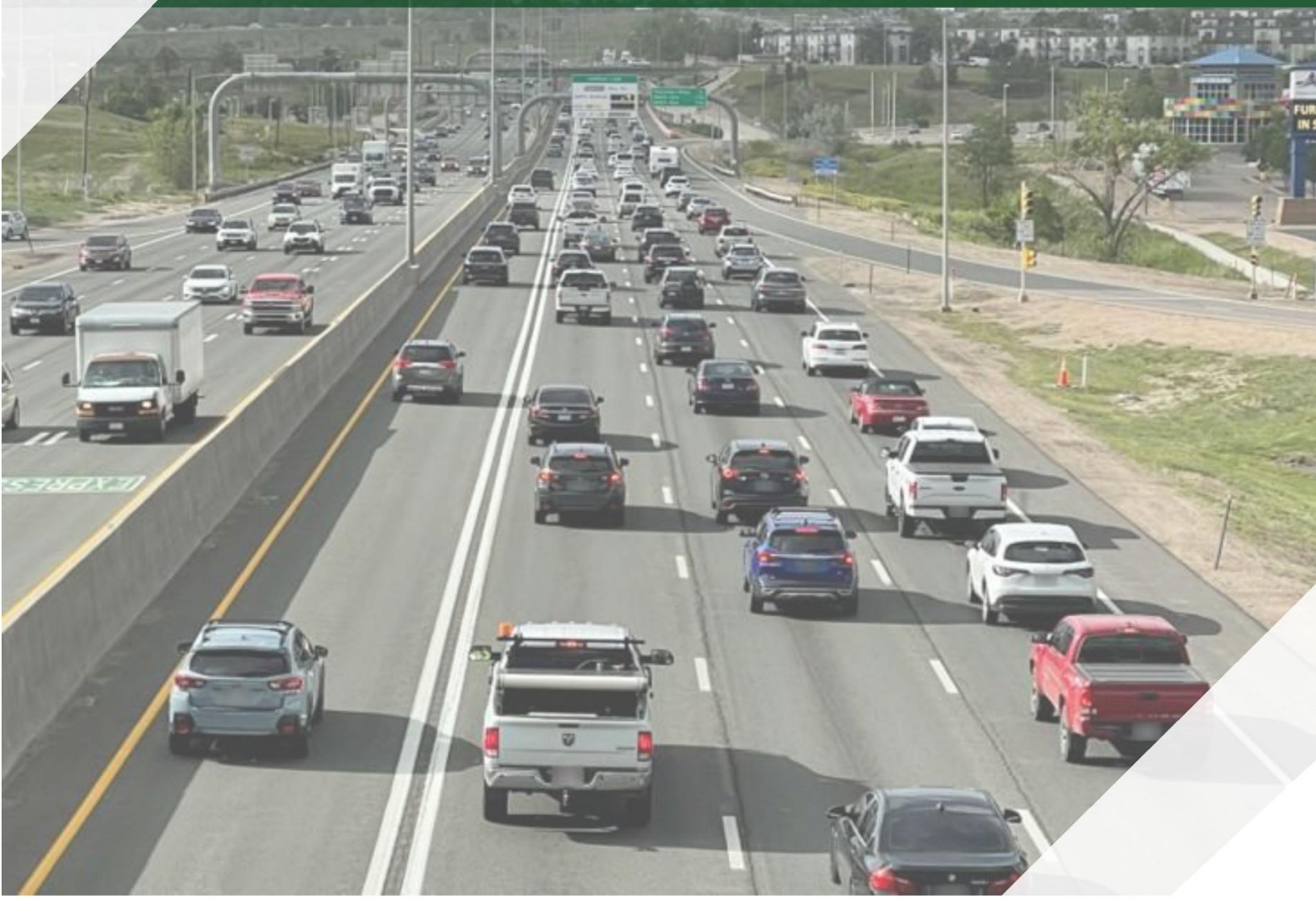
I-25 (US 36 to 104th Avenue)

Safety and Operations Improvements Project



Environmental Assessment

November 2026

Project Number: PM 0253-299
Project Code: 25563
Adams County, Colorado

Lead Agencies:

U.S. Department of Transportation
Federal Highway Administration

COLORADO
Department of Transportation

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Environmental Assessment Signatures

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Date

The Federal Highway Administration may publish a notice in the Federal Register, pursuant to 23 United States Code (USC) § 139(l), indicating that one or more federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 150 days after the date of publication of the notice, or within such shorter time period as is specified in the federal laws pursuant to which judicial review of the Federal agency action 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.

Per 23 CFR 771.138(c)(1), the Lead Agencies' signatures on the Environmental Assessment certifies that the Administration has considered the factors mandated by 23 CFR 771.138; that the Environmental Assessment reflects the Administration's expert judgement and documents the most important considerations required by the statute and within the applicable timeline and page limits; and that any considerations addressed briefly or left unaddressed were, in the Administration's judgement, comparatively unimportant.

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Public Comment Period

The public comment period for this Environmental Assessment is November 25, 2026 - January 1, 2027. Written comments on this Environmental Assessment can be submitted by mail or by email to the contacts listed above. Requests for communication assistance or reasonable accommodations for special needs can be made by contacting CDOT_accessibility@state.co.us.

This Environmental Assessment will be available for public review at the following locations during the public comment period:

- Colorado Department of Transportation Region 1 Office
  2829 West Howard Place
  Denver, CO 80204

- Federal Highway Administration Colorado Division Office
  12300 West Dakota Avenue, Suite 180
  Lakewood, CO 80228

- Anythink Thornton Community Center Library
  2211 Eppinger Boulevard
  Thornton, CO 80229

- Anythink Huron Street Library
  9417 Huron Street
  Thornton, CO 80260

- Anythink Perl Mack Library
  7611 Hilltop Circle
  Denver, CO 80221

Public Open House

A public open house will be held for this project from 5:00 PM to 7:00 PM on Thursday, December 10, 2026, at the Thornton Community Center, located at 2211 Eppinger Boulevard, Thornton, Colorado 80229. Written comments on this Environmental Assessment can be sent by mail or by email to the contacts listed above or through the comment form available on the webpage: Environmental Assessment comment form.

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Acronyms and Abbreviations

Acronym/ Abbreviation	Full Name
AST	aboveground storage tank
BG	block group
BMP	best management practice
CD	collector-distributor
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CDPS	Colorado Discharge Permit System
CFR	Code of Federal Regulations
CLOMR	Conditional Letter of Map Revision
CM	control measure
CMCA	Colorado Motor Carriers Association
CPW	Colorado Parks and Wildlife
CO	carbon monoxide
CSA	Community Study Area
C.R.S.	Colorado Revised Statutes
CTIO	Colorado Transportation Investment Office
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
dbh	diameter at breast height
DPM	diesel particulate matter
DRCOG	Denver Regional Council of Governments
EIS	Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIR	Field Inspection Review
FY	fiscal year
ft	foot
I-25	Interstate 25
I-270	Interstate 270
I-76	Interstate 76
ID	identification
IGA	intergovernmental agreement
IPaC	Information for Planning and Consultation
LEP	limited English proficiency
LOMR	Letter of Map Revision
LWCF	Land and Water Conservation Fund
MHFD	Mile High Flood District
MP	milepost
mph	miles per hour
MS4	municipal separate storm sewer system
NA	not applicable
NAAG	Noise Analysis and Abatement Guidelines
NAAQS	National Ambient Air Quality Standards

Acronym/ Abbreviation	Full Name
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NRHP	National Register of Historic Places
NWP	Nationwide Permit
O_3	ozone
OW	other water
OWJ	official with jurisdiction
PEC	potential environmental condition
PEL	Planning and Environmental Linkages
PEM	Palustrine Emergent Wetland
PFAS	per- and polyfluoroalkyl substances
PM	particulate matter
$PM_{2.5}$	particulate matter with diameter equal to or less than 2.5 micrometers
PM_{10}	particulate matter with diameter equal to or less than 10 micrometers
POM	polycyclic organic matter
PSS	Palustrine Scrub-Shrub
PWQ	permanent water quality
Qc	Colluvium
Ql	Quaternary loess
Qp	Piney Creek Alluvium
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
ROD	Record of Decision
ROW	right-of-way
RS/TC	Regionally Significant Transportation Capacity
RTD	Regional Transportation District
RTP	Regional Transportation Plan
SB 40	Senate Bill 40
SEMS	Superfund Enterprise Management System
SFHA	special flood hazard area
SHPO	State Historic Preservation Officer
SPWRAP	South Platte Water Related Activities Program
SWIFT	Statewide Impact Findings Table
SWMP	Stormwater Management Plan
TIP	Transportation Improvement Program
TKda	Denver and Arapahoe Formations
US 36	United States Highway 36
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VIA	Visual Impact Assessment
VOC	volatile organic compound
VMT	vehicle miles traveled
WL	wetland

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1.0 Introduction and Background

The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA) are proposing transportation improvements to Interstate 25 (I-25) between the United States Highway 36 (US 36)/Interstate 270 (I-270)/Interstate 76 (I-76) interchange and 104th Avenue in the cities of Thornton and Northglenn in Adams County, Colorado (**Figure 1**). This Environmental Assessment was prepared to support evaluation of the I-25 (US 36 to 104th Avenue) Safety and Operations Improvements Project (the project).

CDOT previously completed an Environmental Impact Statement (EIS) and other planning efforts that recommended improvements to the US 36 to 104th Avenue segment of I-25 (FHWA and CDOT, 2011a). Some of the previously recommended improvements have been constructed, such as the Express Lanes approved in the North I-25 Record of Decision 1 (ROD1) (FHWA and CDOT, 2011b), while others have not yet been implemented. The current project evaluates proposed transportation improvements that reflect and build upon previous recommendations.

Because the current project includes elements that were not evaluated and approved in ROD1, this project is undergoing new evaluation under the National Environmental Policy Act (NEPA). The purpose of this Environmental Assessment is to:

- Explain the project background;
- Define the Purpose and Need and Goals of the project;
- Evaluate the alternatives considered;
- Define the Proposed Action;
- Determine potential human and natural environmental impacts;
- Define appropriate mitigation measures and any required permits; and
- Document the agency and public engagement process.

The project area illustrated on **Figure 1** is based on the project's design and the maximum area that could be affected during construction. The project area is approximately a five-mile segment of I-25 between US 36/I-270 to the south (milepost (MP) 215.85) and 104th Avenue to the north (MP 221.45). This urban corridor is located in Adams County and surrounded by the local communities of Sherrelwood, Welby, Federal Heights, Thornton, and Northglenn.

The project is currently estimated to cost approximately $270 million, including design, right-of-way (ROW), and construction costs. Design funding of approximately $20 million and ROW and construction funding of approximately $90 million is included in CDOT's 10-Year Strategic Project Pipeline (CDOT, 2026b). Additional construction funding, estimated at approximately $160 million, is anticipated to be provided through the Colorado Transportation Investment Office (CTIO) through the Tolling and Revenue Loan program; however, this funding has not yet been formally allocated. CDOT will continue to coordinate with CTIO and other partners to identify and secure the remaining funding needed to advance the project to construction.

Figure 1. Project Area



Pre-construction activities for the project are referenced in the Denver Regional Council of Governments (DRCOG) Transportation Improvement Program (TIP) ID 2022-076 where approximately $40 million is currently identified, and the project is included in the 2024 update to the 2050 Regional Transportation Plan (RTP), the long-range plan, where the project is currently staged in 2040-2050 at approximately $230 million. DRCOG is currently updating the RTP with expected board approval in November 2026, and the I-25 US 36 to 104th Avenue project update will include a revised scope of work, a revised total cost estimate of $270 million, and a revised staging period of 2025-2029. CDOT will request a TIP amendment to include the revised project. Regional conformity and fiscal constraint requirements will be satisfied upon approval of the RTP update and TIP amendment, which will occur before the NEPA decision on this Environmental Assessment. This project is included in the I-25 North Corridor Financial Plan for I-25 segments 2 through 9.

2.0 Purpose and Need

2.1 What is the Purpose of the Project?

The purpose of the project is to improve I-25 between the US 36/I-270/I-76 interchange and 104th Avenue to address safety concerns and improve traffic operations in this segment of the corridor.

2.2 What are the Needs for the Project?

The project is needed to:

- Improve safety
- Improve traffic operations

2.2.1 Safety

Crash data and safety assessments indicate that the I-25 corridor between the US 36/I-270/I-76 interchange and 104th Avenue experiences crash frequencies and patterns commonly associated with congestion and complex merging conditions. Ninety percent of I-25 in the project area falls in the highest-severity crash category (Level of Service of Safety IV), meaning severe crashes are common and improvements could substantially reduce them.

From 2021 to 2023, approximately 2.7 crashes per day occurred within the project area limits. More than 25 percent of these crashes involved injury or fatality, as shown on **Figure 2** below. Rear-end and same-direction sideswipe collisions account for the majority of crashes and are typically associated with stop-and-go traffic conditions, speed differentials, and weaving movements.

Figure 2. Crash History Percentages, 2021-2023

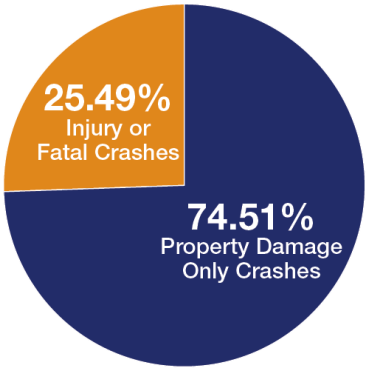


Photo 1. Emergency Response Along I-25



Most crashes occur during peak travel periods in the peak direction of travel (southbound in the morning and northbound in the evening), indicating a strong connection between congestion and crash occurrence. This pattern highlights a clear opportunity to improve safety through targeted infrastructure improvements.

Specific safety concerns within the corridor include:

- High concentrations of rear-end crashes associated with recurring congestion;
- Sideswipe same-direction crashes associated with lane changing and merging activity near closely spaced interchanges;
- Limited shoulder widths that constrain law enforcement and emergency response access and operations, increasing the risk of secondary crashes;
- Speed differentials between the Express Lanes and general-purpose lanes;
- Transit bus weaving movements at the Thornton Park-n-Ride, which require buses to cross multiple lanes of traffic over a short distance; and
- Express Lane violations that create abrupt merging conflicts.

Without improvements, projected traffic growth and continued congestion are expected to make existing crash patterns and safety risks worse. The total crash rate (crashes per mile per year) in the project area is expected to increase by 28 percent, and the total crashes per million vehicle miles traveled is expected to increase by 13 percent (see **Appendix D1: Traffic and Safety Technical Report**).

2.2.2 Traffic Operations

I-25 between the US 36/I-270/I-76 interchange and 104th Avenue experiences recurring congestion during weekday peak travel periods. Traffic volumes in 2024 ranged from approximately 170,000 vehicles per day at the north end of the corridor to approximately 233,000 vehicles per day near US 36. Traffic volumes are projected to increase by 15 to 30 percent by year 2050, making congestion worse if no improvements are implemented.

Congestion is most pronounced:

- Northbound during the evening peak period between US 36/I-270 and 84th Avenue; and
- Southbound during the morning peak period between Thornton Parkway and the US 36/I-270/I-76 interchange complex.

Operational challenges contributing to congestion include:

- Closely spaced interchanges and short weaving distances;
- Heavy volumes of merging vehicles from US 36, I-76, and I-270 onto northbound I-25;
- A lane reduction near 84th Avenue in the northbound direction;
- Steep grades that affect heavy vehicle acceleration; and
- Transit bus movements between the Express Lanes and outside slip ramps at the Thornton Park-n-Ride.

Traffic modeling indicates that, under the No Action Alternative (discussed below in **Section 3.1**), peak-period congestion is projected to worsen by 2050, with longer queue lengths, reduced travel speeds, and increased travel times (see **Figure 3** and **Figure 4**). Congestion is projected to begin earlier and persist later into the evening.

Figure 3. No Action vs Existing Conditions AM Peak Southbound Travel Times (General-Purpose Lanes)

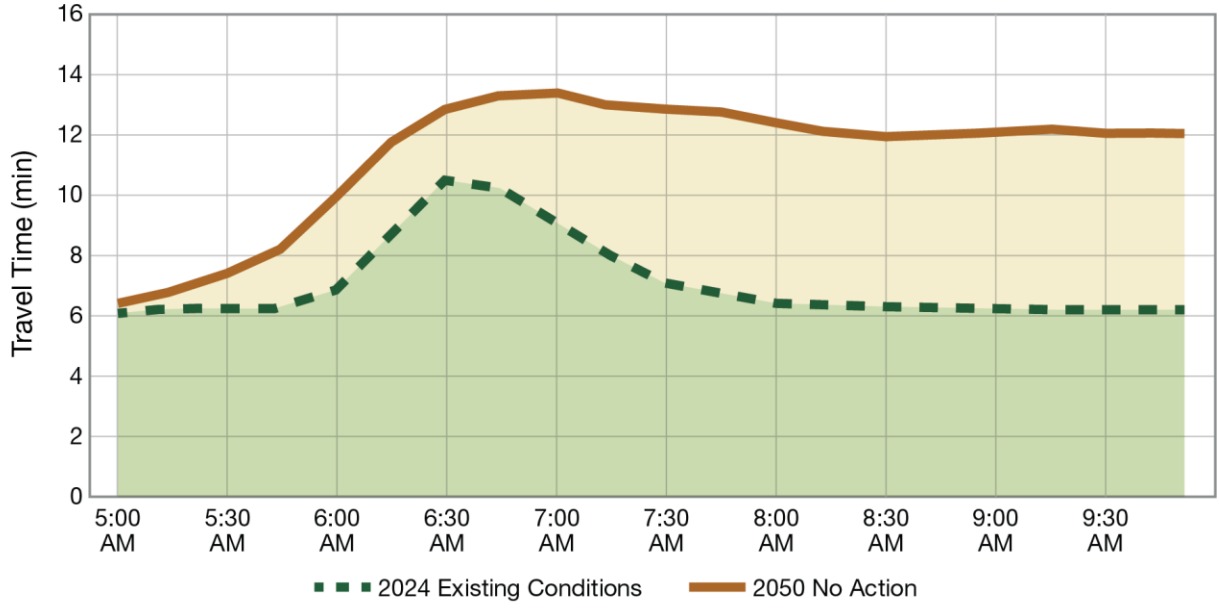
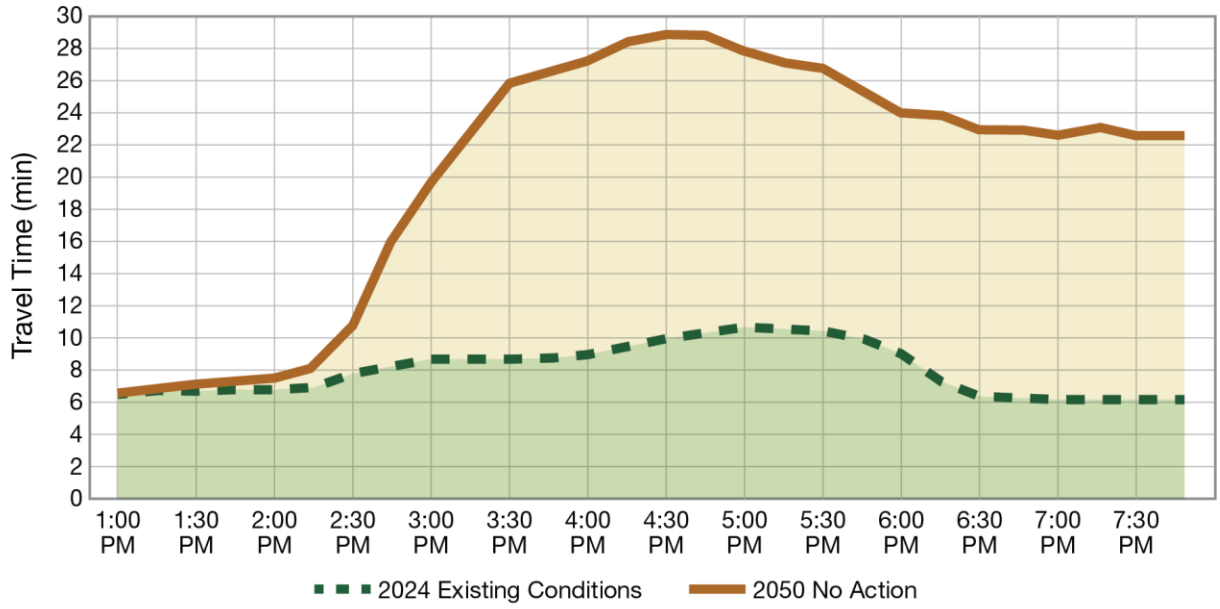


Figure 4. No Action vs Existing Conditions PM Peak Northbound Travel Times (General-Purpose Lanes)



Traffic operations improvements are needed to:

- Better accommodate projected travel demand;
- Improve merging and weaving operations;
- Reduce peak-period delay and queuing; and
- Improve travel time for passenger and freight vehicles.

2.3 What are the Goals of the Project?

In addition to addressing project needs, the project also has the following goal:

- Minimize environmental and community impacts caused by the project.

The project will advance CDOT's mission to improve safety, efficiency, and multimodal connectivity along one of Colorado's most important transportation corridors.

Refer to **Appendix B: Purpose and Need Memorandum** for more information.

3.0 Alternatives Evaluation

Improvements to I-25 between the US 36/I-270/I-76 interchange and 104th Avenue have been studied through multiple planning efforts over the past decade. The current Proposed Action (discussed below in **Section 3.2**) builds upon prior corridor evaluations, including:

- The North I-25 EIS and ROD1 (FHWA & CDOT, 2011a and 2011b);
- The 2014 Planning and Environmental Linkages (PEL) Study for I-25 from US 36 to SH 7 (CDOT, 2014);
- The 2021 North I-25 Supplemental Options Analysis White Paper (CDOT, 2021);
- The 2023 I-25/88th Avenue Transit and Safety Analysis (CDOT, 2023); and
- Subsequent design refinement and traffic and safety analyses conducted from 2024 to 2026.

Collectively, these planning efforts identified a range of operational, safety, and multimodal improvements for the corridor, including additional general-purpose and auxiliary lanes, interchange modifications, and transit-related elements. These concepts informed the development and screening of alternatives for the current project and were considered in defining the Proposed Action.

The 2014 PEL Study identified operational, safety, and multimodal deficiencies in this corridor segment and recommended a package of improvements including additional general-purpose lanes, auxiliary lanes, interchange modifications, and a median transit station at 88th Avenue.

The 2021 Supplemental Options Analysis evaluated six design options using 2040 microsimulation modeling and safety screening criteria. The 2021 Supplemental Options Analysis identified a preferred package of improvements consisting of a collector-distributor road system between I-270 and 84th Avenue and an extended climbing lane to 104th Avenue, which provided the greatest benefit to corridor operations and safety.

In 2023, CDOT conducted a focused transit and safety analysis at 88th Avenue. Seventeen transit concepts were screened through a multistep evaluation process, resulting in identification of an at-grade median transit station concept as the preferred transit configuration from an operational perspective.

In 2024 and 2025, additional engineering, cost evaluation, and 2050 horizon traffic modeling were completed. While the median transit station concept demonstrated operational benefits, it was determined to be infeasible due to capital cost and lack of committed funding. As a result, the median transit station was not advanced as part of the Proposed Action. Retaining the existing transit-only slip ramps in lieu of a median transit station was also determined infeasible because the ramps create safety and operational hazards due to insufficient weave and merge lengths on I-25 and conflicts with Niver Creek Trail users within

the Park-n-Ride; the ramps are therefore recommended for removal as part of the Proposed Action.

Prior analyses identified a collector-distributor (CD) road system combined with an extended climbing lane as providing the greatest operational and safety benefits along the corridor. However, implementation of a CD road would require substantially greater ROW, impacts on local businesses including full acquisition of one and increased impacts to the I-25 Corporate Center business operations, substantially higher cost, and greater design complexity than is feasible for this project. The inclusion of the CD road system would also require the relocation of the CDOT maintenance yard facility located at 76th Avenue, estimated to add approximately $23 million to the project's cost. Relocation of the maintenance yard would also complicate plowing operations as the CD road would restrict access to the I-25 mainline. The barrier separating the CD road from the mainline would also introduce a fixed-object hazard, potentially increasing crash severity for vehicles that strike it. As a result, a continuous auxiliary lane is being advanced in place of the CD road to address key weaving and operational issues while remaining consistent with project constraints.

The Proposed Action presented in this Environmental Assessment reflects the improvements that best address the project's Purpose and Need while remaining feasible within current funding and implementation constraints. The relationship between prior planning efforts, alternatives development, and the elements incorporated into the Proposed Action is described in detail in **Appendix C: Alternatives Analysis Report**.

3.1 What is the No Action Alternative?

The No Action Alternative assumes that no major improvements would be implemented on I-25 between the US 36/I-270/I-76 interchange and 104th Avenue beyond routine maintenance, committed improvements, and regionally planned transportation improvements assumed in the 2050 baseline transportation network. The following transportation improvements located within a larger area surrounding the project area that may affect regional travel in the project area are considered part of the No Action Alternative:

- I-270 improvements between I-25 and I-70 (southeast of project area);
- City of Thornton 88th Avenue Corridor Study (bisects the project area);
- City of Thornton Niver Creek Trail Study (bisects the project area); and
- Future direct connections between the I-25 Express Lanes and I-270, as assumed in the DRCOG regional transportation planning and modeling.

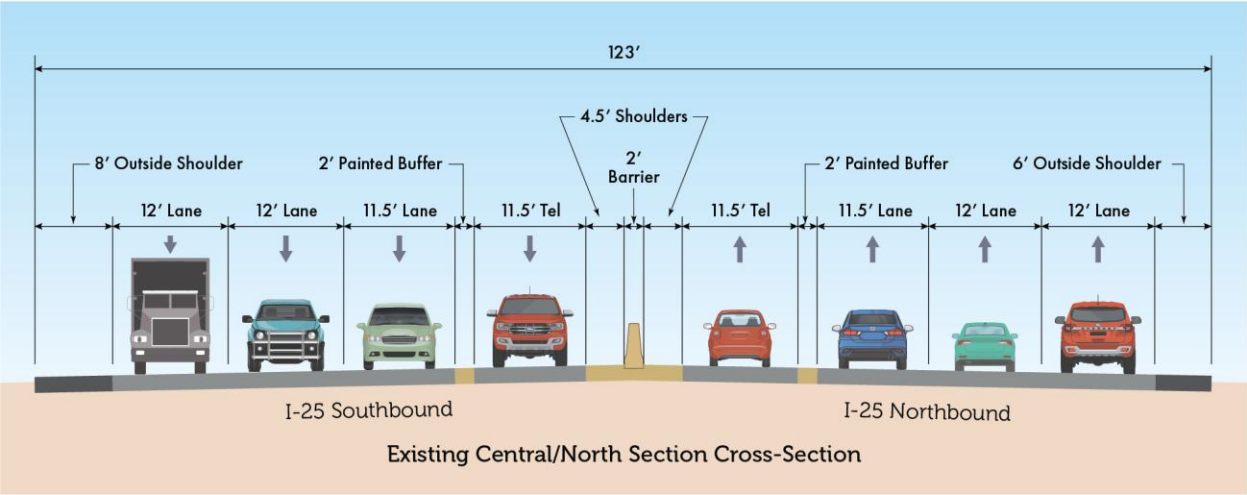
These improvements are incorporated as the baseline condition for purposes of comparison in this Environmental Assessment.

The existing cross-section (i.e., the arrangement of roadway elements across I-25 from one side of the ROW to the other) includes:

- Three general-purpose travel lanes in each direction;
- One Express Lane in each direction, along the inside shoulder, separated from the adjacent general-purpose lane by a 2-foot buffer;
- A southbound auxiliary lane between the 84th Avenue and US 36/I-270/I-76 interchanges;
- A southbound auxiliary lane between the 88th Avenue transit slip ramp and the 84th Avenue interchange;
- A northbound auxiliary lane between the 88th Avenue transit slip ramp and Thornton Parkway interchange; and
- Inside shoulders varying in width between 2 and 12 feet and outside shoulders varying in width between 6 and 12 feet.

To better describe the existing infrastructure within this segment of I-25, the project area has been broken into three segments: the south segment from the US 36/I-270/I-76 interchange to 84th Avenue, the central segment from 84th Avenue to 88th Avenue, and the north segment from 88th Avenue to 104th Avenue (see **Figure 6**). **Figure 5** illustrates the existing cross-section under the No Action Alternative.

Figure 5. Existing Central/North Segment Cross-Section



Under projected 2050 traffic conditions, congestion within the project area limits would worsen, particularly in the northbound direction between I-270 and 84th Avenue and in the southbound direction approaching 84th Avenue, based on traffic modeling conducted for the project (see **Appendix D1: Traffic and Safety Technical Report**). Existing operational deficiencies associated with closely spaced interchanges, short merge distances, and heavy freight volumes would persist. Safety risks related to weaving and merging movements would also remain.

The No Action Alternative does not meet the project's Purpose and Need because it would not improve safety or traffic operations in the corridor. The No Action Alternative is analyzed in this Environmental Assessment as a baseline for comparison with the Proposed Action. Refer to **Appendix C: Alternatives Analysis Report** for more details.

3.2 What is the Proposed Action?

The Proposed Action, shown on **Figure 6** through **Figure 11**, includes the elements described below, broken up according to segment.

Elements Spanning Multiple Segments

- A new 12-foot-wide southbound general-purpose lane from 104th Avenue to south of 84th Avenue, featuring standard general purpose lane striping;
- A new 12-foot-wide northbound climbing lane from the I-76 entrance ramp to 104th Avenue, featuring standard general purpose lane striping;
- An expanded buffer of 4 feet between the Express Lane and the adjacent general-purpose lane;
- A new continuous 12-foot-wide auxiliary lane southbound between the 84th Avenue and Thornton Parkway interchanges, featuring standard auxiliary lane striping and signage;
- New continuous northbound auxiliary lanes between the interchanges at I-270 and 84th Avenue, 84th Avenue and Thornton Parkway, and Thornton Parkway and 104th Avenue, featuring standard auxiliary lane striping and signage;
- Expanded inside and outside shoulders with typical 10-foot widths, and minimum 6.5-foot inside and 7-foot outside widths in restricted locations;
- Realignment of the I-25 adjacent existing trail and pedestrian network within the Niver Creek Open Space and its connections to the Thornton Park-n-Ride facilities (see **Photo 1** and **Figure 11**);
- New water quality treatment features throughout the project area.

South Segment Elements

- Realignment of the combined I-76 and US 36 on-ramp connection (see **Figure 8**);
- Expansion of the I-270 exit to northbound I-25 from one to two lanes; I-270 to merge with I-25 shifted farther north.

Central Segment Elements

- Removal of bus-only slip ramps along I-25 at the Thornton Park-n-Ride facilities;
- Changes to the Park-n-Ride west parking lot including reduction in size and reconstruction of circulation widths, sidewalks, and median areas to accommodate the proposed open channel of Niver Creek;
- Changes to the Park-n-Ride east parking lot including reconstruction of bus bays and relocated shelters and amenities;
- Replacement of the 88th Avenue bridge over I-25 (see **Photo 1**); wider to accommodate improved bicycle and pedestrian facilities, and longer to accommodate I-25 widening (see **Figure 10**);

- Replacement of the aging pedestrian and bikeway underpass at the Thornton Park-n-Ride facility;
- Removal of Niver Creek from the existing box culvert at the Thornton Park-n-Ride and conversion of the creek into an open channel (see **Figure 11**); and
- Relocation of the segment of Niver Creek east of I-25, which currently flows south from the Park-n-Ride east parking lot to the creek's intersection with Tributary L, to the west side of I-25 (see **Figure 11**).

All elements in the north segment are included in the Elements Spanning Multiple Segments list above.

Figure 6. Proposed Action Overview

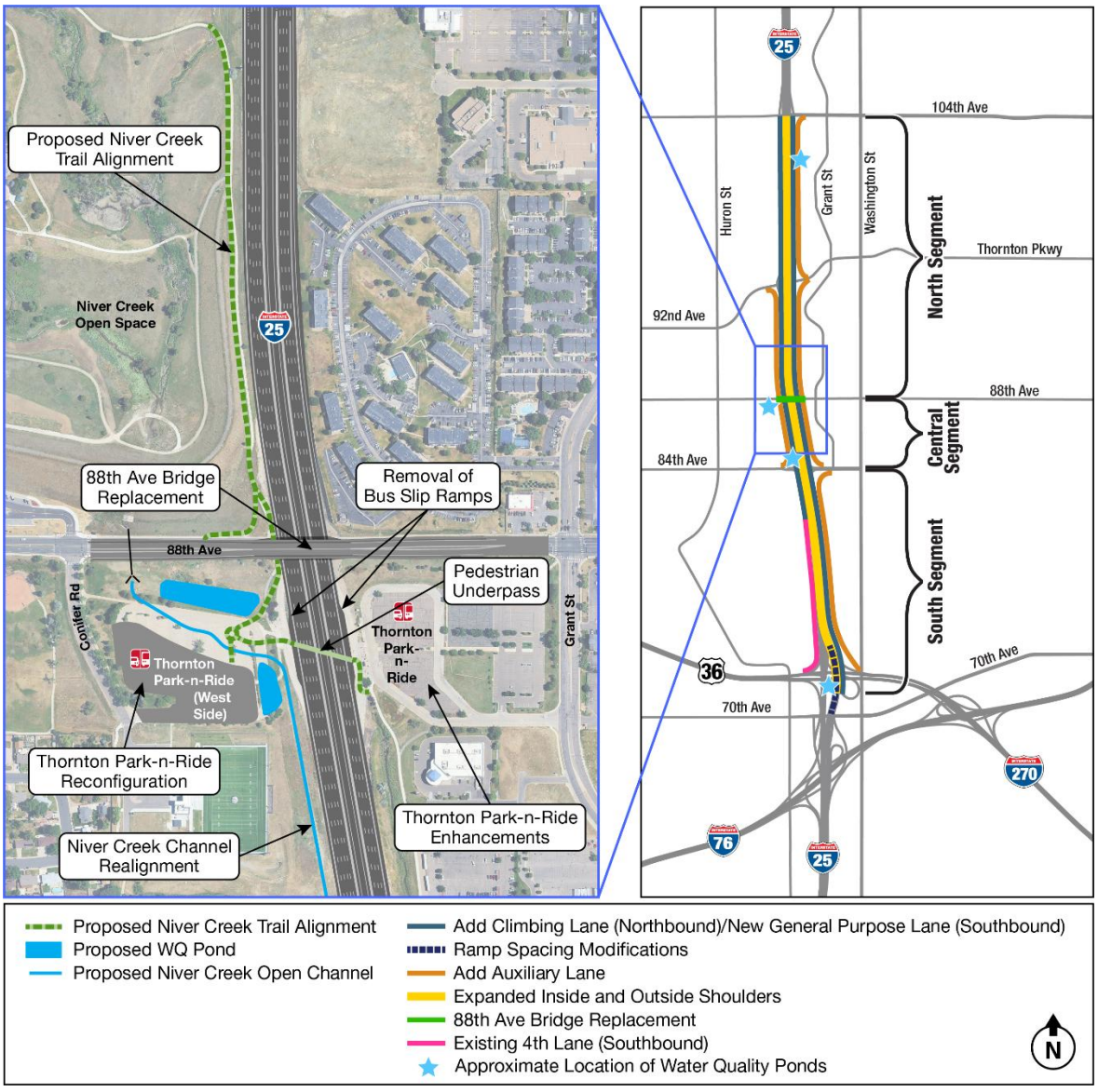


Figure 7. Proposed Southern Segment Configuration

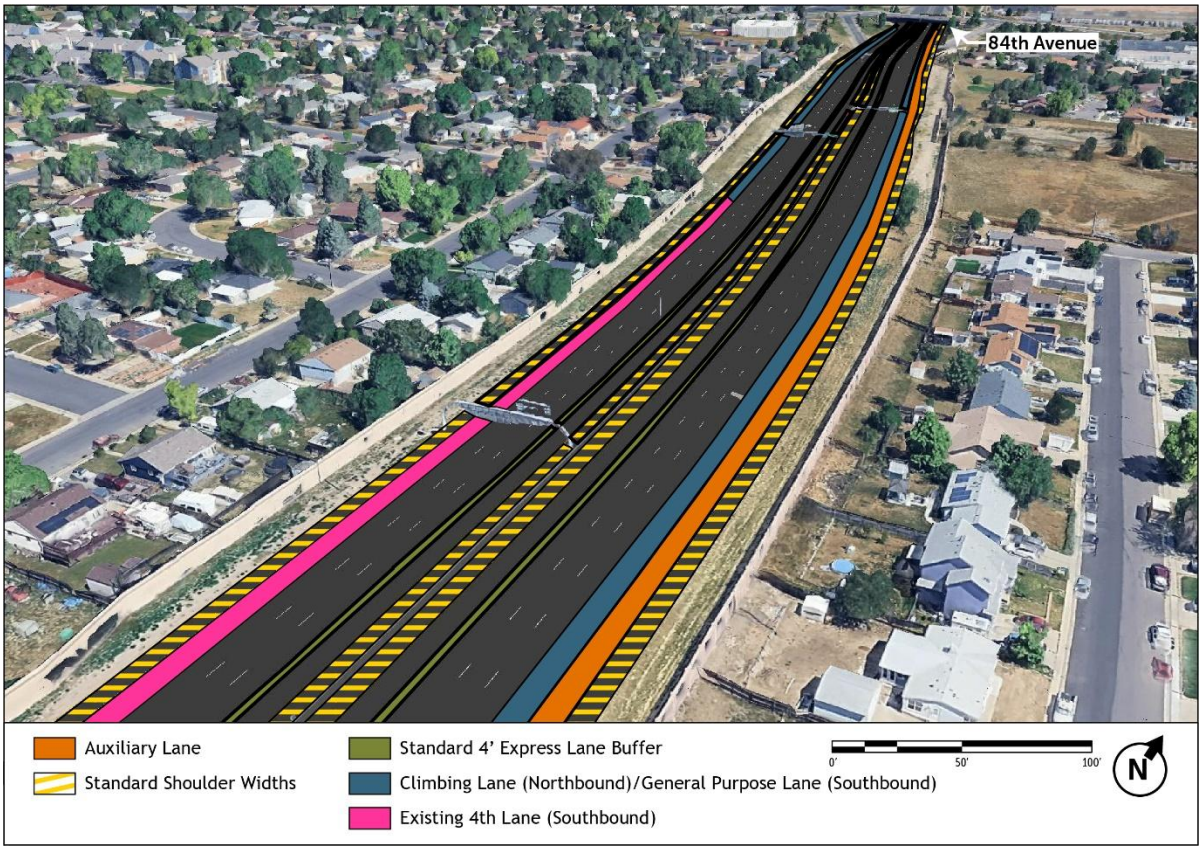


Figure 8. Proposed Improvements to I-270 Exit to Northbound I-25

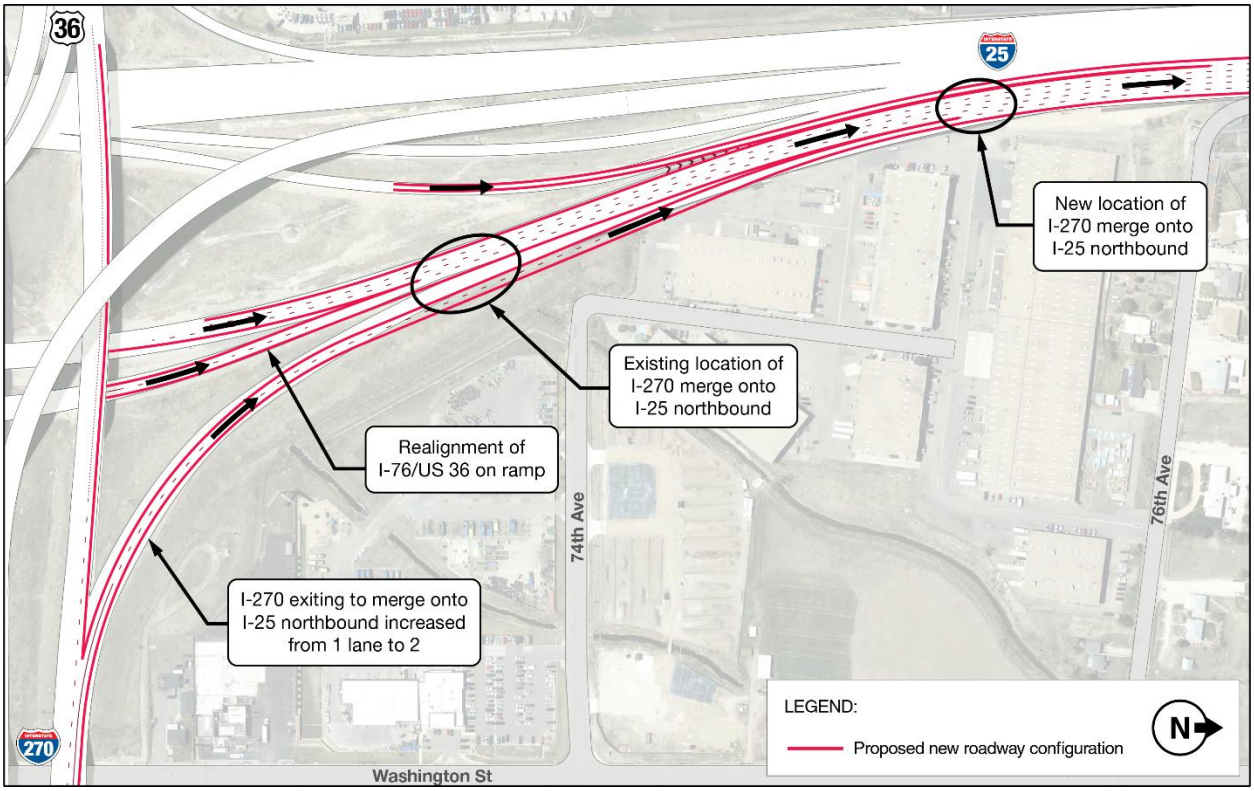
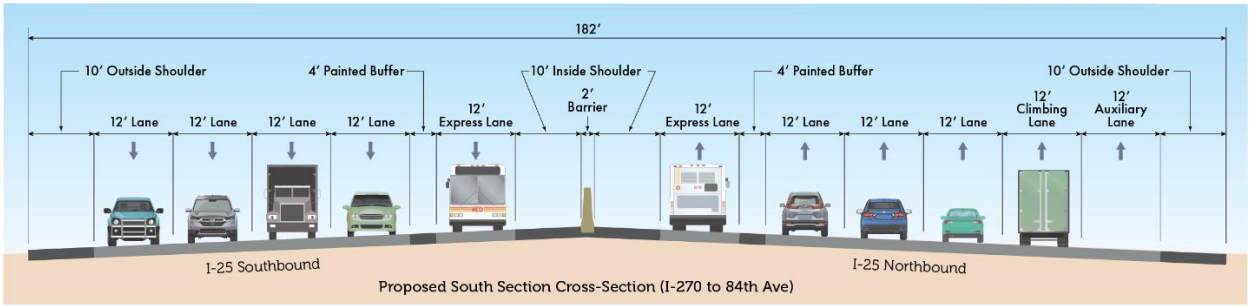
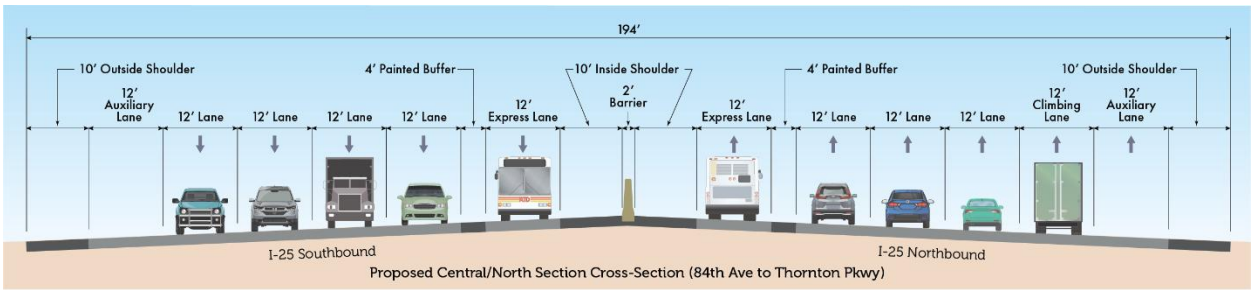


Figure 9A. Proposed South Section Cross-Section (I-270 to 84th Ave)



Proposed South Section Cross-Section (I-270 to 84th Ave)

Figure 9B.Proposed Central/North Section Cross-Section (84th Ave to Thornton Parkway)



Proposed Central/North Section Cross-Section (84th Ave to Thornton Pkwy)

Figure 9C. Proposed North Section Cross-Section (Thornton Parkway to 104th Ave)

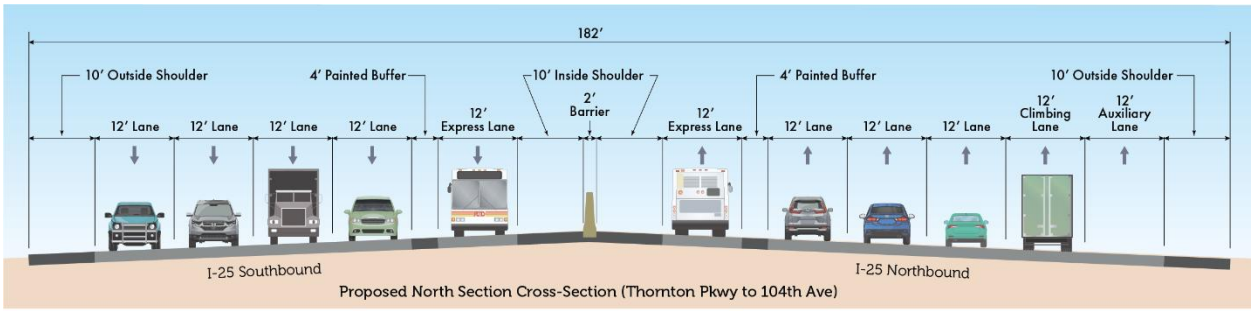


Figure 10. Proposed 88th Avenue Bridge Cross-Section

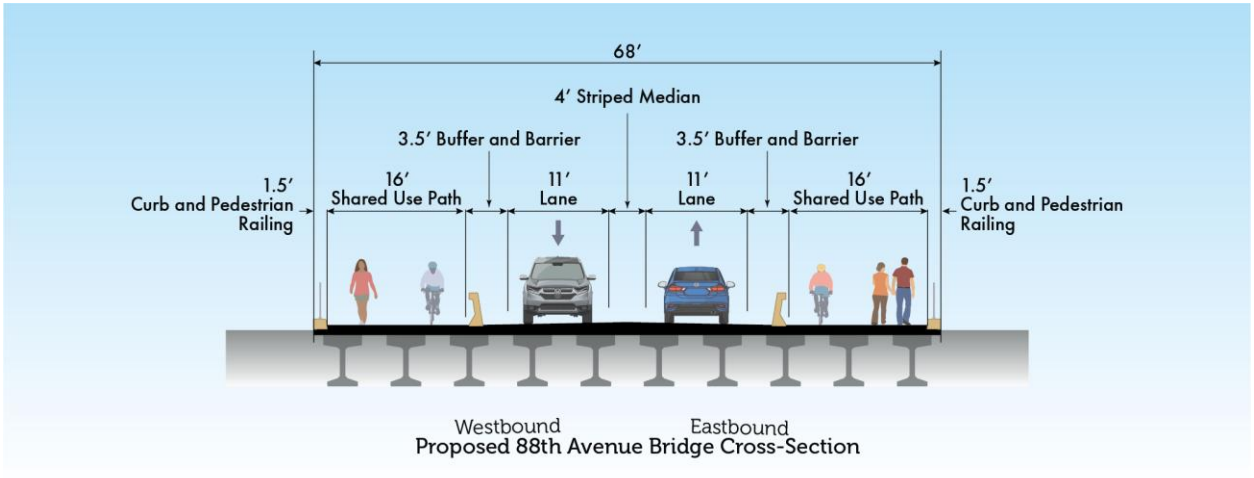
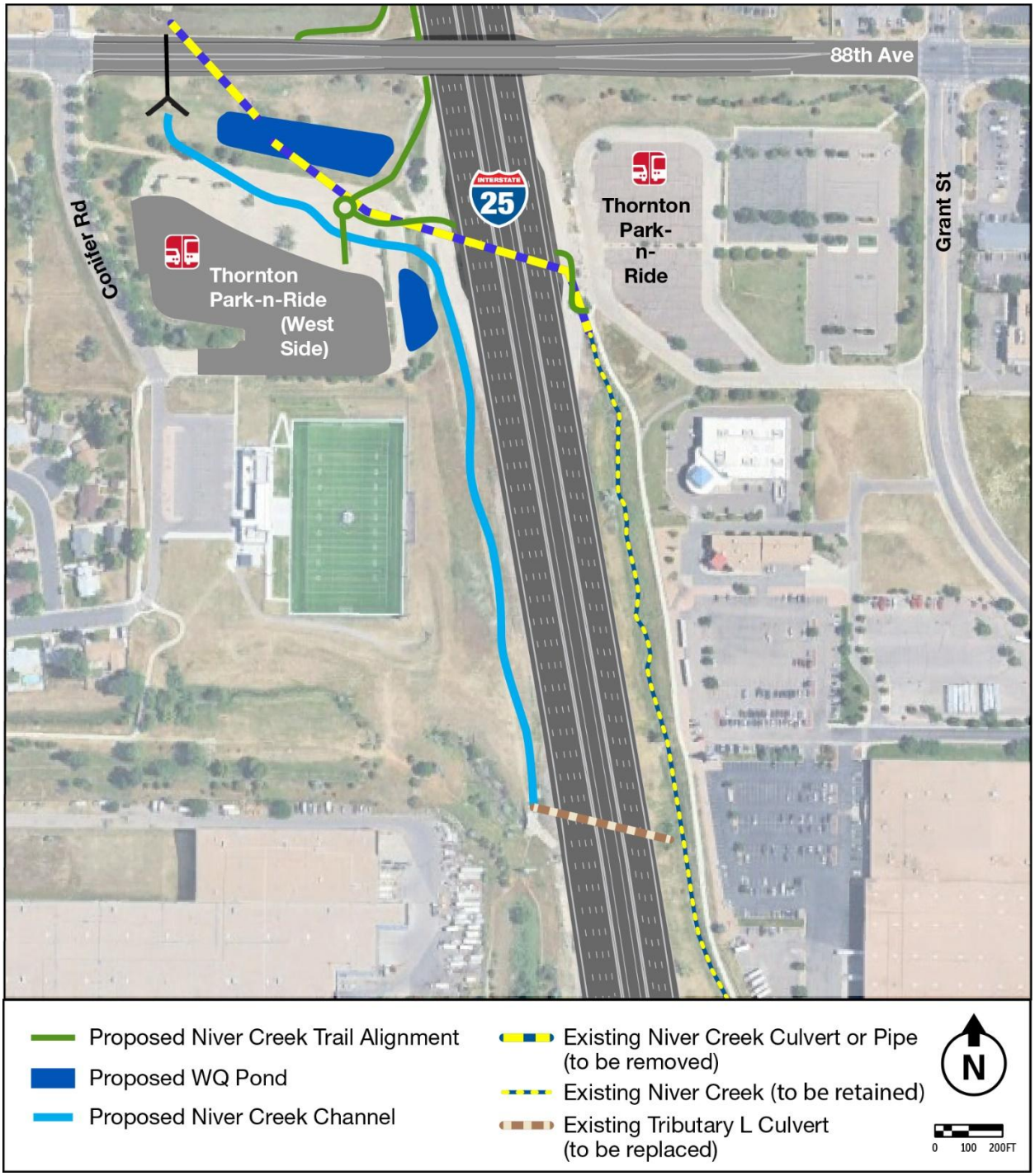


Photo 2. Existing 88th Avenue Bridge and Niver Creek Trail



Figure 11. Proposed Realignment of Niver Creek Trail and Proposed Niver Creek Open Channel



3.3 Alternative Elements Dismissed from Further Consideration

A range of alternatives and design concepts were developed and evaluated through prior planning efforts and the alternatives screening process documented in **Appendix C: Alternatives Analysis Report**. Several concepts were dismissed from further consideration

because they did not meet the project's Purpose and Need or were not feasible within project constraints:

Northbound CD Road Between the US 36/I-270/I-76 Interchange and 84th Avenue
CDOT evaluated a CD road to separate entering and exiting traffic from mainline I-25 traffic between the US 36/I-270/I-76 interchange and 84th Avenue. The CD road would not have impacted environmental resources like wetlands or waters, but it would have required acquisition of a local business. Similar operational and safety benefits could be achieved with a continuous auxiliary lane, which was advanced as part of the Proposed Action.

Median Transit Station at 88th Avenue
An inline median transit station at 88th Avenue would eliminate bus weaving movements and improve transit travel times, but it was not carried forward due to high capital costs, lack of committed funding, and limited transit ridership demand. The narrower footprint of I-25 without the median transit station reduces the level of impacts on surrounding resources.

Slip Ramp Modifications or Replacement Concepts
Alternatives that retained, modified, or braided the existing bus-only slip ramps at the Thornton Park-n-Ride were dismissed because they could not be safely or feasibly constructed. The slip ramps perpetuated safety and operational hazards due to insufficient weave and merge lengths on I-25 and conflicts with Niver Creek Trail users within the Park-n-Ride.

Detention Ponds North of Thornton Parkway
Stormwater management concepts included potential construction of water quality detention ponds in Civic Center Park and in the Badding Reservoir area north of Thornton Parkway. These concepts would have negatively impacted waters, wetlands, and recreation resources; other less impactful stormwater management approaches were carried forward into further NEPA analysis instead.

4.0 Affected Environment, Impacts, and Mitigation Commitments

The following resources were identified for further analysis during the NEPA process due to potential for impacts: transportation resources; air quality; biological resources; wetlands and waters; water quality; floodplains; recreation, non-historic Section 4(f), and Section 6(f) resources; noise; hazardous materials; socioeconomic resources; land use; ROW; visual resources; cultural resources, historic Section 4(f), and tribal consultation; paleontological resources; geologic resources, soils, and geohazards; and utilities. Although data from the National Land Cover Dataset indicate the presence of cultivated crops and pasture/hay in the project area, these areas are located within a Census-defined urbanized area and do not meet the criteria for protection under the Farmlands Protection Policy Act. Therefore, farmlands are not included in the impacts analysis.

The No Action Alternative and Proposed Action were evaluated for impacts on the human and environmental resources listed above, consistent with guidance in the CDOT NEPA Manual (CDOT, 2024). Permanent impacts were identified for the No Action Alternative and the Proposed Action and are those that permanently change the project area's resources that would last through the project horizon year (2050). Temporary impacts were identified for the Proposed Action and generally would occur only during construction. See **Appendix A: Mitigation Table** for mitigation measures that have been included to address the identified impacts.

The following sections provide a summary of existing conditions; impacts resulting from the No Action Alternative and Proposed Action; and mitigation, permits, and clearances required prior to construction of the Proposed Action. Corresponding technical reports in **Appendix D: Technical Reports and Memoranda for Resources** provide additional information.

4.1 Transportation Resources

4.1.1 Affected Environment

A transportation analysis was completed for the project and is further described in **Appendix D1: Traffic and Safety Technical Report**.

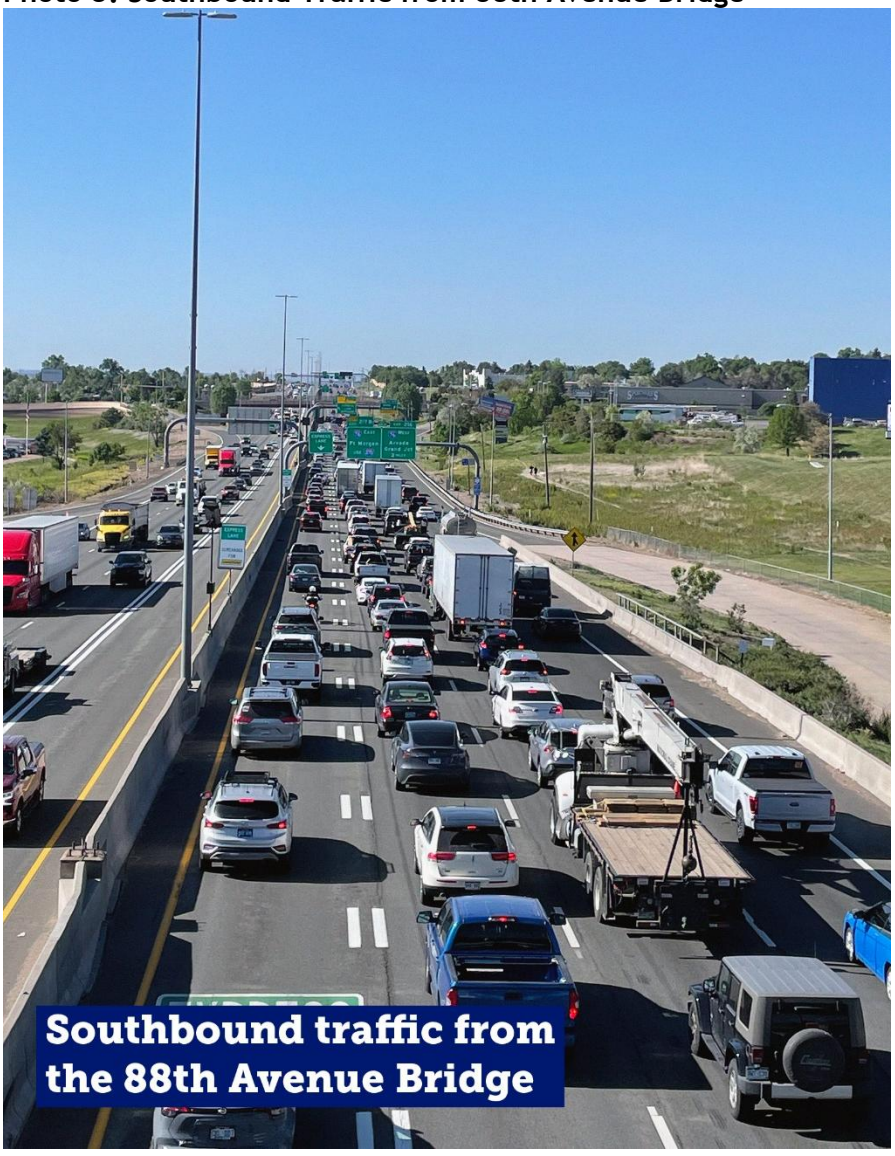
Traffic and Safety Conditions
As noted in **Chapter 2.0**, **Purpose and Need**, current traffic conditions result in long delays, high traffic volumes, and a moderate to high level of potential crash reduction on I-25 in the project area. Existing traffic volumes along I-25 between the US 36/I-270/I-76 interchange complex and 104th Avenue are nearing or exceeding capacity, which results in high levels of congestion (see **Photo 2**), reduced travel speeds, and longer travel times.

Current peak traffic hour flows are highest southbound during the morning and northbound during the afternoon commute hours. For 2024 existing conditions, southbound I-25

experiences congestion (speeds below 30 mph) for approximately two hours during the AM peak period, and northbound I-25 experiences congestion for approximately four hours during the PM peak period. The level of congestion on I-25 during the AM peak period results in an existing travel time on southbound I-25 that is more than 10 minutes (south of US 36 to north of 104th Avenue), which is 67 percent higher than the expected free-flow travel time. During the PM peak period, existing travel time on northbound I-25 is about 11 minutes, which is 83 percent higher than the expected free-flow travel time.

The existing crash rate for I-25 (between just south of US 36 to just north of 104th Avenue) is 1.25 crashes per million vehicle miles traveled and there are approximately 305 million vehicle miles traveled (both directions of I-25) annually.

Photo 3. Southbound Traffic from 88th Avenue Bridge



Between 2021 and 2023, rear-end collisions, typically associated with congestion, sudden braking, and drivers following too closely, were the predominant crash type (nearly 73 percent of all crashes in the project area). The second most common crash type was sideswipes (19 percent), which occur during lane changes or merging movements and can be influenced by limited gaps in traffic, driver distraction, or aggressive maneuvers. Together, these two crash types (92 percent of all crashes in the project area) suggest that congestion levels, lane-change conflicts, and driver behaviors are key contributors to crashes.

Safety issues specific to travel on I-25 are described in **Chapter 2.0**, **Purpose and Need** of this Environmental Assessment. Existing bicycle and pedestrian conditions are described under **Bicycle and Pedestrian Conditions** below. **Appendix D1: Traffic and Safety Technical Report** provides additional information on transportation and traffic conditions in the area.

Transit Operations

The Thornton Park-n-Ride (see **Photo 3**) is located on either side of I-25 just south of 88th Avenue. Transit service and operations in the project area are managed by the Regional Transportation District (RTD). The station is accessed by transit from both directions of I-25 via bus-only slip ramps, which are used by RTD bus services and do not provide connections to the local roadway network. The existing parking lots include 461 spaces on the west side of I-25 and 571 spaces on the east side. These numbers include several accessible parking spaces on each side of I-25.

The RTD 120X express bus travels on I-25 connecting Denver Union Station and the Wagon Road Park-n-Ride, with the Thornton Park-n-Ride as its only other stop via the I-25 slip ramps. Route 92 and Route 93L service the east parking lot. The west parking lot is serviced by RTD's FlexRide service.

RTD ridership has steadily increased since 2021 but remains below pre-pandemic levels, when ridership saw a significant drop in response to the COVID-19 outbreak. Routes 92 and 93L currently operate near the minimum capacity threshold, which is the lowest ridership level needed to justify keeping a transit route in service.

Photo 4. Thornton Park-n-Ride



Buses that use this station are the only vehicles that access the slip ramps; as a result, they must exit the northbound and southbound Express Lanes and weave across multiple general-purpose lanes to reach the station area. After stopping, buses must reenter I-25 and repeat this weaving maneuver to access the Express Lanes. Because no other vehicles perform this movement, these bus-only weaving maneuvers introduce isolated and unpredictable lane changes that contribute to congestion and can be difficult to complete during peak periods when traffic volumes are high.

The Thornton Park-n-Ride is also a bicycle and pedestrian access point. The Niver Creek Trail connects to the station and passes beneath I-25 through the Park-n-Ride underpass, and trail users currently cross the bus-only slip ramps (see **Bicycle and Pedestrian Conditions** below).

Bicycle and Pedestrian Conditions

Pedestrian and bicycle activity is restricted along I-25 and the other interstates in the project area. Pedestrians and bicyclists cross over I-25 on the local arterials, with sidewalks along 84th Avenue, 88th Avenue, Thornton Parkway, and 104th Avenue. A network of trails, including the Niver Creek Trail, provides additional options for pedestrian and bicycle movement, primarily between 84th Avenue and Thornton Parkway (see **Section 4.7, Figure 17A**, and **Figure 17B**). The Niver Creek Trail, which is managed by the City of Thornton, crosses I-25 in an underpass that also connects the east and west Thornton Park-n-Ride lots. On each side of the underpass, the trail also crosses the bus-only slip ramps at grade through unsignalized crossings, which creates potential conflicts between trail users and transit vehicles. The underpass is within the FEMA Special Flood Hazard Area and is inundated during 100-year flood events (see **Section 4.6**).

88th Avenue has sidewalks and 4- to 5-foot striped bike lanes immediately adjacent to travel lanes along most of its length. The City of Thornton's **88th Avenue Corridor Study** (City of Thornton, 2025) found that the bike lanes are not well utilized because of their narrow width and lack of separation from higher-speed traffic. Stakeholders in that study described the existing I-25 pedestrian crossing as uncomfortable and in need of more separation from traffic. The study recommends coordinating with this project to connect 88th Avenue to the Niver Creek Trail.

The adopted plans of the City of Thornton (2022), the City of Northglenn (2023), and Adams County (2022) support enhanced pedestrian, bicycle, and transit infrastructure to improve safety and connectivity. Northglenn's plan, for example, prioritizes sidewalk and bicycle improvements leading to bus and rail stops and the implementation of a comfortable, low-stress bicycle and pedestrian network. Thornton's plan envisions a connected, low-stress bicycle network citywide and uses a tiered approach to prioritize sidewalk gap improvements. Bicycle and pedestrian connectivity, particularly at the 88th Avenue bridge, was also a key interest raised during this project's public outreach (see **Section 5.2**).

Truck/Freight/CDOT Maintenance Facility
No specific truck or freight facilities are located in the project area; the nearest facilities are located southeast along I-270. I-25, I-270, US 36, and I-76 are vital parts of the trucking routes through Denver, and these routes are vital in the overall movement of goods within the region. There are no restrictions on truck movements along the transportation network in the project area; however, large trucks are subject to a surcharge if they choose to use the Express Lanes. Truck traffic accounts for approximately 6 to 7 percent of total daily traffic on I-25 in the project limits.

CDOT has an existing maintenance facility that provides direct access to and from I-25 just north of the I-270 entrance ramp. This facility is critical to winter snow plowing operations as plows are able to enter and exit the facility directly onto the mainline I-25, which eliminates out-of-direction travel or time delay to plow routes.

4.1.2 Impacts

No Action Alternative

Under the No Action Alternative, scheduled maintenance operations would continue on I-25. It should be noted that under the No Action Alternative, the transportation network includes the planned projects from the DRCOG 2050 Metro Vision Regional Transportation Plan (RTP) (DRCOG, 2024a) that fall within the project area (consistent with FHWA guidelines and requirements).

Traffic and Safety Conditions
The operations, safety, and reliability of I-25 and its intersections in the project area are expected to decrease substantially by year 2050. Travel demand on I-25 is expected to increase 15 to 30 percent by the year 2050 due to projected population and employment growth in the greater Denver metropolitan area. As a result, the number of hours where I-25

would experience congested conditions (average travel speed below 30 miles per hour [mph]) is expected to substantially increase. Northbound I-25 hours of congestion would increase by as much as 75 percent and southbound I-25 hours of congestion would increase by as much as 150 percent.

The increased congestion would result in multiple bottlenecks that are expected to create a substantial increase in the magnitude and intensity of backups, or areas with stop-and-go conditions (speeds below 10 mph), on both northbound and southbound I-25. Due to the increase in congestion and the impacts of the bottlenecks, travel times on I-25 would increase by as much as 60 percent during the peak periods. Finally, the total crash rate (crashes/mile/year) for I-25 is expected to increase by 28 percent, and total crashes per million vehicle miles traveled is expected to increase by 13 percent from 1.25 to 1.39.

Transit Operations
Under the No Action Alternative, there would be no change to transit service or access to the Thornton Park-n-Ride.

Bicycle and Pedestrian Conditions
Under the No Action Alternative, no changes to bicycle and pedestrian facilities would occur. Niver Creek Trail users would continue to cross the Thornton Park-n-Ride bus slip ramps at grade, the existing 88th Avenue bridge would remain, and the Park-n-Ride underpass would continue to flood during 100-year flood events.

Truck/Freight/CDOT Maintenance Facility
Under the No Action Alternative, there would be no change to truck/freight facilities or the CDOT maintenance facility.

Proposed Action

The Proposed Action includes the No Action Alternative transportation network, including the changes to the US 36/I-270/I-76 interchange, and would make the identified project-specific modifications to lanes, ramps, and interchanges. See **Section 3.2**.

Traffic and Safety Conditions
Under the Proposed Action, the operations, safety, and reliability of I-25 and its intersections in the project area are expected to improve substantially in 2050 compared with the No Action Alternative. Traffic demand on I-25 is expected to increase by approximately 2 percent over the No Action Alternative due to the addition of the northbound climbing lane between 84th Avenue and 104th Avenue, improved merge/diverge ramp designs, addition of continuous auxiliary lanes, and a fourth southbound general-purpose lane between 104th Avenue and I-76.

The Proposed Action would enhance mobility and safety within the I-25 corridor and surrounding communities. Safety improvements include widening inside and outside shoulders to at least 10 feet in most locations, allowing emergency vehicles better access during incidents, and also include upgrading pedestrian and bicycle facilities at the 88th Avenue

bridge to provide safer, more accessible crossings where conflicts currently exist between Niver Creek Trail users and buses at the transit-only slip ramps. These improvements address high-risk areas, reduce congestion-related hazards, and support more effective emergency response.

In terms of mobility, the Proposed Action is expected to improve traffic operations and reduce congestion, making it easier to travel on I-25. This would likely lead to shorter travel times for those commuting to jobs, schools, and other destinations in the region. While pedestrian and bicycle mobility in surrounding neighborhoods would remain largely unchanged, the overall project would contribute to a safer, more efficient, and reliable transportation network for both the local community and the region.

Under the Proposed Action, travel speeds would improve during the peak periods, resulting in fewer hours of congestion and a substantial reduction in the magnitude and severity of bottlenecks. As a result, travel times on I-25 during the peak periods would substantially improve. Southbound travel times would improve by 50 percent (refer to **Figure 12**) from approximately 13 minutes to approximately 6.5 minutes and northbound travel times would improve by as much as 40 percent (refer to **Figure 13**) from approximately 29 minutes to approximately 18 minutes. These travel time savings are consistent with the expected reduction in congestion, number of bottlenecks, and severity of backups on I-25.

The reduction in number of northbound general-purpose lanes at 104th Avenue (end of the climbing lane) is expected to create a bottleneck on northbound I-25 and increase demand for the Express lane. Optimization of tolling fees in the Proposed Action would help reduce the number of vehicles in the Express lane and avoid slowing or bottlenecks until the fourth lane is extended in the future.

Figure 12. Proposed Action vs No Action Alternative AM Peak Southbound Travel Times (GP Lanes)

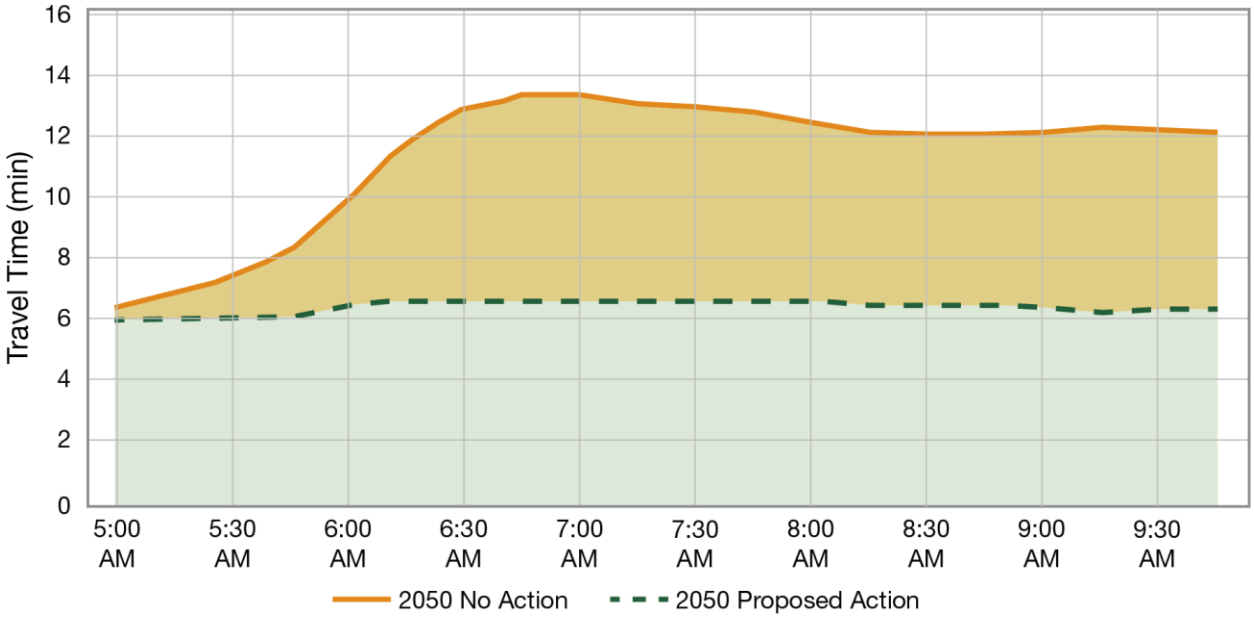
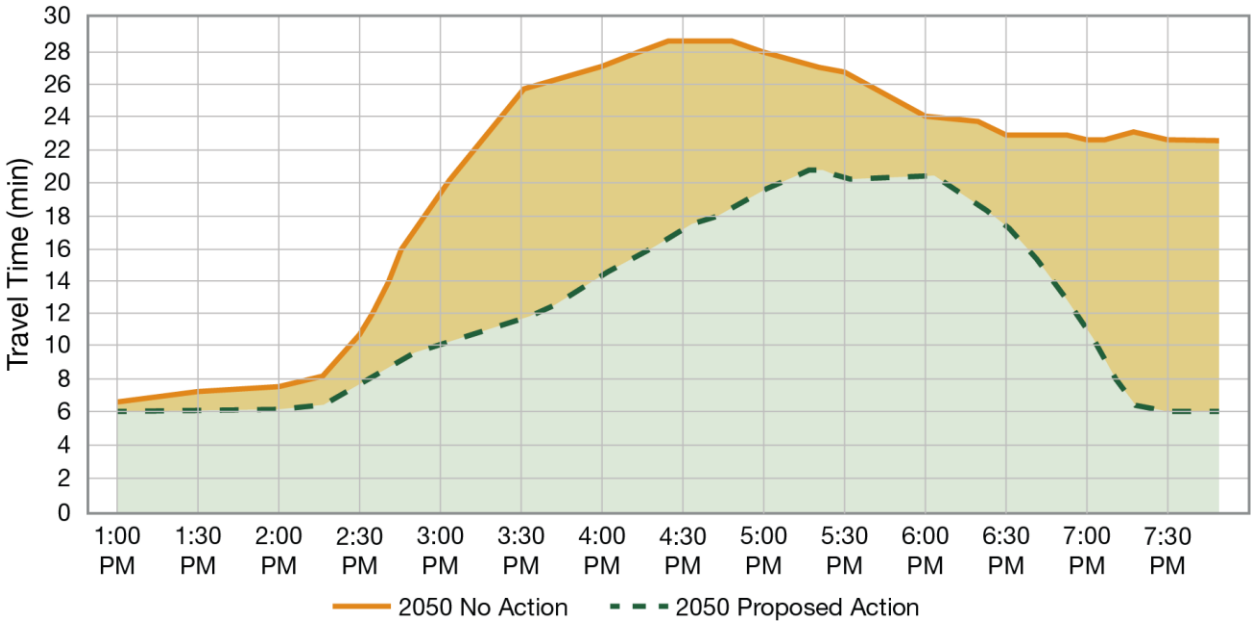


Figure 13. Proposed Action vs No Action Alternative PM Peak Northbound Travel Times (GP Lanes)



The intersections at the study interchange ramp junctions would experience increased traffic flows under both the No Action Alternative and Proposed Action. Traffic signal timing adjustments (optimization) under the Proposed Action are expected to result in little to no degradation to the intersection level of service compared with the No Action Alternative.

The most important indicator of safety performance is the crash rate per million vehicle miles traveled. In 2050, the Proposed Action achieves a lower crash rate of 1.23 compared to 1.39 in the No Action scenario, even though it accommodates approximately 14 percent more traffic (over 400 million vehicle-miles versus 354 million annually). This shows a reduction of approximately 11.5 percent in the predicted crash rate due to the improvements in the Proposed Action.

A qualitative safety assessment was completed to complement the quantitative safety performance results and capture road safety enhancements not fully represented in predictive models. More details can be found in **Appendix D1: Traffic and Safety Technical Report**. Safety enhancements under the Proposed Action, including adding auxiliary lanes, a wider buffer between the general-purpose lanes and Express Lanes, improved drainage, and barrier upgrades, are expected to contribute to long-term crash reductions not fully captured in the quantitative analysis.

Transit Operations

The Proposed Action would remove the I-25 northbound and southbound outside slip ramps at the Thornton Park-n-Ride (shown on **Figure 14**). This removal followed the 2023 transit and safety analysis, the determination that a median transit station was not feasible due to cost, lack of committed funding, and limited ridership demand, and the finding that keeping the slip ramps in place would perpetuate safety and operational hazards (see **Section 3.3**). CDOT

coordinated the proposed removal with RTD and local elected officials beginning in late 2024, and RTD's service changes pertaining to Route 120X continue to be addressed through ongoing coordination (see **Section 5.0**). The station and the existing access to the parking lots and bus pads from the surface streets would remain open. Removal of the slip ramps to the station would only impact one existing RTD route (120X [Wagon Road/Thornton Express]). This route would exit and enter I-25 via existing interchanges and use local roads to access the station. If Route 120X service changes or is removed from the Thornton Park-n-Ride, Route 19 (which runs every 30 minutes along Pecos Street from Civic Center to the 106th Avenue and Melody Drive transfer station) may serve as an alternative.

Removing the station slip ramps would provide safety benefits to I-25. With the slip ramps removed, buses would instead access the station areas via the 84th Avenue and Thornton Parkway interchanges. While buses would still need to merge between the Express Lanes and general-purpose lanes, these movements would occur within established interchange weaving areas where other vehicles are making similar maneuvers. This change would eliminate the isolated bus-only weaving movements and, in combination with the addition of auxiliary lanes, would reduce crash potential and improve overall traffic operations on I-25.

Elimination of the slip ramps would also provide a safety benefit to pedestrian/cyclists and others using the Niver Creek Trail. Currently these users must cross over the slip ramps to pass under I-25, and this creates potential conflicts with transit vehicles. Removing the ramps eliminates the need for trail users to cross over the slip ramps, which in turn eliminates potential conflicts with transit vehicles.

In addition to the safety benefits associated with slip ramp removal, the Proposed Action includes several design improvements at the Thornton Park-n-Ride that would provide direct benefits to transit users and improve overall station operations. Within the east side parking lot, sawtooth bus bays would be constructed to consolidate bus gates and transit services, improving bus circulation and reducing conflicts between buses and general parking traffic. Modifications to the west and east side parking lots would also improve overall bus and vehicle circulation within the station area. Additionally, associated sidewalks would be modified to improve connectivity and accessibility for transit users. Together, these improvements would enhance the passenger experience and operational efficiency of the Thornton Park-n-Ride under the Proposed Action.

Bicycle and Pedestrian Conditions

The Proposed Action would replace and reconstruct the 88th Avenue bridge with wider sidewalks and dedicated bicycle facilities, consistent with the City of Thornton's plans for 88th Avenue (see **Figure 10**). It would also reconstruct the Thornton Park-n-Ride pedestrian underpass and realign the Niver Creek Trail on the west side of I-25 to accommodate highway widening. The pedestrian underpass would no longer be inundated during 100-year flood events. Removing the bus-only slip ramps would eliminate the at-grade conflicts between buses and Niver Creek Trail users, resulting in a safer experience for trail users (see **Sections 3.2** and **4.7**).

Truck/Freight/CDOT Maintenance Facility

There would be no change to truck/freight facilities under the Proposed Action. The CDOT maintenance facility (see **Photo 4**) would be maintained in its current location along the east side of I-25 just north of I-270. As part of the Proposed Action, the existing access point to the facility would be converted into an entrance-only access, and an exit-only access point would be added approximately 700 feet to the north. The proposed exit-only access would be located within the existing facility property boundary. The changes to the facility access would provide better circulation for the large vehicles using the facility and improve safety for the facility users.

4.1.3 Mitigation

For Transportation Resources Mitigation Commitments, see the list below. "TR#" denotes "Transportation Resources Mitigation or Permit Commitment #" (e.g., TR1).

- TR1 – Monitor the operations at the intersection of 104th Avenue at Grant Street and make modifications to the signal timing, restrict access, or add capacity to ensure acceptable operations are maintained beyond 2050.
- TR2 - Implement modifications to improve bus and parking lot circulation, bus gates, sidewalks, and curbs at the Thornton Park-n-Ride.

Figure 14. Removal of Thornton Park-n-Ride Slip Ramps

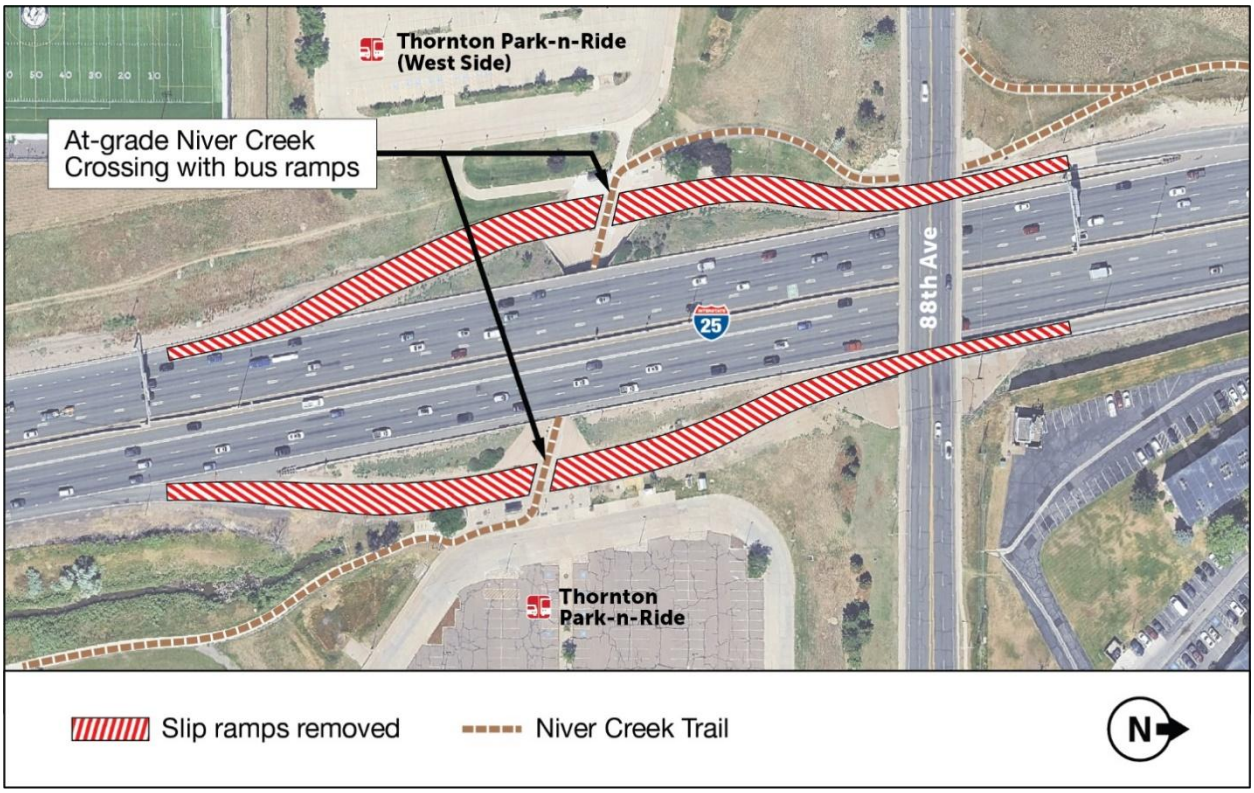
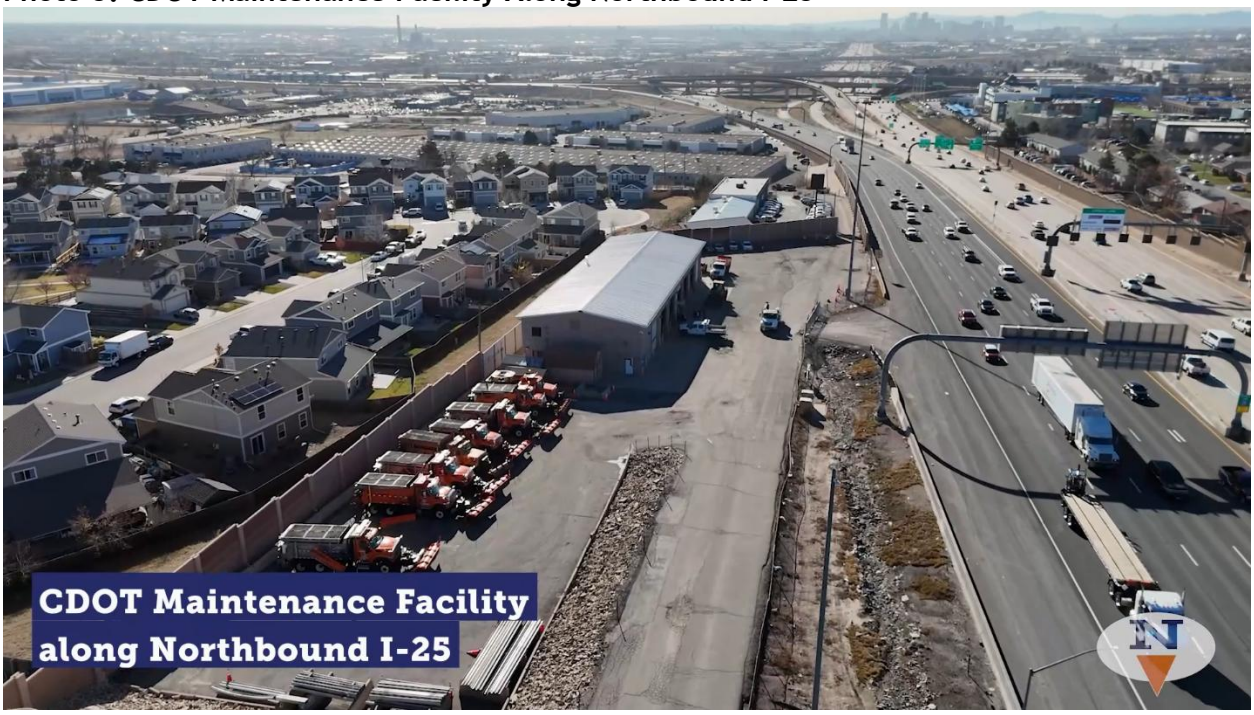


Photo 5. CDOT Maintenance Facility Along Northbound I-25



4.2 Air Quality

4.2.1 Affected Environment

A complete air quality analysis was completed for the project and is further described in **Appendix D2: Air Quality Technical Report**.

An environmental scoping meeting was held for the project on February 14, 2024. FHWA, CDOT resource specialists and project staff, and consultant team members were invited to the meeting. The meeting included the topics of project overview and status; roles, responsibilities, and expectations; agency coordination; and a review of the environmental resources and scoping form. Technical Working Group and FHWA coordination meetings were held monthly starting February of 2024 throughout the project to discuss analysis needs for the project, development of the Air Quality Work Plan (formally reviewed by FHWA in January 2025, and included in **Appendix D2**), input data for the analysis, project schedule, and analysis results.

The primary transportation-related criteria air pollutants of concern for the project include ground-level ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter (PM) with diameter equal to or less than 10 micrometers (PM_{10}), and PM with diameter equal to or less than 2.5 micrometers ($PM_{2.5}$). In addition, nitrogen oxides (NO_x) and volatile organic compounds (VOCs) are important transportation-related pollutant ozone precursors. As of December 2025, all areas in Colorado are in attainment of all National Ambient Air Quality Standards (NAAQS) for criteria pollutants except O_3. The Denver metropolitan area, including the project area, is currently classified as severe nonattainment for the 2008 (75 parts per

billion) O_3 standard and serious for the 2015 (70 parts per billion) O_3 standard. Nine mobile source air toxics (MSAT) pollutants are considered priority pollutants that arise from transportation activities by FHWA: 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel PM (DPM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM).

Pre-construction activities for the project are included in the DRCOG 2026-2029 Transportation Improvement Program (TIP) (DRCOG, 2025), and the project is included in DRCOG's 2050 Metro Vision RTP (DRCOG, 2024a), both of which are being amended to reflect the project's revised scope, cost, and staging. Regional conformity requirements will be satisfied upon approval of the RTP update (anticipated in November 2026) and the TIP amendment. Regional conformity, a requirement of the Clean Air Act to ensure projects align with air quality goals of the state, indicates that transportation activities within the region, including implementation of the Proposed Action, would not cause new air quality violations, worsen existing violations, or delay timely attainment of NAAQS. Because the area of the project is in attainment of the CO, PM10, and PM2.5 standards, project-level conformity analysis is not required for these pollutants.

The project is considered regionally significant by DRCOG and is a planned Regionally Significant Transportation Capacity (RS/TC) project for CDOT purposes. The RS/TC determination for the project is based on the following definition in CDOT guidance (CDOT, 2022): "A roadway-widening project (via construction or restriping) adding at least one general purpose through lane of one lane-mile or more in length (or two miles in length if in a Rural area with a [volume to capacity] V/C ratio less than 85%)." As an RS/TC project, the project is subject to Colorado Revised Statutes (C.R.S.) 43-1-128(4) requirements. In compliance with C.R.S. 43-1-128(4)(a), models approved by the U.S. Environmental Protection Agency (USEPA) were used to determine air pollutant emission impacts.

MSAT emissions were analyzed in accordance with FHWA guidance (FHWA, 2023), which provides a tiered approach with three categories for analyzing MSAT in NEPA documents, depending on specific project circumstances. Because (1) the project is expected to add capacity to a high-traffic urban interstate in a populated area, (2) the projected design-year traffic for the Proposed Action is greater than 150,000 AADT, and (3) the total AADT for the Proposed Action is projected to increase by 10.6 percent compared with the No Action Alternative within the project area, it was concluded that the project meets the criteria for a project with higher potential MSAT effects. Therefore, a Tier 3 (quantitative) MSAT analysis was completed to meet federal NEPA requirements.

4.2.2 Impacts

No Action Alternative

The No Action Alternative would leave the project area as it is currently configured plus the additional direct connection between the I-25 Express Lanes and I-270 and would provide typical current maintenance activities on I-25. Congestion would continue to increase in the project area, increasing both travel delays and fuel use, due to the 20 percent increase in

estimated daily vehicle miles traveled (VMT) under existing conditions from 2024 to the design year. Under the No Action Alternative, vehicle emissions along the corridor are forecasted to decrease substantially over the next several decades due to improvements in fuel and engine efficiency resulting from state and federal vehicle standards and fleet turnover.

Proposed Action

The Proposed Action would reduce vehicle delays, travel times, and vehicle idling times, which would ultimately reduce emissions of criteria pollutants and MSAT on a per mile traveled basis (mass of emissions divided by VMT) compared to existing conditions. Vehicle emissions along the corridor are also forecasted to decrease substantially over the next several decades due to improvements in fuel and engine efficiency resulting from state and federal vehicle standards and fleet turnover.

Table 1 lists estimated VMT for the existing conditions year and the design year project alternatives. **Table 2** and **Table 3** list the estimated pollutant emissions for the existing conditions year and the design year project alternatives.

Table 1. Daily VMT

2024 Existing	2050 No Action Alternative	2050 Proposed Action
975,336	1,168,718	1,281,050

Table 2. Criteria Air Pollutant and Ozone Precursor Emissions (in U.S. tons per year)

Pollutant	2024 Existing	2050 No Action Alternative	2050 Proposed Action
PM_{10}	96.8	115.3	117.1
$PM_{2.5}$	8.8	2.7	2.2
CO	1260.6	230.5	231.7
NO_2	19.4	5.4	4.2
NO_x	245.2	29.4	23.7
VOCs	71.7	22.3	22.6

Table 3. Annual MSAT Air Pollutant Emissions (tons per year)

Pollutant	2024 Existing	2050 No Action Alternative	2050 Proposed Action
1,3-butadiene	0.078	0.000	0.000
Acetaldehyde	0.481	0.053	0.044
Acrolein	0.064	0.003	0.003
Benzene	0.955	0.164	0.165
DPM	6.714	0.106	0.093
Ethylbenzene	0.909	0.361	0.367
Formaldehyde	0.895	0.067	0.058
Naphthalene	0.103	0.004	0.004
POM	0.056	0.002	0.002

The 2024 Existing, 2050 No Action Alternative, and 2050 Proposed Action were modeled for criteria pollutants for winter and summer for a typical weekday, and annual emissions were calculated from these daily average emissions. Except for PM10, emissions of the remaining criteria pollutants would decrease from existing conditions to the design year for both project

alternatives due to the implementation of stringent emission standards, improved fuel efficiency, and vehicle fleet turnover. PM10 emissions show a slight increase from 96.8 tons/year (existing conditions) in 2024 to 115.3 tons/year for the No Action Alternative and 117.1 tons/year for the Proposed Action in 2050, with approximately 77 to 89 percent of total PM10 emissions attributed to re-entrained road dust.

Total emissions under the Proposed Action are projected to decrease for some pollutants and increase for others compared to the No Action Alternative due to greater or lesser reduction in emission rates, respectively, which are sensitive to vehicle speed. For pollutants with greater emissions in the Proposed Action, the greater VMT is offsetting relatively lower reductions in emission rates. Emissions of PM2.5, NO2, and NOx would be lower in the 2050 Proposed Action compared with the No Action Alternative, despite the increase in VMT, largely because of the increased travel speeds that are expected due to operational improvements that would reduce congestion and delay on the I-25 corridor. PM10, CO, and VOC emissions would increase slightly under the Proposed Action compared with the No Action Alternative.

For both project alternatives, modeled MSAT emissions are predicted to decrease between existing conditions (2024) and the design year, consistent with USEPA's national emissions control programs, which are expected to reduce annual MSAT emissions by roughly 90 percent between 2010 and 2050 (FHWA, 2023).The emissions in the Proposed Action are lower than in the No Action Alternative for acetaldehyde, DPM, and formaldehyde; essentially unchanged for 1,3-butadiene, acrolein, naphthalene, and polycyclic organic matter; and slightly higher for benzene and ethylbenzene. The reductions in MSAT emissions are approximately 12 to 17 percent, while the increases in ethylbenzene and benzene emissions are approximately 1 to 2 percent.

The Proposed Action is not expected to cause substantial adverse effects on air quality. In addition, the Proposed Action would not likely cause or contribute to any new localized violations of NAAQS or increase the frequency or severity of any existing violations.

Temporary effects on the local air quality are anticipated during construction because the project would likely have localized diesel-emitting sources from construction equipment, vehicles traveling to and from the construction sites and fugitive dust emissions from construction activities. Construction is expected to last no more than five years; therefore, a quantitative construction emissions analysis was not required for NEPA purposes.

4.2.3 Mitigation

For Air Quality Mitigation Commitments, see the list below. "AQ#" denotes "Air Quality Mitigation or Permit Commitment #" (e.g., AQ1).

- AQ1 - Conduct ambient air quality monitoring for PM near the project area to assess air quality conditions and trigger additional mitigation measures and public notification if elevated PM readings occur during construction.

- AQ2 - Cover, wet, compact, or use a chemical stabilization binding agent to control dust and excavated materials at construction sites.
- AQ3 - Use wind barriers and wind screens to prevent spreading dust from the site.
- AQ4 - Have a wheel wash station and/or crushed stone apron at egress/ingress areas to prevent dirt from being tracked onto public streets.
- AQ5 - Use vacuum-powered street sweepers to remove dirt tracked onto public streets.
- AQ6 - Cover all dump trucks that are hauling material leaving the construction sites to prevent dirt from spilling onto public streets.
- AQ7 - Minimize disturbed areas, particularly in winter.
- AQ8 - Prohibit unnecessary idling of construction equipment.
- AQ9 - Locate construction diesel engines as far away as possible from residential areas.
- AQ10 - Locate staging areas as far away as possible from residential areas.
- AQ11 - Use heavy construction equipment that has the cleanest available engines or that can be retrofitted with diesel particulate-control technology.
- AQ12 - Use alternatives to diesel engines and/or diesel fuels, such as biodiesel, liquefied natural gas, or compressed natural gas, fuel cells, and electric engines.
- AQ13 - Install engine pre-heater devices to eliminate unnecessary idling during winter construction.
- AQ14 - Prohibit tampering with equipment to increase horsepower or to defeat an emission control device's effectiveness.
- AQ15 - Require construction vehicle engines to be properly tuned and maintained.
- AQ16 – Use construction vehicles and equipment with the minimum practical engine size for the intended job.

Additional clearances and permits required include:

- AQ17 - Obtain air quality permits prior to the start of construction, including a Colorado Department of Public Health and Environment (CDPHE) Air Pollutant Emission Notice, which requires a Fugitive Dust Control Plan to address how dust will be kept at a minimum during construction.

4.3 Biological Resources

4.3.1 Affected Environment

A complete biological resources analysis was completed for the project and is further described in **Appendix D3: Biological Resources Technical Report**.

Vegetation
The majority of the land area in the project area is developed (92 percent), with minimal areas of open space or landscaped parks (3.5 percent), with the exception of the Niver Creek Open Space. The remaining land cover (4.5 percent) consists of scrub-shrub, grasslands, woody wetlands, cultivated crops, open water, emergent herbaceous wetlands, and

pasture/hay (National Land Cover Database, 2021). Urbanization has converted or disturbed most natural habitats in the project area, with development consisting of residential and commercial zoning and transportation infrastructure.

Wildlife

While several species of mammals, birds, reptiles, and amphibians have the potential to occur in the project area based on habitat types present, the majority of the project area is developed, which limits suitable habitat for many species. No designated wildlife corridors are present and substantial wildlife migration is not expected. While migratory bird ranges overlap the project area, there is limited suitable habitat for migratory bird nesting, with the exception of nesting habitats along waterways, in ornamental trees, on bridges, and in culverts.

Niver Creek, its tributaries, and adjacent wetlands meet jurisdictional criteria for Colorado Senate Bill 40 (SB 40) resources (Colorado Parks and Wildlife [CPW] & CDOT, 2013). If impact thresholds for these riparian habitats are exceeded, mitigation will be incorporated into the overall landscape plan.

Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database identified seven federally listed threatened, endangered, or proposed species known to have range in the project area: pallid sturgeon, Piping Plover, monarch butterfly, Ute ladies'-tresses orchid, Suckley's cuckoo bumble bee, western prairie fringed orchid, and Whooping Crane (USFWS, 2026). Based on available habitats, the only federally listed species that may occur in the project area is the monarch butterfly, which is a proposed threatened species. Impacts on the monarch butterfly were addressed by a Conference Opinion issued by the USFWS (USFWS, 2022), discussed in the impacts subsection below.

Given that the project includes the removal of the 88th Avenue bridge, there is potential for the project to interact with the tricolored bat. CDOT has documented this species day-roosting in bridges in the Denver metropolitan area, and the project corridor falls within the species' overall range. Although the species is not on the IPaC species list for the project area, CPW recommends carrying the tricolored bat forward for analysis and conducting a structure assessment per FHWA guidelines prior to demolition of the 88th Avenue bridge.

To address the effects of water depletions to South Platte River species (Whooping Crane, pallid sturgeon, Piping Plover, and western prairie-fringed orchid), CDOT is a participating agency in the South Platte Water Related Activities Program (SPWRAP). SPWRAP is a nonprofit organization of South Platte water users that collaborates with Colorado to evaluate watershed-level consumption.

The Statewide Impact Findings Table (SWIFT) indicated that seven state-listed threatened or state species of concern may be present in or around the project area: Burrowing Owl, black-tailed prairie dog, northern leopard frog, Ferruginous Hawk, Mountain Plover, common garter snake, and Bald Eagle (CDOT, 2026a).

Approximately nine acres of black-tailed prairie dog colonies were found within the project area. Prairie dog populations fluctuate; new areas may be colonized before construction, and presently active colonies may become inactive. Therefore, pre-construction surveys are necessary to confirm the extent of active prairie dog colonies.

Noxious Weeds
CDOT conducted a statewide survey of noxious weeds in 2019, of which three species were found in the project area: common mullein, field bindweed, and Russian olive (CDOT, 2019a). During 2024 field surveys completed by the project team, common mullein and Russian olive, as well as Canada thistle, common teasel, field bindweed, and musk thistle were observed in the project area.

4.3.2 Impacts

No Action Alternative

Under the No Action Alternative, none of the proposed transportation improvements would be implemented. Operations and maintenance of existing infrastructure would continue as designed and planned. Incidental impacts on wildlife would continue to occur via ongoing use of existing transportation infrastructure. Impacts on habitats would not occur beyond routine operations and maintenance.

Proposed Action

Vegetation
Under the Proposed Action, permanent impacts on vegetation would occur from highway widening and the addition of permanent water quality features. Temporary habitat impacts would result from construction activities and staging areas. Details on land use and vegetation can be found in **Appendix D3: Biological Resources Technical Report, Table 1**.

The Proposed Action may affect trees and shrubs, including those under SB 40 jurisdiction. In areas under SB 40 jurisdiction, trees greater than 2 inches in diameter at breast height (dbh) and shrubs removed under the Proposed Action would be mitigated per CPW requirements (CPW, 2022). In all other areas, trees greater than 4 inches dbh would be replaced per CDOT requirements.

Wildlife
No special wildlife areas (e.g., refuge or other designated management area) would be impacted under the Proposed Action. Movement of wildlife may be temporarily impacted during construction, but the Proposed Action is not expected to substantially affect wildlife movements.

Preconstruction surveys will identify active raptor and migratory bird nests, allowing avoidance and minimization measures (such as establishing buffers or adjusting construction timing) to be implemented to prevent disturbance and direct impacts. Temporary indirect impacts on individual birds could occur from noise and light during construction. In consultation with CPW, and relative to the location of the nest and the potential disturbance,

mitigation measures would minimize the impacts on raptors and migratory birds. Measures could include establishing buffers, monitoring nest activity, or modifying the construction schedule. Incidental impacts on wildlife would continue to occur but are not expected to increase in comparison to the No Action Alternative.

Movement of wildlife in the project area may be temporarily disrupted during construction around the Niver Creek culvert, but, overall, the Proposed Action is not expected to substantially affect wildlife movement.

Threatened and Endangered Species
FHWA initiated a programmatic formal consultation with the USFWS on July 18, 2022, regarding the monarch butterfly to determine the impact that FHWA/CDOT actions may have on the monarch butterfly. The Conference Opinion (USFWS, 2022) concluded that these actions are not expected to jeopardize the monarch butterfly. Disturbed areas would be reseeded with a mix of native plant species to minimize impacts.

No other listed species are expected to be impacted. Species are either not present in the project area or impacts are addressed by other agreements (e.g., SPWRAP) to address water depletions in the South Platte River. The tricolored bat is not currently listed under the Endangered Species Act and was not identified by IPaC for the project area; however, given CDOT's documentation of this species in nearby bridges and the planned removal of the 88th Avenue bridge, a structure assessment will be conducted prior to demolition regardless of listing status. If bat use is confirmed, coordination with CPW and USFWS will determine appropriate next steps.

No permanent or temporary construction impacts are expected for Bald Eagle or Ferruginous Hawk due to their unlikely presence in the project area. Depending on the timing of construction activities, surveys may need to be conducted prior to construction for the Western Burrowing Owl, black-tailed prairie dog, and Mountain Plover to determine the presence of these species in the project area. If any of these species are present in the project area, coordination with CPW and CDOT biologists would occur to determine proper avoidance buffers and management plans.

Noxious Weeds
The Proposed Action would result in soil disturbance from construction and the likely importation of topsoil and fill, creating favorable conditions for introducing and spreading noxious weeds. Noxious weeds have the potential to impact protected species. A separate noxious weed survey must be conducted, and mitigation activities must be identified before any construction activities begin.

4.3.3 Mitigation

For Biological Resources Mitigation Commitments related to Vegetation, Wildlife, Threatened and Endangered Species, and Noxious Weeds, see the list below. “BI#” denotes “Biological Resources Mitigation or Permit Commitment #” (e.g., BI1).

- BI1 – Develop and implement an Integrated Noxious Weed Management Plan specific to species identified in **Appendix D3: Biological Resources Technical Report** and weeds that occur during construction to reduce the introduction and spread of noxious weeds that could impact the northern leopard frog.
- BI2 - To proactively minimize any impacts on potential monarch butterfly habitat, disturbed areas will be reseeded with a mix of native plant species including two species of flowering forbs and milkweed.
- BI3 - Survey for prairie dog colonies to identify locations of potential nesting Burrowing Owls. Perform protocol surveys for Burrowing Owl (CPW, 2021). If present, consultation with CPW is required to determine appropriate site-specific buffers and other avoidance measures.
- BI4 - Develop a revegetation and landscape plan to be approved by a CDOT landscape architect for all reclamation areas prior to construction. Revegetate reclaimed areas with native species to replicate or enhance native vegetative communities. Identify specific objectives of the revegetation plan, such as selecting native plants and seed mixes for revegetation that blend the vegetation with existing vegetation and are consistent with vegetation types, growth habits, and soil types; mimicking surrounding native plant densities; and minimizing the spread of noxious and invasive weeds.
- BI5 - Revegetate and stabilize temporarily disturbed areas using CDOT-approved native seed mixes.
- BI6 - Conduct a noxious weed survey prior to construction to map existing weeds in the project area. Develop and implement an Integrated Noxious Weed Management Plan to prevent the spread of noxious weeds into temporarily disturbed areas. Implement measures to control noxious weed spread such as salvage weed-free topsoil for use in seeding and equipment washing. CDOT Standard Specification Section 217—Herbicide Treatment will be incorporated into the Project Specifications.
- BI7 - Incorporate a CDOT Special Specification Section 240—Protection of Migratory Birds as part of the final plan set to avoid impacts on nesting raptors and migratory birds in accordance with the Migratory Bird Treaty Act. Conduct a nest survey by a qualified biologist before the nesting season ahead of construction. If active nests are found, coordinate with CPW and the USFWS to determine an appropriate course of action, which may include, but is not limited to, buffering the active nest or delaying construction to avoid the breeding season.
- BI8 - The area of black-tailed prairie dog towns that will be affected by the project will be mapped and calculated by a qualified biologist during final design and before construction (CDOT, 2009).
- BI9 - During final design and construction, avoid and minimize impacts on prairie dog colonies. Follow CDOT's black-tailed prairie dog policy to guide the prairie dog management activities. Section 240 regarding black-tailed prairie dog management will be added to the Project Specifications.
- BI10 - The Biologist will perform a line-of-sight survey from the project area, or a survey within 0.5 mile for nesting raptors, before the nesting season and ahead of construction. If raptor nests are identified within the buffer, coordination with CPW and the USFWS is required to determine an appropriate course of action, which may

include, but is not limited to, a delay in construction to avoid the breeding season. Follow CPW Recommended Buffer Zones and Seasonal Restrictions for Colorado raptors (CPW, 2020).

- BI11 - To reduce wildlife entrapment, all erosion-control blankets will be biodegradable and will not contain plastic monofilament netting.
- BI12 - Prior to 88th Avenue bridge demolition, conduct a structure assessment per FHWA guidelines (USFWS Bridge/Culvert Bat Assessment Form, March 2022) to evaluate tri-colored bat and bat species use of the structure. If no evidence of bat use is observed, no further action is required. If bat use is confirmed, coordinate with CPW and USFWS to determine avoidance and minimization measures.

Additional clearances and permits required include:

- BI13 - Survey riparian areas subject to SB 40 certification with CPW and conduct a SB 40 inventory.
- BI14 - Develop and implement a SB 40 planting plan to replace trees and shrubs according to SB 40 requirements.

4.4 Wetlands and Waters

4.4.1 Affected Environment

Aquatic resources in the project area were delineated in summer 2024; the complete findings are presented in **Appendix D3: Biological Resources Technical Report** Attachment C: Aquatic Resources Survey Report. The wetland survey area contains 39 wetlands, 10 stream channels, and 6 ponds. Note the wetland survey area was larger than the project area of disturbance; the size of the project area of disturbance was reduced after the wetland survey occurred, and not all the waters presented in **Appendix D3: Biological Resources Technical Report** Attachment C: Aquatic Resources Survey Report are in the final project area.

Many of the wetlands are formed by the surrounding infrastructure, established by stormwater runoff collecting in designed retention basins, or are a result of poor stormwater drainage. The exception is Niver Creek Open Space (see **Photo 5**), which functions as the only extensive natural drainage in the project area with several wetlands associated with the drainage system.

Photo 6. Niver Creek Open Space



Other aquatic resources located in the project area do not meet the criteria for wetlands and are considered open water (e.g., ponds) or stream channels. These aquatic resources are associated with natural drainages, such as the Niver Creek Drainage System, and are composed of smaller tributaries that continue to the South Platte River. The remaining nonwetland waters are agricultural canals, stormwater retention ponds, or small channels formed by stormwater runoff.

4.4.2 Impacts

No Action Alternative

Under the No Action Alternative, none of the proposed transportation improvements would be implemented. Operations and maintenance of existing infrastructure would continue as designed and planned. Impacts on wetlands and waters would not occur beyond routine operations and maintenance activities.

Proposed Action

As part of the Proposed Action, Niver Creek would be relocated from its current configuration as a box culvert beneath I-25 to a new open channel alignment along the west side of I-25, in the vicinity of the Thornton Park-n-Ride.

The current project design shows the Proposed Action would impact the wetlands and waters identified in **Table 4**. All permanent impacts are associated with the widening of I-25 and associated ramps, relocation of Niver Creek, and drainage improvements. Detention ponds that would have resulted in additional impacts on wetlands and waters were eliminated from consideration due to their impacts, as described in **Section 3.3** of this Environmental Assessment.

Table 4. Impacted Wetlands and Waters

Feature ID[1]	Temporary Impacts	Permanent Impacts	Description of Resource
WL7	0.144 acre PEM wetland; plates or mats would be placed on adjacent wetlands if access is needed. May need dewatering.	0.036 acre PEM wetland impact; shoulder realignment and toe of slope shifting east.	Stormwater pond capturing runoff from nearby parking, adjacent to east shoulder of I-25 and East 74th Avenue. Presumably connects to nearby Colorado Agricultural Canal (OW3).
WL11	0.010 acre PEM wetland impact; shoulder realignment and drainage	None.	Landscaped median between northbound offramp at 84th Avenue fed by stormwater runoff.
WL16	0.001 acre PSS wetland impact; culvert extension east side of I-25	0.008 acre PSS wetland impact; culvert extension east side of I-25.	Fed from Farmer's Ditch on west side of I-25. A portion of the channel is WL16, but becomes open and non-vegetated at OW7 and flows to a drain at the eastern end, presumably to stormwater system.
WL17	None, entire wetland is a permanent impact.	0.089 acre PEM wetland impact; shoulder realignment.	Ditch along I-25 northbound just north of Thornton Parkway. Flows north in erosional gully to WL16/OW7 drainage.
WL19	0.003 acre PEM wetland impact; ramp and main line realignment.	0.008 acre PEM wetland impact; ramp and main line realignment.	Stormwater ditch in median between I-25 southbound and Thornton Parkway offramp, fed by stormwater from adjacent roads. Flows west under offramp in culvert to Niver Creek headwaters.
WL21	None, entire wetland is a permanent impact.	0.114 acre PEM wetland impact; stormwater detention and treatment pond.	Maintained stormwater basin constructed to receive runoff from the adjacent RTD parking lot. A raised outlet on the south side of the basin drains overflow events to Niver Creek. The outlet shows no signs of flow, e.g., sediment, debris, or staining.
WL22	None, entire wetland is a permanent impact.	0.034 acre PSS wetland impact; stormwater detention and treatment pond.	Wetlands abutting Niver Creek.
WL23	None.	0.011 ac PEM wetland impact; culvert inlet extension and stormwater drainage.	Wetland on floodplain of Niver Creek Tributary L (OW11), west side of I-25 between 84th Avenue and 88th Avenue.
WL24	0.014 acre PSS wetland impact; grading associated with highway widening.	None.	Wetland formed in stormwater basin, west of I-25, draining to the north to the adjacent Niver Creek Tributary L.
WL25	None, entire wetland is a permanent impact.	0.092 acre PEM wetland impact; shoulder realignment.	Ditch along I-25, fed by stormwater, drains to stormwater system on west shoulder of highway.
WL28	<0.001 acre	0.002 acre PEM wetland impact; shoulder realignment.	Stormwater feature constructed in uplands. Fed by flows from I-25 to the east.
WL30	0.005 acre PEM wetland impact; culvert extension west of I-25 on Unnamed Niver Creek Tributary.	None.	Wetland at culvert outlet on I-25 southbound shoulder, from WL14 on east side of I-25. With OW13.
WL36	None.	0.100 acre PSS wetland impact; indirect impact from reduced flow from realignment of Niver Creek.	Fringe wetlands along Niver Creek east of I-25 and south of 88th Avenue. With OW6.

Feature ID[1]	Temporary Impacts	Permanent Impacts	Description of Resource
OW6	None.	0.011 acre /32 ft of channel east of I-25; grading associated with highway widening. 0.015 acre/ 80 ft of channel; stormwater detention basin. 0.260 acre / 926 ft of channel; indirect impact from reduced flow from realignment of Niver Creek.	Mainstem of Niver Creek.
OW7	<0.001 acre	0.004 acre / 32 ft of channel; culvert extension west from I-25.	Portion of a channel originating on the west side of I-25 at Farmer's Ditch at a controlled diversion. Drains to Colorado Agricultural Canal.
OW11	None.	0.063 acre/ 129 ft of channel; culvert extensions both sides of I-25.	Niver Creek Tributary L west side of I-25 between 84th Avenue and 88th Avenue, carried under I-25 to Niver Creek.
OW13	0.009 acre / 53 ft of channel; culvert extension.	None.	Unnamed tributary to Niver Creek, formed at culvert outlet on I-25 southbound shoulder, from WL14 on east side of I-25. With OW13.

[1] "WL" denotes "wetland." "ac" denotes "acre." "ft" denotes "foot." "PEM" denotes "palustrine emergent wetland." "PSS" denotes "palustrine scrub-shrub wetland." "OW" denotes "other water." "ID" denotes "identifier."

A total of approximately 0.154 acre of wetlands and 0.353 acre of stream channel anticipated to be under Clean Water Act (CWA) jurisdiction would be permanently impacted by the project, which includes 0.100 acre of indirect impact to wetlands and 0.260 acre of indirect impact to Niver Creek. A total of 0.340 acre of wetlands potentially outside CWA jurisdiction would also be permanently impacted; a jurisdictional determination for these wetlands is pending. In addition, a total of 0.177 acre of wetlands and 0.009 acre of stream channel would be temporarily impacted.

For those aquatic resources under CWA jurisdiction, authorization under Nationwide Permit 14 – Linear Transportation projects (NWP 14) is expected to be obtained. NWP 14 authorization is limited to 0.5 acre of loss of waters of the United States for each waterbody crossing (single-and-complete linear project) 33 CFR 330.2(i). In this way, overall project impacts can exceed 0.5 acre. Impacts on waters of the State would be authorized under Regulation 87 – Colorado Dredge and Fill Program.

4.4.3 Mitigation

For Wetland and Aquatic Resources Mitigation Commitments related to permanent wetland and stream impacts and potential discharges, see the list below. "WW#" denotes "Wetlands and Waters Mitigation or Permit Commitment #" (e.g., WW1).

- WW1 – Ensure best management practices (BMPs) and containment structures are in place for work conducted within and adjacent to the Ordinary High Water Mark and mapped wetlands to prevent concrete washout and other potential pollutants from reaching creeks and wetlands.
- WW2 - Locate construction staging and materials stockpiling at least 50 feet from the edge of wetlands or creeks, when possible. No staging will be allowed in wetlands. Determine specific staging locations during construction planning to verify this buffer is achievable considering the narrowness of the corridor and limited areas available. If this buffer is not achievable, CDOT will consider allowing materials closer to the edge of wetlands or the edge of water and identify appropriate additional BMPs that will be required to minimize disturbance of vegetation and prevent pollutant discharges into sensitive habitats. BMPs will be determined on a site-by-site basis and any modifications will require CDOT environmental staff's approval.
- WW3 – Unavoidable impacts on waters and wetlands will be mitigated per CDOT, USACE, and CDPHE – Colorado Dredge and Fill Program policies.
- WW4 – Unavoidable impacts on all wetlands and waters, regardless of jurisdiction, are expected to be mitigated through purchase of credits at an approved mitigation bank. The type of credits and ratio will be determined in consultation with the appropriate agency.

Additional clearances and permits required include:

- WW5 – Obtain a CWA Section 404 Permit from the U.S. Army Corps of Engineers (USACE) prior to the start of construction. NWPs are anticipated to permit the proposed work including, but not limited to, NWP 14 - Linear Transportation Projects.
- WW6 - Consult with CDPHE under Regulation 87. Depending on impacts and construction timeline, a general authorization may be given to meet requirements of the Colorado Dredge and Fill Program.
- WW7 - Prepare a Wetland Finding Report upon completion of final design and impact calculation.

4.5 Water Quality

4.5.1 Affected Environment

A complete water quality analysis was completed for the project and is further described in **Appendix D4: Water Quality Technical Report**.

Watersheds and Receiving Waterbodies of Interest
The project area is in Adams County, the City of Thornton, and the City of Northglenn, which are all Municipal Separate Storm Sewer System (MS4) permittees under the statewide MS4 General Permit (COR090000) (CDPHE, 2020). Most of the project area would be in the Niver Creek and South Grange Hall Creek watersheds, and the associated waterbodies in these watersheds would be the primary receiving waters for any stormwater runoff from the road and construction activities. All waterbodies near the project area flow toward an eventual

confluence with the South Platte River (Mile High Flood District [MHFD], 2024). **Figure 15** displays the receiving waterbodies and the approximate watershed basin boundaries.

Impaired Waterbodies

The South Platte River is listed as impaired by the CDPHE's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List (CDPHE, 2023). The segment of the South Platte River that would receive flow from the project area vicinity is considered impaired for temperature dissolved oxygen, dissolved cadmium, ammonia, *E. coli*, and nitrate. Niver Creek, Grange Hall Creek, South Grange Hall Creek, and their associated tributaries are considered impaired for *E. coli* and selenium (CDPHE, 2023).

Existing Permanent Water Quality Control Measures

Permanent Water Quality (PWQ) Control Measures (CMs) include strategies or structures designed to protect or improve water quality in specific areas. Existing PWQ CMs in the project area vicinity support water quality protection and include detention basins and roadside treatment swales.

Figure 15. Watershed Basin and Receiving Waterbodies



4.5.2 Impacts

No Action Alternative

The No Action Alternative would maintain the current drainage patterns and water quality conditions with no new improvements or new impacts on the project area. The existing PWQ CMs treat 28.05 acres of I-25 runoff, which is 41 percent of the impervious surface area within the project area limits.

Proposed Action

The Proposed Action would result in an approximate 25% increase in impervious area that would contribute to increased highway stormwater runoff and sedimentation. Proposed permanent water quality control measures would treat more than 90 percent of added impervious area within the project area limits. The proposed treatment would reduce the amount of pollutants flowing into local waterbodies compared with the No Action Alternative. The proposed conversion of Niver Creek from an existing box culvert to an open channel near the Thornton Park-n-Ride facilities is also expected to provide water quality benefits.

Additional temporary water quality impacts during construction include disturbed soil that could be washed into the storm drain system, construction vehicles tracking sediment into the road, accidental spills of contaminants in staging and construction areas, and concrete washout.

4.5.3 Mitigation

Permanent water quality treatment facilities will be added, and existing facilities will be modified to add treatment capacity along the project corridor as part of the Proposed Action. A final design Hydrology and Hydraulics Report is being prepared and will be submitted to CDOT Water Quality personnel, documenting compliance with the requirements of the relevant MS4 permit(s).

For Water Quality Mitigation Commitments related to permitting, stormwater management plan (SWMP), and CMs, see the list below. “WQ#” denotes “Water Quality Mitigation or Permit Commitment #” (e.g., WQ1).

- WQ1 – A spill prevention, control, and countermeasure plan shall be developed and implemented for the construction site that shall establish standard operating procedures and employee training to minimize the accidental release of pollutants.
- WQ2 - A SWMP will be prepared to outline and detail erosion and sediment control in the construction area during the initial, interim, and final construction phases. The Contractor will implement the SWMP during construction.

Additional clearances and permits required include:

- WQ3 - A Colorado Discharge Permit System (CDPS) Construction Stormwater Permit will be obtained from CDPHE's Water Quality Control Division. Local jurisdiction grading permits may be required.
- WQ4 - A CDPS Construction Dewatering permit will be required.
- WQ5 - A CDPS permit for Remediation Activities for Discharges to Surface Water or Groundwater may be required.

4.6 Floodplains

4.6.1 Affected Environment

A complete floodplains analysis was completed for the project and is further described in **Appendix D5: Floodplains Technical Report**.

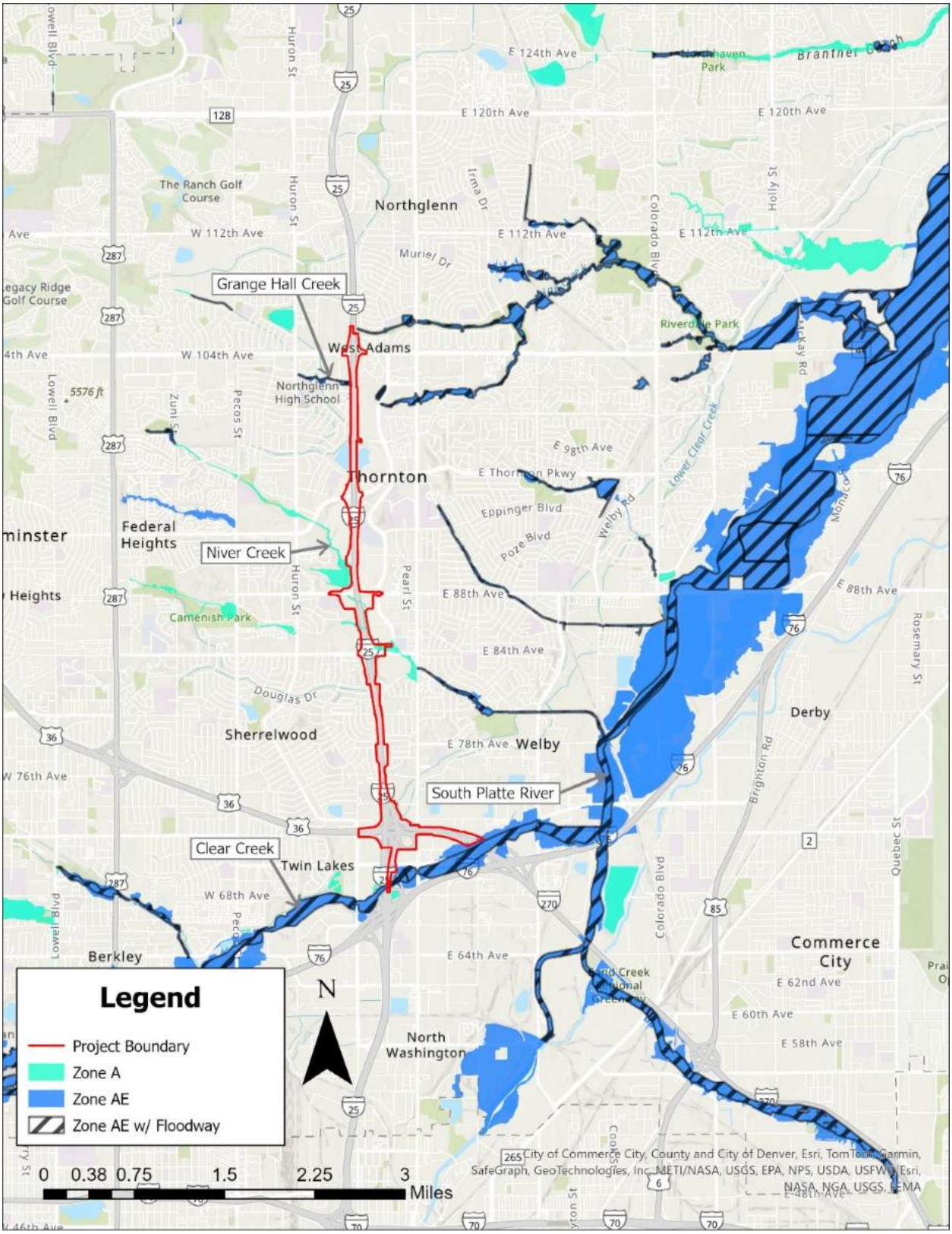
Two major waterways, Niver Creek and South Grange Hall Creek, cross I-25 within the project area limits. **Figure 16** shows the floodplains within and surrounding the project area.

Niver Creek
Niver Creek is approximately 5.3 miles long, flowing southeast toward the South Platte River, with headwaters near Ruston Park (MHFD, 2024). Two major tributaries, Tributary M and Tributary L, join Niver Creek near the Thornton Park-n-Ride and the 88th Avenue bridge over I-25. Both Niver Creek and Tributary L cross beneath I-25 within the proposed disturbance limits, with Niver Creek passing through a culvert approximately 400 feet south of the bridge. The area is designated as a Zone A Special Flood Hazard Area (SFHA) by the Federal Emergency Management Agency (FEMA), indicating high flood risk (FEMA FIRM Panel 08001C0601J, effective December 2, 2021). The SFHA crosses from west to east beneath I-25, inundating the Thornton Park-n-Ride pedestrian underpass during 100-year flood events. The SFHA extends south along the east side of I-25, extending onto I-25 between 86th Avenue and 84th Avenue, and then turns east with Niver Creek at the 84th Avenue interchange.

South Grange Hall Creek
South Grange Hall Creek is approximately 2.7 miles long, flowing west to east-northeast toward Grange Hall Creek in Jaycee Park (Respec Consulting & Services [Respec], 2018). The creek crosses beneath I-25 at two locations via culverts, approximately 1,500 and 2,000 feet south of 104th Avenue, directing flow into a detention basin near Grant Street.

South Grange Hall Creek is designated as a floodway Zone AE along the channel, indicating a 1 percent chance of annual flooding; it is classified as a SFHA, meaning properties in this zone are at a significant risk of flooding. The floodway is surrounded by a FEMA-designated Zone X, indicating a moderate to low flood risk area. Both the floodway Zone AE and Zone X extend onto I-25 south of the 104th Avenue interchange. The designated floodways and flood zones in this area are due to an undersized storm sewer system along Melody Drive and undersized culverts crossing I-25 (Respec, 2018).

Figure 16. Floodplains



4.6.2 Impacts

No Action Alternative

Under the No Action Alternative, floodplains and drainage would not be affected. Floodplains would continue to extend onto I-25 south of the 104th Avenue interchange as well as between 86th Avenue and 84th Avenue. The Thornton Park-n-Ride pedestrian underpass would continue to flood during 100-year flood events.

Proposed Action

Niver Creek
The culvert currently carrying Niver Creek under I-25 would be impacted by the project's proposed road expansion and would be removed and replaced with an open channel along the west side of I-25. The proposed project may extend into the eastern edge of the Zone A SFHA, particularly near the Regional Detention Facility where Niver Creek and Tributary L converge. Proposed improvements will reduce the severity and frequency of the Zone A floodplain overtopping the I-25 roadway along the Tributary L alignment. The anticipated changes in Zone A SFHA boundaries would require a Conditional Letter of Map Change Revision (CLOMR). A more detailed analysis of the potential impacts on the Zone A SFHA at this crossing would need to be conducted during final design.

South Grange Hall Creek
The project would alter FEMA flood zone boundaries for South Grange Hall Creek. Proposed drainage improvements will reduce the severity and frequency of the Zone AE floodplain encroachment onto the I-25 roadway. As final designs are completed, the impacts on the flood zones as a result of the Proposed Action must be mitigated by the drainage improvements to eliminate the need for a CLOMR and instead only require a No-Rise Certification. Without proposed drainage improvements, it is anticipated that the flood zone within a roadside ditch adjacent to the project area would increase, and rise beyond the ditch, due to proposed highway widening and associated grading, affecting nearby structures; mitigation measures required to reduce floodplain encroachment will be included in the final design as part of the drainage improvements.

4.6.3 Mitigation

For Floodplains Permit Commitments related to FEMA notification and floodproofing methods, see the list below. "FL#" denotes "Floodplains Mitigation or Permit Commitment #" (e.g., FL1).

- FL1 - For Niver Creek & Tributary L, a CLOMR and, following construction, a Letter of Map Revision (LOMR) shall be submitted to FEMA for review and approval to reflect the proposed changes to the floodplain, in accordance with 44 CFR § 65.12. Should there be impacts on structures, FEMA requires proof of mitigation for structures that would have been adversely impacted prior to the approval of any map revisions.
- FL2 – For South Grange Hall Creek, hydraulic modeling of existing and proposed conditions showing no rise in base flood elevations above regulatory standards shall be

completed, and a No-Rise Certification shall be submitted to the City of Northglenn for review and approval.

- FL3 - A floodplain development permit must be obtained from the City of Thornton (Niver Creek and Tributary L) and the City of Northglenn (South Grange Hall Creek) before construction activities begin within the effective FEMA floodplain.

4.7 Recreation and Section 6(f) Resources

4.7.1 Affected Environment

A complete recreation resources analysis was completed for the project and is further described in **Appendix D6: Recreation and Section 6(f) Resources Technical Report**.

Twenty parks, recreation areas, trails, and open spaces were identified in or near the project area (see **Figure 17A** and **Figure 17B**). Two resources developed with funding from the Land and Water Conservation Fund (LWCF) were identified: the Clear Creek Trail and Grant Park. Section 6(f) of the LWCF Act prohibits the conversion of LWCF-funded properties to nonrecreational purposes without approval of the National Park Service.

Figure 17A. Existing Parks, Recreation, Open Space, and Section 6(f) Areas

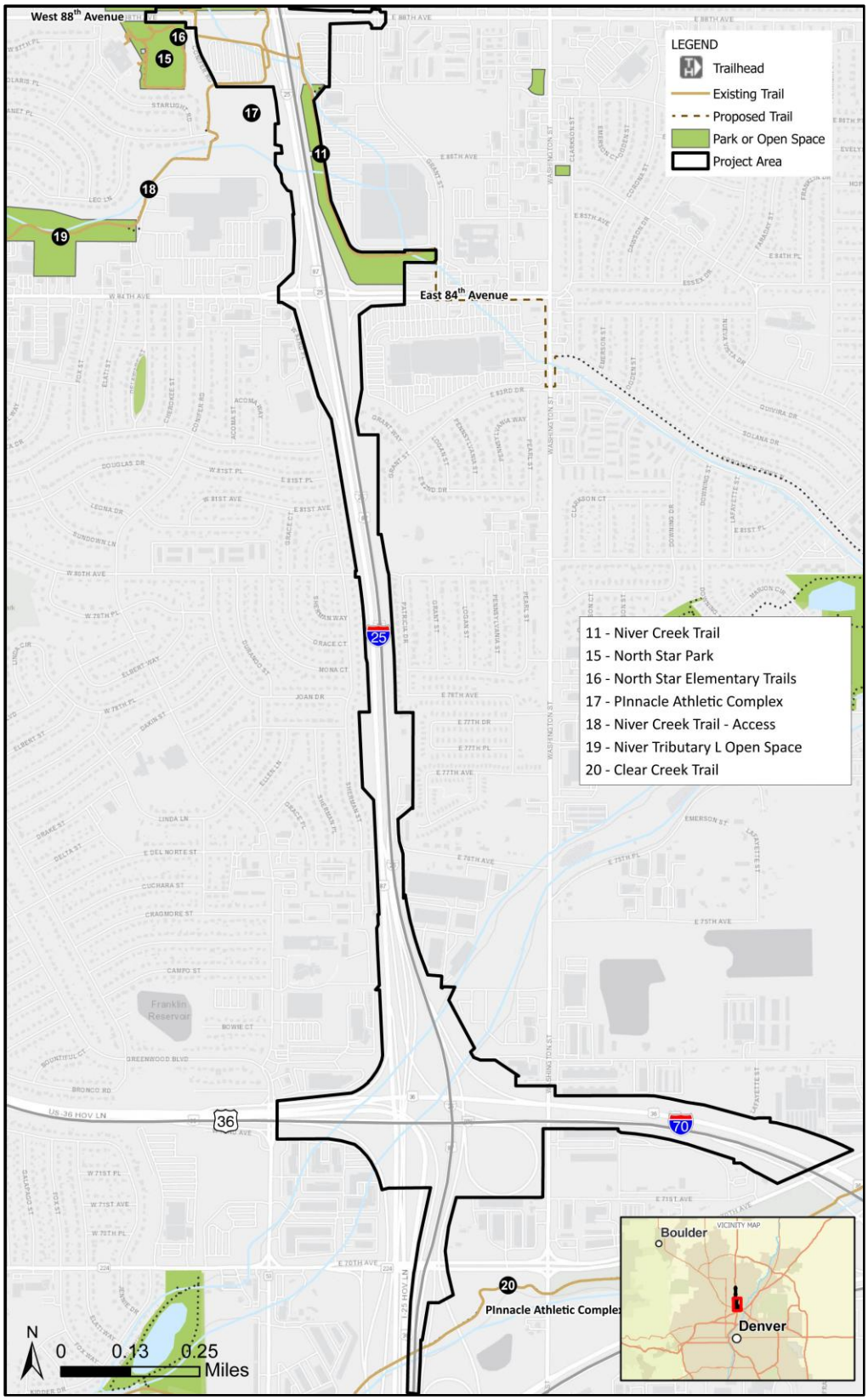
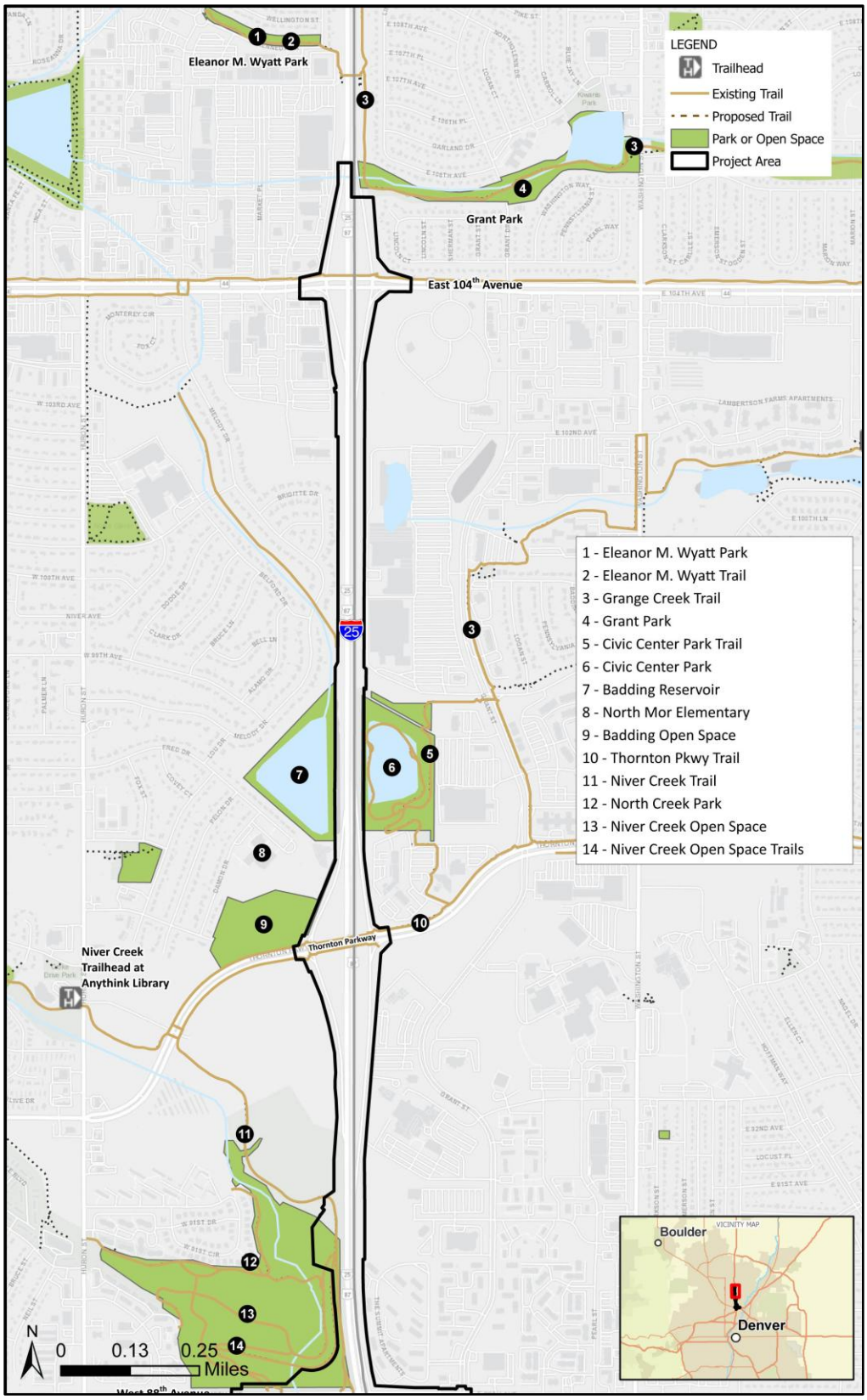


Figure 17B. Existing Parks, Recreation, Open Space, and Section 6(f) Areas



4.7.2 Impacts

No Action Alternative

The No Action Alternative would have no impact on existing parks, recreation, and open space resources because no transportation infrastructure would be constructed. It is not anticipated that routine operations and maintenance activities would impact existing parks, recreation, and open space resources.

Proposed Action

The Proposed Action is anticipated to have temporary and/or permanent impacts on the following resources.

Niver Creek Open Space
The Proposed Action includes acquiring approximately 1 acre of property from the east edge of the Niver Creek Open Space for permanent CDOT ROW to accommodate highway widening. The total area of the Niver Creek Open Space is approximately 63 acres; therefore, the permanent acquisition would represent approximately 1.6 percent of the total open space. Other improvements, including the alignment shift of the Niver Creek Trail in the open space, would be completed using a City of Thornton Construction Permit totaling 2.25 acres. Although some vegetation and land area would be affected, the project would not substantially alter the use or overall function of the open space.

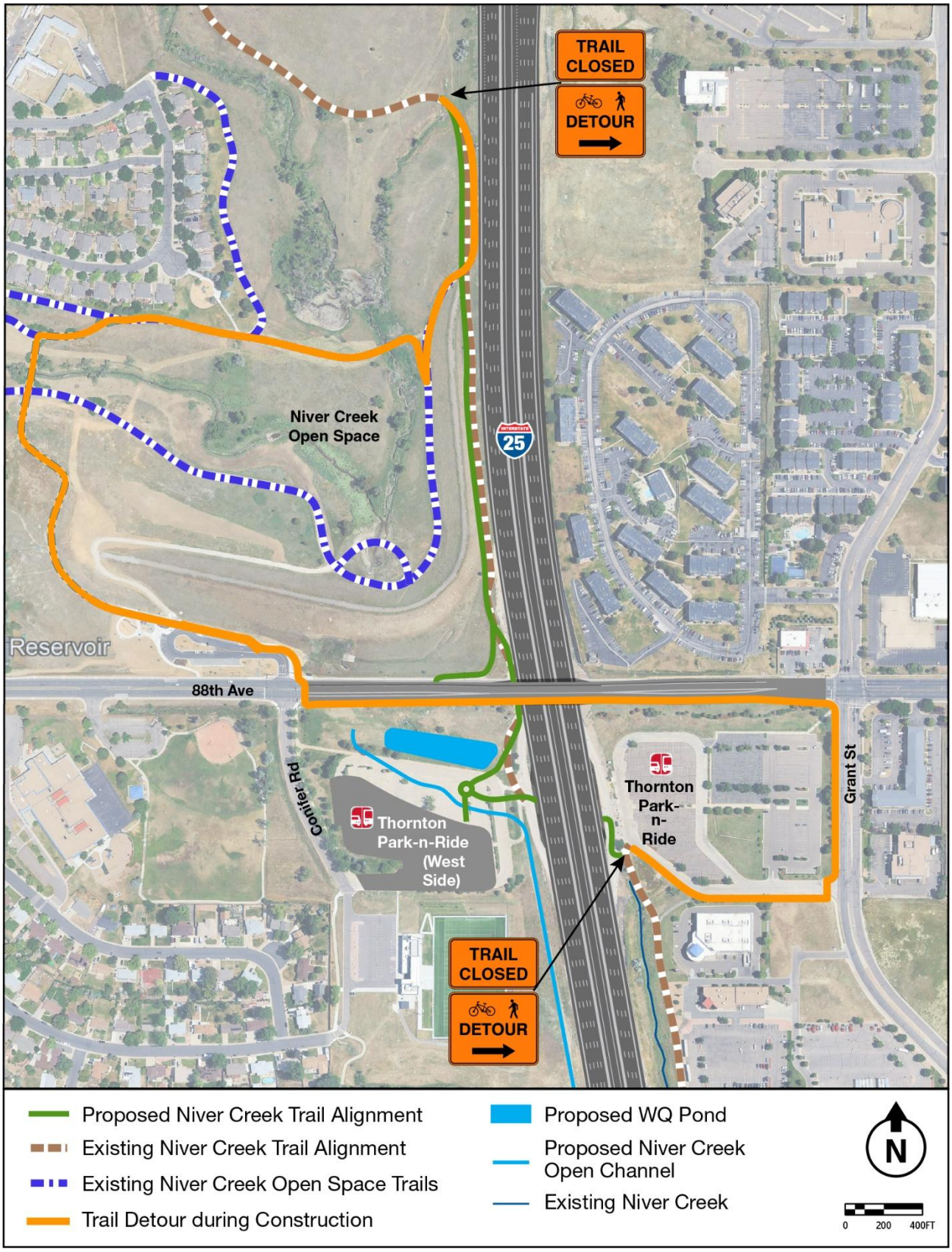
In addition, the project noise analysis identified noise impacts in the Niver Creek Open Space at two trailheads; however, noise mitigation via a noise wall was not considered reasonable and feasible at this location (see **Section 4.8.3**).

Niver Creek Open Space Trails and the Niver Creek Trail
The Proposed Action includes realignment of the Niver Creek Trail less than 25 linear feet west of its current location. The current Niver Creek Trail has an unsignalized crossing of the I-25 bus slip ramp south of 88th Avenue. The project proposes eliminating the slip ramps at this location, which would provide a safer pedestrian and bicyclist crossing of the Niver Creek Trail. In order to accommodate highway widening, a temporary construction permit impacting 0.35 mile of the Niver Creek Trail and less than 100 feet of the Niver Creek Open Space Trails is needed. The realignment of the Niver Creek Trail would be completed using a City of Thornton Construction Permit; the trail would be replaced to its original condition and would continue to be managed by the City of Thornton.

A temporary detour, illustrated on **Figure 18** below, would be used during construction of the 88th Avenue trail underpass. This detour includes a short temporary trail to be constructed along the realignment area of the Niver Creek Trail. Trail users going south on the Niver Creek Trail would then be re-routed to the Niver Creek Open Space Trails, which would bring them across I-25 via 88th Avenue and south on Grant Street to reconnect with the Niver Creek Trail south of the Thornton Park-n-Ride on the east side of I-25. The total length of the detour is 1.26 miles.

The project noise analysis identified noise impacts along the Niver Creek Trail from the Proposed Action; however, noise mitigation via a noise wall was not considered reasonable and feasible at this location (see **Appendix D7: Traffic Noise Technical Report**).

Figure 18. Proposed Shift and Detour of the Niver Creek Trail



Civic Center Park
Approximately 0.7 acre of the City of Thornton property from the west end of Civic Center Park would be acquired for ROW as a part of the Proposed Action to accommodate highway widening. However, this portion of the park property is located on the west side of the Civic Center Park fence, near I-25, currently has a transportation use and is maintained by CDOT, and is not open to the public for park activities. The portion of the property on the east side of the fence has a recreational use, is maintained by the City of Thornton, is open to the public for park activities, and would not be impacted by the proposed ROW acquisition. The fence itself would be protected in place. CDOT has consulted with and received approval from the City of Thornton for the ROW acquisition of this property. For the reasons stated above, no impacts on recreational activities in Civic Center Park would occur from the project.

Section 6(f)

The Clear Creek Trail and Grant Park were identified in the project area and were developed using funding through the LWCF. The Proposed Action is not anticipated to impact these properties.

4.7.3 Mitigation

For Recreation Resources Mitigation Commitments related to noise, detours, and other impacts, see the list below. “RR#” denotes “Recreation Resources Mitigation or Permit Commitment #” (e.g., RR1).

- RR1 - An intergovernmental agreement (IGA) will be required between CDOT and the City of Thornton for the project. The City of Thornton will be compensated for the property acquired on the west side of Civic Center Park in accordance with the IGA.
- RR2 –An IGA will be required between CDOT and the City of Thornton for the project. The City of Thornton will be compensated for the temporary easement and permanent property acquisition in the Niver Creek Open Space in accordance with the IGA.
- RR3 – Detour information will be posted prior to project construction to inform Niver Creek Trail users of the detour information. During construction, the detour will be clearly marked.
- RR4 - Any temporarily disturbed areas will be revegetated post-construction according to Thornton Parks and Open Space specifications.
- RR5 - Coordination with the official with jurisdiction (OWJ), City of Thornton Open Space and Project Management Division, is ongoing and will continue during final design and construction. BMPs will be employed to avoid and minimize impacts from construction. All disturbed areas will be re-landscaped post-construction. A temporary trail will be constructed to limit the detour length.
- RR6 - An IGA will be required between CDOT and the City of Thornton for the project for the realignment of the Niver Creek Trail. Coordination with the City of Thornton Open Space and Project Management Division will continue during final design and construction. All disturbed areas will be re-landscaped post-construction.

- RR7 – During construction, to mitigate noise-related impacts on recreation users, see Mitigation Measure: NO5.

4.8 Noise

4.8.1 Affected Environment

A complete noise analysis was completed for the project and is further described in **Appendix D7: Traffic Noise Technical Report**.

The noise analysis followed the procedures in 23 CFR 772, the CDOT Noise Analysis and Abatement Guidelines (NAAG) (CDOT, 2020b), and FHWA guidance. The Noise Study Zone extends 500 feet from the proposed edge of I-25 travel lanes. Within that study zone, all noise sensitive locations of frequent human use (receptors) were identified and modeled as discrete points (receivers). Each point represents one or more receptors. The study zone contains the following Activity Categories (see **Appendix D7: Traffic Noise Technical Report** for Activity Category definitions):

- Activity Category B: 178 receivers representing 590 receptors
- Activity Category C: 30 receivers representing 149 receptors
- Activity Category E: 6 receivers representing 15 receptors

While the Noise Study Zone contains Activity Category F and G activities, these are not considered noise sensitive. Therefore, no receivers are attributed to these locations (CDOT, 2020b).

Field noise measurements at four locations validated the existing conditions model, with modeled and measured levels falling within ±3 decibels (dB), confirming the model's accuracy. Existing (2024) noise levels ranged from 44.9 to 75.3 A-weighted decibels (dBA) at modeled receivers. Nine existing noise walls are present in the corridor, two of which (Walls 5 and 6) would require full or partial removal and replacement as part of the Proposed Action.

The Noise Study Zone includes multiple Section 4(f) recreation sites (see **Section 4.17**) and three historic properties (see **Appendix D7: Traffic Noise Technical Report, Table 4**) that may require noise consideration for Section 106 review (see **Appendix D11: Historic Resources/Section 4(f) (History) Technical Report** and **Appendix D6: Recreation and Section 6(f) Resources Technical Report**). Undeveloped, unpermitted Activity Category G lands were analyzed for future planning needs, with noise contour distances provided to support local agency planning.

4.8.2 Impacts

No Action Alternative

Under the No Action Alternative, traffic volumes would increase by the year 2050 as projected without implementing project improvements. Modeled noise levels would range from 45.2 to 75.5 dBA at 214 receivers. The No Action Alternative is not described as having

noise impacts. If the project were not built, the project would not be responsible to mitigate noise via an abatement measure regardless of if No Action Alternative noise levels exceeded NACs.

Proposed Action

Under the Proposed Action, modeled noise levels would range from 46.6 to 78.9 dBA in the year 2050, with 35 receivers (138 receptors) predicted to exceed the Noise Abatement Criteria and 4 receivers (13 receptors) predicted to experience substantial increases of at least 10 dB. These results were modeled solely with the existing barriers that would remain as part of the Proposed Action road design (i.e., Walls 1-4, the unmodified section of Wall 5, and Walls 7 through 9). Wall 6 was not modeled in the Proposed Action because it would be entirely demolished as part of the project.

Six proposed barriers were analyzed to address the impacted areas (see **Figure 19**). Two of these barriers (PR-Wall 1 and PR-Wall 2) were proposed because their existing wall counterpart would be partially or fully demolished as part of the project.

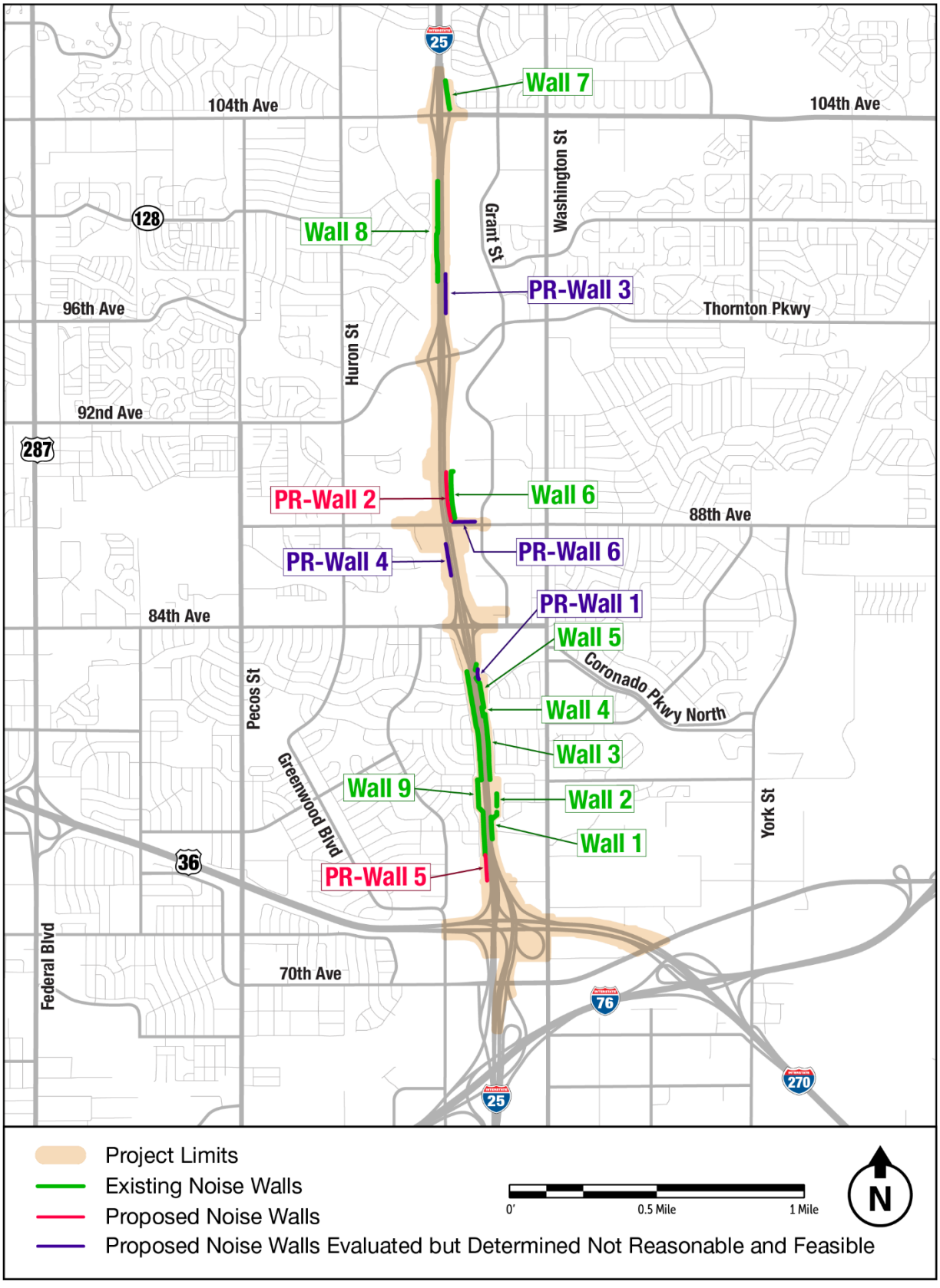
Noise abatement is considered feasible if it will reduce noise by at least 5 dB for at least three impacted receptors and is feasible to design and construct. If abatement is feasible, it is also evaluated to determine if it is reasonable. Abatement is reasonable if it will reduce noise by at least 7 dB for at least two benefited receptors, has a cost per receptor of $34,000 or less, and has support from more than 50 percent of the responding benefited receptors. A benefitted receptor is any receptor that is estimated via a design year noise model to receive a noise reduction of at least 5.0 dB from an abatement action regardless of whether the receptor is impacted.

PR-Wall 1 (which was proposed to replace a partially demolished section of Wall 5) was not determined to be feasible and reasonable. As a result, Wall 5 would be replaced with a new wall of the same dimensions as the existing wall. Per the NAAG, this rebuilt barrier is not considered a noise abatement action. PR-Wall 2, which would replace the existing Wall 6, was determined to be feasible and reasonable. However, it is considered a replacement wall and not a noise abatement action.

Four additional proposed walls were evaluated in areas in which no existing noise wall was in place and where three or more impacted receptors were found: PR-Wall 3, PR-Wall 4, PR-Wall 5, and PR-Wall 6. Of these four proposed walls, only PR-Wall 5 was determined to be both feasible and reasonable.

Figure 19 shows the locations of noise walls evaluated under the Proposed Action.

Figure 19. Existing and Proposed Noise Wall Locations



4.8.3 Mitigation

A total of six potential abatement walls were evaluated under CDOT's feasibility and reasonableness criteria. Two of these walls were evaluated to replace existing noise walls (PR-Wall 1 and PR-Wall 2), and are discussed in the following paragraphs. Four of these walls (PR-Wall 3 through PR-Wall 6) would have been new walls in new locations. PR-Wall 3, PR-Wall 4, and PR-Wall 6 were determined not to be feasible or reasonable; therefore, they are not recommended. Of the four new walls evaluated, one met all requirements and is recommended for construction:

- PR-Wall 5 (new barrier between I-25 southbound and Mapleton School complex) – Feasible and reasonable (14 feet high by 660 feet long) with a cost-benefit of $7,845/receptor.

Noise abatement at one location with an existing wall (PR-Wall 1) was determined not to be feasible or reasonable. Because PR-Wall 1 was determined to not be reasonable for construction, the existing wall at this location must be replaced by a new wall with the minimum dimensions of the portions of the existing wall that will be removed (12 feet high by 268 feet long). Therefore, this wall is considered a replacement wall and not a noise abatement action.

Noise abatement at one location with an existing wall (PR-Wall 2, replacing existing Wall 6) was determined to be both feasible and reasonable. The existing wall at this location will be replaced by a new wall with the dimensions of 13 feet high by 1,300 feet long. This wall is considered a replacement wall and not a noise abatement action.

Final abatement approval is contingent on Benefited Receptor Preference Surveys at the new recommended barrier (i.e., for walls that are noise abatement actions) at the time of final design or construction, which must show support for the barrier by more than 50 percent of the responding benefited receptors, prior to construction.

For Traffic Noise Mitigation Commitments related to traffic and construction noise, see the list below. "NO#" denotes "Noise Mitigation or Permit Commitment #" (e.g., NO1).

- NO1 – A noise wall will be built by the Mapleton School complex located at 7480 Broadway Street, contingent on a majority "yes" vote via a Benefited Receptor Preference Survey of benefited receptors. This vote happens after the Project Engineer completes the design for the noise wall during final project design.
- NO2 – A noise wall will be constructed in a new location between the Park 88 Apartments located at 101 E 88th Avenue and I-25. During Final Design, the Engineer will complete the noise wall design.
- NO3 - A new noise wall will be constructed that has the same dimensions as the demolished barrier but in a new location by 180 and 194 Grant Way. During Final Design, the Engineer will complete the noise wall design.

- NO4 - The Contractor shall:
  - Notify neighbors in advance when construction noise may occur, in accordance with the public information plan that will be developed for construction.
  - Keep noisy activities as far from sensitive receptors as possible. Coordinate with the Project Engineer.
  - Keep exhaust systems on equipment in good working order. The equipment shall be subject to inspection by the construction project manager to ensure maintenance is being conducted.
  - Use properly designed engine enclosures and intake silencers, if appropriate.
  - Place stationary equipment as far from sensitive receptors as possible. Coordinate with the Project Engineer.
  - Perform construction activities in noise sensitive areas during hours that are least disturbing to nearby residents, generally daytime hours, as feasible.
  - Locate haul roads so that they are as minimally disruptive as possible. Coordinate with the Project Engineer.
  - Provide a mechanism for complaints. Mechanisms will be determined during final design and may include a project hotline number or other mechanisms.
- NO5 – At the Grant Way cul de sac and Park 88 Apartments, if existing noise walls will not be replaced within six months of demolition, the Contractor must install temporary noise walls until the permanent replacement walls are constructed.
- NO6 – At the Grant Way cul de sac and Park 88 Apartments, during periods where existing noise walls have been removed and permanent replacement walls have not yet been installed, the Contractor shall notify potentially affected residents in advance of planned noise heavy construction activities and night work in the area, and offer hotel vouchers, as needed, in accordance with the project public information plan.

Additional clearances and permits required include:

- NO7 - The Contractor shall follow local noise ordinances and Colorado noise Statute 25.12.103. The Contractor shall also apply for variances when necessary.

4.9 Hazardous Materials

4.9.1 Affected Environment

For purposes of this Environmental Assessment, the term “hazardous materials” is an all-inclusive term for materials that are regulated as solid waste, hazardous waste, and other materials contaminated with hazardous substances, radioactive materials, petroleum fuels, toxic substances, and pollutants. Hazardous materials may exist at sites within the project area that generate, store, and dispose of these substances, or have been the location of past releases of these substances. Hazardous materials also are transported through and may be used during construction in the project area. A complete hazardous materials analysis was completed for the project and is further described in **Appendix D8: Hazardous Materials Technical Memorandum**.

A Modified Environmental Site Assessment was prepared using CDOT's hazardous materials guidance to identify recognized environmental conditions (RECs) and potential environmental conditions (PECs) that could affect ROW acquisition, design, construction activities, worker safety, and project costs (see **Appendix D8: Hazardous Materials Technical Memorandum** Attachment B). The assessment included a regulatory database search of readily available local, state, tribal, and federal environmental agency databases for sites with potential RECs or PECs up to 1 mile from the project area. Additionally, a limited site reconnaissance and a review of readily available standard historical sources were completed. To evaluate project-regulated materials risks (i.e., encountering regulated materials during ground-disturbing activities), sites were categorized as having a low, moderate, or high potential to impact the project area. A summary of identified findings of RECs and PECs within or adjacent to the project area is presented in **Table 5**.

Table 5. Findings and Opinion Summaries

Finding	Risk Potential Classification (low, medium, high)	Site Type	Rationale
1 Superfund Enterprise Management System (SEMS) site 1 SEMS Archive site 4 Resource Conservation and Recovery Act (RCRA) Corrective Action Sites 25 RCRA generator sites 23 solid waste disposal sites 74 leaking underground storage tank/leaking aboveground storage tank sites 9 registered storage tank sites 18 Voluntary Cleanup Program sites 4 Brownfield sites	Low	PEC	Numerous sites with the potential to have adversely impacted soil and groundwater were identified in the surrounding area. The sites have been closed by the regulatory agency, have no reported releases to the environment, or are not close enough to have adversely affected the project area.
Electrical transformers in the project area	Low	PEC	While no indications of leakage were observed on or around any of the transformers, should any electrical transformers be disturbed, transformer oils containing polychlorinated biphenyls could potentially be encountered.
Painted metal structures including signs, lightposts, bridges, and guard rails in the project area	NA	PEC	The painted metal structures are potentially painted with lead-based paint and, therefore, would require special handling if planned for removal and disposal.
Buried utilities potentially containing asbestos	NA	PEC	It is unknown if buried utilities containing asbestos are present in the subsurface of the project area.
An aboveground storage tank (AST), drums, and containers of various petroleum products with associated stained concrete were observed at both the CDOT maintenance facility and the adjoining landscaping facility in the project area	Low	PEC	Should these sites be vacated, all ASTs, drums, and containers would likely be inventoried and properly moved or disposed of. Observed spills were *de minimis* in nature.

4.9.2 Impacts

No Action Alternative

The No Action Alternative would have no effects on hazardous material sites identified in the project area.

Proposed Action

There is the potential to encounter hazardous materials under the Proposed Action during construction from sites associated with PECs within and adjacent to the project area, although the risk is considered low. The Proposed Action will require excavation within the project area and therefore has the potential to encounter impacted soil, soil vapor, and/or groundwater, which could result in unanticipated increased project costs to mitigate the effects of hazardous materials. Additional impacts on workers' health and safety also need to be considered when handling waste and disposing of contaminated materials.

4.9.3 Mitigation

For Hazardous Materials Mitigation Commitments, see the list below. "HM#" denotes "Hazardous Materials Mitigation or Permit Commitment #" (e.g., HM1).

- HM1 – Structural excavation, such as caisson construction, may require dewatering contaminated groundwater. If dewatering is necessary, groundwater brought to the surface will be managed according to CDOT Standard Specification Section 250—Road and Bridge Construction regarding monitoring and characterization and Section 107.25 regarding water quality control.
- HM2 - For project areas located within mapped per- and polyfluoroalkyl substances (PFAS) contaminated groundwater, the Contractor will follow revised CDOT Standard Specification Section 107.25—Legal Relations and Responsibility to Public. CDPHE PFAS source/concentration maps will be reviewed, when available.
- HM3 - Contractors and workers shall comply with the latest revision of CDOT Standard Specification Section 250 (Environmental, Health and Safety Management)—Road and Bridge Construction.
- HM4 - If structures are disturbed or demolished, they must be tested for heavy metal-containing paint and asbestos containing materials for worker protection and disposal purposes. Depending on the results of sampling, a health and safety plan may be completed prior to construction. CDOT requires that all metal project components (e.g., light poles, metal railing, and bridge girders) be recycled. The recycling facility must be notified if painted metal project components contain either lead or chromium. Regardless of heavy metal content, the future contractor must comply with Occupational Safety and Health Administration Regulations 1926.62 and 1926.1126 for worker safety.
- HM5 - An individual, property-specific American Society for Testing and Materials-compliant Phase I Environmental Site Assessment shall be completed before taking any additional ownership interest for properties considered for acquisition.

- HM6 - If any drinking water and groundwater monitoring wells are located in the proposed construction area, the wells will be mapped, abandoned and plugged according to CDOT Standard Specification Section 202.02—Road and Bridge Construction and in conformance with the Colorado Department of Natural Resources Division of Water Resources State Engineer Water Well Construction Rules, specifically Rule 16, "Standards for Plugging, Sealing, and Abandoning Wells and Boreholes."

4.10 Socioeconomic Resources and Land Use

4.10.1 Affected Environment

A complete socioeconomic analysis was completed for the project and is further described in **Appendix D9: Socioeconomic Resources and Right-of-Way Technical Report**.

Information gathered through public involvement activities provided a key source for understanding local context and concerns. Public feedback has been consistent with the potential impacts considered in this analysis, and generally feedback has indicated support for advancing the project.

The Community Study Area (CSA) includes communities adjacent to I-25 that may be affected by the project. Potential socioeconomic-related impacts are concentrated in communities within and near the project area limits – collectively referred to as the CSA. In contrast to this larger surrounding community being analyzed to understand overall conditions and context, the "project area" is the specific site where the project will take place and where direct impacts will occur. **Figure 20** illustrates the population distribution within the CSA.

Land Use and Zoning
Land uses within the CSA encompass a mix of residential, commercial, and industrial land uses, reflecting ongoing suburban and urban development. Residential zones are primarily single-family homes and multifamily units. Commercial activity is focused in major corridors, with retail, restaurants, and offices. Industrial uses are concentrated in the southern portion of the CSA (**Figure 21**). Current zoning aligns with existing land uses in most cases. In some zoning districts, land uses are permitted by right; in others, they require a conditional use or special use permit. Several areas are zoned as Planned Development, which is a classification covering a range of flexible master-planned zoning approaches, including Planned Unit Developments, where uses and regulations are subject to negotiation; there is often no direct correlation between the zoning district and the current land use in these areas.

No substantial future changes to land use are currently planned in the area. **Figure 21** shows current and planned land use in the CSA. Most areas zoned as Planned Development, a zoning designation denoting a flexible master-planned district, have been developed with commercial uses. A few undeveloped parcels remain within the Planned Development designation, north of 92nd Avenue, that are expected to be developed as commercial or mixed uses in the future.

Community Character and Demographics

Over the past decade, the Adams County population has grown at a faster average annual growth rate than the Denver metropolitan area population. As of 2020, the population within the CSA was 46,841, with the most populous areas in the City of Thornton (**Figure 20**) (U.S. Census Bureau, 2022). The Adams County population is projected to increase by 50 percent between 2022 and 2050 compared with 30 percent in Colorado and 19 percent in the City and County of Denver (Department of Local Affairs, Colorado, 2023).

Many public services and community resources are available in the CSA, such as law enforcement, fire protection, schools, and places of worship. For a detailed list of community resources and public services in the CSA, refer to **Appendix D9: Socioeconomic Resources and Right-of-Way Technical Report** Attachment B. Businesses in the CSA include large retail centers and chain stores, smaller shopping centers, office and hospital complexes, and industrial and warehouse facilities. In 2022, there were approximately 275,700 jobs in Adams County. Adams County gained more than 67,000 jobs in between 2010 and 2022, with an average annual job growth rate of approximately 2.3 percent (U.S. Census Bureau, 2022).

Within the CSA, the percent minority population in 25 of the 31 Census block groups (BGs) exceeds the overall percentage in Adams County (53 percent minority), and the percentage of low-income households (earning less than $35,000) in 18 of the 31 BGs exceeds the overall percentage in Adams County (16 percent). The CSA has a high population of children under five years old and a high concentration of individuals over 65 years old in the southern portion of the CSA, particularly in unincorporated Adams County. Limited English Proficiency (LEP) communities are dispersed throughout the CSA (U.S. Census Bureau, 2022).

Community Resources and Public Services

The CSA spans multiple jurisdictions, including unincorporated Adams County, Northglenn, and Thornton, and is supported by a range of public services such as law enforcement, fire protection, emergency response, schools, and recreation facilities. In addition, the area includes key community resources such as places of worship, healthcare facilities, and businesses that provide essential goods and services. A comprehensive inventory and map of these resources can be found in **Appendix D9: Socioeconomic Resources and Right-of-Way Technical Report** Attachment B.

Figure 20. CSA Population by Census Block

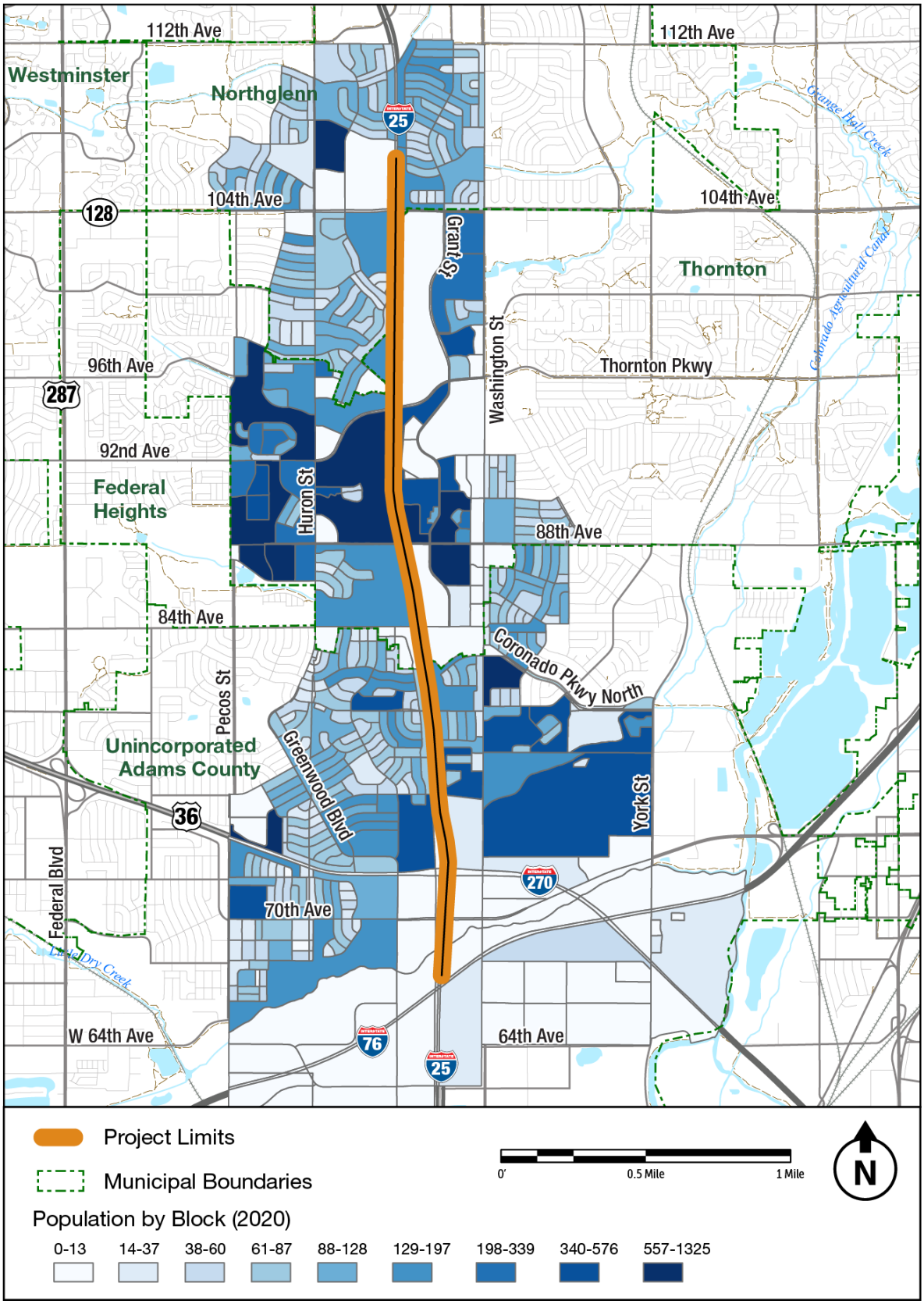
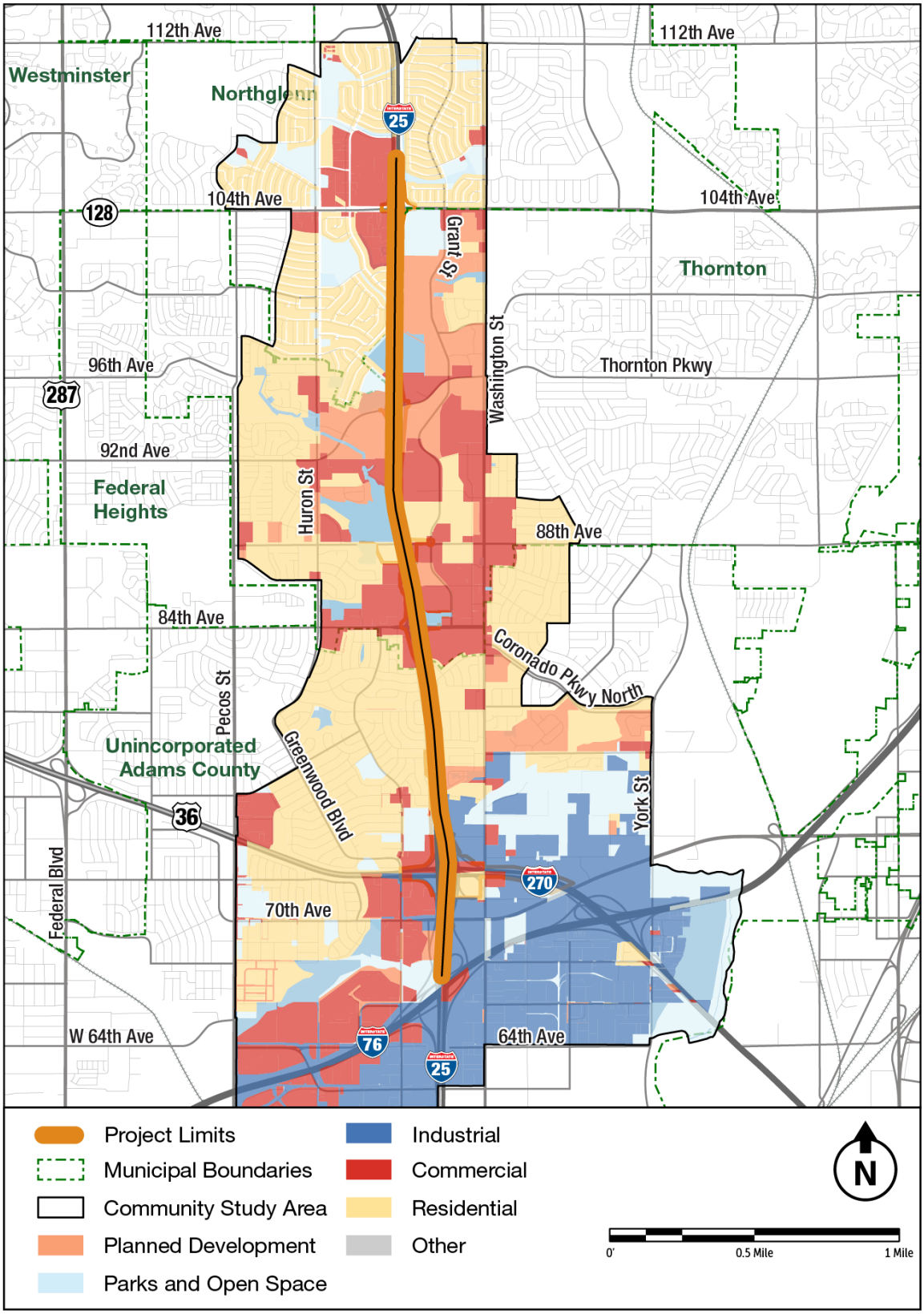


Figure 21. Current and Future Land Use



Sources: Adams County, 2022; DRCOG, 2024b; City of Northglenn, 2018; City of Thornton, 2024

4.10.2 Impacts

No Action Alternative

The No Action Alternative assumes continued operation of the I-25 corridor in its current configuration, including regular and emergency maintenance. Narrow shoulders on this segment of I-25 in the CSA make speed enforcement dangerous, increase the risk of secondary crashes, and impede access for first responders. Existing operational and safety deficiencies would persist and are projected to worsen with increasing traffic volumes over time. This would likely worsen travel time reliability and make it increasingly difficult for residents and commuters to access important social, economic, and community resources along and across I-25.

Maintenance improvements in the corridor could temporarily impact area residents and the traveling public through typical construction-related effects (such as dust, noise, increased travel times, and access changes). The No Action Alternative would not support a substantial number of new jobs.

Proposed Action

Potential impacts on communities in the CSA would be generally minimal and both beneficial and adverse.

Land Use and Zoning
Under the Proposed Action, the project would require minimal ROW acquisition from surrounding properties. Because the improvements are largely contained within the existing CDOT ROW, the Proposed Action is not expected to change the current or future use of surrounding properties. Existing land uses and zoning designations adjacent to the corridor are anticipated to remain unchanged as a result of the project.

Community Character and Demographics
The City of Thornton emphasizes that future growth must accommodate a rising population while remaining consistent with community values and preserving the area's suburban character. As a result, improvements to safety and mobility are not only desirable but necessary. The existing crossings of I-25 would either remain in place or be improved, and no infrastructure under the Proposed Action would isolate or divide neighborhoods in the CSA. Upgrades to pedestrian and bicycle crossings of I-25 at 88th Avenue and the Thornton Park-n-Ride would improve mobility, connect neighborhoods, and support outdoor activities. Community character and cohesion is therefore expected to remain generally unaffected by the Proposed Action, with small improvements to enhance connectivity, mobility, and quality of life for the residents in the CSA. The Proposed Action is not expected to isolate or divide neighborhoods in the CSA.

Several business properties would experience minor impacts under the Proposed Action as described in **Section 4.11**. These impacts are not expected to affect the ability of these businesses to maintain their projected levels of employment and revenue generation.

Improved safety and travel time would improve access to employment and support operations and reduce delays in reaching local businesses and delivering products.

Community Resources and Public Services
As described in **Section 4.1** of this Environmental Assessment, widening the inside and outside shoulders of I-25 would allow better emergency response access during incidents for public services such as fire and police. CDOT will continue to provide Safety Patrol, free roadside assistance, and Traffic Incident Management support services during construction. In regard to community resources, several recreation resources would be affected by the project as described in **Section 4.7** of this Environmental Assessment. A new noise abatement wall is proposed east of the Mapleton School complex, which would block noise from and views of I-25 for the school complex as discussed in **Sections 4.8** and **4.11** of this Environmental Assessment. No other community facilities would be affected by the project.

Construction Impacts
The Proposed Action would include temporary construction-related impacts such as local road closures, dust, noise, trail detours and visual disruptions. Construction of the Proposed Action would result in traffic delays, increased emergency response times, and potential detours throughout the project area, affecting travel to residences, businesses, and other social and community resources. Temporary construction easements from adjacent properties are anticipated. During construction, the loading bay at the southwest corner of the Window World of Denver business located at 480 East 76th Avenue Building 5E west side would be limited to box trucks up to 30 feet long, which would need to approach the doorway at a slight angle. Trucks with wheelbases of 50 feet or longer accessing the loading docks on the building's south side would require additional maneuvering and may need to approach at an angle. Large tractor-trailers accessing the other loading bays along the west side would need to circulate around the north side of the building to maintain access. Residents may be temporarily affected by noise and visual impacts due to nighttime construction and replacement of noise walls. While these impacts may disrupt normal operations, some local businesses could experience short-term economic benefits from increased spending by construction workers in the area.

4.10.3 Mitigation

For Socioeconomic Resources and Land Use Mitigation Commitments related to lane closures, travel delays, and noise and night work, see the list below. "SO#" denotes "Socioeconomic Resources Mitigation or Permit Commitment #" (e.g., SO1).

- SO1 – Contractor will develop and implement a public information plan and will work with local public information officers to disseminate construction information materials regarding lane closures and construction-related travel delays. Materials will be distributed in English and the primary languages of LEP groups in the CSA, offering translation services as needed.
- SO2 - CDOT will solicit input from Adams County, Northglenn, and City of Thornton on the construction traffic control program and avoid construction during peak directional

periods. Work requiring lane closures will be conducted at night as much as possible in accordance with CDOT lane closure strategies.

- SO3 – CDOT will develop an emergency service provider coordination plan that will include procedures for notifying emergency service providers of closures or traffic delays and provide a clear path through the construction zone when needed. CDOT will maintain access for emergency vehicles through the construction limits at all times.
- SO4 - Any construction-related disturbance within temporary easements will be restored to original conditions. Trees and structures within temporary easements will be protected in place. Any damage to trees, other landscaping, or structures will be repaired at no expense to the owner.
- SO5 - Conduct outreach to owners of impacted properties in advance of impacting construction activities such as noise wall construction, night work, and work in temporary easements, detailing upcoming schedules and work.
- SO6 – Prior to construction work in temporary easements at the commercial buildings east of I-25 between 74th Avenue and 76th Avenue, conduct outreach to business owners to coordinate construction schedules and maintain continuous access to commercial loading docks.

4.11 Right-of-Way

4.11.1 Affected Environment

A complete analysis of ROW was completed for the project and is further described in **Appendix D9: Socioeconomic Resources and Right-of-Way Technical Report**.

The CDOT transportation ROW along I-25 within the project area ranges from approximately 200 to 400 feet wide, with wider ROW areas occurring at interchanges. Properties adjacent to roadways in the project area are in both public (e.g., City of Thornton) and private ownership.

4.11.2 Impacts

No Action Alternative

Under the No Action Alternative, CDOT would not construct any new transportation infrastructure in the project area and would not need to acquire any additional property.

Proposed Action

ROW impacts were estimated based on preliminary design. Anticipated acquisitions and easements are displayed in **Table 6**. Total impacts are estimated to be approximately 16 acres. No full acquisitions are anticipated; however, several partial acquisitions and easements are planned. Final ROW acquisitions will be determined during detailed design and property negotiations.

CDOT anticipates partial acquisition from 23 property owners across 31 distinct parcels. Of these 31 parcels, 10 are commercial, 7 are public, 6 are parks or open space, 6 are vacant, and 2 are residential. A loading dock serving the Window World of Denver Building 5E would experience permanent operational adjustments as a result of highway widening. Specifically, the loading dock at the southwest corner of the building would be limited to accommodate single-unit trucks up to 30 feet long without angled access and single-unit trucks up to 40 feet long with angled access. The loading dock serving Window World of Denver on the south side of the building would experience no permanent changes in operations and would continue to accommodate larger trucks as it does today. No further impacts on businesses are anticipated under the Proposed Action. The six parks and open space parcels are all associated with the Niver Creek Open Space (5 parcels) and Civic Center Park (1 parcel). See **Section 4.7** for more information about impacts to these recreation resources. The project will remain consistent with existing land use and zoning.

Table 6. Total Estimated ROW Impacts

Impact Type	Number of Parcels (Thornton-Owned)	Number of Affected Owners	Total Acres Impacted (Thornton-Owned)
Total Acquisition	0	0	0.00
Partial Acquisition	21 (7)	15	9.18 (2.81)
Permanent Easement	11 (1)	9	0.81 (0.07)
Temporary Easement	16 (3)	16	5.56 (0.28)
Utility Easement	3 (0)	2	0.48 (0)
Slope Easement	1 (1)	1	0.36 (0.36)
Totals	**31 (8)**	**23**	**16.39 (3.52)**

Many of the 31 distinct parcels that are impacted have multiple impact types on their property; therefore, the number of impact areas is greater than 31.

4.11.3 Mitigation

For ROW Mitigation Commitments related to ROW acquisitions and temporary easements, see the list below. “RW#” denotes “ROW Resources Mitigation or Permit Commitment #” (e.g., RW1).

- RW1 - For any person(s) whose real property interests may be impacted by the project, the acquisition of those property interests will comply fully with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970, as amended. The Uniform Act is a federally mandated program that applies to all acquisitions of real property or displacements of persons resulting from federal or federally assisted programs or projects. It was created to provide for and ensure the fair and equitable treatment of all impacted persons. All impacted owners will be provided notification of the acquiring agency’s intent to acquire an interest in their property including a written offer letter of just compensation specifically describing those property interests. A ROW specialist will be assigned to each property owner to assist them with this process.
- RW2 - An intergovernmental agreement (IGA) will be required between CDOT and the City of Thornton for the project. The City of Thornton will be compensated for the property acquired on the west side of Civic Center Park in accordance with the IGA.

- RW3 –An IGA will be required between CDOT and the City of Thornton for the project. The City of Thornton will be compensated for the temporary easement and permanent property acquisition in the Niver Creek Open Space in accordance with the IGA.

4.12 Visual Resources

4.12.1 Affected Environment

A Visual Impact Assessment (VIA) Memorandum was prepared in accordance with CDOT's 2020 VIA Guidelines (CDOT, 2020a) to evaluate potential visual impacts of the project and is included in **Appendix D10: Visual Impact Assessment Technical Memorandum**.

The visual impact of I-25 on surrounding viewers is reduced by noise walls, aesthetically designed infrastructure (such as neutral-toned concrete barriers to match the existing corridor), and topography that blocks traffic views. The Area of Visual Effect includes key viewpoints from I-25 and limited views from nearby properties. The corridor is mostly urban to suburban, with an enclosed landscape due to noise walls and terrain. Recreation users in Civic Center Park, Niver Creek Open Space, and Niver Creek Trail have the most direct views of I-25. Travelers on I-25 can see the Rocky Mountains and downtown Denver at specific locations such as Thornton Parkway and Niver Creek Open Space. Background views of downtown Denver and the Rocky Mountains are visible from I-25 in other locations, but high-quality mountain views are rare. Natural vegetation surrounding I-25 is minimal, with scattered trees and shrubs mainly in the Niver Creek Open Space.

4.12.2 Impacts

No Action Alternative

The No Action Alternative would not change the visual character or quality of the project area.

Proposed Action

Permanent visual change would occur from highway widening. The replacement of an existing noise wall adjacent to the Northview Estates Subdivision south of 84th Avenue on Grant Way would permanently alter the visual setting of the Grant Way cul-de-sac, including relocation of a portion of the wall approximately 15 feet closer to two residential properties. In addition, an existing noise wall between northbound I-25 and the Park 88 Apartments north of 88th Avenue would be replaced, extended, and increased in height to accommodate highway widening. A new noise wall south of 84th Avenue near the Mapleton School complex would also be constructed, resulting in a permanent visual change for both highway users and school patrons by blocking existing views between the school and the interstate, which currently includes vegetation. The new and replacement noise walls would be constructed of post-and-panel systems to match the existing post-and-panel walls' color, texture, and materials. The visual character of I-25 would improve with the replacement of the 88th Avenue bridge, which would be designed in coordination with the City of Thornton to be more visually consistent with other bridges in the corridor.

The conversion of Niver Creek from a box culvert to an open channel, in the vicinity of the Thornton Park-n-Ride and the Niver Creek Trail, would have beneficial visual impacts on Park-n-Ride and trail users due to the introduction of an open stream in this area. The project would have a minor visual impact to recreational users where the Niver Creek Trail is realigned. North of 88th Avenue, the trail's realignment would visually mimic the existing trail and be compatible with the landscape of the Open Space and would not substantially alter the existing trail's positioning or limited views of the highway. South of 88th Avenue, the trail's realignment adjacent to the Thornton Park-n-Ride west parking lot would shift trail users away from the highway and closer to the newly open Niver Creek stream, which would be a beneficial visual impact on trail users. Overall, the project area would retain its urban to suburban visual character.

Residents, recreation users, transit patrons, business owners and I-25 travelers would experience temporary visual impacts during construction due to views of construction staging areas, construction vehicles, construction personnel, and construction mitigation measures.

4.12.3 Mitigation

For Visual Resources Mitigation Commitments related to staging areas and design specifications, see the list below. “VI#” denotes “Visual Resources Mitigation or Permit Commitment #” (e.g., VI1).

- VI1 - Restore staging areas and construction mitigation such as silt fences per CDOT Design Specification Section 106.08—Storage of Materials: “All storage sites shall be restored to their original condition at the Contractor’s expense”(CDOT, 2019a) and Section 208.4(f) —Control Measures for Stormwater: “If [temporary control measures are] removed, the area in which these control measures were constructed shall be returned to a condition similar to that which existed prior to its disturbance” (CDOT, 2019b).
- VI2 - Existing landscaping that is disturbed by construction-related activities will be replaced. Slopes are designed to be 3:1 (Maximum) (horizontal:vertical) or flatter where feasible to support maintenance access and vegetation establishment. Where steeper slopes are required due to site constraints, design measures such as slope rounding, warping, or retaining walls are incorporated to reduce visual contrasts and maintain landscape compatibility.
- VI3 - The design of the new noise wall will be aesthetically consistent with the existing adjacent masonry wall to include a beige color with a split face block and dark brown continuous accent block near the top of the wall.
- VI4 - The design of the replacement and extended noise walls at the Park 88 Apartments will be consistent with the existing post-and-panel noise wall construction used throughout the corridor and include a beige color with a split face block and intermittent dark brown mountain pattern panels. The Contractor shall notify neighbors as soon as possible about the timing of construction.
- VI5 - The Contractor shall notify neighbors as soon as possible about the timing of construction for the replacement of the noise wall between 194 Grant Way and I-25.

- VI6 – The Contractor will coordinate with the residents at 180 and 194 Grant Way and offer each residence up to three tree saplings, furnished by the Contractor, for voluntary planting to help mitigate visual impacts associated with the replaced noise wall (with planting and care instructions).
- VI7 - Replace trees with trees that are low water, adapted to soils, and are on the City of Thornton or Adams County approved tree list. Include a plan for three years of maintenance. Include tree placement and species in the final design and require the Contractor to develop a maintenance plan for local agencies to maintain. If trees removed cannot be replaced within CDOT ROW, then CDOT will furnish the same number of trees to the City of Thornton Parks and Recreation Department for use in its parks system.
- VI8 - Retaining walls eight feet in height or higher will feature a split face block style. The selected treatments shall be documented in the final plan set and are subject to CDOT approval prior to construction.

4.13 Historic Resources/Archaeological Resources and including Tribal Consultation

4.13.1 Affected Environment

A complete historic resources analysis was completed for the project and is further described in **Appendix D11: Historic Resources/Section 4(f) (History) Technical Report**. CDOT followed the Section 106 consultation process under the National Historic Preservation Act (NHPA).

A complete archaeological resources analysis was completed for the project and is further described in **Appendix D12: Limited-Results Cultural Resource Survey Form**.

CDOT identified eight historic resources **eligible** for listing in the National Register of Historic Places (NRHP) and one historic resource that **needs data**, meaning additional research is needed to decide if the resource is historically significant, within the Area of Potential Effect (APE). The nine historic properties in the project area that are **eligible** or **needs data** include four post-World War II residential subdivisions, one farmstead, one ditch, one residence, one road, and one bowling alley.

No known Indigenous or historical archaeological resources are in the project area.

4.13.2 Impacts

No Action Alternative

Under the No Action Alternative, historic properties would remain unaltered, and no impacts would occur. In addition, no archaeological resources are present in the project area and, therefore, no impacts would occur under the No Action Alternative.

Proposed Action

Because no archaeological resources are within the limits of construction in the project area, no impacts on archaeological resources would occur under the Proposed Action.

CDOT made a **no adverse effect** determination for the nine historic properties pursuant to 36 CFR 800.5 of the National Historic Preservation Act, shown in **Table 7**, in a letter and report to the State Historic Preservation Office (SHPO) and consulting parties dated March 14, 2025. The SHPO concurred with CDOT's determination of **no adverse effect** in a letter dated March 24, 2025 (signed March 27, 2025). CDOT coordinated an updated APE with the SHPO and consulting parties in a letter dated August 5, 2026. The SHPO concurred with CDOT's revised APE in a letter dated August 12, 2026. No comments were received from consulting parties (see **Appendix E: Public and Agency Involvement** Attachment C).

Table 7. Effects Determinations for Historic Properties

(Resource No.) Resource Name/Type	Year Built	Address/Location	NRHP Eligibility[1]	Effects Determination
(5AM80) Lower Clear Creek Canal	Circa 1861	From the South Platte River north to Brantner Ditch in Weld County	**Eligible**	**No adverse effect**
Segment 5AM80.1	Circa 1861	From the eastern terminus of segment 5AM80.6 under I-25 to the railroad west of Steele Street	**Supporting**	**N/A**
Segment 5AM80.6	Circa 1861	From Broadway to the western terminus of segment 5AM60.1 underneath I-25	**Officially non-supporting (2006)**	**N/A**
(5AM2073) Northglenn Subdivision 1st Filing	1959	Between Washington Street and I-25, north of East 104th Avenue	**Eligible**	**No adverse effect**
(5AM3778) North Star Hills Subdivision	1962-1969	Between West 88th Avenue, Niver Creek Trail, and Huron Street	**Eligible**	**No adverse effect**
(5AM3779) Northview Estates Subdivision	1960-1963	Between Washington Street and I-25	**Eligible**	**No adverse effect**
(5AM3936) Northglenn Subdivision 3rd, 8th, 19th Filing	1959-1964	Between 104th Avenue, Bannock Street/I-25, Melody Drive, and Huron Street	**Eligible**	**No adverse effect**
(5AM3996) 88th Avenue	Circa 1890	88th Avenue	**Eligible**	**No adverse effect**
Segment 5AM3996.3	Circa 1978	88th Avenue between North Pecos Street and western extent of 5AM3996.1	**Non-supporting**	**N/A**
(5AM4335) Weingarten Farmstead	1913, 1937, 1958	501 East 80th Avenue	**Eligible**	**No adverse effect**
(5AM4349) Pugnetti Residence	1957	450 East 76th Avenue	**Eligible**	**No adverse effect**
(5AM4353) AMF Sonesta Lanes	1979	401 East 88th Avenue	**Needs data**	**No adverse effect**

[1] Determination made by CDOT as part of this Section 106 review.

CDOT and the design team worked to minimize or eliminate impacts on the nine historic properties. Out of an abundance of caution to ensure that the earthen channel of the Lower Clear Creek Canal (5AM80.1) is not accidentally altered, CDOT would include a note in the construction drawings stating that no work, parking, staging, or disturbance should take place near the outlet of the canal.

A permanent easement initially proposed along the northeastern boundary of the North Star Hills Subdivision (5AM3778) was removed from the project. Additionally, CDOT minimized impacts on the Northview Estates Subdivision (5AM3779) by proposing to acquire a permanent easement that overlaps an existing utility easement that was part of the subdivision's original platting in 1960. Like the existing utility easement, the proposed permanent easement would restrict the owners of a parcel from constructing any permanent structures in that easement area. Lastly, new and replacement noise abatement walls built as part of the project would match the typical height of the existing walls along the corridor and, therefore, would not substantially alter the setting or feeling of the historic properties.

4.13.3 Mitigation

Mitigation measures to minimize potential impacts on archaeological resources encountered during construction are listed below. "CU#" denotes "Cultural Resources Mitigation or Permit Commitment #" (e.g., CU1).

- CU1 - Should previously unidentified archaeological resources be discovered during any phase of construction, work will stop until the CDOT Senior Staff Archaeologist is contacted, the resources have been evaluated, and appropriate agency coordination and associated actions have occurred for compliance with Section 106 of the NHPA, as necessary. The Contractor shall comply with CDOT Standard Specification Section 107.23—Archaeological and Paleontological Discoveries.

4.13.4 Tribal Consultation

FHWA initiated Section 106 tribal consultation in a letter to tribal governments dated February 4, 2026. Section 106 of the NHPA (as amended) and the Advisory Council on Historic Preservation regulations (36 CFR 800.2[c][2][ii]) mandate that federal agencies coordinate with interested Native American tribes in the planning process for federal undertakings.

Consulting tribes are offered the opportunity to identify concerns about resources of cultural significance to them, comment on how the project might affect them, and participate in resolving how best to avoid, minimize, or mitigate any 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. See **Appendix E: Public and Agency Involvement** for consultation letters with tribal governments. No tribal concerns were identified with the undertaking as a result of the consultation process.

4.14 Paleontological Resources

4.14.1 Affected Environment

Paleontological resources were reviewed for the project and are further described in **Appendix D13: Paleontological Resources Technical Report**.

Nine areas were surveyed in the project area and the following formations were observed: Quaternary artificial fill, Quaternary loess (Ql), Denver and Arapahoe Formations (TKda), Piney Creek Alluvium (Qp), Colluvium (Qc), and af. Two fossils were documented during the field survey in the Denver and Arapahoe Formations, including a ceratopsian bone that was deemed significant and fossilized wood, which was deemed nonsignificant.

4.14.2 Impacts

No Action Alternative

Under the No Action Alternative, there would be no potential to encounter or impact paleontological resources in the project area.

Proposed Action

Nine areas were surveyed in the project area for paleontological resources. Four of the nine survey areas contain the fossil-rich Denver Formation at the surface. Therefore, the presence of fossil localities in the Denver Formation indicates the potential for impacts on paleontological resources from construction of the Proposed Action.

4.14.3 Mitigation

For Paleontological Resources Mitigation Commitments related to excavation, monitoring, and resource discoveries, see the list below. “PA#” denotes “Paleontological Resources Mitigation or Permit Commitment #” (e.g., PA1).

- PA1 - Four of the survey areas located in the Denver Formation are recommended for monitoring during construction if significant excavations are anticipated in those locations due to the potential presence of fossilized material. No other areas are recommended for monitoring. The Contractor shall comply with CDOT Standard Specification Section 107.23—Archaeological and Paleontological Discoveries.

4.15 Geologic Resources, Soils, and Geohazards

4.15.1 Affected Environment

The project area is located within the Denver Basin in Adams County, Colorado. The Denver Basin is a Cretaceous-aged geologic structure that formed during uplift of the ancestral Rocky Mountains, creating a structural depression that subsequently filled with sedimentary deposits. Sedimentary materials in the basin are up to approximately 13,000 feet thick.

Surficial geology in the project area consists primarily of alluvial, aeolian, and colluvial deposits. The predominant alluvial units are the Broadway and Piney Creek Alluviums, which are stream and river deposits composed primarily of silt, sand, and clay with occasional gravel lenses. Aeolian deposits consist of windblown fine- to medium-grained sands. Colluvial deposits, which form from gravity-driven downslope movement, may contain a heterogeneous mixture of soil and rock fragments depending on source material.

Underlying bedrock in the project area is primarily the Denver Formation which began depositing after the uplift of the ancestral Rockies during the Laramide Orogeny. The Denver Formation consists of alternating layers of claystone, siltstone, sandstone, and conglomerates. Claystone units commonly contain montmorillonitic clay, which has a high shrink-swell potential. In some locations, the Denver Formation outcrops at or near the ground surface.

Geologic hazards within the project area limits are limited to those typically associated with areas of relatively low topographic relief. Potential hazards include:

- Expansive Soils: Clay-rich soils, particularly those containing montmorillonite or illite, may expand when wetted and shrink when dried. These soils can affect pavements and structural foundations if not properly addressed during design and construction by over-excavation or the inclusion of deep foundation elements.
- Sink Holes or Localized Subsidence: Potential ground subsidence can occur due to historical human activities such as clay mining or abandoned landfills. Research and subsurface investigation can identify these sink holes to avoid them during design.
- Frost Heave: Frost-susceptible soils may expand due to ice formation within the soil matrix, particularly in poorly drained areas. Proper subgrade design and preparation during construction mitigates the effect of frost heave.
- Shallow, Hard Bedrock: The Denver Formation may be encountered within 10 feet of the existing surface. At times, this bedrock formation can be hard and difficult to excavate using traditional equipment and may require specialized excavation methods. Areas of shallow, hard bedrock can be identified through subsurface investigation.

4.15.2 Impacts

No Action Alternative

Under the No Action Alternative, no major ground-disturbing activities would occur beyond routine maintenance. Existing geologic conditions, soil characteristics, and geologic hazards would remain unchanged. No new exposure to or interaction with geologic hazards would occur.

Proposed Action

Construction activities would temporarily disturb soils and surficial geologic materials within the project area limits. Excavation may encounter expansive soils or shallow bedrock

associated with the Denver Formation. These conditions are common within the Denver Basin and would be addressed through standard geotechnical design and construction practices. Potential impacts would include:

- Temporary soil disturbance from grading and excavation
- Exposure and management of expansive soils
- Localized excavation of shallow or hard bedrock
- Temporary increased erosion potential during construction

Designing the project in accordance with CDOT Standard Specifications would minimize the potential for these impacts to occur. Impacts would be localized to construction areas and would not alter regional geologic conditions.

4.15.3 Mitigation

For Geologic Resources, Soils, and Geohazards Mitigation Commitments related to excavation, monitoring, and resource discoveries, see the list below. “GS#” denotes “Geologic Resources, Soils, and Geohazards Mitigation or Permit Commitment #” (e.g., GS1).

- GS1 - Conduct site-specific geotechnical investigations during final design to characterize subsurface conditions, including expansive soils, shallow bedrock, and potential subsidence areas, and incorporate findings into final roadway, bridge, and retaining wall design.
- GS2 - Implement appropriate excavation methods and construction techniques where shallow or hard bedrock is encountered to ensure stability and worker safety.

4.16 Utilities

4.16.1 Affected Environment

The project area contains private and publicly owned utilities including sanitary sewer, communications, electric, storm sewer, water, and gas. The majority of the utility facilities along I-25 are parallel facilities along the east and west sides, and beyond the highway travel lanes. However, multiple storm sewer facilities are within the travel lanes, and other utility facilities cross I-25.

4.16.2 Impacts

No Action Alternative

Under the No Action Alternative, the utilities throughout the project area would remain in place, and no impacts would occur.

Proposed Action

Under the Proposed Action, some aboveground utility features and connections would be relocated or adjusted to meet final grades. The highway widening, site grading, new retaining/noise walls, and storm sewer improvements along the east and west sides of the

project area pose a risk of conflicting with, or damaging utility facilities during construction, resulting in safety, environmental, project schedule, or cost impacts of varying scales. These impacts would likely require the underground utilities to be relocated or lowered to avoid being encountered during construction. The facilities with the highest risk of impact are the communications lines crossing I-25 under the 88th Avenue bridge and overhead, and adjacent to the existing structure, that would be replaced.

4.16.3 Mitigation

For Utilities Mitigation Commitments related to utility investigation, avoidance, and relocation, see the list below. “UT#” denotes “Utilities Mitigation or Permit Commitment #” (e.g., UT1).

- UT1 – CDOT will continue coordination with utility owners throughout final design to identify, avoid, minimize, and resolve potential utility impacts. Where avoidance is not practicable, utilities will be relocated or lowered as needed to avoid construction impacts.
- UT2 - Additional Subsurface Utility Engineering investigations will occur as needed to reduce unexpected utility encounters.

Utility impacts will be identified within the Utility Clearance Certification Package that will outline the division of responsibilities between the Contractor and the Utility Owner, which will be documented and agreed upon through the Utility Sign Off Agreements and Certified by the CDOT Utility Engineer.

4.17 Section 4(f) Resources

4.17.1 Affected Environment

Section 4(f) protects publicly owned parks, recreation areas, wildlife refuges, and historic sites from being used for federally funded transportation projects unless there is no feasible and prudent avoidance alternative and all possible planning to minimize harm has been incorporated. Land is subject to Section 4(f) requirements if it is publicly owned, open to the public, has a major purpose of park, recreation, and refuge activities, and is considered significant as a park, recreation area, or refuge. Section 4(f) of the U.S. Department of Transportation Act of 1966 requires special consideration of historic sites for transportation projects.

A complete Section 4(f) resources analysis was completed for the project and is further described in **Appendix D14: Section 4(f) Resources Technical Report**.

Nine historic properties were identified in the project area. Twenty parks, recreation areas, trails, and open spaces were identified in or near the project area (see **Figure 17A** on page 50 and **Figure 17B** on page 51). Thirteen of these recreation resources were determined to meet Section 4(f) eligibility requirements and therefore are subject to Section 4(f). The eligibility requirements for recreation land are that it must be publicly owned, open to the

public, have a major purpose of park, recreation, and refuge activities, and be considered significant as a park, recreation area, or refuge. An analysis of impacts to Section 4(f) resources is described below.

4.17.2 Impacts

No Action Alternative

The No Action Alternative would have no impact on Section 4(f) resources because no transportation infrastructure would be constructed. It is not anticipated that routine operations and maintenance activities would impact Section 4(f) resources.

Proposed Action

Historic Section 4(f)

The FHWA used CDOT's Section 106 determination of **no adverse effect** for the nine historic properties to make a *de minimis* finding under Section 4(f). A *de minimis* finding involves the use of a Section 4(f) property that is generally minor in nature, requiring a **no adverse effects** determination during the Section 106 process.

Of the nine historic properties in the project area, six properties include a use as defined by Section 4(f). As part of the Section 106 process, CDOT made a determination of **no adverse effects** to these six properties and notified the State Historic Preservation Office (SHPO), the official with jurisdiction, that FHWA would apply a 4(f) *de minimis* on these properties. They concurred with CDOT's determination of **no adverse effect**, and acknowledged the 4(f) *de minimis*. CDOT signed the De Minimis Use Clearance Form on June 26, 2025, and FHWA signed the De Minimis Use Clearance Form on June 30, 2025 (included with **Appendix D14: Section 4(f) Resources Technical Report**).

Recreational Section 4(f)

Thirteen non-historic resources were determined to meet Section 4(f) eligibility requirements and therefore are subject to Section 4(f). Of those 13 resources, only 3 would be affected by the project: Civic Center Park, the Niver Creek Trail, and the Niver Creek Open Space Trail. Niver Creek Open Space was determined to be a multiple-use property that includes recreation features (i.e., trails); therefore, only the trails within the open space are subject to Section 4(f), not the open space as a whole. **Appendix D14: Section 4(f) Resources Technical Report** includes an analysis of Section 4(f) applicability for each resource.

Civic Center Park
The Proposed Action includes acquisition of approximately 0.7 acre of land from Civic Center Park. However, the affected portion of the property is located west of the park fence, is currently used for transportation purposes, is maintained by CDOT, and is not accessible to the public for recreational use. The proposed ROW acquisition is not considered a Section 4(f) use because the land to be acquired does not meet the Section 4(f) defining criteria; Thornton has agreed with this conclusion through consultation conducted in February and April 2026 (see **Appendix E: Public and Agency Involvement** for documentation).

Niver Creek Trail and Niver Creek Open Space Trails
The Proposed Action includes minor realignment and temporary detours of the Niver Creek Trail and Niver Creek Open Space Trails. Permanent easements would affect approximately 0.35 mile of the Niver Creek Trail and less than 100 feet of the Niver Creek Open Space Trails (**Figure 18**).

Following construction, the trails would be restored to their original condition and would continue to provide the same recreational function and connectivity. Temporary detours would be implemented during construction to maintain access (**Figure 18**).

These impacts do not adversely affect the activities, features, or attributes that qualify the trails for protection under Section 4(f). Therefore, the Proposed Action is believed to have a *de minimis* use of the Niver Creek Trail and Niver Creek Open Space Trails.

The OWJ, the City of Thornton Parks and Recreation Department, has been notified of FHWA's intent to make a *de minimis* impact determination, and required consultations will be completed prior to the issuance of a NEPA decision document.

4.17.3 Mitigation

For Section 4(f) Resources Mitigation Commitments related to noise, detours, and other impacts, see the list below. "4F#" denotes "Section 4(f) Mitigation or Permit Commitment #" (e.g.,4F1).

- 4F1 - An IGA will be required between CDOT and the City of Thornton for the project. Coordination with the OWJ, City of Thornton Open Space and Project Management Division, will continue during final design and construction. All disturbed areas will be re-landscaped post-construction.
- 4F2 - Detour information will be posted prior to project construction to inform Niver Creek Trail users of the detour information. During construction, the detour will be clearly marked.
- 4F3 - Coordination with the official with jurisdiction (OWJ), City of Thornton Open Space and Project Management Division, is ongoing and will continue during final design and construction. BMPs will be employed to avoid and minimize impacts from construction. All disturbed areas will be re-landscaped post-construction. A temporary trail will be constructed to limit the detour length.
- 4F4 - To mitigate noise-related impacts on users of Section 4(f) resources, see Mitigation Measure: NO5.

For additional mitigation measures related to recreation, see **Section 4.7** of this Environmental Assessment.

5.0 Public and Agency Involvement

5.1 What Outreach and Opportunities for Public Involvement Were Provided?

CDOT conducted a comprehensive public involvement program throughout 2024, 2025, and 2026 that included public meetings, online surveys, festival and pop-up outreach, targeted business engagement, email and social media communication, and direct coordination with affected property and business owners. Additional documentation is included in **Appendix E: Public and Agency Involvement**.

5.1.1 Public Meeting / Open House #1 – July 24, 2024

CDOT held a public scoping meeting and open house event on July 24, 2024 where businesses and residents along the project area corridor and highway users were invited to provide input on corridor improvements. Public comments were submitted by filling out comment forms in person at the open house or on the project's website.

On September 20, 2024, CDOT followed up with meeting attendees to provide a project fact sheet and a template social media post/newsletter for attendees to distribute through their networks to raise awareness about the project. The follow-up also included a link to an online survey to gauge the public's travel patterns and priorities for improvement along the corridor.

5.1.2 2024 Public Survey (August-October 2024)

CDOT released a public online survey following the July 2024 open house to better understand public travel patterns, concerns, and priorities. The survey was distributed through social media, festival outreach, the project website, and flyers at the Thornton Park-n-Ride, resulting in 372 completed surveys. Survey respondents overwhelmingly prioritized safety and congestion, as more than 90 percent identified smoother traffic flow and over 80 percent identified safety improvements as high or highest priorities.

5.1.3 Community Festivals and Pop-Up Events

CDOT participated in numerous community festivals and pop-up events to engage residents who may not attend formal public meetings and to reach a broad cross-section of corridor users (see **Photo 6**). These events offered opportunities for one-on-one conversations, distribution of multilingual project materials, and collection of survey responses. These events are documented in **Appendix E: Public and Agency Involvement**.

5.1.4 Public Meeting / Open House #2 – October 22, 2025

CDOT hosted a second public meeting on October 22, 2025, to present updates and share details of the Proposed Action. The meeting was widely promoted, including 7,817 postcards mailed to residents and businesses, three project newsletter announcements, and a two-part social media campaign that reached more than 26,000 users. Attendees reviewed updated

boards and fact sheets and were invited to complete a new online survey to provide input on design refinements and potential impacts. By the end of the year 2025, 172 responses were received. A media release also generated an estimated reach of more than 1 million people, and the meeting was advertised in the *Commerce City Sentinel Express*.

Photo 7. Thorntonfest 2025



5.1.5 2025 Transit-Focused Outreach at the Thornton Park-n-Ride (November 2025)

To gather feedback from transit users and transit-dependent community members, CDOT conducted focused outreach at the Thornton Park-n-Ride. On November 15, 2025, project and survey flyers were posted at both RTD shelters, and CDOT staff spoke with riders waiting for the Route 120X bus. On November 19, 2025, CDOT's Region 1 Bike/Ped/Transit staff liaison rode the Route 120X bus during the morning commute and interviewed riders at the station, documenting their travel needs and concerns.

5.1.6 Business Outreach

CDOT undertook door-to-door outreach to businesses along the corridor in July 2024, delivering flyers to 18 locations in the cities of Thornton and Northglenn. In December 2024, CDOT also conducted targeted minority-owned business outreach, visiting 21 businesses and completing 7 email follow-ups with owners or managers. Businesses reported concerns about I-25 congestion affecting customers and employees and noted safety issues for commuters.

In 2025, CDOT expanded business outreach by distributing project information to 32 additional corridor businesses and coordinating flyer distribution with the Colorado Hispanic Chamber of Commerce, strengthening engagement with Hispanic-owned businesses. CDOT staff additionally met with adjacent property owners in June 2025 to discuss potential impacts and provide project exhibits.

5.1.7 Outreach to Underserved Populations

CDOT took steps to ensure that underserved populations, including minority, low-income, LEP, and transit-dependent community members, had accessible opportunities to participate. project materials were provided in English, Spanish, and Vietnamese, and translators were

available at major public events. Surveys were offered in all three languages. CDOT also conducted focused outreach to transit users by posting flyers and engaging riders at the Thornton Park-n-Ride and on board the Route 120X bus.

5.1.8 Stakeholder and Elected Official Outreach

CDOT held stakeholder and elected official outreach activities, including discussions with RTD leadership and elected officials beginning in late 2024 to introduce and coordinate on the proposed removal of the bus-only slip ramps. CDOT presented information to the North Area Transportation Alliance in January 2025; met with a Thornton Councilman on February 28, 2025; provided a project briefing to Adams County and Commissioners Kathy Henson and Julie Duran Mullica on March 28, 2025; held a follow-up meeting with a Thornton Councilman on April 15, 2025; briefed Senator Mullica and Representative Jacque Phillips on September 5, 2025; and presented project updates to the Thornton City Council on April 15, 2025. CDOT also held a June 2025 stakeholder meeting, an Intelligent Transportation Systems stakeholder meeting on June 30, 2025, and a broader project update meeting on September 23, 2025 including representatives from Thornton, Westminster, Northglenn, Federal Heights, Adams County, RTD, DRCOG, Smart Commute, Colorado Motor Carriers Association (CMCA), Colorado Department of Public Safety, CDPHE, and CPW. CDOT has continued coordination with Thornton, RTD, MHFD, and Northglenn throughout the project and through 2026.

5.2 How Public Input Informed the Project

Community members consistently prioritized safety, congestion relief, and smoother traffic operations in comments and surveys. Many voiced support for the proposed lane additions, improved merging conditions, and better bicycle and pedestrian connectivity, particularly at the 88th Avenue bridge. CDOT incorporated these priorities, including the City of Thornton's planned bicycle and pedestrian improvements on the 88th Avenue bridge.

Feedback from businesses and property owners shaped refinements to access, driveway configurations, temporary easements, and construction staging. Transit user feedback helped guide CDOT's evaluation of a proposed median transit station, which was ultimately not advanced due to high capital costs, lack of committed funding, and limited transit ridership demand.

5.3 What Outreach and Opportunities for Agency Involvement Were Provided?

CDOT coordinated regularly with local, regional, state, and federal agencies throughout development of the project. This included recurring technical discussions; meetings with local governments; coordination with regulatory agencies; and focused engagement with RTD, which is a cooperating agency due to proposed modifications at the Thornton Park-n-Ride.

Between May and October 2024, CDOT held three alternatives screening meetings with RTD to evaluate design options for a potential median transit station. RTD provided a formal comment letter in January 2025 expressing conditional support for the station concept based

on service and operational considerations. Additional coordination occurred in early 2025 to review ridership data and long-term service needs. Ultimately, the station was not advanced due to limited demand and lack of a committed funding partner. RTD expressed concerns regarding how the proposed slip ramp removal would impact their 120X route. RTD engaged in the development of the second public survey to inform how the removal of bus-only slip ramps would affect residents. Coordination with RTD continued to track how transit routes would adapt during construction and to the proposed removal of the slip ramps.

Local agencies, including the City of Thornton and RTD, participated in biweekly technical meetings throughout project development. Discussions focused on road design, local access and mobility considerations, bicycle and pedestrian needs, bridge design, drainage and water quality, and ROW constraints. CDOT met with additional local jurisdictions including the City of Northglenn and Adams County at stakeholder meetings, the latest of which occurred in September 2025. CDOT also coordinated with DRCOG regarding RTP consistency and regional modeling needs (DRCOG, 2024a). CDOT held monthly coordination meetings with FHWA through the duration of the project development process.

State and federal resource agencies, including CDPHE, CPW, USFWS, USACE, and the SHPO, were engaged through topic-specific coordination on wetlands and waters, wildlife and habitat, threatened and endangered species, air and water quality, and cultural resources.

As part of the project design review process, CDOT held a 30% Field Inspection Review (FIR) meeting on November 20, 2025, inviting a broad group of partner agencies, regulatory agencies, school district representatives, and transportation organizations to review the FIR plan set and provide early design input. Agencies and organizations invited to the FIR meeting included Adams County, City of Thornton, City of Northglenn, City of Federal Heights, City of Westminster, CDPHE, CPW, Colorado State Patrol, (CMCA), DRCOG, U.S. Environmental Protection Agency, FHWA, Federal Transit Administration, Mapleton Public School District, MHFD, Plenary Americas, RTD, Smart Commute, SHPO, USACE, and USFWS.

FHWA consulted with tribal governments under Section 106 of the NHPA and 36 CFR 800.2(c)(2)(ii), further described in **Section 4.12.3** of this Environmental Assessment.

5.4 What Additional Opportunities for Stakeholder Involvement Will Be Provided?

Following release of this Environmental Assessment, FHWA and CDOT will provide a 30-day public review and comment period. This Environmental Assessment will be made available on the project website and at publicly accessible locations, and notice of availability will be distributed through email lists, social media, and other outreach channels.

During the review period, CDOT will host Public Meeting #3 in an open house format similar to previous meetings to present the environmental findings and receive comments. Comments may be submitted in writing at the meeting, by mail, by email, or through the project

website. All substantive comments received during the review period will be reviewed and considered prior to issuance of the final NEPA decision document.

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Appendix A.

Mitigation Table

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Appendix B.

Purpose and Need Memorandum

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Appendix C.

Alternatives Analysis Report

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Appendix D.

Technical Reports and Memoranda for Resources

Appendix D1. Traffic and Safety Technical Report

Appendix D2. Air Quality Technical Report

Appendix D3. Biological Resources Technical Report

Appendix D4. Water Quality Technical Report

Appendix D5. Floodplains Technical Report

Appendix D6. Recreation and Section 6(f) Resources Technical Report

Appendix D7. Traffic Noise Technical Report

Appendix D8. Hazardous Materials Technical Memorandum

Appendix D9. Socioeconomic Resources and Right-of-Way Technical Report

Appendix D10. Visual Impact Assessment Technical Memorandum

Appendix D11. Historic Resources/Section 4(f) (History) Technical Report

Appendix D12. Limited-Results Cultural Resource Survey Form

Appendix D13. Paleontological Resources Technical Report

Appendix D14: Section 4(f) Resources Technical Report

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Appendix E.

Public and Agency Involvement

Appendix E. Public and Agency Involvement

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