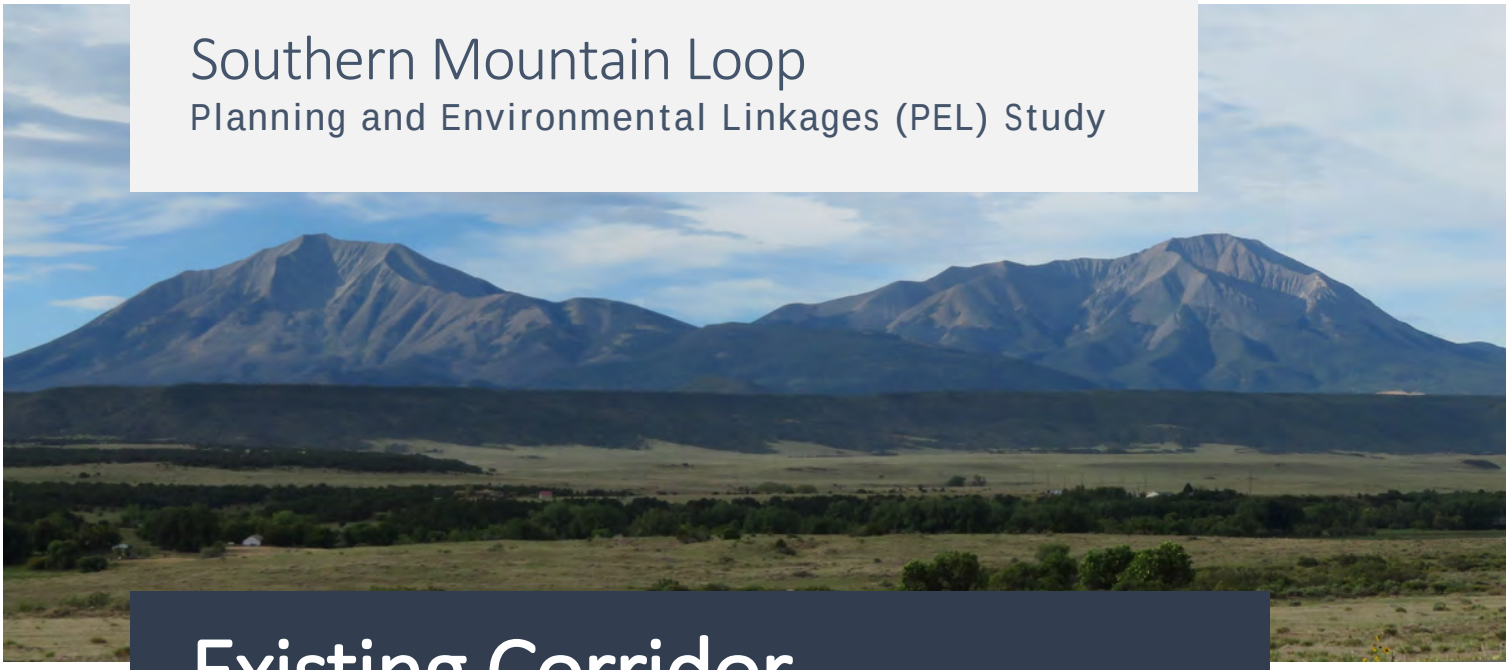
Southern Mountain Loop

Planning and Environmental Linkages (PEL) Study



Existing Corridor Conditions Report - Final

December 2019

Prepared for:

South Central Council of Governments
Colorado Department of Transportation
Region 2

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List of Acronyms and Abbreviations

AADT	Average Annual Daily Traffic
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
APE	Area of Potential Effect
AST	Above-Ground Storage Tank
BGEPA	Bald and Golden Eagle Protection Act
BRR	Biological Resources Report
CDLE	Colorado Department of Labor and Employment
CDPHE	Colorado Department of Public Health and Environment
CDOT	Colorado Department of Transportation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CFRT	Colorado Front Range Trail
CGS	Colorado Geological Survey
CLOMR	Conditional Letter of Map Revision
CMP	Corridor Management Plan
CPW	Colorado Parks Wildlife
CSP	Colorado State Patrol
CSRHP	Colorado State Register of Historic Properties
CSS	Context Sensitive Solution
CTO	Colorado Tourism Office
CWA	Clean Water Act
CWCB	Colorado Water Conservation Board
DOI	U.S. Department of Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Act
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
IP	Individual Permit
IPaC	Information for Planning and Consultation
IRI	International Roughness Index
ISA	Initial Site Assessment
LTS	Level of Traffic Stress
LWCF	Land and Water Conservation Fund
LRS	Linear Referencing System
LST	Leaking Storage Tank
LUST	Leaking Underground Storage Tank
MESA	Modified Environmental Site Assessment

MBTA	Migratory Bird Treaty Act
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWP	Nationwide Permit
OTIS	Colorado's Online Transportation Information System
PCN	Pre-Construction Notification
PEL	Planning and Environmental Linkages
RAAM	Race Across America
RCRA	Resource Conservation and Recovery Act
SAM	Species Activity Mapping
SCCOG	South Central Council of Governments
SHOL	Scenic Highway of Legends
SHPO	State Historic Preservation Office
SLRG	San Luis & Rio Grande
SML	Southern Mountain Loop
STIP	Statewide Transportation Improvement Plan
THPO	Tribal Historic Preservation Office
TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VIA	Visual Impact Assessment
WOUS	Waters of the U.S.
WVC	Wildlife/Vehicle Collision

Introduction

Located in south central Colorado, within Huerfano and Las Animas Counties, Colorado's Scenic Highway of Legends (SHOL) Byway stretches roughly 82 miles between Walsenburg and Trinidad along United States Highway 160 (US 160) and Colorado State Highway 12 (SH 12) (i.e., the Corridor). The byway is the primary means of accessing recreational areas within the Spanish Peaks backcountry for both locals and visitors. In addition, the Corridor has been identified as the Southern Mountain Loop (SML) of the Colorado Front Range Trail (CFRT) – a planned multi-purpose trail from Wyoming to New Mexico along the Front Range. The initial master planning for the SML trail was completed by Colorado State Parks in 2007.

The Corridor is located in the heart of Spanish Peaks Country between Walsenburg and Trinidad, Colorado.

The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT) have initiated the Southern Mountain Loop Planning and Environmental Linkages (PEL) Study to investigate highway safety, bicycle/multi-use trail, and byway-related improvements along the Corridor. The study identifies the existing conditions and anticipated problem areas within the Corridor and identifies and assesses transportation-related improvements to address the observed problems. These improvements will enhance highway safety, complete the SML segment of the CFRT, and provide connections and access to the Corridor's communities and recreational facilities. As one of the most economically challenged and underserved areas in Colorado, this investment plan for the Corridor can be a driving force and catalyst in realizing the full potential of the region's tourism-related assets and advancing the region's goals of economic sustainability and vibrancy.

An initial step of the PEL Study process is to identify and define the existing and anticipated conditions within the Corridor. Clearly identifying the unique transportation, environmental, natural, community and recreational qualities and characteristics of the Corridor informs the identification and assessment of the improvement alternatives. This Existing Corridor Conditions Report is presented for this purpose.

Currently available information and sources, supported by site reviews and assessments, provide the basis for this report. Coordination with local, regional, and state agencies and stakeholders has been performed in support of the report's information and findings.

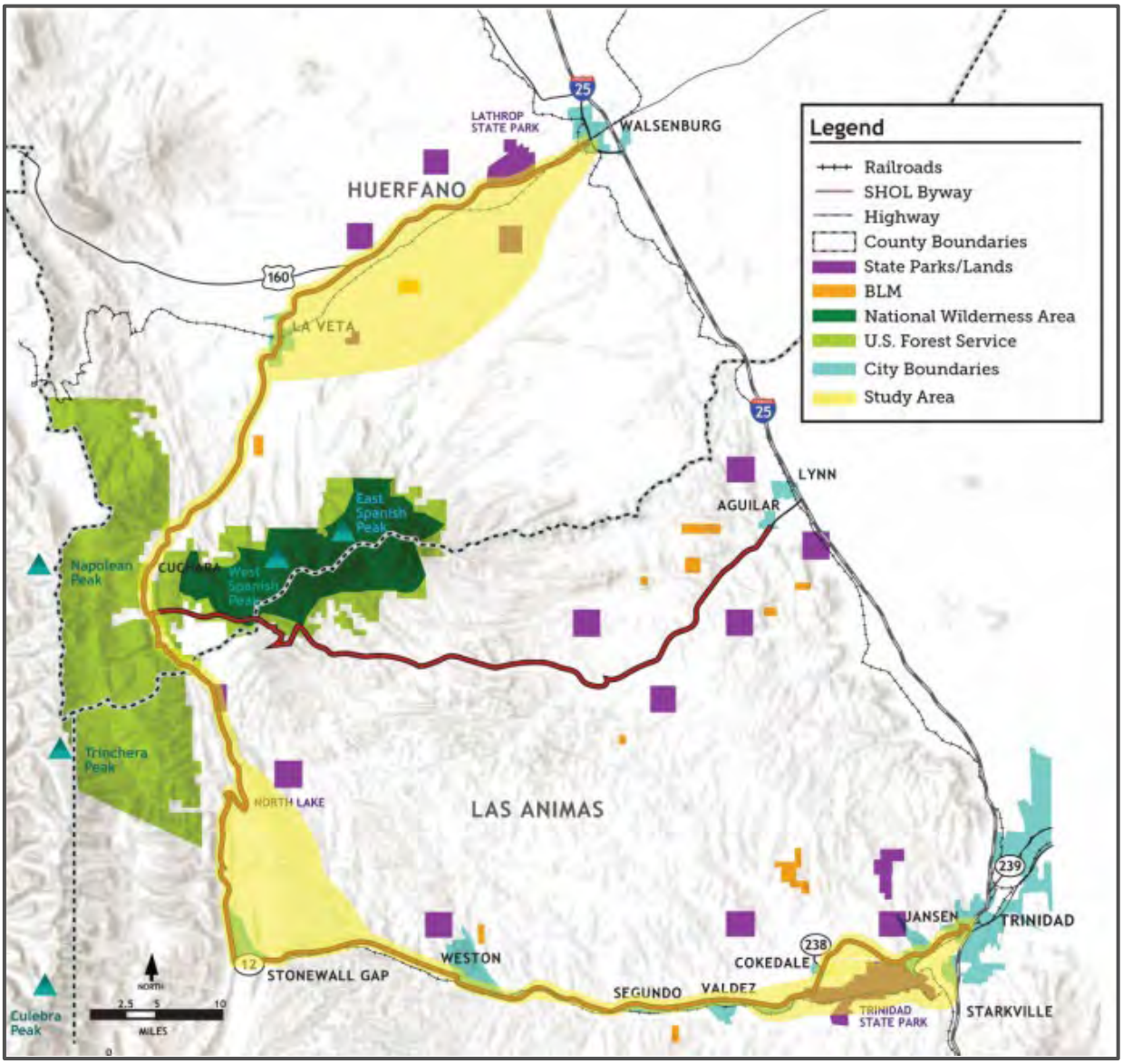
Study Location and Description

As shown in **Figure 1**, the Corridor begins on the west side of Walsenburg and extends west along US 160 to the SH 12 intersection. From the intersection with US 160, the Corridor continues south along SH 12 and passes through the town of La Veta over Cucharas Pass (elevation 9,938 feet) to the village of Stonewall, and then heads east through multiple small communities, terminating in Trinidad at Interstate 25 (I-25). The Corridor has a total length of approximately 82 miles.

Extending from Walsenburg to Trinidad, the Corridor traverses west around the Spanish Peaks and over Cucharas Pass, providing views of the peaks throughout.

Given the general purpose of the PEL study, it is envisioned that roadway safety and byway-related improvements will be focused directly along the SHOL alignment (i.e., the Corridor). In addition to possible trail improvements directly along the Corridor, it is anticipated that alternative off-highway trail alternatives, or routes, will be investigated. Previous planning for the SML section of the CFRT has identified several alternative trail routes that could be utilized, including county roads in localized areas. It is therefore important that the Study Area, which provides the basis for the identification of resources for this report, encompasses the full range of potential trail routes.

Figure 1: Study Area Map



Located near and parallel with portions of the Corridor are two railroad lines (**Figure 1**). In addition to county roads, each of these rail lines offers potential alternative routes for off-highway trail improvements and is included within the Study Area delineation. Extending west out of Walsenburg, roughly parallel with US 160 and along the Cucharas River Valley, is the Iowa Pacific Railroad rail line (identified as the San Luis & Rio Grande in the 2018 *Colorado Freight and Passenger Rail Plan*). On the southern end of the Corridor is an inactive rail line extending west out of Trinidad from a BNSF rail line, roughly 30 miles, to the Elk Mine. This rail line is located along the Purgatoire River Valley, roughly parallel with SH 12.

As shown (**Figure 1**), the Study Area is defined to encompass this range of potential alternative trail routes, including the Corridor, previously identified county road routes, and the two existing rail lines. The existing terrain along the Corridor also influences the limits of the Study Area. Extending from Walsenburg along US 160 and covering the Iowa Pacific Railroad, it includes the county road alignment options to the south. Through Cucharas Pass, the Study Area is confined by the area's terrain and generally follows the Cucharas River Valley within the existing SHOL alignment between, along, and within the San Isabel National Forest, avoiding the Spanish Peaks National Wilderness Area to the east. South of the pass, the Study Area is located along SH 12 and includes the CFRT alternative route option along a county road which connects to SH 12 east of Stonewall. To the east, the Study Area generally follows the Purgatoire River Valley bounded by SH 12 to the north and the abandoned Elk Mine rail line to the south, terminating in Trinidad. This Study Area definition provides the general limits for the identification of resources for this report.

Transportation Planning Context

A number of transportation plans have been previously developed which relate to the Study Area. These plans set the stage for the existing and anticipated conditions within the Study Area and provide a planning context for the consideration of highway, trail and byway-related improvements along the Corridor. These plans include:

- *Colorado Front Range Trail Implementation Plan (*CPW 2007*)*
- *Colorado Front Range Trail: From South of Pueblo to Trinidad (*CPW 2006*)*
- *Scenic Highway of Legends Byway Management Plan* (SHOL 2001)
- *La Veta Parks, Open Space and Trails Master Plan* (La Veta Pending 2020)
- *Trinidad Trails and Greenways Master Plan* (Trinidad 2015)
- *Huerfano County Trails Master Plan* (Herfano 2011)
- *Cuchara Mountain Park Master Plan* (Huerfano County 2019)
- Crazy French Ranch Acquisition and Future Master Plan (Future)

Colorado Front Range Trail Implementation Plan

The CFRT Implementation Plan was completed by Colorado State Parks in 2007. The purpose of the Plan was to conduct a detailed evaluation of existing trails segments along the Front Range and to identify marketing and funding strategies for development of the CFRT. Key information from the Plan relevant to the SML PEL Study includes:

- **CFRT Vision:** Upon completion, the CFRT will be an 876-mile shared-use trail corridor that stretches from Wyoming to New Mexico along Colorado's Front Range, providing a continuous connection between population centers and existing and planned trail systems. The CFRT will serve as a key linkage between communities, landscapes, parks and open space, recreation attractions, and other points of interest along the Front Range. As such, it will be an important recreational resource and will support Colorado's tourism, heritage, and health.

- **Completed Sections:** Notable portions of the almost 900-mile trail have been completed, however two-thirds of the trail is not yet constructed.

CFRT by the Numbers

295 Miles of **Completed** Trail
93 Miles of **Planned** Trail
488 Miles of **Envisioned** Trail

At Completion: 876 Trail Miles with 110 Trailheads

Source: Colorado Department of Natural Resources, https://cdnr.us/#/trail/trail1

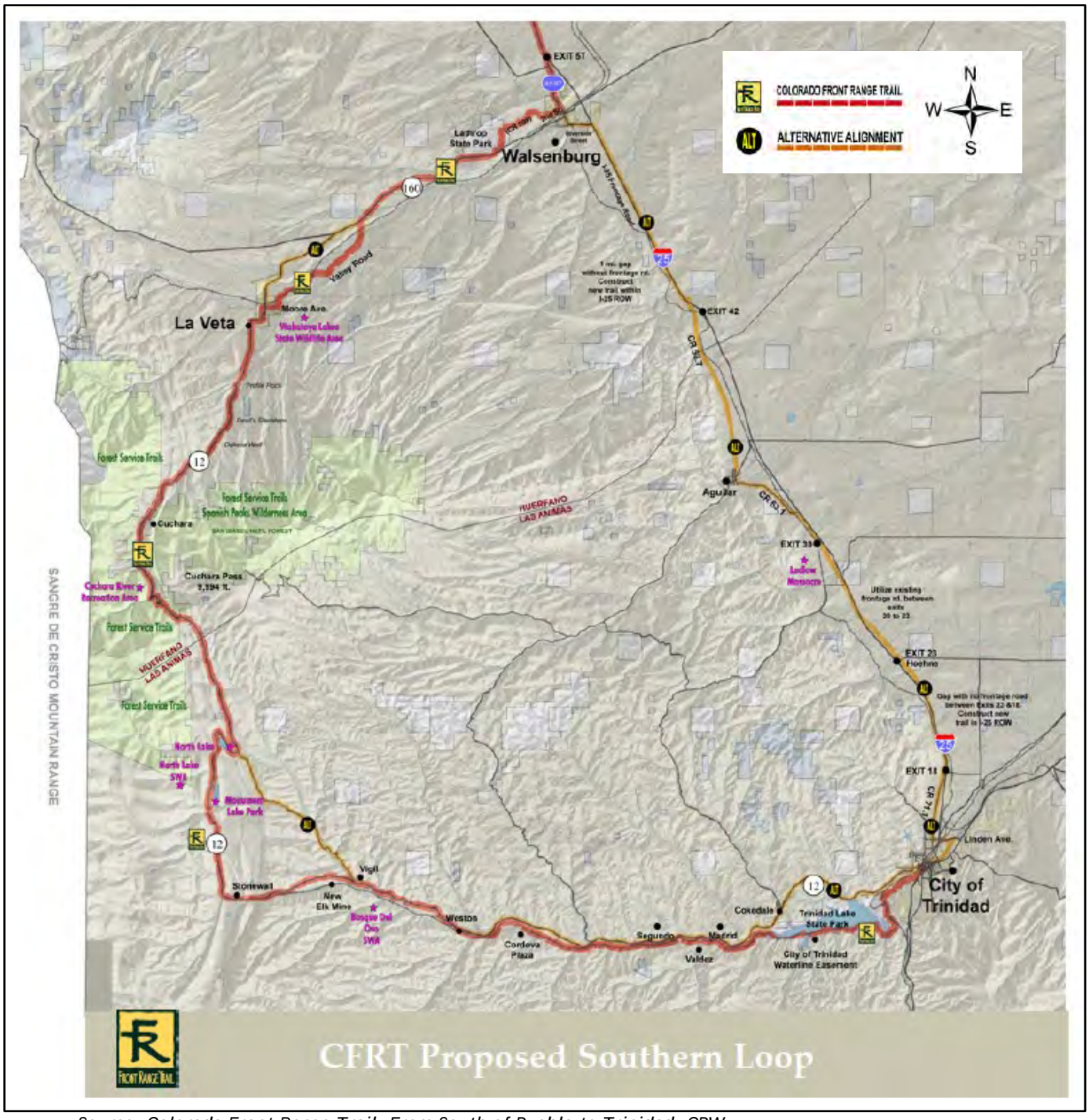
Colorado Front Range Trail: From South of Pueblo to Trinidad

Building on an overall master plan, the CFRT south master plan was developed by Colorado Parks Wildlife (CPW) in 2006 to identify potential alignments for the portion of the trail between Pueblo and Trinidad. This section of the trail is divided into two additional subsections - the Northern Mountain Loop between Pueblo and Walsenburg, and the Southern Mountain Loop between Walsenburg and Trinidad. The plan's preferred route recommendation for the Southern Mountain Loop coincides with the SHOL. An alternative route was also identified along I-25. Though the SHOL route is preferred, the plan states that both could eventually be designated as part of the CFRT. The route along the SHOL supports the CFRT project goal of incorporating alternatives and loops in order to provide a diversity of trail uses. The alternative trail route along I-25 is not being considered by the SML PEL Study.

According to the master plan, the recommended SHOL route provides access to scenic beauty, points of interest, and facilities such as campgrounds, trails and trailheads, picnic areas, drinking water, and restrooms. The potential economic benefits to towns along the SHOL route were also highlighted by the master plan. Primary challenges identified include the constrained right-of-way along the byway and many sections with steep grades, cliffs, and tight curves, and structures such as bridges and drainages.

The proposed shared-use trail along or near the SHOL would consist of roughly 80 miles of paved and crushed fine surfaces. As shown in **Figure 2**, the conceptual trail alignment, requiring additional study, coordination with CDOT, and stakeholder engagement, and is part of the purpose for the PEL study, would be closely aligned with US 160 from Walsenburg to La Veta and with SH 12 from La Veta to Vigil. At Vigil, the proposed trail route would run parallel to SH 12 along the City of Trinidad's Waterline Easement, eventually connecting to Trinidad Lake State Park near Trinidad.

Figure 2. The Proposed Southern Loop as Presented in the CFRT Master Plan



Source: Colorado Front Range Trail: From South of Pueblo to Trinidad, CPW

As of May 2019, there are three sections of the trail between Walsenburg and Trinidad that are completed:

- The section between Walsenburg and Lathrop State Park**:** Follows an unpaved trail adjacent to County Road 599, which becomes the Cuerno Verde paved trail within the park.
- The section within Trinidad Lake State Park: Follows the Reilly Canyon Trail and portions of the Levsa Nature, Park View, and Carpios Cave Trails. An alternate route follows a portion of County Road 18.3 and the South Shore Trail. Both routes are primarily unpaved.
- The paved Purgatoire River Greenway in Trinidad.

CFRT- SML Section by the Numbers

22 Miles of **Completed** Trail
12 Miles of **Planned** Trail
331 Miles of **Envisioned** Trail

At Completion: 365 Trail Miles with 19 Trailheads

Source: Colorado Department of Natural Resources, https://cdnr.us/#/trail/trail1

Scenic Highway of Legends Byway Management Plan

In 1989, SH 12 was one of the first highways in the state to earn the designation as a Colorado Scenic and Historic Byway. To qualify, highway corridors must be considered extraordinary in at least two of six intrinsic assets: scenic, natural, historic, cultural, archaeological, or recreational. For this byway, the qualifying categories were scenic and natural. That same year, the new byway earned a national designation from the US Forest Service (USFS) as a National Forest Scenic Highway. Eleven years later, the governing board adopted the *Scenic Highway of Legends South Central Colorado Corridor Management Plan (CMP)*, Sept 2001. This document has guided the SHOL organization for the last nineteen years. In 2002 there was an addendum made to the CMP to add the town of Aguilar and Cordova Pass that connects I-25 with SH 12. An Interpretive Master Plan was added to the planning documents in 2002. Currently, the staff of the Huerfano County Planning Department is updating the original CMP to meet the requirements of the Colorado Byway Commission.

Most recently, between 2006 and 2010, in conjunction with CDOT, the SHOL developed and installed a series of interpretive panels for byway communities at the following locations: the Colorado Welcome Center at Trinidad, Aguilar City Park, Walsenburg Heritage Park and LaVeta Town Park. In order to improve the signage visibility and better promote the byway, byway leaders coordinated with CDOT to install additional signage throughout the region. Beginning in the summer of 2018, a region-wide wayfinding project will install another 18 interpretive kiosks in pull-offs along the SHOL (Trinidad's kiosk will be located at Raton Pass).

One of the 18 new signs includes a three-panel kiosk describing the area's mining history to be installed along the Corridor near Cokedale.

La Veta Parks, Open Space, and Trails Master Plan

The development of a *La Veta Parks, Open Space and Trails Master Plan* is currently underway to expand and improve the town's recreational amenities, as well as its connections to a regional trail system. Public outreach for the plan will include several meetings and the establishment of a "roundtable" comprised of stakeholders from multiple jurisdictions. The timeline for the project will coincide with the SML PEL Study, providing the opportunity for the outreach process to inform the PEL study as it pertains to the La Veta area.

Trinidad Trails and Greenways Master Plan

The *Trinidad Trails and Greenways Master Plan* provides an overall blueprint for a well-connected and accessible trail system in Trinidad. In addition to a written manual, it includes an electronic file of trail alignments and parcel geometry, and an implementation database which allows city staff to sort trail projects based on recreational amenities, trail length, and the parcels required for implementation. There is an existing 0.4-mile trail in Central Park in Trinidad that directly connects to SH 12 but there are no other existing trails in the city that directly connect to or are adjacent to the byway. There is a planned trail that will connect the Trinidad Riverwalk to Boulevard St, which connects to SH 12 via Alta Street and Nickerson Avenue.

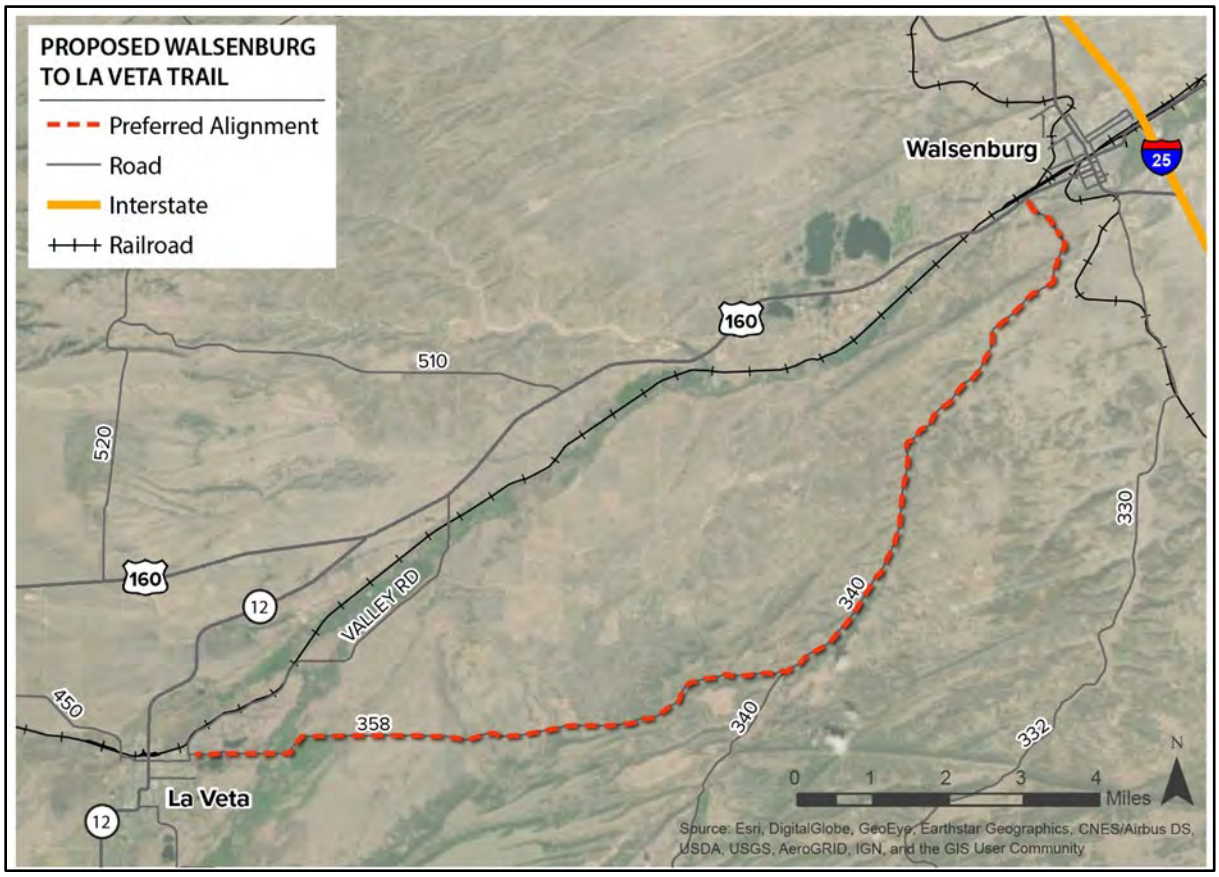
Huerfano County Trails Master Plan

The *Huerfano County Trails Master Plan* is a guide to trail development that will result in a system that provides connectivity between Huerfano County's population centers and its various natural resources and amenities. One of the plan's priorities is to connect to the larger, planned CFRT system. It identifies several preferred trail alignments as well as trail alignment alternatives that overlap with or are adjacent to the SML PEL Study Area. Working groups analyzed topography, land ownership, and community resources to select the potential trail alignments, three of which overlap or are adjacent to the Study Area.

The plan's preferred alignment for a planned trail between Walsenburg and La Veta runs along County Roads 340/Bear Creek Road and County Road 358 (**Figure 3**). This trail would begin at the Cucharas River Trail in Walsenburg and then follow the unpaved county roads to La Veta. The route would take users past the abandoned coal mine and camp of Cameron and an igneous dike, and would provide impressive mountain views. Outside of La Veta, the trail would take users past Daigre Reservoir and Wahatoya Lake Reservoir before continuing on Moore St. to the La Veta City Park.

An alternative alignment between Walsenburg and La Veta identified by the plan follows the Iowa Pacific Railroad right-of-way. The route is relatively flat and therefore would be accessible to a greater range of users. The route would take users past old coal camps and includes views of the Cucharas River Valley and the mountains. South of La Veta, the plan recommends widening SH 12 between the two towns of La Veta and Cuchara to accommodate a bike lane.

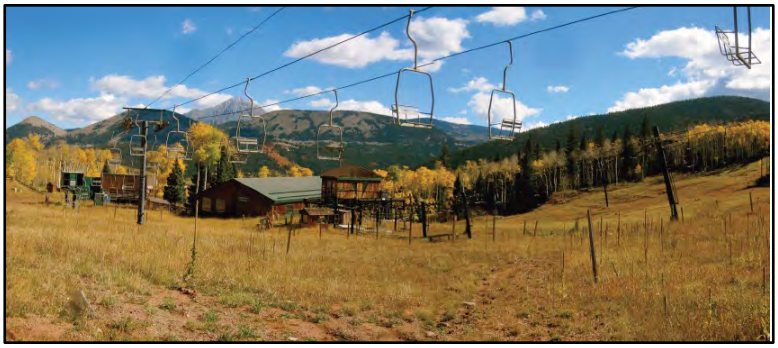
Figure 3: Proposed Walsenburg to La Veta Trail



Source: Huerfano County Trails Master Plan

Cuchara Mountain Park Master Plan

Formerly the Cuchara Mountain Resort (an abandoned ski resort), the newly formed park is located along the Corridor, with the main entrance off SH 12 a short distance south of Cuchara. Cuchara Mountain Park is a new county-owned recreation facility intended to transform the former ski resort into a sustainable recreation, community and tourist destination. According to the recently completed *Cuchara Mountain Park Master Plan* (2019), the mission of the park is to create "… a year-round, ecologically sensitive, recreational destination for outdoor activities. It will



Huerfano County has begun implementing the Master Plan's recommendations, including the refurbishment of existing structures and building a new trail on the 47-acre property (Photo: Cuchara Mountain Park Master Plan).

become a sustainable county park by providing education and culture, interaction with nature, and economic opportunities for the people of Huerfano County." The master plan lays out a long-term vision for the park.

Crazy French Ranch Acquisition and Future Master Plan

The Nature Conservancy and the Trust for Public Land purchased the 19,200-acre, 30-square-mile Crazy French Ranch property in early 2019. The property is located just south of the city of Trinidad and at the closest point, is approximately three miles from SH 12. The property may become a state park in the future and plans are underway to open the land to the public within the next five years. The property contains the notable Fisher's Peak standing at an elevation of 9,633 feet. A report entitled, *Community Vision for Fisher's Peak Ranch (*May 2019) articulates the vision and goals for future uses, as expressed by many Trinidad residents in early 2019. The input received will, in part, be used in future master planning efforts exploring how the interests of recreation, preservation, tourism, and economic development can be balanced for the residents of Trinidad and future visitors.

Located adjacent to Trinidad, the recent acquisition of the Crazy French Ranch property will provide public access to Fisher's Peak and surrounding areas (Photo: User:Xnatedawgx).

Regional Tourism and Recreation Activity

Regional Tourism Economy

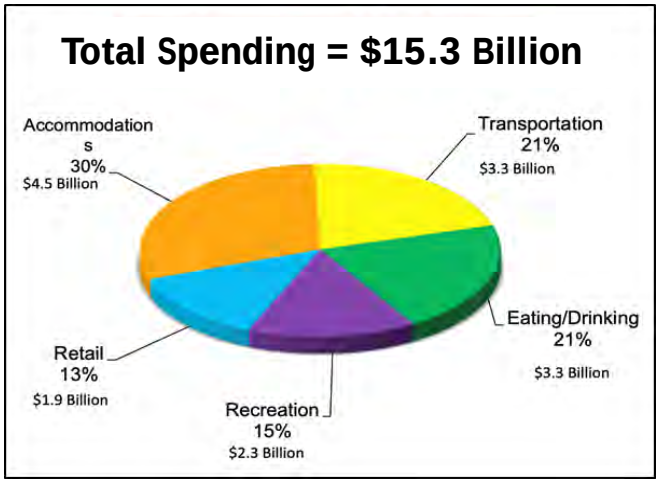
Both Huerfano and Las Animas Counties benefit economically from pass-through traffic on the two major transportation corridors within the area – I-25 (north-south) and US 160 (east-west). Businesses in both counties have sprung up to directly support travelers on these roadways, providing commodities and accommodations which include lodging, food and beverage, gasoline, and retail. This pass-through traffic forms the basis of daily, year-round travel-related revenues.

Less visible, and more seasonal, are small cabins and lodges and rustic resorts that have served families for decades as second homes, and summer vacation cabins which provide a base camp for traditional recreationists – hunters, hikers and fishermen. The City of Trinidad owns and operates Monument Lake Resort that is open seasonally, and Cuchara Mountain Park houses a significant number of second-home owners. Cuchara Mountain Park has begun its transformation into a recreation destination. In addition, subdivisions throughout Huerfano County house a mix of year-round residents and second-home owners. Walsenburg has a new brewery, a new coffee house, and five new Airbnb units in their historic downtown.

Plans to attract more travelers are underway in both counties. In Las Animas, Crazy French Ranch at Fishers Peak has been purchased, and is destined to become a mecca for outdoor recreation. The City of Trinidad is constructing a Place to Create, making a downtown place where artists can both work and live. Both counties are looking to the SHOL to help connect communities, and to revivify the byway corridor through the development of a bike and multi-use trail. Most significantly, the City of Trinidad Master Plan outlines improvements in recreational, cultural, historical and scenic assets with "income generated by tourism."

To understand the impacts of tourism-related spending on the state and local economies, Longwoods International provides annual estimates of total tourism-related spending for the state. As shown in **Figure 4**, a total of $15.3 billion was spent statewide for tourism-related activities in 2017. Accommodations accounted for the largest spending activity (30 percent).

Figure 4: Total Tourism-Related Spending in Colorado (2017)



Source: Longwoods International, Colorado Travel Year 2017, Final Report, June 2018.

For local estimates of the economic impact of tourism, the Colorado Tourism Office annually publishes five standard measures of travel impacts for each of Colorado's 64 counties: travel spending, earnings, employment, local taxes and state taxes. As shown in **Table 1**, data show modest gains in travel spending for both counties, and Las Animas County shows a small gain in earnings. The other indicators are flat over the eleven years, and each county shows a loss in the number of travel-related jobs.

Table 1: Annual Travel Economic Impacts by County

County Overnight Travel Impacts (2006 and 2017)		
Huerfano County	**2006**	**2017**
Travel Spending ($M)	9.6	13.6
Earnings ($M)	3.0	3.2
Employment (Jobs)	173	161
Local Taxes ($M)	0.2	0.5
State Taxes ($M)	0.3	0.4
Las Animas County	**2006**	**2017**
Travel Spending ($M)	27.7	37.6
Earnings ($M)	9.6	13.5
Employment (Jobs)	632	622
Local Taxes ($M)	0.7	1.0
State Taxes ($M)	0.9	1.1

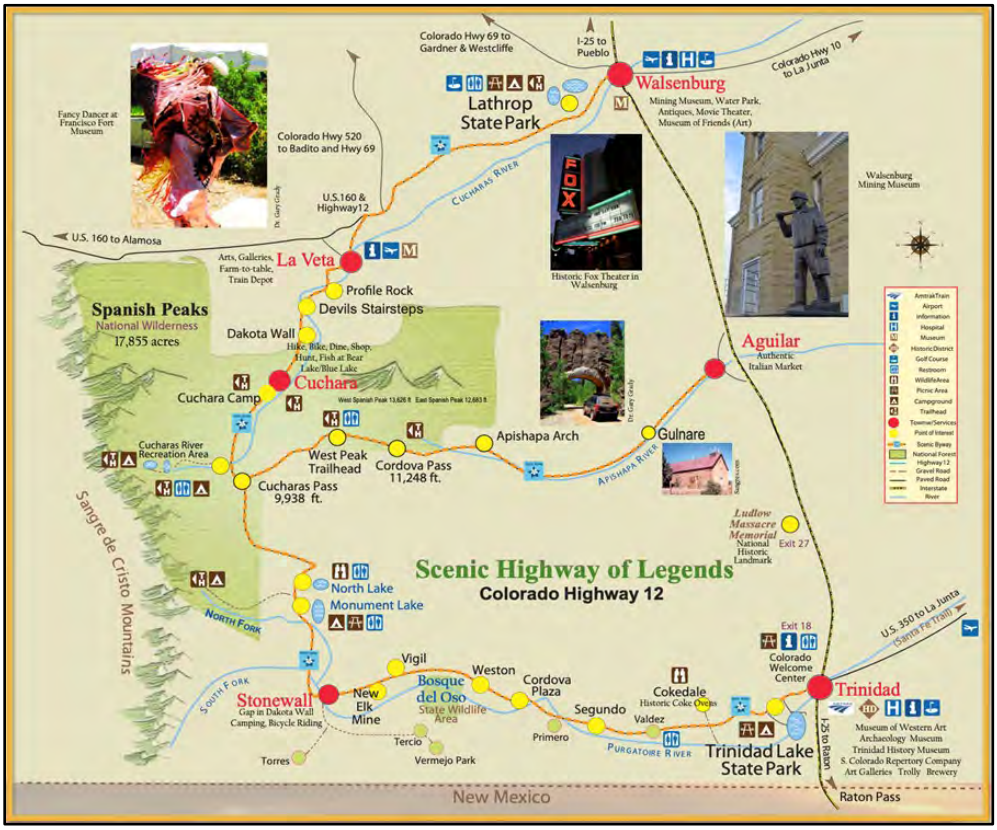
Scenic Highway of Legends Byway

The SHOL is one of the many features which attract visitors and tourists to the Spanish Peaks region. While the tourism value of the byway is difficult to quantify, its impact is profound. The byway has made this rural region of Colorado visible and accessible to the traveling public. According to visitor responses to Longwoods International Visitor Surveys conducted for the Colorado Tourism Office (CTO), two statewide organizations have put Southern Colorado "on the map" - the Colorado State Parks and the Colorado Scenic and Historic Byways. With Lathrop State Park and Trinidad Lake State Park serving as activity anchors and gateways to the SHOL, the region includes the necessary ingredients to attract interested visitors and tourists.

Another important element of the region's promotion of the byway is establishing name recognition at the Colorado Welcome Center in Trinidad - a first stop for visitors entering the state on I-25 from New Mexico. Local volunteers at the center serve an average of two hundred visitors a day during the summer season, and seventy-five per day in the other seasons.

Located in Trinidad, the Colorado Welcome Center provides information about regional attractions and events, including the Scenic Highway of Legends (Photo: https://www.colorado.com).

Promotional materials for the byway include a mobile app that is a 14-minute You Tube video divided into four location-specific segments. This self-guided audio guide was produced in 2018 by TravelStorys, and is receiving very positive reviews. This one media tool is helping overcome the lack of cell service and Internet connection for travelers on this somewhat remote byway. The Colorado Tourism Board is currently producing a short video for each of the state's 26 byways which will be posted on the CTO website. The byway has a brochure which stays in high demand, but requires repeated funding for printing. The byway also maintains its own dedicated website (www.highwayoflegends.com).



Map of the Scenic Highway of Legends Byway (Source: SHOL).

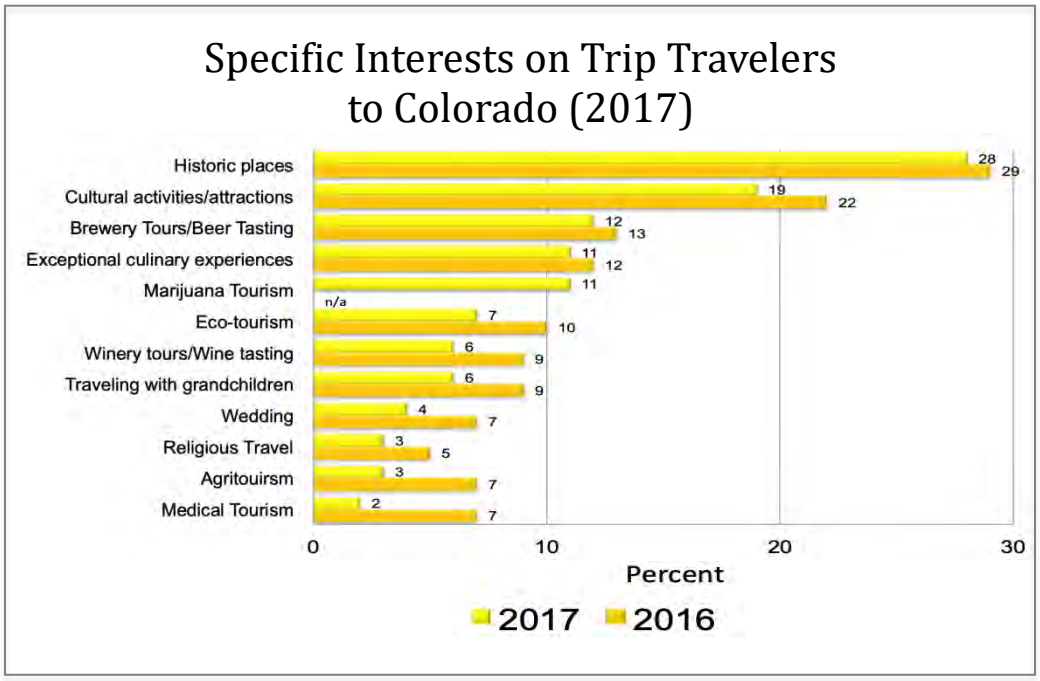
Visitor Characteristics

The State of Colorado is a popular year-round destination for tourists and outdoor enthusiasts. To better understand what attracts visitors to the state, Longwoods International conducted a broad-based opinion survey of the state entitled *Colorado Travel Year, 2017, Final Report* (June 2018). The survey asked visitors what specifically would bring them back to Colorado again. Colorado rated much higher than any other state as a "place they would really enjoy visiting again." These factors topped the list of reasons why:

- Perceived excitement - a place that offers a sense of fun and adventure and is a once-in-a-lifetime destination
- Opportunity for sightseeing - a variety of things to see and do
- Opportunity for recreation - choices
- Unique Atmosphere - scenery, experiences, cultures and customs
- Great family atmosphere

Those forward looking desires, tapped with their interest developed from the last trip, as listed in **Figure 5**, provide an understanding of what attracts visitors to a destination or region. It provides planners and community leaders a framework for promoting tourism at a local level - a place to start for combining human and natural assets.

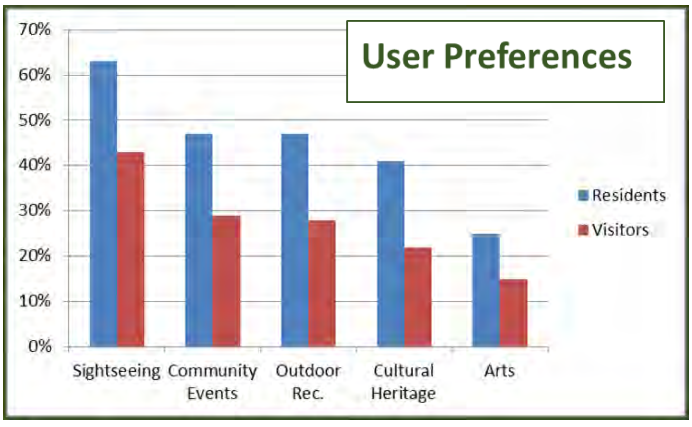
Figure 5: Specific Interests of Trip Travelers to Colorado (2017)



Source: Longwoods International, Colorado Travel Year 2017, Final Report, June 2018.

In 2003, documented in the *Highway of Legends 2003 Visitor and Resident Survey Report*, the SHOL asked visitors and residents what attracted them to the byway, what types of activities they enjoyed, how they planned their trip, and basic demographic information. The purpose of the surveys was to provide information to help guide the promotion and development of the byway as a travel and tourism destination. Of most relevance to the PEL Study, as shown in **Figure 6**, the surveys found that respondents were interested in a variety of activities, including sightseeing, community events, and outdoor recreation. While these data are somewhat dated, they likely remain relevant to understanding today what kinds of byway improvements would attract and be used by visitors.

Figure 6: SHOL Visitor Preferences for Activities



Source: Information from Highway of Legends 2003 Visitor and Resident Survey Report.

Perhaps no one knows better what attracts people to the Study Area than the local community leaders and business owners. Generally, locals on the front lines state that people are coming for sightseeing, to connect with the culture and heritage, for outdoor recreation, or because their family has been coming to the same place for many generations. The leader of the byway reported that people are either looking for stories of their own families who were here during the mining era or looking for the legends that are the namesake of the byway.

Roadway System

As part of the review of existing conditions, the roadway characteristics and operations within the Corridor were examined. The primary goal of this analysis is to provide planning-level information about general roadway characteristics, such as those components that do not meet current design standards, and to identify areas of potential concern. In addition, the existing traffic capacity and safety operations were reviewed.

Roadway Characteristics

Roadway characteristics consist of roadway alignments and design features. A roadway is designed to promote safety and facilitate efficient travel. Either through existing constraints, impracticality of implementation, or evolving standards, roadway systems may not always meet all current design criteria. Design features of the Corridor's existing roadway were primarily obtained from CDOT's Online Transportation Information System (OTIS). A summary of some of the general roadway characteristics are provided in the following sections.

Posted Speed

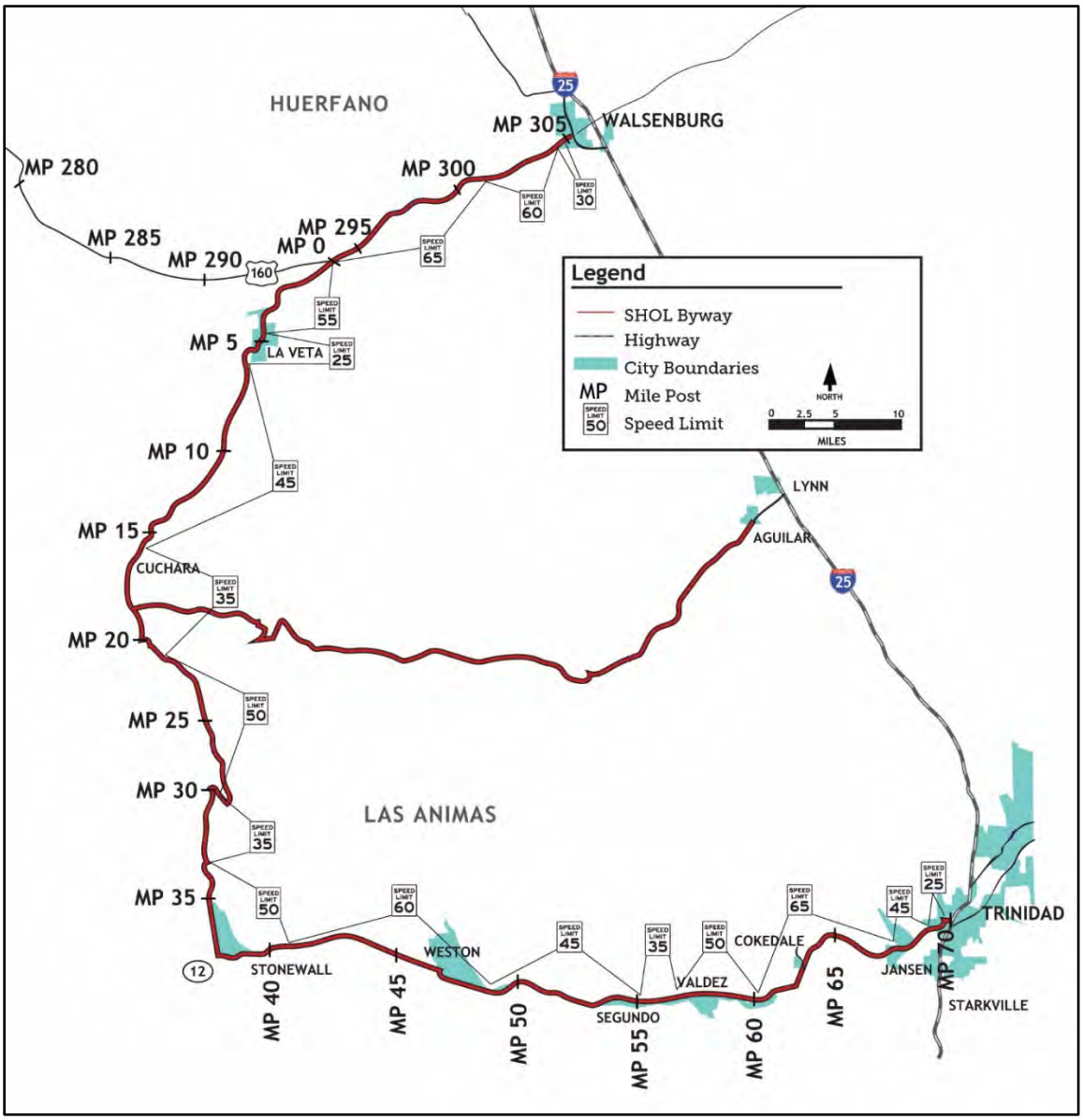
Posted speeds vary considerably throughout the Corridor. The management of speed through appropriate posted speed limits, combined with roadway design factors, is an essential element of highway safety. Posted speed limits should reflect the maximum reasonable and safe speed for normal conditions. Speed limits should be acceptable, or comfortable for most drivers and discourage high-risk speed behavior. (If a posted speed limit is set too low, driver frustration may result in speeding.) Localized changes to speed limits can occur where the roadway's design or surroundings vary and are normally the result of a spot speed study. A spot speed study documents individual vehicle speeds along a stretch of road and uses that data, along with roadway design characteristics, to help determine an appropriate speed limit. Posted speeds are normally based on the 85th percentile of the traveling speed. **Figure 7** displays the current posted speeds within the Corridor.

Lane Widths

The width of a travel lane can influence many factors on a roadway, including travel speeds, driver comfort, and safety. Eleven or 12-foot travel lanes are generally the standard for rural arterials and rural collectors such as US 160 and SH 12. In the case of rural collectors, traveled lane widths of 10 feet may be used if the average daily traffic (ADT) is less than 1,500 vehicles per day and the design speed is less than 35 mph.

Typical lane widths along US 160 are 12 feet. Typical lane widths along SH 12 vary from 10 to 12 feet. The 10 feet lane widths occur for about a four mile stretch from Weston to the east between Mile Post (MP) 48.6 and MP 52.6. ADTs along this stretch are less than 1,500 vehicles per day; however the design speed exceeds 30 mile per hour (mph) – the speed limit at which wider lanes are recommended. Narrow lane widths can cause drivers to travel at reduced speeds because they feel less comfortable and can increase the frequency of crashes.

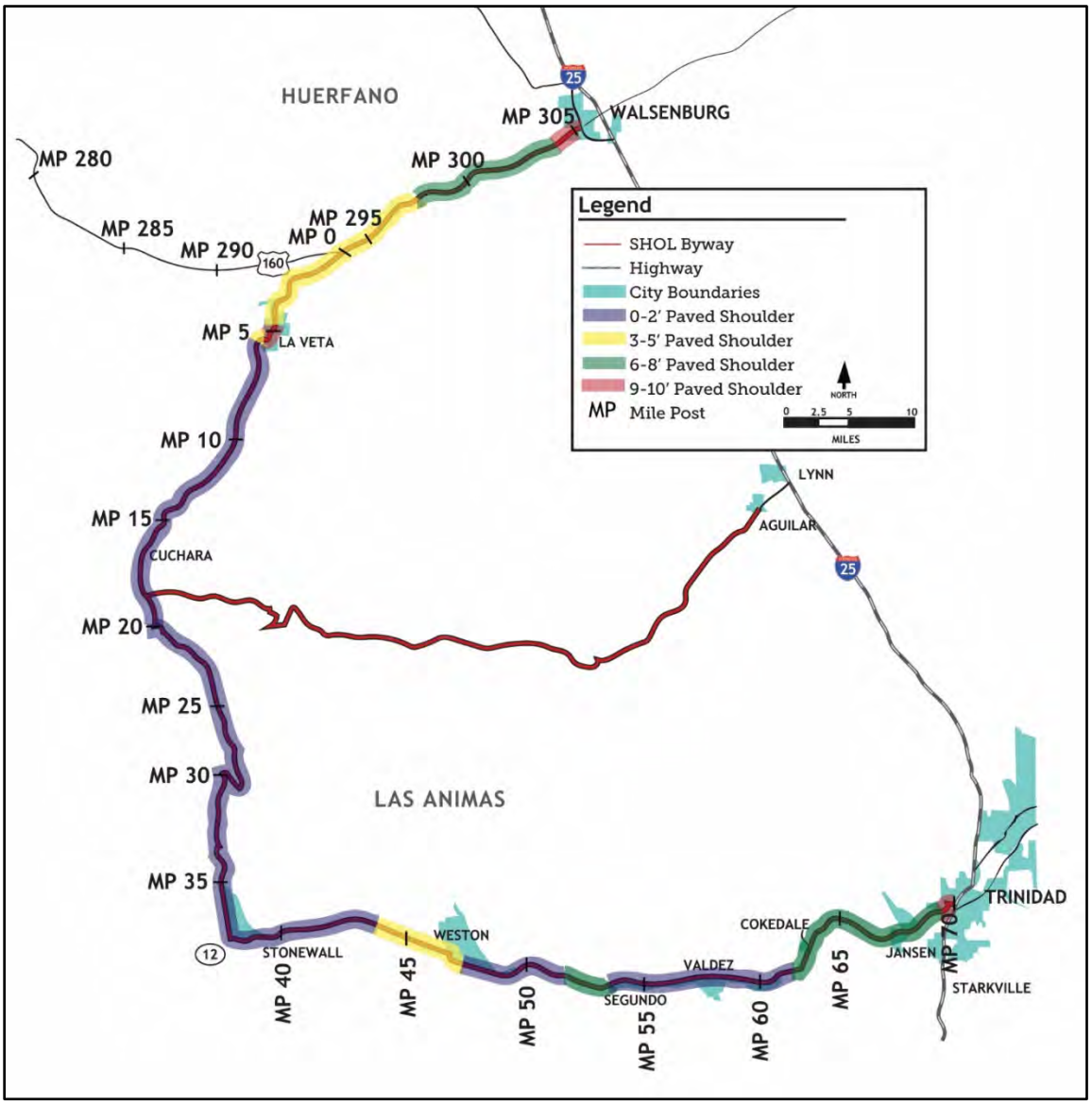
Figure 7: Posted Speeds



Shoulder Widths

Shoulders are a critical component to a roadway. They provide space on the sides of the road to accommodate necessary activities, such as emergency response or plowing snow. Throughout the Corridor, existing shoulder widths vary. Many existing shoulder widths, both along US 160 and SH 12, do not meet current CDOT guidelines. Minimum guidelines for shoulder widths along US 160 are eight feet. Minimum guidelines for shoulder widths along SH 12 are generally four feet; however in the sections where ADTs exceed 1,500 vehicles per day, CDOT guidelines specify a six foot minimum shoulder width, and in sections where ADTs exceed 2,000 vehicles per day CDOT guidelines specify eight feet. **Figure 8** shows existing shoulder widths within the Corridor.

Figure 8: Shoulder Widths



Horizontal Alignment

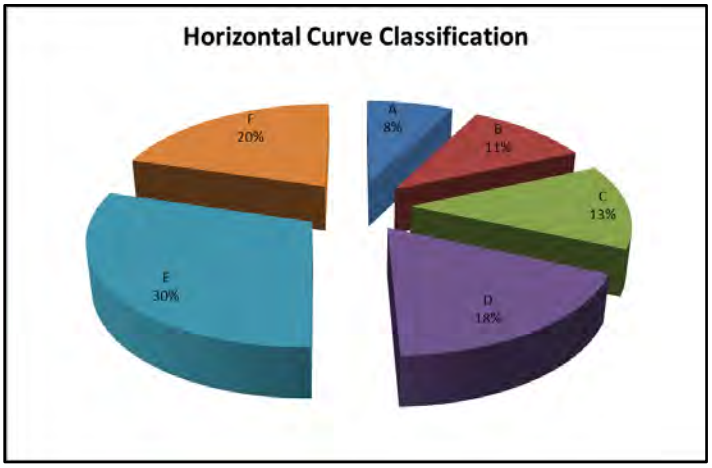
Horizontal curves along the Corridor were analyzed for deficiencies based on centerline data collected for CDOT's Linear Referencing System (LRS). CDOT periodically drives their roadway network to collect centerline data for their LRS. As part of the data collection, on-board software records each horizontal curve on the system. The main attributes of horizontal curves provided by this data collection are the beginning mile point of the curve, the ending mile point of the curve, the curve radius, whether it curves to the right or left, and a curve classification. The validity of the curve data is limited to the accuracy of digitized roadway centerlines. Manual review and editing of the data against other sources, such as aerial imagery and as-builts, allow for more accurate analysis.

The data collection identified 250 curves along the Corridor and provided a horizontal curve classification from Class A to Class F for every curve based on the following:

- Class A: 1660 or greater radius length in feet
- Class B: 1053 – 1659 radius length in feet
- Class C: 676 – 1052 radius length in feet
- Class D: 413 – 675 radius length in feet
- Class E: 200 – 412 radius length in feet
- Class F: less than 200 radius length in feet

Figure 9 depicts the percentages of curves within each class for the Corridor.

Figure 9: Horizontal Curve Classification along the Corridor



Horizontal curve design standards are based on the design speed of the facility, the radius of the horizontal curve, and the superelevation (roadway banking) of the roadway. Minimum standards are developed to achieve safe and efficient roadway facilities. Based on current standards, nearly 35 percent of the horizontal curves along the Corridor have substandard radii.

Vertical Grades

The vertical grade of a roadway impacts vehicle operating characteristics including speed and stopping distance. The effects of grade on truck operating characteristics are much more pronounced than on passenger cars.

The vertical grades of US 160 and SH 12 were analyzed for deficient grades with data provided from CDOT. CDOT guidelines specify a maximum desirable grade of four percent for US 160. At one location along US 160, from MP 302.8 to MP 303.1, the maximum desirable grade is exceeded with grades approaching six percent. Along SH 12, CDOT guidelines specify maximum desirable grades of ten percent for mountainous terrain and maximum desirable grades of seven or eight percent for rolling terrain depending on the design speed. For the rolling terrain sections of SH 12, the existing grades do not exceed the maximum desirable. In the mountainous terrain sections, the maximum desirable grade of ten percent is exceeded near the summit of Cucharas Pass from MP 22.9 to MP 23.4. It is also exceeded from MP 25.3 to MP 25.5. The grades in these two sections are eleven percent or less.

Right-of-Way Widths

Existing right-of-way information was collected from archived right-of-way plans on CDOT's OTIS website.

Right-of-Way widths vary considerably throughout the Corridor. CDOT suggests a minimum right-of-way width of 60 feet for highways like SH 12 and a minimum width of 150 feet for US 160. The following table summarizes the existing right-of-way for the Corridor.

Table 2: Existing Right-of-Way Widths

Route	Location	Right-of-Way Width
160	SH12 to MP 303.7 (Bridge over UP Railroad)	Generally 100' of R/W each side.
160	MP 303.7 to end of project in Walsenburg	Generally 50' of R/W each side.
12	US 160 to La Veta	R/W plans not readily available for whole section. Based on the portions of R/W data available, it appears R/W is generally 50' each side.
12	La Veta to Cuchara	Variable width R/W. Generally 30' minimum width to 70' maximum.
12	Cuchara to County Road 422	Generally 50' of R/W each side. Several sections have 66' of R/W on one or both sides.
12	County Road 422 to just south of the County Line	Generally 100' of R/W each side, however there are several sections with only 60' on one or both sides.
12	Just south of the County Line to Bear Creek	Variable width R/W from 55' minimum to 175' maximum.
12	Bear Creek to North Lake (County Road 21.6)	Variable width R/W from 50' minimum to 150' maximum.
12	North Lake (County Road 21.6) to North Fork Purgatoire River (MP 30.823 near County Road 11)	Generally 100' of total R/W. Left and right widths vary from 41' to 59'.
12	North Fork Purgatoire River (MP 30.823 near County Road 11) to Monument Park	Variable widths from 35' to 150'.
12	Monument Park to east of Stonewall	R/W information not readily available.
12	East of Stonewall to Weston	R/W widths generally 30' wide each side with some areas up to 100' wide.
12	Weston to Cokedale	R/W information not readily available. Based on adjoining sections may be 30' each side.
12	Cokedale to Jansen	R/W widths vary with a minimum of generally 100' per side to a maximum of 200' per side.
12	Jansen to Trinidad	R/W information not readily available.

Existing Maintenance Issues

The CDOT Region 2 Maintenance Department has identified existing maintenance issues within the Corridor. Just north of Cuchara, from MP 14 to MP 15, rock fall and sloughing of the northbound roadside is a continual maintenance issue. CDOT has repaved and stabilized the northbound lanes multiple times. CDOT Maintenance has requested a project in this area including a retaining wall on

the northbound slope and overall slope stabilization. Between, Stonewall and Trinidad, a couple of areas of rock slope stabilization and mitigation have been observed.

Roadway Service Condition

Pavement Condition

The Corridor has an asphalt pavement surface throughout. The existing pavement condition has been evaluated through analysis of the remaining drivability life and through review of the International Roughness Index (IRI).

The results from CDOT's Online Transportation Information System (OTIS) indicate the remaining life of the asphalt pavement varies from 0 years to 12 years. A drivability life of zero was noted in Walsenburg from MP 304.48 to MP 305.38. The rest of the Corridor has a drivability life of five years or greater.

The IRI is used to measure the roughness of the existing pavement and is divided into the following three categories: Good (IRI < 95), Fair (95 < IRI < 170), and Poor (IRI > 170). IRI data were calculated in generally 0.1 mile increments resulting in 698 data points for SH 12 and 116 data points for US 160. The results provided by the OTIS website shows that the average rating for the Corridor is "Fair". **Figure 10** and **Figure 11** display the proportions of the US 160 and SH 12 pavements that fall into each of the three IRI rating categories. US 160 received a "Poor" rating in Walsenburg from MP 303.6 to MP 305.4. SH 12 received "Poor" ratings from MP 24.9 to MP 26.6, between North Lake and Monument Lake (MP 31.1 to MP 32.1), and in Trinidad from MP 70.2 to MP 70.8.

Figure 10: US 160 IRI Category Proportions

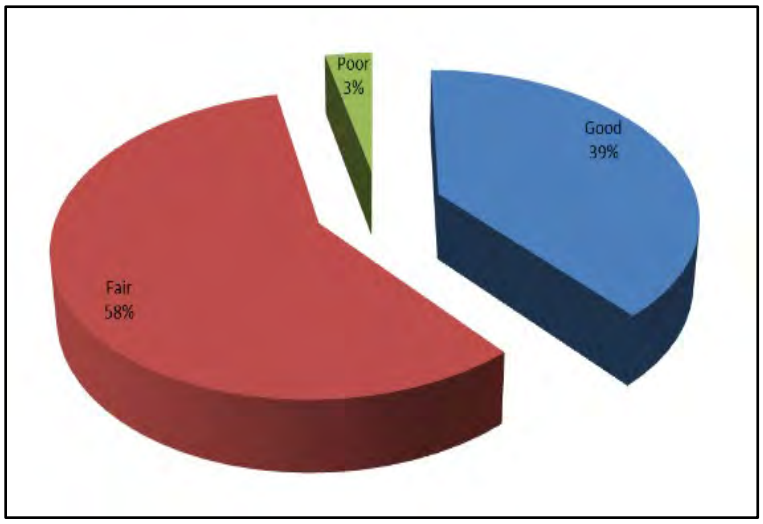
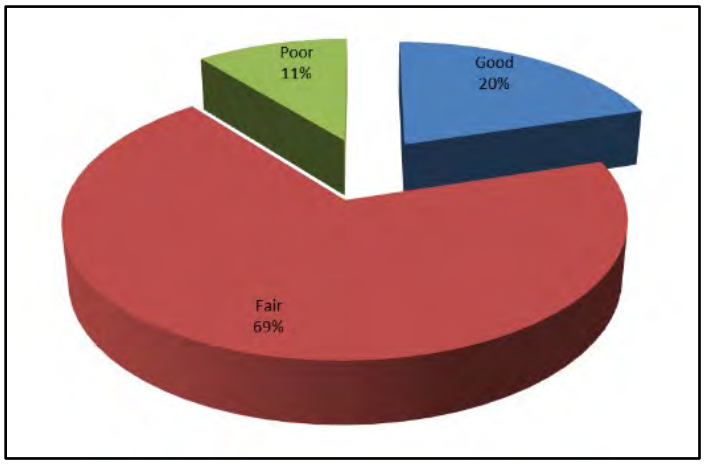


Figure 11: SH 12 IRI Category Proportions



Bridge Conditions

Existing bridges within the Corridor were identified using the unique bridge identifier assigned by CDOT. CDOT regularly inspects bridges to review their current conditions. Upon inspection, bridges are assigned a condition rating ranging from "Good" to "Poor" and a sufficiency rating from zero to 100 percent. Sufficiency ratings are an overall rating of a bridge's ability to remain in service based on the bridge field inspection and evaluation. One hundred percent represents an entirely sufficient bridge and zero percent a deficient or entirely insufficient bridge. Bridge elements assigned a rating include the riding surface, the superstructure, the substructure, and culverts. Condition ratings and sufficiency ratings were obtained from OTIS. All bridges within the corridor received a condition rating of "Good". Sufficiency ratings range from 64.3% to 99.1%. **Table 3** provides a listing of individual bridge ratings along the Corridor.

Table 3: Bridge Ratings

Route	MP	Bridge ID	Sufficiency Rating	Condition	Location
160	296.097	N-17-I	80	Good	1.9 MILES EAST OF JCT SH 12
160	299.377	N-17-BR	88.1	Good	5 MILES W OF WALSENBURG
160	303.412	N-17-BQ	89.4	Good	2 MILES W OF WALSENBURG
12	3.979	N-16-O	67.1	Good	4 MILES S OF JCT US 160
12	5.677	O-16-H	98.5	Good	4 MILES S OF LA VETA
12	8.801	O-16-G	80	Good	4.2 MILES S OF LA VETA
12	12.953	O-16-C	78	Good	8 MILES S OF LA VETA
12	33.489	P-16-B	98.9	Good	0.5 MILES SE OF MONUMENT PARK
12	38.818	P-16-D	80.9	Good	0.2 MILES E OF STONEWALL
12	39.384	P-16-A	79.5	Good	6.3 MILES SE OF MONUMENT PARK
12	42.759	P-17-F	64.3	Good	4.2 MILES E OF STONEWALL
12	44.118	P-17-AF	89	Good	10.7 MILES SE OF MONUMENT PARK
12	46.658	P-17-AG	79	Good	1.9 MILES NW WESTON

12	48.698	P-17-J	89	Good	AT WESTON
12	49.666	P-17-AE	83.8	Good	1 MILES E OF WESTON
12	51.144	P-17-K	77.1	Good	2.5 MILES E OF WESTON
12	51.466	P-17-L	83.1	Good	2.9 MILES E OF WESTON
12	53.727	P-17-A	71.7	Good	5.2 MILES E OF WESTON
12	55.713	P-18-CC	83.9	Good	AT SEGUNDO
12	58.178	P-18-CD	80	Good	2.4 MILES E OF SEGUNDO
12	60.406	P-18-L	70.5	Good	4.7 MILES E OF SEGUNDO
12	62.749	P-18-AO	79	Good	COKEDALE
12	67.864	P-18-CB	99.1	Good	2.5 MILES W OF I-25 IN TRINIDAD
12	70.437	P-18-CL	97.7	Good	IN TRINIDAD
12	70.601	P-18-AX	93.6	Good	JUST E OF I-25 IN TRINIDAD

Traffic Volumes and Operations

As shown in **Figure 12**, along US 160 within the Corridor, 2017 daily traffic volumes vary from 3,700 average annual daily traffic (AADT) on the west end to 8,300 AADT on the east end in Walsenburg. These volumes represent Volume to Capacity (V/C) ratios (a measure of the volume of traffic relative to the capacity of the highway at an acceptable level of service) of 0.29 to 0.65, respectively, with the vast majority of the section represented by the lower V/C ratio.

As shown in **Figure 13**, daily traffic volumes along SH 12 vary from 630 AADT to 9,200 AADT at the southern end of the Corridor in Trinidad. These volumes represent V/C ratios ranging from 0.07 to 0.47, with the vast majority of the Corridor having a V/C ratio less than 0.2.

The capacities of both US 160 and SH 12 within the Corridor are more than sufficient for current traffic volumes. It is anticipated that future traffic growth would not measurably change the Corridor's traffic operations.

Figure 12: US 160 Traffic Volumes and V/C Ratios

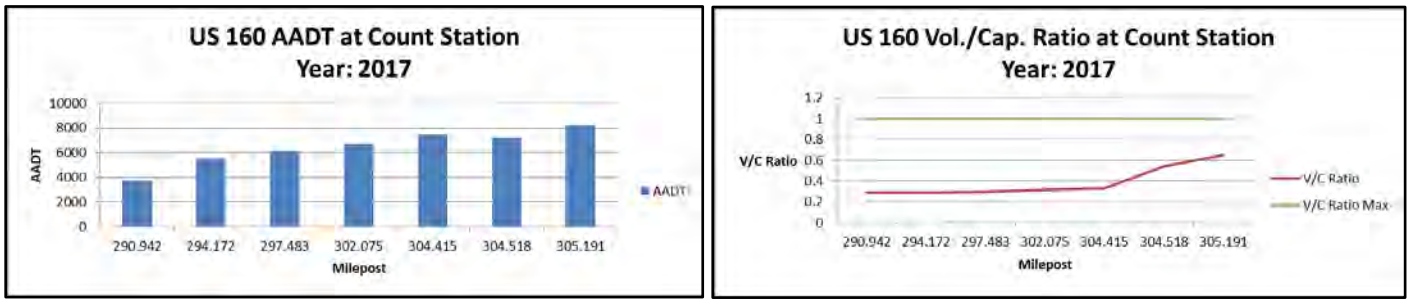
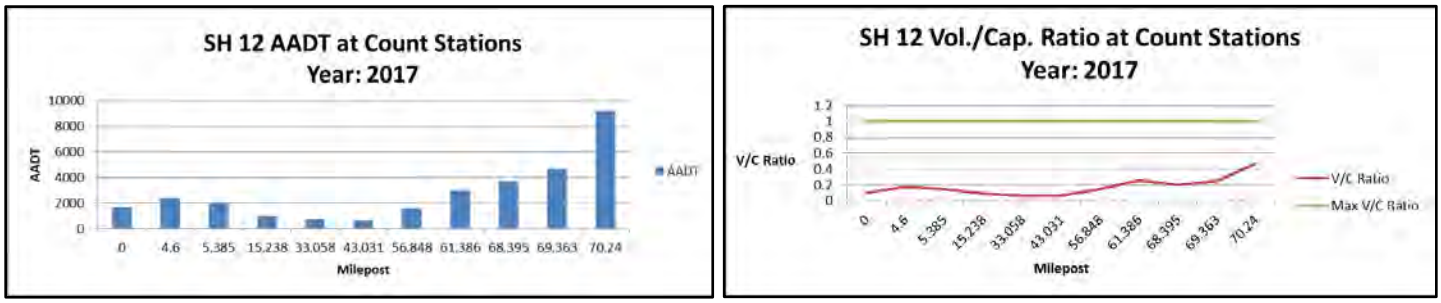


Figure 13: SH 12 Traffic Volumes and V/C Ratios



There are passing zones at regular intervals throughout the Corridor. There are also slow vehicle pull outs at various locations. As a percentage of the total vehicular traffic volume, the percentage of trucks ranges from three to 19 percent with an average of approximately eight percent. US 160 is designated a national truck route and carries more trucks and generally a higher percentage of trucks than SH 12. The posted speed limit varies from 25 to 65 mph through the Corridor. Vehicular travel volumes within the Corridor are generally uniform, increasing outside of Walsenburg and Trinidad, without notable areas of higher volumes.

Based on this analysis, traffic capacity is not considered an operational issue for the Corridor.

Traffic Safety

The crash history for the five-year period, January 1st, 2013 through December 31st, 2017, was examined along the Corridor (i.e., US 160 from MP 294.00 to MP 305.38 and SH 12 from MP 0.00 to MP 70.83). The purpose of the examination was to locate crash clusters and identify crash causes. A total of 367 crashes were reported along these sections of US 160 and SH 12 during the five-year period – 78 crashes resulted in 105 injuries, four crashes resulted in four fatalities, and the remaining 285 crashes resulted in property damage only.

Table 4 summarizes the number and severity of crashes for the Corridor over the five-year study period. As shown, the number and severity of crashes has remained relatively constant from year to year during the study period. An increase in total crashes occurred in 2014, but subsequent years returned to levels similar to 2013. The increase in 2014 was due to a higher number of property damage only type crashes.

Table 4: Total Number of Crashes in Corridor

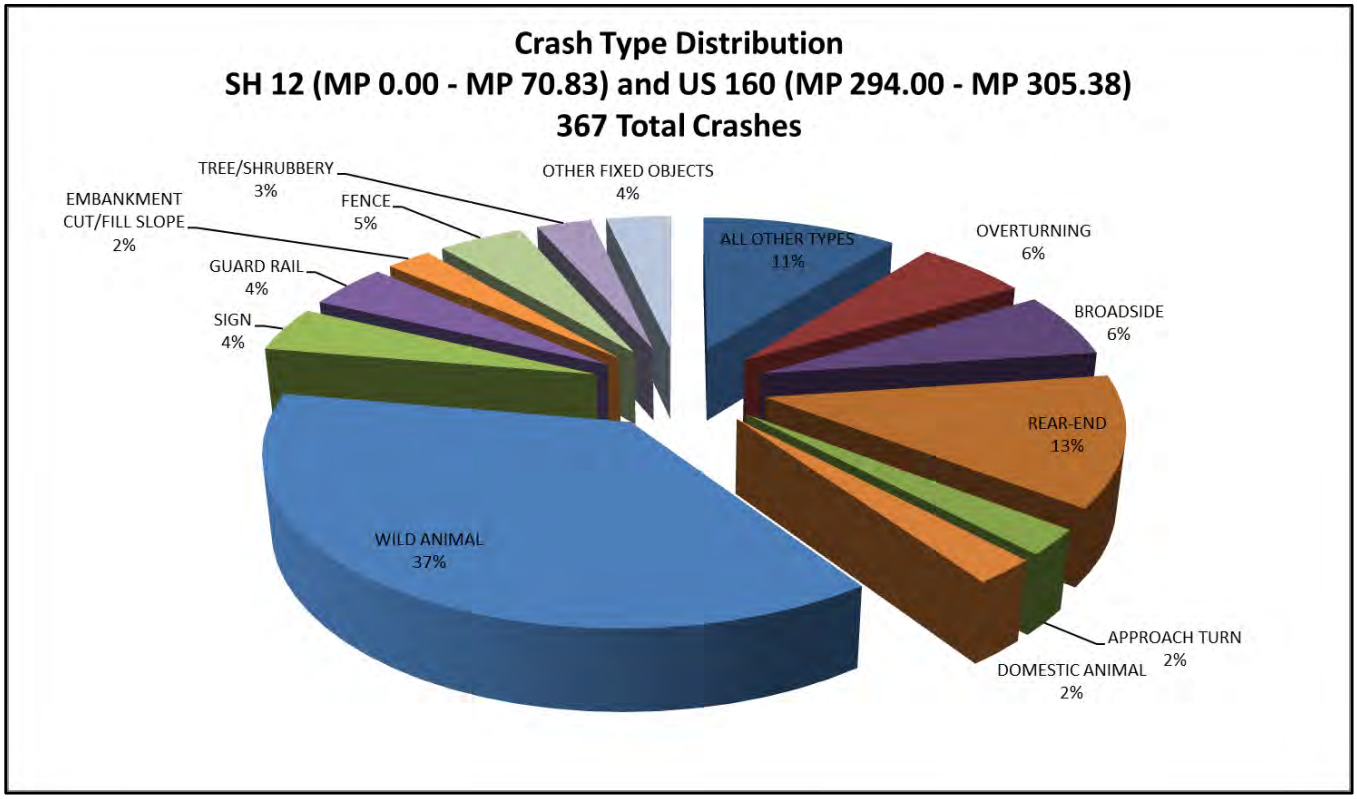
Year	Number of Crashes			
	Fatality	Injury	PDO[1]	Total
January 2013 - December 2013	1	10	58	69
January 2014 - December 2014	1	16	69	86
January 2015 - December 2015	-	18	55	73
January 2016 - December 2016	2	18	48	68
January 2017 - December 2017	-	16	55	71
Total	**4**	**78**	**285**	**367**

[1] Property Damage Only

Crash History

Figure 14 shows the breakdown of crashes by type for the 82.21 mile Corridor. *Wild animal* type crashes were predominant (37%) followed by *rear end* (13%).

Figure 14: Study Corridor Crashes by Type



There were four fatal crashes along the Corridor during the five-year study period. The locations of the crashes were dispersed along the Corridor. Three of the fatalities were along a curve. Two fatalities involved motorcycles. Alcohol was a contributing factor in two fatalities. All four fatalities occurred under dry conditions and were not in the vicinity of an intersection. Crash types and lighting conditions varied in all four.

Weighted Crash Rate Analysis

Graphs representing the change in Weighted Crash Rate, the change in Total Number of Crashes, and the change in the Number of Wild Animal Crashes along US 160 and SH 12 are shown on **Figure 15** through **Figure 20.** The Weighted Crash Rate takes into account the severity of the crash and the Average Daily Traffic (ADT) at the locations of the crashes. The graphs reveal locations of crash concentration and severity through the Corridor.

Figure 15: US 160 Weighted Crash Rate

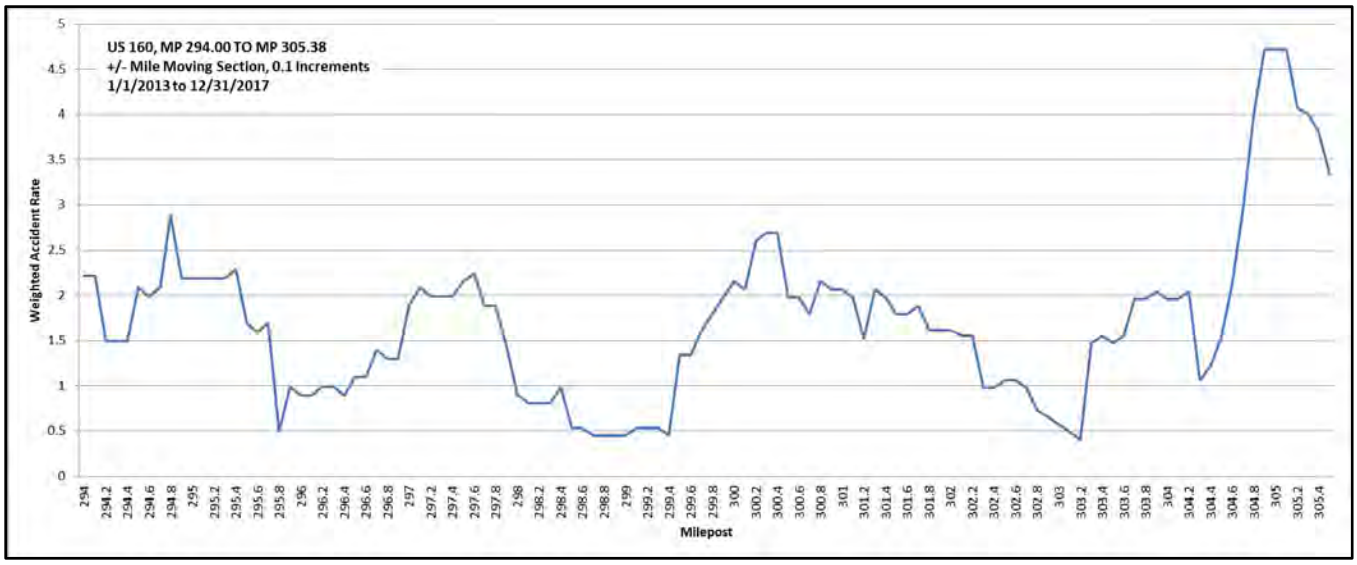


Figure 16: SH 12 Weighted Crash Rate

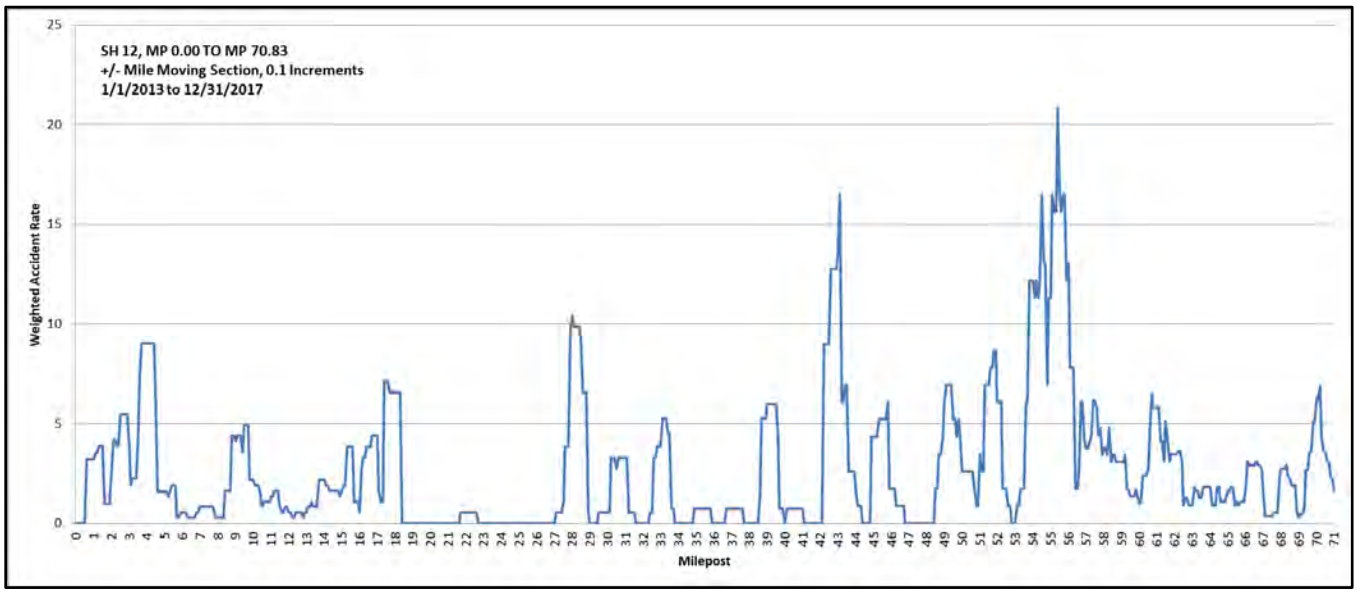


Figure 17: Total Number of Crashes on US 160

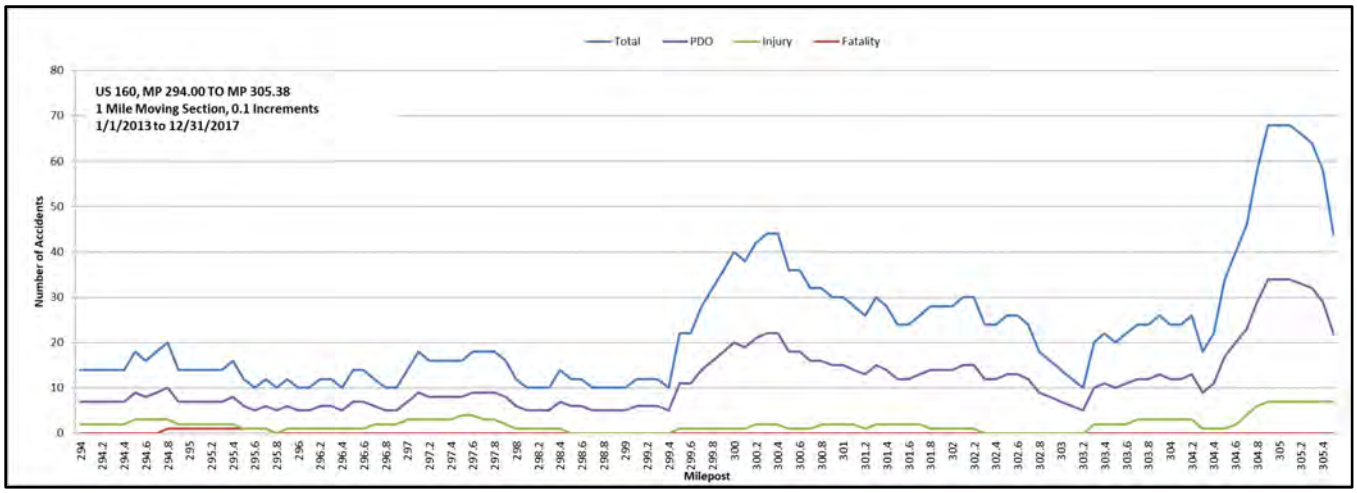


Figure 18: Total Number of Crashes on SH 12

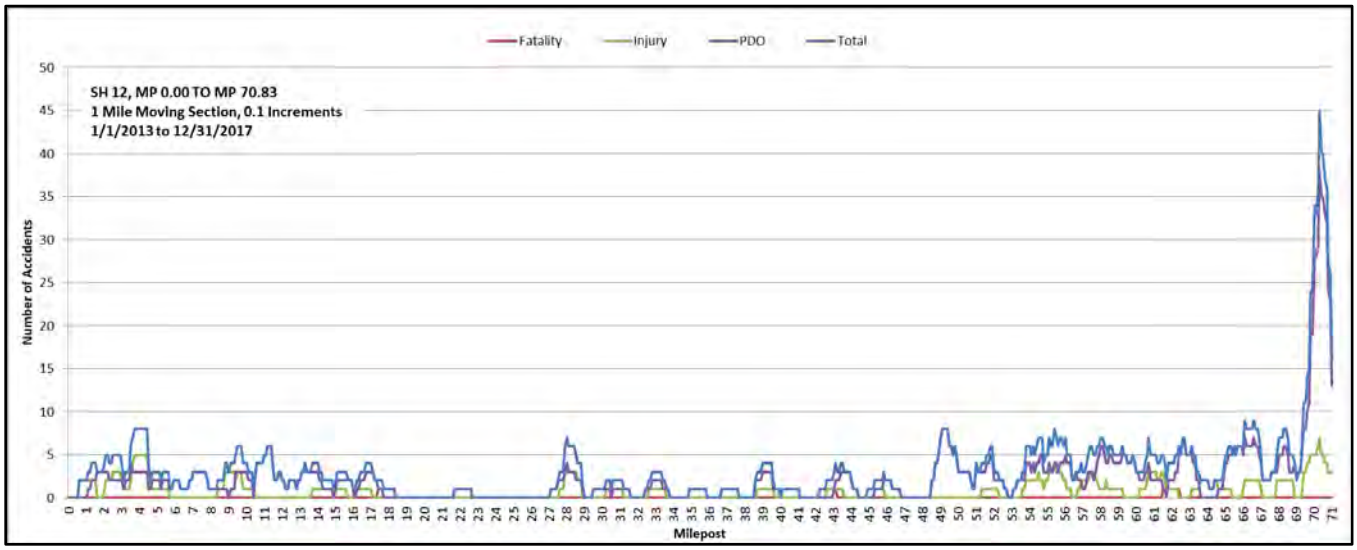


Figure 19: Number of Wild Animal Crashes on US 160

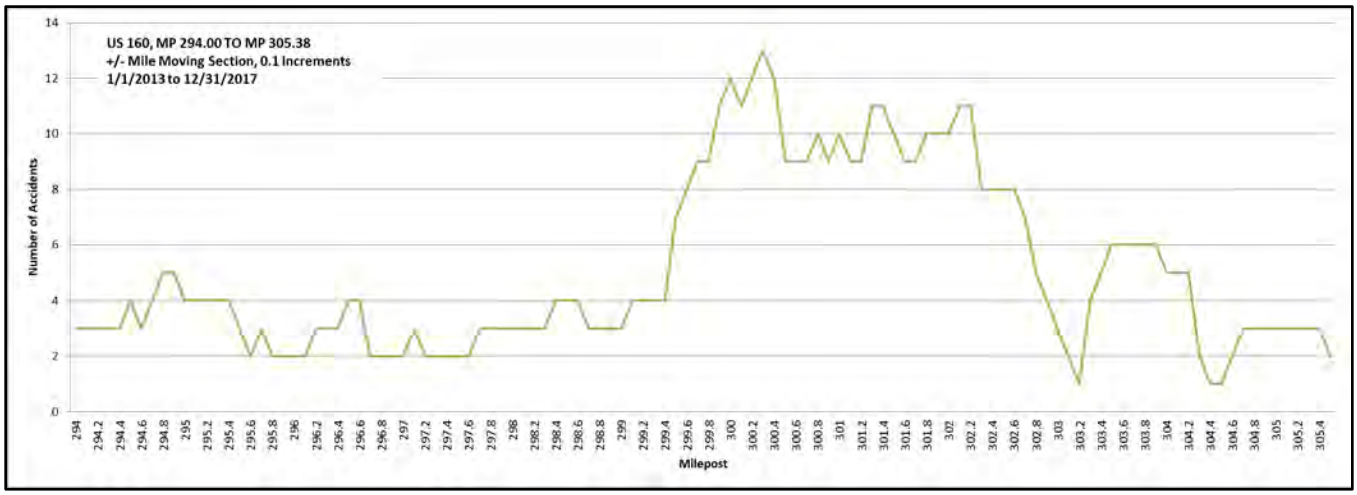
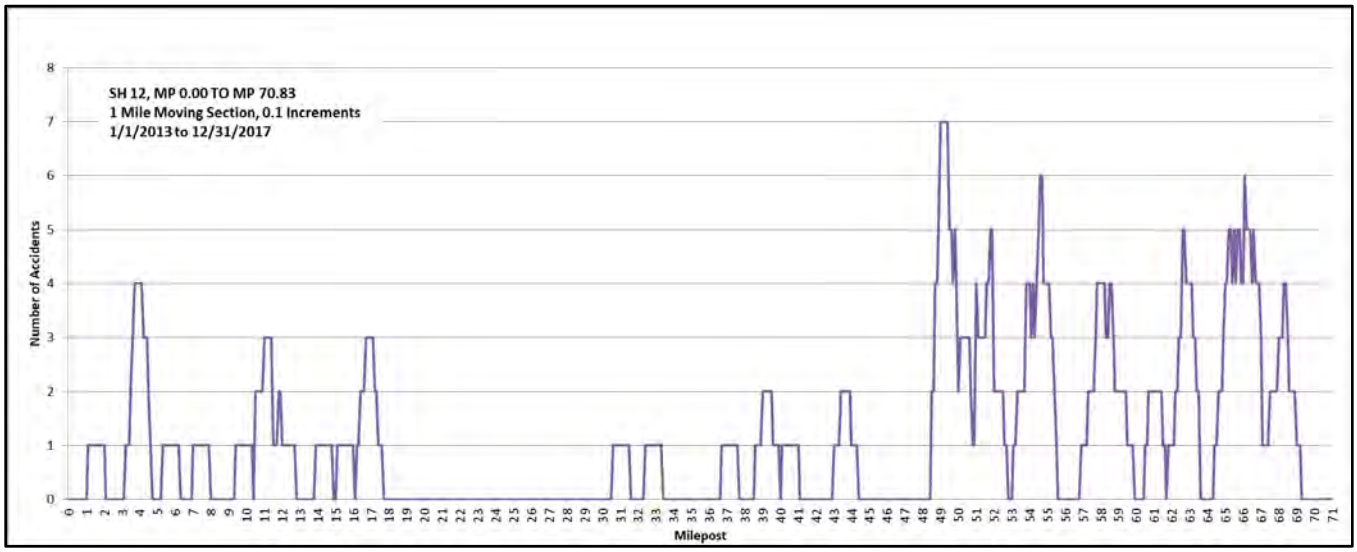


Figure 20: Number of Wild Animal Crashes on SH 12



Peaks in the weighted crash rate along US 160 occurred at MP 294.8, MP 300.3, and MP 305, as follows:

- MP 294.8 is a little over a half-mile northeast of the SH 12 intersection. This area experienced an alcohol related fatality, two injury crashes under adverse weather conditions, and seven PDO crashes of which five were *wild animal* type crashes.
- The MP 300.3 area is near County Road 504 and the Walsenburg Reservoir. Fourteen of the 26 crashes in this area, from MP 299.7 to MP 301, were *wild animal* type crashes. Of those 14, ten were under dark or unlighted conditions.
- MP 305 encompasses the Corridor in Walsenburg. Thirty-four total crashes occurred in this area of which 16 were *rear-end* type crashes and six were *broadside* crashes. These type crashes are consistent with the increase in access points and the more urban nature of this section.

Peaks in the weighted crash rate along SH 12 occurred at MP 4, MP 28, MP 43.1, and MP 55.4, as follows:

- MP 4 is located near the Cucharas River just north of La Veta and had a concentration of *wild animal* type crashes.
- MP 28 is located in a sharp curve near North Lake. The location experienced 7 total crashes (3 injury and 4 PDO) of which four were *guardrail* type crashes. Two of the seven injury crashes involved motorcycles.
- MP 43.1 is near County Road 21.6. This is a low ADT location with an S-curve which experienced four total crashes, but one was a fatality and another was an injury, both of which involved motorcycles.
- MP 55.4 had the highest peak in weighted crash rate along SH 12. It encompasses approximately a 2.3-mile stretch from MP 53.8 to MP 56.1. Saracillo Canyon, Pentinte Canyon, Smith Canyon, and Primero Canyon are located along this stretch. It had 13 total crashes of which seven were *wild animal* type crashes.

Planned Roadway (CDOT) Projects

The projects listed in **Table 5** are planned transportation projects within the Corridor currently identified in the CDOT Statewide Transportation Improvement Program (STIP). The STIP is the planning document that identifies the transportation projects CDOT intends to fund over a four year period. It is prepared in cooperation with local government entities throughout the State, including Transportation Planning Regions and Metropolitan Planning Organizations.

Table 5: Planned Projects for the Corridor

STIP WBS ID	Description	Start MP	End MP	Programmed Cost (in thousands)						
				2019	Rolled	2020	Rolled	2021	2022	Future
SR26867.060	Study SH 160A/I-25C Ped-bike Walsenburg	304	305.38	145	817	496			278	
SR27002.034	SH 160A additional passing lanes	294	297	1,140						
SR26867.077	PEL Study along SH 12	0	70.833					749		
SR26710.035	Bridge Repairs on P-17-L and P-17-A	51.45	53.72	22						
SR25079.064	City of Trinidad - Sopris trail			108	605					

Freight Rail System

Two existing freight rail lines are located with the Study Area. Each of these rail lines, one currently active and one abandoned, offer potential opportunities for the consideration of off-highway trail routes. The following section provides an overview of these rail lines.

Iowa Pacific Railroad

As part of the Iowa Pacific holdings, the San Luis & Rio Grande Railroad (SLRG) runs west from a connection with the Union Pacific Railroad at Walsenburg, over the Sangre de Christo Mountains at La Veta Pass and into the San Luis and Rio Grande River valleys. The SLRG is just under 150 miles long. The highest point on the SLRG at La Veta Pass is 9,242 feet above sea level – the highest rail freight line in North America. The primary commodities hauled by the SLRG are grain, minerals, specialty rock products and produce.

The SLRG rail line has included a seasonal excursion train in the past (Photo: https://www.coloradotrain.com).

Within the Study Area, this rail line is located generally parallel with US 160 along the Cucharas River floodplain and passes through the Town of La Veta with an at-grade crossing with SH 12 on the north side of town. Between Walsenburg and La Veta, the SLRG line has one grade-separated crossing with US 160, located east of and near Lathrop State Park.

The oldest predecessor of the SLRG was the Denver and Rio Grande Railroad which was chartered in 1870. The original plans were part of a narrow gauge line linking Denver and Mexico City, which never came to fruition. By the late 1880s, the lack of connection of the narrow gauge railroads to the national network put them at a competitive disadvantage. The La Veta pass line was converted to standard gauge around 1900. The line was sold several times between the mid-1990s and 2005. The SLRG currently operates five locomotives, five days a week.

The Iowa Pacific rail line includes multiple crossings of county roads within the Study Area including a SH 12 crossing on the north side of La Veta.

Recently, the SLRG operated a variety of passenger excursions and themed event trains over scenic LaVeta Pass and through the historic San Luis Valley from May through September. The La Veta Mountaineer travelled from Alamosa with stops in Fort Garland, Fir and La Veta. Additionally, there have been a number of concert and special event excursions during each season. The future status of the excursion train and related events is uncertain.

New Elk Mine Railroad

Located adjacent to and south of SH 12 between Stonewall and Weston, the New Elk Mine, also known as the Allen Mine, opened in 1951 to coal mining. The mine was sold off in 1982 when the steel mill in Pueblo switched to electric furnaces. Later efforts to re-open the mine were short-lived due to reduced demand for coal.

The Kern Valley Railroad, was a 33-mile line from Trinidad to the New Elk Mine. Located parallel with SH 12 along the Purgatoire River Valley, this railroad provided service and access from the mine to the main line railroad in Trinidad. During its operation, when coal was removed from the mine it was loaded into bottom dump rail cars pulled by locomotive.

V&S Railway purchased the line in 2000. At that time, the line had limited use, but the hope was that a revived New Elk Mine would lead to new business. The revival of the mine lasted until 2012 when it was closed down. Mining operations have been limited since then, with new ownership currently investigating and potentially pursing renewal of operations.

The abandoned New Elk Mine rail line crosses SH 12 in two locations within the Study Area.

Today, the rail and ties have been salvaged and current ownership of the rail right-of-way has been transferred to multiple private owners. The original rail bed remains in place throughout its length with limited encroachment by adjacent land uses, with one exception being a small private reservoir. The original storm water structures for cross drainage and through-truss bridge structures over multiple crosses of the Purgatoire River remain intact.

The original through-truss bridges over multiple crossings of the Purgatoire River can be seen from the Corridor.

The rail alignment extends from a junction with the north-south BNSF line immediately downstream of the Trinidad Lake dam. The rail line extends westerly, south of the lake, through an easement with the US Corp of Engineers. Except for a short section, the rail alignment is located on the south side of the Purgatoire River valley. The line is located through the New Elk Mine site. The western end of the rail line is west of the mine on the south side of Stonewall.

Bicycle/Trail System

The Study Area is a popular destination for on-highway bicycling, mountain biking, hiking, and other related outdoor recreational activities. An understanding of the region's existing bicycle and trail system is important for planning and evaluating alternatives for the CFRT route, configuration, and connectivity. Connections to and interactions with existing facilities by the CFRT would provide a system of interconnected facilities, increasing the use of the system and enhancing access to the region's recreational and tourism attractions.

A "Share the Road" sign located between La Veta and Cuchara.

Bicycle Facilities

The SHOL is predominately a two-lane rural highway, with limited three or four-lane sections along US 160 and in the outskirts of Trinidad. Extending over Cucharas Pass, the majority of the corridor meanders along the Cucharas River and Purgatoire River Valleys. Approaches to Cucharas Pass, especially north of the Pass, include numerous switchbacks. With its beautiful scenery, challenging grades and historic communities, the SHOL is a popular destination for long-distance recreational cycling.

Recent local upgrades by CDOT include a wider shoulder and guardrail between La Veta and Cuchara.

Bicycles are considered vehicles under Colorado vehicle code and are permitted on all segments of the SHOL. However there are no designated bicycle facilities (i.e., standard, buffered, or protected bike lanes). There are sporadically placed 'Share the Road' signs along the Corridor.

Shoulders along the Corridor vary in width from none to several feet. Bicyclists can use the shoulder, wherever available, but they are not designated bike facilities. Some shoulder areas are accompanied by guardrails along the edge of pavement, in very localized areas, but the majority of the Corridor provides a barrier-free roadside. In the more mountainous areas, some shoulders contain rock fall debris from the adjacent slopes.

Typical narrow shoulder with rock debris, located between La Veta and Cuchara.

Bicycle Usage

There are no bicycle counts available for the Corridor. To estimate current bicycle usage within the Corridor, recent Strava data were obtained (2017). Using GPS in their mobile devices, Strava is an application and social network geared towards athletes that allows people to track and share their activities, primarily biking and running. CDOT completed a Strava Metro Data Analysis in 2018 using Strava activity data. Through the analysis, CDOT found the count data represented between three and 30 percent of the total bicycle use. Not all bicyclists utilize

Strava, so the counts provided don't necessarily provide a complete picture of current use along the Corridor. However, Strava data can provide a general estimate of use and identify higher use segments of the Corridor, compared to other segments.

A relatively wide shoulder exists near Stonewall, heading east.

As shown on **Figure 21**, the Strava data findings for the Corridor include:

- SH 12 between La Veta and Stonewall had "very high" Strava activity (71 – 526 total).
- SH 12 between Stonewall and Trinidad had primarily "high" Strava activity (40 -70 total), with some sections being "very high" and "medium" (14-39 activities).
- US 160 had "low" Strava activity (13 activities total activities in 2017 or less).

Figure 21: Strava Bicycle Activities in 2017

Bicyclist Characteristics

Roger Geller's research on the "Four Types of Bicyclists" provides a good resource for understanding the types of bicyclists who may or may not bicycle along a particular route, now and in the future. Further, this research can help guide efforts in assessing, in broad terms, what certain segments of a population require or desire in a bikeway facility. Geller suggested that the City of Portland, Oregon's population, where the research was conducted, could be categorized into the following four groups:

1) **Strong and Fearless:** People willing to bicycle with limited or no bicycle-specific infrastructure
2) **Enthused and Confident:** People willing to bicycle if some bicycle-specific infrastructure is in place
3) **Interested but Concerned:** People willing to bicycle if high-quality bicycle infrastructure is in place
4) **No Way, No How:** People unwilling to bicycle even if high-quality bicycle infrastructure is in place

These typologies help planners identify which segments of the population need lower stress facilities to try bicycling or to bicycle more often. To verify Geller's theory, Jennifer Dill, Ph.D., at Portland State University, led a survey of adults in the 50 largest metro regions in the U.S. Based on her research, she concluded that roughly seven percent of adults identified as "Strong and Fearless"; five percent identified as "Enthused and Confident"; the majority (51 percent) identified as "Interested but Concerned**";** and the rest (37 percent) identified as "No Way, No How".

Despite the lack of bicycle accommodations, the experienced bicyclist is attracted to the byway due to its scenery and challenging grades – ranging from eight to 11 percent at Cucharas Pass.

Based on these data, it is estimated that most bicyclists who use the on-road portions of the Corridor are confident recreational (non-commuter) bicyclists. Given the terrain (grades), distances between destinations, the speeds of traffic, and lack of vehicular separation in many locations, the Corridor generally caters to those who would self-identify as "Strong and Fearless" and "Enthused and Confident". Existing or prospective bicyclists who are "Interested but Concerned" may also use the Corridor but are generally more comfortable with slower speeds, lesser volumes, more gradual grades, and a greater level of separation from motorized vehicles.

On-Roadway Bicycle Assessment

The Corridor was included in CDOT's 2017 *Bicycle and Pedestrian Infrastructure Inventory Pilot*. This study assigned Level of Traffic Stress (LTS) scores to the State's roadway segments, with one (1) being the most comfortable and four (4) being the least comfortable. Roadways with scores of two (2) or lower are considered acceptable for the average adult bicyclist.

The CDOT report used the LTS method developed by the Mineta Transportation Institute in 2012, which closely aligns with Roger Geller's research and is now considered a standard for analyzing bicycle networks. The LTS method is based on the following factors:

- Number of lanes in each direction
- Presence of centerline marking
- Presence and width of median
- Presence and width of on-street parking (when adjacent to a bike lane)
- Posted speed limit

To more accurately reflect the character of rural roadways, the Inventory Project incorporated the Enhanced LTS (ELTS) method developed by the Oregon Department of Transportation, which takes into account total width of the paved shoulder and daily traffic volumes (posted speed limits are not considered).

In the ELTS method:

- Roadways with less than 400 vehicles per day are considered LTS 2 regardless of shoulder width
- Roadways with paved shoulders that are at least six feet wide are considered LTS 2 unless traffic volumes are greater than 7,000 per day
- Roadways with paved shoulders less than four feet wide are considered LTS 4

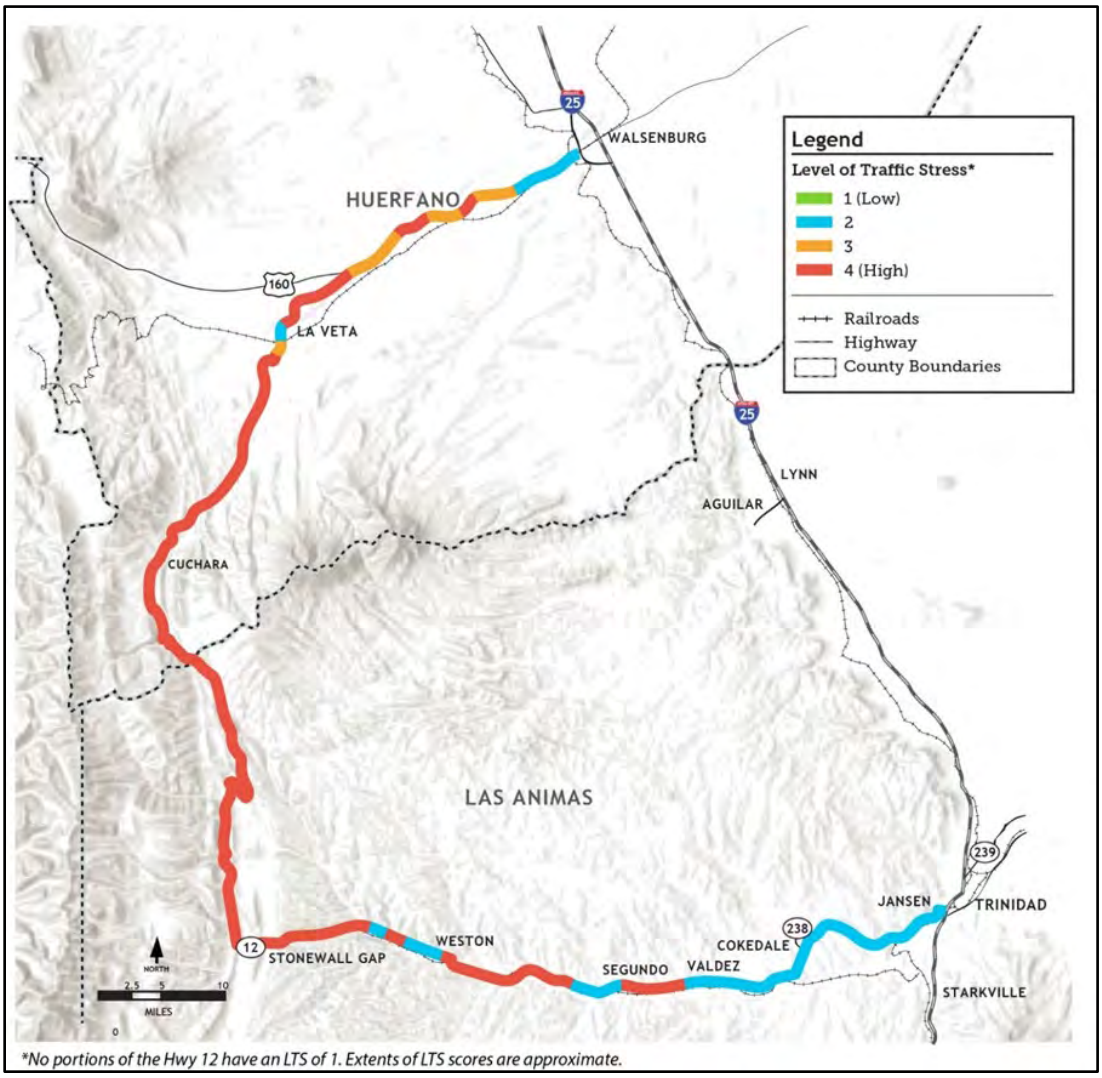
The methodology also incorporated the presence of heavy truck traffic as a factor. Heavy truck traffic reduces the LTS score when the daily volume is greater than 1,500 trucks and the percentage of heavy truck traffic is greater than 10 percent of the total traffic volume. Heavy truck traffic within the SH 12 portion of the Corridor does not exceed 1,500 vehicles per day.

According to the CDOT report, the Corridor is primarily LTS 4 (high stress and only suitable for experienced bicyclists), with some sections of LTS 3 (moderate traffic stress and suitable for "observant and confident adult bicyclists") and LTS 2 (little traffic stress but not suitable for children). The most common LTS score of 4 for the Study Area is due to shoulder widths on many segments being less than four feet wide. The Corridor sections with LTS scores of 2 are primarily on SH 12 west of Trinidad and US 160 west of Walsenburg.

LTS scores for the Corridor are illustrated in **Figure 22**.

Due to limited shoulder widths, the existing SHOL roadway between La Veta and Stonewall is best suited for the experienced cyclist.

Figure 22: Level of Traffic Stress for Bicyclists Along the Corridor



Combining the bicyclist typology with the LTS assessment, it is generally concluded that the "Strong and Fearless" and "Enthused and Confident" are more likely to ride and enjoy the LTS 3 and 4 segments, as the Corridor currently exists. This observation is consistent with the usage analysis, which shows these Corridor segments, particularly between La Veta and Stonewall, have the highest bicycle usage. It is likely that the Strava users for this Corridor more commonly fit into these user types. While the more mountainous and scenic segments of the Corridor have higher levels of traffic stress, these segments attract more riders, likely the more proficient and skilled riders, due to the physical challenge and attractiveness of these segments. This suggests that the existing level of traffic stress could be a limiting factor in attracting other rider types to these segments, particularly the "Interested but Concerned", which is estimated to account for 51 percent of potential users. Similarly, the "Interested but Concerned" would, under existing Corridor conditions, be more apt to use the LTS 2 segments. However, notwithstanding Strava users tend to fall into the more ardent user types, these Corridor segments have lower usage, perhaps due to the lower attractiveness of these segments for recreation bicyclists. While exceptions may of course occur, these observations generally define bicyclist behavior, types, and usage along the Corridor.

Summary of Bicycling Events

Since 2003, the Spanish Peaks Cycling Association has organized and led the annual Stonewall Century Ride, which is a 102-mile out-and-back ride from La Veta to Segundo along the SHOL. Each year, an average of 200 bicyclists participate. In addition, the annual Race Across America (RAAM), an individual and team bicyclist race which traverses west to east across the US, utilizes the SHOL route.

The Stonewall Century attracts a variety of cycling skillsets (Photo: https://spcycling.org/stonewall-century).

Trails and Trailheads

As shown in **Figure 23** through **Figure 27**, there is an extensive network of off-street, recreational trails within the Study Area that directly and indirectly connect to the Corridor. These provide excellent opportunities for hiking, camping, and mountain biking. Those most relevant to the study include:

- Dodgeton Trail #1302 (USFS), also referred to as the Spring Creek Trail (connects to Baker Creek Trail #1301 and Indian Creek Trail #1300)
- Dike Trail #1389 (USFS)
- La Veta Loop (La Veta)
- Town Center (La Veta)
- Cuerno Verde Trail (Lathrop State Park)
- Hogback Trail (Lathrop State Park)
- Daigre Reservoir Trail (Wahatoya State Wildlife Area)
- Wahatoya Lake Trail (Wahatoya State Wildlife Area)
- Trinidad Lake State Park Trail

The Spring Creek Trailhead includes restroom facilities and parking.

Located a short distance south of Cuchara, the Spring Creek Trailhead is the only publicly-accessible trailhead that is directly accessed from the SHOL. The Dike Trailhead is located approximately 750 feet off SH 12 within the community of Cuchara. There are several other trailheads located a short distance off the SHOL which are accessed from the county road system, most notably the Blue Lake and Bear Lake Trailheads, the Spanish Peaks Wilderness Area Trailheads located near Cordova Pass, and the North Fork Trail Trailhead (see **Figure 26**). Several of these trailheads are associated with USFS campgrounds, including: Blue Lake Campground, Bear Lake Campground, Cordova Pass Campground, and Purgatoire Campground (also called Potato Patch Campground).

Located north of Cuchara Pass at the base of the SH 12 switchbacks is the access road to Blue Lake and Bear Lake Campgrounds and trailheads. Public restroom facilities are provided.

In addition to recreational trails, there are numerous unimproved (dirt) county roads within the Study Area (**Figure 23**) which provide off-road cycling opportunities.

Figure 23: Trails, Trailheads and County Roads within the Study Area

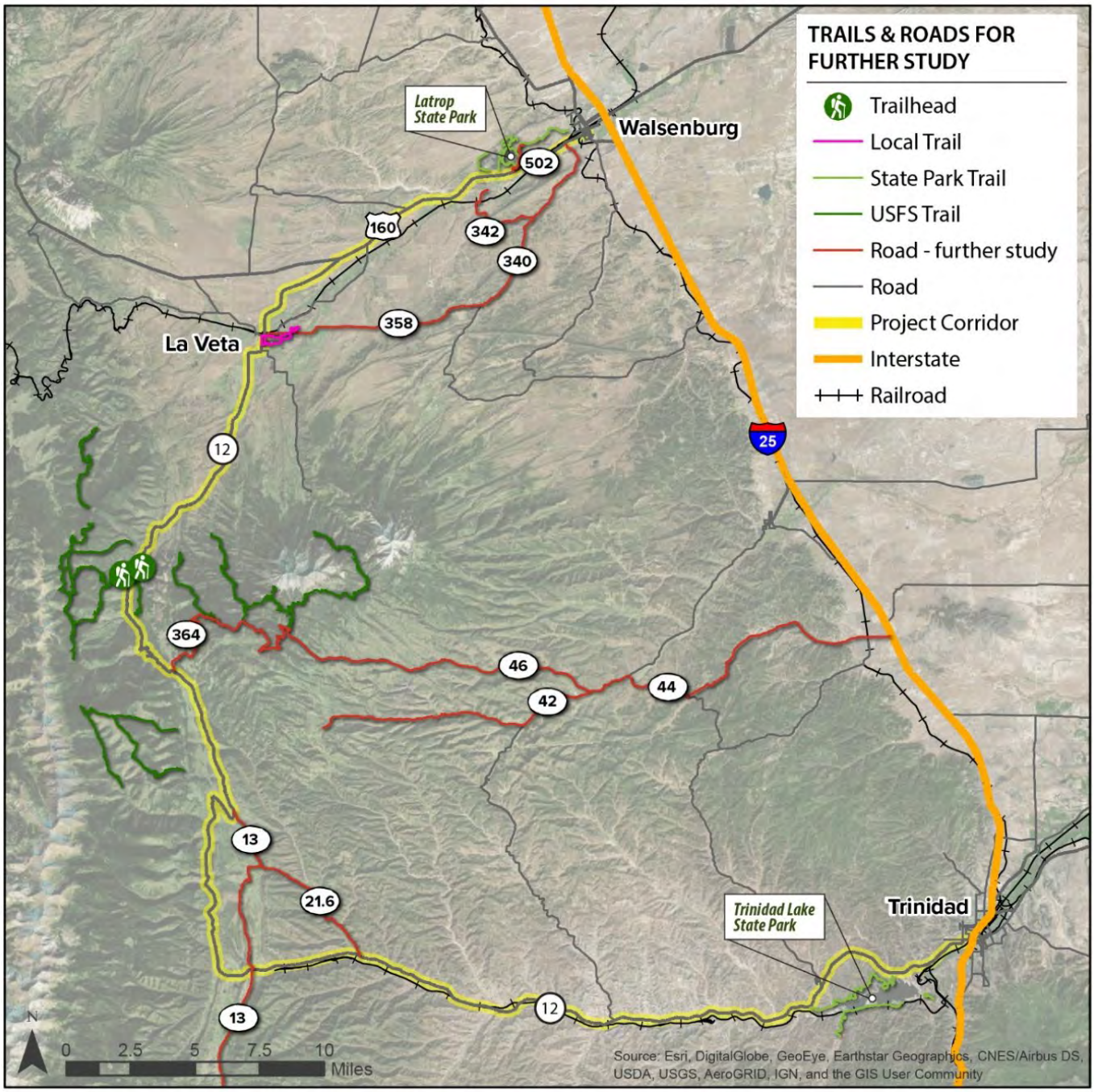


Figure 24: Trails Within and Adjacent to Lathrop State Park

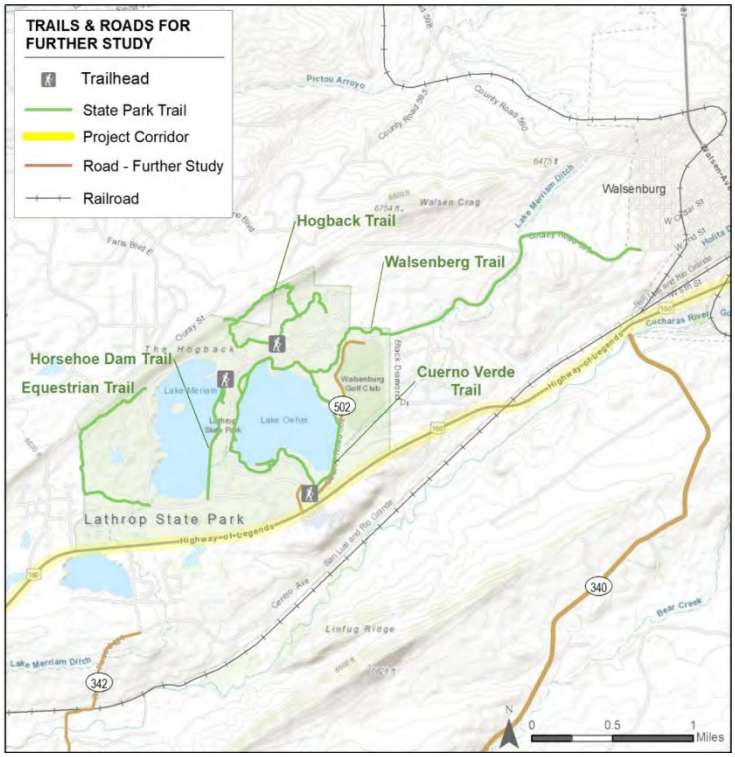


Figure 25: Trails and Amenities in and near La Veta

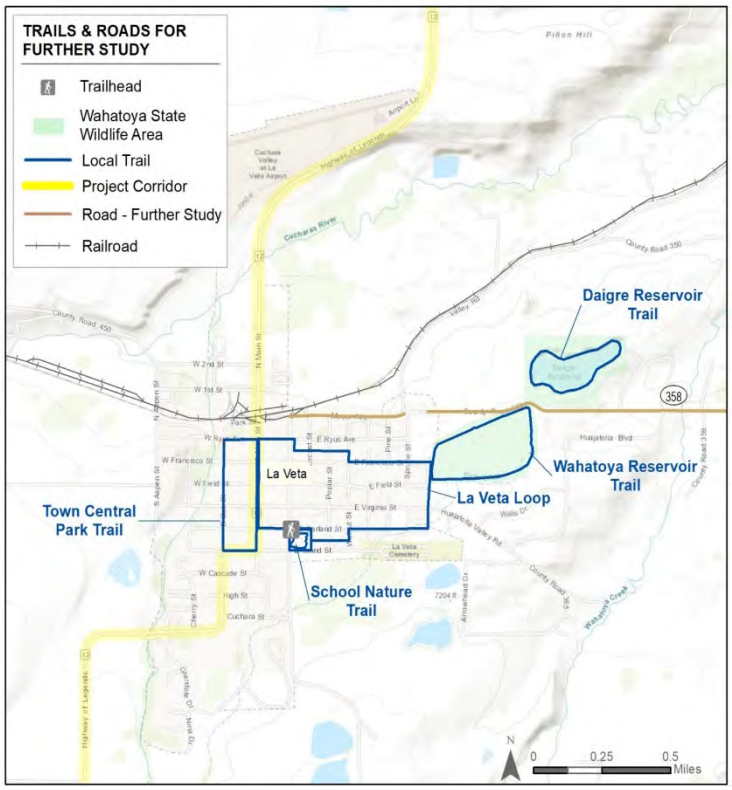


Figure 26: Trails, Trail heads, and Campgrounds near Cordova Pass

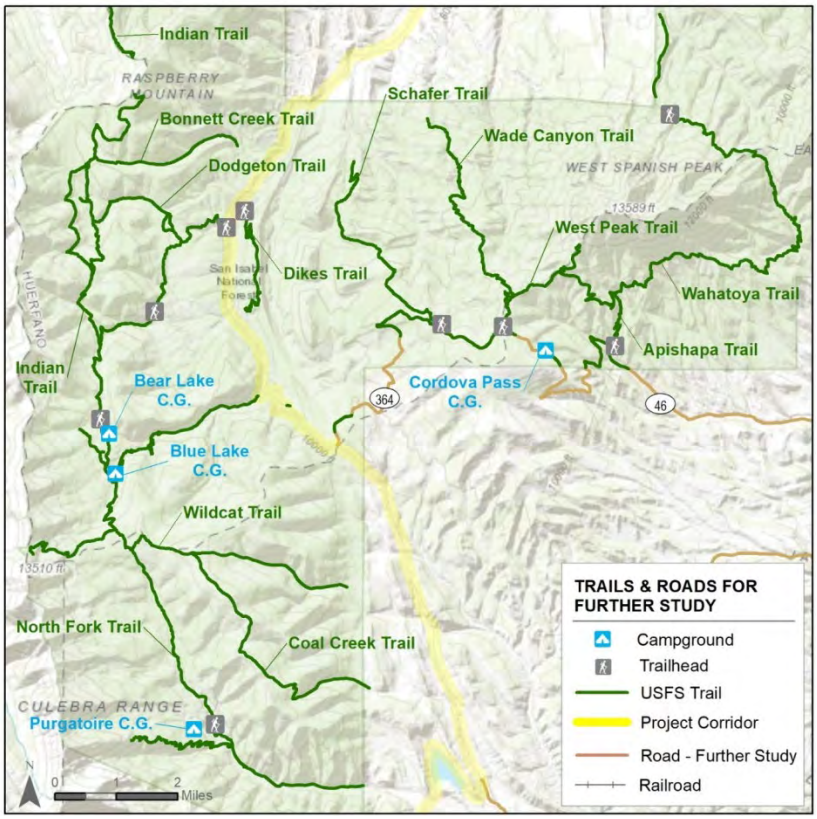
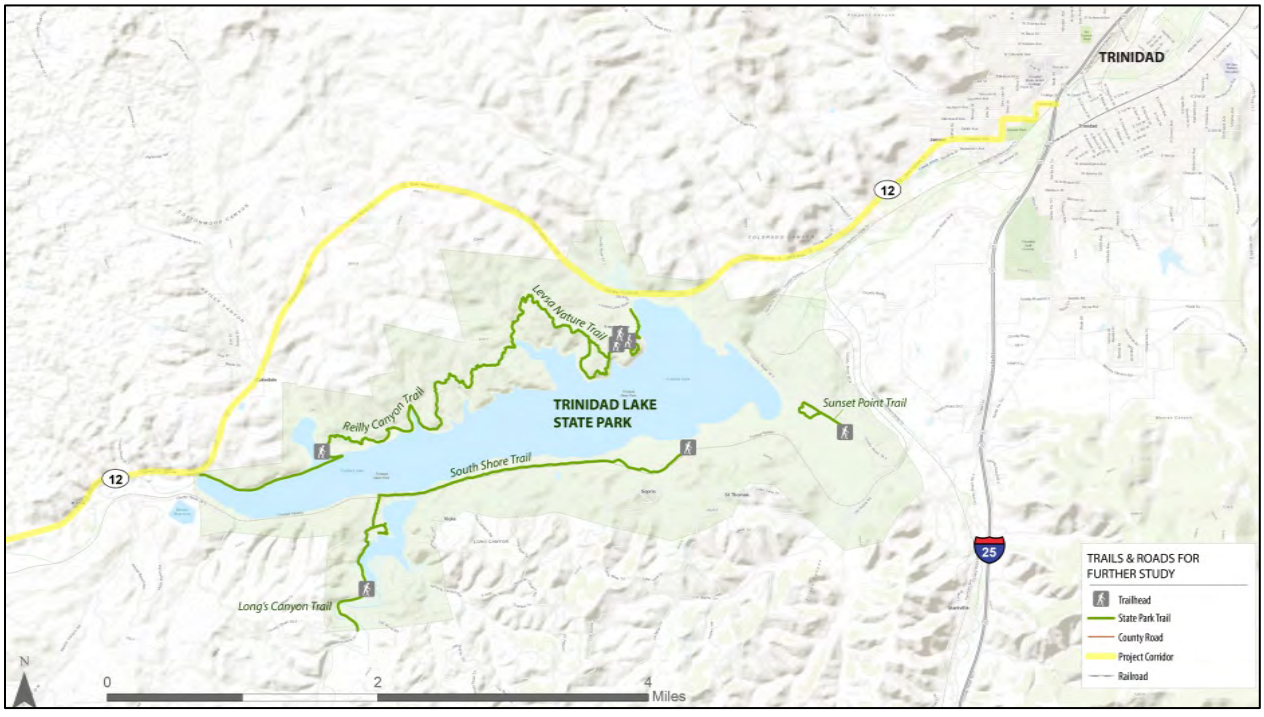


Figure 27: Trails and Trailheads at Trinidad Lake State Park



Cultural, Heritage and Eco-Tourism Facilities

There are a number of existing byway-related facilities along and associated with the SHOL. These facilities include pull-off areas with kiosks along the SH 12 roadway and other interpretive signage or related displays associated with other publically accessed facilities. Combined with SHOL pamphlets and maps, these facilities provide opportunities for travellers to learn about the history of the region as they drive the SHOL.

Cultural/Heritage Pull-offs

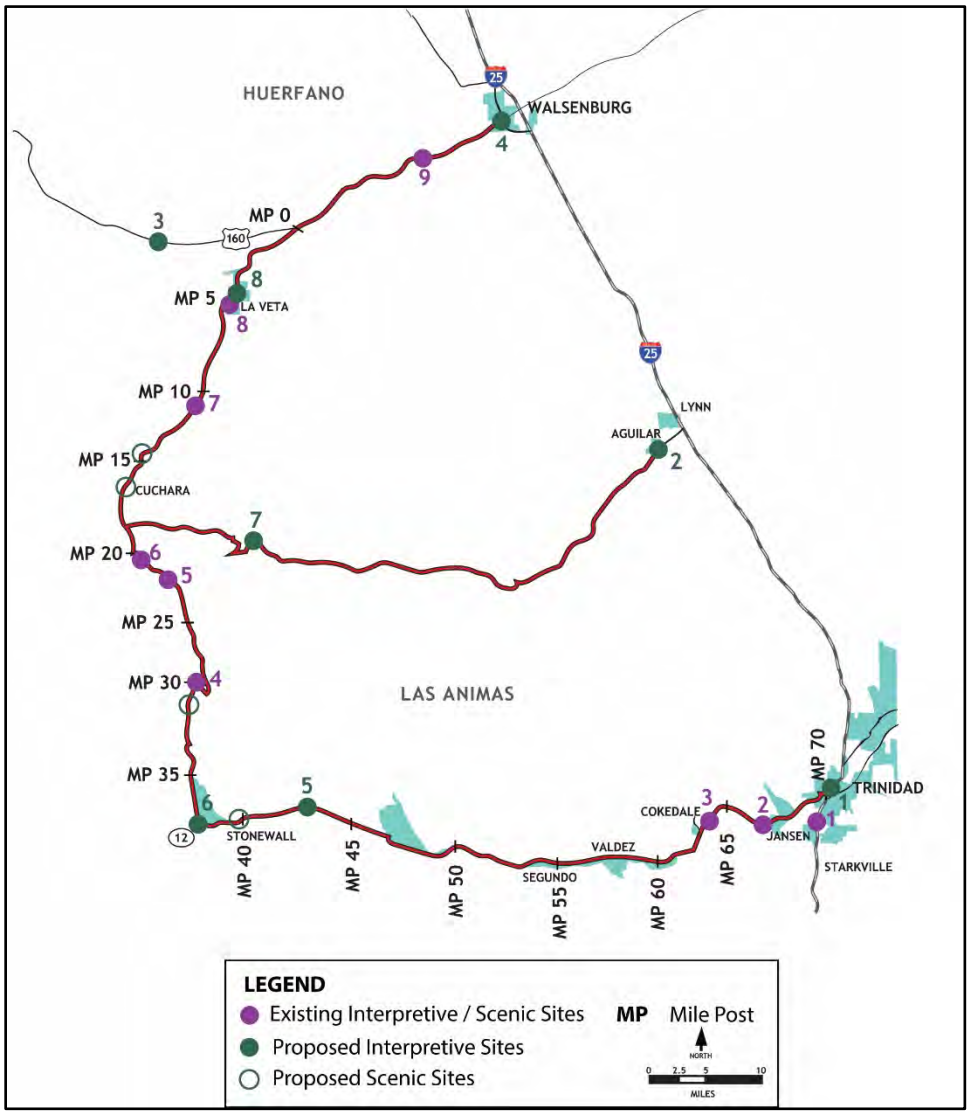
As shown on **Figure 28**, existing cultural and heritage sites for the SHOL include the following:

- **Segment One: Walsenburg to La Veta –** At the entrance to Lathrop State Park, there are no existing interpretive kiosks that can be seen either from the road or outside the visitor information center. Inside, however, twelve large paintings that depict the chronology of human history in the region can be viewed on the walls of a conference room that adjoins the reception/interpretive center for the Park (Site 9).

- **Segment Two: La Veta to Vigil –** In downtown La Veta, two interpretive panels installed by History Colorado are located on the sidewalk at the courtyard entry to the La Veta Public Library and Francisco Fort Museum (Site 8). Drivers first see Devil's Staircase driving south as they approach Cuchara. At this site, drivers can pull off to read two interpretive panels about the radial dikes (Site 7). The kiosk is damaged and panel sun bleached. Content on these signs also describes Profile Rock which can be glimpsed from the road farther to the south, before Cuchara. Farther to the south, the well-kept pull-off at the entrance to Blue Lake/Bear Lake has a restroom with posted warnings about interaction with bears (Site 6). There is no other interpretive information at this pullout. The John B. Farley Memorial Wildflower Overlook, located three-quarters of a mile off SH 12 on the gravel road to Aguilar, offers stunning scenic vistas and interpretive panels detailing wildflowers (Site 5). A North Lake Pull-off has two small panels on handsome rock bases (Site 4). These two panels are sun bleached and the bases need repair.

- **Segment Three: Vigil to Trinidad –** The pull-off at Cokedale marks the entrance to the town. All three structures at this site are memorials to miners, and one offers limited information about the 350 coke ovens located on private property across SH 12 (Site 3). At Trinidad Lake State Park, across from the park entrance, information is provided on three Colorado historic interpretive kiosks (Site 2). In Trinidad there is directional signage to the Highway of Legends (Site 1), but no gateway or interpretive signage.

Figure 28: Existing SHOL Interpretive Sites



Planned Cultural/Heritage and Eco-Tourism Projects

Previous management and planning documents for the SHOL have conceived a number of potential future scenic and interpretive sites to enhance the eco-tourist experience. These potential sites are listed as follows and shown on **Figure 28**:

Potential Interpretive Sites:

- Site 1 - Historic Train at Trinidad Riverwalk
- Site 2 - Aguilar
- Site 3 - Overlook at West Entrance La Veta
- Site 4 - Railroad Depot Walsenburg
- Site 5 - San Isidro Church/Vigil Plaza

- Site 6 - The Dakota Wall in Stonewall
- Site 7 - Cordova Pass Summit
- Site 8 - Railroad History along the SHOL – La Veta Depot

Potential Scenic Site:

- Opportunities for new scenic sites were synthesized from earlier planning studies and judgments from observations within the Corridor. These potential sites provide mountain views of the Spanish Peaks, the Sangre De Christos, the Dakota Wall near Stonewall, and other scenic landscape vistas.

Evaluation of Heritage Tourism Attractions

In 2009, the Heritage Tourism Program of the CTO, in partnership with the National Trust for Historic Preservation, developed a Heritage Tourism Quality Standards Program to evaluate Colorado's heritage resources. Heritage attractions were evaluated based on five criteria: significance, authenticity, interpretation, protection, and accessibility as follows:

- **Significance** - The unique historical or cultural importance of a place, event, or collection to Colorado's communities, to the State as a whole, or to the nation (or nations).
- **Authenticity** - What enables a place, event or collection to illustrate for visitors the original and genuine aspects of its past in a meaningful and credible way.
- **Interpretation** - The way the story of a site, collection or landscape is told to visitors. Interpretation is a collection of media (signs, brochures, exhibits, videos, audio tours, educational programs, walking tours, driving tours, etc.) and people (tour guides, living history performers, teachers, etc.).
- **Protection** -The degree to which a historic site or cultural landscape is sheltered or safe guarded from potential changes including those imposed by visitors themselves that might detract from or destroy the original historic character of that site or landscape.
- **Accessibility** - The ease with which a site or event can be used, seen or experienced by travelers. This includes being easy to find through signage, having regular hours of operation, offering visitor services such as parking or restrooms, and ensuring that visitors of all ages and abilities can experience the site.

Utilizing the Heritage Standards, twenty historic and cultural sites listed as attractions in the marketing materials produced by the SHOL were evaluated. As presented in **Tables 6, 7** and **8**, these sites have been divided into three tiers to describe how fully they meet the five criteria. Findings of the evaluation are summarized as follows:

- **Tier I** – These sites are those determined to be visitor ready and are able to contribute to regional heritage themes and stories. They meet both the Heritage Standards and the CDOT signage standards.

- **Tier II** – These sites meet some of the standards but need improvements. They might be missing restroom facilities, interpretive information, or do not have regularly scheduled hours of opening.

- **Tier III** – These sites can contribute to the regional themes and stories but need significant improvements in order to be considered "visitor ready".

Table 6: Segment One – Walsenburg to La Veta

Location	Name	Description	Condition
MP 305 US 160	Walsenburg	"The City built on Coal." In the early 1900s the Walsenburg & La Veta area produced 2.5 million tons of coal per year. The Walsenburg Mining Museum and Historic Fox theater are both downtown.	Tier III
MP 300 US 160	Lathrop State Park	Colorado's oldest state park offers fishing and boating on two lakes, the Walsenburg Golf Course, and the 2.3 mile self-guided Hogback Trail Nature Hike. A large mural inside the Visitors Center presents a 10,000-year interpretive history of human habitation in the area.	Tier I
MP 0.3 SH 12	Junction of Highways 12 and 160	This large county-owned pulloff, serves as a scenic overlook of the Spanish Peaks, iconic twin mountains that are designated a National Natural Landmark. Although the interpretive kiosk and picnic tables have been battered by winds, new interpretive panels with a map of the Highway of Legends will be installed in the summer of 2019.	Tier III
MP 4.8 SH 12	Town of La Veta	La Veta was built as a fort for the dual purposes of protection and commerce in 1863. It's builder, Colonel John Francisco, reportedly declared, "This is paradise enough for me!" Today, this charming village serves as the gateway to the alpine portion of the scenic byway and offers a collection of restaurants, lodging, entertainment and art galleries. Pedestrians, bicyclists, and strollers can easily navigate its wide streets.	Tier II
MP 9.5 SH 12	Profile Rock	One of over 400 dikes that radiate out from the Spanish Peaks, fanning out like spokes on a wheel about 25 miles in every direction both above and below ground level. The dikes were formed when the igneous rock of volcanoes forced its way into fractures in sedimentary rock and hardened. Over time, softer sedimentary material eroded away, leaving the igneous dikes exposed. At MP 9, there is a view of the river and the dike from a very small pull out.	Tier III
MP 11.5 SH 12	Devil's Stairsteps	A spectacular geological feature that has stimulated the creation of local legends. There is an informal pullout (graveled) here with room for one car, but no interpretive information is available.	Tier III
MP 37.5 SH 12	Dakota Wall	Dakota Wall is part of the same geologic formation that defines the village of Stonewall. There are two informal turnouts that offer a good scenic view of the Dakota Wall to the south.	Tier III

Table 7: Segment Two – La Veta to Weston

Location	Name	Description	Condition
MP 16.5 SH 12	Cuchara	First Native Americans, then settlers in the late 1800s, grew potatoes the high meadows between Cuchara and Stonewall. By 1910, new settlers began building cabins and a small summer community. That historic community has now expanded with the addition of recreation facilities (ski lifts and disc golf) and new housing.	Tier III
MP 19.9 SH 12	Cuchara River Recreation Area	Cuchara River Recreation Area. Blue Lake and Bear Lake anchor this recreational area of the San Isabel National Forest.	Tier II
MP 22.3 SH 12	Cuchara Pass	A gravel road leading to Aguilar, a town 35 miles to the east. This 4-wheel drive road leads to hiking trails on top of the pass, and to the Farley Wildflower Trail.	Tier III
MP 29.4 SH 12	North Lake	North Lake was constructed to supply water to the City of Trinidad. Fishing is allowed, but only with lures. Only human powered or boats with electric motors are allowed on the lake.	Tier II
MP 33 SH 12	Monument Lake and Monument Lake Resort	Monument Lake is also part of the water supply system owned by the City of Trinidad. The City of Trinidad also operates a resort here with both a lodge and individual cabins, and caters to families who have been coming to Monument Lake for many generations.	Tier II
MP 37.8 SH 12	Village of Stonewall	The rock wall rising 250 feet above the village is part of the Dakota Sandstone Formation, created millions of years ago. Over the years, the gap in the wall was created by the Cuchara River. This small village is a community of ranchers, loggers, and summer resort operators. Stonewall's early history was shaped in the early 1800s when Spain and Mexico granted ownership of thousands of acres to individuals who promised to colonize it. Later, it became a summer retreat for wealthy industrialists from Trinidad.	Tier II
MP 42.6 SH 12	Vigil	The House Built on a Bridge which linked Stonewall and Trinidad is visible at MP 42.6 on SH 12. Many travelers inquire about it, as it is pictured on postcards and in local history books. It is on private property and not available for visitation.	Tier III
MP 49.5 SH 12	Weston and Bosque del OSO	"The Forest of the Bears" is Colorado's largest State Wildlife Area. This refuge is closed in the winter for the protection of the state's second largest elk herd. The area is used by traditional recreationists who hunt or fish. The best time to hike is during the summer when trails are open to the public and hunting seasons have not yet opened.	Tier II

Table 8: Segment Three – Weston to Trinidad

Location	Name	Description	Condition
MP 50.8 SH 12	Cordova Plaza	The Cordova Plaza was built by families who moved to Colorado from New Mexico in the 1860's. They were excellent agriculturists who collectively built water systems to establish gardens and raise crops, and raised large flocks of sheep and other livestock for sale to the military, to coal mines, and to other communities. They also harvested timber for railroad ties and "props" for the underground coal mines.	Tier III
MP 55.5 SH 12	Segundo	A number of coal mines were opened by the Colorado Fuel and Iron Company (CF&I) in the early 1900s. These mining and coking camps were named in the order they were opened by CF&I: Primero, Segundo, Tercio, Cuatro, Quinto, and Sexton.	Tier III
MP 63 SH 12	Cokedale	Cokedale mines opened in 1907 and closed in 1947. The American Smelting and Refining Company built Cokedale camp as "A model town with a light bulb in every house." The company operated 350 coking ovens, 3 mines and a community of 1,500. When the mines closed in 1947, residents were offered the houses for $100 per room and $50 per lot. The original town still stands and is a Historic District on the National Register. The Cokedale Museum welcomes people and urges them to take the walking tour of their town, considered the best preserved coal camp in Colorado.	Tier II
MP 67 SH 12	Trinidad Lake State Park	About 2,300 acres of park surround a 900-acre lake, offering camping and boating. Levsa Canyon is a popular one-mile wild flower hiking loop. Long's Canyon offers a 1.25 mile watchable wildlife trail, and excellent exposure to the K/T Boundary - the transition between the Cretaceous and Tertiary periods of geologic time characterized by a mass extinction of many forms of life including dinosaurs. A four-mile trail leads into the town of Cokedale.	Tier I
MP 70.5 SH 12	Trinidad	Fisher's Peak, designated as a National Natural Landmark, marks Trinidad. The Victorian architecture of the town serves as a tribute to the affluence that Trinidad achieved during the boom years of the coal industry. The town has witnessed the movement of many people coming both from the south (Spain, Mexico and New Mexico), and from Europe and the East on the Santa Fe Trail. Museums in Trinidad help capture these rich cultural histories. As a gateway to the Highway of Legends Byway, Trinidad has the Colorado Welcome Center and offers lodging, restaurants and shopping.	Tier II

Environmental Resources Overview

This section summarizes the known existing environmental conditions and resources along the Corridor and within the Study Area. During a PEL process, it is important to understand existing environmental conditions for several reasons. Knowing which resources occur, and at what level, helps determine recommended improvements, including trail routing and roadway improvements. This study will not determine any impacts a project may have on a particular environmental resource, but provides a good understanding of where there are opportunities for avoidance, mitigation and coordination. The existing conditions information will also be carried forward into the next steps in the process once a project is identified. These next steps include preliminary design and determining impacts and mitigation during the National Environmental Policy Act (NEPA) process.

The environmental resources studied were selected based on the characteristics of the Study Area and input from stakeholders. The resources where existing conditions were evaluated either have a high occurrence in the Study Area or have laws and regulations that protect them. In addition, the identified resources all need to be considered during the NEPA process and will be scrutinized based on NEPA regulations and FHWA and CDOT guidelines.

Other Resources:
Though not identified by this study, additional resource considerations may be warranted during future transportation improvements along the Corridor. These resources are not detailed in this report because they would not be expected to influence outcomes of the PEL process. Nevertheless, these resources may require NEPA evaluation for future projects in compliance with applicable regulations. These resources include:

- Air Quality
- Cumulative Impacts
- Noxious Weeds
- Paleontology
- Vegetation
- Water Quality

For the purposes of this study, the following resources are considered important environmental resources with separate regulatory drivers, such as the Endangered Species Act or Clean Water Act, or are typically resources of concern for the general public, such as traffic noise:

- Archaeology
- Environmental Justice
- Farmlands
- Floodplains
- Geologic Resources and Soils
- Hazardous/Solid Wastes
- Historic Resources
- Land Use and Ecoregions
- Noise
- Public Lands and Recreation Resources
- Socioeconomics
- Threatened and Endangered Species, Other Special-Status Species, and Wildlife
- Visual Resources
- Wetlands and Other Waters of the US

Archaeology

Archaeological resources are defined as tangible evidence of past human activity and range in time from thousands of years ago to the recent past. Archaeological sites can include prehistoric or historic artifacts, features, and/or structural remains. As with historic resources, archaeological sites are considered Historic Properties when they meet one or more of the criteria for listing in the National Register of Historic Places (NRHP) and retain sufficient integrity. The lead federal agency determines whether the project constitutes an undertaking that could affect Historic Properties and defines the archaeological Area of Potential Effects (APE) - the area in which an undertaking may directly or indirectly impact archaeological sites. When the APE has been defined, the agency consults with the appropriate State Historic Preservation Office (SHPO) and/or Tribal Historic Preservation Office (THPO) regarding effects to historic or potentially historic properties located within the APE.

Guidance and Regulations:
Applicable laws, regulations, and guidance documents for archaeological resources include:

- National Historic Preservation Act (NHPA) of 1966 (16 United States Code [USC] 470f; 36 Code of Federal Regulations [CFR] Part 800); Section 106
- Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (49 USC 303 and 23 USC 138)
- NEPA (42 USC 4321; 40 CFR 1500-1508)
- Colorado Historical, Prehistorical, and Archaeological Resources Act of 1973 (Colorado Revised Statutes [CRS] 240-80-401, CRS 24-4-101; 8 Colorado Code of Regulations [CCR] 1504-7)

A file search of the Colorado Office of Archaeology and Historic Preservation's online database (COMPASS) was conducted within the Study Area to identify previously recorded archaeological resources that are located and may be encountered within the Corridor's improvements. No field survey or on-site verification was conducted.

The results of the desktop database search revealed that approximately 595 archaeological sites have been previously recorded within the Study Area. This also indicates a high potential for additional unknown sites.

Agency/Stakeholder Coordination:
Primary stakeholders for archaeological resources include:

- FHWA
- CDOT
- Advisory Council on Historic Preservation (ACHP)
- SHPO
- U.S. Army Corps of Engineers (USACE)
- Local municipalities
- Colorado Scenic Byways: Highway of Legends
- Other consulting parties

Table 9 identifies the number of NRHP-listed, officially NRHP-eligible, and field NRHP-eligible archaeological sites located within the Study Area, and sites that need additional data prior to determining NRHP eligibility. The table also includes the number of archaeological sites that have been determined ineligible for inclusion in the NRHP. Archaeological resources potentially encountered within the Corridor could include prehistoric archaeological resources, such as groundstone tools (manos and mutates), projectile points, prehistoric ceramic, petroglyphs and pictographs, teepee rings, and human remains. Historic archaeological sites can include historic debris such as cans, glass, ceramics, and metal, as well as foundation and rock wall remnants.

Table 9: Previously Recorded Archaeological Sites within the SML Study Area

Listed in NRHP	0
Officially Eligible to the NRHP	7
Field Eligible to the NRHP	21
Officially Needs Data/Field Needs Data/ No Assessment	183
Officially Not Eligible and Field Not Eligible	382
Total Archaeological Sites	593

Source: Colorado Office of Archaeology and Historic Preservation, COMPASS database, May 2019

Seven previously recorded archaeological resources within the Study Area have been determined officially NRHP eligible by SHPO and/or THPO and 21 were determined to be field eligible. Most of these sites are prehistoric and include residential sites, rock shelters, open camp sites, human burials, and rock art. Corridor improvements should avoid adverse impacts to these known sites or minimize impacts to the greatest extent possible.

Future NEPA evaluation of Corridor improvements would require compliance with Section 106 of the NHPA and Section 4(f) of the USDOT Act. Corridor improvements should seek ways to avoid or minimize impacts to archaeological resources. Sites identified as potential archaeological resources should be evaluated for NRHP eligibility to determine historic status. For improvement alternatives with significant impacts to archaeological resources, mitigation strategies should be investigated.

Environmental Justice

Guidance and Regulations:
Applicable laws, regulations, and guidance documents for environmental justice include:

- Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"
- Title VI of the Civil Rights Act of 1964, as amended
- Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency"
- USDOT Order 5610.2(a) on Environmental Justice
- FHWA Order 6640.23A on Environmental Justice
- FHWA 2011 Guidance on Environmental Justice and NEPA

Environmental justice analysis reviews whether a project's impacts are disproportionately high and adverse to minority and low-income populations. Minority, as it applies to environmental justice, is defined as a person who is Black or African American, Asian American, American Indian or Alaskan Native, and Native Hawaiian or Pacific Islander. Additionally, those who identify themselves as Hispanic or Latino regardless of their race are considered part of the minority population. Low income is defined as a household income at or below the U.S. Department of Health and Human Services poverty guidelines. Low-income populations are determined within a Study Area by calculating the low-income threshold for the median household income in the county.

Race and ethnicity data were pulled from the latest update to the 2010 U.S. Census for the block groups that intersect the Study Area and were compared against the county percentages. If the percentage of low-income households and minority residents is higher than what has been calculated as the county percentage, an environmental justice analysis is required. The 2012-2016 American Community Survey (ACS) five-year estimate data were used for household size and income data.

Minority Populations

The Study Area is within Huerfano and Las Animas Counties. Approximately 42 percent of the Huerfano County population is of races other than white and 35 percent are Hispanic or Latino (**Figure 29**). In Las Animas County, 47 percent of the residents are races other than white and 42 percent are Hispanic or Latino. In Huerfano County, the Study Area intersects four census block groups (**Table 10**). Of these, two block groups (Census Tract 960600, block groups 1 and 3) have a higher percentage of minority populations than that of the County. These two block groups are located within and adjacent to the City of Walsenburg (**Figure 29**). In Las Animas County, the Study Area intersects six block groups, two of which have a higher percentage of minority populations than the County (Census Tract 200, Block Groups 1 and 2). A third block group (Census Track 100, block group 2) has the same percentage of minority residents as that of the County. All three of these block groups are located within the City of Trinidad or to the north of Trinidad on the west side of I-25 (**Figure 29**).

Table 10: Demographic Information for Study Area

Area	Total Population	Minority Populations (%)					
		Black/ African American	Native American	Asian	Hispanic or Latin	Hawaiian/ Pacific Islander	Total Minority
State	5,029,196	4.0	1.1	2.8	20.7	0.1	29
Huerfano County	6,889	1.0	5.3	1.0	34.5	0.3	42
Census Tract 960600, Block Group 1	625	0.64	0.48	0.32	55	0	56
Census Tract 960600, Block Group 3	724	0	2	0	57	0	59
Census Tract 960900, Block Group 1	959	0	0.31	0	12	0.31	13
Census Tract 960900, Block Group 2	1424	0.42	0.56	0.56	17	0	19
Las Animas County	14,503	2.0	3.6	1.1	41.8	0.1	49
Census Track 100, Block Group 2	1797	0.17	0.67	0.11	48	0.06	49
Census Tract 200, Block Group 1	572	2	1	2	53	0	58
Census Tract 200, Block Group 2	727	0	1	0.41	35	0	36
Census Track 300, Block Group 2	671	0	.89	1.0	32.79	0	35
Census Track 300, Block Group 3	669	0.3	0.45	0.15	33	0	34
Census Tract 300, Block Group 1	844	0.24	1.42	0.47	24	0	26

Low-Income Populations

The low-income threshold for Huerfano County is $16,212 and 21 percent of households within the county have an income at or below this threshold. The low-income threshold for Las Animas County is $13,756 and 24 percent of households within the county have an income at or below this threshold. Within the Study Area, household incomes are below the Huerfano County average in Walsenburg and La Veta, and below the Las Animas County average within and adjacent to Trinidad (**Figure 30**).

Figure 29: Percent Minority Populations, Walsenburg to Trinidad

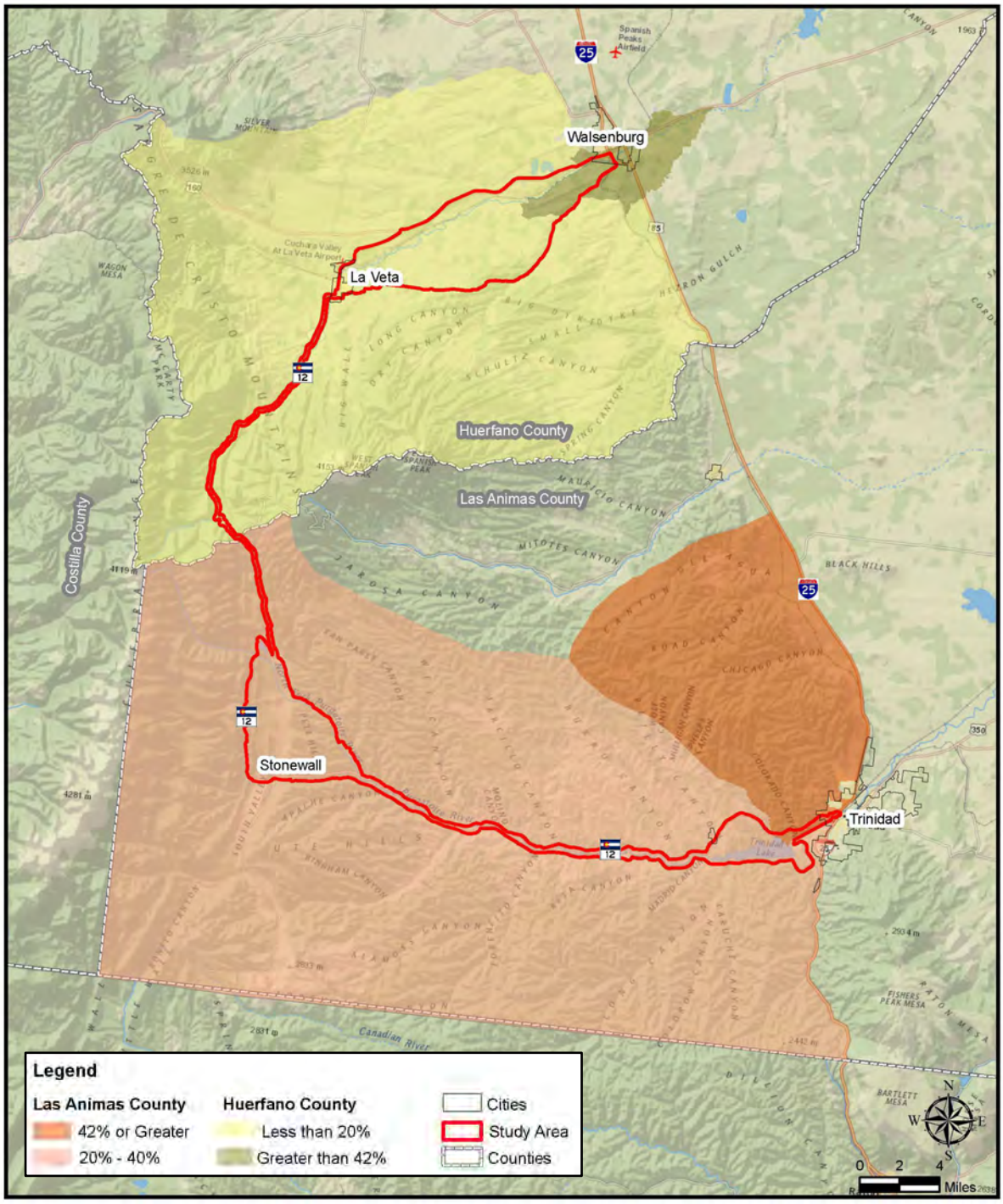
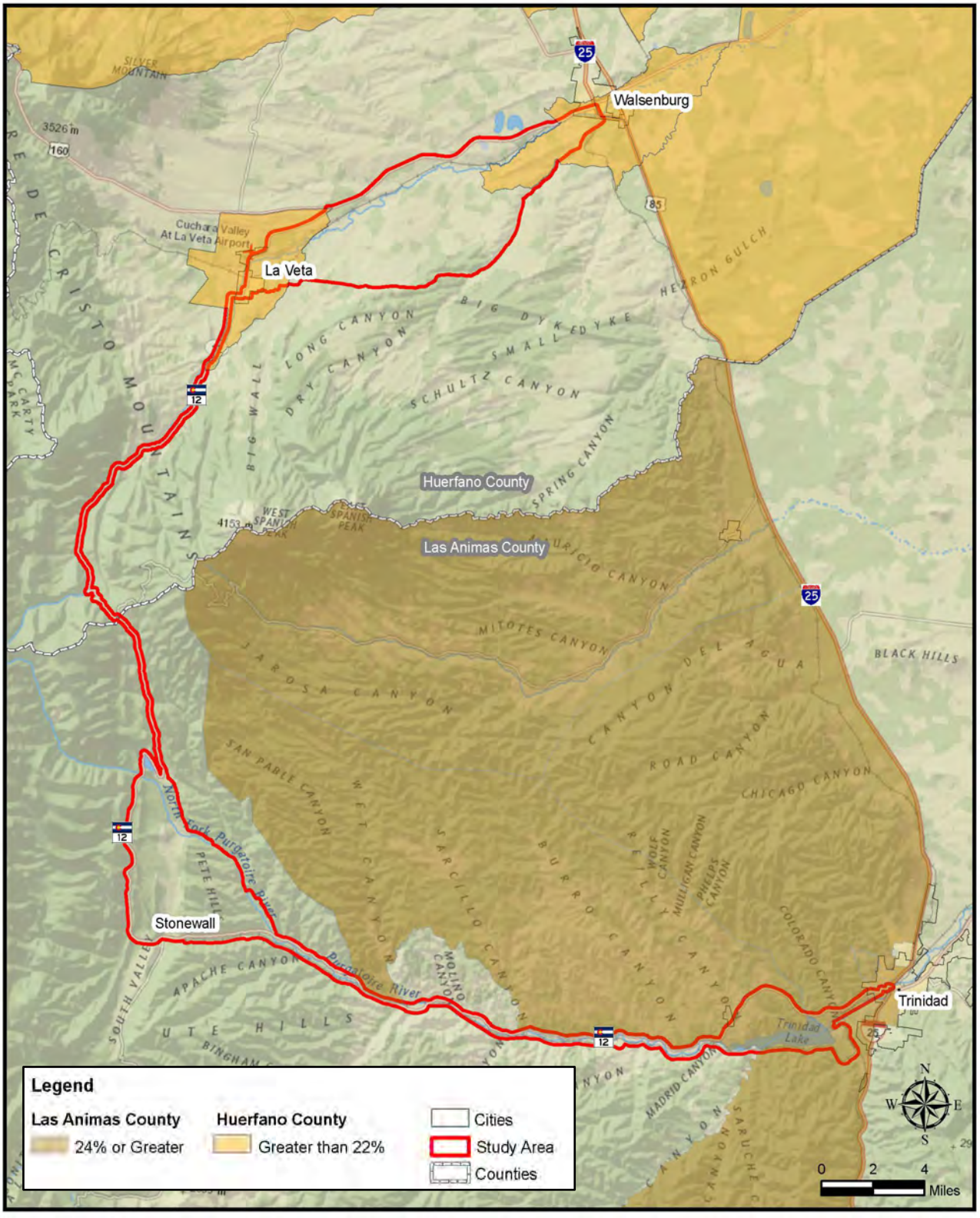


Figure 30: Percent Low-Income Households, Walsenburg to Trinidad



In summary, portions of the Study Area have higher percentages of minority populations and low-income households than the counties as a whole. The Study Area will be subject to an environmental justice analysis during future NEPA studies. Under the NEPA process, the collection and evaluation of minority and low-income population data usually is structured as a four-step process:

1. Define the area of potential impact (i.e., community study area)
2. Identify minority and low-income populations within the community study area
3. Evaluate impacts/benefits to determine if there are any adverse and disproportionate impacts
4. Identify mitigation (if needed) and any need for specialized outreach

It is important to identify low-income and minority populations early so that these populations can become involved and have a meaningful opportunity to participate during every phase of a project. Specialized outreach may be required based on the extent of anticipated impacts and stakeholder concerns. In addition, the study will need to determine whether language assistance measures are needed to ensure meaningful access to the process. Consideration of businesses and community facilities important to low-income, minority, and limited English proficiency (LEP) populations also is critical. Outreach to low-income, minority, and LEP populations should occur early in the process because input from these populations could influence alternative and impact analyses.

Farmlands

Farmlands are valuable economic and cultural resources that are protected by the Farmland Protection Policy Act (FPPA), which defines farmlands as follows:

- **Prime Farmland -** Land that has the best combination of physical and chemical characteristics for production of food, feed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. Includes land that possesses these characteristics but is currently used to produce livestock or timber.
- **Unique Farmland** - Includes land other than prime farmland that is used to produce specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of specific crops.
- **Farmland of Statewide Importance** - Other than prime or unique farmland, there also is farmland that is of statewide importance for producing food, feed, and other crops, as determined by the appropriate state government agency or agencies.
- **Farmland of Local Importance** - Other than prime or unique farmland, there also is farmland that is of local importance for producing food, feed, and other crops, as determined by the appropriate local government agency or agencies.

Soil data were downloaded from the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) website. **Figures 31** to **33** present the NRCS data for the Study Area. As shown, soils classified by NRCS as "Prime Farmland if Irrigated" are present throughout the Study Area. These figures show the locations of all potential prime farmlands within the Study Area. However, no visual inspection of these areas was completed. Based on the PEL study's project recommendations, further investigation will be required to determine if these areas are still active, irrigated farmlands. If required, additional assessments of any adverse effects on the preservation of farmlands will need to be performed. Alternatives which could lessen any adverse effects, and ensure compatibility with private, local, and state programs and policies to protect farmland, will need to be evaluated.

Figure 31: Prime Farmland, Walsenburg to LaVeta

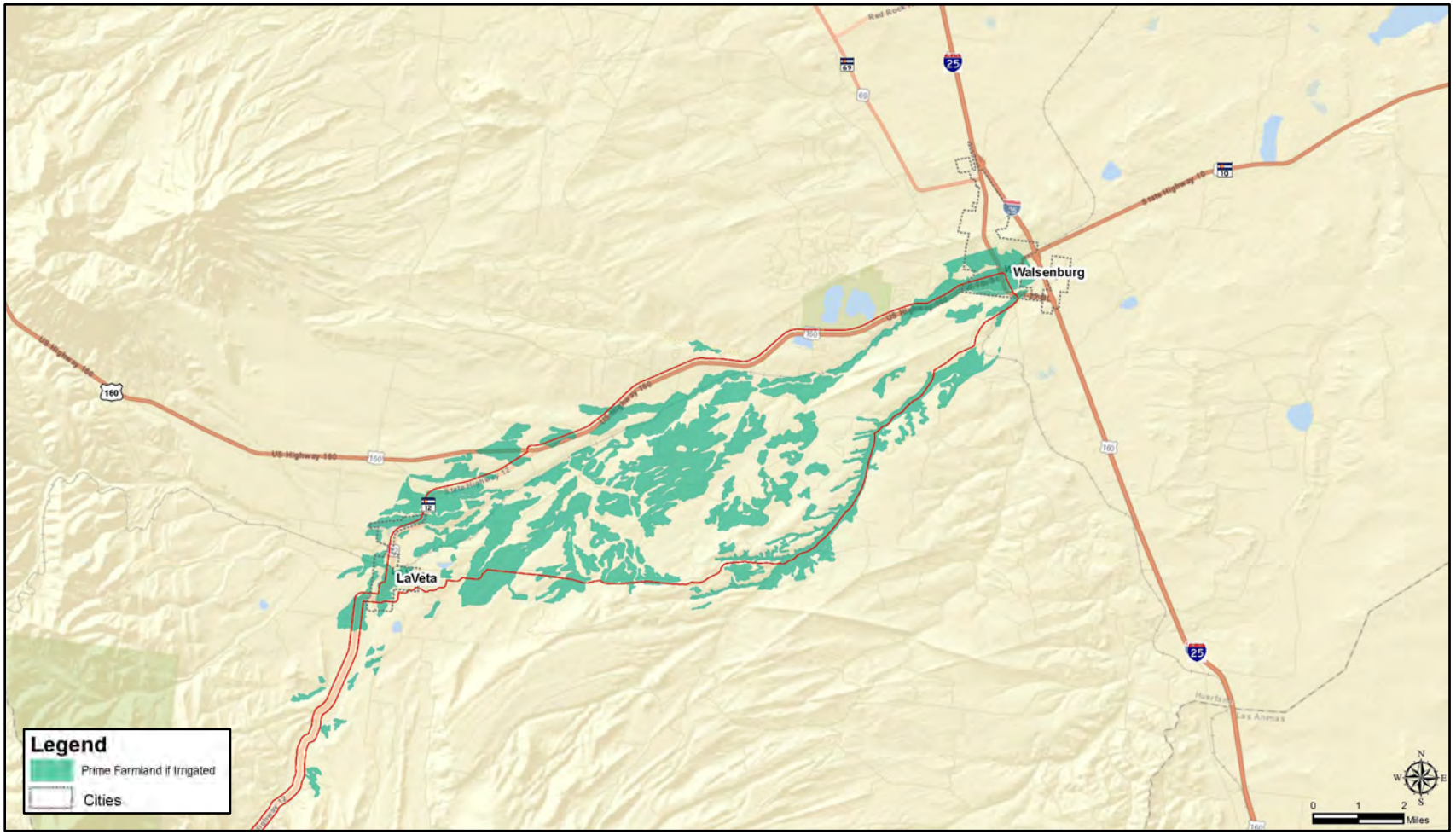


Figure 32: Prime Farmland, La Veta to Stonewall

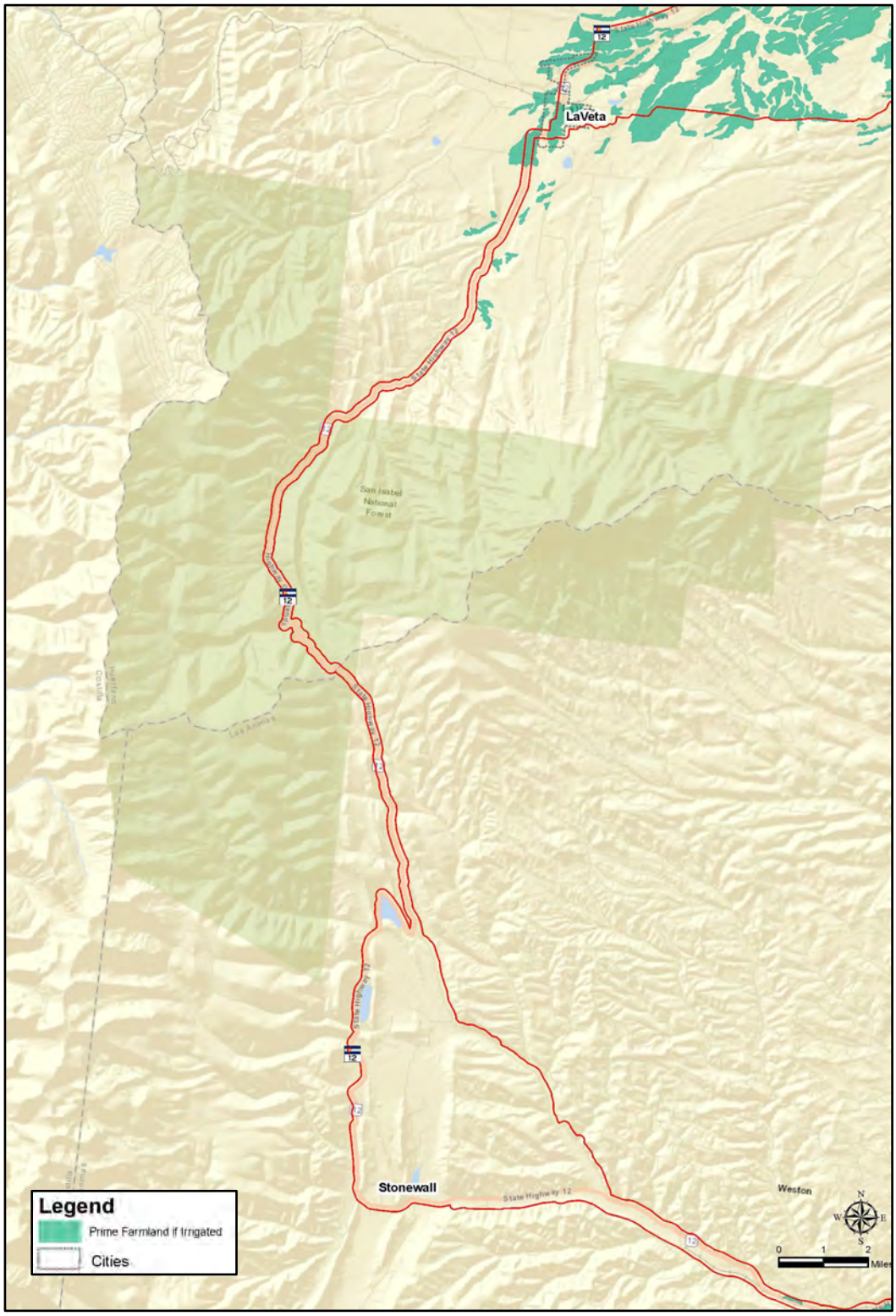
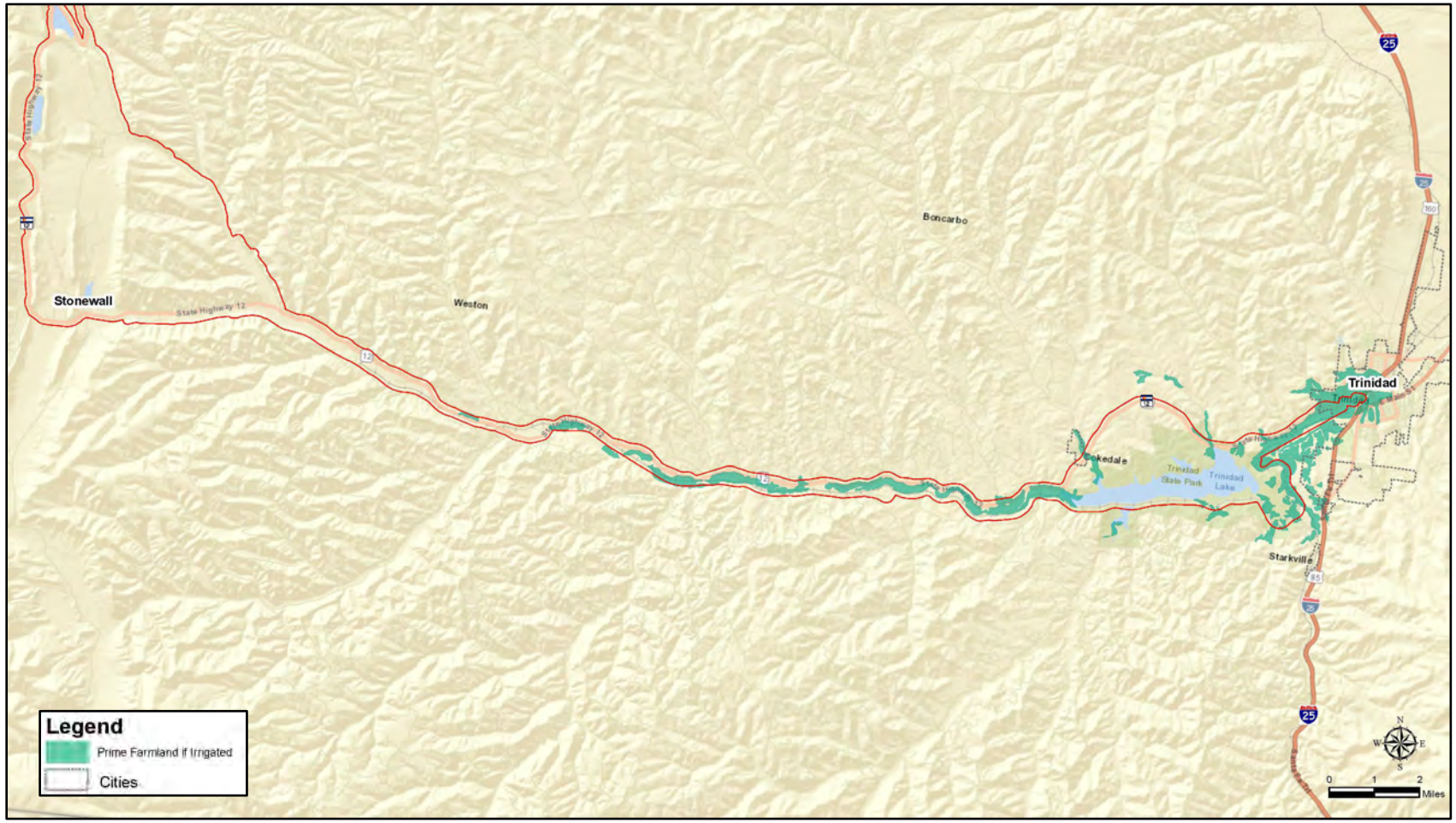


Figure 33: Prime Farmland, Stonewall to Trinidad



Floodplains

Floodplains are lands along and on either side of a stream that are inundated when the capacity of the stream channel is exceeded during specific high-flow events. In Colorado, high-flow events can be caused by thunderstorms, general rain storms, snowmelt runoff, rain or snow runoff, dam failures, or ice jam flooding. From a regulatory perspective, the 100-year storm event (a flood having a one percent chance of being equaled or exceeded in any given year) is used for most purposes in Colorado. There are exceptions based on the *Rules and Regulations for Regulatory Floodplains in Colorado*, promulgated by the Colorado Water Conservation Board (CWCB), for critical facilities such as hospitals, fire stations, and other structures as defined in the adopted regulations.

Executive Order 11988, "Floodplain Management" (1977), was authorized to direct federal agencies to "… provide leadership and take action to reduce the risk of flood loss, to minimize the impacts of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains." This Executive Order was authorized to assist in furthering NEPA, the National Flood Insurance Act of 1968 (amended), and the Flood Disaster Protection Act of 1973.

Information Sources:
The following National Flood Insurance Program (NFIP) map panels were viewed for the purposes of this report:

- Town of La Veta: map panel 0800840001B, effective on 09/29/1986
- City of Walsenburg: map panel 0800830001C, effective on 09/29/1986
- City of Trinidad: map panel 0901070001B, effective 04/03/1984
- Huerfano County Unincorporated: 080206B, panels 35, 72, 78, 79,91, 92, and 96, effective 10/01/1986
- Las Animas County Unincorporated: panels 0801050005A – 0801050025A, effective 09/01/1977

CFR Title 23, Highways, Chapter 1, FHWA, Part 650 - Bridges, Structures, and Hydraulics, prescribes the policies and procedures that FHWA is directed to implement in the "… location and hydraulics design of highway encroachments on floodplains." In addition, CFR Title 44, Emergency Management and Assistance, Chapter 1, Federal Emergency Management Agency (FEMA), contains the basic policies and procedures to regulate floodplain management and to analyze, identify, and map floodplains for flood insurance purposes. Generally, participating local governments (in this case, Huerfano County, Las Animas County, Walsenburg, La Veta, Stonewall Gap, Cokedale, and Trinidad), with the assistance of the CWCB, enforce these regulations, along with any local floodplain ordinances or regulations that have been adopted.

Agency/Stakeholder Coordination:
Agencies and stakeholders for floodplain-related issues include:

- FHWA
- CDOT
- FEMA
- Local Community Floodplain Administrators
- USACE
- Public Stakeholders

The Study Area within Huerfano and Las Animas Counties includes at least two distinct and diverse physiographic zones: The Rocky Mountains and Great Plains. Within the western portion of both counties land slopes are generally steep, leading to rivers and streams with more defined channels, higher grades, and faster flood velocities. To the east, the land and the floodplains within the counties begin to flatten into wider alluvial valleys, leading to flooding conditions with lower velocities and typically wider floodplain areas. Within the urbanized areas, street flooding caused by

rainfall stormwater runoff can occur. Local storm sewer systems in the urbanized communities are not generally designed to handle a low frequency (rare event such as the 100-year flood) and may be temporarily overwhelmed from time to time.

The Cucharas River is the predominant natural waterway in the Huerfano County, which originates high in the Sangre De Cristo Mountains west of Walsenburg. The total drainage area of the river, where it joins the Huerfano River, is approximately 735 square miles.

The Purgatoire River is the predominant natural waterway in Las Animas County, which also originates high in the Culebra Range of the Sangre De Cristo Mountains west of Stonewall. The river flows into Trinidad Lake just upstream of the community of Trinidad. The total drainage area of the river, where it joins the Arkansas River in Bent County, is approximately 3,450 square miles.

In both river systems, the most likely cause of damaging floods is due to large general rainstorms or flash flooding from convective cloudbursts. While it's true that rapid melting of mountain snowpack in the spring months can cause overbank flooding, especially in the higher elevations, the snowmelt floods typically do not represent the largest concern for loss of life and property.

The Corridor exemplifies the types and quantities of drainage crossings encountered by highways within the larger watersheds. For example, within the Corridor, US 160 generally follows the Cucharas River floodplain from Walsenburg upstream to the SH 12 intersection. US 160 does not cross the Cucharas River within that segment. It does cross North Abeyta Creek, Sand Arroyo, and several small unnamed tributaries to the Cucharas River. Continuing south, the Corridor generally follows the Cucharas River floodplain (Zone A) from La Veta to the drainage divide near Cucharas Pass, and crosses the Cucharas River in the following approximate locations:

- One-quarter mile north of the town of La Veta
- One-eighth mile southwest of the town of La Veta
- One thousand feet south of the intersection of SH 12 and Rilling Canyon Road
- One thousand feet downstream of the confluence with Chaparral Creek
- Seven hundred feet upstream of the confluence with Deadman Creek

Between La Veta and Cucharas Pass, the Corridor crosses multiple unnamed tributaries and crosses the following named tributaries (from lowest elevation to highest elevation):

- Butte Ditch (2 locations)
- Echo Creek (2 locations)
- Spring Creek (1 location)
- Bend Creek (1 location)
- Bonnett Creek (1 location)
- Dodgeton Creek (1 location)
- Dry Gulch (1 location)
- Spring Creek (1 location)
- Hill Branch Cucharas River (1 location)
- Cucharas Creek (1 location)
- Baker Creek (1 location)
- Deadman Creek (five locations near Cucharas Pass)

South of Cucharas Pass in Las Animas County, the Corridor generally crosses a number of drainages, and follows the Purgatoire River Valley east of Stonewall. The Corridor south of the pass crosses multiple unnamed tributaries and crosses the following named tributaries (from highest elevation to lowest elevation):

- Guajatoya Creek (1 location)
- Bear Creek (1 location)
- Wildcat Creek (1 location)
- Gold Creek (1 location)
- Coal Creek (1 location)
- North Fork Purgatoire River (1 location)
- Brown Creek (1 location)
- Cherry Creek (1 location)
- Whiskey Creek (1 location)
- Middle Fork Purgatoire River (2 locations)
- North Fork Purgatoire River (1 location)
- Purgatoire River (near Lopez Canyon)
- South Fork Purgatoire River (1 location)
- Purgatoire River (near County Road 18.6)
- Burro Canyon Drainage (1 location)
- Reilly Canyon Drainage (1 location)
- Colorado Canyon Drainage (1 location)

There are no known certified levees within the Study Area.

Huerfano County completed a Hazard Mitigation Plan (Amec Foster Wheeler, 2017) to identify and reduce natural flood hazard risks for people and property in the county. Similarly, Las Animas County completed a Hazard Mitigation Plan (Tetra Tech, 2016). Both plans contain valuable information about flooding and other natural hazards within the respective counties.

It is likely that any recommended recreational trail route would cross a large number of mapped and unmapped floodplains. In locations involving approximate Zone A floodplains, measures should be taken to minimize the risk of flooding in accordance with FEMA and CWCB standards. New or replacement culverts and bridges should, at a minimum, match existing openings. Designed encroachments into the Cucharas River, Purgatoire River, and their tributaries should be minimized, and should occur only after consultation with FEMA, CWCB, USACE, and local floodplain regulators. In the event that detailed Zone AE or other detailed flood zones are encountered, Conditional Letters of Map Revision (CLOMR) and/or no-rise certifications may be required.

Experience has shown that there are benefits to starting interagency coordination before the NEPA permitting stage. As part of the project development process, as necessary, CDOT would form agreements with FEMA, CWCB, and affected local communities. Together, the interagency team would develop alternatives concerning flood control, water quality, and wetlands impacts to provide the least damaging, practical solutions for the recommended improvements.

Floodplain impacts need to be further analyzed during NEPA based on conceptual or preliminary design information. As part of the project development process, appropriate hydrologic and hydraulic analyses would be conducted to ensure proper compliance with local, state, and federal floodplain

regulations. This would help ensure that the proposed project would not exacerbate existing flood risks in the affected areas.

Geologic Resources and Soil

This section summarizes existing geologic conditions in the Study Area and describes possible hazards and related considerations. The Study Area issues may include stability of surficial deposits, erosion or movement of soil materials, challenges related to excavation in solid rock, and potential earthquake activity from fault zones.

An understanding of the rudimentary geologic conditions within the Study Area was obtained from published geologic mapping products, along with the descriptions of layers and formations in the area. A cursory review was conducted. Further development of the study's recommendations requires additional geotechnical research by a qualified geologist or geotechnical engineer.
The Corridor begins in an area of broad alluvium along the Cucharas River at an elevation of approximately 6,200 feet. Fairly flat terrain and stable soil conditions with sparse vegetation prevail. The Corridor begins in the Upper Cretaceous Vermejo Formation made up of sandstone, shale, and coal beds. Farther west toward La Veta, the Corridor crosses through geology of the early Tertiary Period, such as the Poison Canyon Formation in the Paleocene Epoch. Sandstone, conglomerate, and fluvial mudstone prevail.

The Corridor continues through La Veta at an elevation of 7,000 feet, where it begins to rise noticeably in elevation, passing through a wide area of formations, including the Quaternary Alluvium along the sand and gravel deposits of the stream valley.

The mountainous portion of the route crosses over Cucharas Pass at an elevation of 9,938 feet. In addition to geologic conditions described previously, it passes through areas of Upper Jurassic sandstone and mudstone. Upper Cretaceous rocky areas also exist, with intense folding and metamorphism. There are potential hazards, including sills, faults, and thrust reverse components along oblique faults.

Cucharas Pass is the highest point along the Corridor.

Farther south and east, as the route loses elevation and passes through Stonewall Gap at 8,000 feet and then Cokedale at 6,330 feet, there is documentation of the Raton formation from the Tertiary Period where sandstone, siltstone, and shale are dominant. Continuing east toward Trinidad, the Corridor passes through sandstones and shales of the Upper Cretaceous Period. It is also important to note portions of the Corridor involve intrusive igneous rocks from the Tertiary Period.

The NRCS published countywide soil information for Huerfano and Las Animas Counties. Soil scientists performed careful investigations to determine what types and characteristics of soils exist in the Study Area. They also studied the size, shape, and steepness of slopes, as well as drainage patterns and plant types, including crops. Soil profiles were completed through shallow excavations and intermittent lab testing. The soils were classified and named according to uniform standards. Boundaries were plotted over aerial photographs to document conditions.

For reference purposes and as a point of interest, Trinidad Lake State Park contains an excellent example of the boundary between the Cretaceous and Tertiary Periods (also referred to as the K/T boundary). The rocks at this boundary are separated only by a thin layer, which is indicative of a cataclysmic asteroid impact. Today, we understand that this was the likely cause of the extinction of many dinosaur species. As part of the study's recommendations, interpretive signage or related visitor information could highlight this important geologic feature in this area.

Examples of the boundary layer between the Cretaceous and Tertiary Periods are evident in the areas around Trinidad Lake State Park.

Agency/Stakeholder Coordination:
Primary resource agencies relative to soils, hazards, and geologic conditions for the Study Area include:

- U.S. Geological Survey (USGS)
- Colorado Geological Survey (CGS)
- USDA, NRCS

The soil map units available for the Study Area included in the soil survey reports reveal that soils such as Dargol, Fuera, Vamer, and Saruche are found in the southern portion of the foothills west of Trinidad. Soils derived from the Poison Canyon Formation include Gulnare, Allens Park, Wahatoya, and Trujillo materials. Swelling or expansive soils may exist in certain areas and should be investigated by a qualified scientist or engineer prior to the design and construction of projects recommended by the PEL study. The potential for expansive soils along the Corridor is low to medium. Subsidence also may be a consideration in some areas, such as near Cokedale.

Construction of a transportation project does not require any permits related to the geology or soils, nor are any consultations with other state or federal agencies necessary. However, during the NEPA process, an evaluation of where the project may affect geologic/soil resources or where the geology or soils may impact project features should be conducted. In addition, there should be a discussion about the types of mitigation measures available to alleviate these potential impacts. Examples of mitigation measures include moving a project feature to avoid expansive soils or redesigning the roadbed in an area to account for the expansive soils.

Hazardous/Solid Wastes

Hazardous materials include substances or materials that the US Environmental Protection Agency (EPA) has determined to be capable of posing an unreasonable risk to health, safety, or property. Hazardous materials may exist within the Study Area at facilities that generate, store, or dispose of these substances, or at locations of past releases of these substances. Examples of hazardous materials include mine waste (e.g., heavy metals), petroleum hydrocarbons (e.g., gasoline and diesel fuels), dry-cleaning solvents, asbestos, and lead-based paint, all of which could be harmful to human health and the environment. Hazardous materials are evaluated and handled according to various state and federal regulations.

The acquisition of property would require the evaluation of hazardous material concerns to protect worker health and safety, to provide liability due diligence for the purchasing entity, and to improve project alternatives analysis based on potential hazardous material impacts.

Any project using federal funding or that takes place on CDOT property requires, at a minimum, an Initial Site Assessment (ISA) checklist. For larger projects, a Modified Environmental Site Assessment (MESA) or a Phase I Environmental Site Assessment (ESA) could be required. CDOT requirements are based on ASTM standards E1527-13 and E1528-14.

NEPA mandates that decisions involving federal funds and approvals consider environmental effects from hazardous materials. Other applicable regulations include the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), which provides federal authority for the identification, investigation, and cleanup of sites throughout the US that are contaminated with hazardous substances (as specifically designated in the Act) and the Resource Conservation and Recovery Act of 1976 (RCRA), which establishes a framework for the management of both solid and hazardous waste. The federal Hazardous and Solid Waste Amendments of 1984 established a comprehensive regulatory program for underground storage tanks (UST) containing petroleum products and hazardous chemicals regulated under CERCLA.

An environmental records search, including federal and state environmental resources, was conducted for the Study Area (GeoSearch 2019). The record search included a two-mile wide area centered along the Corridor from the intersection of I-25 and US 160 in Walsenburg south to the intersection of SH 12 and I-25 in Trinidad. The record search identified 28 different types of sites and facilities. The following types of sites are the most abundant in the search area:

- Aboveground storage tank (AST) facilities
- UST facilities
- Leaking storage tank (LST) facilities
- Leaking underground storage tank (LUST) facilities
- RCRA generators
- RCRA non-generators
- EPA Brownfields
- Landfills
- Mine safety and health administration index sites
- Mineral resource data system sites
- Surface mining control and reclamation act sites
- Solid waste facilities
- Asbestos abatement and demolition projects
- Colorado discharge permit system facilities

Agency/Stakeholder Coordination:
Primary stakeholders for hazardous materials concerns include:

- FHWA and CDOT
- Local municipalities
- Las Animas and Huerfano Counties
- Private landowners
- Colorado Dept. of Public Health and Environment (CDPHE) Hazardous Materials and Waste Management Division (HMWMD)
- Colorado Dept. of Labor and Employment (CDLE) Colorado Division of Oil and Public Safety (OPS)

There were no windshield surveys, property owner interviews or soil testing conducted as part of this PEL study. Hazardous materials searches are generally considered outdated after six months. When a project is identified, as part of the next steps the project development process, a new search of the area within and adjacent to the project would need to be conducted, including field visits.

The GeoSearch report (2019) is on file. The report lists 244 potential and recognized hazardous materials concerns in the search area. This Corridor contains an array of sites along the whole stretch; however, most sites in the northern part of the area are concentrated in Walsenburg, La Veta and Stonewall. In the southern part of the search area, there are many sites in Trinidad; however, a lot of sites can be found along the entire stretch of the Corridor between Stonewall and Trinidad due to mining activity and the abandoned Elk Mine rail line. These sites are mapped and their environmental findings are described in detail in the search report. There are no Superfund sites in the search area.

Project alternatives should try to avoid impacting any sites with known hazardous materials concerns. CDOT requires an ISA or a Phase I ESA for Categorical Exclusion projects or acquisition of properties with potential hazardous materials concerns for right-of-way acquisition. A MESA is required for Environmental Assessments (EA) and Environmental Impact Statements (EIS). Regarding construction phase implications, hazardous materials concerns within the construction area would require the use of CDOT Standard Specification 250: Environmental, Health and Safety Management. A Materials Management Plan should also be used if construction activities are anticipated to encounter hazardous materials.

Historic Resources

Historic resources are any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion, on the NRHP. In addition, a property of traditional religious and/or cultural importance to a Native American tribe is considered a historic resource. The responsible federal agency determines whether it has an undertaking (project) that could affect historic resources. If so, the agency defines the APE, the area in which an undertaking may directly or indirectly cause changes in the character or use of historic resources. After the APE has been defined, the agency consults with the appropriate SHPO and/or THPO on effects to historic or potentially historic resources located within the APE.

Guidance and Regulations:
Applicable laws, regulations, and guidance documents for historic resources include:

- National Historic Preservation Act of 1966 (16 USC 470f; 36 CFR Part 800), Section 106
- Section 4(f) of the USDOT Act of 1966 (49 USC 303 and 23 USC 138)
- National Environmental Policy Act of 1970 (42 USC 4321; 40 CFR 1500-1508)
- Colorado Historical, Prehistorical, and Archaeological Resources Act of 1973 (CRS 240-80-401, CRS 24-4-101; 8 CCR 1504-7)

Agency/Stakeholder Coordination:
Primary stakeholders for historic resources include:

- FHWA/CDOT
- ACHP
- SHPO
- USACE
- Local municipalities
- Colorado Scenic Byways: Trail of Legends
- Other consulting parties

A file search request for the Study Area was submitted to the Colorado State Historic Preservation Office's database (COMPASS) for all previously surveyed historic resources. No visual or windshield survey was conducted of the Study Area.

To understand the types of historic resources that may be present, all known existing and potential historic resources located within the Study Area were identified. There are more than 741 previously recorded historic resources in the Study Area. **Table 11** identifies the number of eligible and potentially eligible historic resources, including properties listed on the NRHP or on the Colorado State Register of Historic Properties (CSRHP) or officially eligible for the NRHP, and field eligible properties. Properties that have received Historic Structures Awards under the Centennial Farms and Ranches Program also are included as properties with high potential to be considered eligible for either the NRHP or SRHP.

Historic resources identified within the Study Area include buildings, cemeteries, railroads, irrigation ditches, coal mines, ranches, farms, bridges, and culverts. There also are two NRHP historic districts. The Cokedale Historic District is located east of Trinidad and includes 111 resources in the district. The Corazon de Trinidad Historic District is located in the downtown business district of Trinidad and includes 179 resources.

Table 11: Previously Recorded Historic Resources in the SML Study Area

Listed NRHP	19
Listed SRHP (Colorado)	5
Officially Eligible for the NRHP	56
Officially Eligible for the SRHP	7
Field Eligible	68
Centennial Farms	5
Officially Needs Data/Field Needs Data/No Assessment	122
Officially Not Eligible and Field Not Eligible	168
Total Resources	450

Source: Colorado Office of Archaeology and Historic Preservation, COMPASS database, May 2019

There is one CSRHP historic district, St. Mary's School, located in the town of Walsenburg. There is an NRHP-listed bridge on SH 12, located west of Segundo. The Burro Canyon Bridge is a 1936 Works Progress Administration (WPA), rusticated stone, three-arch bridge that is significant for its aesthetic qualities and as one of the only WPA bridges in Colorado with a skewed configuration. Additionally, two historic railroads are located within the Study Area.

Table 12 presents the number of historic districts and the number of resources that are determined to be contributing to the historic districts.

Table 12: National Historic District/State Historic District in Study Area

Historic District	Contributing to District	Within District/ Field Eligible as Contributing	Within District/ No Assessment	Total Resources
5LA.2179 Corazon de Trinidad Historic District	18	151	10	179
5LA.5782 Cokedale Historic District		85	16	111
St. Mary's School, Convent, Rectory, and Church (Colorado State Register Historic District)			1	1
Total				**291**

Source: Colorado Office of Archaeology and Historic Preservation, COMPASS database, May 2019

Subsequent design development for the PEL study project recommendations should seek ways to avoid or minimize impacts to historic resources. Sites identified here as potential historic resources and potentially adversely affected should be evaluated for NRHP eligibility to determine historic status, including coordination and consultation with the SHPO. If affected, alternatives to the proposed project with significant impacts to historic resources should be investigated, including the consideration of mitigation strategies for the potential affect.

Land Use and Ecoregions

Municipalities use zoning regulations to control land use and direct the development of property within their borders. Transportation projects have potential to influence the way surrounding lands are developed and used. Therefore, it is important to consider the compatibility of a proposed project with the existing land use of the surrounding area.

Additionally, the Corridor is culturally rich and ecologically diverse and crosses several different ecoregions. Ecoregions are ecologically and geologically distinct areas that contain unique characteristics and geographically defined assemblages of natural plant and wildlife communities. As such, understanding the surrounding environment and landscape is important for identifying a recommended location for the trail improvements.

Information Sources:
To identify existing land use, zoning and land use maps were reviewed from the following sources:

- Huerfano County Public Map Viewer (Huerfano County, 2019)
- Las Animas County Master Plan Zoning Map (Las Animas County, 2001)
- City of Walsenburg Zoning Map (City of Walsenburg, 2019)
- Town of La Veta Zoning Map (Town of La Veta, 2004)

Aerial imagery from 2018 (Google Maps) was reviewed and a windshield survey of the Study Area occurred on May 15, 2019. The ecoregions of the area were identified by downloading data from the U.S. Environmental Protection Agency.

The description of existing land use and ecoregions is organized by the distinct areas and characteristics with the Study Area, as follows:

- Walsenburg
- Walsenburg to La Veta
- La Veta to Cuchara
- Cuchara to North Lake Wildlife Area
- North Lake State Wildlife Area to Stonewall
- Stonewall to Trinidad
- Trinidad

Walsenburg

The easternmost section of the Study Area in Walsenburg is located within the Piedmont Plains/Tablelands Ecoregion (**Figure 34**), which is characteristic of having irregular and dissected plains, intermittent streams, and a few large perennial streams that mostly originate in mountains or higher relief areas. Substrates typically are silty and/or sandy, elevations range from 3,600 feet to 6,500 feet above sea level, and the average rainfall is 12 inches to 16 inches per year. These areas are characteristic of being mostly grass-covered lands often used as rangeland, with scattered areas of dry and irrigated croplands.

The existing land use in this area is urban residential and commercial. The commercial use is centered around Main Street, which has several restaurants, banks, hotels, and other retail businesses. The Cucharas River corridor, which has a natural riverine setting, the BNSF Railways tracks, and undeveloped lands are located on the south side of the city.

The western edge of Walsenburg is located within the Pinyon-Juniper Woodlands and Savannas Ecoregion (**Figure 34**), which is characteristic of having dissected plains and tablelands with some scattered ridges and hills. Elevations range from 5,100 feet to 7,100 feet and precipitation averages from 12 inches to 20 inches per year. The natural vegetation of this area includes pinyon-juniper (*pinus* and *Juniperus* spp.) woodlands, which provide important wildlife habitat.

Land use in this section of Walsenburg includes commercial, industrial, and residential uses. The area along West 7th Street, from Main Street to Willis Avenue, is zoned as a commercial use area and includes stores, restaurants, and gas stations. Willis Avenue to Pioneer Avenue is a light-industrial area that includes the Walsenburg lumber yard, a car wash, and the BNSF Railways tracks and right of way. Farther west, the Corridor transitions into a mixed commercial-residential area that extends to County Road (CR) 501. It is mostly an urban residential area with a few scattered businesses.

Walsenburg to La Veta

The Study Area between Walsenburg and the south side of La Veta is within the Pinyon-Juniper Woodlands and Savannas Ecoregion, which is described above. This land has not been zoned but is mostly used for ranching and agricultural purposes. There are also a few scattered pockets of rural residential communities and some small commercial areas along this stretch of the Corridor (**Figure 34**).

Land use along Main Street, which is SH 12 in the Town of La Veta, is predominantly commercial, with adjacent residential uses. There are retail stores, markets, restaurants, lodging accommodations, banks, gas stations, and many community resources, including churches, the town post office, public library, fire station, museum, performing arts center, and schools.

La Veta to Cuchara

The Study Area between La Veta and Cuchara is located within the Foothill Shrublands Ecoregion. These ecoregions are unglaciated and contain hills, ridges, and foot slopes. They have moderate to high-gradient perennial, intermittent, and ephemeral streams with cobble, gravel, and sandy substrate. Elevations range from 6,000 feet to 8,500 feet and precipitation averages between 12 inches and 20 inches per year. The natural vegetation in this ecoregion is sagebrush shrubland, pinyon-juniper woodland, and foothill-mountain grasslands. These areas often are used as rangelands and are excellent wildlife habitat areas.

This is a rural area used predominantly for ranching and agricultural purposes. The county has not assigned an official zoning category to this area except for one small industrial area just south of La Veta on the west side of SH 12 (**Figure 35**).

Cuchara to North Lake State Wildlife Area

The stretch of Corridor from Cuchara to the North Lake State Wildlife Area is the highest point of the Study Area. It falls within the Sedimentary Subalpine Forest ecoregion, which is characteristic of being glaciated with high, steep-sloped mountains and high-gradient perennial streams with boulder, cobble, and bedrock substrates. Elevations typically range from 8,500 feet to 10,000 feet and vegetation consists of subalpine forests dominated by subalpine fir (*Abies lasiocarpa*), Engelmann spruce (*Picea engelmannii*), and lodgepole pine (*Pinus contorta*). Lower elevations also have pockets

of Douglas fir (*Pseudotsuga menziesii*) and aspen (*Populus tremuloides*) forests. The annual mean precipitation is 28 inches to 50 inches.

The Town of Cuchara, zoned as urban residential, is a small community situated on the eastern slopes of the Sangre de Cristo Mountains (**Figure 35**). The town center has a few small restaurants and stores, a community center, and a few small hotels or lodges. Residential summer homes are densely scattered throughout the area.

North Lake State Wildlife Area to Stonewall

The Corridor south of the North Lake State Wildlife Area to the eastern side of Stonewall is located within the Sedimentary Mid-Elevation Forests Ecoregion (**Figure 35**). These areas are partially glaciated with low mountain ridges, slopes, outwash fans, and moderate- to high-gradient perennial streams with boulder, cobble, and bedrock substrates. Elevations typically range from 7,000 feet to 9,000 feet above sea level and precipitation is approximately 20 inches to 32 inches per year. The natural vegetation includes ponderosa pine (*Pinus ponderosa)* forests, Gambel oak (*Quercus gambelii*) woodlands, and aspen forests. Except for a few residential houses and a privately owned lodge, this area has not been developed.

Stonewall to Trinidad

From just east of Stonewall to Trinidad, the Corridor is located within the Foothill Shrublands Ecoregion (**Figure 36**), which is described earlier in the La Veta to Cuchara section. This area has been zoned as rural residential and consists of several small rural communities. There are a few small retail stores in some of the communities; however, residents generally rely on businesses and services that are offered in the larger municipalities along the Corridor.

Trinidad

Similar to Walsenburg, the City of Trinidad is located within the Piedmont Plains/Tablelands Ecoregion (**Figure 36**). For a detailed description of this ecoregion, please see the Walsenburg section. Within the Study Area, the existing land use in Trinidad is a combination of urban residential and commercial. The western-most section is urban residential with a few scattered businesses. This transitions into an area with a community park, high school, and church. Closer to I-25, the land use is primarily commercial with a restaurant, gas station, grocery store, and other businesses.

Figure 34: Ecoregions and Zoning, Walsenburg to La Veta

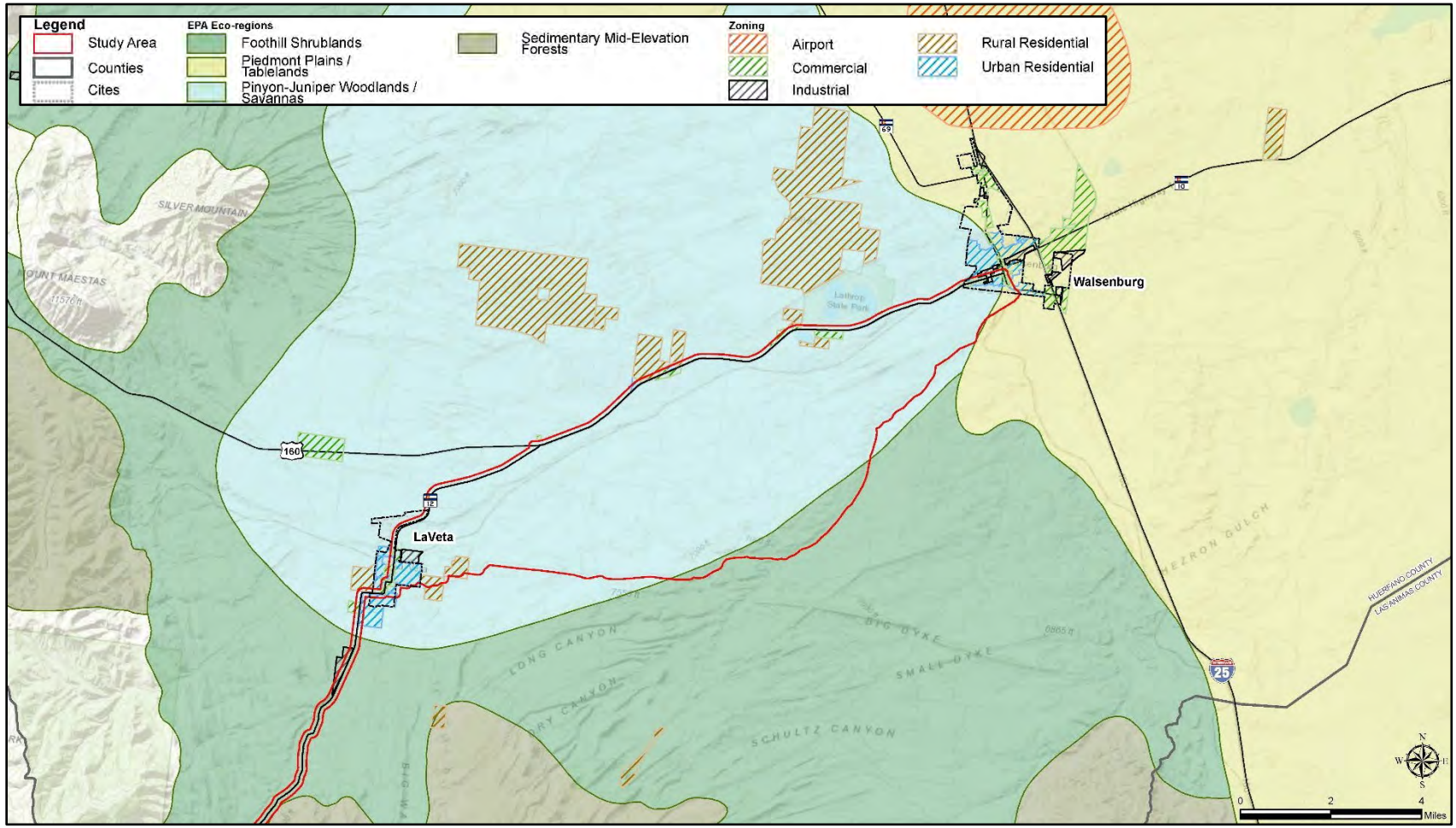


Figure 35: Ecoregions and Zoning, La Veta to Stonewall

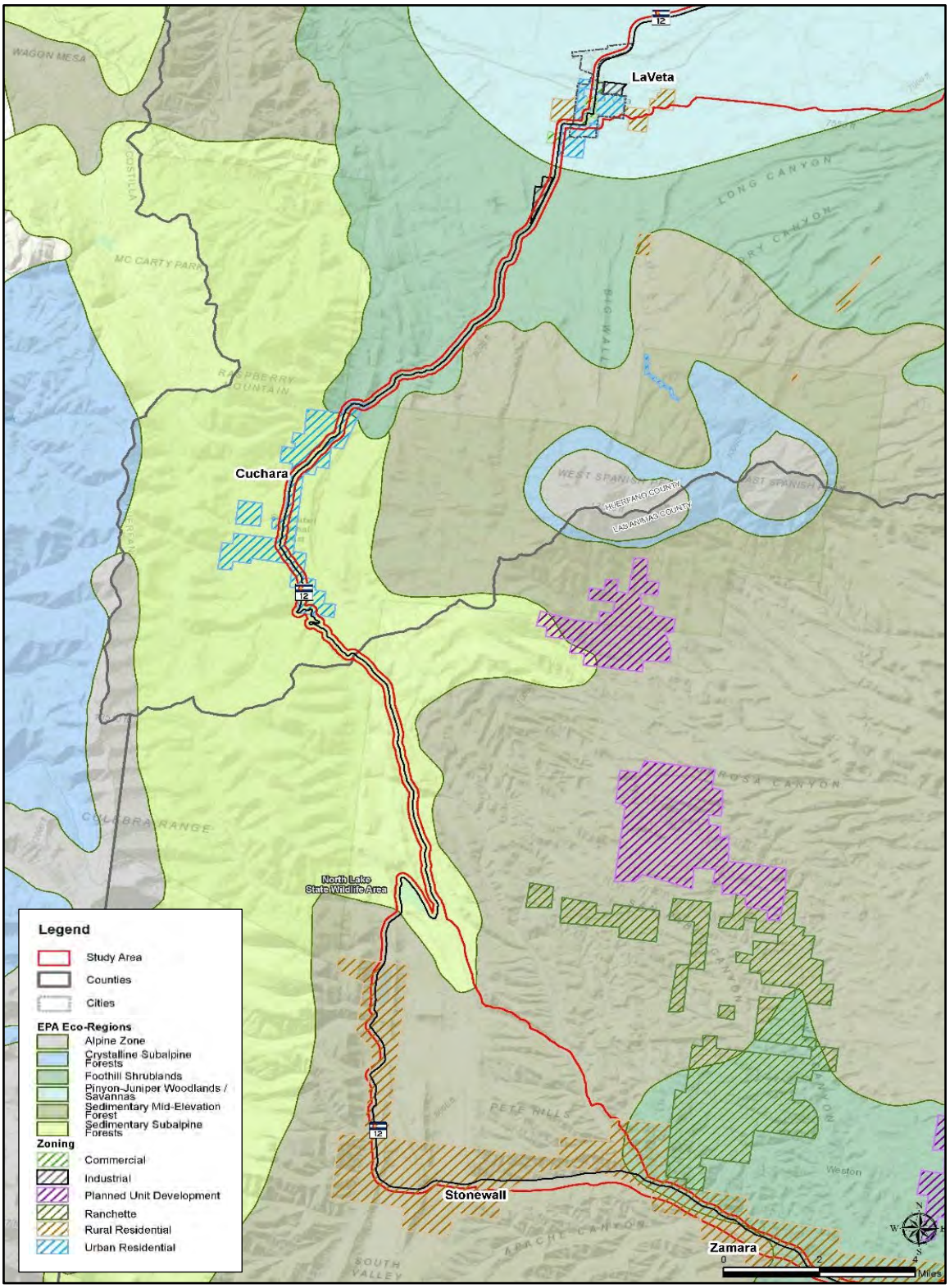
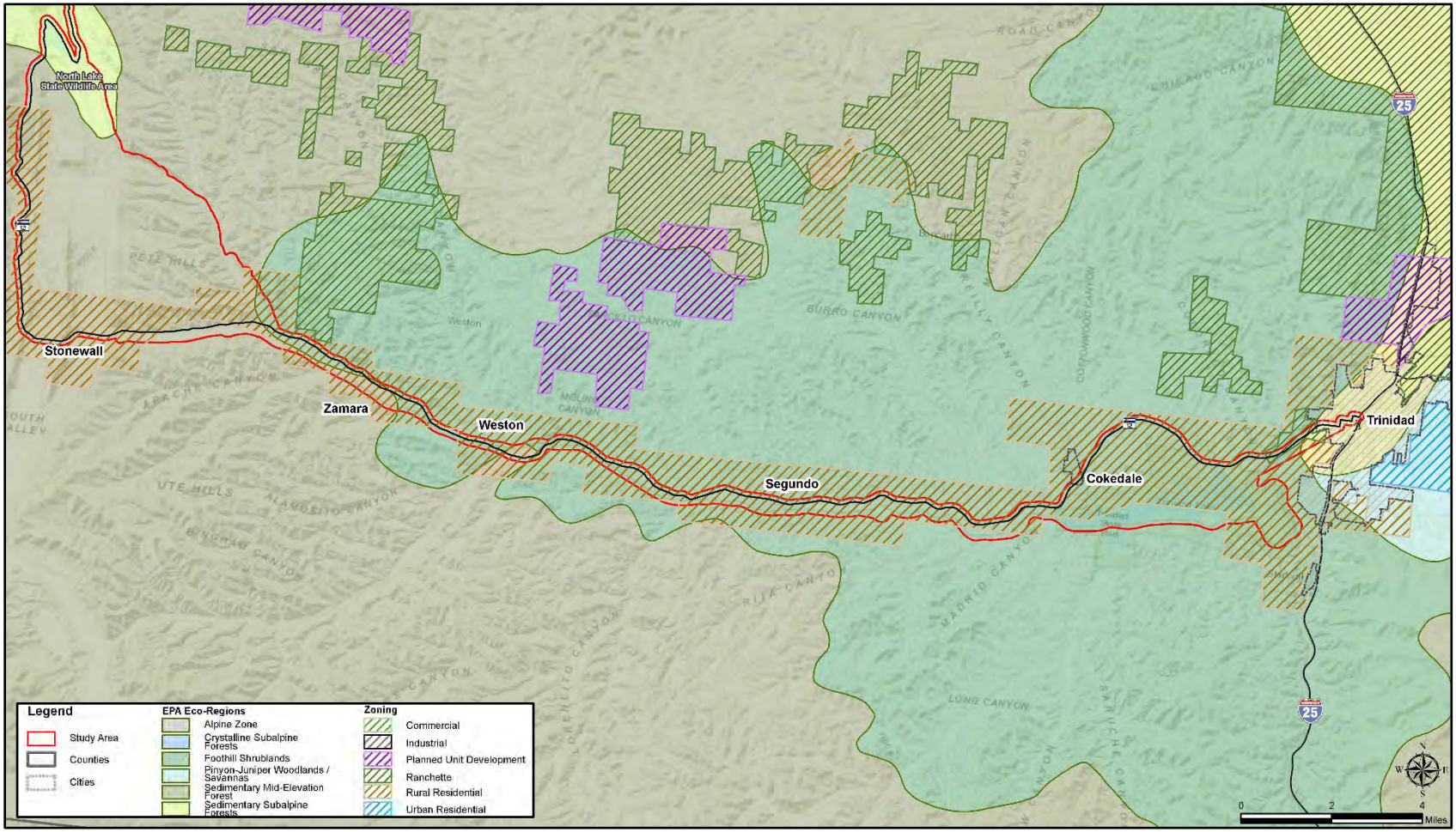


Figure 36: Ecoregions and Zoning, Stonewall to Trinidad



Projects resulting from this study are not expected to result in significant land use impacts. The potential completion of a multi-use trail within the Corridor may lead to an increase in tourism; however, that increase is not expected to be large enough to alter existing land use characteristics or trends at a large scale. Increased visitors to the region would use available accommodations within the area, and as demands may increase in the future due to visitor growth, existing land development and land use regulations within the affected communities would govern the increase in accommodations and facilities.

Noise

Noise is defined generally as unwanted sounds. Sound levels are expressed in dimensionless units called decibels (dB). The range of noise normally encountered can be expressed by values between 0 dB (threshold of hearing) and 120 dB. A 3 dB change in sound level generally represents a barely noticeable change in noise level, whereas a 10 dB change typically is perceived as a doubling of loudness. Because sensitivity to sound varies from person to person, the A-weighted system, expressed as dBA, is used to provide a value that represents human response. L_{eq} describes sound levels that vary over time, or the equivalent continuous sound level. $L_{eq}(h)$ is the hourly equivalent noise level, or in other words, the equivalent steady-state sound level that contains the same amount of acoustic energy as the time-varying sound level over a one-hour period.

Traffic noise is an important issue for residents and business owners located near highways. A noise sensitive receptor is any property where there is frequent human use, and highway traffic noise may be detrimental to the enjoyment and/or functional use of the property. This description includes residences, schools, parks, hospitals, and businesses.

CDOT has established acceptable noise levels for noise sensitive receptors based on activity categories. These measures are called Noise Abatement Criteria (NAC) (see **Table 13**), and they are referenced in CDOT's *Noise Analysis and Abatement Guidelines*.

Table 13: CDOT Noise Abatement Criteria

Activity Category	Activity Leq(h)*	Evaluation Location	Activity Description
A	56 dBA	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	66 dBA	Exterior	Residential.
C	66 dBA	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, schools, television studios, trails, and trail crossings.
D	51 dBA	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.

Activity Category	Activity Leq(h)*	Evaluation Location	Activity Description
E	71 dBA	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in Activity Category A through D or F.
F	N/A	N/A	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, ship yards, utilities (water resources, water treatment, electrical), and warehousing.
G	N/A	N/A	Undeveloped lands that are not permitted for development.

* Leq(h) is the hourly equivalent noise level

For the purposes of identifying existing noise sensitive receptors along the Corridor, the Noise Study Area (the area for the existing noise review) extends 1,000 feet on both sides of the US 160 and SH 12. A review of existing noise conditions, using desktop tools such as Google Maps and current land use plans, was performed to identify noise sensitive receptors within the Noise Study Area.
A large portion of the Noise Study Area is located within the unincorporated areas of Huerfano County and Las Animas County; however, the highest concentrations of sensitive receptors are located in or near the incorporated towns and cities. The land use is predominantly agricultural (farms, cropland, pastureland) with interspersed rural residences, schools, and churches along the highways. Existing noise sensitive areas within the Noise Study Area were identified (see **Figure 37** to **Figure 39**) and are summarized by relevant NAC category.

NAC Activity Category B

Most of the existing residential uses in the Noise Study Area are within the City of Walsenburg, Town of La Veta, and City of Trinidad. Residential use is NAC Activity Category B. Those single-family homes are either adjacent to or only blocks away from the highway. Black Diamond Park, located about one mile west of Walsenburg and north of US 160, is a master-planned gated community that offers large parcels for new rural homes. Throughout the other unincorporated areas of Huerfano County and Las Animas County, rural houses are located intermittently along the Corridor. Individual noise sensitive receptors were not identified in this report.

Figure 37: Existing Conditions Noise Sensitive Area, Walsenburg to La Veta

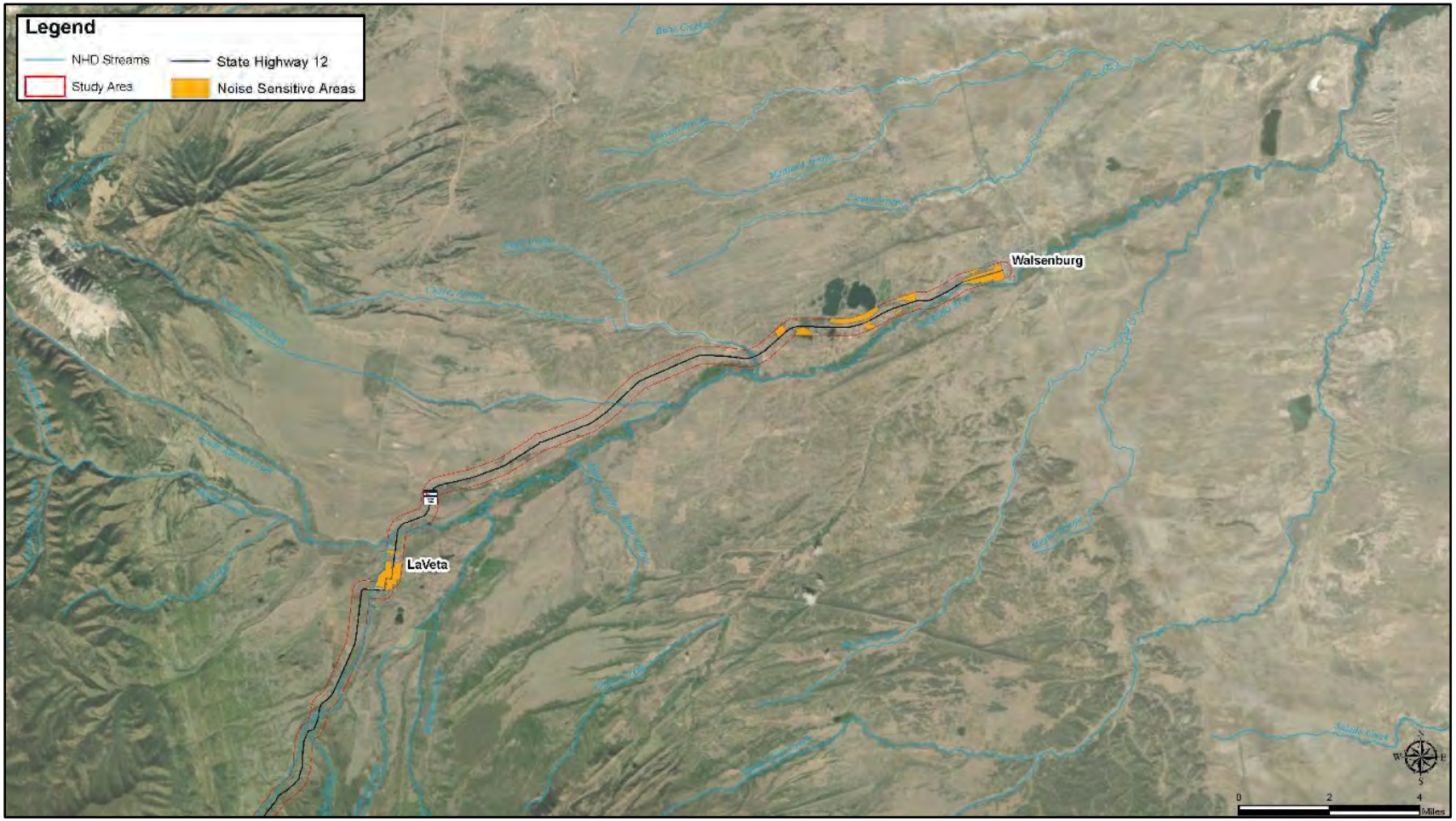


Figure 38: Existing Conditions Noise Sensitive Area, La Veta to Stonewall

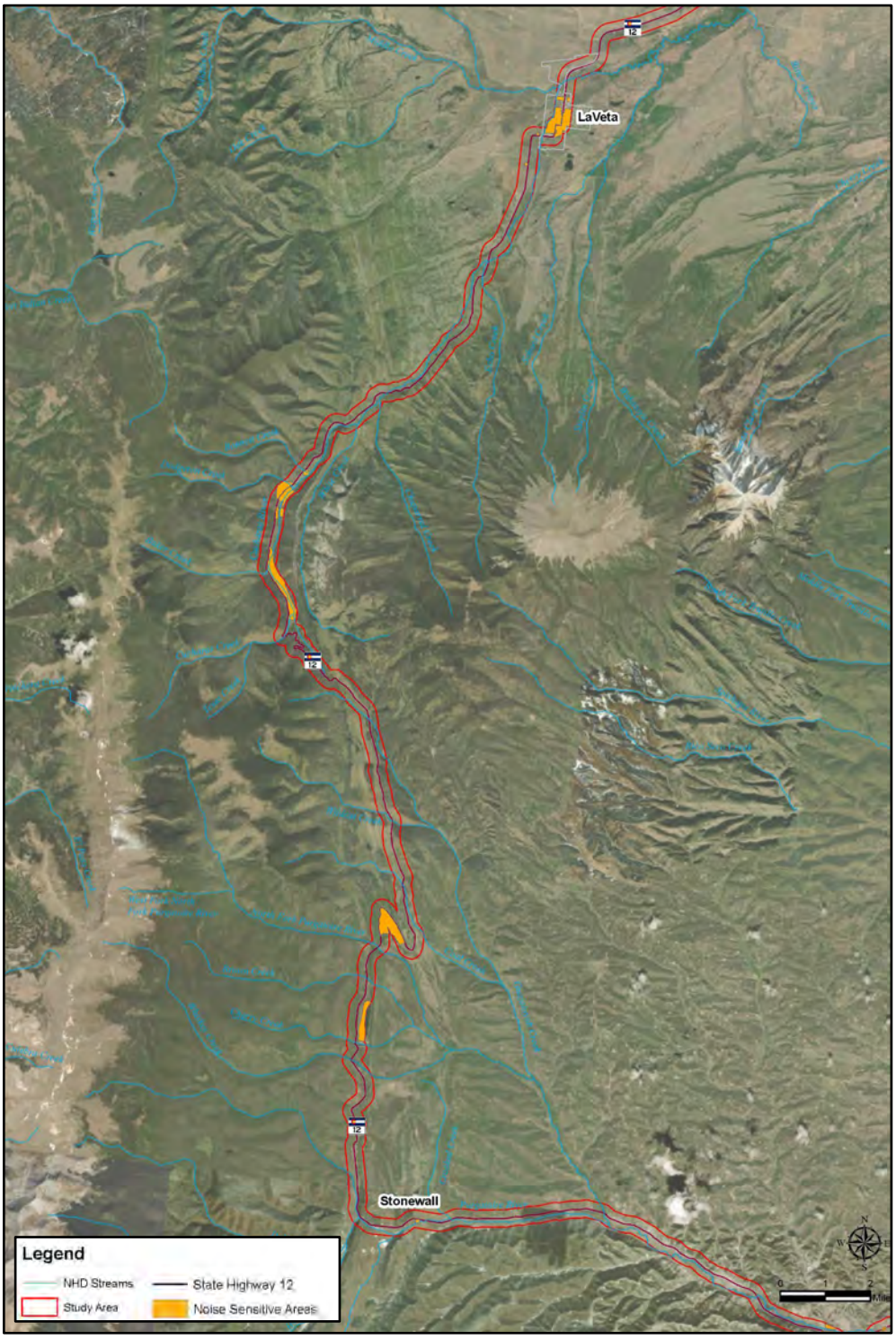
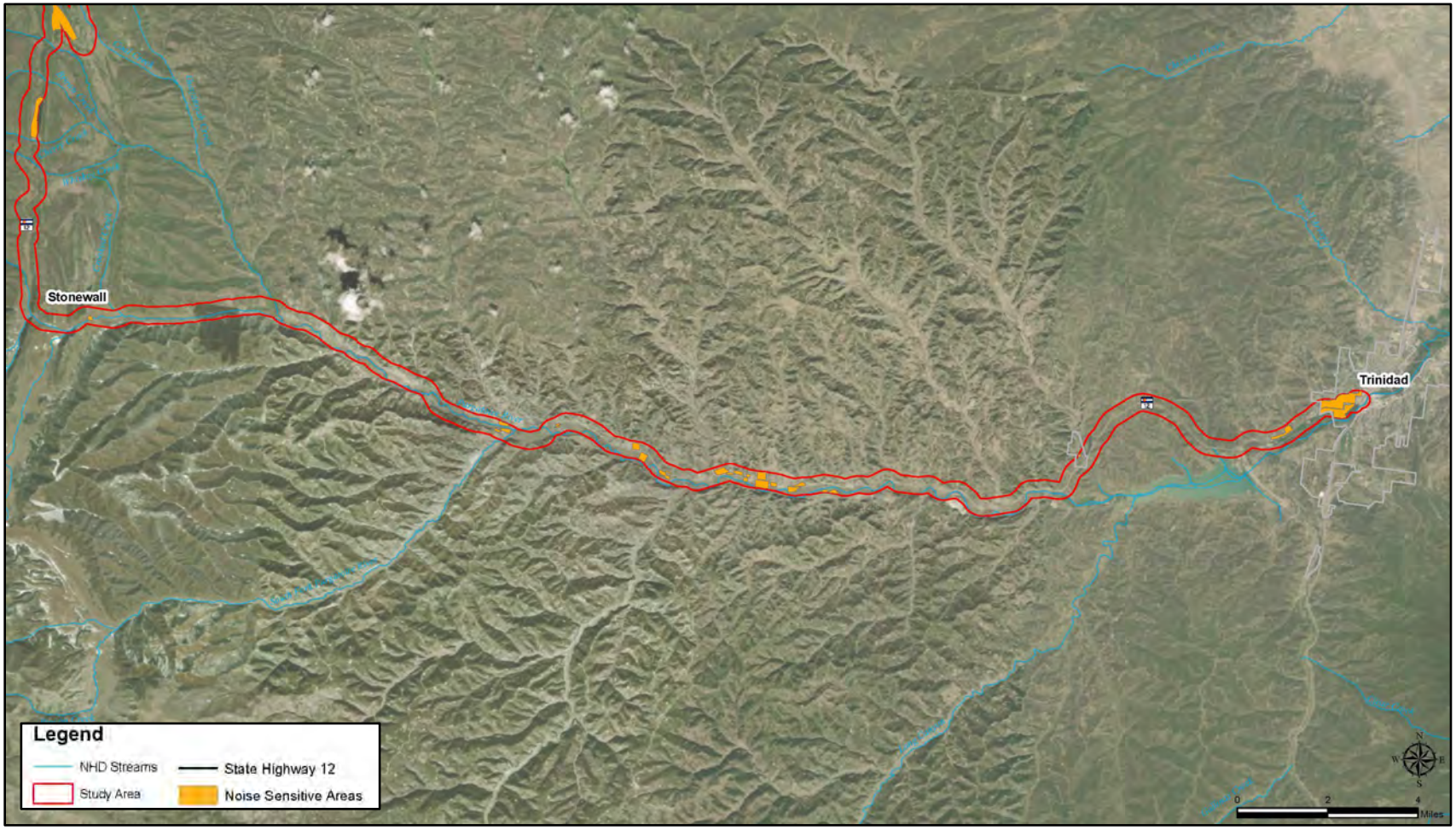


Figure 39: Existing Conditions Noise Sensitive Area, Stonewall to Trinidad



NAC Activity Category C

The NAC C activities identified in the Noise Study Area include places of worship, recreational areas, and schools. These uses are found concentrated in Walsenburg, La Veta, and Trinidad, but are also scattered along the Corridor in the unincorporated communities. Those identified activities within the Study Area are shown in **Table 14**.

Table 14: NAC C Activities Located Within the Noise Study Area

Location	Activities
City of Walsenburg	• GOAL High School • Huerfano County Opportunity and Enrichment School • First Baptist Church • Young Soldiers for Christ • Huerfano Community Bible Church
Town of La Veta	• La Veta School of the Arts • Francisco Fort Museum • First Baptist Church • St. Benedict Episcopal Church • United Methodist Church-La Veta • Christ the King Catholic Church • Mountain View Baptist Church • La Veta High School • La Veta Clinic • La Veta Public Library
Unincorporated Area of Huerfano County	• Lathrop State Park • Yucca Campground • Spanish Peaks Regional Health Center and Veterans Community Living Center • Cuchara Chapel • Cuchara Recreation Center • Spring Creek Trailhead
Unincorporated Area of Las Animas County	• North Lake State Wildlife Area • Monument Lake Park • San Isidro Catholic Church • Esquipula Church • Primero Elementary School • The Lords Chapel • St. Ignatius Catholic Church
City of Trinidad	• Bible Baptist Church • Church of the Nazarene • Head Start School • Trinidad High School • Central Park • Louden-Henritze Archaeology Museum

NAC Activity Category E

NAC E commercial areas were evaluated based on exterior areas of frequent human use. If a commercial property does not include outdoor noise sensitive uses, for example a restaurant with a patio, then it is not considered a noise sensitive receptor. Within the Noise Study Area, commercial parcels are concentrated in the downtown areas within Walsenburg, La Veta, and Trinidad. Some of these businesses do have outdoor uses and would be considered noise sensitive receptors.

CDOT's *Noise Analysis and Abatement Guidelines* describes that, "Under 23 CFR 772, it is mandatory for all states to comply with the regulations for projects that are classified as Type I projects that may result in increased noise levels at sensitive receptors." This regulation applies to all federal or federal-aid highway projects. In general, Type I highway projects consist of capacity increases; alignment changes; or the addition of weigh stations, rest stops, ride-share lots, and toll plazas. When a project is identified as Type I, a noise analysis study is required if noise sensitive receptors are present within the environmental study area or a 500-foot study zone. Noise abatement still must be considered for Type I projects where impact-level noise has been identified at noise sensitive receptors, even though the project itself may not cause or contribute to an increase in traffic noise. Once a project is identified, the next steps need to determine if the improvements meet the criteria of a Type I project. They also could include determination of traffic noise impacts and evaluation of traffic noise abatement. Per CDOT's guidance on noise abatement, a noise analysis is only necessary for Type I projects. For a Type I project, primary consideration should be given to exterior areas surrounding residential uses or areas of frequent human use, such as parks and commercial areas. The mitigation measures must be reasonable and feasible to be approved by CDOT. During construction of a project, an approach to controlling the noise impact of construction equipment and activities should be considered. Economical steps can be taken to minimize the effect of construction noise on residents and sensitive receptors while not affecting construction schedules.

Public Lands and Recreation Resources

Recreation resources include both developed and dispersed recreational areas. Developed recreation resources include facilities that are actively managed for recreational purposes and have a specific location; examples include community parks, developed trails, ball fields, and golf courses. Dispersed recreation occurs on lands that are not managed primarily for recreation. Examples of dispersed recreation include hiking, bird watching, hunting, fishing, boating, rock climbing, mountain biking, horseback riding, and camping.

Information Sources:
Several datasets were referenced to identify park and potential recreation resources within the Study Area, including the following:

- CDOT's Online Transportation Information System (OTIS)
- U.S. Department of Agriculture, Forest Service, Downloadable GIS data
- CPW, downloadable GIS data
- Cuchara Mountain Park Master Plan
- Huerfano County Trails Master Plan
- CFRT Comprehensive Implementation Plan
- Pike and San Isabel National Forests Land and Resource Management Plan
- Google Maps and Google Earth online mapping

State Wildlife Areas provide wildlife-related recreation to the public. These lands are paid for by sportsmen and are managed by CPW for the benefit of wildlife. As such, most activities on these lands are focused on hunting and fishing.

Publicly owned parks, trails, recreation lands, and wildlife and waterfowl refuges are also important community resources that warrant consideration during future projects. Section 6(f)(3) of the Land and Water Conservation Fund (LWCF) Act of 1965 contains provisions to protect these types of properties that are purchased or improved with grant monies from the LWCF. Section 6(f) applies to all projects that could involve possible conversion of the use of these public outdoor recreational properties.

Guidance and Regulations:
Applicable laws, regulations, and guidance documents include:

- LWCF Act of 1965
- USDOT Act of 1966
- 23 CFR 774
- FHWA's Section 4(f) Policy Paper (USDOT, 2012)

Agency/Stakeholder Coordination:
Primary stakeholders for Parks, Trails, Open Space, and Wildlife/Waterfowl Refuges include:

- U.S. Department of the Interior (DOI)
- U.S. Forest Service (USFS)
- National Park Service (NPS)
- CPW
- FHWA
- CDOT
- Officials with jurisdiction of publicly owned recreation facilities

Similarly, Section 4(f) of the USDOT Act affords protection to publicly owned land in the form of a public park, recreation area, or wildlife and/or waterfowl refuge of national, state, or local significance, and land of an historic site of national, state, or local significance. Non-historic Section 4(f) properties include existing and planned publicly owned recreation facilities, where recreation is the significant purpose of the facility. Bicycle and pedestrian trails, for example, in lieu of recreation, could have a major commuting or transportation purpose. In demonstrated cases, under these conditions, these facilities would not necessarily warrant Section 4(f) protection. However, for this report, no effort has been made to separate recreation from other purposes. All publicly owned trails and parks have been identified as potential Section 4(f) protected facilities. "Planned" means specific facilities are identified in the appropriate master planning document.

Identified recreational resources within the Study Area are managed by either CPW, local municipalities, USFS, or private entities. They are shown in **Figure 40**, **Figure 41**, and **Figure 42** and listed in **Table 15**, along with their location, facilities, and Section 6(f) status. Numbers on the figure correspond to Map Location ID #s in the table.

Figure 40: Recreation Activities, Walsenburg to La Veta

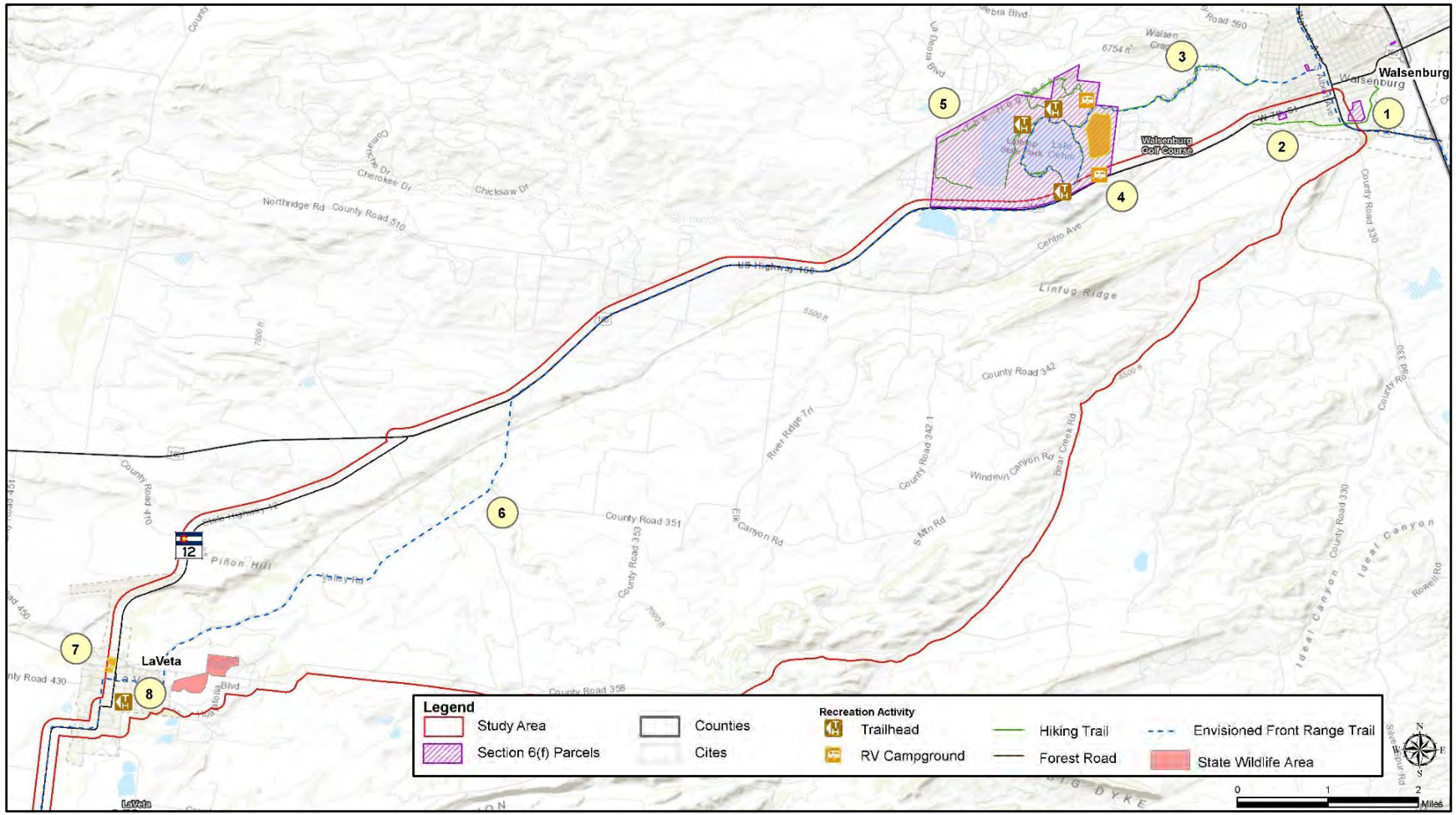


Figure 41: Recreation Activities, La Veta to Stonewall

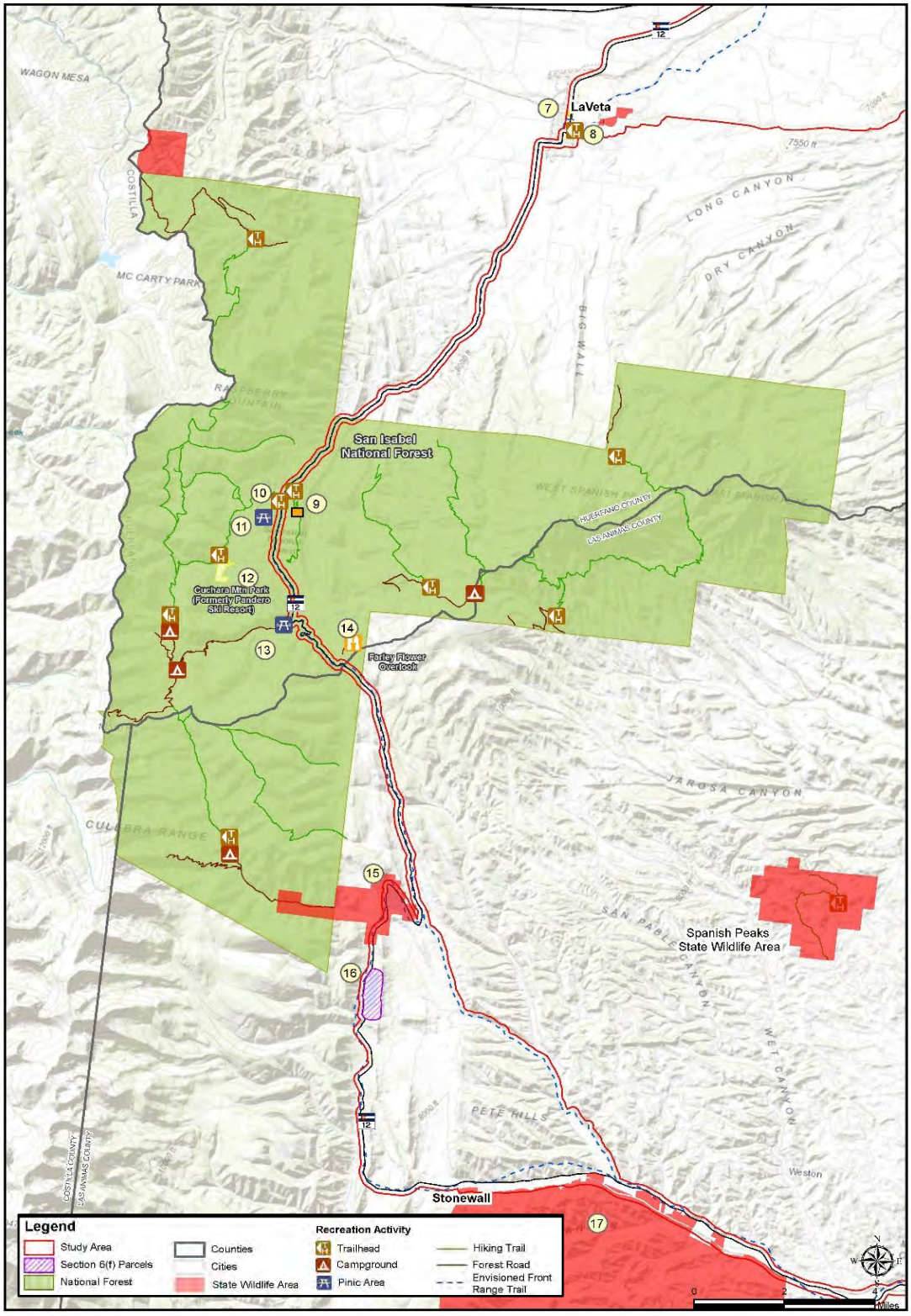


Figure 42: Recreation Activities, Stonewall to Trinidad

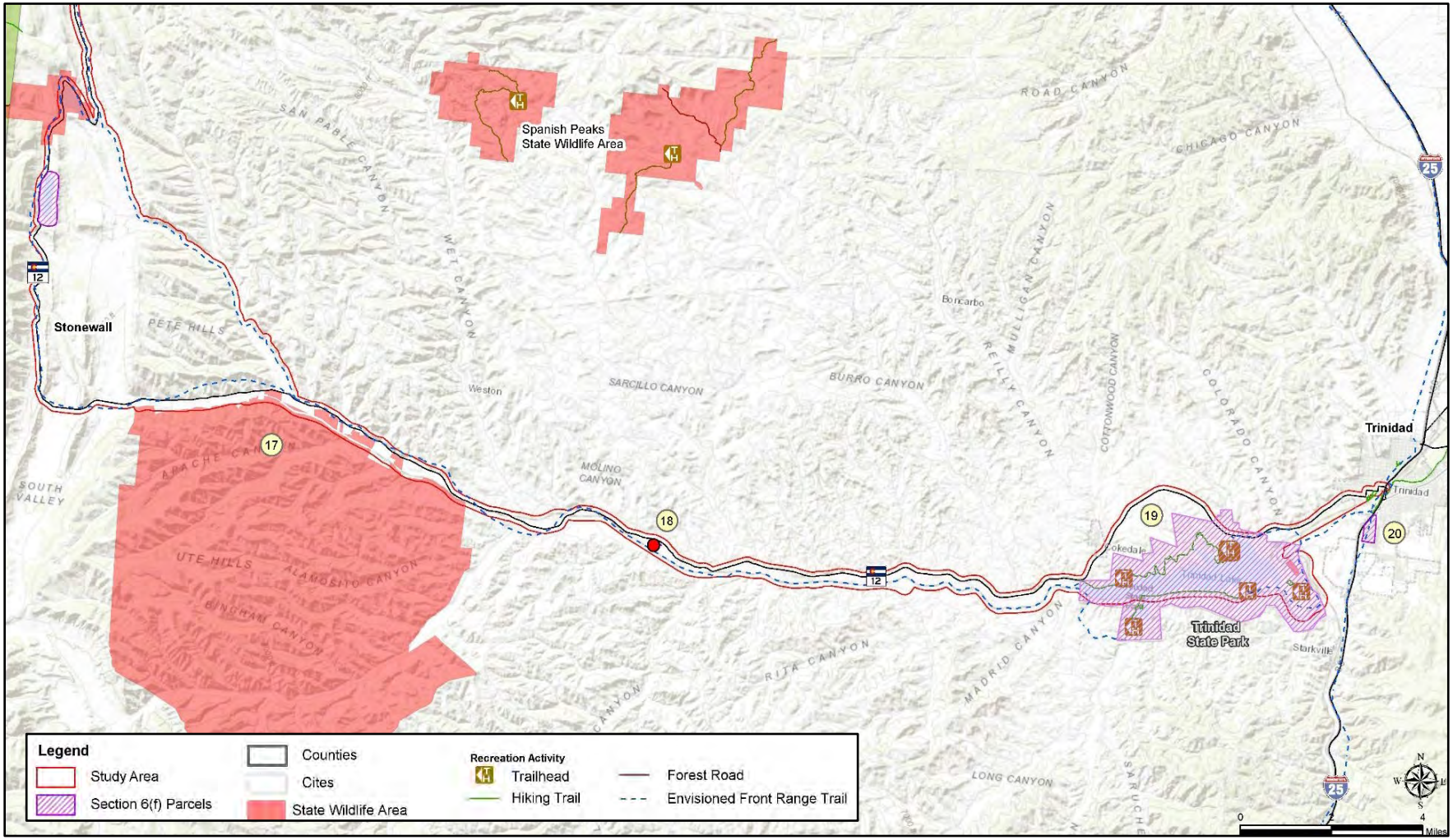


Table 15: Formal Parks, Trails, Recreational Areas, and Refuges within Study Area

Map Location ID # (Not Resource Specific)	Resource Name	Existing or Proposed	Location	Facilities	Section 6(f)
1	Huerfano County Community Center and Fiesta Park	Existing	928 Russell St, Walsenburg, CO 81089	Two baseball fields, volleyball court, trail, Community Center building, parking	Yes
2	Cucharas Riverwalk Trail	Existing	928 Russell St, Walsenburg, CO 81089	Dirt path along the river	No
2	City Park	Existing	700 W. 7th St, Walsenburg, CO 81089	Water park, tennis courts, playground area, pavilion with picnic tables, café, restrooms	Yes
3	2nd Street Trail	Existing	2nd Street	Soft surface trail along the 2nd Street corridor	No
4	Walsenburg Golf Course	Existing	1399 Co Rd 502, Walsenburg, CO 81089	Nine-hole golf course, restaurant, pro shop	Yes
5	Lathrop State Park	Existing	70 Co Rd 502, Walsenburg, CO 81089	Campgrounds, picnic areas, playground, restrooms, showers, swim beaches, trails, and trailheads	Yes
6	"Envisioned" Colorado Front Range Trail	Proposed	Along the SH 12 corridor	Follows along Route 350 to La Veta and along SH 12 to Stonewall and into Trinidad	No
7	La Veta Town Park	Existing	W Ryus Ave., La Veta, CO 81055	Pavilion with picnic tables, playground, gazebo, benches	No
8	Unnamed Trail and Trailhead	Existing	La Veta, CO	Colorado Parks and Wildlife school nature trail	No
8	Wahatoya State Wildlife Area	Existing	County Road 358 La Veta, CO 81055	State Wildlife Area with a natural surface loop trail	No
9	Unnamed Trailhead	Existing	Eastern edge of the Cuchara Community Center	Parking, access into the wilderness area	No
9	Cuchara Community Center	Existing	16500 Co 12, La Veta, CO 81055	Playground, volleyball, tennis courts, Community Center building with kitchen and restrooms	No
10	Spring Creek Trailhead	Existing	Co Road 423	Parking, access to the Dodgeton Trail and fishing; this area is usually open April to October, depending on snow conditions	No

Map Location ID # (Not Resource Specific)	Resource Name	Existing or Proposed	Location	Facilities	Section 6(f)
11	Spring Creek Picnic Area	Existing	Co Road 423	Three picnic sites, restrooms, trash receptacle	No
12	Cuchara Mountain Park	Existing	1234 Panadero Ave., Cuchara, CO 81055	Trails, disc golf course, cross country skiing, warming huts	No
9, 10, 11, and 12	USFS Lands	Existing	Pike and San Isabel National Forest, Cuchara, CO	Dispersed recreational activities that include hiking, cross country skiing, mountain biking, bird watching, fishing, camping, picnicking, etc.	No
13	Cuchara Day Use Picnic Area	Existing	Co Road 422	13 picnic sites, restrooms, and trash receptacle; no trails, just picnic area; stream fishing in Cuchara Creek; access to Blue Lake and Bear Lake Campgrounds	No
14	Lookout Area Trail	Existing	Co Road 364	A short interpretive trail of flowers that is bordered by a split rail fence; parking is available; a stone monument is in place with a bronze plaque dedicated to John B. Farley	No
15	North Lake State Wildlife Area	Existing	Along SH 12 between the towns of Cuchara and Stonewall	Stocked fishing reservoir with restrooms and boating access	No
16	Monument Lake Park	Existing	4789 CO 12, Trinidad, CO 81082	Fishing, boating, hiking, camping, bath house, laundry, hotel, cabins	Yes
17	Bosque del Oso State Wildlife Area	Existing	Weston, CO	Hunting, fishing, camping, picnic areas, parking areas, restrooms	No
18	Primero School Park	Existing	20200 CO-12, Weston, CO 81091	Baseball field, soccer field, track	Yes
19	Trinidad Lake State Park	Existing	32610 CO 12, Trinidad, CO 81082	Amphitheater, boat ramps, camp grounds, dump station, picnic areas, playground, retail store, showers, trails, visitor center	Yes
20	Trinidad Golf Course	Existing	1415 Nolan Dr., Trinidad, CO 81082	Nine-hole golf course with clubhouse and bar	Yes

Section 4(f) and Section 6(f) evaluations include collection and analysis of baseline information and alternatives, coordination with the resource owner and/or agencies, supporting documentation, and public involvement. For these types of resources, if a future project includes FHWA coordination, then an evaluation is needed to determine whether the resource (a publicly owned park, recreation area, or wildlife/waterfowl refuge) is determined to be significant, as defined in 23 CFR 774. If the resource is determined to be significant, a "use" of the Section 4(f) resource may occur. A use occurs when (1) land is permanently incorporated into a transportation project; (2) there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose; or (3) there is a constructive use.

Regardless of whether the project includes federal agency coordination, if a proposed action affects a Section 6(f) site, then a Section 6(f) evaluation will be required. Section 6(f) prohibits the conversion of these recreational properties to a non-recreational purpose without approval of the NPS.

The Section 4(f) evaluations and determination of use should be initiated when alternatives for the proposed action are first being designed and developed. Coordination with FHWA, CDOT, and the official with jurisdiction over the Section 4(f) resource may be required. Similarly, if there are Section 6(f) impacts, coordination will take need to take place with CPW, NPS, and local officials.

Socioeconomics

Social resources include a variety of factors that may affect the quality of life for a population, such as community resources (schools, churches, parks, shopping, emergency services, etc.). Economic resources are those that may affect an area's economy. Together, these resources contribute to the livability of a community.

Guidance and Regulations:
Applicable laws, regulations, and guidance documents for socioeconomics include:

- Sections 109(h) and 128, Title 23 of the USC on Highways (2012)
- Title VI of the Civil Rights Act of 1964, as amended
- Americans with Disabilities Act of 1990

Information was gathered from the U.S. Census Bureau website (2010 Census) and the Colorado Department of Local Affairs website, dated 2017. A windshield survey was completed in May 2019 and aerial imagery and ground-based photographs were used to identify existing community resources.

There are several small rural communities scattered throughout the Corridor. The community facilities in Walsenburg and Trinidad are located outside of the Study Area, except for two parks, a golf course, gas station, and health care center in Walsenburg and an ambulance service, church, and gas station in Trinidad.

Community resources within the Town of La Veta include several churches, a post office, public library, fire station, museum, performing arts center, schools, grocery stores, markets, restaurants, banks, gas stations, and the Cuchara Chamber of Commerce.

The Town of Cuchara has a few small restaurants and stores, a community center, and a few small hotels or lodges. Most houses in Cuchara are summer homes for families with a primary residence in Texas and Kansas (personal communication).

Along the southern stretch of the Corridor, from Stonewall to Cokedale, there a few small retail stores, gas stations, and churches. There is also a post office and school in Weston. These small communities rely heavily on the community resources in Trinidad.

Population

Between 2010 and 2017, the populations of Huerfano and Las Animas counties declined by 0.7 percent and 8 percent, respectively. Similarly, the entire Corridor experienced a population decrease of approximately 10 percent between 2010 and 2017 (Table 16). It went from a population of 13,360 individuals in 2010 to a population of 12,073 individuals in 2017. During this period, the City of Walsenburg decreased from 3,068 individuals to 2,904, which is a 5 percent decrease and the City of Trinidad decreased by 11 percent, from 9,096 individuals to 8,054 in 2017. Populations also decreased in La Veta, Stonewall, Valdez, and Cokedale. The only two communities that experienced a population increase were Weston, which had an increase of 15 percent, and Segundo, which increased by 30 percent.

Table 16: Community Population Change from 2010 to 2017

Location	Population		Percent Change in Population
	2010*	2017+	
Huerfano County	6,711	6,662	-0.7%
Las Animas County	15,507	14,238	-8%
Walsenburg	3,068	2,904	-5%
La Veta	800	791	-1%
Stonewall	67	35	-48%
Weston	55	63	+15%
Segundo	98	127	+30%
Valdez	47	12	-74%
Cokedale	129	87	-33%
Trinidad	9,096	8,054	-11%
Total Population	13,360	12,073	-10%

** Source: US Census Bureau, 2010*
+Source: ACS 2017 Estimate

Economy

The estimated number of jobs in Huerfano County declined from 2,710 in 2010 to 2,659 in 2017; however, this number is expected to increase to approximately 2,745 by 2025. This may be related to the fact that Huerfano County has not recovered from the Great Recession of 2008 to 2010. The closure of the Huerfano County Correctional Facility in 2010 had a major impact, with the loss of nearly 200 jobs. The population is aging, with a loss of young people, suggesting that the County may face a workforce shortage in the future.

Similarly, the estimated number of jobs in Las Animas County decreased from 7,209 in 2010 to 6,827 in 2017 and is expected to increase by 2025 to 7,227 jobs. The economy of Las Animas County has struggled with the "boom and bust" cycle of the mining and oil and gas industries.

The unemployment rate for Huerfano County is 10.1 percent, which is slightly higher than the 6.3 percent unemployment rate of Las Animas County. The dominant industries for both Huerfano and Las Animas Counties are federal, state, and local governments; agriculture; and health services. A large percentage of the population of both counties are retirees living off fixed incomes, which includes social security, disability, and Medicare expenditures.

Future projects that result from this study are not expected to result in negative socioeconomic impacts. On the contrary, the addition of a multi-use trail and other improvements along Corridor would be expected to increase tourism in the area. The increase in visitors could boost the economy by adding jobs and increasing the tax base.

Threatened and Endangered Species, Other Special-Status Species, and Wildlife

The Federal Endangered Species Act (ESA) lists and provides protections for threatened and endangered species, other special-status species, and a variety of wildlife species which have the potential to occur within the Study Area. Any projects that receive federal funding, have federal involvement, or are being carried out by a federal entity must evaluate U.S. Fish and Wildlife Service (USFWS) ESA listed threatened and endangered species, and other federally protected species, including migratory birds and Bald and Golden Eagles. Additional protections for biological resources are provided for projects receiving state funding, that have state involvement, or are carried out by a state entity.

Information Sources:
The desktop evaluation included information from the following sources:

- USFWS Critical Habitat Mapped Locations (USFWS, 2016)
- CPW Species Activity Mapping (SAM) Data (CPW, 2018)
- National Land Cover Database (NRCS, 2001)
- Wildlife Vehicle Collision Data from Colorado State Patrol (CSP) Accident Reports (CSP, 2018)
- Carcass Removal Data from CDOT (CDOT, 2018)

The following regulations pertain to this study:

- **The Endangered Species Act (ESA) of 1973** — Provides a program for the protection and conservation of threatened and endangered plants and animals, and their habitats. The lead agency for implementing the ESA is the USFWS. Section 7 of the ESA requires federal agencies, in consultation with the USFWS, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat.
- **The Migratory Bird Treaty Act (MBTA) of 1918** — Prohibits destruction or disturbance of nesting activities or nests that results in loss of eggs or young. All wild birds are protected under the MBTA, except non-native, human-introduced species and other species not listed under the MBTA. The MBTA provides protection of nests only during the active nesting season. The USFWS implements the requirements of the MBTA.
- **Bald and Golden Eagle Protection Act (BGEPA) of 1940** — Provides for the protection of Bald and Golden Eagles (*Haliaeetus leucocephalus* and *Aquila chrysaetos*, respectively) by prohibiting the taking, possession, or commerce of these birds. The BGEPA is unique as it also protects inactive eagle nests year-round, even outside of the nesting season. The USFWS implements the requirements of the BGEPA.
- **Senate Bill 40 Wildlife Certification** — Senate Bill 40 (33-5-101-107, CRS 1973, as amended) requires any agency of the state to obtain wildlife certification from CPW when the agency plans construction in "… any stream or its bank or tributaries." It emphasizes the protection of fishing waters and the protection of all fish and wildlife resources (including habitat) associated with streams and riparian areas in Colorado.

A desktop evaluation and field visit were conducted to identify potential habitat and occurrences of federal ESA listed species, other special status species, and general wildlife within the Study Area.

Occurring on May 7, 2019, the site visit documented general habitat and observations of wildlife within the Study Area. The field evaluation was conducted by driving through the Study Area and taking general notes of the following:

- Potential habitat for federal ESA listed species and other special-status species
- General wildlife species observations
- Potential wildlife crossing areas

Agency/Stakeholder Coordination:
Potential agency and stakeholder involvement includes:

- CDOT: Provides clearances through its NEPA processes and coordination with other state and federal agencies.
- USFWS: Consultation with USFWS is required to assure that potential impacts to ESA listed species are evaluated.
- CPW: Provides oversight for SB 40 Wildlife Certification and issues a permit. Also reviews and comments on any wildlife crossing analysis and siting reports.

Federal Endangered Species Act Listed Species

According to the USFWS Information for Planning and Consultation (IPaC) database, the federally listed species with potential to occur in the Study Area are summarized in **Table 17**. No critical habitat for any listed species is located within the Study Area.

Table 17: USFWS Federally Listed Species with Potential to Occur in the Study Area

Common Name	Scientific Name	USFWS Status[1]	Habitat	Potential for Occurrence in the Project Area
Fish				
Greenback Cutthroat Trout	*Onchorhynchus clarkia stomias*	FE	Mountain lakes and headwaters of streams with cold, clear water and gravelly substrate	Potential habitat occurs in the Study Area. The Study Area occurs within the historic range for the species.
Birds				
Mexican Spotted Owl	*Strix occidentalis lucida*	FT	Old-growth or mature forests with complex structural components	Potential habitat for Mexican Spotted Owl occurs in the Study Area in mixed forest habitats. Critical habitat for the Mexican Spotted Owl is located 16 miles northwest of the Study Area.
Mammals				
Canada Lynx	*Lynx canadensis*	FT	Dense sub-alpine forests, willow-choked streams, avalanche chutes, and suitable habitat for primary prey (snowshoe hare, *Lepus americanus*); formerly considered extirpated in Colorado; were reintroduced in the San	The project occurs in the overall range for Canada lynx. Potential habitat for the species occurs at higher elevations within the Study Area. There is no Critical Habitat for Canada lynx in the Study Area.

Common Name	Scientific Name	USFWS Status[1]	Habitat	Potential for Occurrence in the Project Area
			Juan Mountains in southwest Colorado	
North American Wolverine	*Gulo gulo luscus*	PT	Not confined by specific vegetation or geological habitat, but instead selects areas that are cold and receive enough winter precipitation to retain deep, widespread snow coverage into late spring; in the southern portion of the range, found only at very high altitudes	Potential habitat occurs in the Study Area at higher elevations.
New Mexico Jumping Mouse	*Zapas hudsonius luteus*	FE	Endemic to Southern Colorado, New Mexico, and Arizona; occurs in riparian habitat along rivers, streams, canals, or ditches that have persistent flow throughout the growing season; preferred riparian habitat characteristics includes an understory of forbs and sedges and a shrub layer including alder (*Alnus* ssp.) and willows (*Salix* ssp.); also prefers adjacent floodplain habitat and upland areas extending approximately 330 feet outward from the active water channel	The Project Area occurs in the overall range for the species. Potentially suitable habitat occurs along rivers and streams located within the Study Area. Critical habitat for the species is approximately 14 mile southeast of the Study Area.

[1]FT=Federal Threatened; FE=Federal Endangered; PT=Proposed Threatened

General Wildlife and Habitat

A variety of habitat types were identified within the Study Area, including many areas of high-quality wildlife habitats. **Table 18** shows the habitat types identified along with named areas/features, and habitat quality ratings. **Figure 43**, **Figure 44**, and **Figure 45** depict the location of mapped wildlife resources within the Study Area.

Table 18: Areas of High-Quality Habitat Identified within the Study Area

Habitat Type	Areas Identified in the Study Area	Habitat Quality	Wildlife Corridor
Riparian/Riverine—includes rivers, streams/creeks, and wetlands (palustrine forested, emergent, and scrub-shrub)	Cucharas River, North Abeyta Creek, Wahatoya Creek, Rilling Creek, Echo Creek, Big Branch, Bend Creek, Dodgeton Creek, Spring Creek, Hill Branch of the Cucharas River, Baker Creek, Deadman Creek, Guajatoyah Creek, Bear Creek, Wildcat Creek, Coal Creek, Purgatoire River, Brown Creek, Cherry Creek, Whiskey Creek, Wilkens Creek, Crooked Creek, Long Creek, and Raton Creek	High	Yes
Ditches and Canals— Includes ditches/canals with fringe wetlands (palustrine forested, emergent, and scrub-shrub)	Butte Ditch, Lake Merriam Ditch, and Holita Ditch	Low	Yes; some wildlife movement to/from the ditches for drinking water
Lakes and Ponds— Includes lakes/ponds and fringe wetlands (palustrine forested, emergent, scrub-shrub wetlands, and freshwater ponds)	Schaffer Lake, North Lake, Monument Lake, Trinidad Lake, and Martin Lake	High	Yes; provides habitat for waterbird species and provides habitat for wildlife movement to these water bodies
Pasture/Hay	Purgatoire Valley and Cucharas Valley	Medium	Yes; allows wildlife to move through and also acts as an attractant for wildlife foraging. Wildlife often are involved in collisions with vehicles when moving from more natural habitat across roadways into these areas.
Mixed Forest	Higher elevations throughout the Study Area	High	Yes; provides cover, nesting/denning, and foraging areas for various wildlife species
Pinyon/Juniper Woodlands	West of Walsenburg near golf course	High	Yes; provides cover, nesting/denning, and foraging areas for various wildlife species
Oak Scrub Woodlands	Mid-elevations transitioning from river valleys to mixed forest	High	Yes; provides cover and foraging areas for various wildlife species
Rocky Outcrops and Ridges	Geological fens at mid-elevations	High	Yes; provides escape for big game and nesting habitat for migratory birds

Figure 43: Existing Conditions Wildlife Resources, Walsenburg to La Veta

Figure 44: Existing Conditions Wildlife Resources, La Veta to Stonewall

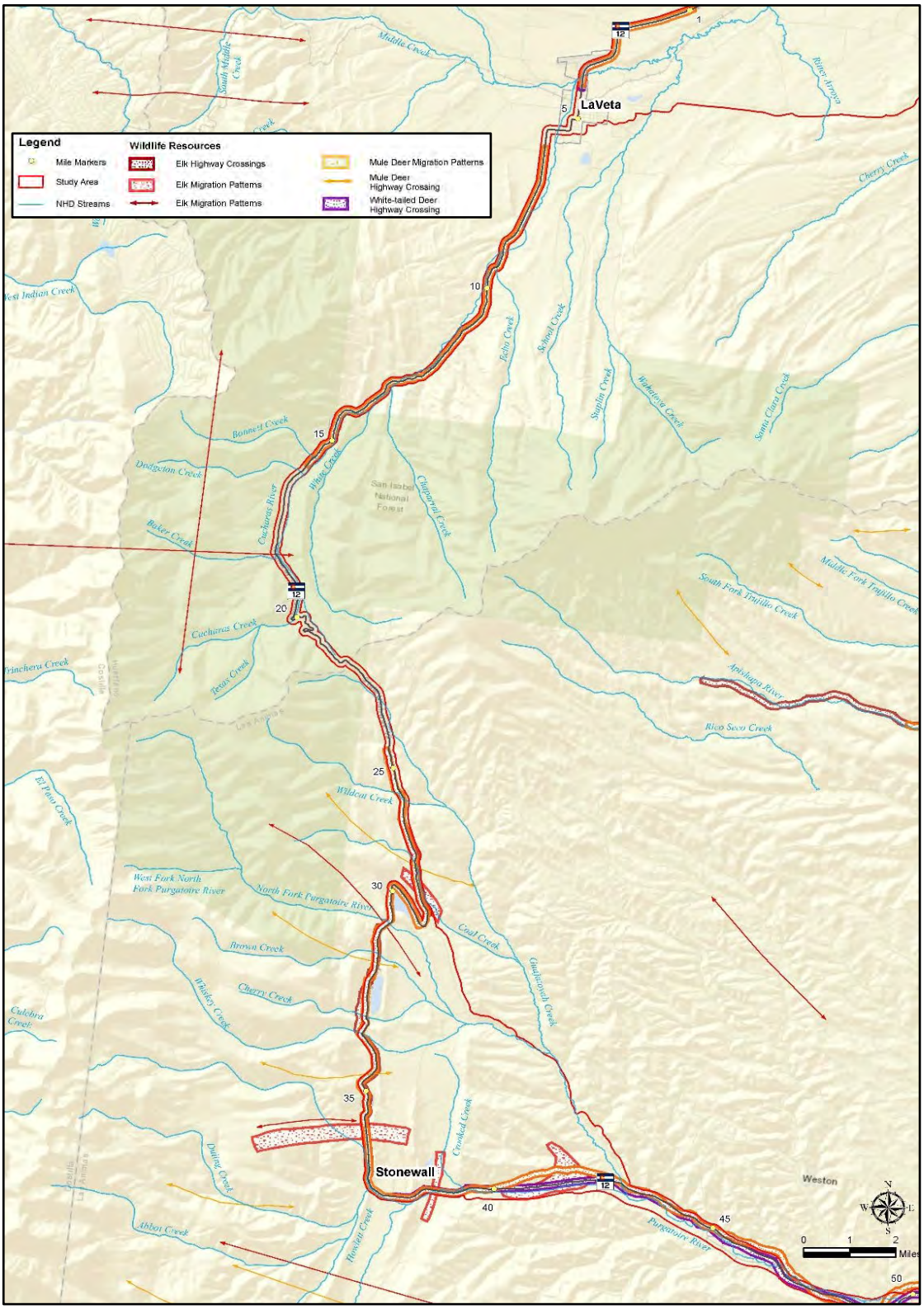


Figure 45: Existing Conditions Wildlife Resources, Stonewall to Trinidad

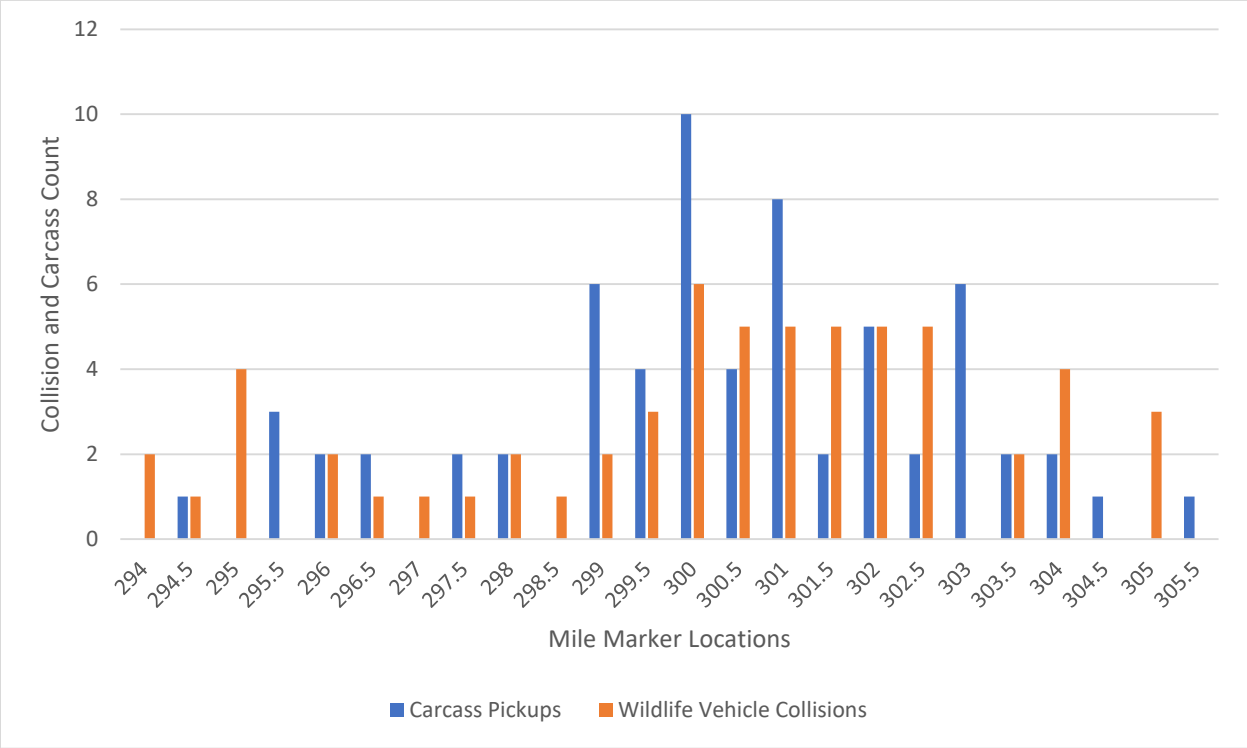
Based on the observed vegetation communities and water sources within the Study Area, habitat for numerous species of mammals, birds, reptiles, amphibians, fish, and invertebrates may occur within the Study Area. As shown on **Figure 43** to **Figure 45** three ungulate species occur regularly within Study Area, including elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), and white-tailed deer (*Odocoileus virginianus*). Two other species, bighorn sheep (*Ovis canadensis*) and pronghorn antelope (*Antilocapra americana*), are also known to occur within the Study Area. Highway crossing data for elk, mule deer, and white-tailed deer shows that all three species cross the highway throughout the Purgatoire River Valley and the Cucharas River Valley (**Figure 43** to **Figure 45**).

Highways with higher traffic volumes, traffic noise, and lighting create barriers for wildlife that may inhibit wildlife from attempting to cross or even approach habitat adjacent to a highway. There is a higher barrier effect on the wildlife crossing US 160 as compared to a more minimal effect on SH 12. Vehicle traffic also may result directly in wildlife mortalities when animals are struck attempting to cross.

A review of carcass data and wildlife/vehicle collision (WVC) data depicted in **Figure 46** and **Figure 47**, show the highest carcass count and WVCs in the following locations within the Study Area:

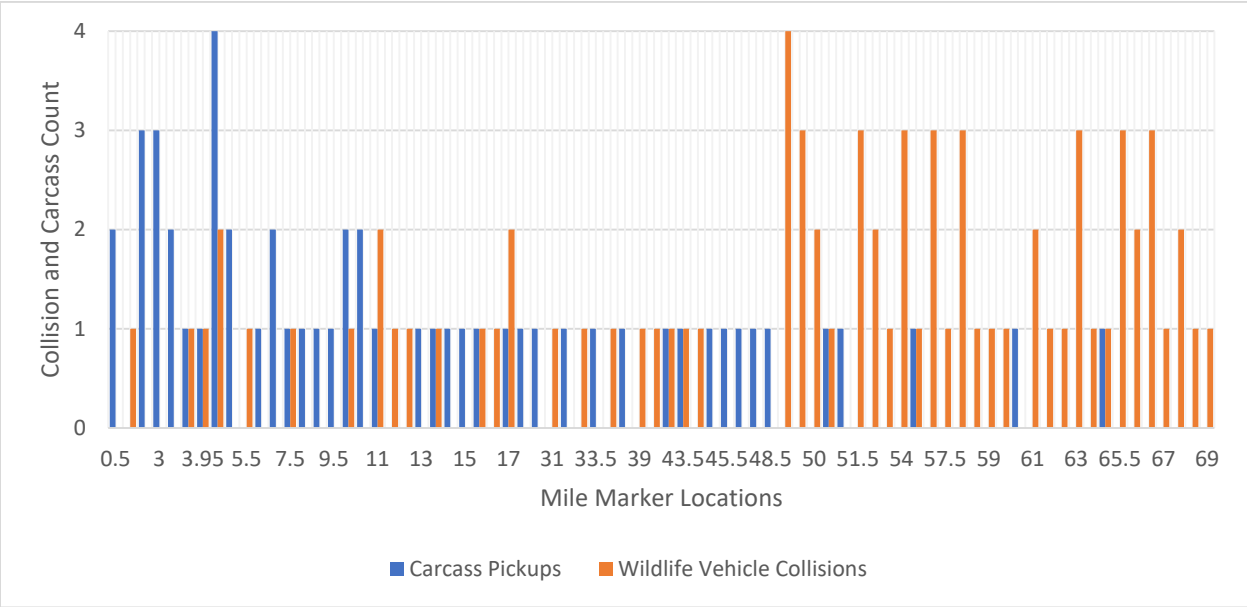
- US 160: mile markers 295 to 296, 299 to 303, and 304 to 305
- SH 12: mile markers 2 to 4, 10 to 11, 49 to 59, and 61 to 68

Figure 46: Number of WVCs and Carcass Pickups along US 160 from 2013 through 2018



1 - Information based on Colorado State Patrol Accident Reports (CSP, 2018)
2 - Information based on records from CDOT maintenance activities for carcass removals (CDOT, 2018).

Figure 47: Number of WVCs and Carcass Pickups along SH 12 from 2013 through 2018



1 - Information based on Colorado State Patrol Accident Reports (CSP, 2016)
2 - Information based on records from CDOT maintenance activities for carcass removals (CDOT, 2016b).

A Biological Resources Report (BRR) or similar evaluation would need to be prepared once a project is identified and funded, and the NEPA process starts. It would document biological resources within the project area, including EPA ecoregions, land use, vegetation, noxious weeds, special-status species, SB 40 resources, wildlife crossings, and general wildlife. The BRR documents the existing biological resources near the project to identify any potential impacts and identifies avoidance or minimization measures, including timing or setback restrictions, additional surveys or monitoring, and permitting requirements. The BRR can be submitted as documentation to USFWS for review as part of an informal Section 7 consultation process.

SB 40 wildlife certification would potentially be required, depending on the extent of impacts to riparian habitats within the project area. The SB 40 wildlife certification would require additional fieldwork, reporting, and coordination with CPW and CDOT, and preparation of a mitigation plan for impacts to SB 40 resources (including riparian shrubs and trees), as necessary.

A wildlife crossing analysis and siting study likely would be required based on current WVC and carcass data identified from 2013 to 2018 where improvements occur along US 160 and SH 12.

Visual Resources

Visual resources are important because of their uniqueness and the strong emotion they inspire in human viewers. Such special places often provide a sense of community to the inhabitants of an area and may attract tourism and help to drive the economy. Visual resources include those elements that define the character of an area. These can be important natural features, vistas, viewsheds, vegetation, and water features. Visual elements also can include cultural features with urban or community visual characteristics, such as architecture, skylines, road alignment, bridge structures, lighting, fencing, pedestrian/bicycle trails, or other components. The long-term goal with regard to visual resources is to consider transportation design in a broader, sustainable, and contextual perspective.

To identify existing visual resources, several sources were used. Most importantly, aerial imagery from 2018 (Google Maps) was reviewed and a windshield survey of the Study Area occurred on May 15, 2019. In addition, the following county plans were reviewed:

- Huerfano County Comprehensive Plan (Huerfano County, 2018)
- Las Animas County Master Plan (Las Animas County, 2013)

The Corridor has a very high level of visual quality. The visual resources encompass landscape character, community and recreation views, and visual quality within the Corridor foreground and the influence of the background viewsheds. The description is organized from the northern terminus in Walsenburg traveling south to the terminus in Trinidad. The descriptions below provide a broad framework for considering elements of visual consistency and aesthetics in the PEL process.

Agency/Stakeholder Coordination:
The following would potentially be involved in an assessment of visual resources for any further project work:

- FHWA
- CDOT
- Local community officials and staff
- Local residents and business owners
- Outdoor recreation, greenway, and cycle groups

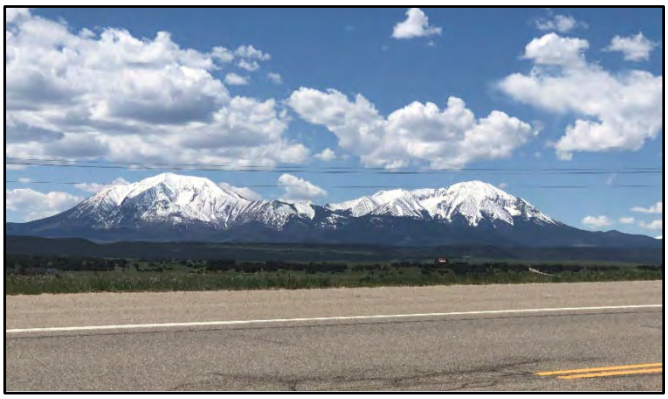
Walsenburg

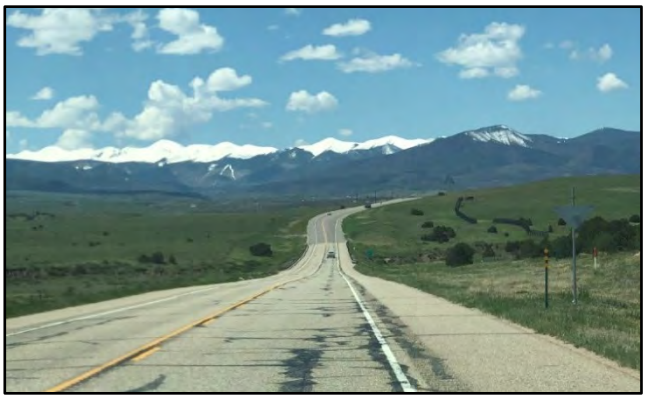
The visual character of the northern-most section of the Corridor in Walsenburg is typical of small city urban residential and commercial. The foreground views contain the US 160 roadway lined with various structures, utility poles, residences, and businesses. Vegetation that can be seen is a mixture of deciduous and conifers trees and some formal landscaping.

Typical Visual Character in Walsenburg.

Walsenburg to La Veta

The visual character between Walsenburg and La Veta contains some of the most striking background views of the Spanish Peaks. Traveling along US 160 and then SH 12, the foreground is dominated by rural residential, ranchland, and woodlands.





Visual character between Walsenburg and La Veta is dominated by views of the Spanish Peaks and the Sangre De Cristo Mountain Range.

La Veta to Cuchara

In the Town of La Veta, the foreground views along Main Street are predominantly commercial, with adjacent residential uses. Between La Veta and Cuchara, the foreground and background views are dominated by hills, ridges, and foot slopes as the roadway climbs in elevation. The vegetation is mostly sagebrush and a mixture of sparse and denser tree stands, and some mountain grasslands. Ranching and other agricultural uses can be seen throughout the corridor

Commercial storefronts characterize the view along Main Street in Cuchara.

Cuchara to North Lake State Wildlife Area

The Corridor from Cuchara to the North Lake State Wildlife Area is the highest point of the Study Area. There are unobstructed background views as SH 12 travels over Cucharas Pass. The foreground is dominated by high, steep-sloped mountains. The typical vegetation is subalpine forests.

Typical visual character along the Corridor between La Veta and Cuchara, north side of Cucharas Pass looking down valley.

Views from the Corridor at Cucharas Pass looking south towards North Lake.

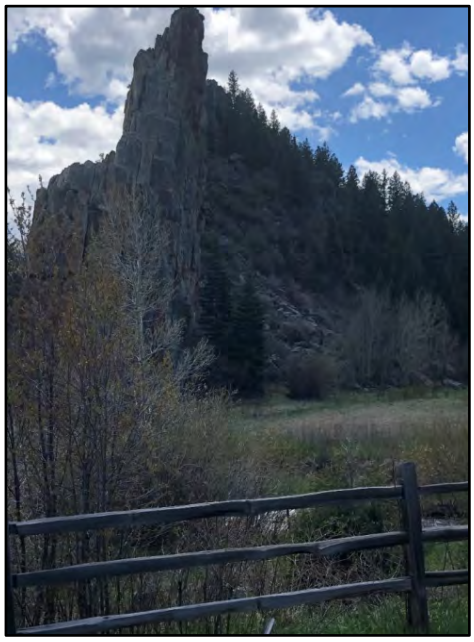
North Lake State Wildlife Area to Stonewall

The Corridor south of the North Lake State Wildlife Area to Stonewall contains background views of low mountain ridges and slopes, while the foreground contains ponderosa pine, oak, and aspen woodlands. There are visually interesting geological formations that can be seen in the foreground and background nearer to Stonewall. There is little development that has occurred along this stretch of the corridor.

Typical visual character along the Corridor between North Lake and Stonewall.

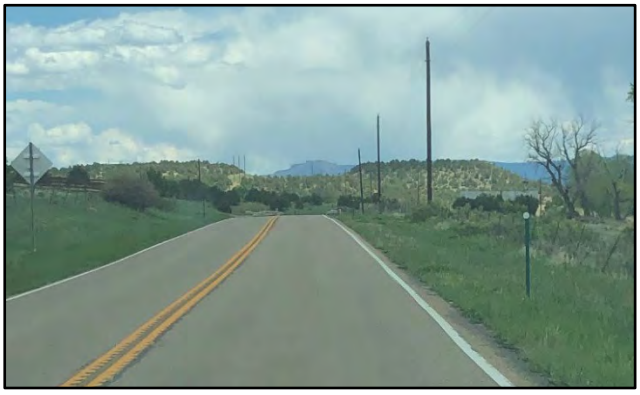
Stonewall to Trinidad

The viewshed between Stonewall and Trinidad changes dramatically from the more northern sections of the Corridor. The background views are lower and flatter shrubland, although there are some hills with coniferous woodlands that can be seen. The foreground along this stretch contains several small communities with residential and commercial structures right next to the roadway. The historic mining operations that have taken place in this area are seen in the foreground throughout the area.



The Stonewall rock formation can be viewed from SH 12 near the Town of Stonewall.

Views of historic mining operations can be seen between Stonewall and Trinidad.



Typical visual character between Stonewall and Trinidad.

Trinidad

The City of Trinidad is the southern-most section of the Study Area. The viewshed is typical of small city urban residential and commercial. The foreground views contain the SH 12 roadway lined with various structures, traffic signs and signals, residences, and businesses. A park and high school can also be seen.

Typical visual character in Downtown Trinidad.

Visual resources are an important element of this study, not because of potential negative impacts, but because of enhancement opportunities. A goal of the study is to consider alternatives and options that allow visitors to experience the high visual quality the Corridor offers. It is not anticipated that any roadway improvements would affect the existing visual quality of the Corridor.

As recommended projects are identified for funding, a NEPA process would likely be undertaken. When this occurs, the analysis for visual resources should follow FHWA's recent *Guidelines for the Visual Impact Assessment of Highway Projects*. For future projects, a Visual Impact Assessment (VIA) reinforces CDOT's Context Sensitive Solutions (CSS) principles guidance and the CDOT *Landscape Architecture Manual*. Three of the seven key elements that visual resources have in common with CSS are: (1) the project is in harmony with the community and preserves environmental, scenic, aesthetic, historic, and natural resource values of the community; (2) the project exceeds the expectations of both the designers and stakeholders and achieves a level of excellence in people's minds; and (3) the project is seen as having added lasting value to the community. FHWA requires that both beneficial and adverse impacts to visual resources be adequately assessed and mitigation measures implemented to reduce potential adverse visual resource effects.

Wetlands and Other Waters of the U.S.

Wetlands and other jurisdictional waters of the U.S. (WOUS) are resources that occur within the Study Area, including rivers, streams, ponds, lakes, and wetlands. These features typically are found in depressional areas where moisture accumulates or where a naturally high groundwater table exists. Wetlands are important biological resources that perform multiple functions, including groundwater recharge, flood flow attenuation, erosion control, and water quality improvement. Wetlands also provide habitat for many plants and animals, including threatened and endangered species.

Information Sources:
The desktop evaluation included information from the following sources:

- USGS Topographic Map of Las Animas and Huerfano Counties, Colorado (USGS, 2000)
- USGS National Hydrography Dataset for Las Animas and Huerfano Counties (USGS, 2019)
- USFWS National Wetland Inventory (NWI) (USFWS, 2013)

The following regulations pertain to this project:

- **Section 404 of the Clean Water Act Amendments —** The USACE regulates WOUS, including wetlands, under the authority of Section 404 of the Clean Water Act (CWA). Section 404 of the CWA regulates WOUS, such as traditional navigable waters (TNWs), their relatively permanent tributaries, other tributaries that have a "significant nexus" with a TNW, and associated wetlands. A Section 404 permit is required if an activity will result in discharge of dredge or fill material into wetlands or other WOUS.

- **Executive Order (EO) 11990 —** Wetlands also receive additional protection under Executive Order (EO) 11990, "Protection of Wetlands" (Federal Register, 1977). This EO requires federal agencies or projects receiving federal monies to compensate for impacts to all wetlands, regardless of jurisdictional status. As such, CDOT requires mitigation of impacts to jurisdictional and non-jurisdictional wetlands at a 1:1 ratio. Non-jurisdictional wetlands subject to CDOT mitigation requirements include areas with wetland soils, hydrology, and vegetation. They do not include open waters that may be under the jurisdiction of the USACE.

Agency/Stakeholder Coordination:
Potential agency and stakeholder involvement with this project includes:

- **CDOT:** Provides clearances through its NEPA processes and coordination with other state and federal agencies. These processes include completing formal wetland delineations, completing wetland findings, and completing a Functional Assessment of Colorado Wetlands (FACWet) Analysis when unavoidable wetland impacts exceed specific quantities.
- **USACE:** Provides regulatory oversight for wetlands and other WOUS. Issues Section 404 permits for impacts resulting in dredge or fill material into wetlands and other WOUS.
- **SHPO:** Consultation with SHPO is a requirement of the CWA to assure that cultural resources that are protected under Section 106 of the NHPA are considered before a Section 404 permit can be issued by USACE.
- **USFWS:** Consultation with USFWS is a requirement of the CWA to assure that potential impacts to the ESA listed species are considered before a Section 404 permit can be issued by USACE.

A desktop evaluation and field visit were conducted to identify any wetlands and other WOUS within the Study Area.

A site visit was conducted on May 7, 2019 to identify potential wetlands or other WOUS within the Study Area. The field evaluation was conducted by driving along the Corridor and visually inspecting for potential wetland and other water features.

Wetlands and other WOUS occur within the Study Area and include: rivers, creeks, ditches, lakes, ponds, fringe wetlands, and isolated wetlands. **Table 19** identifies wetlands and other WOUS within the Study Area. **Figure 48**, **Figure 49**, and **Figure 50** depict the locations of mapped wetlands and other WOUS within the Study Area.

Table 19: Potential Wetlands and Other WOUS Identified within the Study Area

Feature Type	Habitat	Habitat Quality	Jurisdictional?
Rivers, Streams, and Creeks			
Cucharas River, North Abeyta Creek, Wahatoya Creek, Rilling Creek, Echo Creek, Big Branch, Bend Creek, Dodgeton Creek, Spring Creeek, Hill Branch of the Cucharas River, Baker Creek, Deadman Creek, Guajatoyah Creek, Bear Creek, Wildcat Creek, Coal Creek, Purgatoire River, Brown Creek, Cherry Creek, Whiskey Creek, Wilkens Creek, Crooked Creek, Long Creek, and Raton Creek	Palustrine forested, emergent, and scrub-shrub wetlands	High	Yes
Ditches			
Butte Ditch, Lake Merriam Ditch, Holita Ditch	Palustrine forested, emergent, and scrub-shrub wetlands	Low	Yes. Some of the named ditches may be non-jurisdictional; however, will still be protected under EO 11990.
Lakes, Reservoirs, and Ponds			
Schaffer Lake, North Lake, Monument Lake, Trinidad Lake, Martin Lake	Palustrine forested, emergent, scrub-shrub wetlands, and freshwater ponds	High	Yes
Wetlands			
Isolated wetlands (i.e., not associated with named features) and fringe wetlands bordering named features	Palustrine forested, emergent, scrub-shrub wetlands, and freshwater ponds	Medium	Potentially, if relatively adjacent to jurisdictional features. Typically, these features are non-jurisdictional, but would be covered by EO 11990.

Figure 48: Existing Conditions Wetlands and Other Waters of the U.S., Walsenburg to La Veta

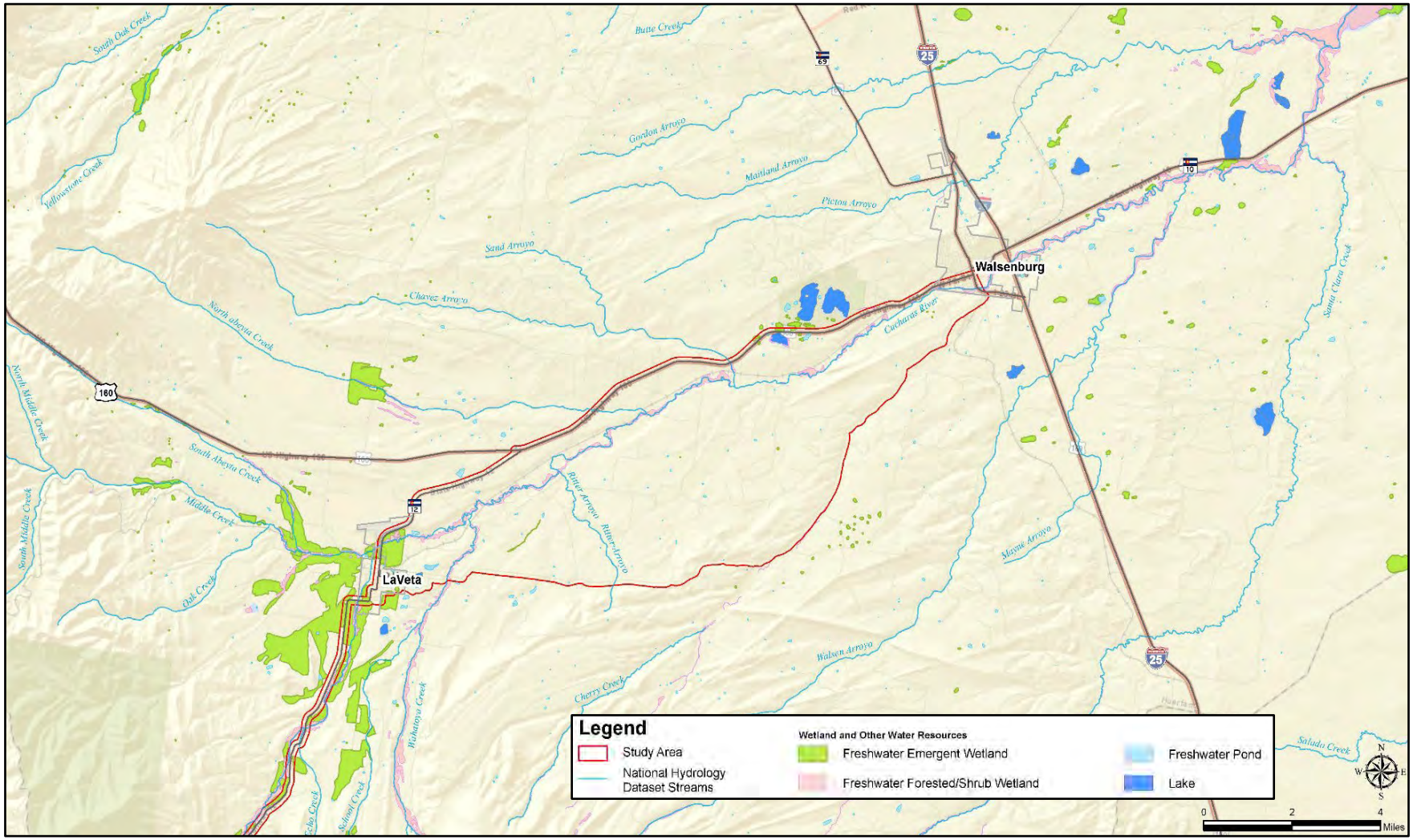


Figure 49: Existing Conditions Wetlands and Other Waters of the U.S., La Veta to Stonewall

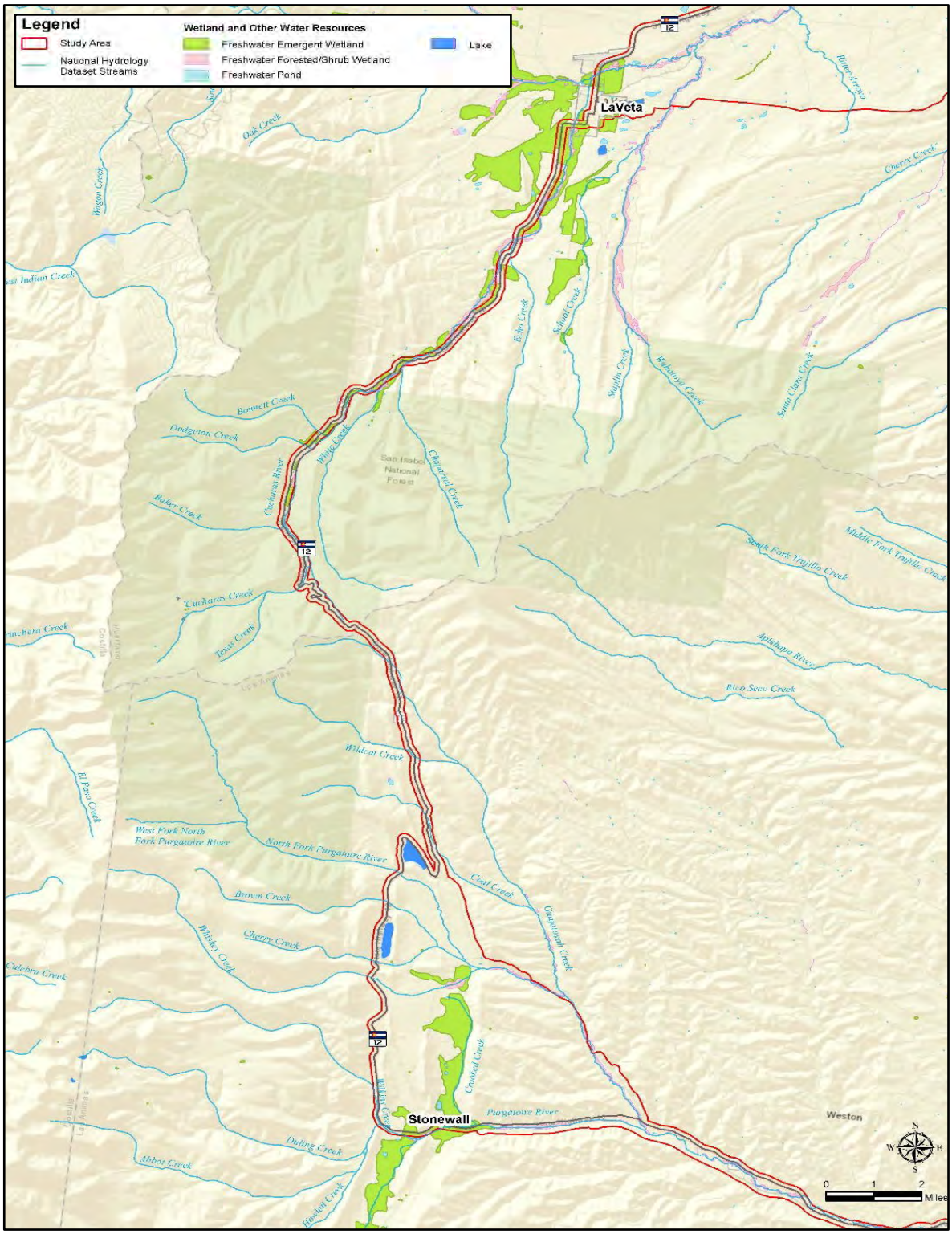
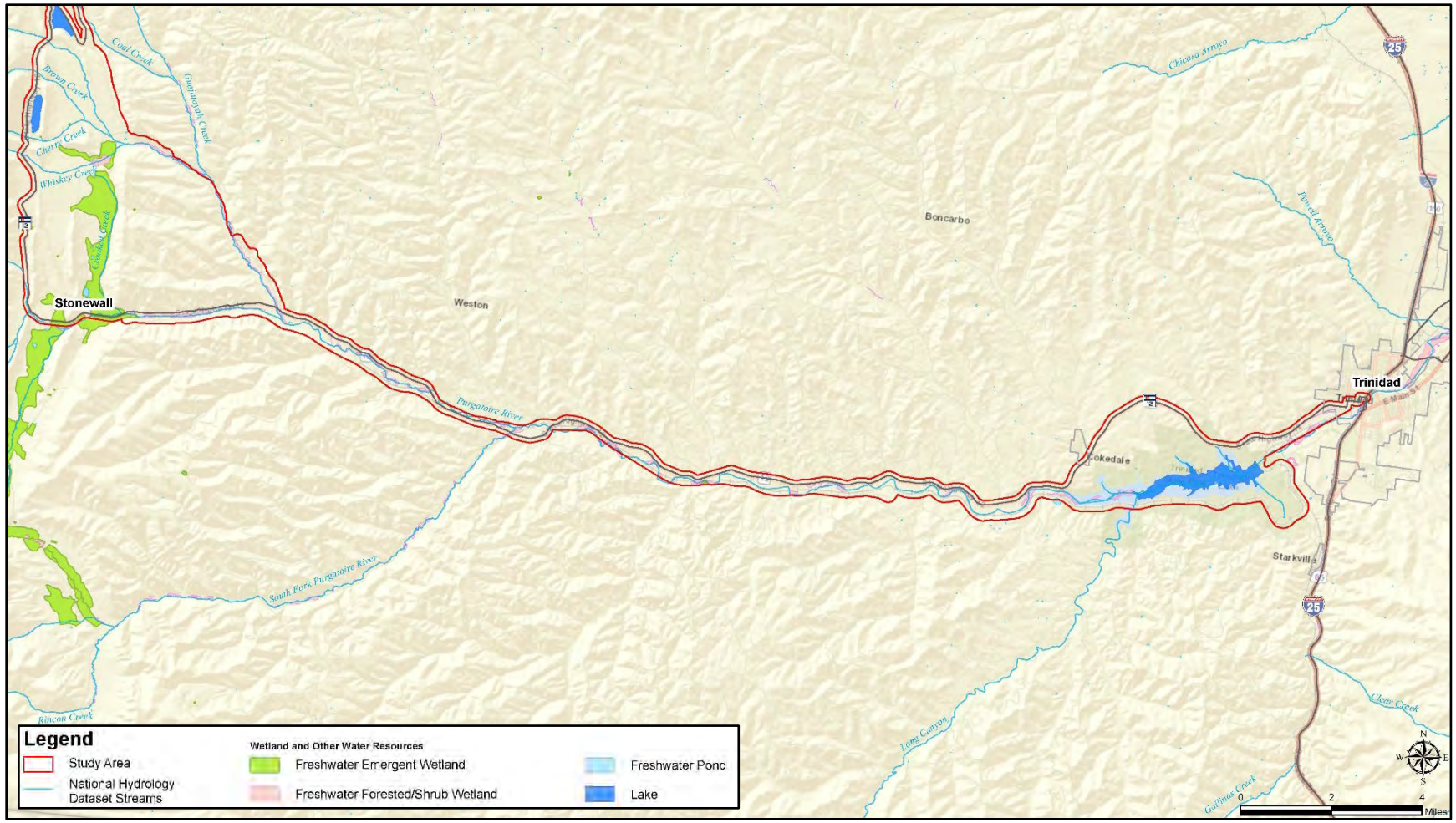


Figure 50: Existing Conditions Wetlands and Other Waters of the U.S., Stonewall to Trinidad



If a proposed project would result in impacts to wetlands or other WOUS, then a wetland delineation would be required within the project footprint following guidance from the USACE 1987 *Wetlands Delineation Manual* and the *Western Mountains, Valleys, and Coast Regional Supplement*. A wetland delineation is performed to identify the limits and acreage of wetlands and other water features within an established project area that encompasses all potential limits of disturbance. A report is prepared summarizing findings of the delineation. When the project footprint has been established, a wetland findings report also may be required if impacts to wetlands are expected to exceed 500 square feet. The wetland findings report is prepared to identify any permanent and temporary impacts to wetlands and other WOUS and is required by CDOT.

Impacts can be offset through a series of avoidance and minimization measures established by the USACE. For unavoidable permanent impacts to jurisdictional wetlands and other WOUS, a Section 404 permit would be required from the USACE. If impacts exceed the threshold for USACE Pre-Construction Notification (PCN), then a permit application would be prepared for a Section 404 Nationwide Permit (NWP). For impacts greater than 0.50 acre, an application for an Individual Permit (IP) would be required.

Mitigation for permanent loss of jurisdictional wetlands may be required based on results of the wetland findings report. Wetland impacts can be compensated for through purchase of mitigation credits from an established mitigation bank within the same watershed as the proposed project, an in-lieu fee program, or by creating wetlands onsite accompanied by five years of wetland monitoring. If impacts exceed 0.10 acre of permanent impacts to wetlands, then a FACWet Analysis would be required. The FACWet Analysis identifies how a wetland is functioning within its setting based on a variety of criteria, and the wetland is assigned a rating. The results of the analysis are used as part of the wetland mitigation plan for a project.

References

http://www.arcgis.com/home/webmap/viewer.html?webmap=86ad60f8e1f34a8298b662a4554ec9c0
http://www.walkridecolorado.com/resources/the-colorado-front-range-trail?start=2
Chapman, S.S., Griffith, G.E., Omernik, J.M., Price, A.B., Freeouf, J., and Schrupp, D.L. 2006. Ecoregions of Colorado. Available at: https://www.epa.gov/eco-research/ecoregions
City of Walsenburg. 2019. Walsenburg Zoning Map. May 23, 2019. Available at: https://drive.google.com/file/d/0B0Bqj2P5IrSYTnBoQ29ISFd4TmtSeHZhMzRJS0NvNnJubDFV/view
Colorado Department of Local Affairs (DOLA). 2017. State Demography Office. Available at: https://demography.dola.colorado.gov/economy-labor-force/data/
Colorado Department of Transportation. 2018. Maintenance records for removed wildlife carcasses for SH 12 from MM 0 to 79 and for US 160 from MM 294 to 306, from 2013 to 2018.
Colorado Department of Transportation. Traffic Data Explorer. http://dtdapps.coloradodot.info/otis/TrafficData
Colorado Geological Survey, "Dikes," Retrieved on April 28, 2019 from http://coloradogeologicalsurvey.org/colorado-geology/igneous-rocks/plutonic-rocks/dikes/
Colorado Geological Survey, "Sills," Retrieved on April 28, 2019 from http://coloradogeologicalsurvey.org/colorado-geology/igneous-rocks/plutonic-rocks/dikes/
Colorado Parks and Wildlife (formerly Colorado State Parks). 2007. *Colorado Front Range Trail Comprehensive Implementation Plan*. Available at: https://cpw.state.co.us/Documents/Trails/LWCF/CFRT/CFRTCompImpPlanDS6-2007.pdf
Colorado Parks and Wildlife (CPW). 2013. Guidelines for Senate Bill 40 Wildlife Certification developed and agreed upon by CPW and CDOT. Retrieved in January 2019 from: https://www.codot.gov/programs/environmental/documents/senate-bill-40-guidelines
Colorado Parks and Wildlife (CPW). 2018. Species Activity Mapping Data. Retrieved in May of 2019 from: http://www.arcgis.com/home/group.html?owner=rsacco&title=Colorado%20Parks%20and%20Wildlife%20-%20Species%20Activity%20Data. [CPW, 2018]
Colorado State Patrol (CSP). 2018. Wildlife-Vehicle Collisions for SH 12 from MM 0 to 79 and for US 160 from MM 294 to 306, from 2013 to 2018., as reported through CDOT's DiExSys Intelligent Transportation System (ITS).
"The Dakota Wall," Retrieved on May 15, 2019 from https://spanishpeakscountry.com/dakota-wall/
Dill, Jennifer, Ph.D., Types of Cyclists, https://jenniferdill.net/types-of-cyclists/
Economic and Planning Systems, Inc. 2017. Comprehensive Economic Development Strategy. Draft Report. Prepared for Huerfano County and the City of Walsenburg. January 24, 2017. Available at: http://huerfano.us/uploads/huerfano_draft_ceds.pdf
Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Vicksburg, Mississippi: Environmental Laboratory. U.S. Army Corps of Engineers.
"The Great Dikes of the Spanish Peaks and Silver Mountain," Retrieved on April 28, 2019 from http://www.sangres.com/features/dikes.htm#.XNLxuo5KhPY
Gellar, Roger. Four Types of Cyclists, https://www.portlandoregon.gov/transportation/article/264746

Huerfano County, 2011, *Huerfano County Trails Master Plan*. Walsenburg, CO. Available at: http://www.huerfano.us/uploads/hctp.pdf

Huerfano County. 2018. *Cuchara Mountain Park Master Plan*. Walsenburg, CO. Available at: https://thecucharamountainpark.org/projects

Huerfano County. 2019. Huerfano County Public Map Viewer. Accessed on May 28, 2019. Available at: https://maps.huerfano.us/portal/apps/webappviewer/index.html?id=1db61aff668d459c902d6f4348fe6289

Iowa Pacific, "San Luis & Rio Grande Railroad," Retrieved on April 25, 2019 from https://www.iowapacific.com/railroads/san-luis-rio-grande-railroad/

Johnson, Ross B., "Geology of the Igneous Rocks of the Spanish Peaks Region Colorado," U.S. Department of Interior, 1968.

Las Animas County. 2001. Las Animas County Master Plan Zoning Map. Available at: https://www.lasanimascounty.net/images/docs/landuse/ZoningMap041301.pdf

La Veta. 2004. Town of La Veta Official Zoning Map, July 1, 2004. Available at: http://www.townofLa Veta-co.gov/LiteratureRetrieve.aspx?ID=213310

Malone, Patrick, "Sale of Rail Line Raises Fears," *Pueblo Chieftain,* November 21, 2011.

Natural Resources Conservation Service. Soil data. Available at: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1338623.html

Rio Grande La Veta Pass Route, "Excursions," Retrieved on April 25, 2019 from https://www.coloradotrain.com/

Schreck, Christopher J., "Mines of the Colorado Fuel and Iron Company," Retrieved on April 27, 2019 from http://scalar.usc.edu/works/mines-of-the-colorado-fuel-and-iron-company/allen-coal-mine?path=completed-mine-histories

Spanish Peaks, Retrieved on April 28, 2019 from https://en.wikipedia.org/wiki/Spanish_Peaks

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Census Bureau. 2010. American Fact Finder. Available at: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

U.S. Department of Agriculture, Forest Service. 2019. Downloadable GIS data. Available at: https://data.fs.usda.gov/geodata/edw/datasets.php

U.S. Department of Agriculture, Forest Service. 1984. Pike and San Isabel National Forests, Land and Resource Management Plan. Available at: https://www.fs.usda.gov/main/psicc/landmanagement/planning

U.S. Department of Transportation. 2012. Section 4(f) Policy Paper. Washington, D.C. Available at: https://www.environment.fhwa.dot.gov/legislation/section4f/4fpolicy.aspx

U.S. Environmental Protection Agency (EPA). 2013. Ecoregion Maps and GIS Data. Accessed on May 28, 2019. Available at: https://www.epa.gov/eco-research/ecoregions

U.S. Fish and Wildlife Service (USFWS). 2013. National Wetland Inventory Mapper. Accessed in May, 2019 at: http://www.fws.gov/wetlands/data/mapper.HTML

U. S. Fish and Wildlife Service (USFWS). 2016. USFWS Critical Habitat Mapped Shape File Locations. Retrieved in May 2019 from: https://ecos.fws.gov/ecp/report/table/critical-habitat.html

U.S. Fish and Wildlife Service (USFWS). 2019. *Information for Planning and Consultation (IPaC)*. Available at: ecos.fws.gov/ipac/

U.S. Geological Survey. (USGS) 2000. Digital Raster Graphic. Topographic Map for Huerfano and Las Animas Counties, Colorado. 2000.

U.S. Geological Survey. 2001. National Land Cover Dataset. Data layer for Huerfano and Las Animas Counties, Colorado. Retrieved in May 2019 from: https://gdg.sc.egov.usda.gov/

U.S. Geological Survey. (USGS) 2019. National Hydrography Dataset. Accessed in May, 2019 at https://viewer.nationalmap.gov/basic/?basemap=b1&category=nhd&title=NHD%20View