plan (RTP), subsequent phases or portions of phases can be implemented.

In February 2014 the Colorado Transportation Commission approved a portion of the I-25 corridor from 120th Avenue to SH 7 for construction funding, by identifying additional funds in CDOT's RAMP program. This project was chosen because of its regional significance. Subsequent to that action (on May 30, 2014), CDOT included this section of I-25 on a list of projects to be included on the 2040 Denver Regional Council of Governments (DRCOG) RTP. The Selected Alternative assessed in this ROD2 connects to an Express Lane improvement that is under construction on I-25 from US 36 to just south of 120th Avenue, which was evaluated in the ROD1. Figure 1 shows the Selected Alternative included in the ROD1 and the Selected Alternative included in the ROD2.

CDOT prepared this ROD2 to update the findings in the FEIS and to select another portion of the FEIS Preferred Alternative for implementation. The conclusion of the reevaluation is that changes to the existing and future conditions do not cause new significant environmental impacts. This ROD2 has been prepared in compliance with FHWA Regulation 23 Code of Federal Regulations (CFR) 771 and 774, Council on Environmental Quality Regulations 40 CFR 1500-1508, and the requirements of NEPA as amended.

PROJECT COST AND FUNDING

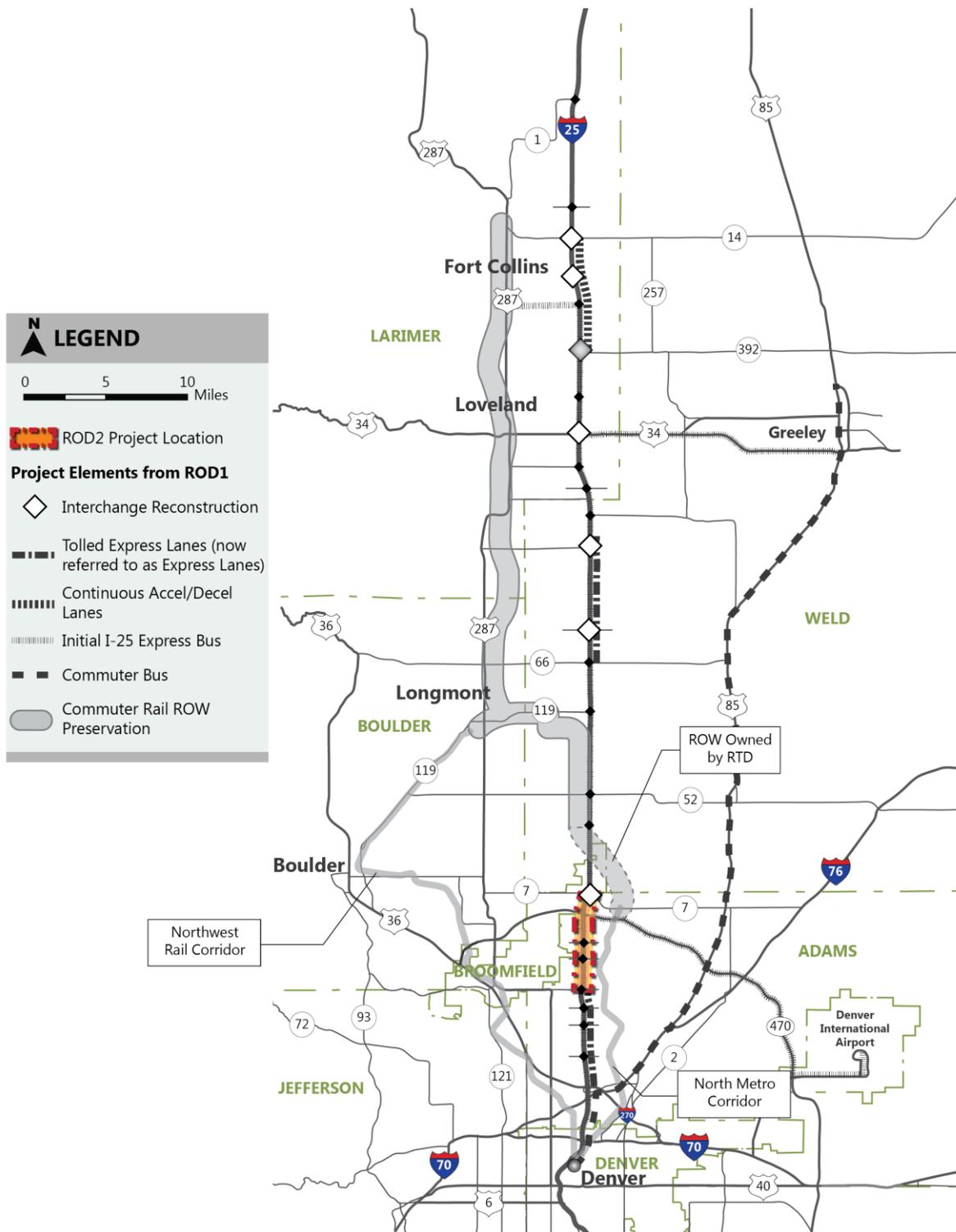
The Denver Regional Council of Governments (DRCOG) is federally charged with developing a long range transportation plan for the Denver region. As part of the 2040 Metro Vision Regional Transportation Plan (MVRTP), DRCOG developed the 2040 Fiscally Constrained RTP. The Fiscally Constrained Element of the MVRTP is a federal requirement and must identify individual regionally significant (major) roadway capacity and rapid transit projects to be implemented over the next 25 years. Revenues must be reasonably expected to fund construction of these major projects, as well as to maintain and operate the transportation system. Future revenues are also preserved for transit service, bicycle, pedestrian, and other types of projects. DRCOG also has to show that the RTP will not cause a violation of federal air quality conformity standards.

The ROD2 Selected Alternative has a total estimated cost of approximately \$120.7 million in year of expenditure dollars. This is less than the \$302.2 million estimated in the CER, which used a 2045 mid-year of construction. The project will be constructed in two phases with half of the project at 2016 prices and the other half anticipated with a 2020 mid-year construction. Table 1 shows how CDOT plans to fund the ROD2 Selected Alternative.

Table 1. Funding for the ROD2 Selected Alternative

Project Funding Sources (in YOE \$)	Dollars (in million)
CDOT Administered funds (non-RAMP)	\$65.7
RAMP	\$55.0
Total	\$120.7

Figure 1. Selected Alternative (ROD1 and ROD2)



The scope of the project is consistent with the MVRTP and Fiscally Constrained Element, which includes \$123.5 million (FY 2015 Dollars) to add one Express Lane from 136th Avenue to SH 7. The project selected in this ROD2 is within the State Implementation Plan (SIP) emissions budgets demonstrating air quality conformity for the fiscally constrained elements in the MVRTP.

INDEPENDENT UTILITY AND LOGICAL TERMINI

Independent utility means that a proposed project is a reasonable expenditure and would be usable even if no additional improvements are made in the area. A NEPA proposed action must have rational physical end points and allow for review of environmental impacts on a broad scale. Chapter 8 of the FEIS identified phases for the entire Preferred Alternative. All phases have independent utility and logical termini. Chapter 8 includes reconstruction of I-25 to add Express Lanes between 120th Avenue and E-470 as a portion of Phase 2. The ROD2 Selected Alternative extends the Express Lanes north to SH 7. CDOT and FHWA intend to work towards implementation of the FEIS Preferred Alternative in its entirety through a phased approach as funds become available.

On the southern end of the ROD2 Selected Alternative, 120th Avenue serves as a logical terminus. 120th Avenue is consistent with the southern terminus of Phase 2 in Chapter 8 of the FEIS. 120th Avenue is where the Express Lane improvements that are currently under construction end. 120th Avenue is also a logical terminus because traffic volumes increase noticeably south of that point, reflective of the increased travel in the Denver metropolitan area. Pavement reconstruction for the ROD2 Selected Alternative logically connects to the pavement reconstruction being completed for the Express Lanes project which is under construction south of 120th Avenue.

The minor ramp modifications at 120th Avenue, 136th Avenue, 144th Avenue and E-470/ Northwest Parkway are tied to the ROD2 Selected Alternative but do not rely on or preclude any other improvements that are not a part of the ROD2 Selected Alternative.

SH 7 is a logical northern terminus. It serves a large travel shed both to the east and west. It spans approximately 25 miles between US 36 on the west and US 85 on the east. It provides access to major north-south roads including US 36, US 287, I-25, and US 85. It marks a localized high point of traffic volumes on I-25. North of SH 7, traffic on I-25 drops off markedly (by over 7,000 vehicles per day in 2012) and continually for several miles, as traffic disperses to employment and population centers in Brighton, Thornton, Northglenn, Broomfield, and Boulder County. This is illustrated in Figure 4-1 of the FEIS.

OTHER TRANSPORTATION PROJECTS

There have been changes in adjacent, recently completed, or ongoing transportation projects since December 2011. These changes include:

- **Lack of funding for FasTracks commuter rail corridors**, which has resulted in a substantial delay for the planned Northwest Corridor, which is to run from Westminster to Boulder to Longmont. This lack of funding has also resulted in a shortened North Metro commuter rail corridor. Instead of ending at 162nd Avenue, the North Metro corridor is now funded to 124th Avenue. Additional funding is not anticipated until after 2040.

- **Completion of the Northwest Area Mobility Study**, which examined options for completion of the FasTracks service in the northwestern Denver metropolitan area. The recommendations from this study included completion of a bus rapid transit (BRT) on US 36; addition of arterial BRT service on SH 119 from Longmont to Boulder and on US 287 from Longmont to Denver Union Station, and perhaps other corridors, such as SH 7; addressing the existing I-25/US 36 reversible high-occupancy vehicle/high-occupancy toll lanes; and continuing to look for funding opportunities to complete the Northwest Rail Corridor. CDOT is considering moving forward with bus-on-shoulder applications in the short term on US 36 and I-25 in the vicinity of the US 36/I-25 interchange and on one or more of the arterial BRT corridors.
- **Completion of the North I-25 (US 36 to SH 7) Planning and Environmental Linkages (PEL) study**, which recommends a continuous acceleration/deceleration lane on both sides of I-25 from US 36 to north of SH 7. The PEL study recommends new park-n-rides at 128th Avenue, 136th Avenue, 144th Avenue, and SH 7. The PEL study also recommends converting the tunnel at the Wagon Road park-n-ride on the southwest corner of 120th Avenue and I-25 to a bi-directional tunnel for buses, and adding ramp meters at 120th Avenue (northbound and southbound), 136th Avenue (northbound and southbound), 144th Avenue (northbound and southbound) and SH 7 (southbound). This PEL study was completed in December 2014.
- **Completion of the SH 7 PEL study** (CDOT, 2014a), which identified a diverging diamond interchange configuration at SH 7/I-25 as a viable option to the partial cloverleaf configuration that was included in the FEIS and the ROD1. This study also recommended widening of SH 7 in the vicinity of I-25 to carry three 12-foot travel lanes in each direction, with a 30-foot raised median, 12-foot shoulders/bike lanes, and a 10-foot shared use path on each side of SH 7.
- **Design and construction of the North I-25 Express Lanes from US 36 to just south of 120th Avenue**, including tolling and ITS infrastructure, active traffic management in the southbound direction, resurfacing, reconstructing and restriping I-25, adding four new noise walls, and rehabilitating existing noise walls. This project is under construction, intended to be open to the public in December 2015. It is an interim version of this section of the Selected Alternative from the ROD1.
- **SH 7/I-25 Interchange Reevaluation**, which reevaluates impacts using a diverging diamond interchange configuration rather than a partial cloverleaf, which was included in the ROD1. An analysis is anticipated for completion in early fall 2015. This ROD2 assumes the FEIS interchange design.
- **Completion of the Interregional Connectivity Study**, which examined high-speed rail between Fort Collins and Denver. This was studied during the FEIS/ROD1 but not recommended because it would not respond to purpose and need because of the lack of stations at most of the communities. It recommended that high-speed rail be located along the east side of I-25 between Fort Collins and a North Suburban Station at E-470/Northwest Parkway. This study assumes stations near Harmony Road/I-25 and at SH 119/I-25.
- **US 85 PEL study**, which started in February 2014 and is anticipated to be complete in fall 2015. The study team has conducted one public meeting and is continuing the on-going coordination with local agencies and elected officials. The Purpose and Need for the project addresses safety, access, mobility, railroad proximity, and multi-modal needs along the corridor, and has been accepted by local agencies and FHWA. Currently, the project is in the

middle of the alternatives development and screening process. A series of local agency meetings are being conducted to identify location-specific improvements throughout the corridor. At this time, no changes to the FEIS Preferred Alternative are anticipated as a result of this PEL study.

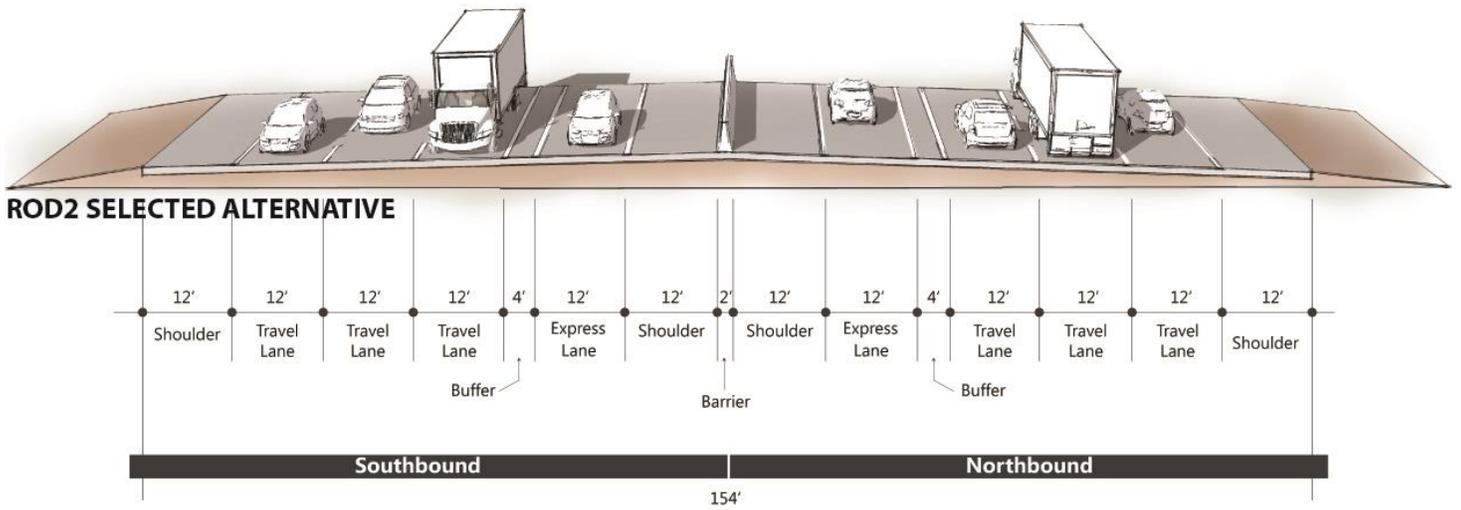
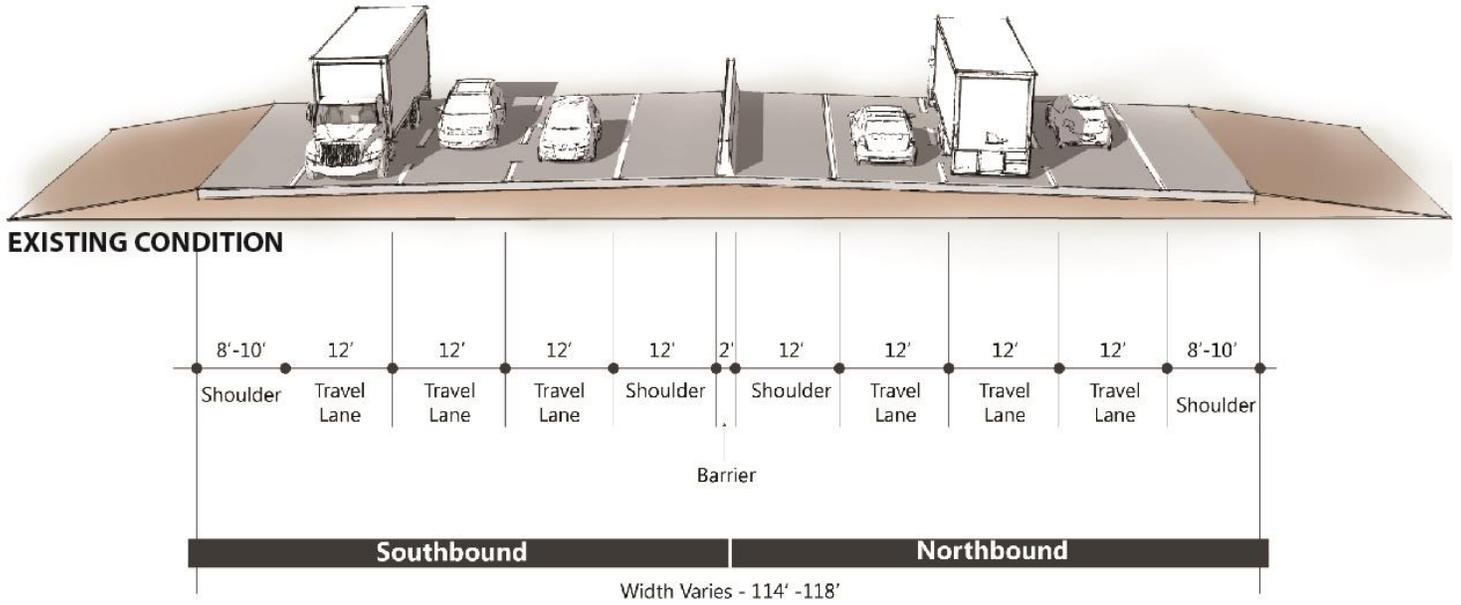
- **Interregional bus service (called Bustang) on I-25.** CDOT's Division of Transit and Rail added express bus service to I-25 with stops at the Harmony Road park-n-ride and US 34/I-25 and service ending in downtown Denver (Denver Union Station and the bus terminal). This service consists of five round trips per weekday (four during the peak period and one during the off-peak period). This service will use the Express Lanes on I-25 when they are completed. Service began in July 2015.
- **North Front Range Commuter Rail Update** is a study undertaken by CDOT's Division of Transit and Rail, initiated in summer 2014. Its goals were to update the costs, alignment, and operating plans for the commuter rail component of the North I-25 Preferred Alternative. This study, completed in April 2015, recommends a new commuter rail alignment in the I-25 right-of-way along the east side from Weld County Road 8 to SH 119. It also recommends two alternate station locations and a revised operating plan (CDOT, 2015b). At this time, no changes to the FEIS Preferred Alternative are anticipated as a result of this study.

2.0 DESCRIPTION OF THE ROD2 SELECTED ALTERNATIVE

The ROD2 Selected Alternative is identical to the FEIS Preferred Alternative between 120th Avenue and SH 7. It includes the following major elements and is further described in Section 2.2.4.1 of the FEIS:

- **I-25 Mainline:** Reconstruction of I-25 between 120th Avenue and SH 7 for 6.7 miles to provide one additional through lane (an Express Lane) in each direction. These lanes will be separated from the general purpose lanes by a painted 4-foot strip. The new Express Lanes tie into the Express Lanes under construction south of 120th Avenue. All widening occurs to the outside because the existing cross-section does not include a median. Northbound and southbound lanes are separated by a concrete barrier. The outside shoulder is widened to be 12 feet. The cross section for this improvement is illustrated in Figure 2.
- **Operations of Express Lanes:** The Express Lanes only allow high-occupancy vehicles (that meet the current criteria for occupancy) and tolled single-occupant vehicles. In 2017 the current criteria for occupancy is likely to change to be three or more people. All high-occupancy vehicles (except public buses) wishing to travel in the Express Lanes for free require a switchable transponder, which must be purchased prior to travel. Other vehicles can travel in the Express Lanes without a transponder. Vehicles without a transponder will be tolled by use of license plate tolling, similar to what is currently in place on E-470 and Northwest Parkway. Access to and from the Express Lanes is allowed only at certain locations.
- **Interchange Modifications:** Minor ramp modifications to accommodate the widening of I-25 are included at 120th Avenue, 136th Avenue, 144th Avenue, and E-470/Northwest Parkway. These modifications are presented in Table 2-13 of the FEIS.
- **Retaining Walls:** Retaining walls are included to avoid or minimize impact to environmentally sensitive areas and to minimize right-of-way needed from existing structures.

Figure 2. ROD2 Selected Alternative Cross Section



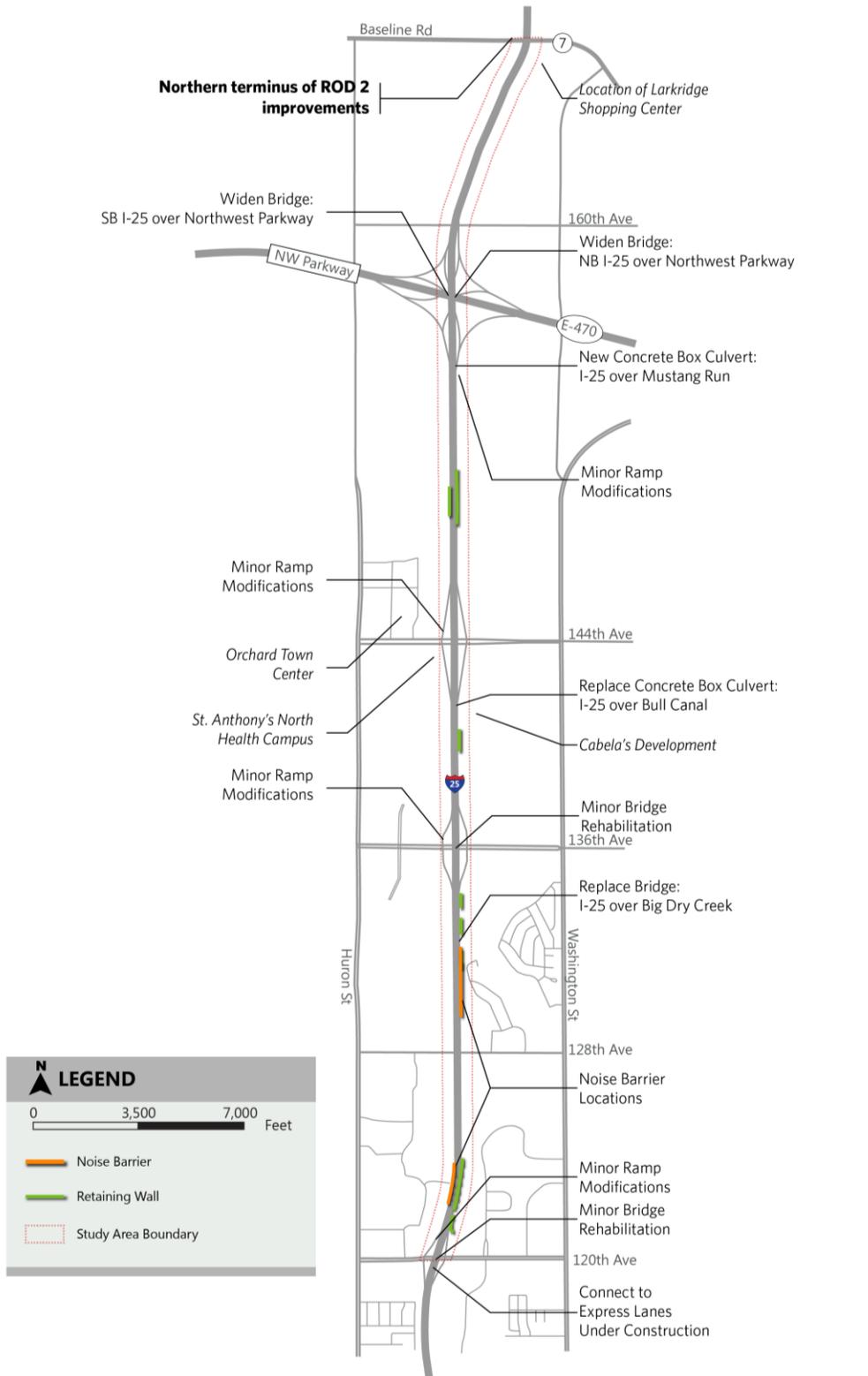
- **Drainage Structures:** Table 2 lists eight bridge and culvert replacements or rehabilitation included as a part of the ROD2 Selected Alternative.
- **Congestion Management Measures:** Table 2-19 of the FEIS lists elements of the FEIS Preferred Alternative whose purpose is to manage congestion. Elements of this that are included in the ROD2 Selected Alternative are the incident management program, signal coordination and prioritization, real-time transportation information, and travel demand measures.

Table 2. Bridge and Culvert Replacements or Rehabilitation

Structure	Work Required	New Structure Type
120th over I-25	Minor Rehabilitation	
I-25 over Big Dry Creek	Replace	Precast Pre-stressed Girder (Slab or box) bridge
136th over I-25	Minor Rehabilitation	
I-25 over Bull Canal	Replace	CIP Concrete Box Culvert
I-25 over Shay Ditch	New	CIP Concrete Box Culvert
I-25 over Mustang Run	New	CIP Concrete Box Culvert
I-25 north bound over Northwest Parkway	16 feet widen	Precast Pre-stressed Girder (Bulb-T)
I-25 southbound over Northwest Parkway	16 feet widen	Precast Pre-stressed Girder (Bulb-T)

Figure 3 illustrates these elements of the ROD2 Selected Alternative and shows the limits of the study area used to assess impacts of the ROD2 Selected Alternative.

Figure 3. Elements of the ROD2 Selected Alternative



3.0 PROJECT PURPOSE AND NEED

The purpose of the North I-25 Project is discussed in Chapter 1 of the FEIS and summarized in this document. It is to meet long-term travel needs between the Denver Metro Area and the rapidly growing population centers along the I-25 corridor north to the Fort Collins-Wellington area. To meet long-term travel needs, the project must improve safety, mobility, and accessibility, and provide modal alternatives and interrelationships. The need for the project can be summarized in four categories:

1. Increased frequency and severity of crashes.
2. Increasing traffic congestion leading to mobility and accessibility problems.
3. Aging and functionally obsolete infrastructure.
4. Lack of modal alternatives.

The ROD2 Selected Alternative incrementally addresses these elements of purpose and need between 120th Avenue and SH 7 in the following ways:

- **Increased frequency and severity of crashes.** The wider outside shoulders and the reductions in congestion noted in the next paragraph address this element of purpose and need.
- **Increased future traffic congestion leading to mobility and accessibility problems.** Several segments of the corridor will experience reductions in congestion in the general purpose lanes. In the AM peak southbound direction, corridor segments between E-470 and 144th Avenue and between 144th Avenue and 136th Avenue are improved from level-of-service (LOS) F to LOS D and from LOS F to LOS E, respectively. In the PM peak, the northbound segments between 136th Avenue and 144th Avenue and between 144th Avenue and E-470 are improved from LOS F to LOS E and from LOS E to LOS C, respectively.

In addition, the vehicle hours traveled (VHT) for this segment of I-25 is reduced by approximately 600, from about 1,500 to 900 VHT during the southbound AM peak period.

The Express Lanes provide an opportunity for motorists to choose a reliable trip, avoiding areas of congestion.

- **Aging and functionally obsolete infrastructure.** The ROD2 Selected Alternative includes new pavement and replaces aging and insufficiently sized drainage structures. This improvement enhances the ability of the interstate to withstand future floods.
- **Lack of modal alternatives.** The Express Lanes encourage multi-modal use by providing a faster and more reliable trip for carpools, vanpools, and buses. The estimated travel time in 2040 for this segment of I-25 in the southbound direction is approximately 15 minutes for the No Action Alternative and 6 minutes for vehicles in the Express Lanes. The faster travel time option for buses, carpools, and vanpools is a clear incentive for regular users of the corridor to switch to one of these modes. The Express Lanes also provide an opportunity for the new CDOT Bustang service to ensure reliable congestion-free travel.

4.0 ALTERNATIVES CONSIDERED

There were a number of alternatives developed and evaluated during the North I-25 EIS process. These were documented in the *North I-25 Draft Environmental Impact Statement* that was released for public comment in 2008 and in the FEIS that was released for public comment in August 2011. These alternatives included:

No Action Alternative, which included only projects with committed funding. This included the two FasTracks rail corridors, the bridge over I-25 at 84th Avenue, the I-25/SH 392 interchange reconstruction, interchange improvements at I-25 and Prospect Road, and the replacement of the I-25 frontage road over the Little Thompson River.

Package A, which focused on general purpose lane widening of I-25 (one additional lane in each direction) plus construction of a double-tracked commuter rail line between Fort Collins and Thornton (at the terminus of the FasTracks North Metro commuter rail line). Package A also included commuter bus service along US 85 from Greeley to downtown Denver and along E-470 from US 85 to Denver International Airport (DIA).

Package B, which included one additional tolled Express Lane (now referred to as Express Lane) along I-25 in each direction except north of SH 60, where two tolled Express Lanes (now referred to as Express Lanes) in each direction were assumed. Package B also included bus rapid transit service along I-25 and feeder bus service along several arterial streets.

Preferred Alternative, which combined some elements of Package A with Package B. I-25 would be widened with general purpose lanes and Tolled Express Lanes (now called Express Lanes). Substandard interchanges would be reconstructed or upgraded.

The Preferred Alternative also includes commuter rail transit service from Fort Collins to the anticipated FasTracks North Metro end-of-line. Service to Denver would travel through Longmont and along the FasTracks North Metro Corridor. A connection to Boulder would also be made with a transfer to Northwest Rail at the Sugar Mill Station in Longmont. Nine commuter rail stations and a commuter transit maintenance facility are included in the Preferred Alternative. The commuter rail would consist of a single track with occasional passing tracks at four locations. The BNSF railroad is requiring that commuter rail utilizing BNSF track upgrade BNSF facilities to include a maintenance road where maintenance access is not available. The Preferred Alternative design includes a maintenance road parallel to the BNSF line between Longmont and Fort Collins. Commuter rail track that is not within the BNSF right-of-way does not include a maintenance road.

Express bus service would operate in the Express Lanes to connect northern Colorado communities to downtown Denver and DIA and serve 13 stations along Harmony Road, US 34, and I-25. Commuter bus service along US 85 would connect Greeley with downtown Denver with five stops at the communities along the route. A bus maintenance facility would be constructed to accommodate both express buses and commuter buses.

As documented in the ROD1, the Preferred Alternative:

- Best responds to the project purpose and need (reducing the frequency and severity of crashes, addressing the increasing traffic congestion along I-25, replacing aging and functionally obsolete infrastructure, and providing modal alternatives).
- Best responds to the land use goals of the cities and counties.
- Provides the best regional connectivity.
- Provides the best regional safety.
- Provides the best overall travel reliability into the future.
- Best supports livability goals (energy consumption, land use, environmental factors).

4.1 Environmentally Preferable Alternative

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

Package A requires relocation of the most number of residences and businesses, results in slightly higher total air emissions than the other packages, results in the most acres of vegetation impacts and soil disturbance, the most acreage of impact to potential Preble's meadow jumping mouse habitat, the highest numbers of adverse effects to properties on the National Register of Historic Places (NRHP) and the most number of parcels with potential or recognized hazardous material conditions. Package A also exacerbates an existing freight rail barrier between neighborhoods in some areas and creates a new barrier in other areas. Package A improves transit related mobility on two corridors in the regional study area. The addition of general purpose lanes to I-25 does not provide an opportunity to manage congestion over time, as volumes grow.

Package B results in the largest number of residences and commercial buildings that would be impacted by highway noise, the most acreage of new impervious surface area, the most wetland impact, the most acreage of floodplain impact, the greatest acreage of impact to sensitive wildlife habitat and aquatic habitat, and the most acres of impact to black-tailed prairie dog habitat. Package B concentrates both highway and transit improvements on a single corridor, I-25. It therefore does not have the negative community impacts the other two alternatives have on noise, visual and community cohesion. It requires the least number of residential and business relocations. It could also tend to provide a growth stimulus to areas along I-25, farther away from the downtown areas located along the US 287 corridor.

In general, the magnitude and severity of the impacts of the three build alternatives to the natural environment are relatively similar taking into account the size of the project. The Preferred Alternative has fewer impacts to the habitat for the Preble's meadow jumping mouse, a federally threatened species. The Preferred Alternative also has the least impacts to aquatic

resources. On the other hand, the Preferred Alternative has more impacts than either of the other build alternatives to bald eagle foraging habitat and raptor nests and it has more impervious surface than Package A.

The Preferred Alternative has been determined to cause the least overall harm to Section 4(f) properties. The Preferred Alternative is most responsive to land use goals of stimulating growth around transit stations, because it includes commuter rail along US 287, express bus along I-25 and commuter bus along US 85. Over time, there is a greater potential with the Preferred Alternative to conserve energy and reduce air emissions because of the easier expansion capabilities of transit service provided on more corridors and because of the potential for transit oriented development around commuter rail, express bus and commuter bus stations. The Preferred Alternative also has the least impact to aquatic resources, including wetlands, other jurisdictional waters, aquatic habitat, and impacts to Preble's meadow jumping mouse habitat. For these reasons, the Preferred Alternative is considered to be the Environmentally Preferable Alternative.

Air pollutant emissions associated with all three build packages would be slightly greater than those anticipated under the No-Action Alternative because vehicle miles of travel would be expected to increase. These emissions in 2035 would, however, be lower than existing levels for all pollutants and in all alternatives.

4.2 Least Environmentally Damaging Practicable Alternative

The FEIS Preferred Alternative (which includes the ROD2 Selected Alternative) has received a Section 404 permit. This permit covers all of the 0.62 acre of impact to wetlands and 0.08 acre of impact to Waters of the US between 120th Avenue and SH 7. There is no difference in wetland or Waters of the US impacts between the FEIS Preferred Alternative and the ROD2 Selected Alternative. Wetland mitigation for the entire FEIS Preferred Alternative has been completed in advance of wetland impacts. The permit number is NOW-2004-80110-DEN. This permit was issued on May 17, 2013. In issuing this permit, the U.S. Army Corps of Engineers has confirmed that the FEIS Preferred Alternative and the ROD2 Selected Alternative is the Least Environmentally Damaging Practicable Alternative.

4.3 ROD1 and Phased Implementation

A phased approach to the decision-making process was taken during development of the ROD1 because the solution to the identified transportation problems cost more to implement than is available in the fiscally constrained RTPs. The identification of an initial phase for implementation is consistent with FHWA requirements to have funding identified for projects before final decisions are made.

The ROD1 identified a set of guiding principles that were to be used to develop a phasing plan for the Preferred Alternative. These were related to project purpose and need and include:

1. Replace aging infrastructure.
2. Address safety concerns.
3. Improve mobility.
4. Coordinate with community plans.
5. Consider long-term with near-term implementation.
6. Implement a cost-effective solution.

The improvements identified in this ROD2 meet these guiding principles by:

- Replacing aging infrastructure at the interchanges and at drainage crossings.
- Improving mobility by increasing capacity.
- Addressing safety issues by decreasing congestion.
- Increasing modal options and providing a competitive time advantage by providing the Express Lane for carpools, vanpools and bus service.

5.0 ENVIRONMENTAL RESOURCES

The ROD2 process included a review of existing conditions, future conditions, changes in legislation, regulations, policies, or guidance, and changes in mitigation for each of the environmental resources examined in the FEIS. A summary of major findings of this review is presented here. Additional information is contained in this document in:

- Appendix A through Appendix H which are the technical memoranda and reports for the environmental resources.
- Appendix I which is the CDOT Mitigation Tracking Form.

Table 3 is a summary of environmental resource reevaluation, documenting what has changed since the FEIS and the ROD1. The following discussion contains a summary of the seven environmental resources that have changed the most since 2011, with information about the ROD2 Selected Alternative impacts and mitigation, as well as brief discussions of what has changed. Because the design of the ROD2 Selected Alternative is identical to the design used for the FEIS Preferred Alternative, the primary changes in impacts or mitigation are associated with changes in existing or future conditions or legislation, regulations, policies, or guidance. None of the changes result in a new significant impact that was not identified in the FEIS. The only change that requires a modification in mitigation from the FEIS is the new noise wall north of 120th Avenue on the west side of I-25.

5.1 Air Quality

Changes in air quality laws, policies, and guidance since 2011 include:

- The Motor Vehicle Emissions Model (MOVES) 2010b was released in June 2012, replacing MOVES2010a that was released in August 2010. MOVES2010b corrects several errors in MOVES 2010a and includes the capability to evaluate additional air toxics.
- FHWA's *Interim Guidance Update on Mobile Source Air Toxics Analysis in NEPA* was updated on December 6, 2012, from the original guidance published in September 2009. The revised guidance reflects changes in methodology for conducting emissions analysis and updates various research topics in mobile source air toxics analyses.

Table 3. Environmental Resource Reevaluation

Setting/Resource/Circumstance	Change in Affected Environment or Setting		Change in Environmental Impact	
	Yes	No	Yes	No
Air Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Geologic Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Water Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wetlands and Waters of the U.S.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vegetation and Noxious Weeds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fish and Wildlife	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Threatened and Endangered Species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Historic Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Archaeological Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Paleontological Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Land Use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Social Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Economic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental Justice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Residential/Business Right-of-Way	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Transportation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Utilities And Railroads	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Section 4(f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Farmlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Visual	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Energy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hazardous Materials	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cumulative	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.1.1 Impacts of the ROD2 Selected Alternative

An interagency consultation was conducted to determine revised analyses. A new carbon monoxide hot spot, qualitative PM₁₀ (particulate matter less than 10 microns in diameter) hot spot, quantitative mobile source air toxics, and greenhouse gas analyses were conducted for the ROD2 Selected Alternative. MOVES 2014 was released at the time of the ROD2 analysis and was utilized for emissions calculations by the Colorado Department of Public Health and Environment (CDPHE) Air Pollution Control Division.

Future projected traffic conditions (volumes and level of service) for 2040 have remained quite similar to projected 2035 conditions as documented in the FEIS. However, air quality modeling for mobile source air toxics and PM₁₀ has been redone for the ROD2 Selected Alternative because of the changes in regulations and guidance. In addition a carbon monoxide hot spot analysis was done for the signalized intersection complex at I-25 and 120th Avenue, including northbound and southbound I-25 ramps and eastbound and westbound 120th Avenue. (The closest carbon monoxide hot spot model done for the FEIS was at SH 7.) No exceedances of the National Ambient Air Quality Standards were found for the FEIS analysis or the ROD2 analysis.

See Appendix B of this document for the *Air Quality Technical Report* (HDR, 2015b).

5.1.2 Mitigation

- Acceptable options for reducing emissions could include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, and after-treatment products.
- The contractor will ensure that all construction equipment is properly tuned and maintained.
- Idling time will be minimized to 10 minutes—to save fuel and reduce emissions.
- Hauling and trucking operations will be consolidated as much as possible to reduce fuel consumption.
- An operational water truck will be on site at all times. Water will be applied to control dust as needed to prevent dust impacts off site.
- There will be no open burning of removed vegetation. Vegetation will be chipped or delivered to waste energy facilities.
- Existing power sources or clean fuel generators will be utilized rather than temporary power generators.
- Obstructions of through-traffic lanes will be minimized. A flag person will be provided to guide traffic properly minimizing congestion and to ensure safety at construction sites.

The project is included on the DRCOG 2040 RTP and on the FY 2016 to FY 2019 Transportation Improvement Program (TIP). All conformity requirements have been met. A full listing of mitigation requirements is contained in Table 5 and Appendix I of this document.

5.2 Historic Properties

A newly documented property—the Fonay Barn (5AM.3128)—was identified in the ROD2 analysis. The barn is over 100 years old and is significant for its wood peg construction technique. The State Historic Preservation Officer (SHPO) has concurred the barn is eligible for inclusion on the NRHP (SHPO, 2014).



Fonay Barn view to northeast

A segment of the Bull Canal (5AM.457.9) was assessed as supporting of the overall eligibility of the entire property during the North I-25 EIS process, at which time it was recorded as site number 5AM.457.2. It has since been covered by a graded parking lot associated with a new commercial development (Cabela's). As a result, this segment of the Bull Canal has lost integrity and no longer supports the overall eligibility of the Bull Canal. SHPO has concurred with this by letter dated May 28, 2014 (SHPO, 2014).

5.2.1 Impacts of the ROD2 Selected Alternative

The ROD2 Selected Alternative results in a finding of *no adverse effect* to the Fonay Barn, which is situated on the far west end of the former farm, about 0.5 mile from I-25. The proposed transportation improvements on I-25 will result in the acquisition of right-of-way totaling 0.353 acre, but there is no direct impact to the barn (HDR, 2015d).

The ROD2 Selected Alternative results in a finding of *no historic properties affected* with regard to the entire Bull Canal (5AM.457) based on the effects to Segment 5AM.457.9. However, the entire Bull Canal (5AM.457) remains historic and eligible for NRHP inclusion.

SHPO concurred with both of these effect determinations by letter dated May 28, 2014.

See Appendix D of this document for the *Historic Resources Report* (HDR, 2015d).

5.2.2 Mitigation

The following mitigation measures applicable to the ROD2 are taken from the Section 106 Programmatic Agreement, which was signed in December 2011:

1. Standard Mitigation:

- a. CDOT shall submit Office of Archaeology and Historic Preservation (OAHP) Cultural Resource Re-evaluation Forms (Form #1405) for any properties that will be changed or modified in order to document changes in the conditions of the properties for OAHP's site files.

2. Creative Mitigation:

- a. CDOT is preparing a historic context of the development and lasting significance of irrigation in Northern Colorado. The Colorado SHPO originally requested the context as a component of the Northern Colorado Historic Ditch Inventory. The historic ditch context will be accessible through the North I-25 web page. The historic ditch context will inform the public to Northern Colorado's role and importance in the development of irrigated agriculture in the western United States. This mitigation will satisfy adverse effects to all irrigation conveyance features (ditches, laterals, and related components and structures) that become eligible after the Agreement is executed.

The creative mitigation has not yet been started, but CDOT is planning to begin these tasks in 2015. A full listing of mitigation requirements is contained in Table 5 and Appendix I of this document.

5.3 Land Use and Socio-Economic Resources

Existing land uses have changed since they were described in the FEIS. New commercial, residential, and retail developments have occurred in several locations adjacent to I-25, replacing agricultural land uses. (*Land Use, Socio-Economics, and Environmental Justice Technical Memorandum*) (HDR, 2015f). The FEIS used 2000 U.S. Census data for study area population and employment. The 2010 Census data are now available and have been used for the ROD2 analysis. Employment in particular has grown noticeably for the cities and counties adjacent to I-25.

There have been new regulations and guidance issued for environmental justice since the FEIS. This analysis considered the following changes in guidance and regulations for environmental justice. *FHWA Guidance on Environmental Justice and NEPA*, signed on December 16, 2011, supplements FHWA Technical Advisory 6640.8A, and provides guidance on the process for addressing Environmental Justice, Title VI, and Limited English Proficiency (LEP). This guidance includes the documentation requirements for NEPA studies and directs the analysis to consider only those adverse effects that remain after mitigation is considered when evaluating disproportionately high and adverse effects. On May 2, 2012, Department of Transportation (DOT) Order 5610.2(a) was issued. On June 14, 2012, FHWA Order 6640.23A was issued. The most current NEPA Manual was released in October 2014.

The FEIS identified populations south of 120th Avenue that are protected by the Environmental Justice Executive Order and DOT order. The new analysis done for the ROD2 did not change this finding. Per Executive Order and U.S. DOT Order 5610.2(a), the FEIS conducted an environmental justice analysis and identified low-income and minority populations south of 120th Avenue. The updated analysis for the ROD2 confirmed the FEIS findings. Therefore, there are no environmental justice populations in the ROD2 study area.

5.3.1 Impacts of the ROD2 Selected Alternative.

The ROD2 Selected Alternative would have the same impacts to land use, social, economic, and environmental justice resources as the FEIS Preferred Alternative in this segment of I-25. The improvements are compatible with land uses, zoning, and land use plans. Right-of-way (24.5 acres) currently used as residential, agricultural, or commercial would be converted to a transportation use. No residential or commercial displacements would occur and no indirect effects to land uses are anticipated.

From a social impact perspective, noise impacts would occur; but when mitigation is included, noise levels would be less than they are currently. Visual impacts would occur. Access and mobility improvements would occur. Improved safety and emergency response times would occur. The Express Lane travel benefits would be available to all users, including low-income users through the express bus service, carpools, and vanpools. Property tax base and revenue would be negatively affected by the right-of-way requirements, but employment during construction would be positively affected. Mobility improvements over the long term would support further economic development.

During construction, detours, traffic delays, noise, and visual impacts would occur. This is an indirect impact to low-income and minority populations who use the corridor but it does not disproportionately affect those populations. All users of the corridor will be impacted by these construction delays.

The primary difference in impacts between the FEIS and the ROD2 relates to the timing of construction. The phasing plan in the FEIS indicates that this stretch of I-25 was to be improved post 2035. The mobility benefits that the population and employment centers in this area would receive from the construction of the Express Lanes would occur much sooner than originally planned. Other benefits, such as the noise reduction from the two proposed noise walls, will occur sooner as well.

The FEIS did not identify a noise wall north of 120th Avenue and west of I-25. Following updated noise analysis, the ROD2 determined a noise wall in this location is feasible and reasonable. This wall will result in changed visual conditions for travelers on I-25 and for residents of the Tanglewood Multifamily Development.

5.3.2 Mitigation

Mitigation measures to address impacts to land use and socio-economic resources will include:

- CDOT will provide advance notice to emergency service providers, local schools, home owners associations, and the public of upcoming activities that are likely to result in traffic disruption. Such notifications will be accomplished through radio and public announcements, newspaper notices, on-site signage, and CDOT's website.
- Where feasible, retaining walls have been identified for construction along I-25 to minimize impacts to residential and commercial development.
- New access will be provided for properties where existing accesses are removed. To avoid disruption of business activities during construction, the new access will be provided before the existing access is removed.
- To minimize disruption to traffic and local businesses, construction activities will be staged and work hours varied. Throughout the construction stage, access will be preserved for each affected business.

There was also a mitigation measure in the FEIS that stated, "If toll lanes are constructed, ways to make tolling more equitable will be sought. For example, payment options will be considered to enable the broadest opportunity for all economic groups to use toll facilities. Alternate payment options will be provided so that persons who do not have a credit card can still travel in the Express Lanes. Toll replenishment using cash or employer-based payroll deductions could also be included in the tolling program."

The Express Lanes implemented as part of the ROD2 Selected Alternative use switchable transponders, sticker transponders, or license plate tolling for payment collection. The sticker transponders are free. The switchable transponders are required for all high-occupancy vehicles to travel the Express Lanes for free. The sticker transponders can be picked up at participating King Soopers or Safeway locations using cash, check, or money order to establish an account, or can be obtained from the E-470 Authority with a credit card or check. Motorcycle tags are required for single-occupant travel in the Express Lanes and may only be purchased directly

through the E-470 Public Highway Authority. At the time of publication of the ROD2, switchable transponders can be purchased for \$15.00, which covers the cost of shipping the equipment, and can only be purchased through the E-470 Public Highway Authority. Vehicles using the Express Lanes without a transponder will be tolled via license plate tolling, which has a surcharge to cover the additional cost of processing and billing. This variety of payment options meets the intent of the mitigation measure described in the FEIS.

A full listing of mitigation requirements is contained in Table 5 and Appendix I of this document.

5.4 Traffic and Transportation

The *Transportation Technical Memorandum* (HDR, 2015a) documents changes in existing conditions, including new trails and substantial increases in existing traffic since traffic counts were documented in 2005 and 2006 for the FEIS. Future traffic conditions are identical to those documented in the FEIS. It also documents the impacts of the ROD2 Selected Alternative.

There is a travel time benefit (a savings of 9 minutes), an increase in reliability, and faster speeds in the Express Lane when compared to travel in the general purpose lanes or when compared to the No Action Alternative. Vehicle hours traveled also decreases from 1,500 to 900 per peak period compared to the No Action Alternative. Improvements in safety are also anticipated because of the reduction in congestion. These impacts are the same as documented in the FEIS.

Mitigation for construction-related traffic and transportation impacts includes the following:

- A Traffic Management Plan will be developed that identifies a construction related traffic control plan, work zone management strategies, and contingency plans.
- During construction, the same number of lanes as existing will be kept open at all times except off-peak travel times.
- Bridge demolition and detour routes will be developed to avoid overloading local streets with detour traffic.
- Peak period ramp closures will be limited to low-volume interchanges.
- Closure of high-volume ramps will be limited to nights or weekends.
- Access to local businesses and residences will be maintained.

Another element of the construction mitigation measures defined in Section 4.9.3 of the FEIS and in the FHWA *Guide for Developing and Implementing Transportation Management Plans for Work Zones* is travel demand management. CDOT has a history of providing travel demand management programs during construction to assist in mitigating traffic impacts. This is currently being done on both the US 36 Corridor and on the North I-25 Express Lanes project south of 120th Avenue. For the ROD2 Selected Alternative, CDOT will work to promote the future usage of the Express Lanes for bus service and carpool and vanpool usage by providing information about the Express Lanes on variable message signs (VMS) that will be installed between 120th Avenue and SH 7. Additionally, CDOT will provide courtesy patrol. CDOT will continue to participate in coordination with Smart Commute Metro North, the Transportation Management Organization for this area, to take into consideration an appropriate travel demand management program.

A full listing of mitigation requirements is contained in Table 5 and Appendix I of this document.

5.5 Section 4(f) Properties

There are two changes in existing conditions relevant to Section 4(f) properties:

1. One new eligible historic property (the Fonay Barn) has been identified.
2. A segment of the Bull Canal that was previously assessed as eligible to the NRHP has recently been reassessed as non-supporting of the overall eligibility to the NRHP.



Fonay Barn view to southwest

The *Section 4(f) Policy Paper* (FHWA, 2012) released on July 20, 2012, was followed for the ROD2 analysis. CDOT also has issued Procedural Directive 1602.1 (CDOT, 2010) that lays out policies relative to pedestrian and bicycle facilities.

5.5.1 Impacts of the ROD2 Selected Alternative

Section 4(f) uses from the ROD2 Selected Alternative consist only of the two *de minimis* impacts to historic properties. There is also a temporary occupancy impact to the Regional Trail Connection to the Big Dry Creek Trail System. Therefore, the only change in Section 4(f) uses from the FEIS is a *de minimis* impact to the Fonay Barn (HDR, 2015e). FHWA has determined this is a *de minimis* impact by letter dated August 13, 2014. In addition, the *de minimis* impact at the Bull Canal was reconfirmed by letter dated May 6, 2015.

See Appendix A of this document for the *Section 4(f) Technical Memorandum* (HDR, 2015e).

5.5.2 Mitigation

Mitigation measures to address uses to Section 4(f) resources include:

- Property acquisition will be completed under the Uniform Relocation Act.
- BMPs will be employed for erosion control during construction.
- Disturbed areas will be reseeded with native grasses.
- Trail detour (for Big Dry Creek Trail) will be provided to Huron Street and either 136th Avenue or 128th Avenue.
- Property for the Big Dry Creek Trail will be restored to a condition at least as good as that which existed prior to construction.
- Detour for Big Dry Creek Trail will be well signed.
- Ditch operations will be maintained for Bull Canal Segment 5AM.457.9 during construction.
- Appropriate erosion and sediment control BMPs will be implemented for Bull Canal Segment 5AM.457.9.
- Disturbed areas of Bull Canal Segment 5AM.457.9 will be reseeded during construction.

A full listing of mitigation requirements is contained in Table 5 and Appendix I of this document.

5.5.3 Least Overall Harm

Because the only change in Section 4(f) use since the ROD1 is a *de minimis* impact to the Fonay Barn, the previous least overall harm determination still applies. As with the other *de minimis* impacts, this new impact is so minor that its contribution to the evaluation of the three alternatives and the determination of least overall harm is basically nil.

The FHWA has determined that there is no feasible and prudent avoidance alternative and the Preferred Alternative includes all possible planning to minimize harm to the Section 4(f) properties resulting from such use. In addition, Section 6.8 of the *North I-25 Revised Section 4(f) Evaluation* (CDOT, 2011b) concludes that the Preferred Alternative is the alternative with the least overall harm to the Section 4(f) properties. With the approval of this ROD2, FHWA (based on consultation with the officials with jurisdictions and the public) finds that the uses associated with the above two historic Section 4(f) properties are *de minimis*, and the ROD2 Selected Alternative remains the alternative with the least overall harm to the Section 4(f) properties.

5.6 Noise

New noise measurements were taken on April 10, 2014. Noise levels are above the CDOT Noise Abatement Criteria in two residential areas (Tanglewood Multifamily Development and Thorncreek Village Development). These measurements were used to validate the revised Traffic Noise Model 2.5 (TNM2.5).

The primary change in noise analysis procedures is that there are updated CDOT *Noise Analysis and Abatement Guidelines* in effect dated 2013. These new guidelines were followed for this ROD2 analysis.

5.6.1 Impacts of the ROD2 Selected Alternative

The ROD2 analysis (using TNM2.5) identified noise impacts at five locations: at the Thorncreek Village Development east of I-25 just south of 136th Avenue, at the Tanglewood Multifamily Development west of I-25, and just north of 120th Avenue, along the I-25 Trail in two locations and at an outdoor patio dining area at the Double Tree Inn, just north of 120th Avenue on the west side. (See Appendix C of this document for the *Noise Impact Assessment* (HDR, 2015c) (HDR, 2015c) Three of these locations, two at the I-25 Trail and the Double Tree Inn, do not meet the reasonable and feasible criteria for mitigation and will not receive a noise barrier.

The FEIS analysis identified noise impacts at several locations in this section of I-25. All but one impact were to businesses or residences that did not meet the minimum requirements to receive mitigation. Only one impacted receptor identified at that time, Thorncreek Village Development, met the criteria for noise impact mitigation.

5.6.2 Mitigation

The ROD2 analysis confirmed the location of a noise wall (1,850 feet long and 14 feet high) along the Thorncreek Village Development east of I-25. The ROD2 analysis also identified a new location for a new noise wall that is north of 120th Avenue and west of I-25 along the Tanglewood Multifamily Development. It is recommended to be 1,440 feet long and 12 feet high. A survey of benefitted noise receptors has been sent or delivered to owners and renters of the affected properties. A majority of those who responded were supportive of the proposed noise

barriers. Both of these locations have been determined to be feasible and reasonable per CDOT's 2013 guidance.

Construction noise would be subject to relevant local regulations and ordinances, and any construction activities would be expected to comply with them. To address the temporary elevated noise levels that may be experienced during construction, standard mitigation measures that will be included are presented in Table 4.

A full listing of mitigation requirements is contained in Table 5 and Appendix I of this document.

5.7 Hazardous Materials

5.7.1 Impacts of the ROD2 Selected Alternative

The *Modified Environmental Site Assessment Addendum* (HDR, 2015g) conducted for the ROD2 (see Appendix G) identified eight sites of concern. However, none of these sites will be impacted by the ROD2 Selected Alternative. The FEIS only identified one site in the study area.

5.7.2 Mitigation

No changes in mitigation are recommended for hazardous materials from what was identified in the FEIS, which includes:

- A Materials Management Plan (MMP), as required by Section 250.03 of the CDOT *Standard Specifications for Road and Bridge Construction* (CDOT, 2011d), will be prepared for areas with known soil and groundwater contamination. Construction specifications will be written to include review of the MMP by the CDOT Regional Environmental Manager.
- If dewatering is necessary, groundwater brought to the surface will be managed according to Section 107.25 of the CDOT *Standard Specifications for Road and Bridge Construction* (CDOT, 2011d) and permitted by the CDPHE's Water Quality Control Division.
- Relocation of overhead electrical utility lines and pole-mounted transformers will be conducted in accordance with any easement agreement between CDOT and/or private landowners.
- If contaminated soil is encountered and a responsible party is not identified, CDOT will be responsible for the clean-up in accordance with state and federal regulations. An MMP and a Health and Safety plan, as required by Section 250.03 of the CDOT *Standard Specifications for Road and Bridge Construction* (CDOT, 2011d), also is recommended for use when oil and gas facilities are encountered.
- Prior to demolition of any structures, an asbestos, lead-based paint, and miscellaneous hazardous materials survey will be conducted at each parcel, where applicable. Regulated materials abatement will be conducted in accordance with Section 250, Environmental, Health, and Safety Management, of the CDOT *Standard Specifications for Road and Bridge Construction* (CDOT, 2011d) and relevant Occupational Health and Safety (OSHA) regulatory details.
- Prior to demolition, regulated materials must be removed from any structures and appropriately recycled or disposed.

- Coordination with the Colorado Department of Labor and Employment Division of Oil and Public Safety (OPS) will be required as soon as possible for any parcel that is or will be acquired, is regulated by OPS and is found to have contaminated the environment. If site characterization and/or remediation have not been completed, the OPS may require CDOT to complete these activities after acquisition. During the right-of-way acquisition process, additional properties may require other actions depending on the results of the Initial Site Assessments. By law, all friable asbestos-containing materials must be removed from structures, including bridges, prior to demolition, and soils if encountered in excavated landfill or building debris, buried utilities, or other asbestos-containing materials. The contractor performing the asbestos abatement is required to be licensed to perform such work and obtain permits from the CDPHE.
- Lead-based paint may need to be removed prior to demolition if the lead is leachable at concentrations greater than regulatory levels. Where lead-based painted surfaces will be removed via torching, additional health and safety monitoring requirements are applicable.
- Prior to construction activities, a Health and Safety Plan, as required by Section 250.03 of the CDOT *Standard Specifications for Road and Bridge Construction* (CDOT, 2011d), will be developed. Construction specifications shall be written to include review of the Health and Safety Plan by the CDOT Regional Environmental Manager.
- If abandoned landfills or coal mines are present below and/or within 1,000 feet of construction activities, the Health and Safety Plan will need to include provisions for assessing and monitoring air quality at all utility trenches, drainage structures, and similar underground construction (i.e., caissons) areas prior to and during intrusive activities to ensure worker safety

A full listing of mitigation requirements is contained in Table 5 and Appendix I of this document.

5.8 Floodplains

5.8.1 Impacts of the ROD2 Selected Alternative

The ROD2 Selected Alternative lies within the Big Dry Creek Watershed. Three structures will be replaced and impact three floodplains as described in the FEIS and summarized below.

Mustang Run crosses under I-25 near mile post 227, flowing from west to east. The existing structure is an 18-inch corrugated metal pipe that would be replaced with a concrete box culvert. This would have the following floodplain impacts:

- A larger structure would likely reduce upstream ponding behind I-25. Immediately downstream of the structure ponding could increase behind a levee at Bull Canal. It is unlikely that flooding would increase downstream of the Bull Canal levee.

Shay Ditch crosses under I-25 near mile post 227, flowing from west to east. The existing pipe would be replaced with a concrete box culvert. This would have the following floodplain impacts:

- Ponding upstream of I-25 would likely be reduced, but there could be an increased chance of flooding downstream of I-25.

Big Dry Creek crosses under I-25 near mile post 225, flowing from west to east. The existing bridge would be replaced in-kind and extended to match the widening of I-25. This would have the following floodplain impacts:

- There would be minimal or no changes to the floodplain limits. There could be local changes because of the bridge being extended, but this should not affect flooding upstream or downstream of the structure.

Impacts to water resources, wetlands, and vegetation that occur because of the construction of these structures in the floodplain are mitigated and discussed under each of these resources.

5.8.2 Mitigation

No changes in mitigation are recommended for floodplain impacts from what was identified in the FEIS, which includes:

- The 100-year FEMA design flows will be used for freeboard determinations, scour design, and to ensure that flow velocities are acceptable.
- The 500-year design flows will be used to further assess the scour design and set the depths of piles or caissons (Big Dry Creek bridge only).
- The design will consider the maximum allowable backwater as allowed by FEMA.
- Degradation, aggregation, and scour are to be determined. Adequate counter measures will be selected using criteria established by the *National Cooperative Highway Research Program Report 568* (TRB, 2006).
- The design will consider costs for construction and maintenance.
- A bridge deck drainage system that controls seepage at joints will be considered. If possible, bridge deck drains will be piped to a water quality feature before being discharged into a floodplain.
- The designs will comply with federal and state agencies. The designs will make every consideration towards local agency requirements and will be consistent with existing watershed and floodplain management programs.
- Location studies shall include discussion of the following items, commensurate with the significance of the risk or environmental impact, for all alternatives containing encroachments and for those actions which would support base flood-plain development:
 - ▶ Measures to minimize floodplain impacts associated with the flood.
 - ▶ The measures to restore and preserve the natural and beneficial floodplain values impacted by the action.

5.9 Other Resources

Table 4 provides information about impacts to the other resources while Table 5 (in Chapter 8.0 of this document) presents the mitigation measures.

Table 4. Resources Impacted by the ROD2 Selected Alternative

Resource	Impacts
Water Resources	Would result in 29 acres of additional impervious surface area. Modifications to the existing drainage system or a new system could improve drainage compared to the No-Action Alternative.
Wetlands and Waters of the U.S.	Would result in total direct impacts of 0.62 acre of wetland and 0.08 acre of jurisdictional open water. Indirect wetland effects would result from the increase in impervious surfaces caused by additional lanes or added road shoulders. Effects would be expected to include increased roadway runoff, increased surface flows in adjacent streams, erosion, and the creation of channels in wetlands that were previously free of channelization. New flows could contain pollutants associated with roadway runoff. Sediment from winter sanding operations accumulating in wetlands. Deicers, petroleum products, and other chemicals would also likely degrade water quality and impacting wetland plants. Additional sediment and erosion would be expected during and after construction until exposed fill and cut slopes could be successfully re-vegetated. Other indirect effects include the decrease or elimination of upland tree and/or shrub buffers between the proposed roadway and wetlands adjacent to other aquatic sites.
Floodplains	Would impact a total of three floodplains. Would result in three I-25 crossings of floodplains and replacement or rehabilitation of three drainage structures along I-25.
Vegetation	Results in approximately 20 acres of vegetation impacts. The potential for noxious weeds to establish and spread onto public lands such as parks and open spaces, and agricultural areas exists.
Noxious Weeds	Results in approximately 30 acres of soil disturbance which can result in the potential disturbance to natural resources due to spread and establishment of noxious weeds.
Wildlife	Would impact approximately 1 acre of riparian/wetland habitat. Would impact 1 wildlife movement corridor.
Threatened, Endangered, Other Federally-Protected, and State Sensitive Species	Direct impact to 23.5 acres of black-tailed prairie dog colonies. Indirect impact to Western Burrowing Owl habitat that may be associated with prairie dog colonies.
Paleontological Resources	Construction along I-25 between E-470 and US 36 (which includes the ROD2 Selected Alternative), especially where cuts are necessary to expand highways and interchanges, has the highest likelihood of adversely impacting paleontological resources.
Right-of-Way (Acquisitions and	No relocations.

Table 4. Resources Impacted by the ROD2 Selected Alternative

Resource	Impacts
Displacements)	All property impacts, including displacements and partial acquisitions, would require a total of approximately 24.5 acres for the implementation of the ROD2 Selected Alternative.
Section 4(f) Properties	Section 4(f) resource uses: two NRHP-listed or eligible sites with <i>de minimis</i> uses.
Parks and Recreation	Willow Park and trail and Big Dry Creek Trail would experience indirect impacts during construction. Widening of the bridge over Big Dry Creek would occur, creating additional shading over the trail. Benefits would include improved access and mobility to and from these recreational resources.
Section 6(f) Resources	Would have no impacts on any Section 6(f) properties.
Farmlands	Would have no impacts on any prime farmlands.
Construction	Construction of all build packages would cause varying temporary impacts to traffic patterns and congestion, noise and vibration, air quality, and visual presence. Construction impacts would be short-term and isolated in extent depending upon the types and location of construction.
Public Safety and Security	There is a potential for increased theft during the construction phase (a temporary impact).
Visual Quality	Most of the proposed improvements would not have a substantial effect to the visual quality of the corridors. Long-term impacts would include increased pavement and right-of-way, and changes to the surrounding landscape through the use of overpasses, bridges, noise walls, retaining walls, medians, as well as alterations to the existing roadway grade. The ROD2 Selected Alternative includes a new noise wall just north of 120th Avenue and west of I-25. This is a new visual impact but is not a significant impact because the wall will only be slightly higher than an existing row of fences and garages that are adjacent to I-25. Additionally, the wall will use the same design aesthetics as other recently constructed walls along the I-25 corridor. Short-term impacts would include detours, increased roadway congestion in and around the area, the presence of large equipment, and dust from construction.
Energy	Would use more energy than the No-Action Alternative, as a result of increase in annual vehicle miles of travel within the regional study area.
Hazardous Materials	No anticipated impacts.

6.0 STATUS OF FEDERAL AND STATE APPROVALS

The following presents the status of federal and state approvals for the ROD2 Selected Alternative:

Air Quality Conformity

The ROD2 Selected Alternative has been included in the DRCOG fiscally constrained 2040 RTP (as of February 2015) and in the FY 2016 to FY 2021 TIP (ID#2016-055, adopted in April 2015.) FHWA official conformity determinations for both the Plan and the TIP have been made.

At the project level, the ROD2 Selected Alternative would not cause or exacerbate an exceedance of the carbon monoxide standard, is not a project of air quality concern for PM₁₀ and is not expected to create or worsen a PM₁₀ violation, would reduce regional mobile source air toxics emissions due to ongoing national control programs and is not a significant source of greenhouse gas emissions. The CDPHE Air Pollution Control Division concurred with this finding by letter dated June 12, 2015. The DRCOG air quality conformity determination for the 2040 RTP and FY 2016-2021 TIP demonstrated conformity to the 8 hour ozone State Implementation Plan for the Denver region.

All requirements of the Clean Air Act Amendments of 1990 Transportation Conformity Rule have been met.

Section 106 Consultation

The lead agencies signed a Section 106 Programmatic Agreement in December 2011. It is included in Appendix G of the ROD1. The Programmatic Agreement defines a process whereby CDOT will reevaluate effects to existing and new cultural resources as construction projects are funded and designs are refined. The ROD2 Selected Alternative has complied with these measures and consulted with SHPO and the Consulting Parties on determinations of eligibility and effects for the ROD2 Selected Alternative. By letter dated May 28, 2015, the SHPO concurred with eligibility and effects.

A part of the Programmatic Agreement is also to conduct creative mitigation. CDOT has started the process of proceeding with the creative mitigation identified in the Programmatic Agreement.

Section 404 Permit

Impacts to wetlands and waters of the U.S. have been submitted to the U.S. Army Corps of Engineers and approval has been granted by receipt of a Section 404 permit. This permit requires certain information to be submitted to the U.S. Army Corps of Engineers prior to construction of an individual project. This will be done during the final design process. All requirements of the Clean Water Act have been met.

Endangered Species Act Consultation

The lead agencies signed a *Programmatic Biological Opinion* (PBO) (USFWS and FHWA, 2011) which is contained in Appendix E of the ROD1. This stipulates that as individual projects are proposed, the lead agencies will provide information to the U.S. Fish and Wildlife Service (USFWS) that describes the proposed action, the species that may be affected, results of habitat assessments, an updated baseline of the project area, a description of how the action may affect the species, a determination of effects, a cumulative total of incidental take that has occurred to date, a description of any additional actions or effects not considered in the programmatic consultation and a description of conservation measures or mitigation activities

already implemented and their effectiveness. The lead agencies will also develop revegetation success criteria for revegetated sites.

The information required as part of the PBO for the ROD2 Selected Alternative was submitted to USFWS on August 20, 2015 (CDOT, 2015c) and is included in Appendix H of this document.

Interchange Modification Approvals

The minor interchange modifications at 120th Avenue, 136th Avenue, 144th Avenue and E-470/Northwest Parkway require submittals of Minor Interchange Modification Requests from FHWA. These are being prepared and will be submitted to FHWA later in 2015.

Relative to the CDOT 1601 process, these same interchanges need approval as Type 2 interchanges since the proposed modifications are minor. This process will be completed as the final design process proceeds and these approvals will be submitted to the CDOT Chief Engineer for approval.

7.0 CLARIFICATIONS AND CORRECTIONS FOR THE FEIS

Table 1-3 on page 1-11 of the FEIS includes both 120th Avenue and 136th Avenue as aging interchange structures. This is incorrect information because the 120th Avenue bridge was constructed in 2006 and the 136th Avenue bridge was constructed in 2004. Neither of these bridges is aging or has a low sufficiency rating. They would both have been designed for a 75-year design life.

8.0 MITIGATION MEASURES AND MONITORING SUMMARY

This section summarizes the mitigation measures identified by CDOT and FHWA to eliminate or minimize social and environmental impacts for the ROD2 Selected Alternative. The impacts are summarized in Table 4 and in Chapter 5.0 of this document.

Mitigation measures that warrant monitoring have also been identified below. Monitoring has been identified where it is appropriate for specific resources to ensure implementation, meet permitting requirements and/or help identify trends and possible means for improvement. As described in this section, monitoring has been identified for air quality (during construction), water quality (per CDOT Region and statewide program/permit requirements), wetlands (per Section 404 permit requirements), noxious weeds (during construction and revegetation), hazardous materials (during construction), paleontology (during construction), and a number of construction activities (see Table 5).

CDOT and FHWA will ensure the mitigation commitments outlined herein will be implemented as part of the project design, construction, and post-construction monitoring. These commitments will be incorporated, as appropriate, into the construction plans and specifications for this project. CDOT and FHWA will ensure that these commitments are implemented through review of the project construction plans and specifications, as well as periodic inspections during construction. Inspections during construction will involve both a review of project construction documentation and observation of construction activities.

CDOT and FHWA will monitor mitigation effectiveness and success through a combination of field reviews, pre-construction and post-construction inspections and post-construction monitoring, as appropriate. CDOT will be preparing annual reports, by agreement with some

resource agencies. Reporting of effectiveness will be done by CDOT and FHWA, in accordance with agency requirements. If mitigation is not successful or mitigation commitments are not met, CDOT will rectify as needed.

The public has been afforded a number of opportunities to comment on proposed mitigation measures, including public meetings, newsletters and the project website. CDOT and FHWA worked with the public and agencies to avoid and minimize impacts. The distribution of the Draft and Final EIS documents have provided the primary opportunity to inform the public on the proposed project and the environmental analysis associated with each identified alternative. Following the distribution of each document, a public comment period was provided. Further opportunities for public information and involvement will exist through updated information provided on the CDOT website, and through public involvement activities that will be initiated during the design and construction phases.

The more detailed chart of Mitigation Commitment Monitoring and Reporting contained in Appendix I of this document includes details related to what branch of CDOT is responsible when the mitigation is needed, when the mitigation is completed, and if agency coordination is required.

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
Land Use	No mitigation required.
Social Conditions	<ul style="list-style-type: none"> ▪ CDOT will provide advance notice to emergency service providers, local schools, home owners associations, and the public of upcoming activities that are likely to result in traffic disruption. Such notifications will be accomplished through radio and public announcements, newspaper notices, on-site signage, and CDOT's website. ▪ Where feasible, retaining walls have been identified for construction along I-25 to minimize impacts to residential development.
Economic Conditions	<ul style="list-style-type: none"> ▪ New access will be provided for properties where existing accesses are removed. To avoid disruption of business activities during construction, the new access will be provided before the existing access is removed. ▪ To minimize disruption to traffic and local businesses, construction activities will be staged and work hours varied. Throughout the construction stage, access will be preserved for each affected business. ▪ Where feasible, retaining walls have been identified for construction along I-25 to minimize impacts to commercial development.
Right-of-Way	<ul style="list-style-type: none"> ▪ Acquisition of those property interests required for the project will comply fully with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (the Uniform Act) and other applicable relocation assistance programs. ▪ The Uniform Act also provides for numerous benefits to individuals who occupy improvements that must be acquired, to assist them both financially and with advisory services related to relocating their residence or business operation to a replacement site.

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
Air Quality	<p>The following mitigation measures are for construction activities:</p> <ul style="list-style-type: none"> ▪ Acceptable options for reducing emissions could include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, and after-treatment products. ▪ The contractor will ensure that all construction equipment is properly tuned and maintained. ▪ Idling time will be minimized to 10 minutes—to save fuel and reduce emissions. ▪ Hauling and trucking operations will be consolidated as much as possible to reduce fuel consumption. ▪ An operational water truck will be on site at all times. Water will be applied to control dust as needed to prevent dust impacts off site. ▪ There will be no open burning of removed vegetation. Vegetation will be chipped or delivered to waste energy facilities. ▪ Existing power sources or clean fuel generators will be utilized rather than temporary power generators. ▪ Obstructions of through-traffic lanes will be minimized. A flag person will be provided to guide traffic properly minimizing congestion and to ensure safety at construction sites.
Noise and Vibration	<p>From the feasibility and reasonableness evaluations for the barriers, new traffic noise barriers are committed for the following locations:</p> <ul style="list-style-type: none"> ▪ Thorncreek Village development ▪ Tanglewood Multifamily development
Water Resources	<p>A combination of mitigation measures consisting of permanent structural, nonstructural, and temporary construction BMPs will be implemented in the regional study area, in compliance with the Clean Water Act and CDOT's MS4 permit requirements. BMPs will include water collection and passive treatment of stormwater, which is currently being directly discharged into existing water systems.</p> <p>Structural BMPs</p> <ul style="list-style-type: none"> ▪ Extended detention/retention ponds have been identified as the primary structural BMP for this project. ▪ Locations of water quality ponds have been identified throughout the regional study area. Placement of the BMPs is provided in the <i>Water Quality and Floodplain Technical Report</i> (FHU, 2008) and <i>Water Quality and Floodplain Technical Report Addendum</i> (FHU, 2010a) and the <i>Concept Plans Technical Report</i> (FHU, 2010b). ▪ Riprap will be placed at bridge abutments, piers, and at critical portions of channels or floodplains. ▪ When possible, passive BMPs (e.g., grass swales or natural infiltration) will be used for ephemeral streams.

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<p><u>Temporary Construction BMPs</u></p> <ul style="list-style-type: none"> ▪ Stormwater management plans (silt fence, inlet protection, containerization of wastes, etc.) will be developed during design, implemented during construction, and updated as needed. ▪ A Spill Prevention Plan will be prepared. ▪ In-stream activities will be minimized. ▪ CDOT's specifications for managing stormwater at a construction site (currently specifications 107.25, 208, 212, 213, and 216) will be followed. ▪ Vegetation or other erosion control techniques (as indicated by CDOT erosion control practices) will be established to prevent sediment loading in compliance with the general stormwater construction permit. ▪ Construction activities will be phased to minimize effects associated with large areas of exposed ground and with soil compaction from heavy machinery use.
Groundwater Quality	<ul style="list-style-type: none"> ▪ If groundwater is encountered during activities associated with excavations for caisson/retaining walls, the discharge of groundwater is authorized when the following conditions are met: <ul style="list-style-type: none"> > Source is groundwater and/or groundwater combined with stormwater that does not contain pollutants in concentrations exceeding the State groundwater standards in Regulations 5 CCR 1002-41 and 42. > Discharge is in accordance with CDPHE Water Quality Control Division, Water Quality, Policy-27, Low-Risk Discharges, September 2009. > Source is identified in the Stormwater Management Plan (SWMP). > Dewatering BMPs are included in the SWMP. > Discharges do not leave the site as surface runoff or to surface waters. <p>If these conditions are not met, then a separate Clean Water Act Section 402 Construction Dewatering Permit or Individual Construction Dewatering Permit will be required to be obtained by CDOT's contractor from the CDPHE's Water Quality Control Division.</p> <ul style="list-style-type: none"> ▪ If dewatering is necessary, groundwater brought to the surface will be managed according to Section 107.25 of the CDOT <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2011d).
Wetlands and Waters of the U.S.	<p>Impacts to wetlands and jurisdictional open water will be avoided and minimized to the greatest extent possible during preliminary and final design. The following mitigation goals are appropriate for unavoidable impacts to wetlands:</p> <ul style="list-style-type: none"> ▪ All Section 404 requirements from the Section 404 permit already obtained will be followed. This includes notification of the U.S. Army Corps of Engineers prior to construction. ▪ During construction, BMPs will be used to avoid indirect construction impacts to wetlands. Materials and equipment will be stored a minimum of 50 feet from wetlands, drainages, and ditches that could carry toxics materials into wetlands. Construction fencing and appropriate sediment control BMPs will be used to mark wetland

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<p>boundaries and sensitive habitats during construction.</p> <ul style="list-style-type: none"> ▪ Sediment and erosion control will be required to be placed during all phases of construction and will remain in place until all disturbed areas have reached 70 percent of preconstruction vegetative cover.
Vegetation	<p>Specific BMPs will be determined during final design. Where practical, mitigation measures include:</p> <ul style="list-style-type: none"> ▪ An acceptable revegetation plan will be developed with the CDOT landscape architect and with county personnel in Adams and Broomfield counties and the cities of Thornton, Northglenn, and Westminster. The revegetation plan must also be acceptable to municipalities within their jurisdictional areas. ▪ An SB 40 Certification for stream crossings or adjacent stream banks will be obtained. In these areas, it is recommended that trees and shrubs be replaced on a 1:1 basis (trees) and square-foot basis (shrubs). ▪ CDOT standard specifications for the amount of time that disturbed areas are allowed to be non-vegetated will be followed. ▪ Existing trees, shrubs, and vegetation will be avoided to the maximum extent possible, especially wetlands and riparian plant communities. The project team will coordinate with the CDOT landscape architect before construction to determine the types of vegetation that will be protected during construction. ▪ Weed-free topsoil will be salvaged for use in seeding. ▪ Erosion control blankets will be used on steep, newly seeded slopes. Slopes should be roughened at all times. ▪ All disturbed areas will be revegetated with native grass and forb species. ▪ Seed, mulch, and mulch tackifier will be applied in phases throughout construction.
Noxious Weeds	<p>An integrated weed management plan or project specific CDOT 217 Specification will be incorporated into the project design and implemented during construction. Specific BMPs will be required during construction to reduce the potential for introduction and spread of noxious weed species. These will include:</p> <ul style="list-style-type: none"> ▪ Noxious weed mapping will be included in the construction documents along with appropriate weed control methods. ▪ Highway right-of-way areas will be inspected periodically by the associated city or its consultants during construction and during post-construction weed monitoring for invasion of noxious weeds. ▪ Weed management measures will include removal of heavily infested topsoil, herbicide treatment of lightly infested topsoil as well as other herbicide and/or mechanical treatments, limiting disturbance areas, phased seeding with native species throughout the project, and monitoring during and after construction. ▪ Use of herbicides will include selection of appropriate herbicides and timing of herbicide spraying and use of a backpack sprayer in and adjacent to sensitive areas, such as wetlands and riparian areas. ▪ Certified weed-free hay and/or mulch will be used in all revegetated areas.

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<p>Where practical, preventative control measures for project design and construction will include:</p> <ul style="list-style-type: none"> ▪ Only native species will be used to revegetate sites. ▪ Materials used for revegetating will be inspected and regulated in accordance with provisions of the Weed Free Forage Act, Title 35, Article 27.5, CRS. ▪ When salvaging topsoil from onsite construction locations, the potential for spread of noxious weeds will be considered. ▪ Equipment will remain on designated roadways and stay out of weed infested areas until the areas are treated. All equipment will be cleaned of all soil and plant parts before its arrival at a project site.
Wildlife	<p>CDOT mitigation measures associated with wildlife impacts will include:</p> <ul style="list-style-type: none"> ▪ An application for SB 40 Certification will be submitted to CPW. ▪ Requirements of the Migratory Bird Treaty Act (1918) (MBTA) will be followed. ▪ Prairie dog colonies will need to be resurveyed prior to construction. In areas where avoidance of prairie dogs is not possible, CDOT will follow its Impacted Black-tailed Prairie Dog Policy. Any prairie dog relocation or removal activities will be carried out in accordance with CRS 35-7-203, as well as any other applicable laws or regulations, and with close coordination with CPW. ▪ To maximize use of movement corridors by wildlife, bridge spans and culverts should have the following features: a minimum clearance of 10 feet and width of 20 feet for deer and a minimum “openness ratio” of 0.75. ▪ Shrubs and vegetative cover will be placed at bridge underpass openings to attract wildlife and provide a “funnel effect.” ▪ For structures that periodically convey water, ledges or shelves will provide passage alternatives during high water. ▪ To avoid human disturbance to wildlife, trails should not be placed near wildlife crossing structures. <p>To maximize use of bridges and culverts by wildlife, where practical other design elements will include:</p> <ul style="list-style-type: none"> ▪ The placement of lighting should be avoided near the crossing structures. ▪ Roadside vegetation height should be kept to a minimum. <p>The following design measures will be implemented to mitigate potential impacts to aquatic species, including native fish, where applicable:</p> <ul style="list-style-type: none"> ▪ Riffle and pool complexes should be maintained and/or created. ▪ Natural stream bottoms will be maintained. ▪ Culverts should be partially buried and the bottom should be covered with gravel/sand and have a low gradient. ▪ Culverts to be replaced should be replaced with one of equal or greater size. ▪ Culverts will not have grates, impact dissipaters, or any other features that would impede fish movement.

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<ul style="list-style-type: none"> ▪ Access points to streams during construction will be limited to minimize degradation of the banks. ▪ No new fish passage barriers will be created.
Threatened, Endangered, Other Federally Protected, and State-Sensitive Species	<p>The following mitigation measures address impacts to the threatened and endangered species:</p> <ul style="list-style-type: none"> ▪ CDOT will consult with CPW to determine if bald eagle nests are present in or adjacent to the project area. If an active bald eagle nest is found within 0.5 mile of the regional study area, the buffers and seasonal restrictions recommended by CPW will be established during construction to avoid nest abandonment. ▪ No construction will occur within 0.25 mile of active bald eagle nocturnal roosts between November 15 and March 15. If perch or roost trees are removed during construction, they will be replaced at a 2:1 ratio with native cottonwood trees. ▪ Burrowing owl surveys will be conducted prior to any work in prairie dog colonies between March 15 and October 31. If burrowing owls are present, prairie dog removal will be scheduled to occur outside this time period. If burrowing owls are found within the construction footprint during preconstruction surveys, nests will be left undisturbed and additional avoidance measures will be developed in coordination with CPW. Direct impacts to burrowing owls will be avoided by covering or destroying prairie dog burrows prior to construction (prior to March 15). Direct impacts to nesting great blue herons will be avoided by prohibiting work within the 500-meter (0.31-mile) buffer from nest sites recommended by CPW. Impacts within this buffer will be limited during the nesting season, which occurs from mid-March through July.
Visual Quality	<ul style="list-style-type: none"> ▪ Mitigation measures to address visual effects of highway widening will include incorporating landscaping at interchanges and along the highway. ▪ Mitigation measures to address visual effects of structural elements will include providing architectural interest or color into retaining walls and sound walls, and reducing the effect of overpasses by providing architectural detailing of the railings and other features.
Historic Preservation	<ol style="list-style-type: none"> 1. Standard Mitigation: <ol style="list-style-type: none"> a. CDOT shall submit Office of Archaeology and Historic Preservation (OAHP) Cultural Resource Re-evaluation Forms (Form #1405) for any properties that will be changed or modified in order to document changes in the conditions of the properties for OAHP's site files. 2. Creative Mitigation: <ol style="list-style-type: none"> a. CDOT is preparing a historic context of the development and lasting significance of irrigation in Northern Colorado. The Colorado SHPO originally requested the context as a component of the Northern Colorado Historic Ditch Inventory. The historic ditch context will be accessible through the North I-25 web page. The historic ditch context will inform the public to Northern Colorado's role and importance in the development of irrigated agriculture in the western United States. This mitigation will satisfy adverse effects to all irrigation conveyance features (ditches, laterals, and related components and structures) that become eligible after the Agreement is executed.

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
Paleontological Resources	<ul style="list-style-type: none"> ▪ The latest revision of the CDOT Specification 107 Archeological/Paleontological shall be followed. All paleontological monitoring work will be performed by a qualified and state of Colorado-permitted paleontologist. Paleontological monitoring will include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present. This work would take place during surface disturbing activities, such as excavations for the construction of roads, railways, bridges, underpasses, and buildings. ▪ Monitoring will be scheduled to take place continuously or to consist of spot-checks of construction excavations, depending upon the paleontological sensitivity of the regional study area based on its geology and the types and significance of potential fossils that could be present in subsurface sedimentary deposits. Paleontological monitors will follow earth-moving equipment and examine excavated sediments and excavation sidewalls for evidence of significant paleontological resources. At the request of the monitors, the project engineer will order temporary diversion of grading away from exposed fossils in order to permit the monitors to efficiently and professionally recover the fossil specimens and collect associated data. All efforts to avoid delays to project schedules will be made. ▪ If any subsurface bones or other potential fossils are found by construction personnel during construction, work in the immediate area will cease immediately, and the CDOT paleontologist will be contacted to evaluate the significance of the find.
Hazardous Materials	<ul style="list-style-type: none"> ▪ An MMP, as required by Section 250.03 of the CDOT <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2014a), will be prepared for areas with known soil and groundwater contamination. Construction specifications will be written to include review of the MMP by the CDOT Regional Environmental Manager. ▪ If dewatering is necessary, groundwater brought to the surface will be managed according to Section 107.25 of the CDOT <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2011d) and permitted by the CDPHE's Water Quality Control Division. ▪ Relocation of overhead electrical utility lines and pole-mounted transformers will be conducted in accordance with any easement agreement between CDOT and/or private landowners. ▪ If contaminated soil is encountered and a responsible party is not identified, CDOT will be responsible for the clean-up in accordance with state and federal regulations. An MMP and a Health and Safety plan, as required by Section 250.03 of the CDOT <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2011d), also is recommended for use when oil and gas facilities are encountered. ▪ Prior to demolition of any structures, an asbestos, lead-based paint, and miscellaneous hazardous materials survey will be conducted at each parcel, where applicable. Regulated materials abatement will be conducted in accordance with Section 250, Environmental, Health, and Safety Management, of the CDOT <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2011d) and relevant Occupational Health and Safety (OSHA) regulatory details. ▪ Prior to demolition, regulated materials must be removed from any structures and appropriately recycled or disposed.

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<ul style="list-style-type: none"> ▪ Coordination with the Colorado Department of Labor and Employment Division of OPS will be required as soon as possible for any parcel that is or will be acquired, is regulated by OPS and is found to have contaminated the environment. If site characterization and/or remediation have not been completed, the OPS may require CDOT to complete these activities after acquisition. During the right-of-way acquisition process, additional properties may require other actions depending on the results of the Initial Site Assessments. By law, all friable asbestos-containing materials must be removed from structures, including bridges, prior to demolition, and soils if encountered in excavated landfill or building debris, buried utilities, or other asbestos-containing materials. The contractor performing the asbestos abatement is required to be licensed to perform such work and obtain permits from the CDPHE. ▪ Lead-based paint may need to be removed prior to demolition if the lead is leachable at concentrations greater than regulatory levels. Where lead-based painted surfaces will be removed via torching, additional health and safety monitoring requirements are applicable. ▪ Prior to construction activities, a Health and Safety Plan, as required by Section 250.03 of the CDOT <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2011d), will be developed. Construction specifications shall be written to include review of the Health and Safety Plan by the CDOT Regional Environmental Manager. ▪ If abandoned landfills or coal mines are present below and/or within 1,000 feet of construction activities, the Health and Safety Plan will need to include provisions for assessing and monitoring air quality at all utility trenches, drainage structures, and similar underground construction (i.e., caissons) areas prior to and during intrusive activities to ensure worker safety.
Parks and Recreation	No mitigation is required.
Section 6(f)	No mitigation is required.
Farmlands	No mitigation is required.
Floodplains	<ul style="list-style-type: none"> ▪ The 100-year FEMA design flows will be used for freeboard determinations, scour design, and to ensure that flow velocities are acceptable. ▪ The 500-year design flows will be used to further assess the scour design and set the depths of piles or caissons (Big Dry Creek bridge only). ▪ The design will consider the maximum allowable backwater as allowed by FEMA. ▪ Degradation, aggregation, and scour are to be determined. Adequate counter measures will be selected using criteria established by the <i>National Cooperative Highway Research Program Report 568</i> (TRB, 2006). ▪ The design will consider costs for construction and maintenance. ▪ A bridge deck drainage system that controls seepage at joints will be considered. If possible, bridge deck drains will be piped to a water quality feature before being discharged into a floodplain. ▪ The designs will comply with federal and state agencies. The designs will make every consideration towards local agency requirements and will be consistent with existing

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<p>watershed and floodplain management programs.</p> <ul style="list-style-type: none"> ▪ Location studies shall include discussion of the following items, commensurate with the significance of the risk or environmental impact, for all alternatives containing encroachments and for those actions which would support base flood-plain development: <ul style="list-style-type: none"> > Measures to minimize floodplain impacts associated with the flood > The measures to restore and preserve the natural and beneficial floodplain values impacted by the action.
Public Safety and Security	<p>Mitigation measures for temporary impacts during construction include:</p> <ul style="list-style-type: none"> ▪ Potential losses at construction sites will be mitigated through fencing and on-site security provided by contractors. All construction contractors will be responsible for safety at their respective sites and will be required to follow all OSHA requirements applicable to construction site safety. The appropriate agencies will provide a site safety officer to monitor site safety.
Transportation	<p>Mitigation for construction-related traffic and transportation impacts includes the following:</p> <ul style="list-style-type: none"> ▪ A Traffic Management Plan will be developed that identifies a construction related traffic control plan, work zone management strategies, and contingency plans. ▪ Bridge demolition and detour routes will be developed to avoid overloading local streets with detour traffic. ▪ Peak period ramp closures will be limited to low-volume interchanges. ▪ Closure of high-volume ramps will be limited to nights or weekends. ▪ Access to local businesses and residences will be maintained. ▪ Another element of the construction mitigation measures defined in Section 4.9.3 of the FEIS and in the FHWA <i>Guide for Developing and Implementing Transportation Management Plans for Work Zones</i> is travel demand management. CDOT has a history of providing travel demand management programs during construction to assist in mitigating traffic impacts. This is currently being done on both the US 36 Corridor and on the North I-25 Express Lanes project south of 120th Avenue. For the ROD2 Selected Alternative, CDOT will work to promote the future usage of the Express Lanes for bus service and carpool and vanpool usage by providing information about the Express Lanes on variable message signs (VMS) that will be installed between 120th Avenue and SH 7. Additionally, CDOT will provide courtesy patrol. CDOT will continue to participate in coordination with Smart Commute Metro North, the Transportation Management Organization for this area, to take into consideration an appropriate travel demand management program.
Section 4(f)	<p>Mitigation measures to address uses of Section 4(f) resources include:</p> <ul style="list-style-type: none"> ▪ Property acquisition will be completed under the Uniform Relocation Act. ▪ BMPs will be employed for erosion control during construction. ▪ Disturbed areas will be reseeded with native grasses. ▪ Trail detour (for Big Dry Creek Trail) will be provided to Huron Street and either 136th

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<p data-bbox="516 331 792 363">Avenue or 128th Avenue.</p> <ul style="list-style-type: none"> <li data-bbox="492 373 1421 443">▪ Property for the Big Dry Creek Trail will be restored to a condition at least as good as that which existed prior to construction. <li data-bbox="492 449 1040 480">▪ Detour for Big Dry Creek Trail will be well signed. <li data-bbox="492 487 1341 556">▪ Ditch operations will be maintained for Bull Canal Segment 5AM.457.9 during construction. <li data-bbox="492 562 1333 632">▪ Appropriate erosion and sediment control best management practices will be implemented for Bull Canal Segment 5AM.457.9. <li data-bbox="492 638 1308 707">▪ Disturbed areas of Bull Canal Segment 5AM.457.9 will be reseeded during construction.
Construction	<p data-bbox="492 720 1414 890">CDOT's <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2011d) and CDOT's <i>Construction Manual</i> (Revised July 13, 2015) (CDOT, 2014b) outline basic mitigation measures that contractors are required to take on any construction project. Appropriate application of these mitigation strategies will be defined during the final engineering phase of this project.</p> <p data-bbox="492 896 558 928">Noise</p> <ul style="list-style-type: none"> <li data-bbox="492 934 846 966">▪ Implement construction BMPs. <li data-bbox="492 972 1154 1003">▪ Use noise blankets on equipment and quiet-use generators. <li data-bbox="492 1010 1149 1041">▪ Combine noisy operations to occur in the same time period. <li data-bbox="492 1047 1349 1117">▪ Use alternative construction methods, such as sonic or vibratory pile-driving in sensitive areas, when possible. <li data-bbox="492 1123 1360 1192">▪ In residential areas, construction activities will be minimized during the evening, nighttime, weekends, and holidays when receptors are usually in these areas. <li data-bbox="492 1199 1425 1268">▪ Nighttime construction will be desirable (e.g., commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. <li data-bbox="492 1274 1406 1344">▪ The major noise source on construction sites is typically diesel motors; therefore, all engines will use commercially available effective mufflers and enclosures, as possible. <li data-bbox="492 1350 1422 1629">▪ Modern equipment will be used with improved noise muffling and all equipment items will be evaluated to ensure that they have the manufacturers' recommended noise abatement measure, such as mufflers, engine covers, and engine vibration isolators intact and operational. Generally, newer equipment would create less operational noise than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding). <li data-bbox="492 1635 1360 1705">▪ The use of impact pile driving will be avoided near noise-sensitive areas, where possible. Alternative foundation preparation technologies will be used, such as vibratory pile driving or cast in drilled hole. <li data-bbox="492 1711 1354 1780">▪ Temporary barriers will be used and relocated, as required, to protect sensitive receptors from excessive construction noise. <li data-bbox="492 1787 1354 1856">▪ Noise barriers should be made of heavy plywood or moveable insulated sound blankets.

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<ul style="list-style-type: none"> ▪ Plans will be made to conduct truck loading, unloading, and hauling operations so that noise will be kept to a minimum. ▪ Frequent updates of all construction activities will be provided to the public. ▪ A community noise and vibration monitoring plan and a noise and vibration control plan will be prepared before initiating any construction. <p><u>Access</u></p> <ul style="list-style-type: none"> ▪ Use enhanced signing. ▪ Use alternate access enhancements. ▪ Use advertising/public relations. ▪ Do not close multiple interchanges concurrently. <p><u>Highway</u></p> <ul style="list-style-type: none"> ▪ Limit detours. ▪ Place detours on major arterial streets and ensure no local street detours are implemented. ▪ Schedule construction during periods of least traffic. ▪ Limit construction vehicles to major arterials. ▪ Enforce speed restrictions; provide adequate space for enforcement; make prime contractor accountable. ▪ Use courtesy patrol. ▪ Use enhanced signing. ▪ Phase construction to limit traffic in neighborhoods. ▪ Comply with AASHTO guidance and Manual on Uniform Traffic Control Devices. ▪ Coordinate work activities to ensure they do not coincide with sporting, school, or special events. ▪ Implement advanced traffic diversion. ▪ Use intelligent management systems and variable message signs to advise/redirect traffic. Work with RTD to offer enhanced operations during peak construction. ▪ Maintain access to local businesses/residents. ▪ Coordinate with emergency service providers to minimize delay and ensure access to properties. <p><u>Pedestrian/Bicycle Mobility</u></p> <ul style="list-style-type: none"> ▪ Provide well-defined detours for pedestrians/bicyclists. ▪ Enhance safety through the use of adequate signing, fencing, and lighting. ▪ Implement a public relations program. ▪ Comply with Americans with Disabilities Act requirements. <p><u>Environmental Impacts</u></p> <ul style="list-style-type: none"> ▪ Use wetting/chemical inhibitors for dust control. ▪ Provide early investigation of subsurface conditions. ▪ Prepare a well-defined materials management plan per the Hazardous Waste

Table 5. Resources and Mitigation

Impacted Resource	Mitigation
	<p data-bbox="516 331 607 363">Section.</p> <ul style="list-style-type: none"> <li data-bbox="492 375 1078 407">▪ Require prompt and safe disposal of waste products. <li data-bbox="492 417 850 449">▪ Implement water quality BMPs. <li data-bbox="492 459 1349 491">▪ Prepare well-defined stormwater management plan per Water Quality Section. <li data-bbox="492 501 932 533">▪ Institute resource reuse and allocation. <li data-bbox="492 543 997 575">▪ Cover trucks hauling soil and other materials. <li data-bbox="492 585 894 617">▪ Stabilize and cover stockpile areas. <li data-bbox="492 627 1403 690">▪ Minimize offsite tracking of mud, debris, hazardous material, and noxious weeds by washing construction equipment in contained areas. <li data-bbox="492 701 1370 764">▪ Avoid impacts to wetlands or other areas of important habitat value in addition to those impacted by the project itself. <li data-bbox="492 774 1411 869">▪ Control and prevent concrete washout and construction wastewater. As projects are designed, ensure that proper specifications are adhered to and reviewed to ensure adequacy in the prevention of water pollution by concrete washout. <li data-bbox="492 879 1118 911">▪ Store equipment and materials in designated areas only. <li data-bbox="492 921 1110 953">▪ Promptly remove any unused detour pavement or signs. <li data-bbox="492 963 1395 1058">▪ Follow CDOT's <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2011d), including sections regarding water quality control, erosion control, and environmental health and safety. <li data-bbox="492 1068 1330 1100">▪ Prepare or revegetate exposed areas as soon as possible after construction. <li data-bbox="492 1110 1073 1142">▪ Remove soil and other materials from paved streets. <li data-bbox="492 1152 1427 1215">▪ Incorporate recommendations, as appropriate, from the Regional Air Quality Council's (RAQC) <i>Reducing Diesel Emissions in the Denver Area report</i> (RAQC, 2002). <li data-bbox="492 1226 1040 1257">▪ Operate equipment mainly during off-peak hours. <li data-bbox="492 1268 810 1299">▪ Limit equipment idling time. <li data-bbox="492 1310 1430 1415">▪ Use recycled materials for project activities to the extent allowed by good practice and CDOT construction specifications. Use construction equipment that use ultra-low sulfur fuels to the extent practicable. <p data-bbox="492 1425 688 1457"><u>Water Resources</u></p> <ul style="list-style-type: none"> <li data-bbox="492 1467 1419 1562">▪ BMPs used will be consistent with the MS4 permitting requirements, requirements of Northern Front Range flood control districts, as well as practices mentioned in CDOT's <i>Erosion Control and Stormwater Quality Guide</i> (CDOT, 2002). <li data-bbox="492 1572 1419 1635">▪ Section 107.25 of CDOT's <i>Standard Specifications for Road and Bridge Construction</i> (CDOT, 2011d) deals with contractor's requirements for water quality control.

9.0 PERMITS AND APPROVALS

The following permits for the ROD2 Selected Alternative may be needed. These will be obtained prior to construction.

9.1 Water Quality/Water Resources

9.1.1 Colorado Discharge Permit System (CDPS)

A CDPS permit is required by State and Federal regulations for stormwater discharged from any construction activity that disturbs at least one acre of land. This discharge permit is required to ensure the quality of stormwater runoff from the construction site. Under CDPS permit stipulations, a site-specific stormwater management plan would be prepared that outlines in detail specific BMPs for inclusion in project plans and implementation in the field. Included in the stormwater management plan are such aspects as BMP locations, turbidity and monitoring requirements, seed mix, concrete wash-out provisions, and other relevant information. Permits would be obtained from CDPHE's Water Quality Control Division.

9.1.2 Section 404 Permit

A Section 404 permit, which is issued by the U.S. Army Corps of Engineers, has been obtained. All requirements in this permit will be followed, including the requirement to submit additional information to the U.S. Army Corps of Engineers for individual projects. This will be done during the final design process.

9.1.3 Section 402 Permit

A Section 402 permit is required for dewatering of construction areas, if necessary. The following activities would likely require a Section 402 permit:

- Construction dewatering operations associated with utility excavation, bridge pier installation, foundation or trench digging, or other subsurface activities.
- If discharge from a point source is expected to occur due to vehicle washing, or from industrial discharges.

A Section 402 permit would be obtained from CDPHE's Water Quality Control Division.

9.1.4 Section 401 Water Quality Certification

A Section 401 Water Quality Certification is required in conjunction with an Individual 404 Permit (dredge and fill permit) for any transportation construction project or maintenance activity where work occurs below the ordinary high-water line or adjacent to wetlands. As part of its 401 Certification, Regulation No. 82 states that CDOT is required to notify the CDPHE and the owners and operators of municipal and domestic water treatment intakes or diversions downstream if potential impacts to nearby receiving waters may occur during construction, e.g., when blasting occurs near receiving streams. Unless specified by the Water Quality Control Division of CDPHE, in-stream turbidity monitoring is not typically required. The 401 Certification must be obtained from the Water Quality Control Division of the CDPHE.

9.1.5 Floodplain Permits

Floodplain permits, including a floodplain development permit, Conditional Letter of Map Revision, and Letter of Map Revision, are required for any floodplain encroachment.

9.2 Air Quality

9.2.1 Stationary Source Permitting and Air Pollution Emissions Notice (APEN) Requirements

A stationary source permit and APEN requirements stipulate that a construction permit must be obtained from CDPHE for any and all emissions associated with construction activities, including operations of portable sources. CDOT will submit an APEN to the CDPHE Air Pollution Control Division if more than 25 acres of land would be impacted and/or project construction would last longer than 6 months. CDPHE will respond whether or not a permit would be required prior to commencing construction.

9.2.2 Other Air Quality Permits

A portable source construction permit would likely need to be obtained from CDPHE for the operation of portable sources (e.g., asphalt plants, generators, rock crushers).

A fugitive dust permit and bridge demolition permit will be required for construction projects. Additionally, an asbestos abatement permit from the CDPHE would also be required for demolition of structures that potentially have friable asbestos containing material (see Section 3.17, Hazardous Materials, of the FEIS).

9.3 Biological Resources

9.3.1 Senate Bill 40 Certification

An SB 40 certification will be required by CPW for the crossing of streams or adjacent stream banks to avoid adverse effects to waterways, stream banks, or associated tributaries. This legislation is designed to protect fishing waters and to recognize the importance of the entire stream ecosystem, including wetland and riparian areas. An SB 40 wildlife certification application would need to be submitted to CPW 60 days before construction begins.

9.3.2 Prairie Dog Relocation Permit

A prairie dog relocation permit, issued by CPW, will be required for the relocation, transportation, or donation of any prairie dog(s) or colonies that may be affected by project activities. Local permits may also be needed for this activity.

9.3.3 Threatened and Endangered Species

Mitigation for impacts to threatened and endangered species will be monitored with consultation with USFWS in accordance with the PBO contained in the ROD1 Appendix E. As described in the PBO:

1. FHWA/CDOT will monitor and report on the progress of implementation of the proposed action including all conservation measure.
2. FHWA/CDOT will monitor all temporary disturbed sites.

9.4 Access

9.4.1 State Access Permit

A state Access Permit, issued by CDOT, would be required for all requests for new or modified access to all state highway roadways. Owners of any existing accesses adversely affected by the project would be notified of the proposed changes.

9.4.2 Construction Access Permit

Construction access permits would likely be required for temporary access needs outside the project limits.

9.4.3 Other Local Permits

Other local permits would likely be required by cities and counties as needed, such as construction, grading, erosion control, utility, or survey permits either prior to the beginning or during construction phases.

10.0 PUBLIC AND AGENCY INVOLVEMENT

10.1 Comments from the FEIS

The *North I-25 Final Environmental Impact Statement/Final Section 4(f) Evaluation* (CDOT, 2011a) was released on August 19, 2011. The notice of availability of the FEIS was published in the Federal Register on August 19, 2011, indicating a 30-day review period ending on September 19, 2011. Subsequently, an extension to this comment period was announced in the Federal Register (September 9, 2011) extending the end of the comment period to October 3, 2011 (i.e., 45 days total). Public comment was solicited and received through a variety of sources, including the North I-25 Environmental Impact Statement website, mail, fax, and verbal and written comments submitted at the three public hearings.

In total, comments were submitted by 301 individuals, two public interest organizations, six agencies (federal, state, tribal or regional) and six local governments. Comments were received via the project website, fax, mail, or as verbal and written comments at the three public hearings. Many of the comment submittals addressed multiple topics. The lead agencies have responded to each comment and topic individually and each comment received is presented next to the corresponding response in Appendix B of the ROD1.

During the FEIS comment period, a total of 301 comments were received from the general public in the following manner:

- 287 comments were submitted through the project Web site or through e-mail.
- 9 written comments were submitted during a public hearing, mailed or faxed to CDOT.
- 5 verbal comments were made at one of the three public hearings.

The public comments received on the FEIS reflected the following community sentiments:

- 21 specifically supported the Preferred Alternative.
- 1 specifically supported Package A.

- 2 specifically supported Package B or an element included only in Package B.
- 213 supported commuter rail or rail transit without mentioning an alternative.
- 171 supported an expedited schedule for completion of improvements.
- 57 expressed support for some other project phasing/prioritization scheme.
- 7 did not support rail transit.
- 22 did not support highway improvements.
- 20 supported only highway improvements.
- 17 supported improving bus transit.
- 2 did not support improving bus transit.
- 3 expressed concern about potential construction impacts.
- 1 expressed concern about entering/exiting tolled express lanes (now called Express Lanes) at Mead.
- 1 expressed displeasure about the public hearing locations and lack of public transportation availability.
- 1 expressed concern about the energy consumption and greenhouse gas emissions associated with all build alternatives.

10.2 Agency and Business Coordination

In August 2013 CDOT held two workshops, one for business leaders (on August 22) and a second for elected officials (on August 28). The purpose of these workshops was to initiate discussion about completing improvements to North I-25 north of 120th Avenue. A summary of input received is presented below:

- The groups would like to see new, safer infrastructure but understand that there is no funding.
- There is a need for one, unified voice supporting corridor improvements.
- New infrastructure will improve the quality of life and attract new development.
- A managed system will provide trip reliability.
- Infrastructure improvements will cost more in the future.
- A coalition will be established to continue the conversation.
- More information is needed before making a final decision.
- Are there other options besides conversion of a general purpose lane to an Express Lane (between SH 7 and SH 66)?
- Will improvements actually be completed to SH 14?
- What will the impact be on local roads and the general purpose lanes?
- When can northern Colorado expect to see changes?
- Will toll revenue be kept in the corridor?
- Is northern Colorado paying twice?

After August 2013 two coalitions were formed of elected officials to continue the discussions about how to advocate for additional improvements to North I-25. One group (called the I-25 Coalition) is still meeting and advocating for additional funding.

On September 8, 2014, CDOT held a meeting with the Regional Coordination Committee to provide an update on CDOT's plans for the ROD2. Twenty-one people were in attendance. Interest was expressed about how to get these plans funded, what improvements are planned at the Bustang bus stations, and how far north the improvements will go.

10.3 Public Involvement

On October 8, 2014, a public open house was held to update the public. Approximately 40 people attended. Comments received were:

1. Will this be a P3? *Response: This is not currently planned; however, it may be reconsidered in the future if more funding is needed.*
2. What funding are we assuming from DRCOG? *Response: \$55 million.*
3. Wanted to know the timing of service launch and the stop in Loveland. Interested in using the bus to commute between Loveland and the McWhinney office near DUS. *Response: Service will start in July 2015. There is a stop planned at US 34.*
4. Glad the express bus service is happening; we can't continue to pour more concrete on the traffic problem. *No response needed.*
5. You should seriously consider alternative-fueled buses. *Response: We will consider this.*
6. What advantage is there when you are sitting in the same traffic? *Response: The express bus will use the Express Lanes so they will not be sitting in traffic.*
7. Are there plans to offer bus service to the other communities along I-25? *Response: Additional stops may be added for Bustang service in the future.*
8. I live in Greeley and plan to use this bus to Denver. *Response: There is a stop planned at US 34.*
9. When will the commuter rail be implemented, what's the timing? *Response: There is not identified funding at this time. When the funding is identified, then a schedule can be created for implementation.*
10. For the commuter rail alignment, as it exits Longmont to the east, consider using Great Western track rather than SH 119. *Response: This was considered but had greater environmental impacts.*
11. Please post the commuter rail boards with all the other open house materials. *Response: This was done after the public meeting.*
12. If BNSF is unwilling to sell the land to Colorado and North Front Range communities for commuter rail, then make sure there is a right of ownership. This will protect public dollars

[which might be] invested in commuter rail, so that passenger rail is not kicked off the rails at a later date. *Response: This will be considered.*

13. When will property owners along I-25 be contacted about Commuter Rail, only when it's too late? *Response: A reasonable expectation of funding and implementation is the point at which property owners could expect to be involved/contacted.*
14. For the North I-25 Commuter Rail Update Technical Advisory Committee (TAC) #2 meeting, please bring maps of the right-of-way, more specific than those shown in the open house maps. We need to begin the discussion and identify more specific right-of-way actions. *No response needed.*
15. Between SH 119 and RTD's right-of-way (near east-west Weld CR 8), the better alignment is along I-25, not WCR 7. WCR 7 has become too built up. *Response: This was considered during the North Front Range Commuter Rail Update.*
16. What? You're doing a study of right-of-way now, to prepare to do another study, before it can be implemented? *Response: Yes, CDOT is continuing to move the examination of this part of the EIS forward with the rest of the recommendations.*
17. I-25 may be the better long-term location for Commuter Rail all the way to Fort Collins. The nature and growth of the communities is changing and spreading out to I-25. *Response: This was considered during the North Front Range Commuter Rail Update.*
18. Frederick, Firestone, & Dacono discussed an extension of RTD's North Metro alignment along Colorado Boulevard. When the station was proposed to be in Firestone, Dacono was less supportive because they would have the impact (rails), without the benefit (station). *No response needed.*
19. Commuter rail on US 287 and express bus on I-25 could work well together to give people lots of travel options. *No response needed.*
20. The North Front Range Metropolitan Planning Organization (NFRMPO) is proposing in the 2040 plan update to show transit corridors connecting to the Bustang Bus service on I-25: SH 14 from Fort Collins to I-25, SH 34 from Loveland to I-25, and Greeley to I-25. That will go to the NFRMPO TAC next week. *No response needed.*
21. How much would the three different interim options cost to take the Express Lane all the way to SH 7? *Response: The cost for the interim options range from \$77M to \$118M.*
22. Would it make sense to just build the Express Lane in the southbound direction since the majority of the congestion is southbound? *Response: Congestion occurs in both directions so this would not fully address purpose and need.*

The input derived from these various public and agency meetings was used to modify the design, guide impact assessment, develop alternatives for the North Front Range Commuter Rail Update, or assist with funding and priority setting.

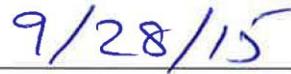
Meeting Minutes for these meetings are included in Appendix J of this document.

11.0 DECISION

Based on the information provided in the August 2011 *North I-25 Final EIS/Section 4(f) Evaluation* (CDOT, 2011a) and the October 2011 *Revised Section 4(f) Evaluation* (CDOT, 2011b), which have been incorporated by reference into this ROD2, and information contained in this ROD2, the FHWA concludes that selecting the ROD2 Selected Alternative described in this document, for the North I-25 Project, is in the best overall public interest, uses all practicable means to restore and enhance the quality of the human environment, and avoids or minimizes any possible adverse effects. The FHWA also concludes that there are no feasible and prudent alternatives to the use of Section 4(f)-protected lands, and that the ROD2 Selected Alternative includes all possible planning to minimize harm to the identified Section 4(f) properties resulting from such use.



John M. Cater, P.E.
Division Administrator
Colorado Division
Federal Highway Administration



Date

12.0 REFERENCES

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 - **2011a.** North I-25 Final Environmental Impact Statement/Final Section 4(f) Evaluation. August 2011a.
 - **2011b.** North I-25 Revised Section 4(f) Evaluation. October 2011b.
 - **2011c.** Record of Decision. December 2011c.
 - **2011d.** Standard Specifications for Road and Bridge Construction. 2011d.
 - **2014a.** SH 7 Planning and Environmental Linkages. February 2014a.
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- HDR. 2015a.** Transportation Technical Memorandum. 2015a.
- **2015b.** Air Quality Technical Report. May 2015b.
 - **2015c.** Noise Impact Assessment. May 2015c.
 - **2015d.** Historic Resources Report. May 2015d.
 - **2015e.** Section 4(f) Technical Memorandum. 2015e.
 - **2015f.** Land Use, Socio-Economics, and Environmental Justice Technical Memorandum. 2015f.
 - **2015g.** Modified Environmental Site Assessment Addendum. 2015g.
 - **2015h.** Other Resources Technical Memorandum. May 2015h.
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— **2014.** Concurrence on Fonay Barn (5AM.3128) Eligibility for Inclusion on the National Register of Historic Places. May 28, 2014.

TRB. 2006. *National Cooperative Highway Research Program Report 568.*

USFWS and FHWA. 2011. Programmatic Biological Opinion. October 13, 2011.