

# ENVIRONMENTAL ASSESSMENT

## INTERSTATE 70/KIPLING STREET INTERCHANGE

Project Number: 16-HA1-X13-0017, Project Code: 19761

Wheat Ridge, Colorado

### Lead Agencies

Federal Highway Administration



Colorado Department of Transportation



**COLORADO**  
Department of Transportation

January 2019

**ENVIRONMENTAL ASSESSMENT SIGNATURES**

Submitted by:

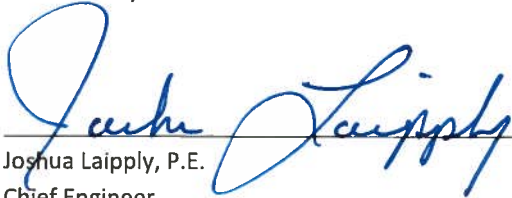


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The Federal Highway Administration may publish a notice in the Federal Register, pursuant to 23 United States Code (USC) § 139(I), once the project decision is approved. If such notice is published, a claim arising under Federal law seeking judicial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

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## PUBLIC COMMENT PERIOD

The public comment period for this document begins January 25, 2019 and ends February 24, 2019. Written comments on this document can be submitted through the project website (<https://www.codot.gov/projects/i-70-kipling-interchange/projects/i-70-kipling-interchange/comment>) or by mail or email to the following address:

I-70 / Kipling Team  
425A Corporate Circle  
Golden, CO 80401

## PUBLIC MEETING

A public meeting for this project will be held at the Wheat Ridge Recreation Center, 4005 Kipling Street, Wheat Ridge, Colorado 80033 on February 12, 2019 from 5:00 pm to 7:00 pm.



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Appendix A: Supporting Technical Documents by Subject

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| A1 | Transportation Resources Memorandum | A8  | Paleontology Memorandum   |
| A2 | Air Quality Memorandum              | A9  | Land Use and Community Profile Memorandum                               |
| A3 | Water Resources Memorandum          | A10 | Environmental Justice/Socioeconomics Memorandum                         |
| A4 | Wetlands Delineation Memorandum     | A11 | Noise Memorandum  |
| A5 | Biological Resources Memorandum     | A12 | Abbreviated Visual Impact Assessment Memorandum                         |
| A6 | Historic Resources                  | A13 | Modified Environmental Site Assessment (Hazardous Materials) Memorandum |
| A7 | Archaeology Memorandum              | A14 | Cumulative Impacts Memorandum   |

Appendix B1: Agency and Tribal Coordination

Appendix B2: Public Comments Summary

Appendix C: Proposed Action Alternative Preliminary Plans

**LIST OF ACRONYMS AND ABBREVIATIONS**

ADA	American with Disabilities Act	RTD	Regional Transportation District
ADT	average daily traffic	RTP	Regional Transportation Plan
AM	ante meridiem	SPUI	Single Point Urban Interchange
AQCC	Air Quality Control Commission	SWMP	Stormwater Management Plan
APCD	Air Pollution Control Division	TIP	Transportation Improvement Plan
ASTM	American Society for Testing and Materials	UDFCD	Urban Drainage and Flood Control District
BMP	best management practice	USACE	US Army Corps of Engineers
CDOT	Colorado Department of Transportation	US	United States
CDPHE	Colorado Department of Public Health and Environment	USC	US Code
dBA	A-weighted decibels	USFWS	US Fish and Wildlife Service
DDI	Diverging Diamond Interchange		
DEA	David Evans and Associates, Inc.		
DRCOG	Denver Region Council of Governments		
EA	Environmental Assessment		
FHWA	Federal Highway Administration		
LCP	lead containing paint		
LOS	Level of Service		
NAC	Noise Abatement Criteria		
NEPA	National Environmental Policy Act		
OSHA	Occupational Safety and Health Administration		
PBO	Programmatic Biological Opinion		
PEL	Planning and Environmental Linkages		
PM	post meridiem		
ROW	right-of-way		

## INTRODUCTION

The Colorado Department of Transportation (CDOT) is conducting the preliminary design of the Interstate 70 (I-70) and Kipling Street interchange, in the City of Wheat Ridge, Jefferson County, Colorado (“Project” or “Project Corridor”) (Figure 1). The components included in the preliminary design of this Project are based on the transportation planning, alternatives evaluation, and community outreach conducted during the I-70 and Kipling Interchange Planning and Environmental Linkages (PEL) Study in 2013 (CDOT, 2013) (<https://www.codot.gov/projects/i70kiplingpel>).

During development of the PEL Study completed in 2013, transportation improvements were evaluated at the I-70/Kipling Street interchange located within Wheat Ridge, Jefferson County, Colorado. The study area reviewed in 2013 included I-70 between the Ward Road and Wadsworth Boulevard ramps and Kipling Street from West 51<sup>st</sup> Place to West 44<sup>th</sup> Avenue within the City of Wheat Ridge (CDOT, 2013). The boundary for the City of Arvada is located north of the interchange between the West 50<sup>th</sup> Avenue and West 51<sup>st</sup> Avenue intersections (Figure 1). To take into account the potential for indirect or secondary effects to community or environmental resources as a result of a Proposed Action Alternative, the study area for environmental impacts was extended to the back property line of area parcels.

For this Project, the study area generally consists of an irregular area within the CDOT, Kipling Street interchange, and the adjacent roadway rights-of-way (ROW) between Nelson Street on the west and approximately 600 feet to the west of Garrison Street on the east. The southern boundary is approximately 700 feet to the north of West 44<sup>th</sup> Avenue and the northernmost boundary is approximately 550 feet to the north of West 50<sup>th</sup> Avenue. The study area also extends to the west

along Eastbound I-70 from approximately Nelson Street to Tabor Street (Figure 1).

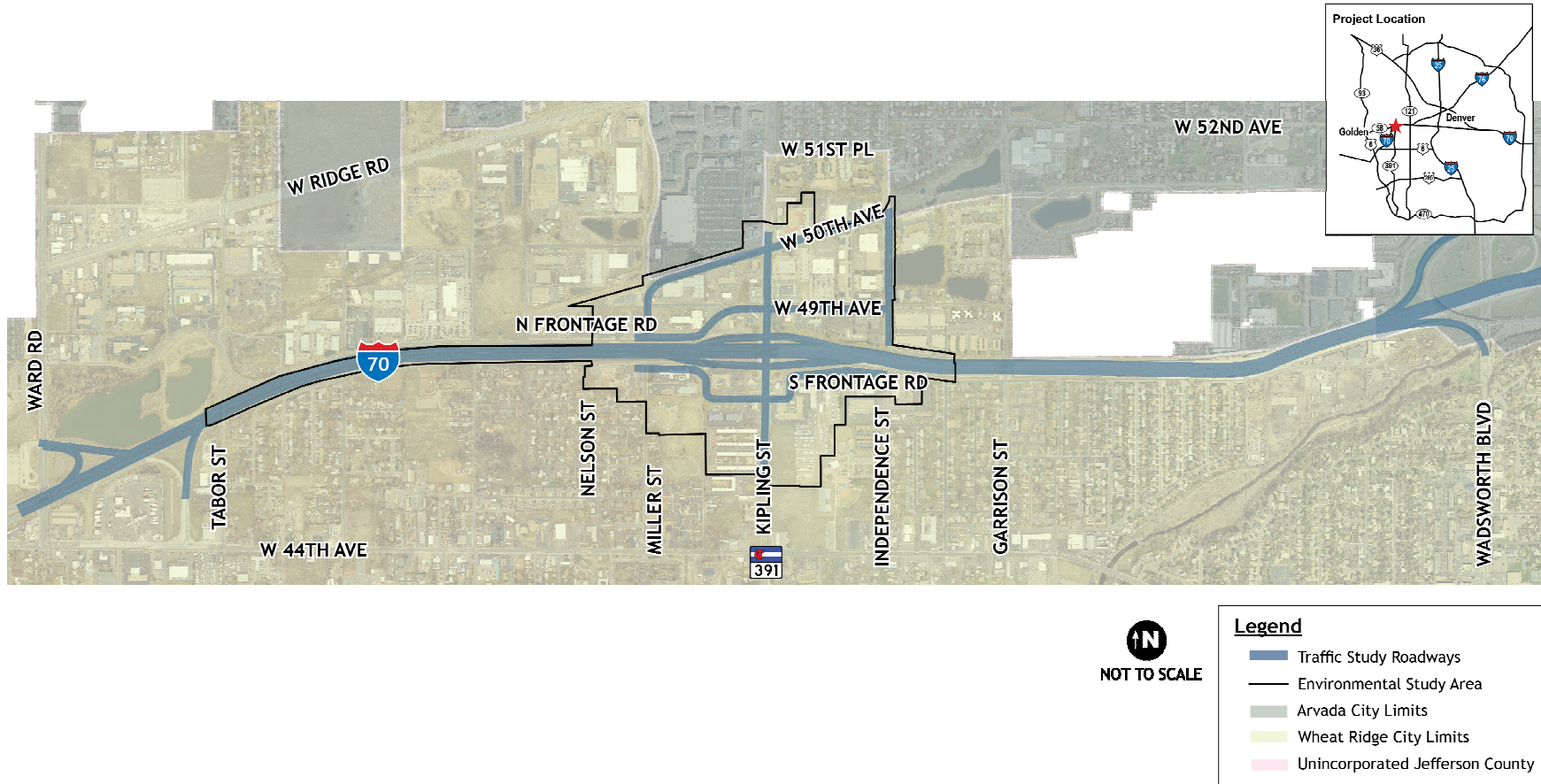
Within the study area, I-70 has six through lanes and a speed limit of 65 miles per hour (MPH). East of Kipling Street to Wadsworth Boulevard, I-70 has four through lanes in each direction with the westbound left through lane merging at the Kipling Street bridge and the eastbound outside lane added at the Kipling Street on ramp. Kipling Street has four through lanes and two continuous turn lanes through the study area with a posted speed limit of 40 MPH.

The existing I-70 /Kipling interchange is a tight diamond configuration with less than 250 feet between the ramp intersections. The two-way frontage roads intersect Kipling Street at signals north and south of I-70, approximately 350 feet from the adjacent ramp signal. The total spacing of the four signals through the interchange is less than 1,000 feet.

This project Purpose and Need statement was initially developed during the PEL Study. The Purpose and Need was confirmed with the initial outreach for the EA project phase with general concurrence from the agency stakeholders as part of the technical team, as well as the general public at the initial National Environmental Policy Act (NEPA) and Preliminary Design project public meeting.

The NEPA process and preliminary design are the next steps required to move interchange improvements forward. The project is following the CDOT and Federal Highway Administration (FHWA) NEPA process to examine the needs for improvements to the interchange area, identify a Proposed Action Alternative, investigate the anticipated benefits and impacts of the proposed improvements (through an Environmental Assessment [EA]), produce preliminary design plans, and make funding, scheduling, and phasing recommendations.

Figure 1 Project Location and Study Area



### 1. WHAT IS THE PURPOSE OF THE PROJECT?

The purpose of the I-70/Kipling Street interchange project is to reduce congestion, optimize operations, improve safety, and accommodate multimodal connections at the I-70/Kipling Street interchange.

### 2. WHAT ARE THE NEEDS FOR THE PROJECT?

The existing design and configuration of the interchange no longer accommodates travel demands. Kipling Street is an important transportation corridor supporting mobility and economic activity in Jefferson County, including the Cities of Wheat Ridge and Arvada.

Improvements are needed to:

- Meet current and future traffic demands
- Improve operational efficiency of the interchange
- Improve traveler safety through the interchange
- Accommodate multimodal connections

### MEET CURRENT AND FUTURE TRAFFIC DEMANDS

High traffic volumes and frequent congestion issues occur within the study area on Kipling Street north of the interchange and on I-70 east of the interchange. **Table 1** shows current and future traffic volumes along I-70 and Kipling Street in the study area.

**Table 1. Current and Future Traffic Volumes**

Roadway	Average Daily Traffic Volume		Change 2017 - 2040
	2017	2040	
I-70 – east of Kipling Street	149,000	179,000	+ 20%
Kipling Street – south of I-70	38,000	51,000	+ 24%

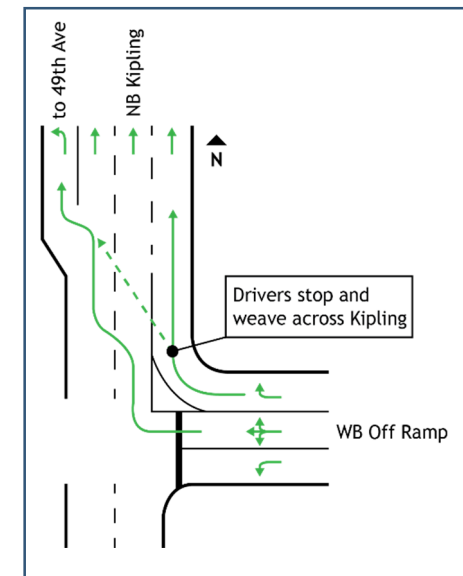
Truck traffic accounts for nine to ten percent of the traffic traveling on I-70 and for three percent of the traffic traveling on Kipling Street.

The interchange at I-70 and Kipling Street was constructed in 1967. Although it served the communities and traffic conditions when it was constructed, the tight diamond configuration with closely-spaced frontage road intersections can no longer effectively handle current or future traffic demands due to the high turning movement volumes on and off of I-70. Because of the close spacing, the signals must be timed to minimize vehicle queuing along Kipling, which creates queuing on the other approaches. This is a particular concern for the Westbound I-70 off amp, where the queues extend onto mainline I-70.

### IMPROVE OPERATIONAL EFFICIENCY OF THE INTERCHANGE

The traffic volumes traveling through the interchange create recurring backups. Specific movements that exhibit operational problems include the peak turning movements from the Westbound I-70 Off Ramp and the morning peak traffic back ups along Kipling Street on the southbound approaches to the interchange.

Many drivers making the right turn from the Westbound I-70 Off Ramp want to turn left at the Kipling Street and 49<sup>th</sup> Avenue/North Frontage Road intersection (see **Figure 2**). There are currently signs that direct drivers to use the center lane to turn left at 49<sup>th</sup> Avenue, but there are drivers that stop in the free right turn lane in order to wait for a gap in



**Figure 2 Westbound I-70 Off Ramp Right Turn Weave**



traffic to weave across Kipling Street to get to the northbound left turn lane at 49<sup>th</sup> Avenue. This reduces the capacity of the ramp signal and causes traffic to queue up the off ramp and onto the I-70 mainline.

Close spacing between the north and south frontage road intersections and the interchange ramp intersections does not provide adequate distance between traffic signals for traffic to progress through the interchange. Because of the relatively high overall intersection volumes, turn phases and a long signal cycle length are needed during the peak hours. These required signal operations combined with the over-capacity traffic volume conditions create vehicle queues that spill back from both of the I-70 ramp signals through the adjacent intersections at the frontage roads. Traveling through the four ramp and frontage road traffic signals with queues backing up through intersections requires drivers to slow their speeds through the interchange area, which further limits the capacity of the entire interchange area and adversely affects through traffic on Kipling Street.

Because of the interchange location (on the edge of the I-70 mountain corridor) and the services provided (e.g., fuel, food, and lodging), many of the drivers using the interchange to and from the freeway are unfamiliar with the area. There is also a relatively high percentage of trucks within the interchange area, providing business service deliveries. With the close signal spacing and driveway accesses, the overall traffic operations are affected by trucks navigating the interchange and accessing the adjacent businesses.

South of I-70, there are numerous driveways and an unrestricted median, which encourages uncontrolled turns across Kipling Street that both increase potential for conflicts (and crashes) and disrupt traffic flow. These conditions contribute to turbulence in the Kipling Street traffic flow and reduce its capacity.

## IMPROVE TRAVELER SAFETY THROUGH THE INTERCHANGE

The Proposed Action Alternative is needed to improve traveler safety through the interchange, including vehicles, pedestrians, and bicyclists.

### Traffic Safety

Current crash safety issues were identified in the *Safety Assessment Report* completed by CDOT in November 2017 (CDOT, 2017). Over a three-year period from 2013 through 2016, the segment of I-70 through the Kipling Street interchange (between Miller Street and Garrison Street) is above the average expected crash rate for the given average annual daily traffic and has a high potential for crash reduction. A high number of crashes along I-70 is observed east of the I-70 bridge over Kipling Street, particularly in the westbound direction.

Fixed object crashes, such as guardrail and cable rail crashes, were found to be significant crash patterns along I-70 within the interchange area. Most occur in the westbound direction at the location of the westbound left through lane merge at the bridge over Kipling Street. The occurrence of rear end crashes on I-70 in the vicinity of the interchange is closely tied to the heavy peak hour traffic volumes on the freeway.

Over the three-year study period, the majority of crashes on the four interchange ramps occurred on the Westbound I-70 Off Ramp with most of the crashes as rear-end crashes during the PM peak hour, indicating the crashes are congestion-related. On the Westbound I-70 Off Ramp, crashes occurred at or near the traffic signal at Kipling Street, as well as along the ramp due to queuing from the traffic signal.

On Kipling Street, rear end crashes are the predominant crash type followed by approach turn crashes and broadside crashes. The following

list describes the crash types that occur more frequently than expected in the study area and the potential cause:

- Rear-end crashes – related to congestion and frequent traffic signals through the corridor
- Approach turn and broadside – related to congested and closely-spaced intersections, signal phasing, and signal head visibility
- Sideswipes when both vehicles are moving in the same direction – related to short weaving and lane-changing maneuvers

### Pedestrian and Bicycle Safety

High traffic volumes and deficient pedestrian and bicycle facilities create safety concerns for pedestrians and bicyclists traveling through the study area. Over the three-year period from 2013 through 2016 along Kipling Street in the study area, there were four crashes involving pedestrians.

The sidewalk on both sides of Kipling Street under the I-70 bridge is perceived to be unsafe by pedestrians because of the proximity to the bridge piers and congested traffic lanes. The lack of access control along Kipling Street contributes to pedestrian and bicycle safety concerns. Along Kipling Street, pedestrians and bicyclists must cross many driveways where turning drivers are focused on entering or exiting Kipling Street and are not attentive to potential pedestrian conflicts.

### ACCOMMODATE MULTIMODAL CONNECTIONS

Automobiles, trucks, pedestrians, bicyclists, and buses traveling through the I-70/Kipling Street interchange lack adequate facilities to accommodate effective connections. Effective multimodal connections provide direct links between facilities, such as existing sidewalks and multi-use paths, as well as accommodate efficient connections between modes, such as sidewalks at bus stops or leading to/from a rail station.

### Transit Operations

Existing transit service on I-70 and Kipling Street in the study area includes local, express, and regional bus routes operated by Regional Transportation District (RTD). The RTD G Line commuter rail is anticipated to open in 2019. The rail project includes parking and transportation connections at three stations surrounding the I-70 and Kipling Street interchange: the Arvada Ridge Station (at Kipling Street and Ridge Road), Ward Road Station, and Olde Town Station.

When the G Line opens, it becomes the trunk transit service in the area. The local, express, and regional bus routes will be restructured with service changes. The RTD bus network will be modified to complement the rail system with direct and convenient access to the rail stations at Arvada Ridge, Ward Road, and Olde Town. Ridership for the bus route on Kipling Street serving the rail station at Arvada Ridge is expected to increase. Transit route planning will be handled by RTD through a separate process outside the NEPA process for this project.

Buses, like other vehicles, will experience increased delays traveling through the interchange area as traffic volumes increase. Buses also contribute to congestion by regularly stopping in the outside through-traffic lane, causing a temporary reduction in roadway capacity.

### Pedestrian and Bicycle Facilities

Local and regional plans identify the need for pedestrian and bicycle improvements along Kipling Street and its crossing of I-70. These needs will become more critical as pedestrian and bicycle travel is anticipated to increase with the opening of the G Line Arvada Ridge Station. Most of the existing sidewalks are attached to the roadway curb, not buffered from travel lanes, and are often too narrow to accommodate both pedestrian and bicycle use. The sidewalk on both sides of Kipling Street under the I-70 bridge is uncomfortable to use because of the proximity



to the bridge piers and congested traffic lanes. The sidewalk on the west side of Kipling Street under the bridge also has steep sidewalk grades.

A segment of sidewalk between 44<sup>th</sup> Avenue and the South Frontage Road on the east side is attached, with narrow asphalt pavement in poor condition. There is no sidewalk on the east side of Kipling Street north of 50<sup>th</sup> Avenue. Sidewalks on the west side of Kipling Street between 44<sup>th</sup> Avenue and 50<sup>th</sup> Avenue are narrow and attached to the roadway curb.

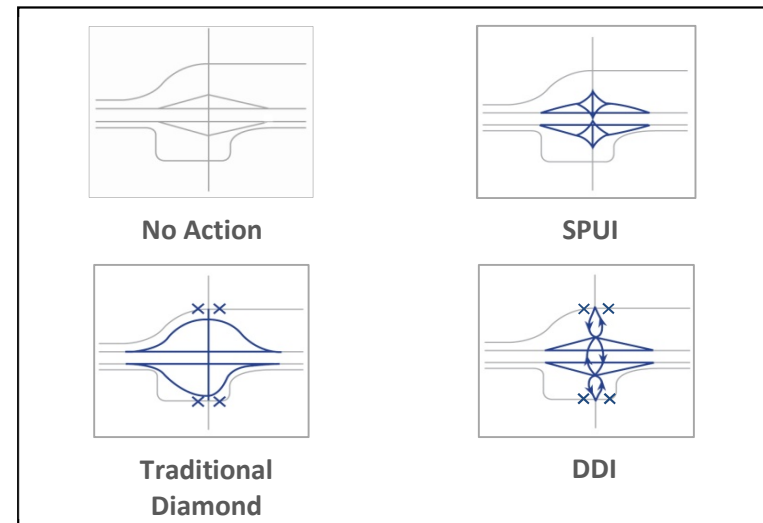
### 3. WHAT ALTERNATIVES WERE EVALUATED?

The *I-70 Kipling Interchange PEL Study* (CDOT, 2013) carried forward four interchange configuration alternatives and a No Action Alternative for potential investigation in the next phase of study. The study also recommended two of those configurations, the Single Point Urban Interchange (SPUI) and the Traditional Diamond Interchange, for consideration in subsequent NEPA documentation because they were determined to meet the Purpose and Need to the highest degree while minimizing environmental and community impacts.

During early agency scoping for the EA, CDOT, FHWA, Wheat Ridge, and Arvada agreed with the consideration of the SPUI and the Traditional Diamond Interchange as the Proposed Action Alternative, but another interchange configuration, the Diverging Diamond Interchange (DDI), was also recommended for consideration. The DDI Alternative was analyzed in the PEL Study and was not recommended for further consideration at that time because it did not meet the Purpose and Need as well as the other alternatives. However, with recent design advancements, multimodal benefits, and the driver familiarity achieved with construction of the interchange configuration at other locations in Colorado, the DDI Alternative was re-evaluated in comparison to the SPUI and Traditional Diamond Interchange alternatives in this EA.

Four alternatives were developed and screened using six criteria categories to evaluate and compare how well each alternative would perform to meet the Purpose and Need and to identify what potential impacts each alternative would have in order to choose a Proposed Action Alternative (see **Figure 3**). The post-PEL study alternatives screening is summarized below and the report is available in Appendix A1 *Alternatives Evaluation*. The following four alternatives were evaluated:

- No Action Alternative
- Single Point Urban Interchange (SPUI) Alternative
- Traditional Diamond Interchange Alternative
- Diverging Diamond Interchange (DDI) Alternative



**Figure 3 Alternatives Evaluated**

The screening criteria and performance measures were developed from the evaluation criteria vetted and used during the PEL Study to compare how well each alternative meets the Purpose and Need and secondary

goals of the project. The alternatives were compared using the specific performance measures listed below.

Criteria related to the Purpose and Need were:

- Optimize Operations and Reduce Congestion
  - Intersection peak hour Level of Service and delay
  - Peak hour queue lengths approaching interchange
  - I-70 vehicle density
  - Perceived driver expectancy
- Improve Traveler Safety
  - Expected change in number of crashes
  - Reduction in multimodal conflict points
- Accommodate multimodal connections
  - Missing sidewalk or path links/out-of-direction travel
  - User perception of comfort and safety of pedestrian and bicycle movements

Criteria related to the secondary goals were:

- Avoid and Minimize Environmental Impacts
  - Potentially impacted noise receptors
  - Potentially impacted parks and recreation areas
- Avoid and Minimize Community Impacts
  - Right-of-way required
  - Number of property accesses impacted
  - Perceived difficulty to access area businesses
- Maximize Constructability
  - Conceptual-level probable construction costs
  - Constructability
  - Ability to construct in phased projects

After a comparison of the four alternatives against the screening criteria, the DDI Alternative was recommended as the Proposed Action Alternative, as analysis shows it provides substantial safety benefits with reduced multimodal conflict areas and improved vehicular operations and provides the highest future capacity of the alternatives considered.

Project agency stakeholders agreed to the recommendation of the DDI Alternative as the Proposed Action Alternative. A summary of the alternatives evaluation and the recommendation of the DDI Alternative was presented at the first public meeting for the EA (held March 23, 2017) to solicit feedback on the alternatives evaluation process and the preliminary recommendation. General comments received from the public indicated that the DDI was viewed as a positive change.

After the evaluation of the interchange configuration alternatives was complete, an auxiliary lane along Eastbound I-70 between the Ward Road on ramp and the Kipling Street off ramp was proposed to be included with the Proposed Action Alternative. An Eastbound I-70 auxiliary lane improves freeway operations by providing increased distance for merging and diverging maneuvers between the closely-spaced interchanges. The auxiliary lane also improves traveler safety by reducing congestion and conflicts at the merge and diverge areas along the freeway. The widening along eastbound I-70 for the additional lane is not expected to require right-of-way acquisition or result in property impacts. The existing wall along the south side of I-70 is expected to minimize noise impacts to the adjacent residential areas. Due to the operational and safety benefits related to the overall project Purpose and Need and minimal expected property and environmental impacts, the eastbound I-70 auxiliary lane was added to the project as part of the Proposed Action Alternative.

#### 4. WHAT IS THE PROPOSED ACTION ALTERNATIVE?

The Proposed Action Alternative for the I-70/Kipling Street interchange is a DDI configuration. A full plan set is available in **Appendix C**. This configuration provides safety and operational benefits for all modes of travel. The DDI configuration (**Figure 4**) crosses traffic to the left side of the road under I-70. Drivers proceed through a traffic signal at the ramp terminal intersection and then follow their lane to the left side of the roadway. Left turns at the interchange on and off the freeway do not cross oncoming traffic, which results in fewer potential conflict points.

In addition to the reconfiguration of the freeway ramps, the existing traffic signal at 49<sup>th</sup> Avenue (North Frontage Road) will be removed and the intersection will be restricted to right-in/right-out movements. To accommodate additional left turn volume displaced by the modifications at 49<sup>th</sup> Avenue, a second left turn lane will be added to westbound 50<sup>th</sup> Avenue at the Kipling Street traffic signal.

The South Frontage Road will be realigned and the traffic signal relocated to be approximately 600 feet south of the traffic signal at the Eastbound I-70 ramps to improve operations with increased distance from the ramp signal. Kipling Street will be widened from two lanes in each direction to three lanes in each direction between the South Frontage Road and 49<sup>th</sup> Avenue/North Frontage Road intersections.

The existing I-70 bridge over Kipling Street will be replaced with wider bridge and a longer span. Four lanes for Westbound I-70 will be extended across the bridge and the left through lane merge will be changed to the right (outside) lane. The I-70 ramp merge and diverge areas will be in the same location, but the diverge for the westbound off ramp will be modified to provide a two-lane exit. Eastbound I-70 will be widened to provide an auxiliary lane between the on ramp at the Ward Road interchange and the off ramp at Kipling Street.

Pedestrian and bicycle facilities will be constructed on both sides of Kipling Street between the north and south frontage road intersections, consistent with local agency planning. The sidewalk is planned to be six to eight feet wide. On-street bicycle lanes are assumed along Kipling Street, consistent with local agency planning. The specific width and treatment of the pedestrian and bicycle facilities will be determined during final design.

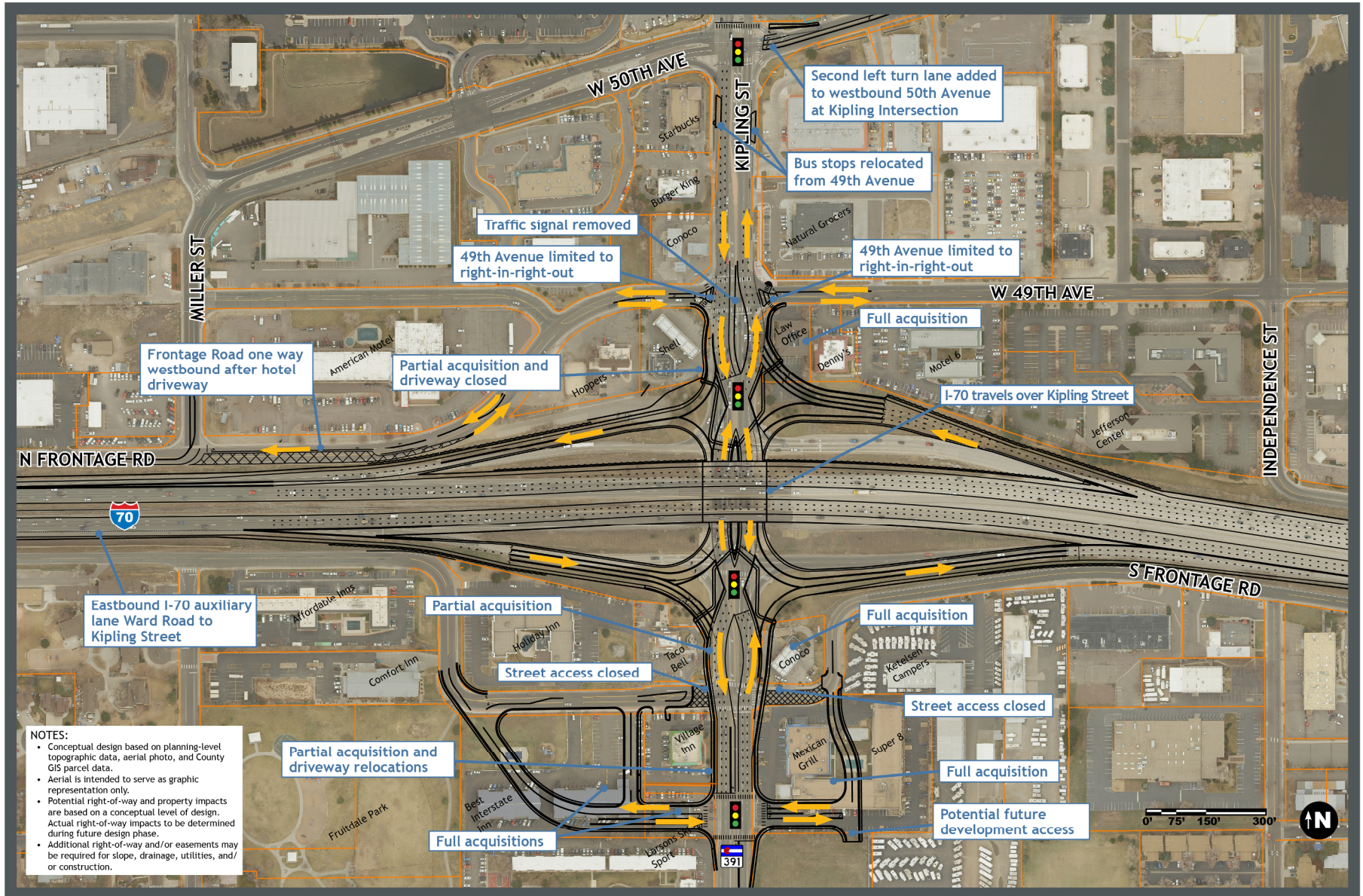
Numerous easements (temporary and permanent) and property acquisitions (partial and full) will be required to accommodate these improvements. Additional public right-of-way may also be acquired at specific locations to remove and/or relocate roadway components of the Project (e.g., utility lines, storm sewer, water quality, other structural work). Right-of-way needs will be evaluated during preliminary design.

As the reconstruction of an existing interchange, the Proposed Action Alternative does not meet the definition of an air quality regionally-significant project by Denver Regional Council of Governments (DRCOG). Thus, it is not specifically identified in DRCOG's 2040 Regional Transportation Plan (RTP). However, the Project is included in the fiscally-constrained 2040 RTP in the Resurfacing & Reconstruction, Bridge, and Roadway Operations project funding programs.

The auxiliary lane along Eastbound I-70 is currently funded in the Statewide Transportation Improvement Program (STIP) as STIP # SR17002.092. That improvement has independent utility will be constructed prior to the remaining interchange improvements. The I-70 bridge widening and frontage road modifications may also be completed as separate project phases prior to the construction of the DDI. However, the DDI configuration cannot be constructed prior to the bridge widening or frontage road modifications.



Figure 4 Proposed Action Alternative



## 5. WHAT WILL HAPPEN IF THE PROPOSED ACTION ALTERNATIVE IS NOT IMPLEMENTED?

Under the No Action Alternative, only improvements that are already planned and funded by CDOT, Jefferson County, the cities, or other agencies (such as RTD) would be completed. Normal maintenance would continue to be provided by CDOT and the Cities of Wheat Ridge and Arvada.

Several engineering and planning efforts have taken place recently within the area surrounding the interchange, particularly related to improved pedestrian and bicyclist connections north and south of the interchange. There are two future planned and funded actions in the area surrounding the interchange, including:

- **Kipling Street Widening, Colfax Avenue to I-70** – This project includes widening Kipling Street from four lanes to six lanes south of the I-70/Kipling interchange. This is in the DRCOG fiscally constrained Regional Transportation Plan for the 2025 – 2034 planning years.
- **RTD G Line** - The commuter rail line is anticipated to open in 2019. The rail project includes future parking and transportation connection improvements at three stations surrounding the I-70 and Kipling Street interchange: the Arvada Ridge Station (at Kipling Street and Ridge Road), Ward Road Station, and Olde Town Station.

Although these projects are outside the defined study area, they will impact regional travel through the interchange and are considered part of the No Action Alternative.

If the Proposed Action Alternative is not implemented, study area intersections would operate poorly with intersections operating at LOS D or worse. The 50<sup>th</sup> Avenue and the South Frontage Road intersections would at level of service (LOS) E during the peak hours by 2040.

Queues would continue to extend along the Westbound I-70 Off Ramp and onto the I-70 mainline, severely impacting freeway operations. Substantial queues would also extend along northbound and southbound Kipling Street leading to and from the interchange in the afternoon peak hour.

Crashes due to congestion would increase with traffic volumes through the interchange area.

Multimodal connectivity to existing and future multimodal facilities would not be addressed and pedestrian and bicyclist comfort and safety would continue to degrade with increased vehicular congestion, narrow and missing sidewalks, and limited median refuge areas at intersections.



## 6. HOW WELL DO THE NO ACTION ALTERNATIVE AND PROPOSED ACTION ALTERNATIVE MEET THE PURPOSE AND NEED?

The No Action Alternative would not provide transportation improvements within the study area. Other separate projects already planned and funded by CDOT, Jefferson County, the cities, or other agencies would occur with either the No Action Alternative or the Proposed Action Alternative. The No Action Alternative does not meet the Purpose and Need, but was carried forward as a baseline comparison for environmental analysis purposes. Only the Proposed Action Alternative would meet the Purpose and Need of the Project. As the No Action Alternative offers no improvements to the I-70/Kipling interchange beyond the existing conditions, the Purpose and Need would not be met by choosing this alternative.

**Table 2** summarizes the specific project needs and how they are addressed by the No Action Alternative and the Proposed Action Alternative.

**Table 2. Purpose and Need Summary for the No Action Alternative and Proposed Action Alternative**

Project Needs	No Action Alternative	Proposed Action Alternative
Meet current and future traffic demands	Study area intersections would operate poorly with intersections operating at LOS D or worse. The 50 <sup>th</sup> Avenue and the South Frontage Road intersections would at LOS E during the peak hours.	The Proposed Action Alternative would substantially reduce the peak hour average vehicular delay experienced at the study area intersections and all intersections would operate at LOS C or better during the peak hours.
Improve operational efficiency of the interchange	Queues would continue to extend along the Westbound I-70 Off Ramp and onto the I-70 mainline, severely impacting freeway operations. Substantial queues would also extend along northbound and southbound Kipling Street leading to and from the interchange in the afternoon peak hour.	The increased capacity would substantially reduce the peak hour queues on the Westbound I-70 Off Ramp. The Eastbound I-70 auxiliary lane would improve freeway operations with increased distance for merging and diverging. Queues along northbound and southbound Kipling Street would not extend from the interchange back through the adjacent traffic signals in the afternoon peak hour.
Improve traveler safety through the interchange	Crashes due to congestion would increase with traffic volumes through the interchange area. Broadside and approach turn crashes, as well as rear end crashes, would continue to be a significant crash pattern at the signalized intersections on Kipling Street at the I-70 interchange. Guardrail crashes along Westbound I-70 at the Kipling Street bridge would continue to be a significant crash pattern.	The Proposed Action Alternative would provide substantial reduction in crashes due to congestion. Safety issues with broadside and approach turn crashes would be addressed with the elimination of the left-turn conflicts at 49 <sup>th</sup> Avenue and the ramp signals. Guardrail crashes along Westbound I-70 would be reduced with changing the merge lane from the left (inside) to the right (outside) lane past the bridge. The auxiliary lane would also improve safety by reducing congestion and conflicts at the merge and diverge areas along I-70.
Accommodate multimodal connections	Only a narrow sidewalk along Kipling Street exists directly through the interchange with no bicycle facilities. While demand will increase with surrounding transit and development, pedestrians and bicyclists would feel increasingly uncomfortable traveling through the interchange with increased vehicular congestion, narrow sidewalks, and limited median refuge areas at intersections.	Improved pedestrian and bicycle facilities would be provided directly through the interchange to accommodate the increased multimodal demand. Pedestrians and bicyclists would feel more comfortable traversing the interchange with decreased vehicular congestion, wider pedestrian and bicycle facilities, and large refuge areas at intersections.

### 7. WHY ARE FHWA AND CDOT RECOMMENDING THE PROPOSED ACTION ALTERNATIVE?

FHWA and CDOT are recommending that the Proposed Action Alternative be implemented because it meets current and future traffic demands, improves the operational efficiency of the interchange, improves traveler safety through the interchange, and accommodates multimodal connections.

### 8. WHAT ARE THE IMPACTS ASSOCIATED WITH THE NO ACTION ALTERNATIVE AND PROPOSED ACTION ALTERNATIVE?

The No Action Alternative and Proposed Action Alternative were evaluated for impacts to various resources present within the study area. **Table 3** provides a summary of impacts to these resources for the No Action Alternative and Proposed Action Alternative. Temporary impacts would occur only during construction of the Proposed Action Alternative while permanent impacts would last throughout the project horizon year (2040) with either the No Action or Proposed Action Alternative. For more detailed information on the impacts, see the corresponding technical documentation in **Appendix A**. Data compiled for the Project or previous PEL Study determined that the following resources are either not present in the study area, or are present but not impacted and therefore are not discussed:

- Energy
- Farmlands
- Floodplains
- Geologic Resources and Soil

**Table 3. Environmental Impacts of the No Action Alternative and Proposed Action Alternative**

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
Transportation Resources (DEA, 2018a – Appendix A1)	I-70 is a major east-west interstate highway that crosses the United States from Baltimore, Maryland to southern Utah. The I-70/Kipling interchange is an important transportation facility supporting mobility and economic activity in Jefferson County, including the Cities of Wheat Ridge and Arvada. Frequent congestion and safety issues occur within the study area on Kipling Street north and south of the interchange and on I-70 east of the interchange. Automobiles, trucks, pedestrians, bicyclists, and buses traveling through the interchange lack adequate facilities to accommodate effective connections.	<p><b>Permanent Impacts:</b></p> <p>Results in continued intersection congestion for cars and trucks, expected to worsen to LOS E by 2040. Crashes in the study area would increase as congestion increases.</p> <p>Queuing on Kipling Street and on I-70 would increase.</p> <p>Multimodal connectivity would not be addressed and pedestrian and bicyclist comfort and safety would continue to degrade. Buses would experience increased delays through the interchange area.</p>	<p><b>Permanent Impacts:</b></p> <p>Meets current and future traffic demands and improves operational efficiency with reduced congestion and LOS C or better during peak hours. Crashes would be reduced with improved freeway and intersection safety.</p> <p>Queuing on Kipling Street and on I-70 would be reduced.</p> <p>Pedestrian and bicycle facilities would be provided directly through the interchange with improved comfort. Buses would experience reduced delays.</p> <p><b>Temporary Impacts:</b></p> <p>Temporary impacts such as access changes, delays, detours, and closures to the traveling public would occur.</p>	1

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
<p>Air Quality (Pinyon, 2018a – Appendix A2)</p>	<p>Colorado’s air quality nonattainment and maintenance areas have experienced a major increase in vehicle miles traveled but have also seen reduced concentrations of vehicle-generated pollutants such as carbon monoxide. In the study area, motor vehicle emissions are the largest source of local air pollutant emissions. An increase in motor vehicle emissions in the future could result in air quality challenges for the region. Currently, the Denver metropolitan area is classified as a nonattainment area for ozone (8-hour) and an attainment/ maintenance area for carbon monoxide and particulate matter.</p>	<p><b>Permanent Impacts:</b> Traffic on Kipling Street and its intersecting streets in the study area would become more congested than it is today and for a longer portion of the day, which would cause an increase in motor vehicle emissions. Some vehicles intending to use I-70 would divert to the nearby arterial streets, which would generate emissions in closer proximity to sensitive receptors.</p>	<p><b>Permanent Impacts:</b> Would result in decreased congestion due to improved operational efficiency. Would not cause, contribute, or increase the frequency or severity to new localized carbon monoxide and/or particulate matter violations, or delay timely attainment of any required interim emission reductions or other milestones in nonattainment/ maintenance areas. <b>Temporary Impacts:</b> Would impact air quality during construction due to diesel-powered equipment emissions and dust from ground-disturbing activities. Estimation of emissions from construction will be evaluated during final design when equipment type is chosen.</p>	<p>2 - 3</p>
<p>Water Quality (DEA, 2018b – Appendix A3)</p>	<p>The receiving water body for this Project is Clear Creek which is on the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division 303(d) List of Impaired Waters and is located approximately one-half mile south of the study area. This portion of Clear Creek is impaired for E. coli (from May to October), Aquatic Life Use (Organic Sediment), Temperature, and Ammonia. The Ammonia Nitrogen from surface water runoff from the roadway can be a contributor to the Ammonia impairment in Clear Creek.</p>	<p><b>Permanent Impacts:</b> Existing conditions would continue to worsen over time.</p>	<p><b>Permanent Impacts:</b> Water quality in Clear Creek has the potential to be negatively affected by increased impervious surface and modified drainage patterns but will not be specifically mitigated as part of this Project. Permanent water quality requirements for Wheat Ridge and Arvada will be evaluated during final design. <b>Temporary Impacts:</b> During construction, stormwater runoff could carry sediments into Clear Creek from grading and construction activities.</p>	<p>4</p>



Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
Wetlands/ Waters of the US (Pinyon, 2018b – Appendix A4)	Five areas were delineated for wetlands within the study area and were associated with stormwater features rather than natural waterways.	<p><b>Permanent Impacts:</b> Would result in no impacts to wetlands or other waters of the US.</p>	<p><b>Permanent Impacts:</b> No impacts to wetlands and other waters of the US are anticipated. This will need to be confirmed during final design. Indirect impacts to wetlands may occur.</p> <p><b>Temporary Impacts:</b> During construction, stormwater runoff may carry sediments into the wetlands from grading and construction activities.</p>	5 - 6
Biological Resources-Vegetation (Pinyon, 2018c – Appendix A5)	<p>Much of the study area is landscaped with ornamental vegetation or covered with impervious surfaces such as buildings and parking lots. Common upland species in the non-landscaped vegetated areas include: smooth brome, crested wheatgrass, intermediate wheatgrass, lambsquarters, kochia, and common sunflower. Trees within the study area include Siberian elm, Russian olive, and plains cottonwood.</p> <p>Dominant species in the wetland habitats include: narrowleaf cattail, softstem bulrush, and Nebraska sedge.</p>	<p><b>Permanent Impacts:</b> Would result in no impacts to land cover and vegetation.</p>	<p><b>Permanent Impacts:</b> Would not affect important ecosystems such as shortgrass prairie, riparian, or wetland vegetation; however, increasing impervious surfaces results in increased runoff, potential soil erosion, and exposing vegetation to potential higher levels of pollutants.</p> <p><b>Temporary Impacts:</b> Temporary removal of vegetation would be required during construction.</p>	7
Biological Resources-Noxious Weeds (Pinyon, 2018c – Appendix A5)	Noxious weeds present within the study area are typical of Colorado Front Range roadsides and developed areas. Six species of weeds on the Colorado Department of Agriculture Noxious Weed List were observed in the study area.	<p><b>Permanent Impacts:</b> Would result in no changes in the distribution of noxious weeds.</p>	<p><b>Permanent Impacts:</b> No permanent impacts are anticipated.</p> <p><b>Temporary Impacts:</b> Grading activities from construction and equipment staging areas may create favorable conditions conducive to the introduction and spread of noxious weeds.</p>	8

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
Biological Resources- Aquatic Resources (Pinyon, 2018c – Appendix A5)	Clear Creek is present within the study area; the project is located within the South Platte River watershed.	<b>Permanent Impacts:</b> Would result in no impacts to aquatic resources.	<b>Permanent Impacts:</b> Would indirectly impact Clear Creek with pollutants from the roadway entering the creek, including pollutants associated with vehicles and roadway maintenance (e.g., petroleum, ice melt, sand, etc.). <b>Temporary Impacts:</b> During construction, stormwater runoff could carry sediment to Clear Creek from grading and construction activities.	4, 6
Biological Resources- Threatened/ Endangered Species (Pinyon, 2018c – Appendix A5)	The study area does not contain potential suitable habitat for any federally listed species. Five species downstream of the study area along the Platte River are sensitive to depletions in the South Platte River. The US Fish and Wildlife Service (USFWS) has issued a Programmatic Biological Opinion (PBO) that will address any water depletions to the South Platte River Basin. The study area is within the Denver Block clearance for the Preble’s meadow jumping mouse.	<b>Permanent Impacts:</b> Would result in no impacts to federally listed species. Would result in no impacts to Preble’s meadow jumping mouse.	<b>Permanent Impacts:</b> Suitable habitat is not present; therefore, the project would result in no impacts to federally listed species. No permanent impacts to Preble’s meadow jumping mouse are anticipated. <b>Temporary Impacts:</b> The project has elements that will cause depletions to the South Platte River Basin resulting in adverse effects to five federally listed species downstream.	9
Biological Resources- Migratory Birds (Pinyon, 2018c – Appendix A5)	Habitat for migratory birds and raptors is present within the study area. There are large and medium-sized trees within the study area, and several nests were observed during the site visits. Additionally, grassy upland areas in vacant areas could also be used as nest sites. These habitats are within the 0.5-mile nesting raptor buffer area for many species.	<b>Permanent Impacts:</b> Would result in no impacts to migratory birds.	<b>Permanent Impacts:</b> No permanent impacts are anticipated. <b>Temporary Impacts:</b> Construction could result in temporary displacement and auditory disturbance of birds from habitat near construction areas.	10

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
<p>Biological Resources- Special Status Species - State Species of Special Concern (Pinyon, 2018c – Appendix A5)</p>	<p><i>Black-tailed Prairie Dogs</i>                      Suitable habitat for black-tailed prairie dogs was observed during the site visit and there were not active colonies within 150 feet of the study area.</p> <p><i>Northern Leopard Frog</i>                      The species typically lives in the vicinity of rooted aquatic vegetation. The canals near and within the study area are paved and unlikely to provide appropriate habitat for the northern leopard frog. The cattail marsh located within the study area is also unlikely habitat.</p> <p><i>Black-footed Ferret</i>                      Presently, the black-footed ferret is known to exist only in experimental managed populations in Wyoming and Colorado.</p> <p><i>Preble’s Meadow Jumping Mouse</i>                      The study area is within the Denver Block clearance for the Preble’s meadow jumping mouse.</p>	<p><b>Permanent Impacts:</b>                      Would result in no impacts to black-tailed prairie dogs (since there are no colonies within 150 feet of the study area), the northern leopard frog, black-footed ferret, and Preble’s meadow jumping mouse.</p>	<p><b>Permanent Impacts:</b>                      No permanent impacts are anticipated.</p> <p><b>Temporary Impacts:</b>                      No permanent impacts are anticipated.</p>	<p>No mitigation is required.</p>

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
<p>Historic Resources/ Historic Section 4(f) (CDOT, 2018a – Appendix A6)</p>	<p><b>Historic:</b> Through evaluation under Section 106 of the National Historic Preservation Act, one eligible resource was found within the Area of Potential Effects:</p> <ul style="list-style-type: none"> <li>• Kipling Street Segment (5JF.7000.1)</li> </ul>	<p><b>Permanent Impacts:</b> Would not affect known historic resources.</p>	<p><b>Permanent Impacts:</b> The State Historic Preservation Officer (SHPO) concurred with the finding of “no adverse effect” to the eligible historic resource (see Appendix A6). <b>Temporary Impacts:</b> The State Historic Preservation Officer (SHPO) concurred with the finding of “no adverse effect” to the eligible historic resource (see Appendix A6).</p>	<p>No mitigation is required (to be confirmed with CDOT Region 1 Historian review of ROW plans during final design).</p>
<p>Archaeological Resources (Pinyon, 2018d – Appendix A7)</p>	<p><b>Archaeological:</b> Two archaeological sites were identified during a Class I Survey:</p> <ul style="list-style-type: none"> <li>• Historic railroad segment (5JF.817.10)</li> <li>• Historic irrigation ditch segment (5JF.2229.4)</li> </ul> <p>Both resources are listed with the Office of Archaeology and Historic Preservation as not supporting of the eligibility for the overall resource.</p>	<p><b>Permanent Impacts:</b> Would not affect known archaeological resources.</p>	<p><b>Permanent Impacts:</b> Would not affect known archaeological resources. <b>Temporary Impacts:</b> Would not affect known archaeological resources; however, unknown archaeological resources could possibly be unearthed during construction.</p>	<p>11</p>

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
<p>Paleontological Resources (Pinyon, 2018e – Appendix A8)</p>	<p>Geologic literature indicates that rock/sediment exposed at the surface within the study area consists of geologic deposits from former flowing water (alluvium) during the Holocene Epoch (Quaternary geologic time period), which started approximately 11,650 years ago. The first type of alluvium consists of about 2 meters (approximately 6 feet) of dark grayish-brown silty sand and sand and gravel supported cobble conglomerate whereas the underlying second type of alluvium is made up of 10 meters (approximately 33 feet) of coarse sand and gravel and cobble conglomerate with lenses of silt and clay. A literature search and records examination of vertebrate paleontological holdings revealed no fossil specimens collected from within the study area.</p>	<p><b>Permanent Impacts:</b> Would not affect paleontological resources.</p>	<p><b>Permanent Impacts:</b> The likelihood that fossil vertebrates will be encountered in Quaternary sediments is remote; however, there is a potential for impacts during excavation and drilling activities, especially excavations that may attain depths of up to 50 feet (15 meters) as penetration of bedrock of the highly fossiliferous Denver Formation is likely.</p> <p><b>Temporary Impacts:</b> No temporary impacts to paleontological resources are expected.</p>	<p>12 - 13</p>

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
<p>Land Use and Community Profile (Arland, 2018 – Appendix A9)</p>	<p>Land uses within the study area include single-family and multi-family residential homes, commercial and industrial uses, a community school, hotels, and motels, as well as vacant parcels. Future land uses immediately around the interchange area are primarily planned for mixed use commercial development. South of I-70, Wheat Ridge calls for “neighborhood buffers” next to the residential areas. Land uses north of I-70 are planned for mixed use employment, employment/industrial, and residential uses, in addition to mixed use commercial.</p>	<p><b>Permanent Impacts:</b> Long-term increased congestion and difficult access would potentially impede the growth of employment, businesses, and sales tax revenues. It would also potentially impede the full potential of transit-oriented development to the north at the RTD Arvada Ridge Station.</p>	<p><b>Permanent Impacts:</b> Would include the acquisition and potential relocation of five businesses with a \$200,330 reduction in the property tax revenues and an estimated sales tax impact of up to \$1.5 million annually in 2017 dollars. However, there would be potential for long-term growth of property and sales tax base as a result of several areas for redevelopment adjacent to the new frontage road system. New access points and traffic movements may be initially confusing to area residents and business patrons. <b>Temporary Impacts:</b> Would include temporary construction-related impacts to access and travel patterns.</p>	<p>1, 14, 15</p>
<p>Environmental Justice/ Socioeconomics (DEA, 2018c – Appendix A10)</p>	<p>Community facilities, including a church, a school, a park and recreational area, and grocery/retail stores, are located within and adjacent to the community study area. There are very low-income, minority, and limited English proficient populations present within the community study area.</p>	<p><b>Permanent Impacts:</b> Would not result in disproportionately high or adverse impacts to low-income and/or minority populations and would not close any community facilities within the study area.</p>	<p><b>Permanent Impacts:</b> Would include the acquisition and potential relocation of five businesses with a \$200,330 reduction in the property tax revenues and an estimated sales tax impact of up to \$1.5 million annually in 2017 dollars. Would not result in disproportionately high or adverse impacts to low-income and/or minority populations and would not close any community facilities within the study area. Would provide added benefits such as less congestion and more reliable travel times for all populations, regardless of demographics. <b>Temporary Impacts:</b> Would temporarily relocate transit stops and noise, emissions, dust, congestion, and access detours would negatively affect all corridor users.</p>	<p>1, 2, 3, 16, 17</p>

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
<p>Noise (Hankard, 2018 – Appendix A11)</p>	<p>Traffic noise is considered in the context of the noise levels at exterior areas of frequent human use at noise-sensitive properties such as homes. Noise impacts occur when noise levels will reach the CDOT Noise Abatement Criteria (NAC) or when future levels increase by 10 decibels over existing levels.</p> <p>A total of 46 residential receptors (62 individual units) and 7 commercial receptors are impacted by existing traffic noise.</p>	<p><b>Permanent Impacts:</b></p> <p>Would continue to impact residential receptors, parks, schools and a church, and commercial receptors. Under the existing conditions, the predicted loudest-hour traffic noise levels range from 47 to 71 A-weighted decibels (dBA) at residential receptors, 54 to 59 dBA at parks, schools and a church, and 59 to 74 dBA at commercial receptors. A total of 53 residential receptors (75 individual units) and 9 commercial receptors would be impacted.</p> <p>Noise impacts would decrease during the peak hours resulting from slower traffic speeds due to the presumed increased congestion. Noise impacts would be shifted to non-peak hour times during Level of Service C/D periods.</p>	<p><b>Permanent Impacts:</b></p> <p>Would increase noise levels by 0 to 5 dBA at 53 residential receptors (75 individual units) and 12 commercial receptors as compared to existing conditions. The number of impacted properties is the same number of residential receptors and three more commercial receptors when compared to the No Action Alternative. No new noise abatement barriers are recommended for the Proposed Action Alternative.</p> <p><b>Temporary Impacts:</b></p> <p>Would create construction noise temporarily affecting adjoining properties within and adjacent to the Proposed Action Alternative.</p>	<p>18 - 19</p>
<p>Right-of-Way (Land Use and Community Resources Memo, Arland, 2018 – Appendix A9)</p>	<p>This project is in the City of Wheat Ridge and within Jefferson County. Current ownership of land in the study area encompasses both private and public entities such as residences, businesses, parklands, vacant lands, and existing transportation alignments.</p>	<p><b>Permanent Impacts:</b></p> <p>Would not result in parcel acquisitions and/or relocations.</p>	<p><b>Permanent Impacts:</b></p> <p>Would result in full acquisition of five commercial private properties at the following addresses:</p> <ul style="list-style-type: none"> <li>• 4890 Kipling Street</li> <li>• 4750 Kipling Street</li> <li>• 4700 Kipling Street</li> <li>• 4715 Kipling Street</li> <li>• 4735 Kipling Street</li> </ul> <p>Would also result in partial acquisitions from three parcels and permanent easements.</p> <p><b>Temporary Impacts:</b></p> <p>Would result in temporary easements for construction.</p>	<p>20</p>

Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
Utilities (CDOT, 2018b)	<p>The main types of utilities within the study area include:</p> <ul style="list-style-type: none"> <li>• Water line</li> <li>• Gas line</li> <li>• Electric line</li> <li>• Telephone</li> <li>• Fiber optic line</li> <li>• Storm</li> <li>• Sanitary sewer line</li> <li>• Cable line</li> </ul>	<p><b>Permanent Impacts:</b> Would not affect utilities.</p>	<p><b>Permanent Impacts:</b> Would be no loss of service from utilities that are currently operating within the CDOT ROW.</p> <p><b>Temporary Impacts:</b> Relocation of underground utilities within the ROW would be required, which may result in a temporary loss of service during utility relocations.</p>	21
Parks / Recreational Resources and Section 4(f) and Section 6(f)	<p>Fruitdale Park, which is considered a non-historic Section 4(f) resource, is located within the study area. There are no Section 6(f) properties.</p>	<p><b>Permanent Impacts:</b> Would be no impacts to non-historic Section 4(f) resources.</p>	<p><b>Permanent Impacts:</b> Would be no impacts to non-historic Section 4(f) resources.</p> <p><b>Temporary Impacts:</b> Would be no impacts to non-historic Section 4(f) resources.</p>	No mitigation required.
Visual Resources/ Aesthetics (Pinyon, 2018f – Appendix A12)	<p>The existing visual character is predominantly a major transportation corridor (I-70 with bridges and ramps) surrounded by typical urban features (including mixed-use of retail, commercial, and residential development) adjacent to Kipling Street and frontage roads.</p>	<p><b>Permanent Impacts:</b> Would not result in any landscape changes or visual impacts.</p>	<p><b>Permanent Impacts:</b> Project elements are generally considered compatible with the visual character of the study area and may have a neutral or beneficial impact to the overall visual quality of the project corridor. Potential increase in night sky lighting due to street and roadway lighting.</p> <p><b>Temporary Impacts:</b> Temporary decrease in visual quality due to: Construction lighting and construction staging areas for trailers, equipment, and temporary stock piles.</p>	22 – 24



Resource	Context	No Action Alternative	Proposed Action Alternative	Mitigation Number
<p>Hazardous Materials (DEA, 2018e – Appendix A13)</p>	<p>The study area has been developed with automotive fueling stations and other commercial properties since 1994. While there are no current releases that are active and associated with these facilities, the areas adjacent to these facilities may be slated for re-configuration and deep excavations may be required in which groundwater could be encountered; therefore, there is a potential that undetected releases (or future releases) could impact the study area.</p>	<p><b>Permanent Impacts:</b> Would not result in any impacts to sites with potential and recognized hazardous materials concerns.</p>	<p><b>Permanent Impacts:</b> Would have potential to encounter hazardous materials in the subsurface. Properties targeted for acquisition may undergo further site assessments and/or preliminary site investigations as part of the ROW acquisition process, and may require remediation prior to acquisition or development. Potential to encounter hazardous materials with structure demolition. <b>Temporary Impacts:</b> Would not result in any impacts to sites with potential and recognized hazardous materials concerns.</p>	<p>25 - 29</p>
<p>Cumulative Impacts (Pinyon, 2018g – Appendix A14)</p>	<p>Resources that would be directly or indirectly affected by the Proposed Action Alternative were evaluated for cumulative impacts:</p> <ul style="list-style-type: none"> <li>• Transportation</li> <li>• Land Use and ROW</li> <li>• Noise</li> <li>• Air Quality</li> </ul> <p>The effects of the Proposed Action Alternative when added to the past, present, and reasonably foreseeable future actions in the cumulative impacts study area will not result in major cumulative impacts.</p>	<p><b>Permanent Impacts:</b> Would have a negative effect on transportation and mobility as growth and re-development is expected. Would increase noise levels due to increased congestion, as well construction of current and planned projects. Re-development and population growth will also add the noise levels. Traffic would become more congested and for a longer portion of the day. Traffic would divert to nearby arterial streets, which would generate emissions in closer proximity to sensitive receptors.</p>	<p><b>Permanent Impacts:</b> Would allow streets within the study area to operate with less congestion. Commercial and industrial activities and planned construction would contribute to the existing noise levels and will continue to add to the noise in the future. Would have a positive benefit on motor vehicle emissions and resultant pollutant concentrations. <b>Temporary Impacts:</b> Would not result in any cumulative impacts.</p>	<p>No mitigation required</p>

### 9. WHAT MITIGATION COMMITMENTS WILL BE MADE FOR THE PROPOSED ACTION ALTERNATIVE?

Table 4 presents potential mitigation commitments by resource for the Proposed Action Alternative. Additional details regarding the methodology and analysis of impacts and mitigations are found in their respective technical memorandums in Appendix A.

Table 4. Summary of Impacts and Mitigation for the Proposed Action Alternative, I-70/Kipling Interchange

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
1	Transportation Resources	Temporary impacts to access and travel patterns during construction	I-70 and Kipling Street will remain open to traffic during construction. Short-term road closures may be allowed for construction activities, consistent with the CDOT Region 1 Lane Closure Policy. A robust public outreach strategy to alert motorists of impacts will be required. CDOT will provide timely and frequent updates about activities and will work with contractors to avoid lane closures to the greatest extent practical.	CDOT Design Engineering, CDOT Traffic, and CDOT Construction Engineering	Design Construction
2	Air Quality	Release of diesel emissions from construction equipment	<ul style="list-style-type: none"> <li>• Prohibit unnecessary idling of construction equipment.</li> <li>• Use cleanest fuels available to reduce exhaust and keep equipment well maintained to ensure exhaust systems are in good working order.</li> <li>• Locate construction diesel engines as far away as possible from residential areas.</li> <li>• Locate staging areas as far away as possible from residential areas.</li> <li>• Require heavy construction equipment to use the cleanest available engines or be retrofitted with diesel particulate-control technology.</li> <li>• Use alternatives to diesel engines and/or diesel fuels, such as biodiesel, liquefied natural gas, or compressed natural gas, fuel cells, and electric engines, if applicable.</li> <li>• Install engine pre-heater devices to eliminate unnecessary idling for wintertime construction.</li> <li>• Prohibit tampering with equipment to increase horsepower or to defeat an emission control device’s effectiveness.</li> <li>• Require construction vehicle engines to be properly tuned and maintained.</li> <li>• Use construction vehicles and equipment with the minimum practical engine size for the intended job.</li> </ul>	CDOT Construction Engineering	Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
3	Air Quality	Release of fugitive dust during construction activities	<p>Control fugitive dust through implementation of CDOT’s Standard Specifications for Road and Bridge Construction, particularly Sections 107.24, 209 and 250, and Air Pollution Control Division’s Air Pollutant Emission Notification requirements, which include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Cover, wet, compact, or use a chemical stabilization binding agent, to control dust and excavated materials at construction sites.</li> <li>• Use wind barriers and wind screens to prevent spreading of dust from the construction area.</li> <li>• Have a wheel wash station and/or crushed stone apron at egress/ingress areas to prevent dirt being tracked onto public streets.</li> <li>• Use vacuum-powered street sweepers to remove dirt tracked onto public streets.</li> <li>• Cover all dump trucks that are hauling material leaving sites to prevent dirt from spilling onto public streets.</li> <li>• Minimize disturbed areas—particularly in winter.</li> </ul>	CDOT Construction Engineering	Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
4	Water Quality	Increased sediment runoff from roadway construction	<p>The construction mitigation measures from the Erosion Control and Stormwater Quality Field Guide (CDOT, 2011) and UDFCD Urban Storm Drainage Criteria Manual (UDFCD, 2016) shall be utilized during construction to reduce construction-related and/or long-term operation impacts to water resources and water quality as appropriate and include the following:</p> <ul style="list-style-type: none"> <li>• Sediment that has been tracked onto roadways shall be removed through street sweeping and/or vacuuming to reduce sediment transport into storm drain systems or a surface waterway.</li> <li>• Vehicle tracking controls shall be placed where vehicles exit the site onto paved public roads. An effective vehicle tracking control helps remove sediment (mud or dirt) from vehicles, reducing tracking onto the paved surface.</li> <li>• A concrete washout area shall be designated and properly managed within a specific area of the construction site.</li> <li>• Temporary erosion control and stabilization Best Management Practices (BMPs) shall be used to reduce disturbance, such as staging construction, minimizing access areas, temporary seeding, mulching, early final grading and seeding of completed areas, clean water diversions, silt fences, erosion bales, erosion control blankets, sediment traps, sediment basins, soil stockpile management, inlet protection, and temporary diversion structures.</li> <li>• Placement will be outlined in a site-specific SWMP and will be updated by the contractor as the construction proceeds. A SWMP shall be developed and implemented that specifies BMPs to minimize soil erosion, and methods for monitoring conditions before, during, and after construction.</li> </ul>	CDOT Design Engineering and CDOT Construction Engineering	Design Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
5	Wetlands/ Waters of the US	Temporary or permanent impacts to wetlands or waters of the US	CDOT requires that any impacts to wetlands, regardless of jurisdictional status, be mitigated at a 1 to 1 ratio. Due to the developed nature of the study area, and the overall lack of natural wetland hydrology, on-site mitigation would not be practicable. Therefore, wetland bank credits from a wetland mitigation bank would be purchased to offset any wetland impacts, if wetland impacts were unavoidable.	CDOT Design Engineering, and CDOT Environmental	Design
6	Wetlands/ Waters of the US	Indirect impacts to wetlands	Implement BMPs to avoid any erosion or other indirect impacts to wetlands within and/or adjacent to the study area (see Water Quality Technical Memo). Address the vegetation enhancement/restoration strategy through project special specifications 217 (Herbicide Treatment) and 214 (Planting).	CDOT Design Engineering and CDOT Construction Engineering	Design Construction
7	Biological Resources- Vegetation	Vegetation clearing during construction	<ul style="list-style-type: none"> <li>• Develop a revegetation plan during final design in coordination with the City of Wheat Ridge and CDOT. The revegetation plan will be incorporated into the SWMP and seed mixes (also identified in the SWMP) to be used will be specific to upland areas, riparian areas, and wetland areas. Specific objectives of the revegetation plan will be identified, such as selecting native plants and seed mixes for revegetation that blend the vegetation with existing vegetation, are consistent with vegetation types, growth habits, and soil types, use of native species, mimic surrounding native plant densities and minimizing the spread of noxious and invasive weeds. The seed mix used for revegetation will be approved by the City of Wheat Ridge and CDOT.</li> <li>• Minimize the amount and time period of disturbance to allow revegetation of disturbed areas.</li> <li>• Avoid disturbance to existing trees, shrubs, and vegetation, to the maximum extent possible.</li> <li>• Revegetate all disturbed areas with native grass and forb species. Apply seed, mulch, and mulch tackifier in phases throughout construction. Plant native trees and shrubs where appropriate.</li> <li>• Use temporary erosion control blankets with flexible natural fibers.</li> <li>• Limit work areas as much as possible to minimize construction impacts to vegetation.</li> </ul>	CDOT Design Engineering, and CDOT Environmental	Design Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
8	Biological Resources- Noxious Weeds	Introduction and spread of noxious weeds during construction	<ul style="list-style-type: none"> <li>• Require cleaning equipment and other BMPs specific to noxious weed management to reduce the potential for introducing and spreading noxious weeds in the study area.</li> <li>• Minimize the necessary area of ground disturbance.</li> <li>• Clean all construction vehicles of dirt/soil before off-loading at the project to prevent the introduction of noxious weeds. Treat project staging areas for noxious weeds prior to construction.</li> <li>• Do not use areas with dense noxious weed populations for topsoil salvage.</li> <li>• Use of herbicides will include selection of appropriate herbicides and timing of herbicide spraying (CDOT Standard Specification Section 217).</li> <li>• Use certified noxious weed-free hay or straw and/or mulch in all revegetated areas.</li> </ul>	CDOT Construction Engineering	Construction
9	Biological Resources- Threatened and Endangered Species	Potential depletion to the South Platte River basin.	The water used for this Project will be reported to the USFWS at the year’s end after the completion of the Project as per the programmatic BO.	CDOT Environmental	Construction Completion
10	Biological Resources- Migratory Birds	Potential impacts to migratory birds and/or their habitat	Follow MBTA nest survey guidelines during the nesting season, which are outlined in Revision of Section 240 Protection of Migratory Birds. Include specifics on bird nest surveys within these project specials and/or general notes and within in the contract/project plans.	CDOT Design Engineering and CDOT Environmental	Prior to Construction
11	Archaeological Resources	Potential for unknown archaeological resources unearthed during construction	Should unidentified archaeological resources be discovered during any phase of construction, work will stop until the CDOT senior staff archaeologist is contacted and the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria. The Contractor shall comply with CDOT Standard Specification 107.23 (Archaeological and Paleontological Discoveries), as identified in the project construction plans.	CDOT Environmental and CDOT Construction Engineering	Design Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
12	Paleontological Resources	Potential for impacts during excavation and drilling activities	If any subsurface bones or other potentially significant fossils are found anywhere within the study area during construction, work in the immediate vicinity should be temporarily suspended, and the CDOT staff paleontologist should be notified immediately to assess the significance of the find and to make further recommendations. The Contractor shall comply with CDOT standard specification 107.23.	CDOT Environmental and CDOT Construction Engineering	Construction
13	Paleontological Resources	Potential excavation depths of 50 feet (15 meters)	A qualified vertebrate paleontologist shall be on site for excavations exceeding 50 feet (15 meters) in depth. Should vertebrate fossil materials be encountered during excavation, work should be halted and the CDOT staff Paleontologist, Nicole Peavey be notified immediately at 303.757.9632.	CDOT Environmental and CDOT Construction Engineering	Construction
14	Land Use and Community Profile	Potential for land use changes with redevelopment adjacent to a new frontage road system	Because land use planning is under the purview of local agencies, ongoing CDOT and design team coordination with local planners and other city officials will be an essential part of future project development to be sure that changes resulting from the Proposed Action Alternative are compatible with the intent of the cities' visions for the area. Ongoing conversations for the design team and CDOT ROW with property owners, businesses, and residences potentially affected will also be a critical part of future project development.	CDOT Design Engineering and CDOT ROW	Design
15	Land Use and Community Profile	Access changes to properties	New access points and traffic movements may be initially confusing to area residents and business patrons. During construction and as part of the final design of the interchange, wayfinding signage will be provided to direct drivers to the locations of the new frontage roads.	CDOT Design Engineering and CDOT Construction Engineering	Design Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
16	Environmental Justice/ Socioeconomics	Temporary impacts to access and travel patterns during construction	<p>Mitigation for construction impacts shall consider implementation of the following measures, as appropriate, during final design and construction:</p> <ul style="list-style-type: none"> <li>• Access to local neighborhoods and businesses will be maintained. Exact location of detour notifications and signage to be identified with final design.</li> <li>• Vehicular traffic and access to local businesses will be maintained throughout construction using construction traffic control methods.</li> <li>• Implementation of a phased-construction approach to minimize the degree of disruption to business owners.</li> <li>• During final design, access points (e.g., new, modified, or combined) will be identified in a formal access-control plan. The access points will be constructed in accordance with CDOT and Americans with Disabilities (ADA) standards.</li> <li>• CDOT will coordinate with the applicable jurisdictions to identify sidewalk detour routes and trails.</li> <li>• Coordination with emergency-service providers to identify methods to minimize delays and provide access to properties during construction.</li> <li>• Provision of temporary transit shelters and information for transit patrons about temporary changes in transit shelter locations prior to construction.</li> <li>• Maintenance of two through lanes (one northbound and one southbound) with a turn lane at all times during the phased construction.</li> </ul>	CDOT Design Engineering and CDOT Construction Engineering	Design Construction
17	Environmental Justice/ Socioeconomics	Construction-related noise	<p>Construction activities shall comply with City of Wheat Ridge and State of Colorado noise ordinances such that noise will be minimized during construction. Mitigation for construction impacts shall consider implementation of the following measures, as appropriate, during final design and construction:</p> <ul style="list-style-type: none"> <li>• Use alternative construction methods, such as sonic or vibratory pile driving in noise sensitive areas (areas of residential, commercial, institutional, and outdoor recreation).</li> <li>• Perform pile driving and other high-noise activities during daytime construction (generally between 7:00AM to 7:00PM), where possible. When construction time is restricted to certain daylight hours, the overall duration of project construct would likely increase.</li> </ul>	CDOT Construction Engineering	Construction



#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
18	Noise	Temporary Construction Operations	<p>Comply with local noise ordinances such that noise will be minimized during construction. Implement the following measures, as appropriate, during final design and construction:</p> <ul style="list-style-type: none"> <li>• Use alternative construction methods, such as sonic or vibratory pile driving in noise sensitive areas.</li> <li>• Perform pile driving and other high-noise activities during daytime construction (generally between 7:00 AM to 7:00 PM), where possible. When construction time is restricted to certain daylight hours, the overall duration of project construct would likely increase.</li> </ul>	CDOT Design Engineering and CDOT Construction Engineering	Design Construction
19	Noise	Temporary Construction Operations	Mitigation for noise from temporary construction impacts will be analyzed by the Contractor selected to build the Project. Measures may include the use of temporary barriers, the use of alternative construction methods, limiting work to certain hours of the day, re-routing traffic away from residential areas, and using well-maintained equipment. Contractor must adhere to the noise regulations for the City of Wheat Ridge and State of Colorado.	CDOT Design Engineering and CDOT Construction Engineering	Design Construction
20	Right-of-Way	ROW and easement acquisitions	Conform to requirements set forth in the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970 (Public Law 91-646 as amended) for property and right-of-way acquisition.	CDOT Design Engineering and CDOT ROW	Design Construction, Right of Way
21	Utilities	Potential for temporary loss of utility service	Coordinate utility relocation with utility companies during final design to minimize service interruptions and to inform utility users as part of the Public Information Outreach campaign.	CDOT Design Engineering and CDOT Construction Engineering	Design Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
22	Visual Resources/ Aesthetics	Temporary construction impacts that may decrease visual quality include: <ul style="list-style-type: none"> <li>• The introduction of night-time construction lighting</li> <li>• Construction staging areas for trailers, equipment, and temporary stock piles</li> </ul>	<ul style="list-style-type: none"> <li>• Limit project construction-related lighting to that required for safety and security. Shield and direct lighting at working areas to minimize glare and ambient light conditions in nearby areas, including adjacent travel lanes.</li> <li>• Construction staging for trailers and equipment and temporary stock piles for excavation will be located away from residents or screened from views to the extent practicable to minimize visual disruption.</li> </ul>	CDOT Design Engineering and Environmental	Design
23	Visual Resources/ Aesthetics	Potential increase in night sky light due to street and roadway lighting	Minimize new lighting where needed and install dark-sky compliant lighting at the lowest allowable height while minimizing incidental light spill onto adjacent properties and backscatter into the night-time sky. Light fixtures will have non-glare finishes that will not cause reflective daytime glare.	CDOT Design Engineering and CDOT Construction Engineering	Design Construction
24	Visual Resources/ Aesthetics	Enhancement between project elements and the landscape	During design, care will be taken to address the visual compatibility of the project with the surrounding landscape, including the consideration of design strategies/aesthetics, by continued coordination with the City of Wheat Ridge and CDOT (including the CDOT Region 1 Landscape Architect).	CDOT Design Engineering	Design
25	Hazardous Materials	Potential subsurface contamination	Workers should be alert during excavations for any visual or olfactory signs of contamination. If soil and/or groundwater contamination is encountered, work should stop immediately and the procedures outlined in the CDOT Specification 250 and subsection 107.25.8 should be followed.	CDOT Construction Engineering	Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
26	Hazardous Materials	Full and partial property acquisition	An ASTM-compliant Phase I Environmental Site Assessment should be completed before taking any additional ownership interested for properties considered for acquisition. Based on the results of those assessments, specific management practices for areas where contamination could be encountered during construction, or parcels where right-of-way is acquired in these areas may be necessary.	CDOT Design Engineering and CDOT Construction Engineering	Design Construction
27	Hazardous Materials	Potential to encounter hazardous materials – lead containing paint (LCP)	Metal components painted with LCP should be removed and recycled in accordance with CDOT Specification 250.04 and OSHA Regulation 1926.62. The selected contractor and recycling center should be notified of the presence of LCP on these metal structures. Further, the contractor should avoid sanding, cutting, burning, or otherwise causing the release of lead from paint on structures or bridge components. These should be removed carefully and properly recycled. OSHA Regulation 1926.62 should be consulted for worker protection before removing painted components.	CDOT Design Engineering and CDOT Construction Engineering	Design Construction
28	Hazardous Materials	Potential to encounter hazardous materials –asbestos containing material	The CDPHE, Air Quality Control Commission (AQCC), Regulation Number 8 Part B requires that, if a bridge structure will be demolished, the affected structure must be surveyed by a certified asbestos building inspector, unless an architect certifies that the structure was constructed with asbestos-free building materials. Therefore, surveys for asbestos-containing building materials (ACBMs) must be conducted on the structures per regulations since they will be demolished as part of the Project.	CDOT Design Engineering and CDOT Construction Engineering	Design Construction
29	Hazardous Materials	Potential to encounter hazardous materials – asbestos contaminated soil	In the event that suspected asbestos containing material is encountered from either previously demolished structures or with buried utilities, workers must follow CDOT Specification 250.07 – Asbestos-Containing Material Management and CDOT Asbestos-Contaminated Soil Management Standard Operating Procedure. Additionally, depending on the type of ACM, this material must also be abated in accordance with either Section 5.5 of the Solid Waste Regulations, or Regulation No. 8 of the CDPHE, AQCC Regulations.	CDOT Construction Engineering	Construction

#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
30	Project Completion	All construction impacts	<p>Before final conclusion of the Project and 45 days prior to Project completion, the Contractor/City of Wheat Ridge shall submit to CDOT a final memorandum stating that all of the environmental mitigation commitments listed in <b>Table 4</b> Summary of Impacts and Mitigation for the Proposed Action Alternative of the EA, I-70/Kipling Interchange, (included in the Reference Documents) have been documented and fulfilled, along with a summary detailing any of the environmental BMPs that were used on the Project. The memorandum should be addressed to the CDOT Region 1 environmental project manager (currently Jessica Myklebust) at <a href="mailto:jessica.myklebust@state.co.us">jessica.myklebust@state.co.us</a>. This summary of completion will be reviewed by CDOT and forwarded to FHWA for Acceptance before Project close-out can occur.</p>	CDOT Environmental	Construction

## 10. WHAT PERMITS ARE REQUIRED FOR THIS PROJECT?

In addition to the NEPA evaluation of environmental impacts provided by this EA, the Proposed Action Alternative must comply with federal and state laws and regulations. This includes obtaining all of the required permits, performing preliminary and construction surveys, completing reviews, and obtaining other approvals as required by local agency, state, and federal regulations.

Due to the absence of federally listed threatened and endangered species or wetland impacts, there was no formal consultation with USFWS or US Army Corps of Engineers (USACE).

The following permits are likely to be required prior to construction, but this list may change during and after final design:

**Air Pollution Emissions Notice (APEN) and Permit** – Construction contractor will be required to submit an APEN to CDPHE and if predicted emissions are above established thresholds an air permit may be required.

**Construction Access Permits**— Construction access permits are required to be obtained by the construction contractor.

**Construction Dewatering Operations Permit**—Construction contractor will obtain a Colorado Discharge Permit System Construction Dewatering Permit from CDPHE.

**Demolition Permit** – Prior to demolishing a bridge or structure, CDPHE’s Air Pollution Control Division (APCD) must issue a demolition permit to the construction contractor.

**Easements**—CDOT will obtain any required easements with City of Wheat Ridge and City of Arvada.

**Permits from Local Jurisdictions**—CDOT will obtain easements for drainage and construction from City of Wheat Ridge and City of Arvada.

**Stormwater Permit associated with Construction Activities**—A Colorado Discharge Permit System-Stormwater Construction Permit is required to protect state waters and ensure the quality of stormwater runoff on any construction activity that disturbs at least one acre of land. CDOT will obtain this permit from CDPHE’s Water Quality Control Division.

**Survey Permit**—Construction contractor will be required to obtain a Survey Permit for any survey work within CDOT right-of-way.

**Traffic**—Construction contractor will be required to contact CDOT Traffic Section for any additional permitting required within CDOT ROW.

**Utility Permit**—Construction contractor will be required to obtain a Utility Permit for any work to install or maintain a utility.

## 11. WHAT OUTREACH AND OPPORTUNITIES FOR STAKEHOLDER PARTICIPATION WERE PROVIDED?

Building upon the public involvement conducted during the PEL Study (summarized in the *Final Planning and Environmental Linkages (PEL) Report, July 2013*), many opportunities for public and stakeholder involvement were provided during the EA.

The stakeholder coordination program for the I-70/Kipling Interchange NEPA and Preliminary Design project informed and involved the general public and project stakeholders in an inclusive, transparent process, resulting in their input being used to advise project decisions.

Outreach, coordination, and consultation were conducted with a number of federal, state and local agencies and stakeholders during the preparation of this EA.

The agencies include:

- City of Arvada
- City of Wheat Ridge
- CDOT
- Jefferson County
- FHWA
- RTD
- Colorado Parks and Wildlife (CPW)
- CDPHE
- Colorado SHPO/History Colorado
- United States Environmental Protection Agency (USEPA)
- USFWS
- USACE

Section 106 of the National Historic Preservation Act (as amended) and the Advisory Council on Historic Preservation regulations (36 Code of Federal Regulations [CFR] 800.2[c][ii]) mandate that federal agencies coordinate with interested Native American tribes in the planning process for federal undertakings. Consultation with Native American tribes recognizes the government-to-government relationship between the United States government and sovereign tribal groups. In that context, federal agencies must acknowledge that historic properties of religious and cultural significance to one or more tribes may be located on ancestral, aboriginal, or ceded lands beyond modern reservation boundaries.

Consulting tribes are offered the opportunity to identify concerns about cultural resources and comment on how the project might affect them. If it is found that the project will impact properties that are eligible for inclusion on the National Register of Historic Places and are of religious

or cultural significance to one or more consulting tribes, their role in the consultation process may also include participation in resolving how best to avoid, minimize, or mitigate those impacts. By describing the proposed undertaking and the nature of any known cultural sites, and consulting with the interested Native American community, FHWA and CDOT strive to effectively protect areas important to American Indian people.

In January 2018, FHWA contacted 11 federally recognized tribes with an established interest in Jefferson County, Colorado, and invited them to participate as consulting parties, including:

- Apache Tribe of Oklahoma
- Cheyenne & Arapaho Tribes of Oklahoma
- Cheyenne River Sioux Tribe
- Comanche Nation of Oklahoma
- Crow Creek Sioux Tribe
- Kiowa Tribe of Oklahoma
- Northern Arapaho Tribe
- Northern Cheyenne Tribe
- Oglala Sioux Tribe
- Rosebud Sioux Tribe
- Standing Rock Sioux Tribe

The Cheyenne & Arapaho Tribes, Northern Cheyenne Tribe, Kiowa Tribe, and Comanche Nation responded to the solicitation, indicating they were not interested in participating as a consulting tribe. No other tribal governments elected to respond.

**Appendix B1** contains documentation of agency consultation. Section 106 coordination and SHPO concurrence is available in **Appendix A6**.

A combination of outreach tools was used to reach the large number and wide variety of interchange users and impacted stakeholders. The stakeholder contact database included more than 6,000 property owners and tenants surrounding the interchange area, as well as over 400 agency partners, stakeholders and citizens who attended meetings, provided written comments, or expressed interest.

A project web page was available for two-way information sharing (<https://www.codot.gov/projects/i-70-kipling-interchange>) and comments were accepted throughout the project duration. At key points, a news release was sent to local media outlets, and CDOT, local agency, and group partners distributed information to their email list serves and through social media posts. To inform business tenants in the interchange area, a member of the project team visited businesses to distribute a meeting advertisement and a project update handout prior to the first public meeting.

Project announcements were distributed via mail and/or email at the following key points:

- Notification of public meeting #1 – March 2017
- Notification of public meeting #2 – November 2017
- Project Update Mailer – November 2018

The first public meeting was held on March 23, 2017 to inform the community of the project background, the NEPA process, the post-PEL Study alternatives evaluation, and the recommended Proposed Action Alternative. General comments received from the public indicated that the Proposed Action Alternative was viewed as a positive change with better traffic flow and safety, plus less possibility of traffic queues through the interchange or along the ramps. A second public meeting was held on November 30, 2017 to present the design and operations of the Proposed Action Alternative. Both meetings were held in open house format, with a brief presentation at the first meeting.

In addition to these general public meetings, many other meetings were held with agency stakeholders, property owners, businesses, and emergency service providers. These meetings, outlined in **Table 5** served to inform stakeholders of the planned interchange improvements and gather feedback to be used by the project team related to desired design refinements, potential impacts, and possible mitigation techniques.

**Table 5. Public and Stakeholder Involvement Activities**

Date	Public/Stakeholder Involvement Activity
October 12, 2016	Technical Team agency coordination meeting #1 (CDOT, FHWA, Jefferson County, City of Arvada, and City of Wheat Ridge)
February 8, 2017	Technical Team agency coordination meeting #2 (CDOT, FHWA, Jefferson County, City of Arvada, and City of Wheat Ridge)
March 23, 2017	Public Meeting #1
October 10, 2017	Medved property/business owner meeting #1
October 11, 2017	Technical Team agency coordination meeting #3 (with CDOT, City of Arvada, and City of Wheat Ridge)
November 28, 2017	Medved property/business owner meeting #2
November 30, 2017	Public Meeting #2
December 14, 2017	City of Wheat Ridge coordination meeting
December 20, 2017	Arvada Fire and Arvada Police emergency service provider coordination meeting
February 14, 2018	RTD coordination meeting
February 27, 2018	Conoco (Northwest quadrant, 4901 Kipling Street) property owner meeting
March 6, 2017	Wheat Ridge City Council presentation
March 8, 2017	Jefferson County Transportation Action & Advocacy Group presentation
April 11, 2018	Conoco (Southeast quadrant, 4750 Kipling Street) property owner meeting
April 25, 2018	City of Wheat Ridge coordination meeting
June 13, 2018	Circle K/Shell (Northwest quadrant, 4885 Kipling Street) property owner meeting
August 10 - 11, 2018	Wheat Ridge Carnation Festival



Frequent project team and design team meetings were also held between the consultant team, CDOT and FHWA to allow for continuous federal agency coordination.

**Appendix B2** contains documentation of the public comments received to date.

## 12. WHAT ADDITIONAL OPPORTUNITIES FOR STAKEHOLDER PARTICIPATION WILL BE PROVIDED?

Public and stakeholder coordination will continue through completion of the EA, final design, and construction. This coordination will include City of Wheat Ridge, City of Arvada, Jefferson County, RTD, emergency service providers, impacted property owners, and tenants. The general public will be kept informed at key points through news releases, and those subscribed to the EA project mailing list will receive email notices, at a minimum. Notice of the EA's final public meeting and notice of the decision document availability will be sent electronically to the project mailing list.

The public review and comment period for this EA will last 30 days, and occur between January 25, 2019 and February 24, 2019. Comments can be submitted in the following ways:

- Online:  
<https://www.codot.gov/projects/i-70-kipling-interchange>
- By email: [dot\\_i70kiplingnepa@state.co.us](mailto:dot_i70kiplingnepa@state.co.us)
- In writing: Adam Parks  
Colorado Department of Transportation  
425 A Corporate Circle  
Golden, CO 80401

A third public meeting will be held during the 30-day public review period for the EA. The purpose of this meeting will be to gather public input for consideration prior to preparation of a decision document. Comments received during this meeting will be compiled with others received during the 30-day review period and considered by CDOT and FHWA before a decision document is issued. Responses to comments formally submitted through the aforementioned channels will be included in the decision document, which will be made available on the project web page (<https://www.codot.gov/projects/i-70-kipling-interchange>) once it is finalized.

This meeting will be held at the Wheat Ridge Recreation Center, 4005 Kipling Street, Wheat Ridge, Colorado 80033 on February 12, 2019 from 5:00 pm to 7:00 pm. The building is American with Disabilities Act (ADA) compliant. Individuals needing special accommodations to participate should contact Adam Parks with the contact information listed above, or by calling 303-398-6732.

## REFERENCES

- Arland. 2018. *Land Use and Community Profile Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A9
- CDOT. 2013. *Final Planning and Environmental Linkages (PEL) Report, I-70 & Kipling Interchange, PEL Study*. Colorado Department of Transportation (CDOT), July 2013. Accessed April 2018. (<https://www.codot.gov/projects/i70kiplingpel>)
- CDOT, 2017. *Safety Assessment Report SH 70A: MP 266.16 to MP 267.90, SH 391: MP 9.2 to MP 9.64*, CDOT, November 2017.
- CDOT. 2018a. *Determinations of Effects, CDOT Environmental Assessment for the I-70 and Kipling Street Interchange Improvements, Project 19791, Wheat Ridge, Jefferson County, Colorado (HC #74330)* Appendix A6
- CDOT. 2018b. *I-70 & Kipling Existing Utility Plan, Legend, Contacts & Notes*
- DEA. 2018a. *Transportation Resources Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A1
- DEA. 2018b. *Water Resources Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A3
- DEA. 2018c. *Environmental Justice/Socioeconomics Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A10
- DEA. 2018e. *Modified Environmental Site Assessment (Hazardous Materials) Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A13
- DRCOG, 2017. "Metro Vision." DRCOG. Adopted 1997. Revised January 2017. Accessed January 2018. (<https://drcog.org/planning-great-region/metro-vision>)
- Hankard. 2018. *Noise Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A11
- Pinyon. 2018a. *Air Quality Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A2
- Pinyon. 2018b. *Wetland Delineation Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A4
- Pinyon. 2018c. *Biological Resources Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A5
- Pinyon. 2018d. *Archaeology Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A7
- Pinyon. 2018e. *Paleontology Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A8
- Pinyon. 2018f. *Abbreviated Visual Impact Assessment Memorandum for the I-70/Kipling Environmental Assessment* Appendix A12
- Pinyon, 2018g. *Cumulative Impacts Memorandum for the I-70/Kipling Interchange Environmental Assessment* Appendix A14

**APPENDICES**

PROVIDED ELECTRONICALLY ON THE ATTACHED FLASH DRIVE  
OR ONLINE: [www.codot.gov/projects/i-70-kipling-interchange](http://www.codot.gov/projects/i-70-kipling-interchange)

**APPENDIX A.  
SUPPORTING TECHNICAL DOCUMENTS BY SUBJECT**

**APPENDIX B1.  
AGENCY AND TRIBAL COORDINATION**

**APPENDIX B2.  
PUBLIC COMMENTS SUMMARY**

**APPENDIX C.  
PROPOSED ACTION ALTERNATIVE PRELIMINARY PLANS**