



I-70 Floyd Hill to Veterans Memorial Tunnels

Socioeconomic Resources Technical
Report
May 2021

This page intentionally left blank.

Table of Contents

1	Introduction and Purpose of this Report	1
2	Proposed Action and Alternatives	2
2.1	Description of Proposed Action and Alternatives	2
2.2	No Action Alternative	5
2.3	Action Alternatives: East Section	5
2.4	Action Alternatives: Central Section	5
2.4.1	I-70 Mainline.....	6
2.4.2	Frontage Road.....	6
2.5	Action Alternatives: West Section	7
2.6	Construction of Action Alternatives	8
3	Applicable Laws, Regulations, and Guidance.....	9
4	Socioeconomic Resources in the Tier 1 PEIS.....	10
4.1	Context	10
4.2	Analysis in Tier 2 Processes	11
5	Affected Environment	12
5.1	Study Area.....	12
5.2	Environmental Conditions	13
5.2.1	Population, Household, and Housing Trends	14
5.2.2	Employment, Income, and Commuting Patterns.....	16
5.2.3	Local Economic Activity and the Recreational Economy	17
5.2.4	Neighborhood and Community Characteristics.....	18
5.2.5	Community Resources and Public Safety.....	19
6	Impacts.....	22
6.1	Methodology	22
6.2	No Action Alternative Impacts.....	23
6.3	Action Alternatives Impacts.....	23
6.3.1	Mobility.....	23
6.3.2	Community	23
6.3.3	Traffic	26
6.3.4	Safety.....	27
6.3.5	Employment, Revenue and Tax Base	27
6.4	Construction Impacts.....	28
6.4.1	No Action Alternative.....	28
6.4.2	Action Alternatives.....	28
7	Mitigation	30
7.1	Relevant Tier 2 Mitigation.....	30
7.2	Tunnel Alternative: North Frontage Road Option	31
7.2.1	Mitigation for Permanent Adverse Impacts	31
7.2.2	Mitigation for Temporary Impacts.....	31
7.3	Tunnel Alternative: South Frontage Road Option	32
7.3.1	Mitigation for Permanent Adverse Impacts	32
7.3.2	Mitigation for Temporary Impacts.....	33
7.4	Canyon Viaduct Alternative.....	33

7.4.1	Mitigation for Permanent Adverse Impacts	33
7.4.2	Mitigation for Temporary Impacts.....	33
8	References.....	34

List of Exhibits

Exhibit 1.	Project Location.....	3
Exhibit 2.	East, Central, and West Project Sections.....	4
Exhibit 3.	Socioeconomic Resources Study Area.....	13
Exhibit 4.	Study Area Population, Household, and Housing Statistics	14
Exhibit 5.	Employment and Income Statistics: Clear Creek County, Idaho Springs, and Floyd Hill....	16
Exhibit 6.	Economic Contribution of Outdoor Recreation in Colorado, North Central and Northwest Regions	18
Exhibit 7.	Community Resources	20
Exhibit 8.	Right of Way Requirements for the Action Alternatives.....	25
Exhibit 9.	Two Bears Tap and Grill and River Access Locations.....	26
Exhibit 10.	Recommended Mitigation Measures for Permanent Adverse Impacts of the Tunnel Alternative: North Frontage Road Option.....	31
Exhibit 11.	Recommended Mitigation Measures for Temporary Impacts of the Tunnel Alternative: North Frontage Road Option	32

List of Acronyms

AM	morning
CDOT	Colorado Department of Transportation
CMGC	Construction Manager/General Contractor
CPW	Colorado Parks and Wildlife
CR	County Road
dba	A-Weighted Decibels
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESRI	Environmental Systems Research Institute
FHWA	Federal Highway Administration
GDP	Gross Domestic Product
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
REMI	Regional Economic Models Inc.
ROD	Record of Decision
SCORP	Statewide Comprehensive Outdoor Recreation Plan
US 6	U.S. Highway 6
US 40	U.S. Highway 40

This page intentionally left blank.

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 existing conditions, impacts, and mitigation for socioeconomic resources. 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.

Events that occurred during the development of this report (the start of United States Census 2020 and the COVID-19 pandemic and associated economic shut down) could have long-term implications for economic conditions nationwide. While these events likely will have some effect on Clear Creek County, it is too soon to predict what these impacts might be and how they might interact with local economic conditions. For this reason, they are not addressed by this analysis.

2 Proposed Action and Alternatives

2.1 Description of Proposed Action and Alternatives

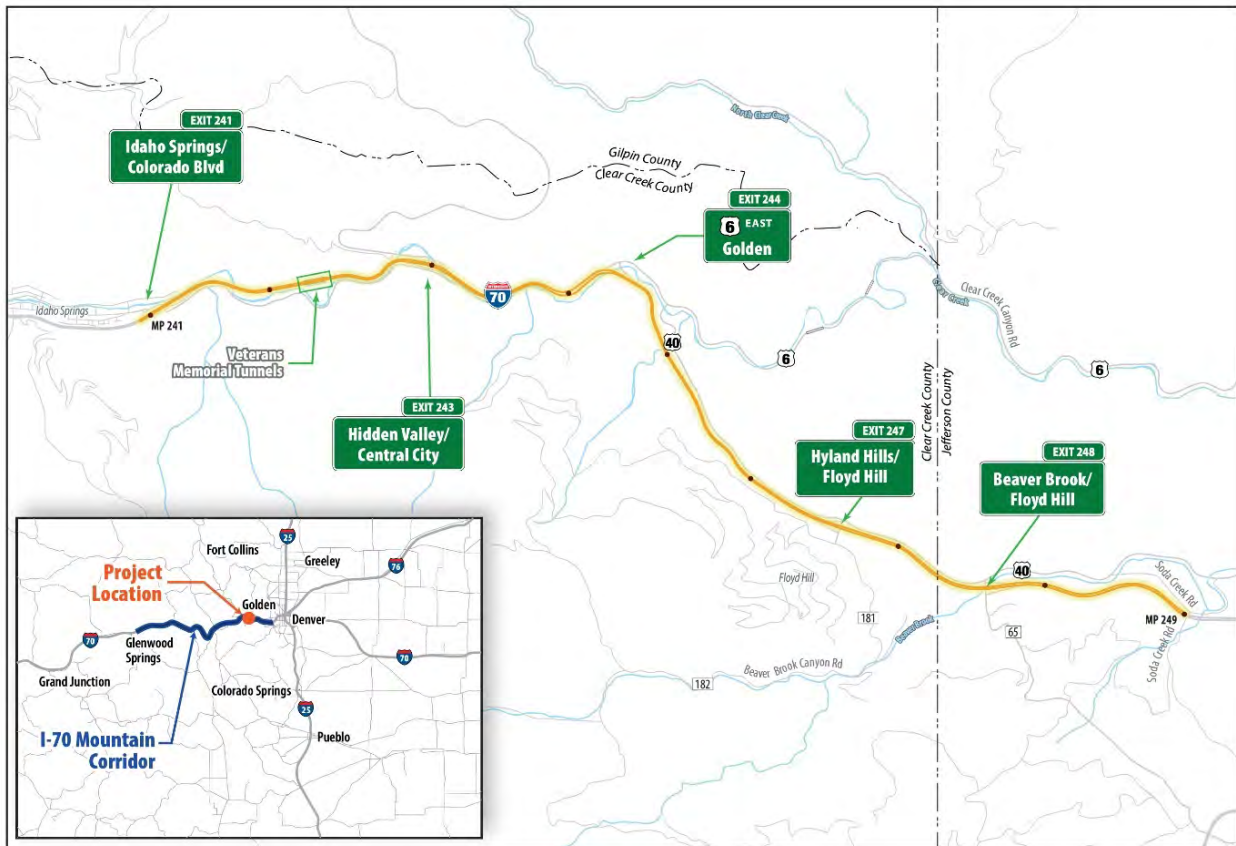
CDOT and FHWA propose improvements along approximately 8 miles of the I-70 Mountain Corridor from the top of Floyd Hill through the Veterans Memorial Tunnels to the eastern edge of Idaho Springs. The purpose of the Project is to improve travel time reliability, safety, and mobility, and address the deficient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

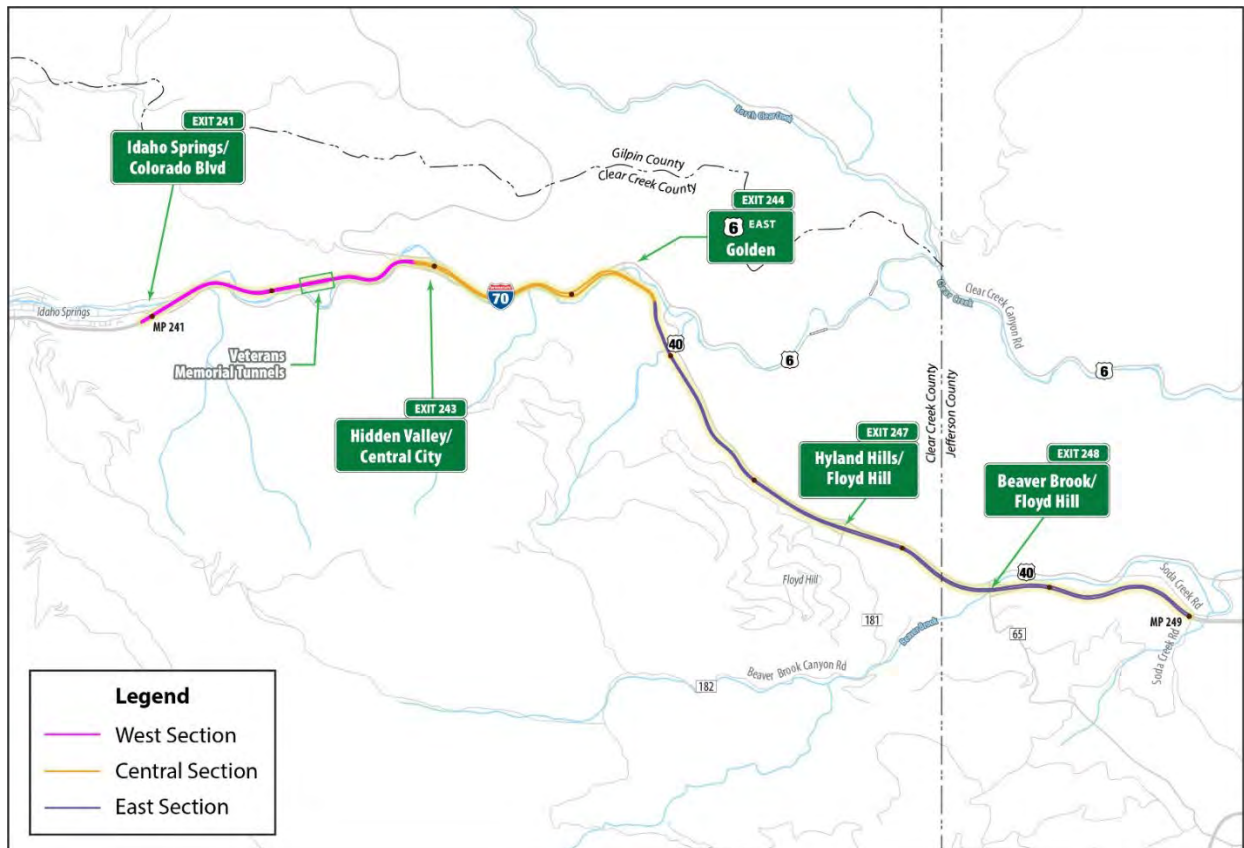
The Project is located on I-70 between MP 249 (east of the Beaver Brook/Floyd Hill interchange) and MP 241 (Idaho Springs/Colorado Boulevard), west of the Veterans Memorial Tunnels. It is located mostly in Clear Creek County, with the eastern end in Jefferson County (see Exhibit 1). The primary roadway 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), and 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 the 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

The Socioeconomic Resources Technical Report is prepared in accordance with all applicable guidance for addressing social and economic effects as required by NEPA and described in CDOT's NEPA Manual (CDOT, 2020b). Federal and state regulations and guidance applicable to social and economic resources are summarized below. No local guidance or regional regulations or guidelines specific to socioeconomic resources were identified.

- **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 potential for impacts to neighborhoods, community cohesion, travel patterns and accessibility, businesses, and community resources as well as effects to social groups, including "the elderly, handicapped, nondrivers, transit-dependent, and minority and ethnic groups."
- **Section 1508.14 of Council on Environmental Quality Regulations (2005):** Require that environmental documentation address the economic, social, natural, and physical effects of an action on the human environment.
- **Sections 109(h) and 128, Title 23 of the United States Code on Highways (2012):** Assures that community cohesion, availability of public facilities and services, and economic and social effects are assessed during highway developments.
- **CDOT's NEPA Manual (2020):** CDOT evaluates socioeconomic resources to comply with federal requirements, as well as identify and involve communities that will be affected by transportation projects. CDOT's NEPA Manual provides guidance on the analysis of socioeconomic resources, including the evaluation and application of demographic and economic data, community cohesion, public services and facilities, mobility, and safety.

Although there are other laws, regulations, and federal guidance that include social and economic resources, only those that guide the analysis for this Project are discussed. The following laws and executive orders, also relevant to social and community resources, are addressed primarily in the Environmental Justice Technical Report.

- **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.
- **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."
- **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.

4 Socioeconomic Resources in the Tier 1 PEIS

4.1 Context

The Tier 1 PEIS and associated *I-70 Mountain Corridor PEIS Social and Economic Values Technical Report* (CDOT, 2011) provide an overview of socioeconomic issues from a regional perspective. The analysis focused on the regional mountain economy defined by the nine counties whose access and workforce are tied to I-70.¹ Information regarding population and growth trends, employment and commuting patterns, safety, tourism, and second home growth were evaluated for the PEIS. Data was acquired from the Demography Section of the Colorado Department of Local Affairs (DOLA), the Denver Regional Council of Governments (DRCOG), the Northwest Colorado Council of Governments, and I-70 Mountain Corridor counties.

A Regional Economic Models Inc. (REMI) economic model was used to evaluate effects on the regional economy associated with transportation changes in the I-70 Mountain Corridor. Because the results were regional in nature, the REMI model was not used to predict localized economic conditions or impacts. The model predicted that the Preferred Alternative would have a positive effect on economic conditions in the I-70 Mountain Corridor due to increased visitor numbers and induced growth. Clear Creek County was not expected to see as much economic (or population) growth as the other I-70 Mountain Corridor counties because land areas adjacent to I-70 within Clear Creek County have limited development potential due to environmental constraints (steep slopes and geologic hazards). In addition, a large portion of Clear Creek County consists of National Forest System and other public lands that are not available for development.

The PEIS concluded that construction-related congestion and travel delays in the Corridor would affect residents and visitors throughout the construction period. Businesses in Idaho Springs were expected to be affected by restricted access, travel delays, and other construction activities. Localized impacts were expected to be most prominent in Clear Creek County because the Preferred Alternative identifies more construction within Clear Creek County than in other Corridor counties overall. In addition, historic trends indicate that Clear Creek County has not benefitted from I-70 improvements in proportion to Corridor counties to the west. The PEIS identified long-term benefits for emergency services throughout the Corridor because safety improvements were expected to reduce the number of incidents on I-70 overall. Improvements in highway safety were particularly expected to benefit Clear Creek County because the county's I-70 highway-related emergency response expenses were identified as being disproportionately high.

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 particular concern in this area. However, the PEIS concluded the Preferred Alternative, which includes capacity improvements on I-70 through Clear Creek County, would contribute to growth and commuting pressures in counties to the west that struggle with affordable housing due to pressures from second-home ownership.

¹ Garfield, Eagle, Pitkin, Summit, Lake, Park, Grand, Gilpin, and Clear Creek. Jefferson County was not included because its economy is tied to the Denver metropolitan area rather than to tourism in the I-70 Mountain Corridor.

4.2 Analysis in Tier 2 Processes

As a Tier 2 NEPA process, the I-70 Floyd Hill to Veterans Memorial Tunnels Environmental Assessment is evaluating socioeconomic resources within the parameters and guidance outlined in the Tier 1 process. Commitments from the PEIS regarding socioeconomic resources applicable to this Tier 2 process include analyzing the potential for short-term (construction related) and long-term economic impacts at the local level. The PEIS acknowledged that REMI modeling, although effective in understanding regional conditions, is limited in its ability to forecast impacts at the local level. As such, it has not been utilized in Tier 2 processes.

5 Affected Environment

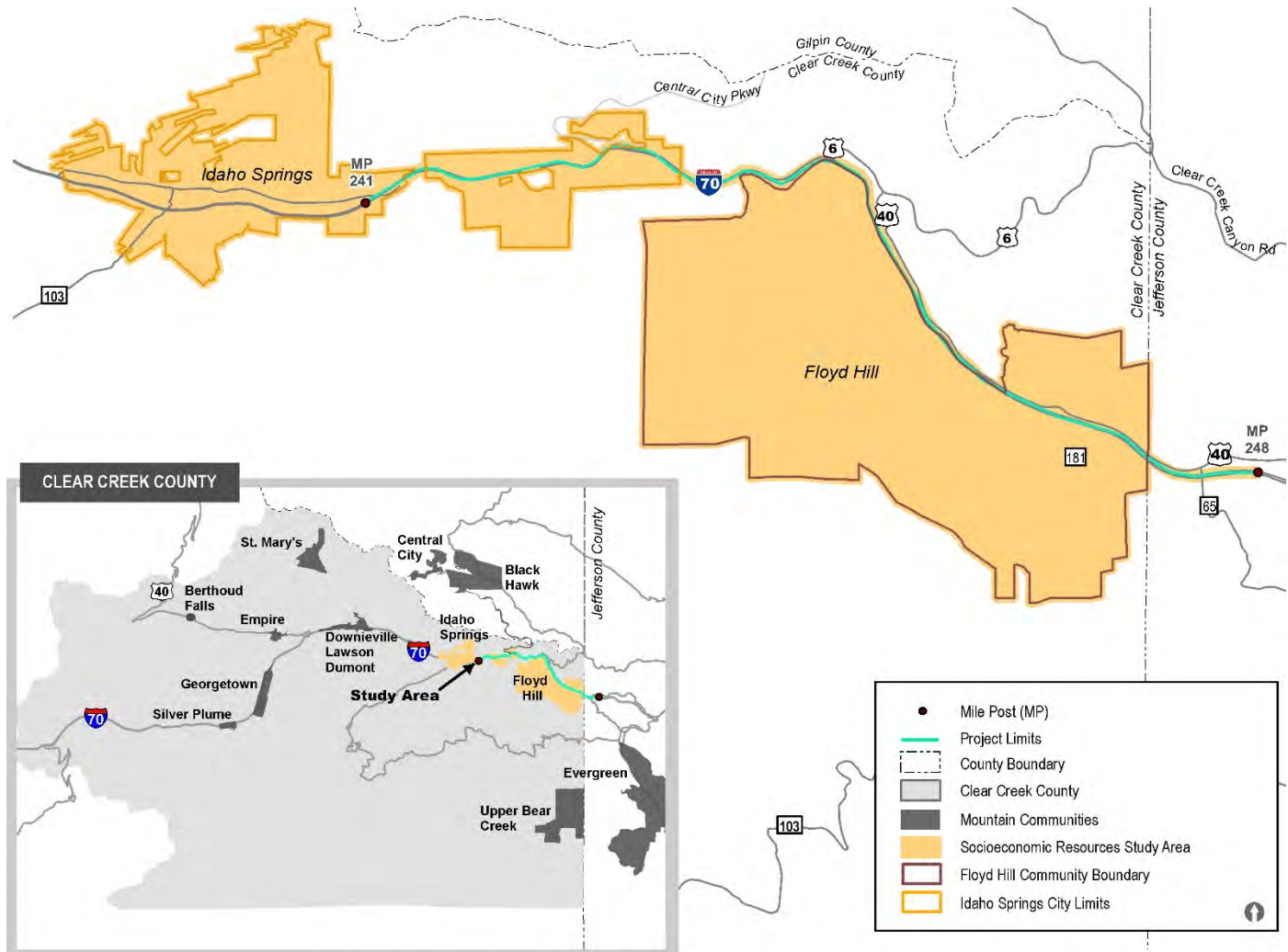
5.1 Study Area

The Study Area for socioeconomic resources should include, at a minimum, communities within and immediately adjacent to a project. In addition, it should be defined so that it generates the information that is most meaningful to the public and decision makers. Based on these factors, the Study Area for this Tier 2 socioeconomic analysis is defined as I-70 between MP 248 and MP 241 as well as the adjacent communities of Floyd Hill and Idaho Springs, where most of the population is located (see Exhibit 2).²

While the Study Area has been defined to focus on localized conditions and effects, it is acknowledged that I-70 is critical to the overall economy of Clear Creek County. Therefore, the analysis expands to include additional areas within Clear Creek County when applicable. The data sources that support the socioeconomic analysis are typically available at larger geographical scales, such as the U.S. Census Tract, city, or county level, which further supports the consideration of a larger geographical area and provides additional context for the analysis. Like the PEIS, data specific to Jefferson County is not included because its population and economy is tied to the Denver metropolitan area rather than to the Study Area.

² The Study Area was defined in late 2018, when the Project limits initially extended between MP 248 and MP 241. In early 2020, the Project limits were expanded an additional mile to the east (to MP 249) to capture the limits of wildlife fencing opportunities. This change does not require modification to the Study Area as initially defined for socioeconomic resources because it extends further into Jefferson County, which is not included in the analysis. In addition, no improvements other than wildlife fencing, signing, and striping would occur in this area, which would have negligible consequences for socioeconomic conditions in the Study Area.

Exhibit 3. Socioeconomic Resources Study Area



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

Note: The boundaries of Floyd Hill and Idaho Springs, as shown, are defined by the U.S. Census Bureau.

5.2 Environmental Conditions

I-70 is the main travel corridor through the Study Area, providing access to the Denver metropolitan area to the east, and serving as a critical link for recreational and economic activity to the west. It is also a critical point of access for the local communities of Floyd Hill and Idaho Springs, whose residents rely on the highway for local travel and connections to other communities. This section defines the existing social and economic composition of the Study Area. It evaluates population, household, and housing trends, employment, income, commuting patterns, local economic activity and the recreational economy, neighborhood and community characteristics, the availability of community resources, and public safety.

Because social and economic conditions tend to be more qualitative, dynamic, and intangible, public involvement is critical in defining the local context and understanding community concerns. CDOT has held public meetings for the Project in June of 2018 and February of 2020 to introduce the Project to

the public, present alternatives under consideration, and solicit feedback on the environmental process. Comments received have generally been supportive of the project and have revolved around construction duration and timing, the availability of detour routes, as well as the potential for environmental impacts.

The Floyd Hill neighborhood has expressed some concern surrounding the operation and management of the Express Lane. Although they are supportive of an Express Lane concept, they are concerned about its location and management within the Project area and potential effects on US 40. The neighbors are also very supportive of intersection improvements that would be constructed as a separate project along US 40 at County Road (CR) 65 and Homestead Road but had some comments on the roundabout designs, which are beyond the scope of the Floyd Hill Project as currently designed.

5.2.1 Population, Household, and Housing Trends

Clear Creek County's population has been relatively stagnant with mild fluctuations over the past 20 years. As presented in Exhibit 3, both Clear Creek County and Idaho Springs experienced a decrease in total population between 2000 and 2010 (2.5 percent and 9.1 percent respectively). Population gains between 2010 and 2017 indicate a reversal of this trend, especially in Idaho Springs where population grew by 14.7 percent during this period, but growth remains slow in Clear Creek County overall. Population statistics for the Floyd Hill area indicate a more stable increase in population, which is consistent with its association to the more rapidly growing Denver metropolitan area to the east.

Population forecasts prepared by DOLA indicate that Clear Creek County will reach a population of 12,037 by 2045 (DOLA, 2020a). This would result in a total population increase of approximately 30 percent from 2017. Most growth in Clear Creek County is expected to occur in unincorporated areas, mainly in the eastern portions of the county along State Highway (SH) 103 and in areas surrounding Floyd Hill and Upper Bear Creek (see Exhibit 2). Historical growth trends in Clear Creek County show slower growth than surrounding counties, with little population growth pressure. As reported in the Twin Tunnels EA (CDOT, 2012), neither Idaho Springs nor Clear Creek County has identified population growth as an issue of concern in the Study Area.

Exhibit 4. Study Area Population, Household, and Housing Statistics

Variable	Year			% Change 2000-2010	% Change 2010-2017
	2000	2010	2017		
Population					
- Clear Creek County	9,322	9,088	9,257	-2.5%	+1.9%
- Idaho Springs	1,889	1,717	1,970	-9.1%	+14.7%
- Floyd Hill	941 ¹	998	1,133	+6.1%	+13.5%
Households					
- Clear Creek County	4,019	4,208	4,374	+4.7%	+3.9%
- Idaho Springs	841	828	958	-1.5%	+15.7%
- Floyd Hill	385 ¹	432	502	+12.2%	+16.2%
Household Size					
- Clear Creek County	2.31	2.14	2.09	-7.4%	-2.3%
- Idaho Springs	2.25	2.07	2.06	-8.0%	-0.5%

Variable	Year			% Change 2000-2010	% Change 2010-2017
	2000	2010	2017		
- Floyd Hill	----	2.31	2.26	----	-2.2%
Housing Units					
- Clear Creek County	5,128	5,685	5,756	+10.9%	+1.2%
- Idaho Springs	946	932	939	-1.5%	+0.1%
- Floyd Hill	421 ¹	483	502	+14.7%	+3.9%
Owner Occupied Housing Units					
- Clear Creek County	3,059	3,227	3,377	+5.5%	+4.6%
- Idaho Springs	489	462	564	-5.6%	+22.1%
- Floyd Hill	----	397	452	----	+13.9%
Median Property Value					
- Clear Creek County	\$200,400	\$280,000	\$317,000	+39.7%	+13.2%
- Idaho Springs	\$151,900	\$177,300	\$200,000	+16.7%	+12.8%
- Floyd Hill	----	\$390,500	\$400,000	----	+2.4%
Median Age					
- Clear Creek County	40.2	46.6	47.2	+15.9%	+1.3%
- Idaho Springs	38.7	44.8	44.1	+15.8%	-1.6%
- Floyd Hill	----	47.4	47.6	----	+0.4%

U.S. Census Bureau, 2000 and 2010, Table DP-1; U.S. Census Bureau, 2018b, 2013-2017 American Community Survey 5-Year Estimates, Table DP-05, S1101, and B25077; Clear Creek County, 2018, *2018 Housing Needs Assessment Update and Feasibility Study*.

¹ The 2000 Census did not report demographic data for census designated places, such as Floyd Hill. Year 2000 data for Floyd Hill is provided by ESRI Business Analyst and Economic & Planning Systems as presented in Clear Creek County's *2018 Housing Needs Assessment Update and Feasibility Study* (Clear Creek County, 2018); information related to household size, ownership, property value, and median age for the year 2000 was not included in this dataset.

Between 2000 and 2010, Clear Creek County gained 189 households and 557 new housing units. When housing units grow more than households in mountain areas, it typically indicates an increase in second homes (Clear Creek County, 2018). Since 2010, growth has increased in population and households, but slowed for housing unit construction. This may indicate an increase in full time residents moving to Clear Creek County (Clear Creek County, 2018). Of the new housing units in the county, most were constructed in St. Mary's (northwest of the Study Area), Floyd Hill, and southeast of the Study Area along SH 103 and Upper Bear Creek. These homes were 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).

As shown in Exhibit 3, household size within the Study Area has seen a consistent decline over the past 20 years. These smaller households typically consist of couples without children, and/or residents aging in place. Currently, one in five people in Clear Creek County are over 65, and of the over 65 population, one in four live alone (Clear Creek County, 2018). Clear Creek County acknowledges that it is a challenge for the county to attract people who want to stay long-term and/or raise a family in the county and has identified three main concerns related to housing: (1) availability; (2) quality/age; and (3) affordability (Clear Creek County, 2018). Although an increase in second home ownership is a

growing trend in parts of Clear Creek County, it appears to be a greater concern for communities west of the Study Area. However, the availability of affordable, long-term rental units is limited within the Study Area and includes three apartment complexes in Idaho Springs. Median property values are highest in Floyd Hill, and closer inspection of county parcel data and real estate websites (e.g., Zillow) indicate that many homes near I-70 in Floyd Hill are owner-occupied and valued at over one million dollars. This indicates that Floyd Hill generally does not support housing needs for local residents and the area workforce (see Section 5.2.2 for additional information).

Additional information regarding population and household characteristics (i.e., race, age, disability, transit dependence, and LEP) can be found in the Environmental Justice Technical Report.

5.2.2 Employment, Income, and Commuting Patterns

As shown in Exhibit 4, in 2017 Clear Creek County had an estimated labor force of 5,421 and an unemployment rate of 3.2 percent (U.S. Census Bureau, 2018b). Unemployment is currently highest in Idaho Springs (8.7 percent) and lowest in Floyd Hill (1.2 percent). As shown in Exhibit 5, employment forecasts for the year 2040 (the last year for which forecasts are currently provided by DOLA) indicate that while the labor force of Clear Creek County is expected to increase by approximately 19 percent (from 5,421 in 2017 to 6,467 in 2040), unemployment is also expected to increase by 1.9 percent, to a total of 5.1 percent (DOLA, 2020b).

Exhibit 5. Employment and Income Statistics: Clear Creek County, Idaho Springs, and Floyd Hill

Variable	Clear Creek County		Idaho Springs	Floyd Hill
	2017	2040	2017	2017
Population 16 years and Over	7,947	----	1,629	1,067
In Labor Force	5,421	6,467	1,107	736
Employed	5,250	6,152	1,011	727
Unemployed	171	328	96	9
Unemployment Rate	3.2%	5.1%	8.7%	1.2%
Median Household Income	\$69,534	----	\$50,833	\$106,136

Source: Census Bureau, 2018b, 2013-2017 American Community Survey 5-Year Estimates, Table DP-03. Employment forecasts provided by DOLA, 2020b.

Household income varies throughout the Study Area. Households in Floyd Hill report the highest median incomes (\$106,136) as compared to Idaho Springs, which reports a lower median income (\$50,833) than Clear Creek County (\$69,534) (U.S. Census Bureau, 2018b). This is consistent with data reported in Exhibit 3, which indicates housing values and other demographic variables in the eastern portion of the Study Area are more closely tied to that of the Denver metropolitan area.

Clear Creek County estimates that approximately 70 percent of the labor force commutes out of the county for work. Most out-commuters are leaving Clear Creek County for employment in Jefferson, Adams, Denver, and Arapahoe Counties. A big portion of the population commuting out of Clear Creek County for work live in eastern Clear Creek County in Floyd Hill or Upper Bear Creek (Clear Creek County, 2018). This large out-commute means that an important part of Clear Creek County's economic base, its residents' personal income, is derived from income and employment generated outside the county.

While a large proportion of the local labor force commutes out of the county for work, many jobs within Clear Creek County are filled by non-residents (primarily from Jefferson and Denver Counties) commuting into the county for employment. Stakeholders involved in Clear Creek County's *2018 Housing Needs and Assessment Update and Feasibility Study* (Clear Creek County, 2018) observed that most of their management and professional level employees commute from other areas, especially the Denver metropolitan area for several reasons which they stated include substandard housing conditions and availability, underperforming public education, and lack of employment opportunities for partners or spouses. The current pattern of both in-commuting and out-commuting is expected to continue into 2035, which is the forecast year used in the *Housing Needs and Assessment Update and Feasibility Study* (Clear Creek County, 2018).

A review of industry data from DOLA reveals the influence of tourism on the economy of Idaho Springs with 43 percent of residents employed in the arts, entertainment, recreation, accommodation and food services industry with an additional 15 percent in retail trade. Industry employment is more evenly distributed in Floyd Hill. Approximately 27 percent of residents in the Floyd Hill area work in the retail industry, followed by construction (22 percent) and professional services (18 percent). Based on commuting trends, it is likely that many of the residents in the Study Area are commuting to the Denver metropolitan area, Central City, Black Hawk, and to other recreation destinations along I-70 to the west for these jobs.

5.2.3 Local Economic Activity and the Recreational Economy

Notable economic activity within the Project limits includes a local restaurant (Two Bears Tap and Grill) and river recreation outfitters. Two Bears Tap and Grill, a long-established business with strong community ties is located immediately north of the US 6 interchange in the Central Section of the Project. The owners have expressed concern about changes to their existing access and the effect that would have on business operations and patronage. As noted in the Recreational Resources Technical Report, there are 15 private rafting companies in the County that provide rafting opportunities in Clear Creek, and four local fishing outfitters, with multiple access points from I-70 via US 6 near the US 6 interchange.

Idaho Springs represents the largest concentration of economic activity in the Study Area. As noted in Section 5.2.2, the economy is largely reliant on tourism and recreation spending, an industry which is growing throughout Clear Creek County because of an increase in demand from the growing Denver metropolitan area for nearby, accessible recreation. The Westbound Peak Period Shoulder Lane Categorical Exclusion (CDOT, 2018) reports that retail businesses account for about 20 percent of all Idaho Springs businesses, with boutique-retail establishments being particularly prominent. The accommodation and food and drinking establishments account for another 20 percent of all businesses. When these are combined with other tourism and recreation-oriented businesses, they comprise about 47 percent of all businesses in Idaho Springs (CDOT, 2018).

Colorado's outdoor recreation and tourism industry is a significant economic driver statewide and in the Study Area. In 2017 outdoor recreation in Colorado contributed \$62.5 billion in economic output, \$35.0 billion in Gross Domestic Product (GDP) (10 percent of the entire state GDP), \$9.4 billion in local, state and federal tax revenue, and 511,000 jobs in the state (18.7 percent of the labor force) (Colorado Parks and Wildlife [CPW], 2018). Colorado's 2019 Statewide Comprehensive Outdoor Recreation Plan (SCORP) documents the economic importance of outdoor recreation to the state, public opinion on statewide and local priorities, and emerging issues and needs in land management (CPW, 2018). Of the seven distinct travel regions identified in the SCORP, the Study Area is in the North Central Region (defined as the area north and the foothill regions west of the Denver Metro Area - including Fort

Collins, Boulder, Greeley, Idaho Springs and Estes Park). The economic contribution of outdoor recreation for the North Central Region is presented in Exhibit 5. The Study Area is also the gateway to the Northwest region (defined as the area west of the Continental Divide and north to the Wyoming border - including Grand Junction, Breckenridge, Vail, and Steamboat), which included the largest amount of outdoor recreation spending at \$10.3 billion, followed by the North Central region at \$9.6 billion. Combined, these two regions accounted for over half of all the outdoor recreation spending within Colorado.

Exhibit 6. Economic Contribution of Outdoor Recreation in Colorado, North Central and Northwest Regions

	North Central Region	Northwest Region
	\$ values in millions (% of outdoor recreation spending within Colorado)	
Total Spending	\$9,568 (26%)	\$10,312 (28%)
Output ¹	\$13,846 (22%)	\$14,879 (24%)
Salaries and Wages	\$4,384 (21%)	\$5,088 (24%)
GDP Contribution	\$7,487 (21%)	\$8,276 (24%)
State/Local Taxes	\$1,002 (23%)	\$1,231 (28%)
Federal Taxes	\$1,074 (21%)	\$1,195 (23%)
	Number of Jobs (% of jobs in Colorado)	
Jobs	119,958 (24%)	133,658 (25%)

Source: CPW, 2018.

¹ Output reflects the sum of the direct, indirect, and induced contributions resulting from the original retail sale. This figure explains the total activity in the economy generated by a retail sale.

The 2019 Colorado Business Economic Outlook reports that outdoor recreation is also a top factor driving net in-migration to Colorado, particularly among professional millennials, fueling a strong employment base for all sectors in the state (University of Colorado, 2019).

As noted in the Twin Tunnels EA (CDOT, 2012), recreational travel within and through Clear Creek County is the predominant contributor to peak I-70 highway traffic, especially during summer and winter weekends and holidays. According to the SCORP, the top three barriers to recreational participation are limited time, traffic congestion, and crowding. Consistent with this, the Eastbound Peak Period Shoulder Lane Categorical Exclusion (CDOT, 2014) reported that congestion during peak travel times affects local travel, suppresses the number of skier and other recreational visits, and negatively affects local businesses that rely on the tourism economy. The Eastbound Peak Period Shoulder Lane project, along with the Twin Tunnels projects, are credited with supporting continued growth in Colorado's important ski industry, which has seen more than 12 million ski visits each of the past five years and contributes more than \$5 billion to the Colorado economy (University of Colorado, 2019; RRC Associates, 2015).

5.2.4 Neighborhood and Community Characteristics

Most of the population and housing within the Study Area is concentrated in the communities of Floyd Hill and Idaho Springs. The impact of I-70 on these communities is notable and the highway has been, and continues to be, an integral part of their character and economy. The Floyd Hill neighborhood is the largest unincorporated community in Clear Creek County, and serves as the eastern gateway to the

county, generally extending along I-70 west from the Jefferson County border to the US 6/Golden interchange. It is a low-density rural residential mountain community, with relatively steep terrain, dramatic elevation changes, and unique geologic formations. Residents generally rely on services provided in Idaho Springs to the west and Evergreen, located southeast of the Study Area along SH 74. Except for the Floyd Hill Business Park and a few scattered residences along US 40, the community is located on the south side of the highway. The Floyd Hill/Beaver Brook and Floyd Hill/Hyland Hills split diamond interchange provides local access to the community. As can be seen in Exhibit 1, residents driving in the westbound direction must use the Floyd Hill/Beaver Brook exit and travel along US 40 for one mile to the Floyd Hill/Hyland Hills interchange, cross over I-70 on the bridge (because there is no westbound exit in this location), and route back via Beaver Brook Canyon Road. Congestion on I-70 is a concern for the community because the Floyd Hill/Beaver Brook and Floyd Hill/Hyland Hills split diamond interchange represents the only access point and exit route in the event of an emergency.

Idaho Springs borders Floyd Hill to the west and contains the largest share of the county's population. It is a historic mining town and offers a variety of community services and recreational activities to local and regional populations. The Idaho Springs comprehensive plan, *Envision Idaho Springs* (Idaho Springs, 2017) delineates two neighborhoods, or character areas, within the city: Sunnyside (closest to the western Project limits) and Northside (to the west of Sunnyside). Both neighborhoods consist primarily of mature and established residences, built in the late 1800s and early 1900s. Preserving and protecting existing structures and character in these areas is a priority for the city as is limiting opportunities for pass through traffic on adjacent roadways. In contrast to Floyd Hill, Idaho Springs is largely dependent on travelers along I-70 for tourism earnings. As noted in the PEIS, any restriction of visitor access to Idaho Springs due to highway construction work would negatively affect its local businesses. However, construction of other Tier 2 projects has shown to have a positive effect on sales tax revenue in Idaho Springs. This is discussed further in Section 7.1.

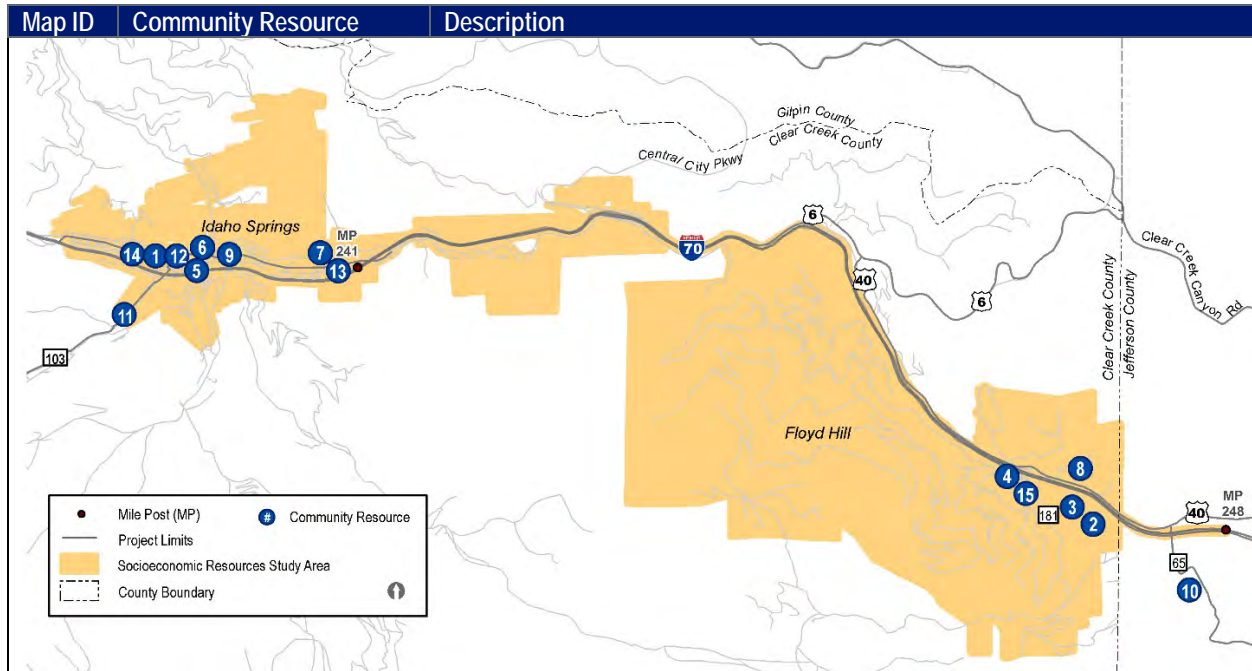
Other communities with social and economic ties to the Study Area include Upper Bear Creek and Evergreen to the southeast and Black Hawk and Central City to the north.

5.2.5 Community Resources and Public Safety

Community resources in the Study Area are presented in Exhibit 6. In addition to these resources, there are many parks and other recreational amenities in the Study Area that are important to the community. These are addressed in the Recreational Resources Technical Report. As shown in Exhibit 6, one place of worship is located within the Study Area, in Floyd Hill. Other churches of different denominations, not shown in Exhibit 6, are located throughout Idaho Springs (the closest is more than 0.5 mile from the western Project limits) and along SH 74 in Evergreen, outside of the Study Area.

As shown in Exhibit 6, most community resources are located within Idaho Springs. Three community resources are located in Floyd Hill (Clear Creek High School, Clear Creek Middle School, and a daycare/preschool). Clear Creek Emergency Medical Services (EMS) provides ambulance and emergency response for most crashes on I-70 within the Study Area and throughout Clear Creek County, covering a geographic area of I-70 from the Eisenhower-Johnson Memorial Tunnels on the west to Floyd Hill on the east (approximately 50 miles). The lack of alternate routes through the Study Area hampers emergency response, especially during peak travel periods where congested conditions make it difficult to get to emergencies. Because no hospitals are located in Clear Creek County, emergency responders must travel about 30 miles east to Jefferson County for those incidents requiring hospital services. Clear Creek County Sheriff's Office, located in Georgetown, responds to other non-crash related calls throughout the county.

Exhibit 7. Community Resources



Map ID	Community Resource	Description
Schools		
1	Carlson Elementary School	Located within the Study Area in downtown Idaho Springs; serves 223 students in grades preschool to 6
2	Clear Creek Middle School	Located within the Study Area at the top of Floyd Hill; serves 112 students in grades 7 and 8
3	Clear Creek High School	Located within the Study Area at the top of Floyd Hill; serves 222 students in grades 9 to 12 from the communities of Idaho Springs, Georgetown, Silver Plume, Empire, Berthoud Falls, Dumont, Downieville, Lawson, and parts of Evergreen
4	Bearly Tawl Day Care	Located in the Study Area along Hyland Drive in Floyd Hill; early learning center and preschool
Health and Public Safety		
5	Centura Health Physician Group Primary Care - Idaho Springs	Located within the Study Area in Idaho Springs; offers pediatric and adult primary health care services
6	Jefferson Center for Mental Health	Located within the Study Area in Idaho Springs; offers physical and behavioral health care services
7	Idaho Springs Police Department	Located within the Study Area in Idaho Springs; serves the community of Idaho Springs
8	Clear Creek Fire Authority Fire Station	Located within the Study Area in Floyd Hill (Station #6); offers consolidated fire protection and emergency service to incorporated and unincorporated Clear Creek County
9	Idaho Springs Fire Station	Located within the Study Area in Idaho Springs; offers fire protection and emergency service to Idaho Springs
10	Evergreen Fire Rescue Station	Evergreen Fire Rescue covers 125 square miles in Jefferson, Park & Clear Creek Counties including Floyd Hill; Floyd Hill Station #7 is located just outside of the Study Area on CR 65
11	Clear Creek EMS	Clear Creek County EMS Station 2a is located in the Study Area in Idaho Springs; responds to most crashes on I-70 within the Study Area and throughout Clear Creek County
Recreation Facilities¹		

Map ID	Community Resource	Description
12	Idaho Springs Public Library	Located within the Study Area in Idaho Springs; part of the Clear Creek Library District
13	Clear Creek Metropolitan Recreation District Ball Field Complex (Shelly/Quinn Fields)	Located within the Study Area in Idaho Springs; includes two lighted softball/youth ball fields, concessions, restrooms, picnic tables, and a gravel parking area
14	Clear Creek Recreation Center	Located within the Study Area in Idaho Springs; includes a 6-lane 25-yard pool with a diving board, a wading pool, hot tub and outdoor sun deck
Places of Worship		
15	Roots of the Messiah Orthodox Church	Located within the Study Area in Floyd Hill, along Hyland Drive.

¹ Exhibit 6 is focused on community facilities and services. Numerous parks and additional recreational amenities are located within the Study Area. These resources are described in the Recreational Resources Technical Report.

6 Impacts

A socioeconomic impact assessment evaluates the ways in which a proposed action (and its alternatives) affect social and economic resources. Transportation projects can have both positive and negative effects on communities and local economies. These effects are generally related to the following factors:

- Direct or indirect induced population or economic growth
- Changes to the character or cohesion of an established community
- Property displacements
- Changes in accessibility to residences, businesses, or services
- Changes in traffic volumes
- Changes in the community tax base
- Short-term construction activities

In accordance with CDOT's NEPA Manual, Version 6 (CDOT 2020b), the socioeconomic impact analysis for this Project focuses on the potential for impacts to mobility, community, traffic, safety, and employment, revenue, and tax base. Together these issues capture the human framework for the consequences of the Project and support efforts toward context sensitive planning, design, and decision making throughout the I-70 Mountain Corridor.

6.1 Methodology

This socioeconomic impact assessment has been prepared in accordance with state and federal guidance (Section 3). Demographic and other information presented throughout Section 5 form the social and economic baseline for analysis of potential impacts. This baseline is then considered in the context of the proposed improvements, using information provided by the design team and other environmental specialists. As noted in Section 4.2, the analysis is qualitative and does not rely on economic modeling, which is limited in its ability to predict impacts at local levels.

The analysis considers the potential for both adverse and beneficial impacts. Because social and economic impacts are typically broad and community based, they are described for the Study Area as a whole, rather than detailed by Project section. Impacts are assessed for the No Action Alternative, Tunnel Alternative, and Canyon Viaduct Alternative. In most cases, impacts to social or economic resources would be the same under either action alternative. To avoid redundancy, impacts are described for both action alternatives in Section 6.3. Where differences occur, they are noted. Construction related impacts are addressed in Section 6.4.

Because the tourism industry is such an important element of the local economy, impacts to recreation and retail industry are given careful consideration throughout the impact analysis. Concerns raised by the public related to access, traffic, and safety are also addressed.

As noted in Section 1, the Covid-19 pandemic and associated economic shut down could have long-term implications for economic conditions nationwide. Although the crisis will likely have some effect on Clear Creek County, it is too soon to predict what these impacts would be and how they would interact with local economic conditions. It is reasonable to assume that the Project would have a positive effect on the economy during an economic slowdown because improvements to this section of I-70 would support the recreation industry and provide employment opportunities throughout the construction period.

6.2 No Action Alternative Impacts

The No Action Alternative would replace the existing bridge at the bottom of Floyd Hill, improving safety for Study Area residents. Temporary impacts to socioeconomic resources during the construction period are discussed in Section 6.4.

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. 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 Project limits and for area residents to access employment, recreation, and services in Idaho Springs. Nothing would be done to address wildlife-vehicle collisions or improve sight distance.

6.3 Action Alternatives Impacts

Both action alternatives would improve socioeconomic conditions by reducing congestion, addressing safety concerns, providing redundancy through the frontage road connection, and improving emergency response times. Impact considerations specific to mobility, community, traffic, safety, and employment, revenue, and tax base are discussed in Sections 6.3.1 through 6.3.5. Temporary impacts to socioeconomic resources during the construction period are discussed in Section 6.4.

6.3.1 Mobility

For this analysis impacts to mobility are evaluated in terms of changes in travel patterns and accessibility and how those changes affect communities. Access at the US 6 interchange would be revised under both action alternatives. In the westbound direction, access from I-70 would be reconstructed in the same general location. In the eastbound direction, access would no longer be provided from the highway, which is currently provided through a left lane exit. Instead, access would be provided from the new frontage road between US 6 and CR 314. Eastbound travelers needing to access US 6 would need to get on the frontage road at the Hidden Valley/Central City interchange. Signage will be needed to alert drivers to this change.

CR 314 would connect to a newly constructed frontage road segment between the Hidden Valley/Central City interchange and US 6, providing an uninterrupted frontage road route through the Project area, benefitting the community by providing an alternative to I-70 when needed.

The additional westbound I-70 lane is expected to improve traffic flow on I-70 and decrease congestion on US 6 and US 40. This would improve conditions for Floyd Hill residents who use US 40 as their primary local access and for bicyclists who use US 6 to travel between Idaho Springs and the Denver metropolitan area.

6.3.2 Community

Community impacts are described in terms of changes to community cohesion; impacts to community facilities, services, and businesses; business or residential displacements; and changes to quality of life.

Most of the population and housing within the Study Area is concentrated in the communities of Floyd Hill and Idaho Springs. Both communities are highly dependent on I-70 with the development of the highway a defining factor of the local character and economy. The Project would not bisect or isolate any part of these communities. Noise levels would increase throughout the Project area under the No Action and either of the action alternatives. Noise modeling conducted for the Project indicate that increases in the Floyd Hill neighborhood would be less than 5 a-weighted decibels (dBA) and generally would not represent a perceptible change from the existing condition. Noise abatement (a noise wall) was considered south of I-70 at the Highland Hills/Floyd Hill interchange but found not to be reasonable or feasible. Residents were either too far from the interstate, high up on the hillside, or scattered to benefit from a wall on I-70.

As noted in Section 6.3.1, improvements along I-70 and specifically at the Beaver Brook/Floyd Hill interchange would provide better traffic flow, which would support residential and business access. While the alternatives would not be expected to induce growth, addressing traffic congestion would be supportive of any local development plans and future economic activities.

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) at many of these residents. 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). As described in the Environmental Justice Technical Report, minority and low-income populations would benefit from the noise abatement that is recommended in this area.

Visual changes would be experienced primarily when traveling though the corridor. Idaho Springs is located west of the Veterans Memorial Tunnels, where no physical improvements would occur other than roadway striping.

The Project would not be expected to change community population trends, affect the availability of housing, or induce growth or development. Land areas adjacent to I-70 have limited development potential due to environmental constraints and most of the land surrounding the Project is not available for development.

Mobility improvements described in Section 6.3.1 would improve access to community facilities and services, particularly around interchanges.

The Project includes resurfacing of the existing Clear Creek Greenway Trail. This would improve a valued community resource and benefit bicyclists and pedestrians. However, the Tunnel Alternative, South Frontage Road Option is not supported by the community, Clear Creek County, Idaho Springs, or the Project Technical Team because it is inconsistent with the Greenway Plan; adding roadway infrastructure between the Greenway and Clear Creek diminishes the Greenway experience, limits the opportunities to expand recreational nodes along the south side of the creek, and requires acquisition of important parts of Clear Creek County's Hidden Valley open space.

Right-of-way acquisition would be required for the Project. As shown in Exhibit 8, approximately 1.6 acres of private property would need to be acquired from four different parcels under both action alternatives. An additional approximately 0.2 acres of private property would need to be acquired for the Tunnel Alternative with the Frontage Road South Option. Most of the right-of-way acquisition for the Project would occur on public property owned by Clear Creek County. The Canyon Viaduct Alternative has lower public right of way requirements because the roadway would be elevated, and the existing I-70 pavement under the viaduct would be repurposed for the frontage road. Excess right of way would remain and could be used for Clear Creek and recreation access, which could benefit river rafting outfitters.

Exhibit 8. Right of Way Requirements for the Action Alternatives

Property Classification	Acres of Acquisition		
	Tunnel Alternative – Frontage Road North	Tunnel Alternative – Frontage Road South	Canyon Viaduct Alternative
Private Property	1.6	1.8	1.6
Public Property	22.4	33.5	18.7
Total	24.0	35.3	20.3

Based on the current design, no residents or businesses would need to be relocated under either of the action alternatives. The CDOT maintenance facility north of the Hidden Valley/Central City Parkway interchange would be relocated; a new location has not yet been identified.

Most businesses and community facilities in the Study Area are concentrated in Idaho Springs. As shown in Exhibit 9, Two Bears Tap and Grill is located immediately north of the US 6 interchange, where the eastbound I-70 to US 6 ramp would be closed and relocated to the Hidden Valley/Central City interchange as described in Section 6.3.1. Drivers that do not get on the new frontage road at the Hidden Valley/Central City interchange and instead remain on I-70 would not be able to exit until the Hyland Hills/Floyd Hill exit, more than 2 miles to the east. Most drivers would not be willing to turn around, resulting in a reduction of highway related patronage. CDOT has discussed the Project with the owners of the Two Bears Tap and Grill and continues to coordinate with them on the design and mitigating impacts to their business, such as through highway signage and construction marketing materials. Although the business may lose drive-by customers, due to its prime location in the construction area, construction workers may provide a boost to their business.

Like Two Bears Tap and Grill, river rafting and fishing outfitters could also be affected by modifications to access at US 6, where popular access points are located (Exhibit 9). River rafting and fishing outfitters from Idaho Springs would no longer be able to access US 6 directly from eastbound I-70 in its current location. However, unlike Two Bears Tap and Grill, whose sales are more dependent on highway visibility and more immediate access by customers, river rafting and fishing outfitters could drive or direct their customers to the correct locations.

Although the new frontage road directly addresses concerns voiced by the public and would provide a much-needed alternative route and emergency egress for adjacent local populations, its level of consistency with community goals is dependent on where it is located. As noted in Section 2.4.2, the Tunnel Alternative includes two options for the location of the new frontage road: Frontage Road North (which would construct the frontage road north of Clear Creek) and Frontage Road South (which would construct the frontage road south of Clear Creek). Clear Creek County has expressed a strong preference for constructing the frontage road north of Clear Creek because it would be consistent with the county's long-term goals for recreational development in this area. The Frontage Road North

Option would keep the roadway infrastructure (I-70 and the frontage road) concentrated on the north side of Clear Creek and away from the Clear Creek Greenway and recreational experience on the south side of Clear Creek. The Canyon Viaduct Alternative would use a portion of the existing I-70 roadway for the frontage road (so the frontage road would be north of Clear Creek).

Exhibit 9. Two Bears Tap and Grill and River Access Locations



6.3.3 Traffic

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 east 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 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 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.

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, the peak period travel time would be reduced by about 20 percent when compared to the No Action Alternative (CDOT, 2020d).

The Floyd Hill neighborhood has expressed some concern surrounding the operation and management of the Express Lane. Although they are supportive of an Express Lane concept, they are concerned about its location and management within the Study Area. The primary concern related to the operation of the Express Lane is whether I-70 will back up as drivers reach the entrance point to the Express Lane, causing drivers to exit at CR 65 (Beaver Brook/Floyd Hill) and use US 40 to bypass the congestion. More traffic exiting on US 40 would create additional delays for Floyd Hill residents who use US 40 for local neighborhood access. These issues were considered during an Issue Task Force that was held in May of 2020 and additional traffic modeling was performed to evaluate this issue in greater detail. The results of the modeling showed that starting the Express Lane east of the Beaver Brook/Floyd Hill interchange would not result in traffic queues on US 40 and the overall traffic congestion on both I-70 and US 40 would be notably improved (CDOT, 2020d).

Overall improved travel times would make it easier for travelers to access recreation, businesses, and community facilities and services in the Study Area and will improve emergency response times throughout the corridor.

6.3.4 Safety

Safety is one of the key issues the Project has been developed to address. Traffic congestion, tight horizontal curves, and wildlife crossing the highway all contribute to safety concerns in the Study Area. Both action alternatives address these concerns by reducing congestion, flattening curves to reduce the variation in speeds between the curves and connecting roadway, and installing wildlife fencing in the east section of the Project where wildlife is known to cross the highway. These Project elements would improve safety for the community and traveling public.

Improved traffic flow would result in faster emergency response times. Safer roadway conditions are likely to reduce the number of incidents on I-70, decreasing the financial burden on Clear Creek County for emergency services. As noted in the PEIS, improvements in highway safety were especially expected to benefit Clear Creek County because the county's I-70 highway-related emergency response expenses were identified as being disproportionately high.

The new frontage road would also improve safety for the community because it would provide an alternative egress during an emergency or highway closure.

6.3.5 Employment, Revenue and Tax Base

The Idaho Springs comprehensive plan, *Envision Idaho Springs 2017*, describes Idaho Springs as a short-term stop rather than a destination for highway users. Clear Creek County is actively encouraging a

shift in the economic base to businesses that are more tourist oriented. The Project would be supportive of this effort. Providing a third lane in the westbound direction would decrease congestion and improve travel times between the Denver metropolitan area and Clear Creek County and may encourage more recreational trips for travelers who currently avoid recreation and tourism trips because of concerns about long travel times. This would likely encourage more recreation and tourism-oriented trips to Clear Creek County and other counties to the west, indirectly increasing visitation and indirectly generating revenue for local restaurants, retailers, and recreation outfitters.

Although the action alternatives would convert land to transportation-related use, minimal effects on property tax revenues would be expected because no businesses or residences would be acquired and most of the affected property is publicly owned, unavailable for development, and tax exempt. Reduced congestion and improved access to recreational opportunities in Clear Creek County could have a positive effect on property values, indirectly increasing tax revenues over time.

Project-generated employment and indirect spending during the construction period is discussed in Section 6.4.

6.4 Construction Impacts

6.4.1 No Action Alternative

Replacement of the bridge at the bottom of Floyd Hill would temporarily impact area residents and the traveling public through typical construction related nuisances (such as dust, noise, increased travel times, and access revisions). The No Action Alternative could generate some temporary employment but given the limited scope, it would likely not result in a substantial number of jobs.

6.4.2 Action Alternatives

Although construction activities for the action alternatives are not permanent, they have the potential to cause adverse effects to communities and businesses in the Study Area. In most cases, these impacts would be more severe than the long-term, permanent impacts described in Section 6.3.

Impacts during the construction period would be similar under both action alternatives but more intense and for a longer duration under the Tunnel Alternative. Both alternatives would require rock cuts, temporary road closures, and other construction related nuisances (such as dust, noise, increased travel times, and access revisions) that would cause disruption for travel on the I-70 Mountain Corridor for approximately 4 to 5 years. The Tunnel Alternative would take approximately 1 year longer to construct. Most of the additional time would be required for the tunnel construction activities, which could largely be constructed offline, out of traffic. However, due to the extensive rock cuts and blasting required for the Tunnel Alternative, along with the increase duration of construction due to the tunnel construction, the additional time and associated impacts to the traveling public would be notable. Therefore, the construction impacts described in this section would be higher in intensity and duration under the Tunnel Alternative, and particularly for the North Frontage Road Option, which requires much larger rock cuts and volume of rock hauling compared to the South Frontage Road Option.

Both Alternatives would be constructed within the proposed right of way. Improvements would be constructed in one direction of I-70 at a time, allowing two-way I-70 traffic to flow next to the construction area and be shifted to the newly constructed roadway while work is completed in the other direction.

Periodic closures of I-70 would be required for safety during contained blasting, to mitigate for unstable rock slopes, and build viaduct structures, causing substantial short-term inconvenience for both westbound and eastbound travelers. Blasting would also create noise, dust, and visual disturbances in the Central Section of the Project. Since there are no residences adjacent to the highway in this area, impacts would be experienced primarily by drivers and over a short period of time. Although the Canyon Viaduct Alternative has substantially less rock cut and blasting compared to the Tunnel Alternative, it would require more work in the existing highway right of way, and temporary closures of the highway are anticipated to place bridge piers. CDOT would work with the CMGC to develop a construction phasing plan and methods for handling traffic that minimize disruption the traveling public and residences and businesses near the construction zone.

During the 4- to 5-year construction period, temporary effects to residents and those accessing area businesses and recreation in Clear Creek County would be expected. Impacts would include detours at the Beaver Brook/Floyd Hill and Hyland Hills/Floyd Hill intersections, potentially slower emergency response times, an increase in roadway congestion in and around the area, the presence of large equipment, temporary signage, and lighting, staging materials, dust from construction, and general temporary disruption to the surrounding area.

Construction would temporarily disturb access to Two Bears Tap and Grill. Restricted access, travel delays, and other construction activities could cause a decrease in patronage. This could be offset by an increase in business from the construction workers in the area. CDOT will continue to work with the owners of Two Bears Tap and Grill to identify access and signage that will help to address these impacts during the construction period.

During construction of elevated roadway sections and bridges, recreational access along the banks of Clear Creek may be restricted and the creek may be closed periodically for safety reasons. No rafting or fishing access in the vicinity of these construction activities would be allowed. Unless necessitated by safety concerns, closures are planned to occur outside of rafting season (June through August) to minimize effects to operations. If unanticipated closures occurred during rafting season, rafting companies that operate on Clear Creek within and east of the Project limits would need to cancel trips or reduce trip duration along this portion of the creek during closures, potentially reducing revenues for those these companies.

The economic effects of these temporary disruptions are difficult to estimate. However, based on the evaluation of prior Tier 2 Projects within or adjacent to the Study Area, some economic benefits from construction would also be expected. Construction would generate employment opportunities for local residents as well as workers who would commute from the Denver metropolitan area. Even though construction workers are not likely to relocate to Idaho Springs, construction would likely benefit businesses in Clear Creek County and Idaho Springs if goods and services related to construction activities and construction workers are purchased locally.

Construction of other Tier 2 projects has shown to have a positive effect on sales tax revenue in Idaho Springs. As noted in the Westbound Peak Period Shoulder Lane Categorical Exclusion (CDOT, 2018), tax revenue increased in Idaho Springs between June 2014 and December 2017, during the construction of the Eastbound Peak Period Shoulder Lane project and the Idaho Springs Colorado Boulevard project (completed in the summer of 2018). This could be because of construction workers patronizing local businesses and travelers choosing to take a break or “wait out” traffic delays by visiting Idaho Springs businesses and restaurants.

7 Mitigation

Mitigation measures are recommended to address permanent and temporary adverse impacts of the Project alternatives. Impacts identified in Section 6 are summarized in tabular format, by alternative, in this section to align with recommended mitigation.

7.1 Relevant Tier 2 Mitigation

The PEIS discussed many strategies to avoid, minimize, and mitigate construction impacts on I-70 Mountain Corridor communities and committed lead agencies to work with Corridor communities to develop specific mitigation strategies to address localized impacts during Tier 2 processes. Because impacts were primarily construction related, mitigation measures for socioeconomic resources focused on minimizing effects during and associated with construction.

The PEIS stated that Tier 2 mitigation would consider strategies to address the disparity in the distribution of benefits and impacts that might result from construction activities. Specifically, Tier 2 processes must include strategies to avoid and minimize construction impacts on Clear Creek County communities. Relevant Tier 2 Mitigation strategies have been incorporated into Section 7.2 and include:

- Considerations for peak seasonal traffic (e.g., cessation of construction activities during ski season weekends)
- Accessibility to Idaho Springs businesses

The Twin Tunnels, Eastbound Peak Period Shoulder Lane, and Westbound Peak Period Shoulder Lane Tier 2 NEPA documents (CDOT, 2012, 2014, and 2018) have addressed localized construction-related impacts to socioeconomic resources. Relevant strategies implemented as part of these projects included:

- Communication and coordination with local residents and business owners in advance of construction activities; this included providing detailed construction and detour plans, installing safe and visible directional signage, developing a public information plan, and working with local public information officers to disseminate construction information to the public
- Providing uninterrupted access for local businesses and emergency vehicles
- Ongoing opportunities for public feedback and involvement

As noted in Section 6.4, construction of Tier 2 projects has shown to have a positive effect on sales tax revenue in Idaho Springs. This may indicate that mitigation for construction related impacts is being successfully implemented.

Regarding long-term mitigation strategies for emergency services, the PEIS stated that the lead agencies will address safety issues on I-70, reducing the number of crashes and the resulting frequency of emergency response to crashes, and ultimately reducing local community emergency services costs. This mitigation strategy will be addressed through safety improvements included in the Project.

7.2 Tunnel Alternative: North Frontage Road Option

7.2.1 Mitigation for Permanent Adverse Impacts

Exhibit 10 summarizes the direct and indirect permanent adverse impacts of the Tunnel Alternative, North Frontage Road Option.

Exhibit 10. Recommended Mitigation Measures for Permanent Adverse Impacts of the Tunnel Alternative: North Frontage Road Option

Activity	Location	Impact	Mitigation
Right-of-Way Acquisition	Throughout the central and west sections of the Project (MP 244.5 to MP 241)	Acquisition of public and private property	<ul style="list-style-type: none"> For any person(s) whose real property interests may be impacted by this project, the acquisition of those property interests will comply fully with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act). The Uniform Act is a federally mandated program that applies to all acquisitions of real property or displacements of persons resulting from federal or federally assisted programs or projects. It was created to provide for and ensure the fair and equitable treatment of all such persons. All impacted owners will be provided notification of the acquiring agency's intent to acquire an interest in their property including a written offer letter of just compensation specifically describing those property interests. A right-of-way specialist will be assigned to each property owner to assist them with this process.
US 6 access modification in the eastbound direction	Permanent US 6 access modification in the eastbound direction	Reduction of patronage and revenue for Two Bears Tap and Grill and River Recreation Outfitters	<ul style="list-style-type: none"> Access to Two Bears Tap and Grill and river recreation outfitters will be maintained at US 6 through the newly constructed frontage road, which will connect to I-70 at the Hidden Valley/Central City interchange to the west. Signage will be provided to direct customers to the new access.

7.2.2 Mitigation for Temporary Impacts

Exhibit 11 summarizes the temporary impacts that are anticipated during construction of the Tunnel Alternative, North Frontage Road Option. Mitigation for impacts related to noise, dust, visual disturbances, and recreation during the construction period are addressed in the Noise, Air Quality, Visual Resources, and Recreational Resources Technical Reports.

Exhibit 11. Recommended Mitigation Measures for Temporary Impacts of the Tunnel Alternative: North Frontage Road Option

Activity	Location	Impact	Mitigation
Construction activities, periodic highway closures, construction-related travel delays	Within Project limits	Increase in emergency response travel times between Clear Creek County and medical services in Jefferson County	<ul style="list-style-type: none"> • CDOT will develop an emergency service provider coordination plan that will include procedures for notifying emergency service providers (Colorado State Patrol, sheriff, police, fire dispatchers, ambulance providers, etc.) of closures or traffic delays and providing a clear path through the construction zone when needed. • Maintain access for emergency vehicles through the Project area at all times.
Construction activities, periodic highway closures, construction-related travel delays	Within Project limits	Increase in travel times to reach residences, businesses, and recreational destinations	<ul style="list-style-type: none"> • CDOT will develop and implement a public information plan and will work with local public information officers to disseminate construction information to the traveling public. The public information plan will define strategies such as media advisories, variable message signs, advance signs, a telephone hotline, real-time web cameras, notifications to nearby noise-sensitive receptors of upcoming construction work that may result in noise, and alternate route advisories to alert travelers to construction activities. • CDOT will solicit input from Idaho Springs and Clear Creek County on the construction traffic control program and avoid construction during peak directional periods. Work requiring lane closures will be conducted at night as much as possible in accordance with CDOT lane closure strategies.
Construction activities, periodic highway closures, construction-related travel delays	Two Bears Tap and Grill and Businesses in Idaho Springs	Economic losses due to reduced through-traveler patronage at local businesses	<ul style="list-style-type: none"> • CDOT will provide detailed construction and detour plans to business owners in the surrounding area as far in advance as possible. The Contractor will maintain access to Two Bears Tap and Grill throughout construction and provide well-placed and highly visible signs to direct patrons to businesses.

7.3 Tunnel Alternative: South Frontage Road Option

7.3.1 Mitigation for Permanent Adverse Impacts

Mitigation for permanent adverse impacts to socioeconomic resources for the Tunnel Alternative, South Frontage Road Option would be the same as the Tunnel Alternative, North Frontage Road.

7.3.2 Mitigation for Temporary Impacts

Mitigation for adverse impacts to socioeconomic resources during the construction period would be the same as the Tunnel Alternative, North Frontage Road.

7.4 Canyon Viaduct Alternative

7.4.1 Mitigation for Permanent Adverse Impacts

Permanent adverse impacts to socioeconomic resources would generally be the same as the Tunnel Alternative. The primary difference between the alternatives (in terms of permanent adverse impacts) arise from the amount of property acquisition that would be required. Although the Canyon Viaduct Alternative would require less property acquisition, this difference would not provide a useful differentiation between alternatives in terms of socioeconomic resources because the majority of the property to be acquired is publicly owned, not available for development, and does not contribute to Clear Creek County's tax base. Regardless of the amount of property required, all acquisitions would follow CDOT's right of way process and legal requirements.

7.4.2 Mitigation for Temporary Impacts

Mitigation for adverse impacts to socioeconomic resources during the construction period would be the same as the Tunnel Alternative. While there would be differences in the intensity of impacts (fewer rock cuts for example and potentially less disruption to traffic because portions of the new roadway would be built over the existing roadway), the impact category and mitigation would be the same.

8 References

- Clear Creek County. 2017. Clear Creek County 2017 Community Master Plan. Adopted January 18, 2017. Retrieved from <http://www.co.clear-creek.co.us/DocumentCenter/View/7626>
- Clear Creek County. 2018. 2018 Housing Needs Assessment Update and Feasibility Study. Retrieved from: <https://www.co.clear-creek.co.us/DocumentCenter/View/8953>
- Colorado Department of Local Affairs. 2020a. Components of Change: Clear Creek County. April 2020. Retrieved from: <https://demography.dola.colorado.gov/data/>
- Colorado Department of Local Affairs. 2020b. Economic Forecast: Jobs and Labor Force. April 2020. Retrieved from: <https://demography.dola.colorado.gov/data/>
- CDOT. 2011. I-70 Mountain Corridor PEIS. Chapter 3: Affected Environment and Environmental Consequences and Social and Economic Values Technical Report. Retrieved from: <https://www.codot.gov/projects/i-70-old-mountaincorridor/final-peis/final-peis-file-download.html>
- CDOT. 2012. Twin Tunnels EA. Chapter 3: Affected Environment and Environmental Consequences. Retrieved from: <https://www.codot.gov/library/studies/i70twintunnels-environmental-assessment>
- CDOT. 2014. Eastbound I-70 Peak Period Shoulder Lane Categorical Exclusion. Retrieved from: <https://expresslanes.codot.gov/projects/archived-project-sites/i70mtnppsl/i-70-ppsl-categorical-exclusion/ppsl-catex-final-signed-april-2014-ebook.pdf>
- CDOT. 2016. I-70 Mountain Corridor Design Speed Study. Retrieved from: <https://www.codot.gov/projects/contextsensitivesolutions/design/design-speed-study/main-report-designspeedstudy04-2016.pdf/view>
- CDOT. 2018. Westbound I-70 Peak Period Shoulder Lane Categorical Exclusion. Retrieved from: <https://www.codot.gov/projects/i-70-westbound-peak-period-shoulder-lane/nepa/nepa-documentation>
- CDOT. 2020a. *I-70 Floyd Hill to Veterans Memorial Tunnel Alternatives Analysis Technical Report*.
- CDOT. 2020b. National Environmental Policy Act Manual, Version 6 Update - Chapter 9 - Resource Considerations. Retrieved from: https://www.codot.gov/programs/environmental/nepa-program/nepa-manual/09-chapter-9_v6_3-19-20.pdf/view
- CDOT. 2020c. I-70 Floyd Hill to Veterans Memorial Tunnels Project Traffic Noise Technical Report. June 30.
- CDOT. 2020d. Draft Additional Traffic Analysis Status Update Memorandum. April 28.
- Colorado Parks and Wildlife. 2018. 2019 Statewide Comprehensive Outdoor Recreation Plan. Adopted December 11, 2018. Retrieved from: <https://cpw.state.co.us/Documents/Trails/SCORP/Final-Plan/2019-SCORP-Report.pdf>
- Idaho Springs. 2017. Envision Idaho Springs 2017: City of Idaho Springs Comprehensive Plan. Adopted November 13, 2017. Retrieved from: <https://www.colorado.gov/idahosprings/envision-idaho-springs>
- RRC Associates. 2015. Economic Impact of Colorado Ski Industry. Prepared for Colorado Ski County USA and Vail Resorts. December 9.

University of Colorado, Leeds School of Business. 2019. Colorado Business Economic Outlook 2019. Fifty-fourth annual report by the Business Research Division, Leeds School of Business, University of Colorado Boulder.

U.S. Census Bureau. 2000. 2000 Decennial Census, Table DP-1. Retrieved from:
<https://www.census.gov/main/www/cen2000.html>

U.S. Census Bureau. 2010. 2010 Decennial Census, Table DP-1. Retrieved from:
<https://www.census.gov/main/www/cen2000.html>

U.S. Census Bureau. 2016. 2009-2013 American Community Survey 5-Year Estimates, Residence County to Workplace County Commuting Flows by Travel Mode for the United States and Puerto Rico Sorted by Residence Geography. Retrieved from:
<https://www.census.gov/topics/employment/commuting/guidance/flows.html>

U.S. Census Bureau. 2018a. Tiger/Line Shapefiles for Census Block Groups. Accessed January 2019. Retrieved from: <https://www.census.gov/geo/maps-data/data/tiger.html>

U.S. Census Bureau. 2018b. 2013-2017 American Community Survey 5-Year Estimates, Tables DP-03, DP-05, S1101, and B25077 Retrieved from:
<https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>