



I-70 Floyd Hill to Veterans Memorial Tunnels

Environmental Justice Technical Report

May 2021

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List of Acronyms

| | |
|-----------|--|
| ADA | Americans with Disabilities Act |
| AM | Morning |
| CDOT | Colorado Department of Transportation |
| CR | County Road |
| CSS | Context Sensitive Solutions |
| dBA | A-Weighted Decibels |
| DOT | U.S. Department of Transportation |
| EA | Environmental Assessment |
| EJ Screen | Environmental Justice Screening and Mapping tool |
| EO | Executive Order |
| EPA | U.S. Environmental Protection Agency |
| ESRI | Environmental Systems Research Institute |
| FHWA | Federal Highway Administration |
| HHS | Health and Human Services |
| HUD | U.S. Department of Housing and Urban Development |
| I-70 | Interstate 70 |
| LEP | Limited English Proficiency |
| MP | Milepost |
| mph | Miles per Hour |
| NEPA | National Environmental Policy Act |
| PEIS | Programmatic Environmental Impact Statement |
| PM | Afternoon |
| ROD | Record of Decision |
| US 6 | U.S. Highway 6 |
| US 40 | U.S. Highway 40 |

1 Introduction and Purpose of this Report

The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA), in cooperation with local communities and other agencies, are conducting the Interstate 70 (I-70) Floyd Hill to Veterans Memorial Tunnels Environmental Assessment (EA) to advance a portion of the program of improvements for the I-70 Mountain Corridor identified in the 2011 Tier 1 *Final I-70 Mountain Corridor Programmatic Environmental Impact Statement* (PEIS) and approved in the 2011 *I-70 Mountain Corridor Record of Decision* (ROD). The EA is a Tier 2 National Environmental Policy Act (NEPA) process and is supported by resource-specific technical reports.

The purpose of this technical report is to document the presence of minority, low-income, and other populations protected under the umbrella of FHWA's Civil Rights program and identify the potential for impacts to these populations as a result of the alternatives under consideration in the EA. This report also includes a description of applicable laws and regulations and a summary of the resource analysis and mitigation framework from the PEIS and ROD.

2 Proposed Action and Alternatives

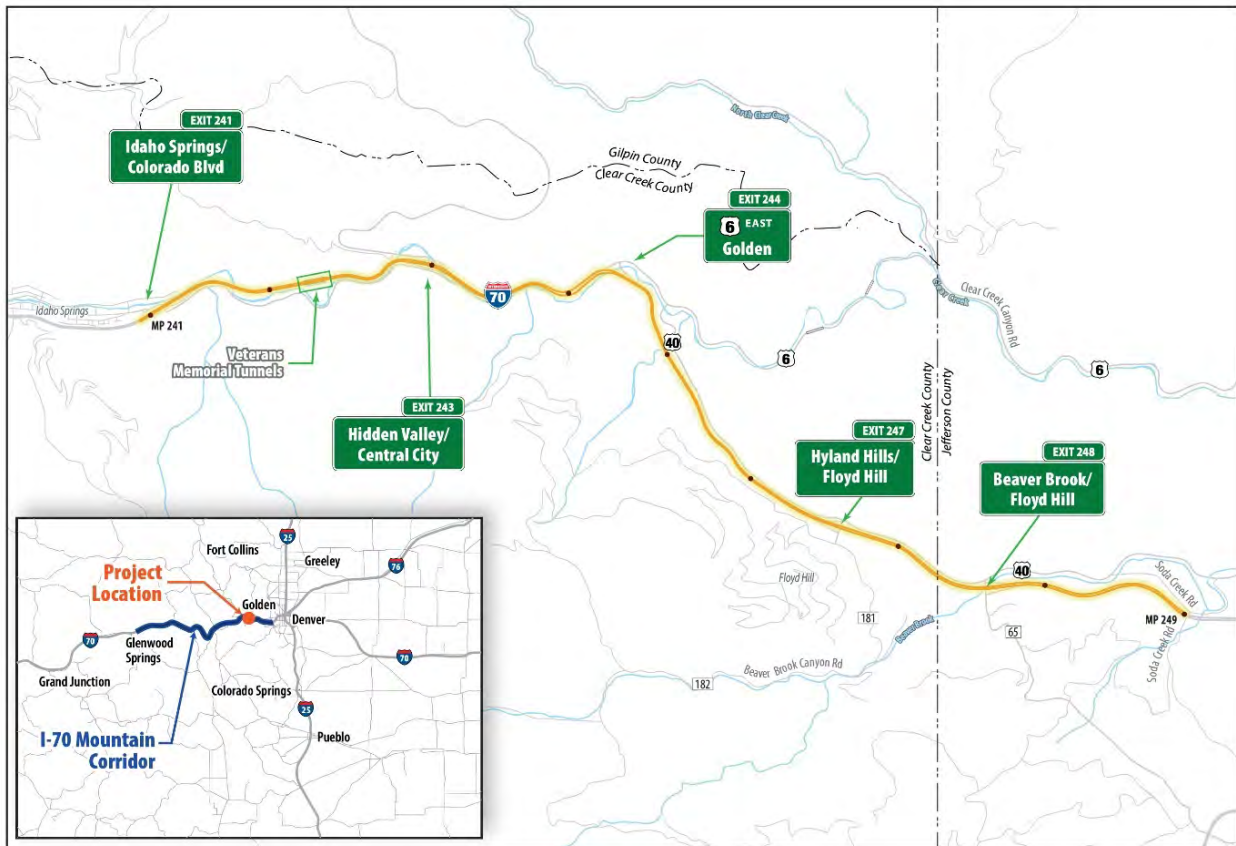
2.1 Description of Proposed Action and Alternatives

CDOT and FHWA propose improvements along approximately 8 miles of the I-70 Mountain Corridor from the top of Floyd Hill through the Veterans Memorial Tunnels to the eastern edge of Idaho Springs. The purpose of the Project is to improve travel time reliability, safety, and mobility, and address the deficient infrastructure through this area. The major Project elements include:

- Adding a third westbound travel lane to the two-lane section of I-70 from the current three-lane to two-lane drop (approximately milepost (MP) 246) through the Veterans Memorial Tunnels
- Constructing a new frontage road between the U.S. Highway 6 (US 6) interchange and the Hidden Valley/Central City interchange
- Improving interchanges and intersections throughout the Project area
- Improving design speeds and stopping sight distance on horizontal curves
- Adding an eastbound auxiliary lane to I-70 on Floyd Hill between the US 6 interchange and the Hyland Hills/Floyd Hill interchange
- Improving the multimodal trail (Clear Creek Greenway) between US 6 and the Veterans Memorial Tunnels
- Reducing animal-vehicle conflicts and improving wildlife connectivity with new and/or improved wildlife overpasses or underpasses
- Providing two permanent air quality monitors at Floyd Hill and Idaho Springs to collect data on local air quality conditions and trends
- Coordinating rural broadband access with local communities, including providing access to conduits and fiber in the interstate right-of-way

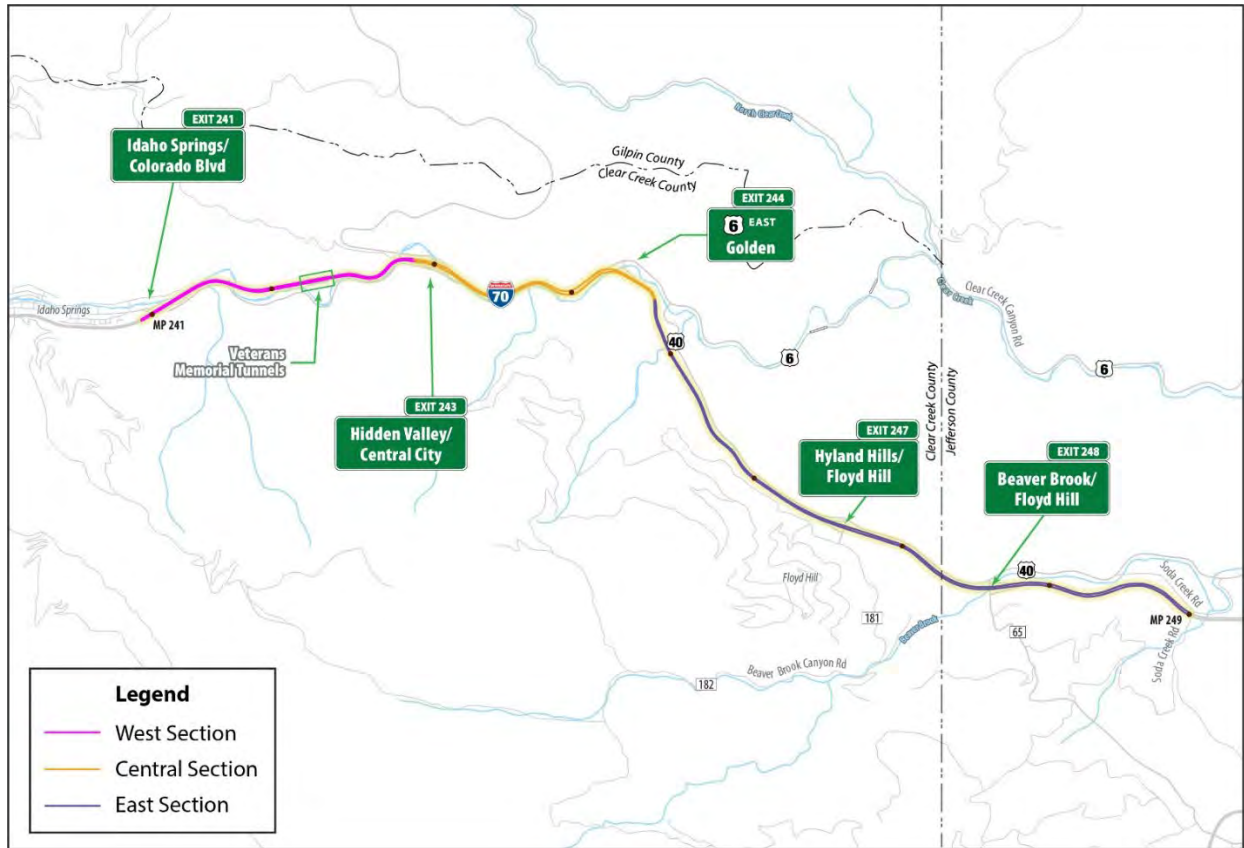
The Project is located on I-70 between MP 249 (east of the Beaver Brook/Floyd Hill interchange) and MP 241 (Idaho Springs/Colorado Boulevard), west of the Veterans Memorial Tunnels. It is located mostly in Clear Creek County, with the eastern end in Jefferson County (see Exhibit 1). The primary roadway construction activities would occur between County Road (CR) 65 (the Beaver Brook/Floyd Hill interchange) and the western portals of the Veterans Memorial Tunnels (MP 247.6 and MP 242.3, respectively), with the Project area extended east and west to account for signing, striping, and fencing.

Exhibit 1. Project Location



Three alternatives are being evaluated in the EA: (1) No Action Alternative, (2) Tunnel Alternative, and (3) Canyon Viaduct Alternative. The Project improvements are grouped into three geographic sections: (1) East Section (top of Floyd Hill to US 6 interchange), (2) Central Section (US 6 interchange to Hidden Valley/Central City interchange), and (3) West Section (Hidden Valley/Central City interchange through Veterans Memorial Tunnels) (see Exhibit 2).

Exhibit 2. East, Central, and West Project Sections



The action alternatives—the Tunnel Alternative and Canyon Viaduct Alternative—include the same improvements in the East Section and West Section to flatten curves, add a third westbound travel lane (the new lane would be an Express Lane), provide wildlife and water quality features, and improve interchange/intersection operations.

Through the Central Section between the US 6 interchange and the Hidden Valley/Central City interchange, the action alternatives vary in how they provide for the third westbound I-70 travel lane and frontage road connections as follows:

- The **Tunnel Alternative** would realign westbound I-70 to the north (along the curve between MP 244.3 and MP 243.7) through a new 2,200-foot-long tunnel west of US 6. Eastbound I-70 would be realigned within the existing I-70 roadway template to flatten curves to improve design speed and sight distance. This alternative also would include two design options for the alignment of the new frontage road—north or south of Clear Creek. The Clear Creek Greenway trail would be reconstructed in its current location on the south side of Clear Creek.
- The **Canyon Viaduct Alternative** would realign approximately one-half mile of both the westbound and eastbound I-70 lanes (along the curve between MP 244 and MP 243.5) on viaduct structures approximately 400 feet south of the existing I-70 alignment on the south side of Clear Creek Canyon. Through the realigned area, the frontage road would be constructed under the viaduct on the existing I-70 roadway footprint north of Clear Creek. The Clear Creek Greenway would be reconstructed in its current location on the south side of Clear Creek. The viaduct would cross above Clear Creek and the Clear Creek Greenway twice.

Additional information regarding the alternatives evaluated in the EA can be found in the *I-70 Floyd Hill to Veterans Memorial Tunnels Alternatives Analysis Technical Report* (CDOT, 2020a).

2.2 No Action Alternative

The No Action Alternative includes ongoing highway maintenance. In addition, due to its poor condition, the westbound I-70 bridge at the bottom of Floyd Hill is programmed to be replaced regardless of whether CDOT moves forward with one of the action alternatives. Therefore, replacing the bridge in kind (as a two-lane bridge) is part of the No Action Alternative. Under the No Action Alternative, the bridge would be replaced in its current location but would need to be designed to current standards, with a 55 mile-per-hour (mph) design speed and improved sight distance with wider shoulders.

2.3 Action Alternatives: East Section

In the East Section between the top of Floyd Hill and the US 6 interchange, the action alternatives are the same. Through this section, westbound I-70 would be widened to the south to accommodate a third travel lane, which is planned as an Express Lane. The typical section would include an additional 12-foot travel lane and inside and outside shoulders of varying widths, depending on sight distance needs around curves. The proposed footprint would include a 4-foot buffer between the new Express Lane and the existing (general purpose) lanes.

In the eastbound direction, the three travel lanes would be retained but the roadway would be realigned where needed to accommodate westbound widening or curve modifications to improve sight distance and safety. An approximately one-mile-long eastbound auxiliary (climbing) lane would be added in the uphill direction from the bottom of Floyd Hill to the Hyland Hills/Floyd Hill interchange (Exit 247). Water quality features would be added along the south side of the eastbound lanes.

At the Beaver Brook/Floyd Hill and Hyland Hills/Floyd Hill interchange systems, the split diamond interchange configuration (with on- and off-ramps connected by U.S. Highway 40 [US 40]) would remain, and no new accesses would be provided. However, roundabout intersections constructed on US 40 as part of a separate project address immediate issues with traffic flow and delays at the Floyd Hill neighborhood ingress and egress.

Wildlife fencing would be added along the north and south sides of I-70 between the Hyland Hills/Floyd Hill interchange on the west and Soda Creek Road on the east to reduce wildlife-vehicle collisions.

2.4 Action Alternatives: Central Section

The Central Section of the Project involves the most substantial improvements—including realigning curves, adding a third westbound travel lane, improving the Clear Creek Greenway, and providing the frontage road connection. These improvements occur within the most-constrained section of the Project area, where the existing I-70 footprint and planned roadway improvements are located between canyon rock faces north and south of existing I-70 and Clear Creek. Because of these constraints, the action alternatives within this section include the same improvements but differ with respect to the I-70 mainline and frontage road alignments and the relationship of the roadway improvements to the rock faces and the creek. The Clear Creek Greenway would be reconstructed generally along its existing alignment under both action alternatives, but the Clear Creek Greenway's location to the creek and roadway infrastructure would differ as described below.

2.4.1 I-70 Mainline

The I-70 mainline through this section continues the same roadway typical section from the East Section. Both alternatives would provide an additional westbound 12-foot travel lane; inside and outside shoulders of varying widths, depending on sight distance needs around curves; and a 4-foot buffer between the new Express Lane and the existing (general purpose) lanes.

Under the Tunnel Alternative, approximately one mile of westbound I-70 would be realigned to the north near the US 6 interchange. A portion of the realignment would extend through a 2,200-foot-long tunnel that would tie in to the existing westbound I-70 alignment and elevation just east of the Hidden Valley/Central City interchange. The three eastbound I-70 lanes through this area would remain within the existing roadway prism but would be realigned, moving approximately 100 feet north into the rock face adjacent to the existing westbound lanes to flatten horizontal curves and improve the design speed and sight distance.

Under the Canyon Viaduct Alternative, the westbound I-70 alignment would shift to the south on a new 5,300-foot-long viaduct beginning at approximately MP 245 east of the exit ramp to US 6 and it would rejoin the existing alignment about one-half mile east of the Hidden Valley/Central City interchange at approximately MP 243.5. Through this area, eastbound I-70 also would be realigned on a separate viaduct structure next to westbound I-70 from MP 243.4 east to just beyond MP 244.3. Both viaduct structures would cross Clear Creek and the Clear Creek Greenway twice near MP 243.9 and MP 243.5 (approximately 60 feet above ground level).

2.4.2 Frontage Road

Both alternatives include a new approximately 1.5-mile-long frontage road connection between the Hidden Valley/Central City interchange and the US 6 interchange. The frontage road would run from the intersection of CR 314 and Central City Parkway (south of the I-70 eastbound off-ramp at the Hidden Valley/Central City interchange where CR 314, which acts as a frontage road from east Idaho Springs, terminates) to the US 6/I-70 ramp terminal. The roadway section for the frontage road would consist of two 11-foot lanes (one in the eastbound direction and one in the westbound direction) with consistent 2-foot shoulders. The design speed would be 30 mph and the roadway would be constructed to comply with Clear Creek County local access standards.

The Tunnel Alternative includes two design options for this frontage road:

- **North Frontage Road Option** would provide the new frontage road connection between the two interchanges mostly on the north side of Clear Creek. The I-70 mainline would be realigned north into the mountainside, requiring substantial rock cuts (150 feet high) to make room for the frontage road between the creek and existing I-70. The Clear Creek Greenway would be reconstructed along its current alignment north of Clear Creek. In the Sawmill Gulch area where the existing trail's grade does not meet Americans with Disabilities Act (ADA) standards, the Greenway trail would be lowered to meet grades.
- **South Frontage Road Option** would provide the new frontage road connection between the two interchanges mostly on the south side of Clear Creek. Moving the frontage road to the south side of the creek would require new rock cuts on the south side of Clear Creek Canyon and less substantial rock cuts on the north side of I-70. The Clear Creek Greenway would be reconstructed generally along its current alignment south of Clear Creek; in the Sawmill Gulch area, an approximately 1,500-foot new section of the Greenway trail would be constructed

across the creek to the north (with two pedestrian bridge crossings of the creek) to be ADA compliant, and the existing trail would remain in place but not be resurfaced. The Clear Creek Greenway would be located closer to the frontage road than under the North Frontage Road Option; although the design seeks to maximize horizontal and vertical separation between the facilities and includes a new section of trail to meet ADA compliance, the alignment of the frontage road nearer to the Greenway and between the Greenway and creek is not supported by Clear Creek County, Idaho Springs, community members, or the Project Technical Team because it diminishes the recreational experience.

Under the Canyon Viaduct Alternative, the existing I-70 pavement under the elevated structures would be repurposed for the frontage road; excess right of way would be available for other uses—presumably, creek and recreation access—through this approximately one-mile area of the canyon.

2.5 Action Alternatives: West Section

The West Section between the Hidden Valley/Central City interchange and the Veterans Memorial Tunnels continues the widening of the interstate to add the third westbound travel lane and to flatten the S-curve in this location. Improvements in this section are the same under both action alternatives. The curve modifications require realigning both the I-70 mainline and frontage road through this section. The I-70 mainline alignment would shift south approximately 100 feet around the first curve from the Hidden Valley/Central City interchange, then north around the second curve approximately 50 feet, continuing a slight (25 foot) shift north before tying in to the existing alignment at the Veterans Memorial Tunnels. Much of CR 314 would be realigned south between the Doghouse Rail Bridge over Clear Creek near the Veterans Memorial Tunnels east portal and the Hidden Valley/Central City interchange. A small section of CR 314 (between MP 242.6 and MP 242.7) would remain and connect to the reconstructed portions west and east.

These alignment shifts result in substantial rock cuts on both the north and south sides of the canyon. On the north side, rock cuts up to 160 feet high would be required next to the I-70 westbound lanes (along the curve in the area where CR 314 is not reconstructed). To realign CR 314 south, rock cuts from 70 feet to 100 feet high are required on the south side of the canyon. Additionally, a 1,200-foot section of Clear Creek, which is located between I-70 and CR 314, would need to be relocated south near MP 242.5.

The Hidden Valley/Central City interchange would not be reconstructed, and the I-70 bridges would remain because they are wide enough to accommodate the widened I-70 footprint without being replaced. All the on- and off-ramps for the interchange would be reconstructed, but the bridges over Clear Creek for the I-70 westbound off-ramp and I-70 eastbound on-ramp also can be retained. New bridges over Clear Creek to the west would be needed for the I-70 westbound on-ramp and I-70 eastbound off-ramp to accommodate the curve flattening and shift of I-70 to the south in this location. The CDOT maintenance facility would need to be relocated.

No changes are required west of the Veterans Memorial Tunnels. Within the westbound tunnel, the roadway would be restriped for the third lane (the expansion of the tunnel to accommodate the third lane was completed in 2014). After the tunnel, restriping and signing would continue west to the next interchange at Idaho Springs/Colorado Boulevard (Exit 241), where the third lane would terminate. The Express Lane would operate in conjunction with the westbound Mountain Express Lane (MEXL) during peak periods (mostly winter and summer weekends and holidays).

2.6 Construction of Action Alternatives

CDOT is planning to use a Construction Manager/General Contractor (CMGC) delivery method for construction of the Project. This contracting method involves a contractor advising in the design phases to better define Project technical requirements and costs, improve design quality and constructability, and reduce risks through the construction phase. This method promotes innovation and aligns well with the multidisciplinary Context Sensitive Solutions process. It was used successfully on the Twin Tunnels projects to reduce environmental impacts and accommodate community values in the design and construction project development phases.

Construction of the action alternatives is anticipated to be complex and take four to five years but could occur generally within the proposed right of way. CDOT would work with the CMGC to refine the construction details and develop a plan that promotes safety and minimizes disruption to the traveling public and nearby residents and businesses.

The Tunnel Alternative would take approximately one year longer to build than the Canyon Viaduct Alternative; most of the additional time would be needed for the tunnel rock blasting and construction that could take place without disrupting traffic. However, in addition to the tunnel rock blasting, the Tunnel Alternative has considerable rock cuts at the tunnel portals and along the north side of I-70 to realign curves, widen the highway, and add the frontage road connection. Rock cuts, staging for the excavation of the tunnel portals, and haul of waste rock are major construction activities that are likely to interrupt traffic on I-70 due to increased construction equipment traffic on the highway and the proximity of construction to live traffic, the need for temporary lane closures and detours, and closures for blasting. The North Frontage Road Option has significantly larger (taller and longer) rock cuts than the South Frontage Road Option.

The Canyon Viaduct Alternative has substantially less rock cuts and blasting compared to the Tunnel Alternative but would require more work in the existing highway right of way. Bridge construction over and pier placement within the highway template will need to be carefully coordinated. However, construction of some elements, such as the bench portion of the viaduct, are separated from the existing I-70 alignment and could be constructed offline similarly to the tunnel excavation.

Specific construction methods and phasing will be determined with contractor input and could affect the duration and/or physical requirements for construction activities. The focus of environmental impact analysis during the NEPA process is to identify resources and locations sensitive to construction impacts and incorporate reasonable mitigation measures, including potential to avoid impacts by avoiding sensitive areas, to inform the contractor's plans. Final design and construction plans will consider changes in resource impacts, and reevaluations will be completed as needed during final design.

3 Applicable Laws, Regulations, and Guidance

3.1 Regulatory Context

Title VI of the Civil Rights Act of 1964, as amended, is a non-discrimination statute. Specifically, 42 United States Code 2000d states that:

No person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

Environmental justice, a component of Title VI, is a public policy goal of promoting the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. It is grounded in the following three principles that establish an approach to identify and address disproportionately high and adverse effects of proposed decisions on low-income and minority populations:

- To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic, on minority populations and low-income populations
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

Executive Order (EO) 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” placed further emphasis on the Title VI protections of race and national origin by requiring federal agencies to identify and address disproportionately high and adverse effects of their actions on minority populations. EO 12898 and the United States Department of Transportation (DOT) and FHWA orders that followed (DOT Order 5610.2 and FHWA Order 6640.23) expanded upon Title VI to include low-income populations and ensure greater public participation in the decision-making process.

Although the non-discrimination principles of EO 12898 and the Title VI statute intersect, they are two separate mandates, and each has unique requirements. The term “minority,” which is a protected category under environmental justice, overlaps with “race, color, and national origin,” which the Title VI statute protects. Environmental justice principles, however, also apply to low-income populations, which are not covered under the Title VI statute.

Although the Title VI statute protects persons from discrimination solely based on race, color, and national origin, there are other non-discrimination statutes that afford legal protection. These statutes include Section 162(a) of the Federal-Aid Highway Act of 1973 (23 United States Code 324) (sex), Age Discrimination Act of 1975 (age), and Section 504 of the Rehabilitation Act of 1973/Americans with Disabilities Act of 1990 (disability). On August 11, 2000, President William Clinton signed EO 13166, “Improving Access to Services for Persons with Limited English Proficiency,” requiring federal agencies to examine the services they provide and identify any need for services to limited English proficiency (LEP) communities. Taken together, these requirements define FHWA’s Title VI Program, which ensures that FHWA policies, programs, and activities do not discriminate based on race, color, national origin, income, sex, age, disability, or limited English proficiency (FHWA, 2015).

3.2 Laws, Regulations, and Guidance Relevant to this Analysis

The Environmental Justice Technical Report is prepared in accordance with all applicable guidance for addressing Title VI and environmental justice as required by federal law and described in CDOT's NEPA Manual (CDOT, 2020b). Federal and state regulations and guidance applicable to Title VI and environmental justice are summarized below. No local guidance or regional regulations or guidelines specific to Title VI and environmental justice were identified.

- **Title VI of the Civil Rights Act (1964):** Prohibits discrimination based on race, color, or national origin in any program or activity that receives federal funds or other federal financial assistance.
- **Age Discrimination Act (1975):** Prohibits discrimination based on age in programs and activities receiving federal financial assistance.
- **FHWA Technical Advisory T6640.8a, "Guidance for Preparing and Processing Environmental and Section 4(f) Documents" (1987):** Guides entities taking part in the NEPA process to consider the effects to social groups, including "the elderly, handicapped, nondrivers, transit-dependent, and minority and ethnic groups."
- **Americans with Disabilities Act (1990):** Addresses the needs of people with disabilities, prohibiting discrimination in public services and public accommodations.
- **Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (1994):** Directs federal agencies to make environmental justice part of their mission and sets responsibilities for agencies including developing a strategy to identify and address "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.
- **U.S. DOT Order 5610.2, "Order to Address Environmental Justice in Minority Populations and Low-Income Populations" (1997):** Describes the process that the Office of the Secretary and each Operating Administration will use to incorporate environmental justice principles (as embodied in the EO 12898) into existing programs, policies, and activities. It also provides formal definitions for minority and low-income populations, adverse effects, and disproportionately high and adverse effects.
- **FHWA Order 6640.23, "FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (1998):** Establishes policies and procedures for FHWA to use in complying with EO 12898. The order provides direction on how to determine whether federal actions would result in disproportionately high and adverse effects on minority and low-income populations.
- **Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency" (2000):** Requires federal agencies to examine the services they provide, identify any need for services to those with limited English proficiency (LEP), and develop and implement a system to provide those services so LEP persons can have meaningful access to them.
- **CDOT's NEPA Manual (2020):** Provides guidelines to assist CDOT and its consultants with incorporating Title VI and environmental justice mandates when undertaking NEPA documentation requirements. It establishes a detailed methodology for the identification of minority and low-income populations, the determination of effects to protected populations, mitigation strategies, and public involvement.
- **CDOT Limited English Proficiency (LEP) Plan (2018):** Establishes a standard approach in effectively communicating with LEP persons and provides guidance on how to provide meaningful access to LEP persons.

4 Environmental Justice in the Tier 1 PEIS

4.1 Context

The Tier 1 PEIS and associated *I-70 Mountain Corridor PEIS Environmental Justice Technical Report* (CDOT, 2011) provide an overview of environmental justice issues from a Corridor perspective. The PEIS used data from the 2000 U.S. Census Bureau as well as information provided by local agencies. Two minority communities and one low-income community were identified between Floyd Hill and Idaho Springs. Two additional minority and low-income communities with large concentrations of Spanish-speaking members were also identified within one mile of I-70 in Idaho Springs, just west of the Project. Impacts to minority and low-income populations associated with the Preferred Alternative were not expected to exceed those experienced by the general population on a Corridorwide level. However, the PEIS noted the potential for pockets of minority or low-income populations to be adversely affected, particularly near proposed facilities and construction activities. Offsetting benefits such as improved commute times, safety, and mobility were also expected. Although concerns surrounding induced growth and affordable housing were raised, most of the land surrounding the Project is not available for development, so induced growth was not identified as a particular concern in this area.

The I-70 PEIS implemented a full public and agency information and involvement program that included specialized outreach to minority and low-income populations. A specific public and agency involvement program has been developed to provide information, gather input, and address concerns regarding the specific improvements being evaluated in this Tier 2 process. Details are provided in the *Floyd Hill to Veterans Memorial Stakeholder Involvement Plan* (Atkins, 2017). This program includes efforts to ensure full and fair participation by all potentially affected communities in the transportation decision making process.

4.2 Analysis in Tier 2 Processes

As a Tier 2 NEPA process, the I-70 Floyd Hill to Veterans Memorial Tunnels EA is addressing environmental justice within the parameters and guidance outlined in the Tier 1 process. During the Tier 1 process, local municipalities identified concerns to be addressed at the local level in Tier 2 processes, including the need to update the analysis to reflect local conditions, current data, and any new regulatory guidance. The environmental justice analysis for the Project is prepared in accordance with the most recent guidance as described in Section 3 and utilizes the most current data available from the U.S. Census Bureau.

In the ROD for the PEIS, FHWA and CDOT committed to:

- Develop specific and more detailed mitigation strategies and measures
- Develop best management practices specific to each project
- Adhere to any new laws and regulations that may be in place when Tier 2 processes are underway
- Continue to directly coordinate with local government entities and social services to identify low-income populations along the Corridor
- Coordinate with the Colorado Minority Business Office to obtain a listing of minority-owned business enterprises that register with the office in Colorado and are located along the Corridor

For Tier 2 NEPA processes that occur in populated areas with pockets of minority and/or low-income populations, the PEIS noted that additional attention and/or mitigation may need to be considered for the following issues:

- Localized air quality impacts
- Noise impacts
- Shading from elevated structures or walls
- Residential and business relocations
- Changes in access or travel patterns
- Loss of community cohesion

Other localized impacts could occur depending on the setting and context of specific Tier 2 actions. As with the Tier 1 analysis, the Tier 2 analysis will consider mitigation, enhancement measures, and offsetting benefits when determining whether there will be disproportionately high and adverse effects on minority and low-income populations.

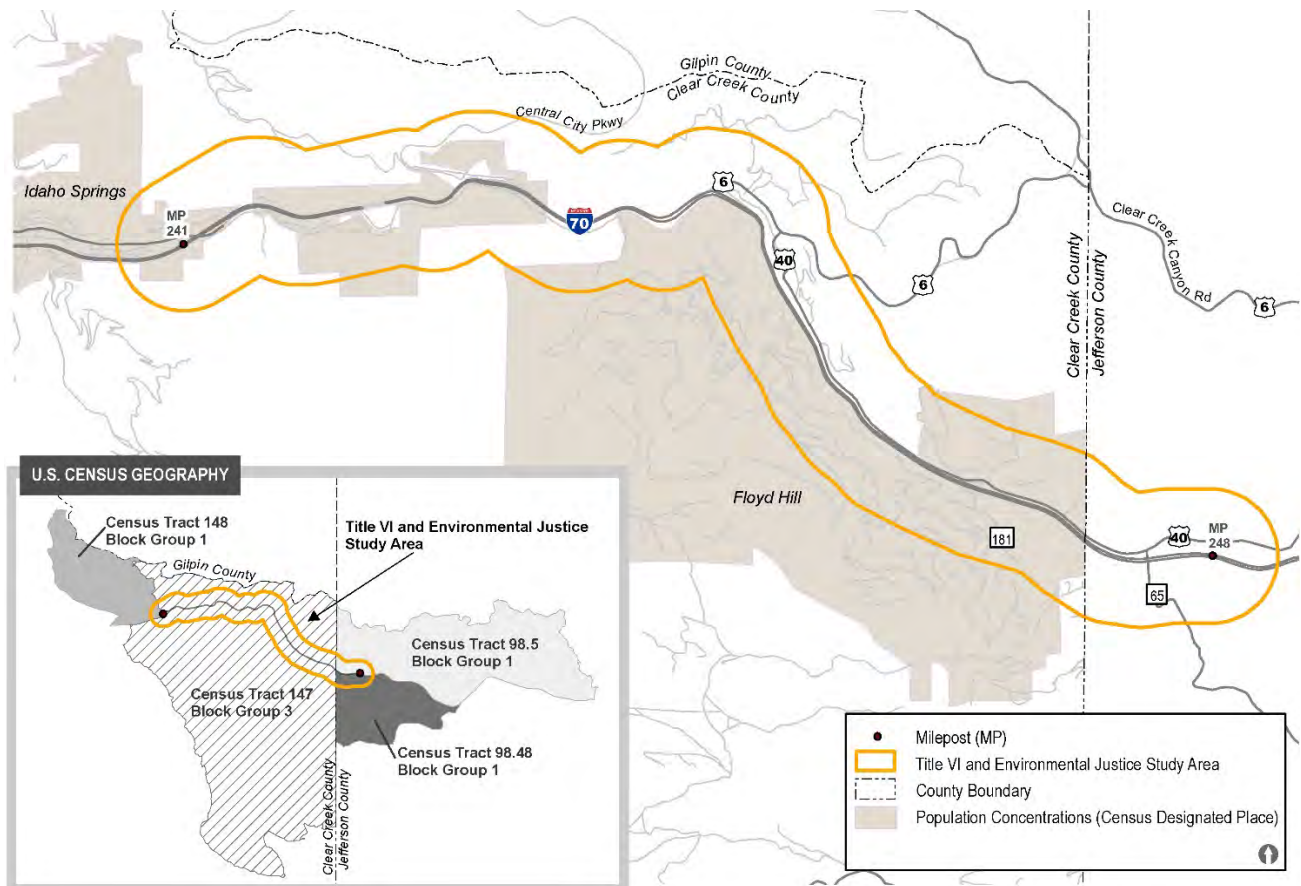
Clear Creek County and Idaho Springs have been actively involved in Tier 2 processes within the I-70 Mountain Corridor. Many of the concerns expressed by these stakeholders during these Tier 2 processes are applicable to the Project. Specific to this analysis, Clear Creek County Department of Health and Human Services (HHS) has expressed concern about congestion on I-70 and the impact it has on residents and emergency response times. The department noted that transportation is a key issue for low-income households because many do not own a vehicle and those that do are negatively affected by congestion on I-70. The department indicated that project-generated employment would benefit their low-income clients because many are unemployed.

5 Affected Environment

5.1 Study Area

As specified in CDOT’s NEPA Manual (CDOT, 2020), the environmental justice analysis should be focused on the geographic area likely to be affected by a proposed action. This area typically includes all communities within and adjacent to a project. For the Project, this area is located within 0.5 mile of the proposed improvements. Most of the environmental effects resulting from the Project would occur within this area, with the greatest effects most likely in areas immediately adjacent to I-70. The environmental justice Study Area is presented in Exhibit 3. Although the Project limits and Study Area extend east of MP 248, the Proposed Action does not include any improvements in this area other than wildlife fencing, signing, and striping, which is not expected to affect any populations, including minority and low-income populations.

Exhibit 3. Environmental Justice Study Area



Source: U.S. Census Bureau, 2018a; Environmental System Research Institute (ESRI), 2018.

While the Study Area reflects the communities most likely to be affected by the Project, it is acknowledged that transportation improvements often have consequences that affect adjacent communities. The primary data sources that support the environmental justice analysis are typically available at larger geographical scales, such as county, city, and U.S. Census statistical divisions

(Tracts, Block Groups, and Blocks). As shown in Exhibit 3, these boundaries extend beyond the Study Area, capturing information for a larger geographical area and providing additional context for the evaluation.

5.2 Environmental Conditions

5.2.1 Minority Populations

As defined by EO 12898, minority classifications include Black, Hispanic, Asian, American Indian/Alaska Native, and Native Hawaiian or Pacific Islander. The most recent data available from the U.S. Census Bureau for ethnicity and race is from the 2013–2017 American Community Survey 5-year estimates at the Block Group level (U.S. Census Bureau, 2018b). Table B03002: Hispanic or Latino Origin by Race is used for this analysis.

Consistent with CDOT’s methodology, the total non-Hispanic, white population was subtracted from the total population to quantify the minority population. This was then divided by the total population to arrive at the percent minority. The results for each Block Group adjacent to the corridor were then compared to the associated county average (either Jefferson or Clear Creek). Minority populations are identified in locations where the minority population within the Block Group exceeds the county average. As shown in Exhibit 4, a higher than county average minority population is located in Idaho Springs (shown in Exhibit 8). Both the city and the Census Block Group within which the city is located (Census Tract 148, Block Group 1) exceed the percentage of minorities in Clear Creek County by approximately 10 percent (by 8 percent in Idaho Springs and by 10 percent in Census Tract 148, Block Group 1).

Minority populations throughout the remainder of the Study Area are well below county averages. The Floyd Hill area (see Exhibit 3) has a minority population of 55, or 5 percent of the total population of 1,133, which is well below the percentage of minorities in Clear Creek County (10 percent).

Exhibit 4. Minority Populations

| Location | Total Population | Black/ African American | Native American | Asian/ Pacific Islander | Other | Hispanic/ Latino | Minority Population | % Minority |
|--|------------------|-------------------------------|--------------------|-------------------------------|--------|---------------------|------------------------|------------------|
| Jefferson County | 564,029 | 5,641 | 2,518 | 15,343 | 11,378 | 85,489 | 120,369 | 21% |
| Clear Creek County | 9,257 | 81 | 10 | 99 | 180 | 567 | 937 | 10% |
| Floyd Hill | 1,133 | 0 | 0 | 55 | 0 | 0 | 55 | 5% |
| Idaho Springs | 1,970 | 63 | 0 | 0 | 101 | 192 | 356 | 18% ¹ |
| Census Block Groups in the Study Area | | | | | | | | |
| Tract 98.48, Block Group 1 ² | 1,248 | 0 | 0 | 9 | 8 | 26 | 43 | 3% |
| Tract 98.50, Block Group 1 ² | 1,245 | 0 | 0 | 131 | 0 | 0 | 131 | 11% |
| Tract 147, Block Group 3 ³ | 2,496 | 2 | 2 | 55 | 0 | 29 | 88 | 4% |

| | | | | | | | | |
|--|-------|---|---|----|-----|-----|-----|------------------|
| Tract 148, Block Group 1 ³ | 1,819 | 0 | 0 | 63 | 101 | 192 | 356 | 20% ¹ |
|--|-------|---|---|----|-----|-----|-----|------------------|

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Table B03002.

¹ Percent minority exceeds County averages.

² Because this Census Block Group is in Jefferson County, minority populations are compared to Jefferson County averages.

³ Because this Census Block Group is in Clear Creek County, minority populations are compared to Clear Creek County averages.

As shown in Exhibit 4, Minority populations in Study Area Census Block Groups within Clear Creek County are mostly comprised of Hispanic or Latino residents. Minority populations in Census Block Groups in the eastern limits of the Project (within Jefferson County) are primarily comprised of Hispanic or Latino (Census Tract 98.48, Block Group 1) or Asian or Pacific Islander (Census Tract 98.50, Block Group 1) residents. As shown in Exhibit 3, only a small portion of both Jefferson County Census Block Groups are located within the Project limits and the majority of their population is located outside of the Study Area to the east.

5.2.2 Low-Income Populations¹

To identify and define low-income populations, a combination of datasets from the U.S. Census Bureau and the Department of Housing and Urban Development (HUD) are used (HUD, 2018). CDOT uses HUD thresholds of Extremely Low-Income Levels, which are tailored by county or metropolitan statistical area (in this case the Denver-Aurora-Lakewood, CO metropolitan statistical area) and are more inclusive than poverty thresholds established by HHS. HUD's low-income thresholds are adjusted according to household size (2.52 persons per household in Jefferson County and 2.08 persons per household in Clear Creek County) to establish project specific income thresholds. The most recent income data available from the U.S. Census Bureau is from the 2013-2017 American Community Survey 5-year estimates at the Block Group level (U.S. Census Bureau, 2018b). Table B19001: Household Income in the Past 12 Months (in 2017 inflation-adjusted dollars) is used for this analysis. Using these data sources in accordance with CDOT's methodology, households with incomes of less than \$25,000 per year are considered low-income in both Jefferson County and Clear Creek County². Low-income populations are identified in Block Groups where the percentage of low-income households that fall below the county income threshold exceeds the county average. The results of the analysis are shown in Exhibit 5.

¹ It is recognized that events that occurred during the development of this technical report (the start of Census 2020 and the COVID-19 pandemic and associated economic shut down) could have implications for the analysis. Because effects on economic conditions in the Study Area (if any) are unknown and are too difficult to currently predict, they are not addressed by this analysis.

² Income data from the U.S. Census Bureau is reported in increments of \$5,000. Using CDOT's methodology, the low-income threshold for Clear Creek County is \$21,816 and the low-income threshold for Jefferson County is \$23,004. Both fall within the census income range of \$20,000 to \$24,999 per year. Therefore, households with incomes lower than \$25,000 are considered low-income for this Project.

Exhibit 5. Low-Income Populations

| Location | Total Households | Low-Income Households | % Low-Income | Exceeds County Average? |
|-----------------------------------|------------------|-----------------------|--------------|-------------------------|
| Jefferson County | 227,805 | 29,917 | 13% | ----- |
| Clear Creek County | 4,374 | 626 | 14% | ----- |
| Floyd Hill | 502 | 27 | 5% | No |
| Idaho Springs | 958 | 268 | 28% | Yes |
| Census Tract 98.48, Block Group 1 | 401 | 29 | 7% | No |
| Census Tract 98.50, Block Group 1 | 509 | 18 | 4% | No |
| Census Tract 147, Block Group 3 | 1,171 | 127 | 11% | No |
| Census Tract 148, Block Group 1 | 866 | 232 | 27% | Yes |

Source: U.S. Department of Housing and Urban Development, Federal Year 2018 Income Limits Summary; U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Table B19001.

Similar to the findings presented in Section 5.2.1, a higher percentage of low-income households are located in Idaho Springs than in Clear Creek County. Both the city and the Block Group within which the city is located (Census Tract 148, Block Group 1) exceed the percentage of low-income households in Clear Creek County by more than 10 percent (by 14 percent in Idaho Springs and by 13 percent in Census Tract 148, Block Group 1). Low-income populations throughout the remainder of the Study Area are well below county averages. Floyd Hill has approximately 27 low-income households, representing 5 percent of households, which is well below the percentage of low-income households in Clear Creek County (14 percent).

Based on the analysis of data from the U.S. Census Bureau and HUD, both minority and low-income populations are present in Idaho Springs, in the westernmost portion of the Study Area (shown in Exhibit 8). The Mountain Mobile Home Park (a mobile home community with approximately 24 sites along Miner Avenue) and Big Horn Apartments (a three-story 40-unit apartment complex along Riverside Drive) are in this area. The Twin Tunnels EA identified the Mountain Mobile Home Park community as low-income with high numbers of Spanish speakers (language needs are discussed further in Section 5.2.3). Specialized outreach was conducted for this community as part of the public involvement programs for the Twin Tunnels, Eastbound Peak Period Shoulder Lane, and Westbound Peak Period Shoulder Lane Tier 2 NEPA processes (CDOT, 2012, 2014, and 2018). Additional details regarding the public involvement and outreach conducted for this Project is provided in Section 8.

Both minority and low-income populations are present in the western portion of the Study Area, in eastern Idaho Springs.

5.2.3 Additional Population Characteristics and Supplemental Data Sources

Numerous variables and data sources can provide additional context about the presence of minority and low-income populations, beyond what can be derived from the U.S. Census Bureau. Data presented in Exhibit 6 reports demographic information about age, disability, language spoken at home, and

means of transportation to work. Data for Jefferson County is not reported because it contains large populations that are located almost entirely outside of the Study Area³.

The median age of the population within Clear Creek County is 47.2, higher than that of Colorado, which is 36.5. The *2018 Housing Needs Assessment Update and Feasibility Study* (Clear Creek County, 2018) reports that the age distribution of population within Clear Creek County is changing. Within Idaho Springs, approximately 75 percent of households do not have children and one in five people are over 65 years old, indicating an aging population (Clear Creek County, 2018).

As noted in Exhibit 6, persons with disabilities and households with no vehicle are present within the Study Area. Although percentages are consistent with those of Clear Creek County, persons that self-report having a disability, households having no vehicle, and an aging population can indicate a need for transportation and other support services.

Persons with LEP are individuals who do not speak English as their primary language and who have a limited ability to read, write, speak, or understand English. As indicated in Exhibit 6, populations within the Study Area are predominantly English speaking and have low numbers of persons with LEP. One exception is the Mountain Mobile Home Park, located in the western end of the Study Area in Idaho Springs, which has been identified in previous studies as having high concentrations of Spanish-speaking members. Since populations with LEP are present in this area, translation services and targeted outreach were initiated for the Project. The level of services offered, and strategies developed to reach populations with LEP was adjusted in response to feedback received through public involvement efforts. Translation services were not utilized in initial outreach efforts and thus, did not become standard practice for the Project. Additional contact with the public did not indicate that additional strategies or services were warranted.

A high number of Spanish speakers live in the Mountain Mobile Home Park in Idaho Springs.

Exhibit 6. Population Characteristics

| Location | Median Age | Population 5 years and over that speak English less than "very well" ¹ | Civilian Population with a Disability ² | Households with no Vehicle |
|--------------------|------------|---|--|----------------------------|
| Census Tract 98.48 | 50.0 | 46 (2%) | 230 (9%) | 54 (5%) |
| Census Tract 98.50 | 52.3 | 64 (3%) | 188 (8%) | 8 (1%) |
| Census Tract 147 | 48.0 | 92 (2%) | 488 (10%) | 0 (0%) |
| Census Tract 148 | 44.4 | 32 (2%) | 186 (10%) | 75 (9%) |
| Floyd Hill | 47.6 | 38 (3%) | 66 (6%) | 0 (0%) |
| Idaho Springs | 44.1 | 32 (2%) | 179 (9%) | 75 (8%) |
| Clear Creek County | 47.2 | 152 (2%) | 859 (9%) | 85 (2%) |

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Table DP02, B1002 and B08201.

³ Data is reported for Jefferson County in Exhibit 4 and Exhibit 5 because CDOT's environmental justice methodology requires the establishment of a reference population (which is typically the county) to identify minority and low-income populations.

¹ Includes the population 5 years and over that speaks a language other than English at home and speaks English less than “very well.”

² Includes the total civilian noninstitutionalized population with a disability. People with a disability are defined as a person having a physical or mental impairment that affects one or more major life activities, such as walking, bathing, dressing, eating etc.

Affordable housing is limited within Clear County and is complicated by non-local buyers purchasing second homes in the area, lack of developable land, and low inventory of rental units. The vacancy rate for rental units in Clear Creek County was effectively zero for the most recent year data is available (Clear Creek County, 2018), and no new apartments have been built in more than a decade in the Study Area (Clear Creek County, personal communication, 2019). One apartment / condominium complex has been approved by Clear Creek County, but development is on hold. The complex would include 180 units southeast of Clear Creek High School. In recent years, some dispersed residential development has occurred in the areas surrounding Floyd Hill, and in a few other locations within Clear Creek County, but these homes are built for a mixture of people choosing a rural mountain lifestyle within commuting distance to the Denver metropolitan area and second home buyers (Clear Creek County, 2018). Affordable housing options, such as well-maintained mobile homes and rental units are critical for low-income communities.

The Colorado Office of Economic Development and International Trade, Minority Business Office database was accessed in January 2020 to identify any registered minority and women-owned businesses throughout the Study Area. A query of the 80439 and 80452 zip codes returned no results. No businesses in the Study Area are known to provide services that are of unique importance to minority or low-income populations. Several schools in Floyd Hill, including the Bearly Tawl Day Care, serve children and local families. The Idaho Springs Public Library also provides programs for youth and older adults. Neither of these or any other community resources in the Study Area are used predominantly by or provide services that are of unique importance to minority or low-income populations.

The U.S. Environmental Protection Agency’s (EPA) Environmental Justice Screening and Mapping tool (EJ Screen) was reviewed as a secondary source for the analysis to confirm that minority and low-income populations were properly identified. The results for the Study Area Block Groups are presented in Exhibit 7.

Exhibit 7. Comparison of Minority and Low-Income Data: EJ Screen and U.S. Census Bureau/HUD

| Location | EJ Screen | | U.S. Census Bureau/HUD | |
|-----------------------------------|------------|-------------|------------------------|--------------|
| | % Minority | %Low-Income | % Minority | % Low-Income |
| Census Tract 98.48, Block Group 1 | 4% | 16% | 3% | 7% |
| Census Tract 98.50, Block Group 1 | 9% | 3% | 11% | 4% |
| Census Tract 147, Block Group 3 | 4% | 6% | 4% | 11% |
| Census Tract 148, Block Group 1 | 16% | 40% | 20% | 27% |

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates; U.S. Department of Housing and Urban Development, Federal Year 2018 Income Limits Summary; Environmental Protection Agency, Environmental Justice Screening and Mapping tool, 2019.

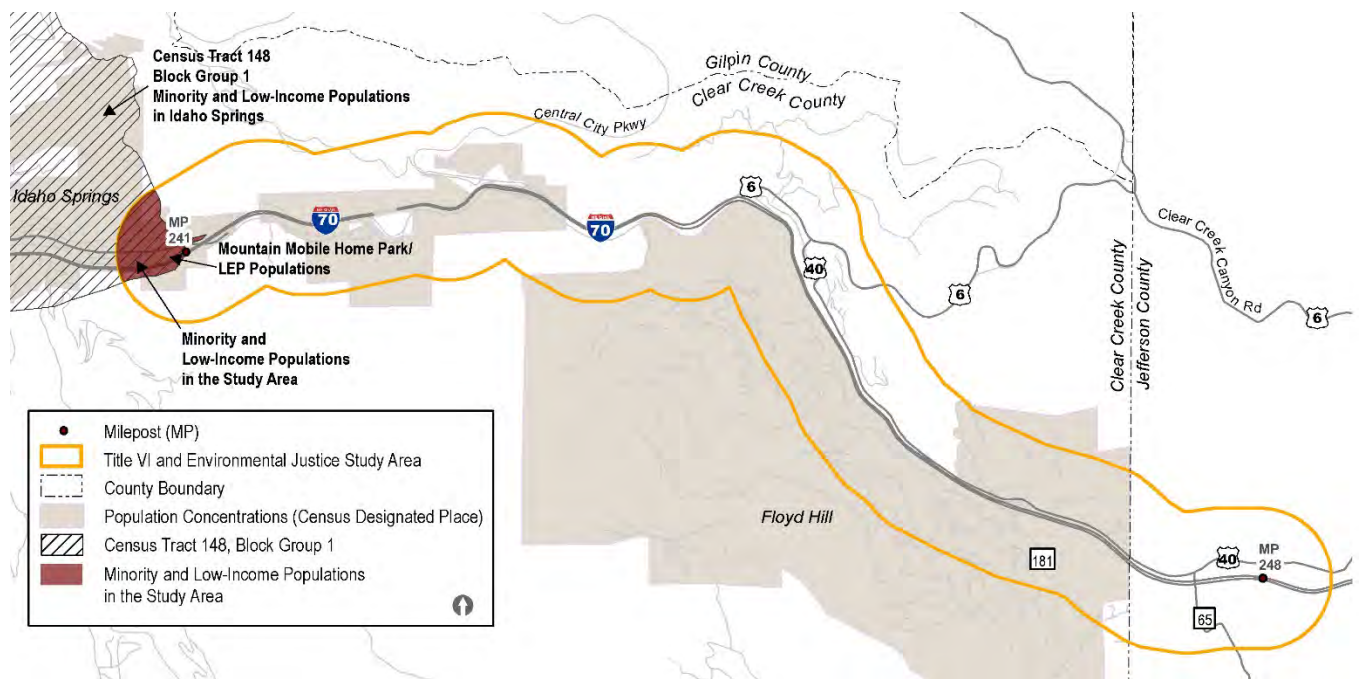
Although there are some variations between the U.S. Census data and EJ Screen, the results are consistent overall. EJ Screen reports higher percentages of low-income households in Idaho Springs (which has already been identified as low-income community in this report) and in the eastern portion of the Study Area, in Jefferson County east of the Beaver Brook/Floyd Hill interchange (Census Tract 98.48, Block Group 1). Most homes in this portion of the Study Area are located on large lots that are not visible from I-70 because the highway is lower and adjacent to elevated topography. More concentrated populations within this Block Group are located along State Highway 74 in Evergreen,

outside of the Study Area. Review of county parcel data and real estate websites (e.g. Zillow) indicate that CDOT’s methodology more accurately reflects the Study Area in this location, as properties are owner-occupied, and most are valued at over one million dollars.

EJ Screen also reports low numbers of ‘linguistically isolated’ populations in the Study Area. As defined by the EPA, a household is linguistically isolated if all adults speak a language other than English and none speak English “very well.” Like the data presented in Exhibit 6, EJ Screen reports that 2 percent of the households in Census Tract 148, Block Group 1 (primarily Idaho Springs) are linguistically isolated.

Exhibit 8 presents the locations of minority and low-income populations and populations with LEP that have been identified through this analysis. As shown, these populations are concentrated in the western portion of the Study Area, in eastern Idaho Springs.

Exhibit 8. Minority, Low-Income, and LEP Populations



Source: U.S. Census Bureau, 2018a; ESRI, 2018.

6 Impacts

Each of the alternatives include elements that could affect communities throughout the corridor. The environmental justice impact evaluation considers the ways in which impacts are distributed across populations. These consequences are both beneficial and adverse and have the potential to be experienced by the general population – including minority and low-income residents, and minority and low-income populations that rely on I-70 to reach employment or services in Idaho Springs, other I-70 Mountain Corridor communities, or the Denver metropolitan area.

6.1 Methodology

The goal of the environmental justice analysis is to assess the equity of burdens and benefits associated with the Project and determine whether any of the alternatives under consideration would cause disproportionately high and adverse effects to minority or low-income populations when compared to populations that are not minority or not low-income in the Study Area. According to FHWA Order 6640.23, a disproportionately high and adverse effect is defined as one that is:

- Predominantly borne by a minority and/or low-income population, or
- Suffered by the minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority/non-low-income population.

To make an environmental justice determination, impacts to resources that have the potential to affect human populations are reviewed. For this Project, this information was acquired from the resource-specific technical reports prepared in support of the EA. Impacts are evaluated in the context of their severity (after mitigation), whether they are adverse or beneficial, and distribution. If adverse unavoidable impacts are identified and determined to be disproportionate, additional mitigation measures are reviewed for their potential to reduce impacts to minority and low-income populations.

The types of effects that are often relevant for environmental justice analyses include:

- Displacement or relocation of minority or low-income residents
- Displacement or relocation of businesses that are owned by or provide jobs or services of unique importance to protected populations
- Changes in community cohesion
- Changes in travel patterns and accessibility
- Impacts on community facilities and services, including access to those services
- Impacts on public safety (e.g., emergency services)

Although they can be beneficial, transportation pricing strategies (such as toll roads) typically raise concerns related to fairness and equity for low-income users. The Project includes a third westbound lane that is expected to be implemented as a tolled Express Lane. This Project element is discussed in Section 6.3.1.

6.2 No Action Alternative Impacts

The No Action Alternative would replace the existing bridge at the bottom of Floyd Hill, improving safety for the general population, including minority and low-income populations.

At the Beaver Brook/Floyd Hill and Hyland Hills/Floyd Hill interchange systems, the split diamond interchange configuration would remain, and no new accesses would be provided. No other improvements aside from regular maintenance would be implemented. The frontage road would remain disconnected between the Hidden Valley/Central City interchange and the US 6 interchange. Area residents would still be reliant on I-70 as the only egress during an emergency.

In the absence of capacity improvements, traffic would worsen in the westbound direction through 2045, making it increasingly difficult to access jobs and recreation west of the Study Area and for area low-income and minority residents and commuters to access employment, recreation, and services in Idaho Springs. Nothing would be done to address wildlife-vehicle collisions or improve sight distance on I-70 and noise levels would continue to rise unabated.

Impacts resulting from the No Action Alternative would be distributed across the general population and would neither be predominantly borne by minority and/or low-income populations nor be appreciably more severe or greater in magnitude than impacts experienced by the general population.

6.3 Action Alternatives

Minority, low-income, and LEP populations, and businesses, community facilities, and public services that focus on these populations, are not present within the Study Area, except at the eastern edge of Idaho Springs, which is the western Project limit, where the action alternatives are the same and no physical improvements would occur other than roadway striping.

As noted in Section 4.2, area residents voiced concern about the impact of congestion on I-70 on residents, lack of alternative routes, and emergency response times. Both action alternatives would address these concerns by reducing congestion and providing a new frontage road connection and alternative route between US 6 and CR 314. Additional safety benefits (e.g., improved sight distance, reduced wildlife-vehicle collisions on I-70) would benefit all travelers through the Project limits.

The Tier 1 PEIS identified several concerns about the potential for impacts to low-income and minority populations to be addressed in Tier 2 processes. The impacts of the action alternatives in relation to these concerns are addressed below:

- **Displacement of low-income and minority residents:** No low-income or minority residents would be displaced by either action alternative.
- **Separation of neighborhoods:** Neither action alternative would bisect any neighborhoods, result in any social isolation or separation of residents from community or public facilities, decrease the size of any neighborhood, or impact community cohesion.
- **Affordable housing:** Neither action alternative would impact any existing affordable housing units or increase or decrease access to affordable housing.
- **Access to public transportation:** The Express Lane (included in both action alternatives) could encourage the use of public transportation during peak periods. For the Floyd Hill project, CDOT may allow public or privately operated buses to use the Express Lane for free. Equity considerations relating to tolling are addressed in Section 6.3.1.
- **Commute times for corridor residents:** Both action alternatives would improve average travel times experienced by westbound motorists in 2045 compared to the No Action Alternative.
- **Adverse effects for residents living close to new transportation facilities and construction:** Construction-related impacts (addressed in Section 6.3.2) would be fairly distributed and would not be predominantly borne by minority or low-income populations.

Although no widening or capacity improvements would be constructed in east Idaho Springs under either Action Alternative, noise abatement (a noise wall) has been recommended north of I-70 in east Idaho Springs to address rising noise levels at residential multifamily units in this area. Noise levels currently exceed impact thresholds (66 dBA [A-weighted decibels]) at many of these residences. Noise modeling conducted for the Project indicates that without abatement, noise levels would continue to rise though 2045 under any scenario. The recommended wall would be 14 feet high and 1,395 feet long and would reduce noise levels by between 5.1 dBA and 7.7dBA (CDOT, 2020c).

When examined in the context of mitigation and off-setting traffic and safety benefits, impacts that would be expected to affect human populations (e.g. changes to the visual environment, elevated noise levels) would not be considered severe and would be distributed throughout the population of roadway users. Minority and low-income populations would benefit from the noise abatement that is recommended as part of the Project. No other adverse effects have been identified in the area where minority, low-income, and LEP populations have been identified.

6.3.1 Equity Considerations Relating to Tolling

Tolling raises additional environmental justice concerns related to equity impacts. Per FHWA's *Environmental Justice Emerging Trends and Best Practices Guidebook* (FHWA, 2011), consideration of equity issues—such as who bears the burden of road pricing charges, who benefits from the improved road, and how the toll revenues are used—is critical in calculating the road pricing to ensure low-income populations are considered.

Four principles are considered when implementing an operational strategy on a transportation facility (such as a highway) in relation to environmental justice. As explained by FHWA, these principles relate to the following questions:

- Who from all sectors of the economy can use the facility?
- Will there be additional physical impacts in low-income and minority neighborhoods with implementation of this operational strategy?
- What kind of impact will this operational strategy have on those who do not have a personal vehicle but instead bike, walk, or use transit?
- How has the public been involved in the decision-making for this strategy?

Congestion is one of the primary issues that the Project is seeking to address. Travel delays in the Study Area regularly cause westbound backups to extend from the Project area back to Evergreen (MP 252) and occasionally to Golden. Although the westbound highway lanes can process more than 3,500 vehicles per hour west of the Project limits, where the highway drops to two lanes (MP 246), capacity is only 2,800 vehicles per hour. Westbound delays are most pronounced during peak travel periods, which occur on weekends and holidays as travelers originating from the Denver metropolitan area seek to access recreational destinations along the I-70 Mountain Corridor. The highest peak volumes occur on Saturday mornings when US 6 westbound traffic enters the interstate at the bottom of Floyd Hill, adding approximately 900 cars during the peak hour in this already constrained section of two-lane capacity. The combination of high demand and traffic volumes coming from Denver and the reduction from three to two lanes going down Floyd Hill creates substantial congestion that results in extensive queuing and travel delays that often take 30 or more minutes to clear.

According to travel demand modeling projections for the Project, travel delays are only expected to worsen in the Study Area through year 2045; westbound I-70 travel times on winter Saturdays between MP 241 and MP 252 are expected to peak at 7:00 in the morning (AM) at more than 90 minutes, compared to the current westbound winter Saturday peak of 60 minutes in the 7:00 AM hour.

Additionally, long travel times are expected to spread over longer periods of the day. Westbound travel times on winter Saturdays are expected to remain more than twice that of free flow conditions from approximately 6:00 AM to 4:00 in the afternoon (PM), and substantial delays of more than an hour will start earlier and last longer, occurring from 6:00 AM through 12:00 PM.

During these times, the Express Lane would offer a congestion-free lane for those who need a reliable travel time to reach their destination. The addition of the Express Lane under either action alternative substantially reduces peak winter travel time for all users, by more than 50 minutes (about 60 percent) when compared to the No Action Alternative. In the summer, peak period travel time would be reduced by about 20 percent when compared to the No Action Alternative (CDOT, 2020d).

Although any toll price is higher relative to income for low-income users, tolls are not expected to be cost prohibitive and would not exclude these populations from receiving the benefits associated with improved travel times throughout the corridor. Rather than converting an existing, general-purpose lane, the tolled Express Lane would provide an additional choice for travelers when a faster, more reliable trip is necessary. In addition, residents (including minority, low-income, and LEP populations) would benefit from the reduction in traffic volumes on local roads (CR 314 and US 6) because the Express Lane would provide a more reliable travel time and reduce diversions from I-70 that cause congestion on local roads. These improvements would also benefit emergency response times, which has been noted by the public as a concern in the Study Area.

Alternatives to the Express Lane will continue to be available to drivers, including the existing general-purpose lanes and existing transit services. The use of the existing general-purpose lanes would likely increase travel times over the Express Lane but would still provide substantial congestion relief over the No Action Alternative. CDOT may allow buses to use the Express Lane for free, which would decrease travel times for those relying on transit.

An Express Lane offers some level of operational flexibility as it can operate as a general-purpose lane outside of peak periods. While CDOT can make this determination based on traffic conditions in the corridor, this analysis assumes the new third westbound lane would operate as an Express Lane full time. Recent projects completed in Colorado that incorporate an Express Lanes either during peak periods only or full time have shown that under either condition, the tolled Express Lane concept does not result in a meaningful financial burden for lower-income commuters (e.g., Westbound and Eastbound Peak Period Shoulder Lanes, I-25 South Gap). Other studies conducted on Express Lane projects implemented in California and Texas reveal that although more frequent use is often exhibited by higher-income drivers, low-income drivers use Express Lanes voluntarily. In addition, most users, even those from higher-income households, choose the Express Lanes judiciously when they need to benefit the most from reduced congestion.

As with other tolled lanes in Colorado, customer accounts are handled by the tolling authority. The tolling authority works with customers to establish and maintain accounts. Accounts may be created by phone, online, or in person at a number of retail locations, such as grocery stores. Payments may currently be made by mail, phone, online, or in person at a customer service center. CDOT works with the local communities to identify whether alternative customer service and account policies and processes are needed to accommodate users.

Comments received from the public regarding the use of an Express Lane have focused on where the Express Lane would begin and how it would interact with local travel patterns. At the February 2020 public meeting, one resident opposed the Express Lane concept and one preferred it, noting that he was willing to pay for better travel times. The Project, with an Express Lane, not only provides an option for a congestion-free lane, it also improves traffic operations in the existing general-purpose

lanes. By offering more reliable travel times, the project provides improved travel choices to all populations, including minority and low-income drivers. The Floyd Hill neighborhood has raised some questions and concerns regarding how the Express Lane would affect traffic on US 40. This issue is discussed further in Section 8, Public and Agency Coordination.

Based on this analysis, the Express Lane tolls would not cause a disproportionately high and adverse effect on minority and/or low-income populations.

6.3.2 Construction Impacts

Both action alternatives would be constructed to minimize effects to the traveling public to the extent possible. Construction activities would affect the general population, including minority and low-income residents. These impacts would include traffic delays, temporary reduction in business activity, noise, lighting, and dust and would be primarily experienced when travelling through the Study Area.

As noted by Clear Creek County Health and Human Services, low-income, unemployed residents living in Idaho Springs would benefit from construction generated employment.

Differences between the action alternatives in terms of the intensity and duration of impacts during the construction period are documented in the *I-70 Floyd Hill to Veterans Memorial Tunnels Socioeconomic Resources Technical Report* (CDOT, 2020e). Impacts would not be considered adverse after mitigation and would not be predominately borne by minority, low-income, or LEP populations. For this reason, they are not discussed further in this analysis. No minority owned businesses or establishments that provide employment or services to minority or low-income populations have been identified in the Study Area.

6.4 Environmental Justice Determination

Section 6.1 defined the types of effects that are often relevant for environmental justice. Each of these effects are summarized in Exhibit 9.

Exhibit 9 Environmental Justice Impact Evaluation Summary: No Action, Tunnel, and Canyon Viaduct Alternatives

| Issue | Yes | No | Alternative | Impact Type | Beneficial or Adverse |
|--|-------------------------------------|-------------------------------------|-----------------------------------|------------------------------------|-----------------------|
| Would any businesses or residences be displaced? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Not Applicable | Direct, permanent | Not Applicable |
| Are changes in community cohesion expected? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Not Applicable | Direct, permanent | Not Applicable |
| Are changes in travel patterns expected? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Tunnel/Canyon Viaduct | Direct, permanent | Beneficial |
| Would improvements affect community facilities? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Not Applicable | Direct, permanent and/or temporary | Not Applicable |
| Would public safety be affected? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | No Action, Tunnel, Canyon Viaduct | Direct, permanent and/or temporary | Beneficial |

Based on Exhibit 9 and the analysis presented in Section 6.0 of this Technical Report, none of the alternatives under evaluation in the EA (the No Action Alternative, Tunnel Alternative, or Canyon Viaduct Alternative) would result in disproportionately high and adverse effects on minority and/or low-income populations in accordance with the provisions of EO 12898 and FHWA Order 6640.23. Other

populations protected under the umbrella of FHWA's Title VI program are not expected to experience disproportionately adverse effects as a result of the project. No further environmental justice analysis is required.

7 Mitigation

The analysis did not identify disproportionately high and adverse effects on protected populations, and additional mitigation is not required or recommended.

8 Public and Agency Coordination

One of the fundamental principles of environmental justice is to ensure the full and fair participation by all potentially affected communities in the transportation decision-making process. Community considerations have been integrated into the development of the Project through the CSS process during scoping, alternatives development, environmental analysis, and public and agency involvement. Throughout this process, efforts have been made to avoid and minimize adverse impacts to the community, and to incorporate features into the Project that address the concerns and desires of the Floyd Hill and Idaho Springs communities, while still meeting the Project's Purpose and Need.

Since minority, low-income, and LEP populations are present in the Study Area, translation services and targeted outreach were initiated for the Project. The level of services offered, and strategies developed to reach populations with LEP was adjusted in response to feedback received through public involvement efforts. Translation services were not utilized in initial outreach efforts and thus, did not become standard practice for the Project. Additional contact with the public did not indicate that additional strategies or services were warranted.

As of the writing of this technical report, two public meetings have been held for the Project. In June 2018, CDOT held a public meeting to introduce the Project to the community and solicit feedback on the Purpose and Need, Proposed Action, and environmental process. In February 2020, CDOT held a second public meeting to present the alternatives under consideration in the EA and solicit feedback about the design, schedule, and funding. Although the public meeting notice provided instructions for translation and special accommodations, no requests were made.

Comments received throughout the development of the Project have been generally supportive of the Project and revolved around construction duration and timing, the availability of detour routes, and the potential for environmental impacts.

The Floyd Hill neighborhood has expressed some concern surrounding the operation and management of the Express Lane, which is addressed in the *I-70 Floyd Hill to Veterans Memorial Tunnels Socioeconomic Resources Technical Report* (CDOT, 2020e).

9 References

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