EXECUTIVE SUMMARY

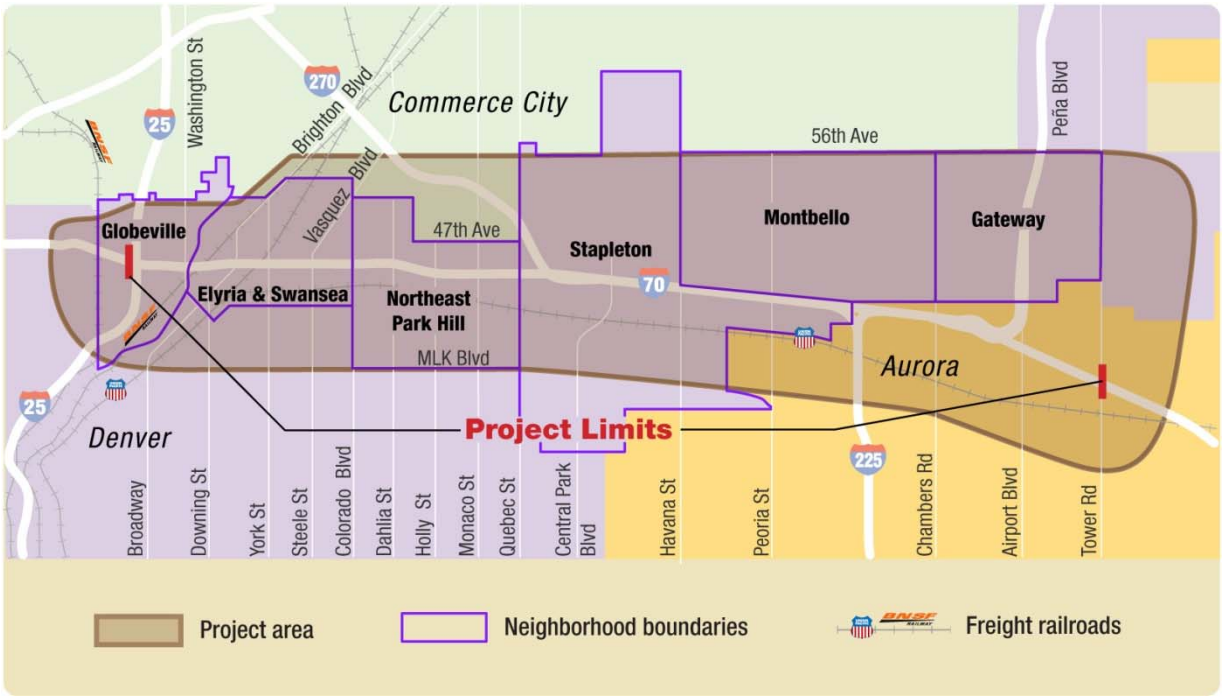
The Executive Summary of the Final Environmental Impact Statement (EIS) provides an overview of the project, including the project purpose and need, project description, evaluated alternatives, project benefits, and major findings. For further details on the information provided in this Executive Summary, please refer to the corresponding chapter.

Since the Supplemental Draft EIS was published in August 2014, additional analyses and content review have been performed for many of the resources discussed in this document. These updates, along with changes resulting from the comments received on the Supplemental Draft EIS, have been incorporated into this Final EIS.

ES.1 What is the I-70 East EIS project and where is it located?

The Interstate 70 (I-70) East EIS is a joint effort between the Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT). This document identifies potential highway improvements along I-70 in the Denver metropolitan area, between Interstate 25 (I-25) and Tower Road (see **Exhibit ES-1**), and assesses their potential effects on the human and natural environment.

Exhibit ES-1 I-70 East Project Area and Limits



The project area extends almost 12 miles along I-70 covering portions of the City and County of Denver (Denver), the City of Commerce City (Commerce City), and the City of Aurora (Aurora); and it includes the neighborhoods of Globeville, Elyria and Swansea, Northeast Park Hill, Stapleton, Montbello, Gateway, and a portion of Aurora.

Each resource evaluated in this document has a specific study area that may be the same as the project area or construction limits of the evaluated alternatives, depending on the resource. Study areas are discussed under each resource section in Chapter 5, Affected Environment, Environmental Consequences, and Mitigation.

ES.2 What is the background of the I-70 East project?

The I-70 East project began in 2003 as part of the I-70 East Corridor EIS, which looked at both highway and transit solutions. In 2006, the transit and highway components of the project were separated because it was determined that they addressed different corridors, travel markets, and funding sources. The Regional Transportation District (RTD) and the Federal Transit Administration (FTA) completed the EIS for the transit elements (East Corridor EIS) in 2009. Completion of construction on the commuter rail transit line is anticipated in 2016.

The *I-70 East Draft Environmental Impact Statement, Section 4(f) Evaluation* for highway improvements was published in 2008. None of the alternatives analyzed in the 2008 Draft EIS received overwhelming support from the public and stakeholders because of associated impacts to the built, natural, and social environment.

Due to the lack of support, CDOT and FHWA decided not to identify a preferred alternative at that time and initiated a rigorous collaboration process to recommend a preferred alternative. This collaboration process, subsequently named the Preferred Alternative Collaborative Team (PACT), consisted of federal, state, and local agencies; advocacy groups; and stakeholders, including neighborhood representatives from Adams County, Aurora, Commerce City, and Denver.

After approximately one year of collaboration and additional analysis, the PACT members were not able to reach consensus on a preferred alternative. However, the PACT members did agree that I-70 should remain on its existing alignment. Consequently, CDOT and FHWA decided to review prior decisions in the process, including the previously eliminated alternatives. As a result, a new alternative was developed that addressed the public and stakeholder concerns while satisfying the project's purpose and need.

In August 2014, a Supplemental Draft EIS was published that updated the analysis in the 2008 Draft EIS and included additional analysis for the newly developed alternative.

What is the PACT?

PACT is the Preferred Alternative Collaborative Team, which was comprised of state and federal agencies, advocacy groups, and stakeholders—including neighborhood representatives from Adams County, Aurora, Commerce City, and Denver. It was formed in July 2010 to help decision makers identify a preferred alternative.

The National Environmental Policy Act of 1969 (NEPA), which governs this project, allows lead agencies to preliminarily identify a preferred alternative at the Draft EIS stage. Although no preferred alternative was identified in the 2008 Draft EIS, FHWA and CDOT preliminarily identified a preferred alternative in the Supplemental Draft EIS. The preliminarily identified Preferred Alternative was refined and is identified as the Preferred Alternative in this document. Chapter 3, Summary of Project Alternatives, includes details on the preferred alternative.

ES.3 Why prepare an EIS for the I-70 East project?

NEPA requires projects that have a federal nexus and may have an impact on the environment to be analyzed through a rigorous process that allows the public to understand and comment on the benefits and impacts of the project. An EIS is prepared when a proposed action may significantly affect the quality of the human environment. The purpose of an EIS is to "serve as an action-forcing device to ensure that the policies and goals defined in NEPA are infused into the on-going programs and actions of the federal government" (CEQ, 1978). An EIS details the process through which a transportation project is developed, including consideration of a range of reasonable alternatives and detailed analysis of the potential impacts resulting from each. It documents compliance with other applicable environmental laws, regulations, and executive orders.

What is a federal nexus?

Under federal law, NEPA applies to any proposed action or transportation project that has a federal nexus, including, but not limited to, instances where:

- Federal funds are involved
- Federal permits or approvals are required
- New or revised access to the interstate system is included

ES.3.1 What is the purpose of the Final EIS?

NEPA requires that FHWA and CDOT prepare a Final EIS to:

- Respond to comments received on the Supplemental Draft EIS from agencies, stakeholders, and the public
- Further evaluate the Preferred Alternative that was preliminarily identified in the Supplemental Draft EIS
- Update and modify previous analyses, as appropriate
- Make updates to previous environmental documentation

ES.4 What is the project's purpose and need?

Currently, I-70 between I-25 and Tower Road is one of the most heavily traveled and congested highway corridors in the state. The corridor provides a number of important transportation functions, including interstate and intrastate passenger vehicle travel along I-70; interstate and intrastate truck travel for business purposes; regional access from downtown Denver and the metropolitan area to Denver International Airport (DIA); linkage as an inner beltway between Interstate 225 (I-225) and Interstate 2710 (I-270); and access to adjacent employment areas, neighborhoods, and new development centers.

Using input from scoping, data gathering, and technical analysis, the project purpose and need was developed as part of the 2008 Draft EIS process. The project purpose has not changed since the 2008 Draft EIS, although some of the data used to describe the need for the project have been updated.

The purpose of the I-70 East EIS project is to implement a transportation solution that improves safety, access, and mobility and addresses congestion on I-70 in the project area.

The need for this project results from the following issues:

- **Transportation infrastructure deficiencies**
  I-70 was constructed in the early 1960s with bridge and drainage structures designed to last for 30 years. Nine structures on the corridor are now past their anticipated life spans and are classified as either structurally deficient or functionally obsolete. This means they are in need of repair, rehabilitation, or replacement.

What qualifies a bridge as "structurally deficient"?

Federal guidelines classify bridges as "structurally deficient" if the components are rated at poor or worse on inspection. This means that engineers have identified a major defect in the bridge's support structure or deck. If a bridge is rated "structurally deficient," the bridge needs substantial maintenance or rehabilitation, or it needs to be replaced.

When is a bridge "functionally obsolete"?

A bridge is functionally obsolete when it cannot properly accommodate traffic due to poor roadway alignment or out-of-date design standards.

Falling pieces of concrete show a structurally deficient viaduct. The photo was taken on 46th Avenue under the viaduct.

- **Increased transportation demand**
  The project area is experiencing rapid growth and development. This includes areas of new development and redevelopment, with substantial residential populations and business activity. Population growth estimates show a 42-percent increase and employment is expected to increase 58 percent from 2010 to 2035. The land use and development trends within the corridor will result in additional demands on the transportation system. Providing access and maximizing travel to, through, and within the corridor are critical to maintaining the economy. This includes maintaining and enhancing connections between major activity centers near the corridor.

- **Limited transportation capacity**
  I-70 serves a growing number of users, ranging from travelers and tourists from outlying areas and DIA to regional trucking, commuters, and local traffic. The demand from these users is exceeding the existing design capacity of I-70 and associated interchanges.

  Within the project area, I-70 currently carries between 52,000 and 220,000 vehicles per day (average daily traffic), depending on the location along the corridor. Forecasts for the year 2035 (with or without improvements) show that traffic volume on I-70 will increase substantially. The forecast ranges from 95,000 to 270,000 vehicles per day depending on the location in the corridor. This increase in traffic will result in more hours of congestion, longer delays, and increased potential for crashes.

- **Safety concerns**
  Based on CDOT's safety evaluation conducted in 2013, some sections of I-70 have higher-than-average crash rates. Higher-than-average crash rates often can be attributed to roadway conditions that do not meet current design standards. Crashes on I-70 cause unpredictable and unavoidable traffic congestion, which adds to or worsens the already existing congestion from travel demand that exceeds the normal roadway capacity. The unpredictable nature of traffic congestion on I-70 increases safety concerns for freight carriers, employers, manufacturers, and business interests in the region, as well as commuters and residents who depend on reliability for their daily travel.

Additional detail on these issues is included in Chapter 2, Purpose and Need.

ES.5 Which alternatives are fully analyzed in this Final EIS?

Nearly 90 different alternatives were considered and evaluated during the screening process conducted for the Draft EIS and Supplemental Draft EIS—including re-routing I-70 north of Denver. For a variety of reasons, all but three of the alternatives were eliminated. The remaining three alternatives, which are fully analyzed in this document, result from extensive agency involvement and public outreach combined with detailed environmental and technical analyses.

The three alternatives in this Final EIS include the No-Action Alternative and two Build Alternatives: the Revised Viaduct Alternative and the Partial Cover Lowered Alternative. In addition, there are several expansion and operational design options associated with the alternatives. The alternatives and their associated options are discussed briefly in the following subsections and summarized with their key features in **Exhibit ES-2**

As a result of the comments received on the Supplemental Draft EIS and additional stakeholder outreach and agency coordination, the Partial Cover Lowered Alternative as presented and analyzed in the Supplemental Draft EIS has been refined to include elements of both the Basic Option and the Modified Option. This document includes updated analysis of the refined Partial Cover Lowered Alternative and does not include separate Basic and Modified Options.

Additional details on all of the alternatives and design options evaluated in this Final EIS are included in Chapter 3, Summary of Project Alternatives.

Exhibit ES-2 Summary of Project Alternatives and Options

ES.5.1 No-Action Alternative

The No-Action Alternative includes planned and programmed roadway and transit improvements in the project area.

The No-Action Alternative also includes the replacement of the existing I-70 viaduct between Brighton Boulevard and Colorado Boulevard. Due to its age and deteriorating condition, replacement of the viaduct is necessary to maintain the safety and operation of I-70.

As part of the No-Action Alternative, the width of the viaduct structure will be increased to meet current highway standards. However, additional capacity or lanes will not be added to the highway configuration.

Reconstruction of the existing viaduct with the No-Action Alternative includes two Expansion Options, North and South. Each option would widen the highway to the north or to the south, respectively. Both options require additional right-of-way acquisition to allow for phased construction and to rebuild the viaduct using current highway design standards (standard lane and shoulder widths).

What is a viaduct?

A viaduct is a long, elevated roadway consisting of a series of shorter bridge spans supported on arches, piers, or columns.

ES.5.2 Build Alternatives

There are two Build Alternatives proposed for improvements between Brighton Boulevard and Tower Road: the Revised Viaduct Alternative and the Partial Cover Lowered Alternative. Both of the Build Alternatives add capacity to I-70 between I-25 and Tower Road by restriping I-70 from I-25 to Brighton Boulevard (to accommodate additional lanes) and widening I-70 from Brighton Boulevard to Tower Road.

To address safety issues associated with the aging viaduct between Brighton Boulevard and Colorado Boulevard, the Build Alternatives will replace the existing viaduct or remove it completely.

The Build Alternatives will reconstruct bridges and interchanges affected by the widening improvements between Brighton Boulevard and Tower Road. The I-70 bridge over Sand Creek and the interchanges at Central Park Boulevard, I-225, I-270, Chambers Road, Peña Boulevard, Airport Road, and Tower Road will remain and be modified as needed.

Safety concerns caused by deficient geometries will necessitate elimination of the York Street interchange. Additionally, access at Steele Street/Vasquez Boulevard and Colorado Boulevard will be provided through a split-diamond interchange (eastbound off ramp and westbound on ramp at Steele Street/Vasquez Boulevard, and eastbound on ramp and westbound off ramp at Colorado Boulevard). In addition, slip ramps are included to provide an eastbound off-ramp and westbound on-ramp at Colorado Boulevard.

The Build Alternatives include Operational Options to manage the added capacity of the highway. This is important for better mobility and reliability between I-25 and Tower Road. The General-Purpose Lanes Option will allow all vehicles to use all the lanes on the highway, while the Managed Lanes Option implements operational strategies using tolls or vehicle occupancy restrictions on the additional lanes, leaving the existing three lanes as general-purpose lanes.

The Managed Lanes Option allows for a reliable travel-time option for the users of the managed lanes because vehicles can travel at higher speeds than in the adjacent general-purpose lanes when they are congested.

Revised Viaduct Alternative

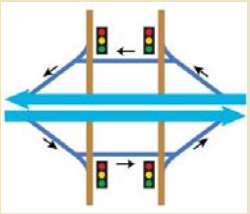
The Revised Viaduct Alternative replaces the viaduct between Brighton Boulevard and Colorado Boulevard. The Revised Viaduct Alternative, North Option expands the north edge of the highway up to 160 feet north from the existing highway edge in some areas. The Revised Viaduct Alternative, South Option extends the south edge of the highway up to 140 feet south of the existing highway edge. Local east-west access is available along 46th Avenue, a four-lane road located underneath the south side of I-70.

Partial Cover Lowered Alternative

The Partial Cover Lowered Alternative as it is presented in the Final EIS removes the existing I-70 viaduct between Brighton Boulevard and Colorado Boulevard, lowering the highway below grade in this area. It adds additional lane(s) in each direction from Brighton Boulevard to Tower Road. It also adds capacity from I-25 to Brighton Boulevard by restriping. This alternative includes a cover over the highway in the vicinity of Clayton Street and Columbine

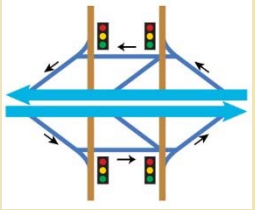
Split-diamond interchange

A split-diamond interchange is used where local streets are too close to each other to allow for safe operations of the entrance and exit ramps. Ramps are combined and a one-way frontage road is used between the local streets.



Slip ramps

A slip ramp is generally located between a freeway mainline and an adjacent frontage road. These ramps allow motorists to "slip" from one roadway to the adjacent parallel roadway. The connection of the slip ramp and the parallel roadway are typically not intersections, but just merging zones.



Street that is approximately, but not more than, 1,000 feet in length. More details on the cover are included in Chapter 3, Summary of Project Alternatives.

As part of this alternative, 46th Avenue will be located on both the north and south sides of the highway. It will be a two-way street between Josephine Street and Milwaukee Street on both sides of the highway and one way in the other locations. This alternative eliminates the portion of 46th Avenue north of I-70 between Columbine Street and Clayton Street to allow for a seamless connection between the Swansea Elementary School and the highway cover. As part of this alternative, access to and from I-70 at the Steele Street/Vasquez Boulevard interchange is maintained.

Bird's-eye view simulation of Partial Cover Lowered Alternative looking west from above Fillmore Street
(Note: Preliminary design, will be revised during the public input process.)

Additional details on all of the alternatives evaluated in this Final EIS are included in Chapter 3, Summary of Project Alternatives.

ES.5.3 What is the capital cost of construction?

Capital cost estimates for the proposed alternatives are based on conceptual design engineering and represent the complete project cost, including design, construction management, construction engineering, indirect costs, and construction costs. The construction costs include earthwork, utility relocation, roadway and structure construction, and right of way.

Exhibit ES-3 summarizes the preliminary capital cost estimates for the alternatives fully evaluated in this document.

Exhibit ES-3 Project Alternatives Capital Cost Summary

Alternatives/Options	Capital Cost, I-25 to Tower (in millions of 2016 dollars)	
	General-Purpose Lanes Option	Managed Lanes Option
No-Action Alternative, North Option	$510	N/A
No-Action Alternative, South Option	$600	N/A
Revised Viaduct Alternative, North Option	$1,330	$1,450
Revised Viaduct Alternative, South Option	$1,450	$1,570
Partial Cover Lowered Alternative	$1,580	$1,700

ES.6 What is the project's identified Preferred Alternative and why was it selected?

FHWA and CDOT identified the Partial Cover Lowered Alternative with Managed Lanes Option as the Preferred Alternative for I-70 East. This alternative, as refined since the Supplemental Draft EIS, is identified as the Preferred Alternative because it meets the project purpose and need, best addresses community concerns, has the most community and agency support, and—with the proposed mitigations—will cause the least overall impact.

The Managed Lanes Option is identified as the Operational Option of the Preferred Alternative because of its long-term operational flexibility and mobility. Managed lanes provide drivers with flexibility by allowing them to pay a fee to bypass congestion on general-purpose lanes. This can improve reliability in travel times. It also allows CDOT to manage congestion over the long term, thereby reducing the need for future expansion. The Managed Lanes Option also has a higher through-put potential in terms of accommodating more people at a given time. This option accommodates express buses, vanpools, and other high-occupancy vehicles, and, therefore, it can provide increased service to those riders. This option also promotes the use of carpools to avoid congestion.

FHWA and CDOT considered feedback provided during the Supplemental Draft EIS public review process before identifying the Preferred Alternative in this document. The identified Preferred Alternative is fully evaluated in this document, along with the other reasonable alternatives, and is compared to the No-Action Alternative.

A summary of impacts and mitigations for the Preferred Alternative is included in Section 5.23, Mitigation Summary.

ES.7 How will the Preferred Alternative be funded and how will project phasing be used to construct the project?

The full construction of the Preferred Alternative would cost approximately $1.7 billion. Revenue sources for the I-70 East project include allocations from various state and local sources, but there remains a gap between the estimated cost of the project and the revenue available to build it. Because of these funding limitations, the project will be constructed in phases over time. Chapter 8, Phased Project Implementation, discusses the proposed phases.

At this time, Phase 1 is the only funded phase for the project. Phase 1 construction costs total approximately $1.1 billion. Funding is available from the following sources:

- $850 million—Colorado Bridge Enterprise Safety Surcharge
- $50 million—Denver Regional Council of Governments (DRCOG):
  Surface Treatment Program-Metro and
  Surface Treatment Program-Congestion Mitigation/Air Quality (CMAQ)
- $180 million—Senate Bill 09-228 Transfers
- $37 million—Denver

Taxes would not be raised to pay for this project. CDOT is not looking at managed lanes as a way to finance the construction of the I-70 East project.

ES.8 What are the project's transportation impacts?

Transportation modeling is used to help make decisions about the future development of transportation systems. It is used as part of an overall transportation planning process that incorporates forecasting travel patterns 15 to 25 years into the future. These forecasts are used to develop a transportation network that will work effectively in the future.

The 2008 Draft EIS and 2014 Supplemental Draft EIS used the 2035 Denver Regional Council of Governments (DRCOG) Compass Travel Demand Model. Since the Supplemental Draft EIS was released in August 2014, DRCOG has released its 2040 DRCOG Focus Travel Demand Model. A sensitivity analysis was performed comparing the 2035 DRCOG Compass Travel Demand Model to the 2040 DRCOG Focus Travel Demand Model to determine whether the 2035 assumptions were comparable to the 2040 assumptions. As a result, it was concluded that the difference between the two models was minimal (approximately 5 percent difference along the I-70 corridor). Therefore, the 2035 horizon year was maintained for the Final EIS. However, DRCOG updated the 2035 forecasts since the Supplemental Draft EIS was published, and this Final EIS document has been revised to reflect the updated numbers. See Attachment E, *Traffic Technical Report*, for more information about the travel demand modeling.

Based on the population and employment projections for 2035, access to activity centers, economic centers, residential areas, and employment will become more difficult without improvements. The benefit of increased connectivity and mobility will be most important for people who use I-70 regularly.

Daily traffic volumes on I-70 in 2035 are forecasted to increase between 30 percent and 50 percent for the Build Alternatives compared to the No-Action Alternative. The peak-period volumes display similar growth trends as the daily volumes. Overall, both of the Build Alternatives would have similar volumes throughout the day.

The evaluation of impacts to mobility and access within the project area considers:

- Effectiveness of improvements on traffic operations and safety on I-70
- Impact to access and circulation needs on local streets in the vicinity of I-70
- Impact on other transportation facilities in the project area (transit, freight, and bicycle/pedestrian)

A detailed discussion of this evaluation is included in Chapter 4, Transportation Impacts and Mitigation Measures, of this document.

Both of the Build Alternatives will improve I-70 operations compared to the No-Action Alternative. This is due to the

Future I-70 traffic

I-70 has very limited reserve capacity based on the current number of lanes on the highway. Improving I-70 through the addition of more lanes (general purpose or managed) results in more drivers using I-70 instead of the local roadways to travel through the study area.

Both of the Build Alternatives show the ability to process an equal amount of traffic on I-70. As a performance measure, traffic volumes on I-70 are not a distinguishing factor between the alternatives.

addition of new lanes, improvement to ramps, addition of auxiliary lanes, and modification of interchanges to better facilitate traffic movements. Implementation of managed lanes will provide additional benefits to operations of I-70 as a whole, will preserve capacity on I-70, and will achieve reliable travel times. The general-purpose lanes in these alternatives will operate slightly less efficiently than the managed lanes.

The removal of the York Street interchange in both Build Alternatives and changes to the Steele Street/Vasquez Boulevard and Colorado Boulevard interchanges will have an impact on circulation and an increase in truck traffic on some of the local streets in the vicinity of these changes.

Freight service within and through the study area via rail will not be adversely affected, as none of the existing rail lines will be severed by I-70 improvements. Truck freight access will be improved by the added capacity and improved safety of both Build Alternatives. Local truck traffic along surface streets will increase slightly due to changes at the York Street, Steele Street/Vasquez Boulevard, and Colorado Boulevard interchanges.

Neither of the Build Alternatives will adversely affect any of the existing or planned bus or rail transit or bicycle/pedestrian facilities in the study area. Both of the Build Alternatives would improve pedestrian/bicycle facilities and connectivity by adding or replacing sidewalks within the limits of construction. The addition of a cover over I-70 in the Partial Cover Lowered Alternative improves pedestrian/bicycle facilities and connectivity. Access to the managed lanes could improve bus transit operations and reliability.

ES.9 What resources are evaluated for impacts and benefits in the project area?

Chapter 5, Affected Environment, Environmental Consequences, and Mitigation of this document includes summaries of detailed studies conducted to determine the effects of the project alternatives on the following built, natural, and social environmental resources:

- Social and economic conditions
- Environmental justice
- Land use
- Relocations and displacements
- Historic preservation
- Paleontological resources
- Visual resources and aesthetic qualities
- Parks and recreation
- Air quality
- Energy
- Noise
- Biological resources
- Floodplains and drainage/hydrology
- Wetlands and other waters of the U.S.
- Water quality
- Geology and soils
- Hazardous materials
- Utilities
- Human health conditions
- Irreversible and irretrievable commitment of resources
- Short-term use and long-term productivity

The project alternatives and design options benefit or impact each environmental resource differently. For example, while all the design options for the Build Alternatives improve transportation conditions, individual design options impact more properties than others or benefit visual resources more than others.

ES.9.1 What types of environmental impacts are causing the greatest concern to the public and stakeholders?

Of the environmental resources listed above, those shown to be of greatest concern to the public and stakeholders include social and economic conditions, environmental justice, relocations and displacements, historic preservation, visual resources and aesthetic qualities, air quality, noise, and hazardous materials. The following subsections summarize impacts to these resources.

How will social and economic conditions be affected?

The social and economic conditions of an area is the combination of various social and economic resources. Social resources generally are qualitative, dynamic, and intangible, while economic resources tend to be quantitative and tangible. All alternatives affect the local economies and social conditions of the area. Many social and economic effects relate to property acquisition, which results in the relocation of residential units and businesses serving either the local neighborhood or regional interests. Property acquisition also reduces property tax revenue for local taxing authorities. All of the residential relocations due to the project alternatives occur in the Elyria and Swansea Neighborhood. Northeast Park Hill also will experience effects to social resources resulting from business relocations.

In general, the improved mobility on I-70 from the Build Alternatives will bolster the economic and social success of developing urban centers in the Stapleton and Gateway Neighborhoods, as well as redevelopment opportunities in existing neighborhoods, such as the Elyria and Swansea Neighborhood. This is in contrast to the No-Action Alternative, which will not add capacity and, therefore, does not have the beneficial effect of improved travel time on I-70.

A variety of mitigation measures, such as providing additional relocation assistance and maintaining connectivity throughout construction, are available for potential impacts to social and economic resources.

How will low-income and minority populations (environmental justice considerations) be impacted?

The majority of the neighborhoods along the project corridor have notable concentrations of low-income and minority populations. The total population of the study area is 48.0 percent Hispanic or Latino and 23.0 percent Black or African-American. The total low-income population of the study area is 22.8 percent. These percentages are considerably higher than the Denver and Adams Counties averages.

Without mitigation, construction of the project alternatives has disproportionately high and adverse impacts that are predominantly borne by the low-income or minority populations of the Elyria and Swansea Neighborhood

Impacts to low-income and minority populations

The discussion of impacts to low-income and minority populations focuses on the Elyria and Swansea Neighborhood since it is the only area with a low-income and minority concentration where the impacts between alternatives differ from one another.

because all of the residences and most of the businesses impacted by the project are located within this neighborhood.

When all of the mitigation measures are implemented and benefits realized, there will be no disproportionately high and adverse impacts to the low-income and minority populations. For more information regarding impacts and mitigations on low-income and minority populations, refer to Section 5.3, Environmental Justice.

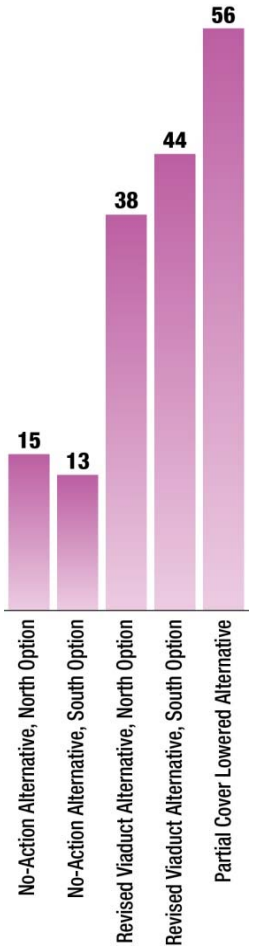
What type of relocations will be required?

Property acquisition is an important element in all of the project alternatives because additional right of way is required for each of them. In the case of occupied buildings, it is necessary to "relocate" or "displace" individuals from those properties (residential, business, or non-profit) to a replacement site.

The total number of residential relocations estimated for each alternative ranges from 13 residences (No-Action Alternative, South Option) to 56 residences (Partial Cover Lowered Alternative). More than half of the residential relocations are tenant occupied instead of owner occupied. All of the residential relocations are located in the Elyria and Swansea Neighborhood. Market conditions in Denver, as of July 2015, indicate that an adequate supply of decent, safe, and sanitary replacement housing is available to support the residential displacements that result from any of the project alternatives.

The project alternatives will relocate between six (No-Action Alternative, North Option) and 27 businesses (Revised Viaduct Alternative, South Option). All of the alternatives and options—except the No-Action Alternative, South Option—require the relocation of the Ministry Outreach Center, which is part of the Denver Rescue Mission, a 501(c)3 non-profit organization.

Relocation benefits will be provided to all eligible persons regardless of race, color, religion, sex, or national origin. Benefits under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act)—to which each eligible owner or tenant may be entitled—will be determined on an individual basis and explained to them in detail by an assigned right-of-way specialist (CDOT, 2011).



Number of residential relocations by alternative and option for the Elyria and Swansea Neighborhood (out of 1,844 existing housing units in the neighborhood)

How will historic resources be affected?

An Area of Potential Effect (APE) was defined for the project to assist in identifying historic resources near the corridor. A survey determined that 66 historic resources within the APE are either officially eligible for listing on the National Register of Historic Places (NRHP) as individual properties (51), districts (six), or as supporting segments of eligible linear resources (nine railroads, canals, and sewers).

The Section 106 Regulations of the National Historic Preservation Act define an effect on a historic resource as an "… alteration to the characteristics of a historic resource qualifying it for inclusion in or eligibility for the National Register" (36 CFR §800.16[i]). Effects are discussed as "no effect," "no adverse effect," or "adverse effect" (36 CFR §800.5). **Exhibit ES-4**, below, presents a summary of effects by alternative for historic resources in the APE.

What is an APE?

An APE (Area of Potential Effect) is a geographic area or areas within which a project may directly or indirectly cause alterations in the character or use of historic resources (36 CFR 800.16(d)).

Exhibit ES-4 Summary of Effects for Historic Resources in the APE

Effect	No-Action Alternative		Revised Viaduct Alternative		Partial Cover Lowered Alternative
	North Option	South Option	North Option	South Option	
Adverse Effect[1]	7	1	8	8	13
No Adverse Effect	50	56	54	54	50
No Effect	9	9	4	4	3

1. *Total includes adverse effect to entire historic district and does not include individual contributing resources*

FHWA and CDOT are working on a Programmatic Agreement, currently in draft form, that has identified mitigation measures for the Preferred Alternative through consultation with the Colorado State Historic Preservation Office (SHPO) and consulting parties. As an early mitigation measure, CDOT has provided funding for and participated in creating a documentary covering the history of I-70 East and its relationship to the neighborhoods of Elyria and Swansea and Globeville. This film can be viewed on the I-70 East website at www.i-70east.com.

How will visual resources and aesthetic qualities be affected?

FHWA defines visual resources in the memorandum, "Esthetics and Visual Quality Guidance Information" as, "those physical features that make up the visible landscape, including land, water, and vegetative and man-made

elements. These elements are the stimuli upon which actual visual experience is based." (FHWA, 1986, page 5)

NEPA and Council on Environmental Quality (CEQ) regulations identify aesthetics as one of the elements in the human environment that must be considered in determining the effects of a proposed project. Visual resources make up the aesthetic qualities of an area. They are important to this project, especially between Brighton Boulevard and Colorado Boulevard, because the existing viaduct has had a dominant visual presence in the area for decades and any changes to it will result in changes in the surrounding environment.

There are minor impacts to visual resources and aesthetic qualities in the study area. The project alternatives will improve the aesthetic quality of the area either by replacing the viaduct with a newer structure that can be designed to complement neighborhood architecture or by removing the viaduct and locating the highway below grade. Any additional improvements to enhance the visual effects of the proposed highway alternatives will be developed through a collaborative process to reflect the needs of individual neighborhoods and local aesthetic context.

How will air quality be affected?

Following guidelines established by the U.S. Environmental Protection Agency (EPA) for conducting analysis of air quality impacts, the air quality effects of the No-Action Alternative and Build Alternatives for I-70 East have been evaluated. With regard to carbon monoxide for all project alternatives, the project is not expected to cause any new violations of any standard, increase frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS). The modeled values are below the NAAQS and suggest that there is no exceedance or impact from the project based on the standards.

Results of the particulate matter 10 microns or less in size (PM_{10}) analysis indicate 24-hour PM_{10} concentrations do not exceed the NAAQS for any of the project alternatives, including the Partial Cover Lowered Alternative. A comparison of air quality conditions for all pollutants demonstrates the effects of minor differences in traffic volume and roadway configuration between the alternatives; air pollution impacts for all design alternatives are similar.

Several factors are evident at the conclusion of this analysis:

- Air quality conditions for the Build Alternatives are similar to the No-Action Alternative;
- Traffic volume and traffic speed are the primary drivers of project-level air quality impacts; and
- Fugitive dust emissions from road sanding, as well as brake and tire wear, are the primary indicators of future particulate matter emissions.

However, significant changes in any of these factors could impact pollutant emissions at the project level.

How will noise levels be affected?

Due to the expected increase in traffic volumes by 2035 and the changes proposed by the design alternatives, traffic noise will increase.

Noise levels vary between A-weighted decibels (dBA) in the high 50s to low 70s depending on how close the noise receptor is to the highway. CDOT considers a noise impact to occur when the loudest hour of noise is at or above 66 dBA (for residential dwelling units) or when there is an increase of 10 dBA or more affecting a noise receptor. Noise levels above the loudest hour, as well as substantial noise increases of 10 dBA or greater, are expected without the construction of noise walls.

Results of the analysis show that all of the alternatives without mitigation will cause noise to exceed the Noise Abatement Criteria (NAC) of 66 dBA at various locations, including Swansea Elementary School. **Exhibit ES-5** summarizes by alternative, the number of noise receptors that exceed the NAC threshold without and with mitigation.

Exhibit ES-5 Noise Receptors Exceeding NAC Threshold by Alternative

Alternative/Option	Number of Noise Receptors	Number of Noise Receptors that Exceed NAC Threshold		Number of Noise Receptors with a Substantial Noise Increase	
		Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
Existing	940		91		N/A
No-Action Alternative, North Option	890	362	59	40	0
No-Action Alternative, South Option	857	360	54	34	0
Revised Viaduct Alternative, North Option	896	453	114	97	0
Revised Viaduct Alternative, South Option	873	431	83	86	2
Partial Cover Lowered Alternative	873	155	108	11	0

CDOT must consider noise mitigation measures if the noise level at a sensitive site, such as a residence, meets or exceeds the NAC threshold for the specific land use. To alleviate noise impacts, noise walls are recommended when feasible and reasonable. For more information regarding location of the noise walls, refer to Section 5.12, Noise.

How will hazardous materials sites be affected?

Hazardous materials are solids, liquids, or gases that are harmful to human health or to the environment. Construction of the proposed alternatives will likely affect sites contaminated by hazardous materials. Construction activities associated with the alternatives have the potential to release hazardous materials at these sites into soil or groundwater, or lead to hazardous materials exposure of workers or the public if proper health, safety, and remediation efforts are not applied.

Common contaminants

Common contaminants identified in soil and/or groundwater include:

- Petroleum products (i.e., fuels, oils)
- Chlorinated solvents
- Metals
- Asbestos

The No-Action Alternative will potentially affect seven hazardous material sites and disturb approximately 41 acres of land assumed to be contaminated. The Build Alternatives have the potential to affect 21 to 25 hazardous material sites and disturb 575 acres to 703 acres of land assumed to be contaminated. Compared to the Revised Viaduct Alternative, the Partial Cover Lowered Alternative impacts approximately 14 percent to 20 percent more sites, increasing the construction that will occur on land assumed to be contaminated by approximately eight percent. Lowering the highway below street level impacts soil and/or groundwater at greater depths than the No-Action Alternative and Revised Viaduct Alternative. Disturbing greater volumes of soil and/or groundwater increases the

potential to affect hazardous materials. The Managed Lanes Option increases ground disturbance by an additional 83 acres; however, it does not increase the potential to impact hazardous material sites.

Any contamination encountered during the construction of the project will be cleaned up in compliance with applicable state and federal regulations, which will benefit the area in the future.

ES.10 How are the public and stakeholders involved in the I-70 East EIS project?

The I-70 East EIS has followed an extensive community and agency involvement process since the project began in 2003. After the separation of the highway and transit elements of the project in June 2006, the enhanced public involvement techniques continued as part of the I-70 East EIS. The overall goal of the community outreach and agency involvement process has been to solicit input through a transparent, open, and dynamic process that includes community members; businesses; federal, state, and local agencies; stakeholders; and community groups within the project area. This process helped the project team identify and document issues and incorporate them in the planning and decision-making process.

After publishing the Draft EIS in 2008, CDOT and FHWA started a more focused outreach process to better understand some of the issues that were brought up during the public comment period and develop solutions to address the public concerns and eventually select a preferred alternative. The project team used innovative public outreach techniques along with traditional methods to reach out to the community and stakeholders for their input. Some of these outreach techniques were corridor-wide meetings, one-on-one meetings, website updates, email notifications, monthly community meetings, and telephone town-hall meetings.

After the Supplemental Draft EIS was published, the focus of the agency involvement and community outreach process was to gather input on the Partial Cover Lowered Alternative. Agency involvement and community outreach methods used during the preparation of this document were comprised of ongoing agency coordination and community outreach, including a community planning workshop to explore possibilities for outdoor uses for the cover that will

be located over I-70 near Swansea Elementary School. Detailed information on community and agency involvement is in Chapter 10, Community Outreach and Agency Involvement.

Public meetings and other engagement strategies will be used to keep the public informed about the project's progress through the Record of Decision (ROD) and, after that, through project final design and construction phases. In addition, the project team will continue to participate in neighborhood-related activities, such as festivals and picnics, to interact with community members, inform them about the upcoming project activities, and answer questions.

ES.11 What are the project impacts to Section 4(f) properties?

Section 4(f) of the Department of Transportation Act of 1966 stipulates that the FHWA and other U.S. Department of Transportation agencies cannot approve the use of land from publicly owned parks or recreational areas, wildlife or waterfowl refuges, or public or private historic sites unless the following conditions apply:

a) the Administration determines that:

   There is no feasible and prudent avoidance alternative, as defined in § 774.17, to the use of land from the property; and

   The action includes all possible planning, as defined in § 774.17, to minimize harm to the property resulting from such use; or

b) The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in § 774.17, on the property.

De minimis finding

A *de minimis* finding can be applied if the use does not in an adverse effect to the activities, features, and/or attributes of the Section 4(f) resource. A *de minimis* finding does not require further analysis for avoidance or impact minimization.

The project area contains historic resources and publicly owned parks and recreation areas. Within the Section 106 APE, there are 66 historic resources. This includes six historic districts, each with multiple contributing elements that are protected by Section 4(f).

In addition, there are 45 parks and 43 other recreational areas (such as recreation centers, golf courses, open space/nature areas, special events centers, trails, and school

playgrounds/ball fields) that are publicly owned and publicly accessible. Each of these parks and recreation areas are considered Section 4(f) properties.

Most of the properties mentioned above are so far removed from the project that there will be no physical or proximity impacts; however, the project alternatives will result in uses of Section 4(f) properties in the project area. **Exhibit ES-6** summarizes the uses of Section 4(f) properties for each of the project alternatives.

Exhibit ES-6 Summary of Section 4(f) Property Uses

Alternative / Option	Section 4(f) Uses[1]					
	Historic resources[2]		Parks and recreation areas		Total	
	Use	*De minimis*	Use	*De minimis*	Use	*De minimis*
No-Action Alternative, North Option	7	3	1	0	8	3
No-Action Alternative, South Option	1	3	0	0	1	3
Revised Viaduct Alternative, North Option	8	6	1	0	9	6
Revised Viaduct Alternative, South Option	8	6	0	0	8	6
Partial Cover Lowered Alternative	13	5	2	0	15	5

1. *The number in the Use column does not include de minimis impact determinations*
2. *Historic districts are presented as one Section 4(f) resource; individual contributing properties to historic districts are not included in this total*

Because there are no feasible or prudent alternatives that avoid the use of all Section 4(f) resources, an analysis is required to determine which alternative causes the least overall harm.

The Partial Cover Lowered Alternative causes less overall harm to all resources compared to the Revised Viaduct Alternative. Although it has greater impacts to some resources, it provides significant benefit by removing the dominant visual impact of the viaduct. It provides the cover over the highway, which serves to reduce noise impacts and protects air quality. Mitigation provided to environmental justice neighborhoods provides more public open space.

After extensive coordination with local officials and/or agencies having jurisdiction over the Section 4(f) resources, as well as public review, FHWA has determined that there are no feasible and prudent avoidance alternatives and, that the Partial Cover Lowered Alternative causes the least overall harm.

ES.12 What happens after publication of the Final EIS?

After publishing the Final EIS and holding a 30-day public review period, the final step in the NEPA process is the preparation of a ROD, which will document FHWA's final decision for the project, explain why it has taken a particular action, and present the mitigation measures and commitments to be incorporated into project construction and operation. The ROD will identify funding for the approved action consistent with the fiscally constrained section (2040 Fiscally Constrained Regional Transportation Plan [RTP]) of the DRCOG *2035 Metro Vision Regional Transportation Plan* (MVRTP) (DRCOG, 2015).