

Southern Mountain Loop

Planning and Environmental Linkages (PEL) Study

Final PEL Study Report

September 2020



Prepared for:

South Central Council of Governments
Colorado Department of Transportation
Region 2

Prepared by:

Hg Consult, Inc.
Atkins
Alta Planning + Design
Walden Mills Group
Bachman PR
Terry Surveying

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Executive Summary

The Southern Mountain Loop PEL Study, sponsored by the South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT), has produced a long-term master plan of projects for safety, multi-purpose trail and traveler amenity improvements along the Scenic Highway of Legends Byway located in Colorado's Spanish Peaks Country. Developed in coordination with agencies and communities along the byway, this plan enables CDOT and local agencies to build the plan's projects over time as funding is available. Upon completion, these improvements will fulfill the byway's transportation needs, promote the region, and protect the qualities important to both local residents and visitors to the region.



The Scenic Highway of Legends Byway is located in the heart of Spanish Peaks Country between Walsenburg and Trinidad, Colorado.

The Spanish Peaks Country in Southern Colorado is a land of legends and natural wonders. Just as in years long past, people today are drawn to the region for sightseeing and outdoor recreation.

Bearing this legacy, the Scenic Highway of Legends Byway (SHOL), extending from Walsenburg to Trinidad, traverses around the Spanish Peaks over Cucharas Pass and is the primary means of accessing the historical mountain communities and wilderness areas. For many visitors, the byway is also the principal means of experiencing the backcountry. But as a narrow two-lane rural highway, the byway has vehicular safety concerns and does not safely accommodate pedestrians and bicyclists or connect them to the numerous recreational areas and amenities.

Recognizing the scenic, historic and natural qualities of the byway, the Colorado Parks and Wildlife has identified it as the preferred route for a planned multi-use trail extending from Wyoming to New Mexico. As a part of the Colorado Front Range Trail (CFRT), this envisioned trail segment is called the Southern Mountain Loop (SML).

The Southern Mountain Loop Planning and Environmental Linkages (PEL) Study is the convergence of these transportation needs and opportunities. Its purpose is to improve safety and provide the SML trail along the byway between Walsenburg and Trinidad (i.e., the Corridor). Through technical and environmental analyses, supported by robust agency and public engagement, it provides an integrated master plan of recommended improvements. This plan provides an overall framework, with guidance and next step actions, for advancing the projects towards construction. With funding, the framework provides the basis for the subsequent more detailed environmental studies, analyses and engineering designs.

Project Recommendations

The study identified the byway’s transportation-related needs and opportunities for the improved safety and accommodation of travelers and recreationalists who live in and visit the region. Based on these needs and through a two-level alternatives evaluation and screening process, a master plan of integrated improvements was recommended. The study’s goals of improving safety for all travelers, providing a well-connected multi-use trail, preserving and promoting the region’s natural environment and communities, and complementing the byway’s continued development provided the basis for these recommendations. This master plan includes:



Highway Safety Projects - A program of corridor-wide safety projects entailing upgraded signage and pavement treatments; wider and continuous roadway shoulders; safer roadway alignments and roadside treatments in several local areas; and safer pedestrian crossings within La Veta, Cuchara and Stonewall.



Multi-use Trail Projects - A selective and narrow range of trail alternatives to be studied further either fully along the byway or along new routes independent of the byway in local areas. These local off-highway trail alternative routes are along existing railroads, within the San Isabel National Forest, or along portions of the byway too steep to accommodate all bicyclists and pedestrians.



Byway Amenity Projects - A program of new or improved byway features including scenic pull-offs, visitor centers with restrooms and traveler information, and interpretive signage to enhance the byway experience for travelers and visitors.

Trail Alternatives for More Detailed Study:

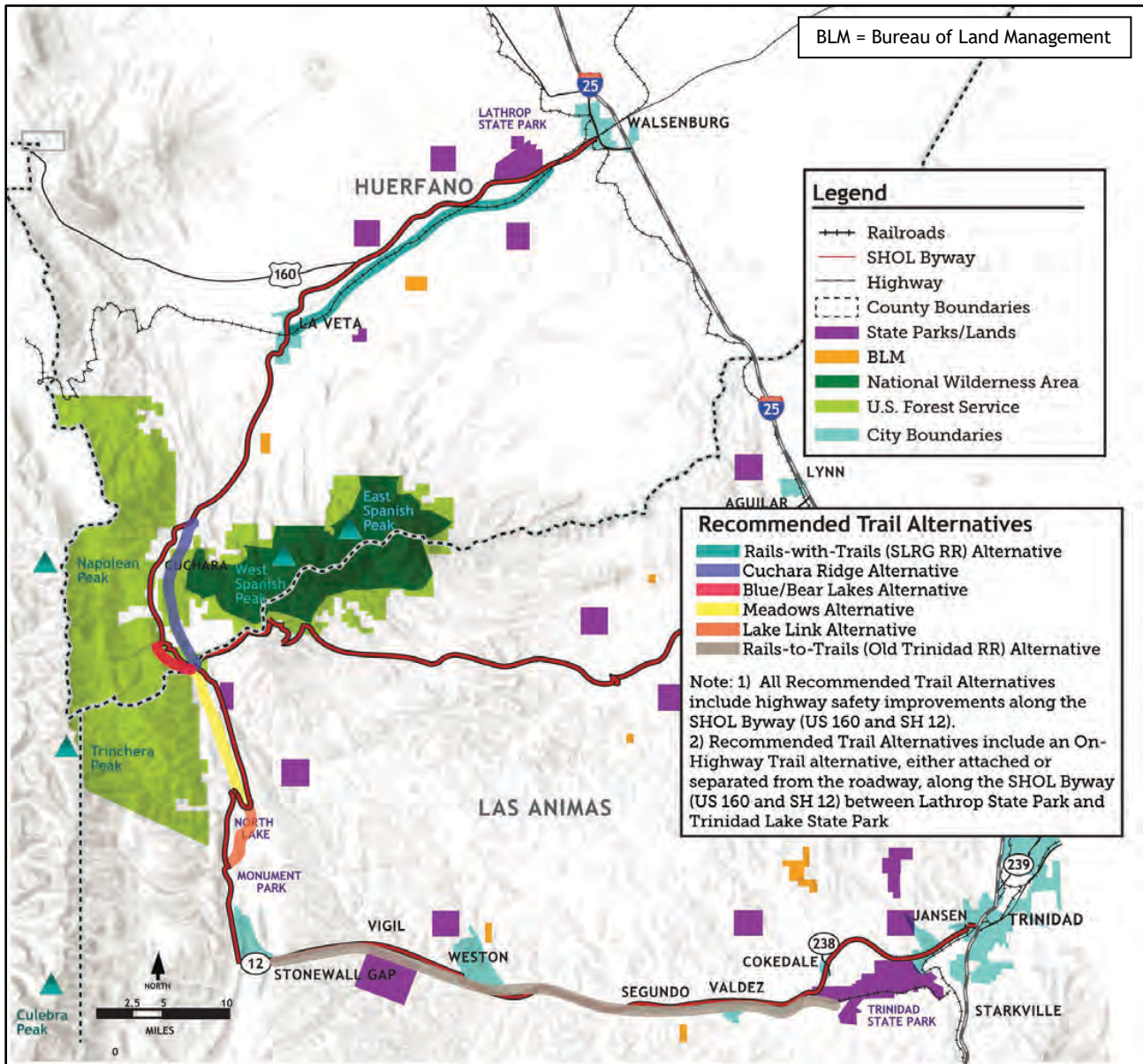
- **No-Build** - Maintain the Corridor in its existing configuration.
- **On-Highway Trail (Attached)** - Provide trail accommodations attached to the byway shoulders, in addition to the shoulder widening, as necessary, for highway safety.
- **On-Highway Trail (Separated)** - Provide a bi-directional trail along the byway separated from the roadway and within the existing CDOT right-of-way.
- **Off-Highway Trail** - Provide a bi-directional trail on an alignment separate from and independent of the byway and existing CDOT right-of-way, including:
 - Rails-with-Trails (San Luis & Rio Grande Railroad) Alternative
 - Cuchara Ridge Alternative
 - Blue/Bear Lakes Alternative
 - Meadows Alternative
 - Lake Link Alternative
 - Rails-to-Trails (Old Trinidad Railroad) Alternative

All trail improvement concepts include a common set of highway safety, byway amenity and technology improvements.



The recommended trail improvements accommodate all abilities and provide new opportunities for residents and visitors to enjoy and experience the Spanish Peaks Country.





Community and Agency Coordination

Essential to an effective and meaningful action plan is the engagement and support of those affected by and responsible for its implementation. Towards this end, at the outset, an engagement plan was defined to meaningfully receive and incorporate input from all involved. Multiple project teams and working groups were convened including a Study Steering Committee and a Technical/Stakeholder Committee. Committee engagement included the review and comment of study materials and workshops to identify and evaluate potential trail

Agency and Public Involvement At-a-Glance:

- **Study Steering Committee** - Four meetings with 12 members
- **Study Technical/ Stakeholder Committee** - Four meetings with roughly 75 members
- **Factsheets/eNewsletters** - Published and released four times
- **Events** - Two public meetings, multiple coffee chats and several one-on-one meetings
- **Project Database Contacts** - 410

alternatives. External public communications included stakeholder and public meetings, small informal meetings (coffee chats) and one-on-one meetings. Communication aids supporting and increasing public awareness included: eNewsletters, factsheets and posters (English and Spanish), mailings, posters, postcards, media relations and press releases, a study website, social media tools, and a study email database. As a result, the study's recommendations reflect the values and issues important to both agencies and the local communities.

Purpose and Need

Purpose of Study: To improve highway safety and provide a regional and local multi-use trail, completing the SML segment of the CFRT, along the Scenic Highway of Legends Byway between Walsenburg and Trinidad.

Needs:

- Reduce wild animal crashes (37 percent of crashes)
- Reduce lane departure crashes
- Reduce areas of high rear-end crashes
- Improve bicycling safety along the byway
- Improve pedestrian crossing safety in La Veta, Cuchara and Stonewall
- Provide accommodations for a multi-use trail along the Corridor
- Connect the amenities with a multi-use trail along the Corridor

The Purpose and Need defines the transportation-related needs within the Corridor and provided the basis for the study's recommendations. It also reflects the broader goals of the region and the communities along the Corridor. While the study's principle purpose is transportation related, the benefits of transportation investments can merge with other independent economic development strategies to accomplish additional and broader regional goals. A renewed vision and improvement plan for the byway, as recommended by the study, can be a driving force and catalyst in realizing the full potential of the region's existing and planned tourism-related assets and fulfilling the region's goals of economic sustainability and vibrancy.

Environmental Resources Considerations

The existing natural and manmade environment was an important consideration in the evaluation of alternatives. Study recommendations include the future consideration of these resources during the implementation of the recommended projects and further study of the trail alternatives. Moving forward, continued environmental review and agency coordination will ensure that future projects protect the resources that are important to the byway's communities and local residents.

Implementation Plan

Funding is the key trigger for advancing the recommended projects. However, due to funding limitations, all projects cannot move forward at once. A strategic and itemized approach to delivery is needed - one based on individual project priorities identified through partnerships and by leveraging available opportunities. With this approach, the full build-out of the recommended projects can be accomplished over time while providing incremental benefits to the region as each project is completed.

Project Implementation:

- **Independent and Integrated** - All projects need to have independent function and purpose, while still being integrated and coordinated with one another.
- **Priorities** - Projects need to be phased logically to address the greatest needs, provide the highest benefits, and connect with one another sequentially.
- **Trail Oversight** - A coordinated approach between all partnering agencies is needed to fund, build, operate and maintain the trail improvements.

Engagement and coordination with the public and local communities will continue to be integral to delivering the recommended projects. The PEL Study is not the final opportunity for local stakeholders to provide input and be engaged. It is the first step in a series of future public involvement opportunities.

Continued coordination and partnerships with all sponsoring and cooperating agencies will be necessary for securing funding, advancing the projects into planning or design, and maintaining the improvements. It is envisioned that each project, in varying degrees, will entail multi-agency coordination and funding. The next steps would entail:



Implementing the PEL Study project recommendations will include additional opportunities for public input and engagement.



Highway Safety Projects - Under CDOT's leadership, as funding is identified and regional priorities allow, safety projects can move forward into design. Each project would be coordinated with the trail alternatives. In addition to other considerations, which projects advance first could depend on where the safety benefits would be the greatest.



Multi-use Trail Projects - Through regional coordination, as funding is secured, additional, more-detailed local planning and environmental studies can be performed for the trail alternatives. Which study moves forward first will depend on the partnerships, the sources and amount of funding, and connecting the trail to communities and byway attractions.



Byway Amenity Projects - Led by the Byway Board in coordination with CDOT and others, as funding is secured, individual projects can move forward into design and construction. Byway projects should be prioritized based on incrementally improving the traveler's experience as they are built.



The recommended trail improvements for more detailed study include On-Highway (Attached or Separated) and multiple Off-Highway Trail Alternatives.

Introduction

The Southern Mountain Loop PEL Study presents transportation recommendations for the Scenic Highway of Legends Byway for the improved safety of travelers and recreationalists who live in and visit the Spanish Peaks Country, including a new multi-use trail along the byway.

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). Located in south central Colorado within Huerfano and Las Animas Counties, the byway provides access to historic communities and recreational activities in the heart of the Spanish Peaks backcountry for both locals and visitors. Recognizing the region's beauty and untapped potential as a recreational destination, the byway is also identified as the preferred route for the Southern Mountain Loop of the Colorado Front Range Trail (CFRT) - a planned multi-purpose trail by Colorado Parks and Wildlife (CPW) stretching from Wyoming to New Mexico along the Front Range.

The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT) have completed the Southern Mountain Loop Planning and Environmental Linkages (PEL) Study to identify highway safety, bicycle/multi-use trail, and byway amenity improvements along the byway. Based on the existing conditions and anticipated problem areas along the byway, the study's intent is to assess and identify transportation-related improvements to address the observed transportation needs and opportunities. The study provides a master plan of recommended improvement projects and actions for CDOT and local agencies to advance and implement.

Spanish Peaks Country

The Spanish Peaks Country in Southern Colorado is a land of legends and natural wonders. For centuries, explorers, settlers, and visitors have been drawn to the area's natural beauty and distinctive geology. Today, the byway provides local residents and visitors the means of accessing and experiencing these very same alluring qualities. Yet despite these innate attractions, this corner of Colorado is underutilized. Huerfano and Las Animas Counties are two of the most economically challenged and underserved counties in Colorado. While tourism has had a positive impact to date and is an important contributor to the region's vitality, the tourism economy has lagged behind other regions within the state. Tourism-related assets, such as recreational trails and the scenic byway, are integral to the region's overall quality of life and attractiveness as a place to live, work and visit. Improving highway safety and providing a multi-use trail along the byway can be an important catalyst for fully realizing the region's economic potential befitting its unique qualities.



The Scenic Highway of Legends Byway is located in the heart of Spanish Peaks Country between Walsenburg and Trinidad, Colorado.

Readers Guide:

This report is the culmination of the PEL Study. The report outline reflects the process steps for the study:

- **Introduction** - Summary of the study background, location and planning context
- **Purpose and Need** - Description of the needs to be solved by the improvements
- **Recommended Alternatives** - Description of the recommended improvements
- **Agency and Public Coordination** - Overview of the coordination activities
- **Environmental Consequences** - Review of the resources to be studied further
- **Implementation Plan** - An action plan to advance the recommended improvements



Several supporting reports produced by the study are referenced within and are available for review. Look for the Technical Reports icon to guide the reader to supporting materials available in the appendices or at:

<https://www.codot.gov/projects/co-12-sml-pel>

Planning and Environmental Linkages (PEL) Study

The PEL process is the ideal type of study for the byway. It is a corridor-based planning-level decision making tool for transportation investments. This process is not intended for immediate construction, but rather to identify at a conceptual level how to solve transportation-related needs and opportunities. The product is a long-term master plan of interrelated and integrated improvement projects, such as highway safety, trail and byway amenity projects.

This process links the study's decisions with the tenets of the National Environmental Policy Act (NEPA) - the regulatory-required procedures for developing federally funded projects. This linkage streamlines the subsequent steps. After the PEL study, before construction could begin, project funding would need to be secured, additional environmental studies would be required, and design plans would need to be developed. In concert with these steps, additional public involvement would be provided to engage agencies, local stakeholders, the general public and potentially affected landowners.

The benefits of the PEL Study for the byway include:

- Produces a long-term master plan of integrated projects that the various sponsoring agencies can implement as funding is secured leading to the full completion of projects over time.
- Assesses the natural environmental setting to balance the promotion and preservation of the qualities important to the region.
- Engages agencies, stakeholders and the general public in the decision-making process.

What is a PEL Study?

A PEL study is a process typically used to identify transportation issues, solutions and environmental concerns within a corridor. It is generally conducted before any project construction funding is identified and outlays a system of projects for subsequent development and delivery. A PEL study:

- Reviews existing environmental resources and existing infrastructure conditions.
- Identifies corridor needs and opportunities.
- Defines and evaluates potential improvements within a plan of projects.
- Develops an implementation plan for the recommended system of projects.

Upon their completion, PEL studies link the planning of projects with the identified environmental issues and the subsequent delivery of the identified projects.

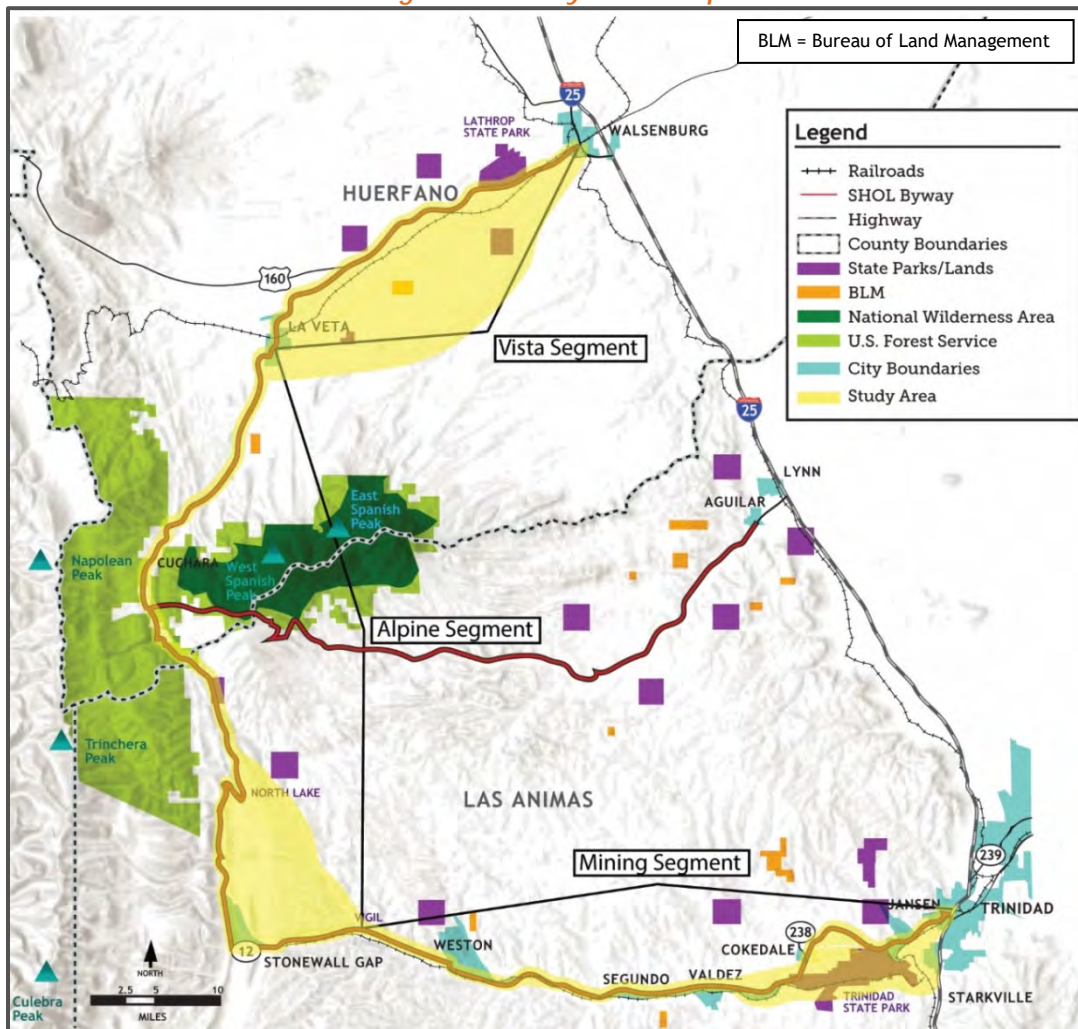
- Provides an action plan to help guide the agencies and local communities in advancing the projects towards completion and realizing the overarching goals of the master plan of projects.

Study Area and Corridor

The Study Corridor coincides with the limits and alignment of the Scenic Highway of Legends Byway. 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). Three segments comprise the Corridor - the Vista, Alpine and Mining Segments.

The Study Area encompasses all the potential and reasonable improvements considered by the study. As shown, the Study Area includes several parallel county roads and two existing railroad corridors which interact with the byway - the San Luis & Rio Grande (SLRG) Railroad extending west out of Walsenburg through La Veta and the Old Trinidad Railroad extending west from Trinidad and ending in the vicinity of Stonewall.

Figure 1: Study Area Map



Existing Transportation System

The existing transportation system within the Study Area includes highways, trails, freight railroads and byway-related amenities. Understanding how this system interacts and functions is important to identifying the needs of the Corridor and how improvements can achieve the study’s goals.



Appendix B - Existing Corridor Conditions

Highway System

The SHOL Byway is the primary means of accessing the Spanish Peaks County. With connections to I-25 to the north and south, the Cities of Walsenburg and Trinidad serve as gateways for the byway. Along its route, the byway provides connections and access to multiple small, rural communities including, from north south: La Veta, Cuchara, Stonewall, Vigil, Weston, Segundo, Valdez, Cokedale and Jansen. Its route traverses the mountainous terrain around and west of the Spanish Peaks and extends over Cucharas Pass at the county line. North of the Pass, the byway is located within and along the Cucharas River Valley. South of the Pass between Stonewall and Trinidad, the byway is aligned within and along the Purgatoire River Valley. In addition to Lathrop State Park and Trinidad Lake State Park, it provides access to the San Isabel National Forest and a number of State Wildlife Management Areas.



The byway roadway is characterized by steep grades, sharp curves, narrow shoulders and a limited roadside within the Alpine Segment.

The byway is defined by its highway design and physical elements. As shown in **Table 1**, the byway reflects a typical rural, mountainous two-lane highway with highly variable characteristics.

Table 1: Summary of the Byway Roadway Characteristics

| Design Element | Description | |
|----------------------|---|-----------------------------------|
| | US 160 | SH 12 |
| Limits (Milepost) | MP 305.0 (Walsenburg) to MP 294.1 (SH 12) | MP 0.0 (US 160) to MP 70.8 (I-25) |
| Length | 10.9 miles | 70.8 miles |
| Posted Speed | 60 to 65 mph | 25 to 65 mph |
| Number of Lanes | Two, Three and Four | Two |
| Lane Width | 12 feet | 10 to 12 feet |
| Shoulder Width | 8 to 10 feet | 0 to 8 feet |
| Right-of-way Width | 100 to 200 feet | Variable (50 to 200 feet) |
| Vertical Grade (Max) | 6% (SLRG Railroad Overpass) | 11% (Cucharas Pass) |

Bicycle/Trail System

The Study Area is a popular destination for on-highway bicycling, mountain biking, hiking and other related outdoor recreational activities. Existing facilities serving this demand include the byway and off-highway recreational trails and trailheads.

Bicycles are considered vehicles under Colorado vehicle code and are permitted on all segments of the byway. However, there are no designated bicycle facilities, such as standard, buffered or protected bike lanes. Current paved shoulders along the byway vary in width and are very narrow in most places, ranging from none to two feet. Bicyclists can use the shoulder, wherever available, but they are not designated bike facilities. There are sporadically placed “Share the Road” signs along the byway. Off-road bicyclists can use the gravel county roads and recreational trails located throughout the Study Area.



With its beautiful scenery and challenging grades, the byway attracts many serious roadway cycling enthusiasts.

Existing off-street, recreational trail facilities within the Study Area are primarily located within the various communities, the state parks and the national forest. These systems are not currently interconnected. The byway provides direct or indirect access to each of these trail systems and associated trailheads.

Within the Corridor, Walsenburg, La Veta and Trinidad each have a local trail and open space system. Each of the state parks has a network of recreational trails within their boundaries. The trail system at Lathrop State Park includes a connection with the City of Walsenburg. A future trail connection between Trinidad Lake State Park and the City of Trinidad’s trail system is currently being planned.



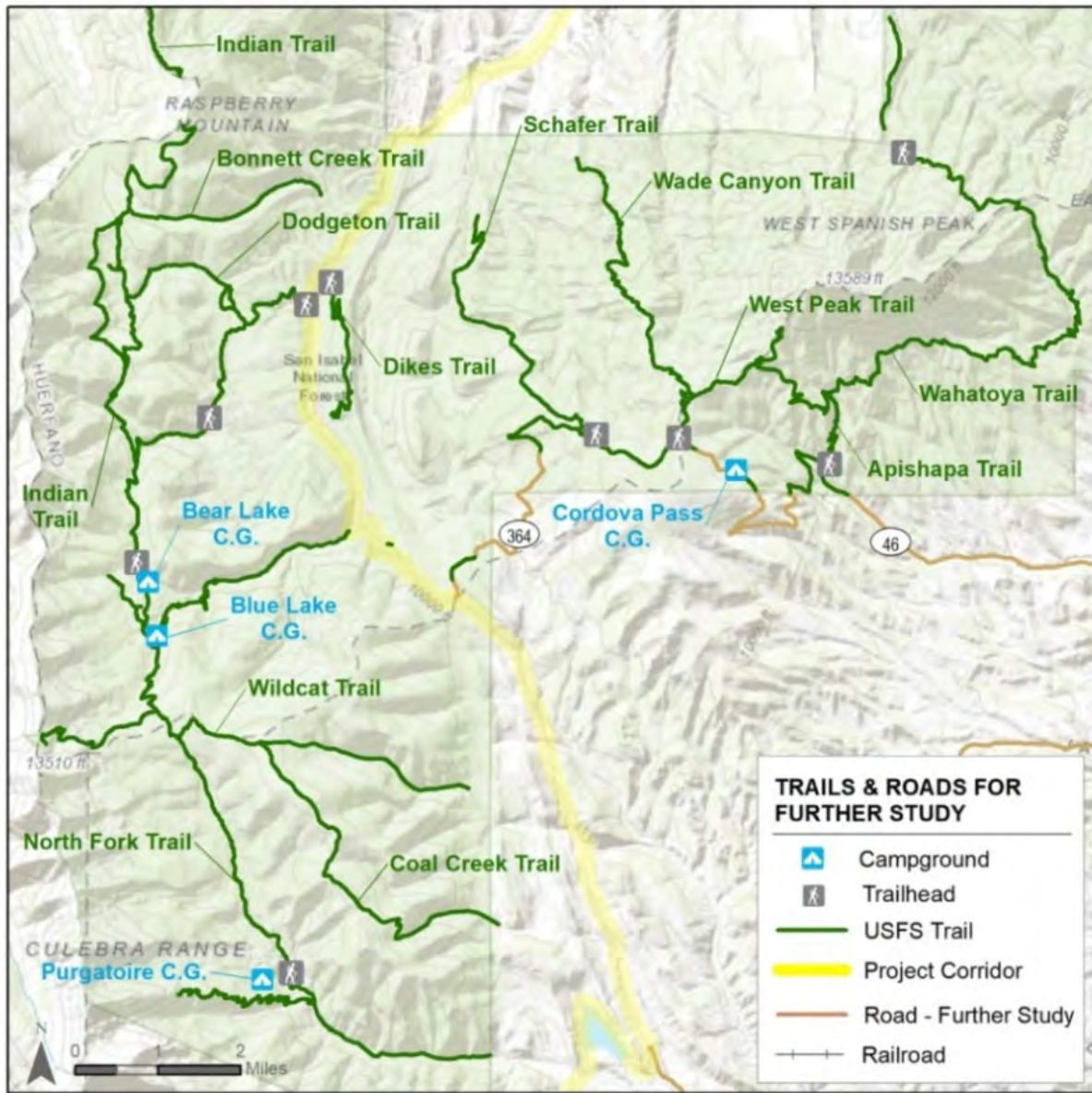
The Spring Creek Trail trailhead includes public parking and a restroom.

As shown in **Figure 2**, the extensive trail system within the national forest includes a number of trailheads and associated campgrounds. Located a short distance south of Cuchara, the Spring Creek Trailhead is the only publicly-accessible trailhead that is directly accessed from the byway. All other trails and trailheads are accessed off the byway via county or forest service roads. The Dikes Trail trailhead is located and accessed within the community of Cuchara. This trail, located within the national forest, is currently designated by the CPW as a segment of the CFRT. There are several other trailheads located a short distance off the byway, most notably: the Blue Lake and Bear Lake trailheads and campgrounds, the Spanish Peaks Wilderness Area trailheads located near Cordova Pass which is accessed off Cucharas Pass, and the North Fork Trail trailhead with access located near North Lake and includes the Purgatoire Campground (known locally as the Potato Patch Campground).



The San Isabel National Forest includes multiple campgrounds, alpine lakes and a network of hiking trails.

Figure 2: Trails, Trailheads, and Campgrounds within the San Isabel National Forest



Freight Rail System

Two existing freight rail lines are located within the Study Area. Each of these rail lines, one currently active and one inactive and salvaged, offer potential opportunities for the consideration of off-highway trail routes.

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 Cristo Mountains at La Veta Pass and into the San Luis and Rio Grande River Valleys. 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 SLRG currently operates five locomotives, five days a week.

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 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 (called the Old Trinidad Railroad) provided service and access from the mine to the main line railroad in Trinidad. Today, the railroad is inactive and the rail and ties have been salvaged. The New Elk Mine ownership is currently pursuing a financial transaction to restart the mine, including rebuilding the rail and re-establishing rail operations. The status of the financial transaction is undetermined. 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 crossings of the Purgatoire River remain intact.



The currently inactive and salvaged Old Trinidad Railroad crosses SH 12 in two locations within the Study Area.

Byway Amenity Facilities

There are a number of existing cultural, heritage and eco-tourism amenity facilities along and associated with the byway which attract visitors to the region. These amenities are designed and intended to promote and support the byway travel experience. These facilities include multiple scenic pull-off areas with kiosks and other interpretive signage or related displays associated with other adjacent publically-accessed facilities. Other amenity sites, in partnerships with the local communities and other agencies, include museums and visitor centers, such as at the state parks. Combined with pamphlets and maps, these facilities provide opportunities for travellers to learn about the history of the region as they drive the byway.



Located at Cucharas Pass, the John B. Farley Memorial Overlook provides visitors scenic views of the Spanish Peaks and the Sangre de Cristo Mountain Range to the west.

Current Planning

Previous and ongoing studies, planning efforts, and land development plans within or adjacent to the Corridor help set the stage for the PEL Study and frame its planning context. These other studies provide the basis for the interaction of this study's recommendations with past, current and future related investments within the Study Area.



Appendix B - Existing Corridor Conditions

The CFRT is a planned multi-use trail by CPW along Colorado’s Front Range. Upon completion, it will be an 876-mile shared-use trail corridor that stretches from Wyoming to New Mexico, providing a continuous connection between population centers and existing and planned trail systems. Upon completion, 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. It will be an important recreational resource and will support Colorado’s tourism, heritage, and health. The byway is identified as the planned preferred route for the Southern Mountain Loop segment of the CFRT.

Planning Context: Previous and Ongoing Planning Efforts

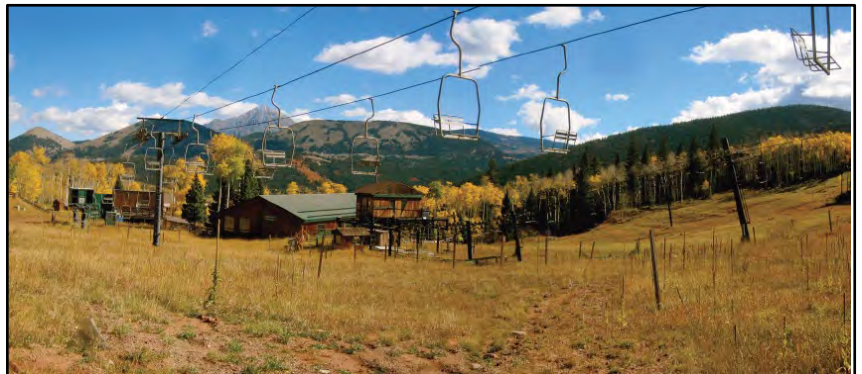
- *Colorado Front Range Trail Implementation Plan (CPW 2007)*
- *Colorado Front Range Trail: From South of Pueblo to Trinidad (CPW 2006)*
- *Scenic Highway of Legends Byway Management Plan (SHOL 2001)*
- *Scenic Highway of Legends Byway Management Plan (SHOL 2020)*
- *La Veta Parks, Open Space and Trails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

The Scenic Highway of Legends Byway, in 1989, 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.



The Spanish Peaks and the surrounding unique geologic landforms, quaint mountain communities, scenic views and recreational lands draw visitors to the Scenic Highway of Legends Byway.

Formerly the Cuchara Mountain Resort (an abandoned ski resort), the newly formed park is located a short distance south of Cuchara along SH 12. Cuchara Mountain Park, owned by Huerfano County, is a new recreation facility intended to transform the former ski resort into a sustainable recreation, community and tourist destination. The mission of the park is to create a year-round, ecologically sensitive, recreational destination for outdoor activities and education.



Huerfano County is developing the former Cuchara Mountain ski resort into a sustainable county park focused on the interaction with nature (Photo: Cuchara Mountain Park 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. This property was recently designated to become a new Colorado state park. Plans are currently underway to open the land to the public within the next five years. The property contains the notable Fishers Peak standing at an elevation of 9,633 feet. It is envisioned to develop a trail system connecting the new state park with the nearby Trinidad Lake State Park's and the City of Trinidad's trail systems.



The recent acquisition of the Crazy French Ranch property will provide public access to Fishers Peak and surrounding areas (Photo: <https://cpw.state.co.us/placestogo/parks>).

Purpose and Need

An important and foundational first step is to answer the core question “What are the study’s goals?” The Purpose and Need answers this question and defines the problems the recommended improvements are intended to solve.

The Purpose and Need defines the transportation-related needs within the Corridor. Based on an evaluation of the existing and planned infrastructure, operational deficiencies and problem areas within the Study Corridor were identified. These identified needs provided the framework for the identification and evaluation of the improvements, leading to the study’s recommendations. The Purpose and Need is a statement with itemized needs that guided the study’s decisions and defined the core reasons for the study. The Purpose and Need also reflects the broader goals of the region and the communities along the Corridor.



Appendix B -
Existing Corridor
Conditions

Purpose of the Study

The purpose of the study is to improve highway safety and provide a regional and local multi-use trail, completing the SML segment of the CFRT, along the Scenic Highway of Legends Byway between Walsenburg and Trinidad.

Identified Needs within the Study Corridor

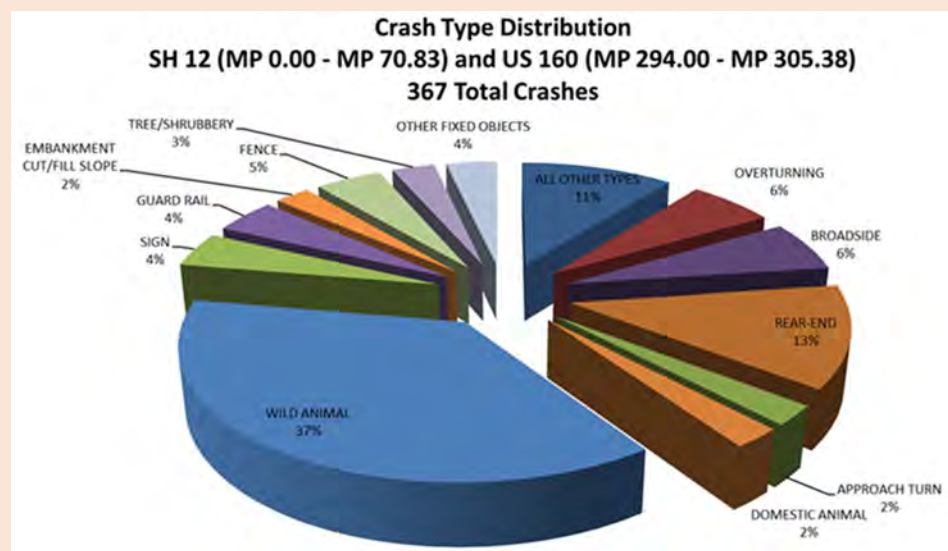
Integrated transportation-related improvements are needed to address:

- **Wild Animal Crashes** - Localized areas within the Corridor have higher concentrations of wild animal crashes.
- **Roadway Configurations (Lane Departure Crashes)** - Existing roadway configurations are inadequate and contribute to localized areas of higher lane departure crashes.
- **Transition Zones (Rear-end Crashes)** - Transition areas within the Corridor between the rural and urban-like settings have higher incident rates for rear-end crashes.
- **Bicycling Safety** - Existing roadway shoulder widths and treatments are inadequate for bicyclists.
- **Pedestrian Crossing Safety** - Existing pedestrian crossing movements in La Veta, Cuchara and Stonewall create unsafe conditions.
- **Multi-use Trail Accommodations** - There are currently no accommodations for non-motorized users, of varying abilities, to travel through and within the Corridor.
- **Multi-use Trail Connectivity** - Multi-use trail connections between the Corridor’s amenities do not currently exist.

Wild Animal Crashes

Thirty seven percent of crashes within the Corridor are caused by wild animals. This is the highest crash type within the Corridor. High incident areas are isolated from one another and correspond with floodplain areas and water sources adjacent to the byway. These high incident areas include: vicinity of the Walsenburg Reservoir and Lathrop State Park; Cucharas River crossing north of La Veta; Purgatoire River crossing east of Weston; and the Reilly Canyon and Carpios Canyon areas near Trinidad Lake State Park. Improvements at these locations are needed to mitigate and reduce wild animal crashes.

Safety Analysis Findings (2013 to 2017):



Traffic volumes along the byway, ranging from 630 to 9,200 ADT (Average Daily Traffic), are representative of a typical rural highway. The existing roadway has sufficient capacity to serve both existing and future traffic. Current and projected traffic operational issues within the Corridor are primarily related to safety.

Roadway Configurations (Lane Departure Crashes)

Vehicles leaving the travel lanes can be caused by a combination of factors, including roadway alignment, pavement edge condition, shoulder width, signage and others. These crashes can result in collisions with slopes along the roadway edge, guard rail, fencing, trees, and other adjacent fixed objects. In general, the lack of shoulders or insufficient shoulder width throughout the Corridor can be primary contributors to these crashes. In addition, identified higher concentration areas of lane departure crashes include: the sharp curve just southeast of North Lake; a roughly one-mile section near Vigil; and a roughly two-mile section between Mile Post (MP) 53.8 and 56.1 near Segundo. Improved shoulders are needed throughout, with additional roadside improvements at the high concentration locations, to reduce lane departure crashes.

Transition Zones (Rear-end Crashes)

Urban areas and transitional zones between rural and urban settings have higher incidence rates for rear-end crashes due to higher traffic volumes and a higher number of access points. Specifically, areas with the highest rate of rear-end crashes include: near and west of Walsenburg (around MP 305); within the Community of Jansen (MP 67.9 to MP 69.1); and within the City of Trinidad at the Santa Fe and Main Street intersection. Roadway improvements are needed at these locations to reduce the rear-end crashes.

Bicycling Safety

Existing roadway shoulder configurations, widths, and pavement markings are inadequate for bicycle use, creating unsafe conditions. There are sporadically placed "Share the Road" signs along the Corridor. Improved shoulders are needed along the byway to meet current CDOT safety standards.

Pedestrian Crossing Safety

Based on stakeholder and public comments and observations, existing pedestrian movements posing safety concerns occur in La Veta, Cuchara, and Stonewall. At each of these locations, pedestrians are known to cross the highway; however, there are no crosswalks or traffic signal controls. Pedestrian improvements are needed at these locations to improve crossing safety.

Multi-use Trail Accommodations

Much of the Corridor is used by bicyclists and pedestrians for recreation, commuting and special events. In addition, communities along the byway and the Spanish Peaks backcountry areas accessed from the byway are popular recreational and tourism destinations for both visitors and local residents. Some of the more popular recreational activities include bicycling, hiking and camping. These bicycling and pedestrian destinations are dispersed throughout the Corridor with the byway currently providing the principal means of accessing and connecting the uses. While usage occurs throughout, there is a prevailing demand for bicycling activity between La Veta and Stonewall - the more challenging and scenic segment of the byway. An assessment of how comfortable the byway is for bicyclists, utilizing a Level of Traffic Stress (LTS) index, indicates that a majority of the Corridor is high stress and best suited for experienced bicyclists.

Currently, bicyclists can utilize the byway for travel but there are no designated bicycle facilities along the Corridor. Some segments provide shoulders that accommodate bicyclists, to a limited extent, but a majority of the Corridor provides no or very narrow shoulders, which contributes to a high level of traffic stress for bicyclists. Furthermore, some segments have long, relatively steep grades that prevent or discourage less accomplished bicyclists from traveling the Corridor. The Corridor does not currently accommodate all cyclist types and abilities. Similarly, there are currently no designated pedestrian facilities along the Corridor, with limited sidewalk facilities in La Veta along SH 12 (Main Street).

Level of Traffic Stress (LTS) Index:

The LTS index is a measure that quantifies the amount of discomfort that people feel when they bicycle close to traffic. It is based on the roadway and shoulder configuration, pavement markings, posted speed limit and traffic volumes.

The index score is as follows:

- LTS 4 - High stress and only suitable for experienced bicyclists
- LTS 3 - Moderate stress and suitable for observant and confident adult bicyclists
- LTS 2 - Little stress but not suitable for children
- LTS 1 - Very low stress requiring little attention to the roadway

Roadways with LTS 2 or lower are considered acceptable for the average adult bicyclist.



The lack of an accommodating roadway shoulder is the primary cause for high discomfort and stress for bicyclists along the byway.

Multi-use Trail Connectivity

The local trail systems within Walsenburg, Lathrop State Park, La Veta, Cuchara, Trinidad Lake State Park, and Trinidad are not interconnected. In addition, there are several trailheads, trails, state wildlife areas, national wilderness areas, and campgrounds adjacent to and along the Corridor. However, there are no bicycle or pedestrian facilities that uniformly connect these amenities. Connections to and between these amenities through a multi-use trail would provide an interconnected system better serving current and future users.

Study Goals

This study is an opportunity to converge needed solutions to transportation problems with the broader economic goals of the region. While the principle purpose is transportation related, the benefits of transportation investments can merge with other independent economic development strategies to accomplish additional and broader regional goals. A renewed vision and improvement plan for the byway, entailing highway safety, multi-use trail, and byway-related infrastructure improvements, can be a driving force and catalyst in realizing the full potential of the region's existing and planned tourism-related assets and fulfilling the region's goals of economic sustainability and vibrancy.

Towards this end, the study goals include:

- Develop partnerships with agencies and local community leaders to carry forward the study recommendations.
- Identify and evaluate the improvement alternatives in a manner that reflects the values of the Spanish Peaks Country residents which both promote and protect the intrinsic qualities that draw visitors to the region.
- Integrate the recommended improvements in support of the ongoing planning for the byway and local, community trails.
- Provide guidance on how to potentially fund, administer and maintain a regional trail system.

Recommended Alternatives

Through a two-level alternatives evaluation and screening process, the study recommendations include an integrated master plan of projects and alternatives for more detailed study which address the safety needs and provide trail accommodations and connections along the byway. Hand-in-hand coordination with agencies and stakeholders helped form these study recommendations. All recommended trail alternatives include a common set of highway safety, byway amenity and technology project recommendations.

The wide range of challenges, needs, goals and opportunities within the Study Corridor led to the identification of many potential solutions. Based on this wide range of solutions, specifically defined alternatives were formed. A two-level evaluation and screening process in ascending level of detail then narrowed the number of alternatives and identified the study's recommendations. Many of the initial alternatives were developed directly through workshops with the study's committees and through discussions with stakeholders. Furthermore, the findings of each level's evaluation and screening were vetted with the study committees, stakeholders and the general public. The product of this process is an integrated set, or master plan, of recommended projects for further study and implementation after the PEL Study. Whereas the highway safety, byway and technology projects can move into design development and environmental analysis, each recommended trail project does not include a single alternative, but rather a narrower and refined range of alternatives to be studied further.



Technical Reports
Appendix C -
Alternatives
Report

To initiate the alternatives identification process, standard or typical trail improvement concepts were defined. Then, to form the trail alternatives, these concepts were applied in various combinations along the Corridor. Each was defined and evaluated as a standalone alternative by segment (Vista, Alpine and Mining). A No-Build Alternative was included as a basis of comparison for the evaluation and comparison of the improvement alternatives.

The Purpose and Need (Level 1) provided the foundational framework and measures for the evaluation of the alternatives. Additional evaluation factors were included for the comparative analysis (Level 2) based on the study goals, namely: leveraging partnerships (such as joint development opportunities on federal lands); protecting environmental resources; and integrating with the byway, community and local trail planning. **Table 2** provides a summary of the two-level evaluation framework and measures.

Trail Improvement Concepts:

- **No-Build** - Maintain the Corridor in its existing configuration.
- **On-Highway Trail (Attached)** - Provide trail accommodations attached to the US 160 and SH 12 roadway shoulders, in addition to the shoulder widening, as necessary, for highway safety.
- **On-Highway Trail (Separated)** - Provide a bi-directional trail along the byway separated from the US 160 and SH 12 roadways and within the existing CDOT right-of-way, to the extent possible.
- **Off-Highway Trail** - Provide a bi-directional trail on a route or alignment separate from and independent of the US 160 and SH 12 roadways and existing CDOT right-of-way.

All trail improvement concepts include a common set of highway safety, byway amenity and technology improvements.

Table 2: Alternatives Evaluation Framework

| Evaluation Issue | | Need/Goal | Level 1 | Level 2 |
|--|--|---|---------|----------|
| Purpose and Need | Safety | Reduce Wild Animal Crashes | Yes/No | See Note |
| | | Reduce Lane Departure Crashes | Yes/No | Number |
| | | Reduce Rear-end Crashes | Yes/No | Rating |
| | | Improve Bicyclist Safety | Yes/No | Rating |
| | | Improve Pedestrian Safety | Yes/No | Rating |
| | Regional/Local Trail System | Accommodate Multi-use Trail (LTS/Grade) | Yes/No | Number |
| | | Connect to Existing Amenities | Yes/No | Number |
| Environmental Considerations | Environmental Compliance and Stewardship | Avoid Biological Impacts | | Rating |
| | | Avoid Cultural Impacts | | Rating |
| | | Avoid Community Impacts | | Rating |
| | | Maximize Use of Public Lands | | Rating |
| Feasibility | Ability to Phase and Construct Trail | Reduce Challenges for Trail ROW Acquisition | | Rating |
| | | Ability to Build Trail in Useable Phases | | Rating |
| | | Applicability of Securing Trail Funding | | Rating |
| Additional Information for Comparison Purposes | | Highway Construction Costs | | Number |
| | | Trail Construction Costs | | Number |
| | | Amount of Trail in CDOT ROW | | Number |
| | | Number of Highway/Trail At-grade Crossings | | Number |
| | | Agency/Public Stakeholder Support | | Rating |

Note: Because the Wild Animal Crash mitigation would be consistent for and independent of all the trail alternatives and would not affect the screening process, this factor was normalized for the Level 2 evaluation. Additional study would be necessary by CDOT to determine the best wildlife safety improvements at each high crash concentration area.

Trail Design Intent and Guidelines

To define and evaluate the full range of potential trail route alternatives, the Trail Design Intent and Trail Design Guidelines were established for the study. The Trail Design Intent provided an overall approach to the trail route planning based on the overarching design objectives from the CFRT Master Plans. Accordingly, corresponding evaluation factors were developed, as included in the Alternatives Evaluation Framework (see **Table 2**). It provided the overall guiding philosophy for how best to apply the trail improvement concepts to achieve the desired outcomes. The Trail Design Guidelines provided the basic design criteria and guidance for the conceptual trail design. These criteria are an amalgamation of CDOT guidance and design parameters established by the CFRT Master Plans and reflect the Design Intent.

Trail Design Intent

The overall design objectives for the trail route planning were based on the master planning approach for the CFRT. These plans set forth the vision, principles, and goals that serve to guide all aspects of the trail’s development; alternatives development, alignment locations, design and construction; and long-term operations and maintenance.

In summary, the CFRT is intended to be a continuous trail from New Mexico to Wyoming that will connect, enhance, and preserve local communities, landscapes, cultural and outdoor recreational amenities along Colorado’s Front Range. It would be a non-motorized, off-road/off-highway facility (wherever feasible) where pedestrians, hikers, bicyclists, equestrians, and other users would only interface with motor vehicles at limited locations (e.g., roadway crossings). The usability of and access to the trail for the full spectrum of ages and physical abilities is central to this vision.

Similarly, a trail that is safe for its users in regard to its location and design is key. Feasibility of the trail’s build out depends heavily on identifying and securing adequate right-of-way. So the potential and preferred utilization of public lands, existing easements, and existing right-of-way is recognized in the master plans. Finally, it’s recognized that stewardship of environmental resources and avoidance of significant impacts is important both during construction and long-term operation and maintenance of the trail.

Based on these objectives, the overall approach to the trail route planning and alternatives definition for this study entailed utilizing off-highway opportunities to the fullest extent practicable and feasible. Based on key indicators of potential feasibility and compatibility, all reasonable off-highway trail routes were identified and considered. However, these opportunities are limited and do not extend fully through the Corridor. Due to a number of factors and considerations, routing options within some portions of the Corridor are limited to on-highway applications. The Design Intent therefore prioritized off-highway routing opportunities according to the following conditions along the Corridor and as described in **Table 3**:

1. Wherever safety issues due to traffic discomfort (LTS) are prohibitive or the need for a grade-separated crossing exists.
2. Locations where Trail Design Guidelines compliance, such as vertical grade, is not possible.
3. Wherever the existing right-of-way width along the byway is constraining.
4. Wherever there are reasonable and compelling opportunities to utilize off-highway corridors to better fulfill the design objectives.

Table 3: Trail Route Planning Approach

| Objective | Approach | Evaluation Factor (See Table 2) |
|-------------------------------------|--|--|
| Promote User Experience | Prioritize a separated trail and utilize available and reasonable opportunities for natural, off-highway routes for users to experience natural setting, leisure and reduced stress. | % of Route with LTS < 3 (Accommodate Multi-use Trail) |
| Accommodate all Users and Abilities | Provide a paved surface with a minimum width of six to eight feet and vertical grades that accommodate all abilities. | % Route with Grades < 6% (Accommodate Multi-use Trail) |
| Safe Highway Crossings | To the extent possible, utilize existing grade-separated crossings. At-grade crossings should consider safety treatments as appropriate. | Number of Highway/Trail At-grade Crossings |
| Ease of Right-of-way Acquisition | Conform to terrain and topography utilizing and maximizing, to the extent possible; 1) existing compatible corridors where impacts or disruptions have already been incurred (i.e., roadways, railroads, utilities), 2) public lands where likelihood of joint use arrangements are more likely, and 3) larger parcel landholdings while avoiding unnecessary property bifurcations and uneconomical remnants. | Maximize Use of Public Lands (Rating) and Reduce Challenges for Trail ROW Acquisition (Rating) |
| Connect to Communities/Attractions | Identify communities, trailheads, public lands, trailheads and byway amenities to ideally be connected by the trail. | Number of Connections to Existing Amenities |
| Conserve Environmental Resources | Avoid unnecessary impacts to the manmade and natural environment with the intent of promoting and preserving the environment. | Avoid Biological Impacts, Cultural Impacts and Community Impacts (Ratings) |

Trail Design Guidelines

The Trail Design Guidelines used for the study were developed from current CDOT standards and guidance from the CFRT Master Plans, as shown in **Table 4**. These criteria were uniformly applied, at a conceptual level, to all trail alternatives. Following the study, more detailed design criteria would be developed and applied. In subsequent design, the CDOT guidance, at a minimum, would apply to any trails or segments of trails constructed within CDOT right-of-way. As such, the CDOT guidelines should be followed for the On-Highway Trail Alternatives. For the Off-Highway Trail Alternatives, there is potentially greater design flexibility and determinations on the appropriate design guidance would need to be made by the project sponsors. As shown, for this study, CDOT guidance was assumed in instances where the CFRT Master Plans do not provide guidance.

Table 4: Trail Design Guidelines

| Trail Design Standard | CDOT (AASHTO) | CFRT - Rural Setting | PEL Study |
|-----------------------|---|---|---|
| Use | Non-motorized (except for maintenance vehicles) | Non-motorized (except for maintenance vehicles) | Non-motorized (except for maintenance vehicles) |
| Design Speed | 18 mph (Flat) and 30 mph (Hilly) | Does not contain guidelines relating to design speed | 18 mph (Flat) and 30 mph (Hilly) |
| Width | 10 feet (minimum) - 8 feet (minimum) may be used for short sections of constrained conditions | 6 feet (minimum) for rural context | 8 feet (typical) - further study would be needed to identify possible applications of 6 feet (minimum) |
| Surface | Asphalt and Portland cement concrete | Concrete, gravel or crusher fine | Asphalt |
| Vertical Grade | 5% (maximum) - utilize switchbacks and resting intervals every 200 feet (max) | 8% (maximum) for rural context | 6% (maximum) to accommodate widest range of ages and abilities |
| Vertical Clearance | 10 feet (desirable) and 8 feet (minimum) when specific conditions apply | Does not include guidelines specific to vertical clearance | 10 feet (desirable) and 8 feet (minimum) when specific conditions apply |
| Horizontal Separation | 5 feet (minimum) from back of curb or edge of pavement, otherwise a suitable barrier should be provided | Does not contain guidelines specific to horizontal separation | 5 feet (minimum) from back of curb or edge of pavement, otherwise a suitable barrier should be provided |

The PEL Study is not a detailed design study. Rather, it is a planning-level study and the level of detail provided for the alignments, typical sections and illustrations is conceptual only. The intent is to illustrate the form, function and general location of the trail concepts and alternatives analyzed. A follow-up engineering and environmental analysis, followed by engineering design plans, would be required before construction of any trail alternative could commence.

As stated, a primary objective for the CFRT is to provide a trail that is accessible and enjoyable to all ages and physical abilities. Gradient is a key factor when considering the accommodation of all users. As shown, the recommended maximums are five percent (CDOT) and eight percent (CFRT Master Plan). Accounting for those two values, the PEL Study identified six percent as the desired maximum for this study.

In June 2006, the CFRT Development Guidelines (Guidelines) were updated to include AASHTO (American Association of State Highway Transportation Officials) and ADA (Americans with Disabilities Act) standards as well as a recommendation for local managing agencies to abide by all applicable local, state, and federal regulations. Current CDOT standards incorporate ADA standards.

Subsequent trail design and construction would need to appropriately include compliance with these ADA standards.

Signage would be included with the trail design, including wayfinding, route designation and operational warnings. Section 14.2 (Shared Use Paths) of the *CDOT Roadway Design Guide* provides guidance relating to the placement of signage along trails and drainage.

At several points along the Corridor, there are opportunities to expand and improve existing trailheads or create new trailheads. These would be strategically located to give trail users a chance to access a unique feature or amenity, start or end a trip, rest, confirm route information, use a restroom, or leave a vehicle for shuttling purposes. Depending on a trailhead's location and what entity owns the right-of-way, different design recommendations or requirements may apply and would need to be confirmed as part of additional planning and before construction of the improvements. Potential owners and sponsors could include local communities (e.g., Stonewall), Huerfano and Las Animas Counties, CDOT, the USFS, CPW, or private landowners.

Level 1 (Purpose and Need) Evaluation

Pursuant with the two-level evaluation process, the Level 1 evaluation assessed each of the initial alternative's ability to fulfill the Purpose and Need. The findings of the Level 1 screening were reviewed with the study committees and were presented at a series of public open houses for feedback and confirmation.

The Level 1 evaluation and screening asked and assessed whether or not each alternative answered affirmatively the following questions, as per the Purpose and Need:

- **Safety** - Does the alternative improve the conditions that contribute to the higher crash rates and address bicycle/pedestrian safety?
- **Regional and Local Multi-use Trail** - Does the alternative provide accommodations and connections for non-motorized users along the Corridor?

This screening process concluded that providing highway safety improvements alone, as standalone improvements, would not sufficiently fulfill the Purpose and Need due to the lack of trail accommodations and connections. For this reason, providing only highway safety improvements was eliminated as a standalone alternative. However, highway safety improvements were uniformly included in all trail alternatives carried forward as a supplemental improvement.

Of the Level 1 Trail Alternatives, the Level 1 screening concluded that the Off-Highway Trail Alternative along County Road 21.6, located within the Alpine Segment in Las Animas County between North Lake and Vigil, was eliminated from further consideration due to safety concerns and the bypassing of important attractions along the Corridor, namely Monument Lake and the community of Stonewall. All other trail alternatives were carried forward into the Level 2 evaluation.

Level 2 (Comparative) Evaluation

The Level 2 evaluation and screening provided the basis for the PEL Study recommendations. Per the expanded evaluation criteria, which in addition to the Purpose and Need included environmental resource considerations, feasibility measures, and other comparative factors, the screening identified which alternatives were recommended for additional study following the PEL Study and which were not recommended. The evaluation was based on an overall and relative comparison of the benefits or impacts of each alternative per the evaluation factors.

Based on the preponderance of the evaluation findings, the Level 2 screening concluded that the following trail alternatives were Not Recommended:

- **Vista Segment** - The Off-Highway Trail Alternatives along the county roads between Walsenburg and La Veta, including a combination of County Roads 340 and 358 and a combination of County Roads 340 and 350, were not recommended. These findings were due primarily to the comparatively lower benefits for the ability to build and maintain the trail. Underlying each alternative is the incompatibility of the trail concept with the maintenance activities for the unimproved and adjacent county roads.
- **Alpine Segment** - The Off-Highway Trail Alternative along the Cucharas River, located within and near Cuchara, was not recommended. This finding was due to comparatively higher biological and cultural impacts, a notably higher number of property parcel impacts, and generally lower public support.
- **Mining Segment** - The Off-Highway Trail Alternative along the Trinidad Waterline route was not recommended. Due to its circuitous route and steep terrain in some areas, this alternative would not comparatively accommodate trail users, would have safety concerns due to a higher number of highway crossings, and would have a low ability to be implemented.

All other trail alternatives were recommended and are included in the PEL Study’s recommendations.

Summary of Study Recommendations

Based on the two-level screening process, a set of recommended highway safety improvements, trail alternatives, byway-related amenity improvements, and technology improvements was identified (see **Table 5**). The recommended highway safety improvements directly address the issues causing the higher crash rates within the Corridor and address bicycle safety and localized areas of pedestrian crossing concerns. The recommended highway improvements are consistent and are included in each recommended trail alternative. Similarly, the recommended byway amenity and technology improvements are consistent for each trail alternative.

Table 5: Recommended Trail Alternatives

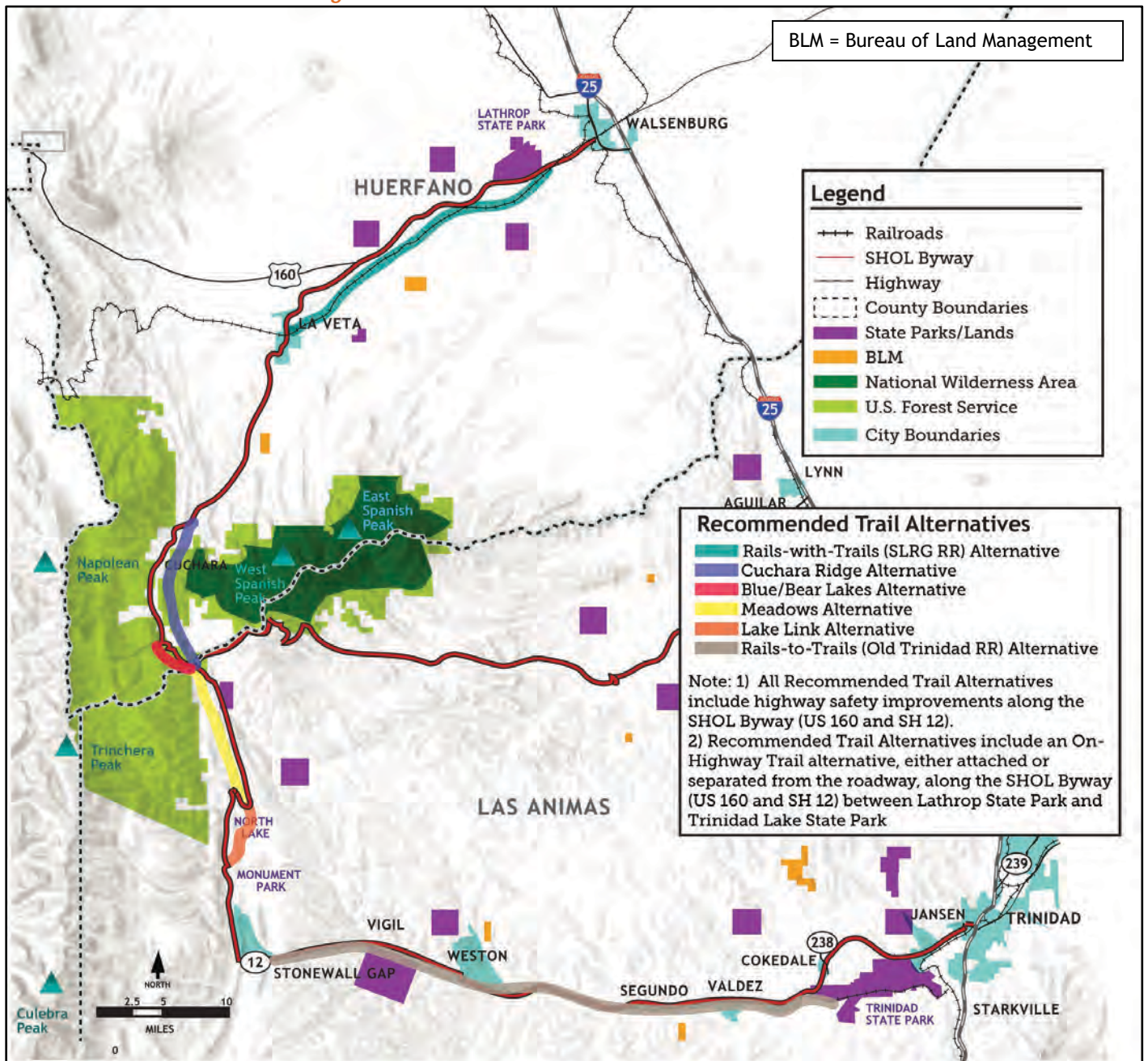
| Recommended Alternative ⁽¹⁾ ⁽²⁾ | Concepts | | | | Segment | | | Limits | |
|---|-----------------------------------|-------------------------|--------------------------|---------------|---------|--------|--------|------------------------|-----------------------|
| | No-Build | On-Hwy Trail (Attached) | On-Hwy Trail (Separated) | Off-Hwy Trail | Vista | Alpine | Mining | Begin | End |
| No-Build | ✓ | | | | ✓ | ✓ | ✓ | Walsenburg | Trinidad |
| On-Highway Trail (Attached) | | ✓ | | | ✓ | ✓ | ✓ | Lathrop State Park | Trinidad Lake SP |
| On-Highway Trail (Separated) | | | ✓ | | ✓ | ✓ | ✓ | Lathrop State Park | Trinidad Lake SP |
| Off-Highway Trail | Rails-with-Trails (SLRG RR) | | | ✓ | ✓ | | | Lathrop State Park | North La Veta (SH 12) |
| | Cuchara Ridge | | | ✓ | | ✓ | | MP 14 (SH 12) | Cucharas Pass (SH 12) |
| | Blue/Bear Lakes | | | ✓ | | ✓ | | FSR 422 (SH 12) | Cucharas Pass (SH 12) |
| | Meadows | | | ✓ | | ✓ | | Cucharas Pass (SH 12) | North Lake (SH 12) |
| | Lake Link | | | ✓ | | ✓ | | North Lake (SH 12) | Monument Lake (SH 12) |
| | Rails-to-Trails (Old Trinidad RR) | | | ✓ | | | ✓ | Near Stonewall (SH 12) | Trinidad Lake SP |

Notes: (1) No-Build Alternative is carried forward for comparison purposes.

(2) All trail alternatives include Highway Safety, Byway Amenity and Technology Improvements.

As shown, the recommendations for more detailed study include both On-Highway Trail (Attached or Separated) and the Off-Highway Trail Alternatives. The On-Highway Trail Alternatives extend fully through the Corridor, connecting to Lathrop State Park to the north and Trinidad Lake State Park to the south. The Off-Highway Trail Alternatives are isolated and independent alternatives located within the Corridor - none extend fully through the Corridor. Each would terminate either at one of the state parks or with a connection to the trail along the byway. All would require connections to the On-Highway Alternatives outside of their limits to extend through the Corridor. More detailed study and analysis will be required to determine which of these alternatives would be preferred for the CFRT. **Figure 3** presents a map of the recommended trail alternatives.

Figure 3: Recommended Trail Alternatives



Highway Safety Improvement Recommendations

The recommended highway safety improvements include general safety upgrades, shoulder widening to meet current CDOT standards, and local improvements to address isolated safety needs, described as follows:

- **General Safety** - 1) Provide edge line rumble strips along the full length of the Corridor to reduce run off the road crashes; 2) Renew pavement striping and retroreflectivity of all existing signs; 3) Replace rigid delineators with flexible delineators; 4) Conduct a review and correction, as necessary, of advanced curve warning signs and chevrons; and 5) Consider conducting spot speed studies to evaluate the appropriateness of existing posted speed limits.
- **Wildlife Crossing Improvements** - There are four areas within the Corridor with higher concentrations of wildlife crashes: Martin Lake to Walsenburg Reservoir, Cucharas River north of La Veta, Purgatoire River east of Weston, and Reilly Canyon and Carpios Canyon near Trinidad Lake. Each of these areas is in the vicinity of water sources such as canyons, rivers, and lakes that are in close proximity to the highway. At each location, additional study would be performed by CDOT to determine the extent of the need and recommended safety measures.
- **Roadway Shoulder Widening Improvements** - Construct and widen the existing roadway paved shoulders as shown in **Table 6**.

Table 6: Recommended Roadway Shoulder Widths

| <i>Location</i> | <i>Existing Paved Shoulder Width</i> | <i>Recommended Paved Shoulder Width</i> | <i>Widen Paved Shoulder</i> |
|--|--------------------------------------|---|-----------------------------|
| Vista - Walsenburg to La Veta | | | |
| Walsenburg to US 160/SH 12 Intersection | 8' - 10' | 8' | 0' |
| US 160/SH 12 Intersection to La Veta (Moore Ave) | 3' | 6' | 3' |
| Alpine - La Veta to Vigil | | | |
| Moore Ave to Oak St/Grand Ave Intersection | 10' | 8' | 0' |
| Oak St/Grand Ave Intersection to MP 5.8 | 5' | 8' | 3' |
| MP 5.8 to Cuchara | 0' - 2' | 8' | 6' - 8' |
| Cuchara to Monument Lake | 2' | 6' | 4' |
| Monument Lake to Vigil | 2' | 4' | 2' |
| Mining - Vigil to Trinidad | | | |
| Vigil to MP 47.4 | 3' - 5' | 4' | 0' - 1' |
| MP 47.4 to MP 52.0 | 0' - 2' | 4' | 2' - 4' |
| MP 52.0 to Co Rd 41.6 (MP 53.7) | 6' | 4' | 0' |
| Co Rd 41.6 (MP 53.7) to Co Rd 47.7 (Valdez) | 2' | 4' | 2' |
| Co Rd 47.7 (Valdez) to Co Rd 55.7 (MP 61.4) | 2' | 8' | 6' |
| Co Rd 55.7 (MP 61.4) to Co Rd 65.4 (MP 68.1) | 8' | 8' | 0' |
| Co Rd 65.4 (MP 68.1) to Trinidad (Nickerson Ave) | 2' | 8' | 6' |
| Nickerson Ave to I-25 | 10' | 8' | 0' |

- **US 160 Walsenburg RR Crossing Improvements** - Perform a safety review to study the queue lengths in the field at the railroad crossing and, if appropriate, provide additional advance railroad crossing signs with train-activated flashing lights to provide more advanced warning of stopped traffic.

- **La Veta Pedestrian Crossing Improvements** - Construct improved pedestrian crossings with new signage, striping, and ADA compliant ramps at those locations with higher concentrations of pedestrians crossing the street along Main Street (SH 12) within the downtown area.
- **Cuchara Pedestrian Crossing Improvements** - Construct a new sidewalk(s) along SH 12 connecting the downtown area to the residential areas and community center to the south. Designated signed and striped pedestrian crossing(s) on SH 12 would be included to safely connect the residential areas west of SH 12 with the residential and commercial areas on the other side.
- **North Lake Curve Improvements** - Fully pave the shoulder up to the existing guardrail with asphalt to help errant vehicles recover before impacting the guardrail. In addition, it is recommended to field review the adequacy of existing advanced curve warning signage, especially as it relates to the compound horizontal curvature on the northbound approach to the curve.
- **Stonewall Pedestrian Crossing Improvements** - Construct a new sidewalk along SH 12 connecting the residential areas to the main commercial area. It is recommended the sidewalk include a designated, signed and striped pedestrian crossing at the main commercial area.
- **Segundo Area Roadway Improvements** - In addition to shoulder widening, provide improved access management for numerous driveways and clearly defined roadside parking areas, bike lane designations, and sidewalks. The improved roadway would include striping and a curb and gutter section. Advanced reduced speed signage is also recommended.
- **Jansen Area Roadway Improvements** - In addition to shoulder widening, provide an improved roadway curb and gutter section. It is also recommended that consolidation of some entrances into single points of access be considered to improve safety through this area.
- **Santa Fe/Main Street Intersection Improvements** - It is recommended the intersection be further investigated. Depending on the study's findings, the intersection could be a good candidate for a roundabout to reduce crashes and crash severities. Another potential option would entail the signalization of the intersection, but should be further investigated based on more detailed traffic and crash data.

On-Highway Trail Recommendations

On-Highway Trail (Attached) Alternative

This alternative would entail providing a multi-use trail contiguous with (attached to) the existing lanes of travel along US 160 and SH 12 through the full length of the Corridor (see **Figure 4** and **Table 7**). Throughout the Corridor, existing shoulders in each direction would be widened as necessary, in addition to the highway safety widening, to fully accommodate bicyclists and pedestrians, as follows:

- The trail would be entirely within CDOT right-of-way, to the greatest extent feasible, and utilize as much of the existing roadway shoulder(s) as possible.
- The trail would extend from the entrance of Lathrop State Park to the entrance to Trinidad Lake State Park.

- Consistent with CDOT design standards identified in Chapter 14 of CDOT’s *Roadway Design Guide*, the trail would be a minimum of eight-feet wide along the roadway shoulder in each direction providing two directional shared-use paths.
- Several elements would be considered to help distinguish the facility as a multi-use trail such as pavement markings and Share the Road signs.
- Existing bridge structures would be widened consistent with the approach roadway shoulder widths.

Figure 4: On-Highway Trail (Attached) Alternative Typical Section

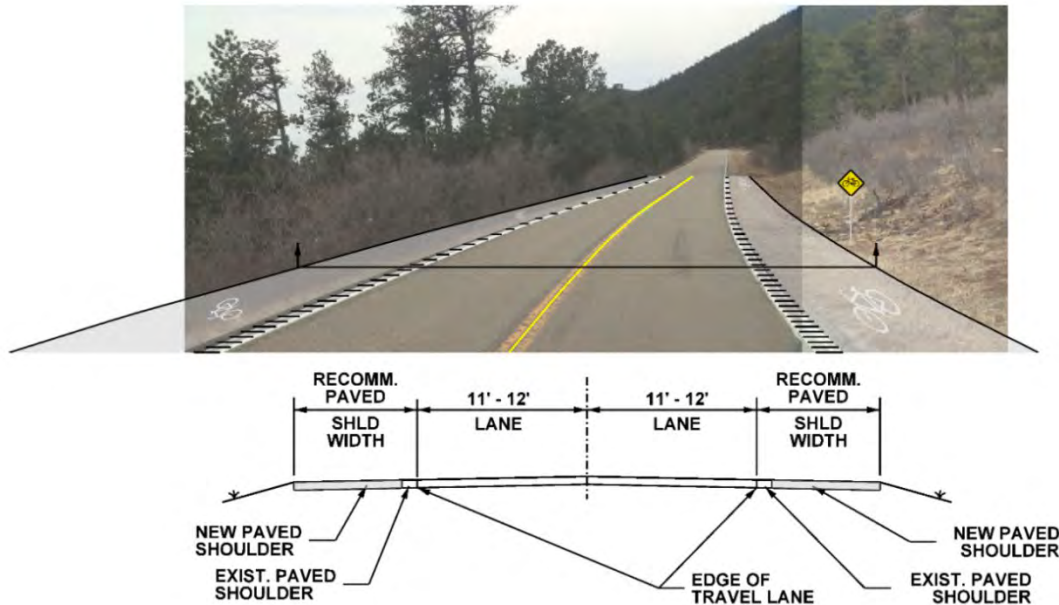


Table 7: On-Highway Trail (Attached) Alternative Shoulder Widths

| Location | Existing Paved Shoulder Width | Recommended Paved Shoulder Width | Widen Paved Shoulder |
|--|-------------------------------|----------------------------------|----------------------|
| Vista - Walsenburg to La Veta | | | |
| Walsenburg to US 160/SH 12 Intersection | 8' - 10' | 8' | 0' |
| US 160/SH 12 Intersection to La Veta (Moore Ave) | 3' | 8' | 5' |
| Alpine - La Veta to Vigil | | | |
| Moore Ave to Oak St/Grand Ave Intersection | 10' | 8' | 0' |
| Oak St/Grand Ave Intersection to MP 5.8 | 5' | 8' | 3' |
| MP 5.8 to Cuchara | 0' - 2' | 8' | 6' - 8' |
| Cuchara to Monument Lake | 2' | 8' | 6' |
| Monument Lake to Vigil | 2' | 8' | 6' |
| Mining - Vigil to Trinidad | | | |
| Vigil to MP 47.4 | 3' - 5' | 8' | 3' - 5' |
| MP 47.4 to MP 52.0 | 0' - 2' | 8' | 6' - 8' |
| MP 52.0 to Co Rd 41.6 (MP 53.7) | 6' | 8' | 2' |
| Co Rd 41.6 (MP 53.7) to Co Rd 47.7 (Valdez) | 2' | 8' | 6' |
| Co Rd 47.7 (Valdez) to Co Rd 55.7 (MP 61.4) | 2' | 8' | 6' |
| Co Rd 55.7 (MP 61.4) to Co Rd 65.4 (MP 68.1) | 8' | 8' | 0' |
| Co Rd 65.4 (MP 68.1) to Trinidad (Nickerson Ave) | 2' | 8' | 6' |
| Nickerson Ave to I-25 | 10' | 8' | 0' |

The On-Highway Trail (Attached) Alternative would provide a contiguous eight-foot shoulder on each side of the roadway for the full extent of the project corridor, from Lathrop State Park to Trinidad Lake State Park. Relative to the other trail alternatives, this would provide the most direct connections to local communities (e.g., Cuchara) as well as existing and future byway amenities directly connected to the highway (e.g., restrooms, trailheads, viewing areas, and interpretive kiosks). For areas where the alternative passes through a community, the form of the trail is likely to vary from the eight-foot shoulder. For example, the trail width could taper but elements such as signage or pavement markings could be added to signify the continuance of the trail through the community.

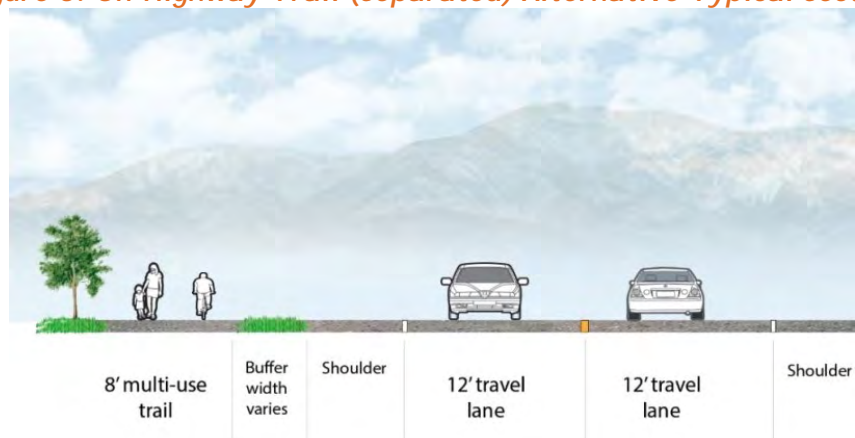
The uniform addition of an eight-foot shoulder would reduce the level of traffic stress experienced by trail users. However, the trail would still be attached to the roadway so reductions in stress would not be as significant as they would be for the on-highway separated concept or for an off-highway trail. Although there would be treatments to signify that the shoulder is a multi-use trail, there would not be any vertical structures to prohibit motor vehicles from entering the shoulder and using it as a break down lane or to temporarily stop to take photos, for example. Furthermore, the trail would generally need to remain true to the existing gradient of the roadway which exceeds six percent in some locations.

On-Highway Trail (Separated) Alternative

This alternative includes providing a multi-use bi-directional trail that would generally follow the existing alignments of US 160 and SH 12 within the existing CDOT right-of-way to the greatest extent possible (see **Figure 5**). The bi-directional trail would be physically separated from the existing roadway by a vegetative buffer, a vertical element or possibly some combination thereof. Throughout the Corridor, the trail would be constructed as follows:

- The trail would extend from the entrance to Lathrop State Park to the entrance to Trinidad Lake State Park.
- Consistent with CDOT design standards identified in Chapter 14 of CDOT's *Roadway Design Guide*, the trail would be a minimum of eight-feet wide.
- New cross drainage bridge structures would be provided adjacent and parallel with existing roadway bridges.

Figure 5: On-Highway Trail (Separated) Alternative Typical Section



The On-Highway Trail (Separated) Alternative would provide an eight-foot multi-use trail on one side of the roadway for the full extent of the Corridor, from Lathrop State Park to Trinidad Lake State Park. This would be a non-motorized facility with the only exception being occasional usage by maintenance vehicles.

Given the intent of this alternative to stay within the CDOT right-of-way as much as possible, the trail would essentially follow the alignment of the roadway with limited deviation. As such, it would provide direct connections to existing communities and amenities, both existing and future, along the Corridor. The complete separation from the existing roadway would further reduce the level of traffic stress for trail users and provide a facility that is likely more inviting to a wider range of ages and abilities. With limited exceptions, the trail would generally have the same gradient as the roadway, but given the physical detachment, there would be some design flexibility (though limited) to address areas with grades exceeding six percent.



Illustration of the On-Highway Trail (Separated) Alternative and improved shoulder for highway safety.

On-Highway Trail Compatibility Analysis

Pursuant with the trail planning approach, an analysis of the two On-Highway Trail Alternatives was performed to provide additional information regarding their compatibility with the identified approach objectives. This information is intended to assist in future, more detailed considerations of these alternatives in subsequent studies following the PEL Study. This analysis evaluated in more detail the following objectives:

- Promote User Experience** - Based on available LTS research and guidance for trail applications along a roadway, and the goal of providing LTS 2 or better, the portions of the byway which would not be compatible for the On-Highway Trail (Attached) Alternative were identified. These incompatible segments were based on traffic volumes greater than 7,000 ADT (Average Daily Traffic) and posted speeds greater than 45 mph.
- Accommodate all Users and Abilities** - All segments of the byway with vertical grades in excess of six percent were identified. Within these segments, with lengths greater than roughly 1,000 feet, neither of the two on-highway trail alternatives would be compatible and off-highway trail alternatives should be considered.
- Safe Highway Crossings** - Existing bridges along the byway were assessed regarding vertical clearance. All existing grade separations with vertical clearance in excess of eight feet were considered as potentially compatible. Each of these locations could provide opportunities for the on-highway trail to safely cross the byway.

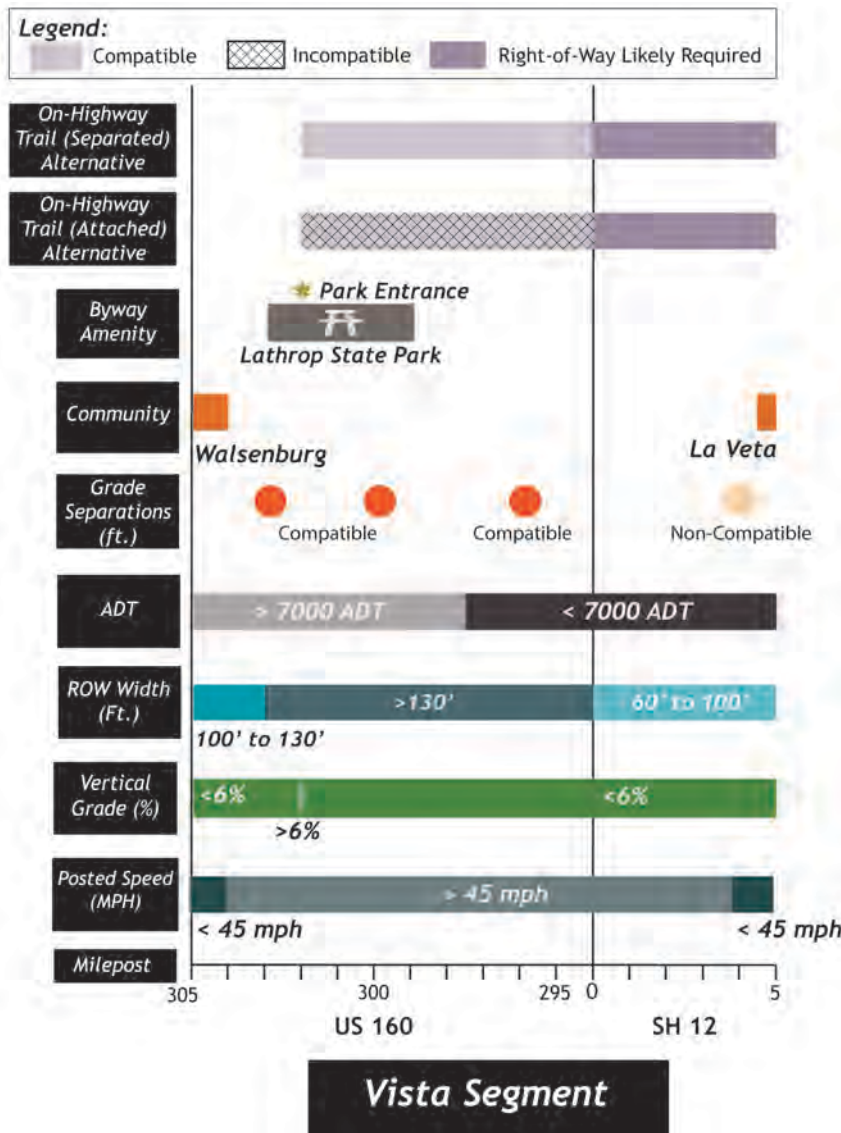
| On-Highway Trail LTS Analysis | | Traffic | |
|----------------------------------|----------|------------------------|------------------------|
| | | < 7,000 ADT | > 7,000 ADT |
| Posted Speed | > 45 MPH | Attached/ Separated | Separated |
| | < 45 MPH | Attached/ Separated | Attached/ Separated |

Separated = Trail should be separated
 Attached/Separated = Trail may be separated or attached

- Ease of Right-of-way Acquisition** - Based on generalized typical sections for the two On-Highway Trail Alternatives, an analysis was performed based on the normalized existing right-of-way widths for the byway. This analysis indicates the portions of the byway where the two alternatives would generally be compatible with current right-of-way. For the analysis, right-of-way widths in excess of 130 feet would be compatible with either alternative. For widths between 100 and 130 feet, it is likely that some additional right-of-way would be required for the separated trail. For widths less than 100 feet, it is likely that right-of-way would be required for both alternatives.

Figures 6 through 8 present the results of the analysis for each of the Corridor segments - Vista, Alpine and Mining, respectively. As shown, each On-Highway Trail Alternative begins and ends at the entrance roads to the two state parks. Also shown are the existing communities and attractions located along the byway which would be connected by both of the alternatives.

Figure 6: Vista Segment On-Highway Trail Analysis



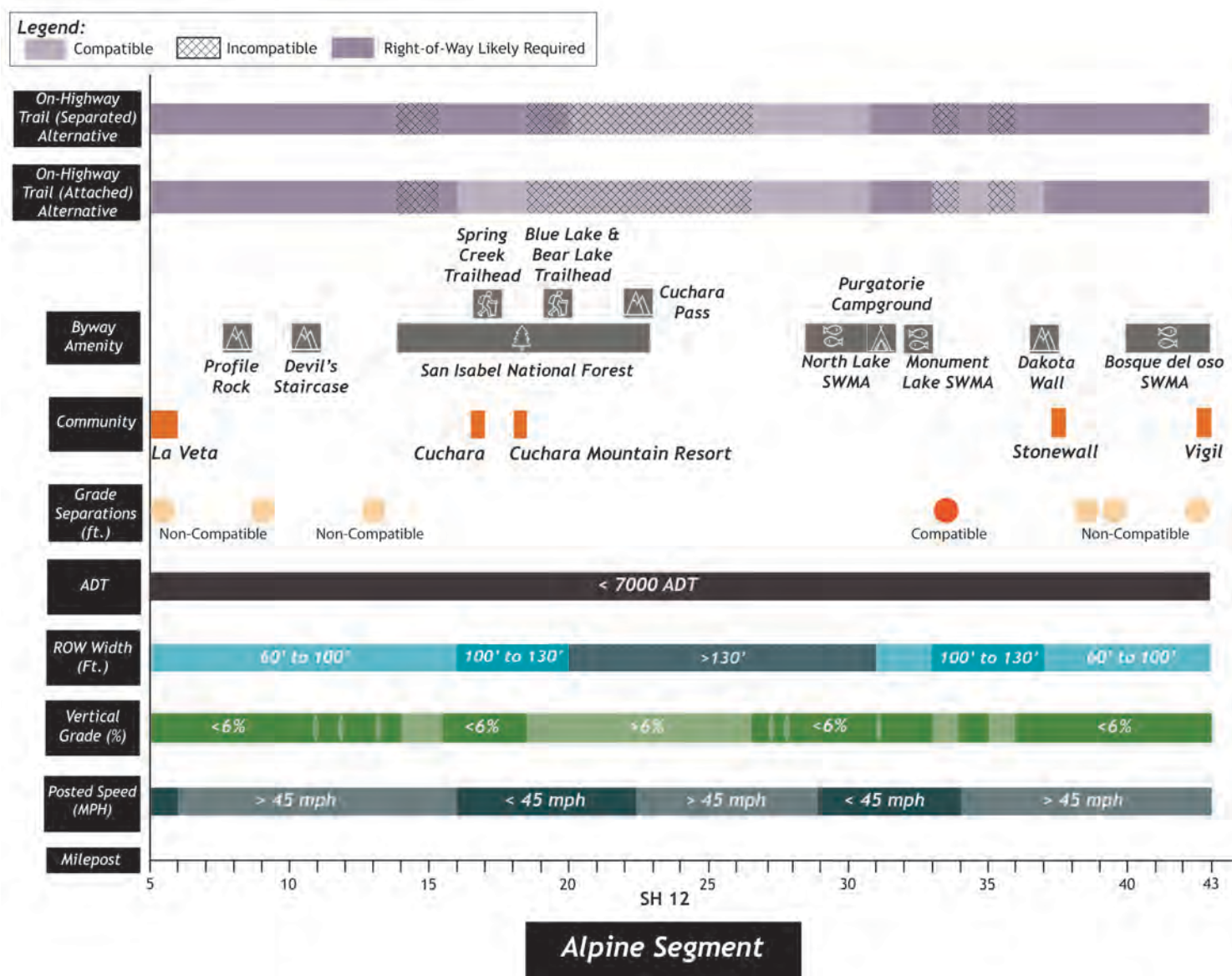
Vista Segment - Within the Vista Segment, extending from Walsenburg to La Veta as shown in Figure 6, due to the higher daily traffic volumes and posted speed, the segment along US 160 is not compatible for the On-Highway Trail (Attached) Alternative. Note that the daily traffic volumes east of the SH 12 intersection are just slightly below the 7,000 ADT threshold. While less than the absolute threshold, it is recommended that the attached trail configuration not be considered further throughout US 160.

Along US 160, there are three existing grade separation bridges that could be utilized to cross the trail under the highway - the one just east of Lathrop State Park being a bridge over the SLRG/Union Pacific railroad. The other two crossings consist of drainage bridges. Each of these locations present opportunities for the trail to cross safely under US 160.

Due to the relatively narrow existing right-of-way, it is likely that right-of-way would be required between US 160 and La Veta along SH 12 for both alternatives.

Alpine Segment - Within the Alpine Segment, extending from La Veta to Vigil as shown in **Figure 7**, due to the steep grades approaching Cucharas Pass, a roughly nine mile segment of the byway would not be compatible for the two On-Highway Trail Alternatives. An additional short segment north of Cuchara and two short segments between Monument Lake and Stonewall also have grades in excess of six percent. For the longer segment at Cucharas Pass, Off-Highway Trail Alternatives should be considered to provide more achievable vertical grades and accommodate all users. Throughout the Alpine Segment, especially between La Veta and Cuchara and east of Stonewall, the existing right-of-way is narrow and would likely require additional right-of-way for both On-Highway Trail Alternatives. There are limited existing bridge crossings within this segment, with one crossing near Monument Lake that would potentially be compatible for a trail crossing. However, in coordination with the highway safety improvements for pedestrian crossings, opportunities to cross the byway at-grade would exist within La Veta, Cuchara and Stonewall where posted speeds are lower.

Figure 7: Alpine Segment On-Highway Trail Analysis



Mining Segment - For the Mining Segment, as shown in **Figure 8** and extending from Vigil to Trinidad, the current daily traffic volumes are below the 7,000 ADT threshold and the attached trail alternative would provide sufficient comfort for bicyclists. The vertical grades along the byway, with some limited short segments, are generally below the six percent threshold. Current right-of-way widths are narrow west of Trinidad Lake State Park, likely requiring additional right-of-way for both On-Highway Trail Alternatives. Due to a high number of bridge crossings over the Purgatoire River, there are multiple existing bridge structures with sufficient vertical clearance that could provide adequate locations for the trail to cross under the byway.

Figure 8: Mining Segment On-Highway Trail Analysis



Off-Highway Trail Recommendations

Rails-with-Trails (SLRG RR) Alternative

Located within the Vista Segment, the Rails-with-Trails (SLRG RR) Alternative would conceptually be located within the SLRG Railroad right-of-way, aligned adjacent to and parallel to the railroad, to the south of Lathrop State Park and US 160 and extending to the west (See **Figure 9**) to La Veta. As shown in **Figure 10**, in coordination with the railroad ownership, a minimum offset would be required between the railroad and trail. Sufficient separation would be required such that trail operations and maintenance would not interfere with the operations and maintenance of the railroad. Similarly, new separate and parallel bridges or drainage culverts for the trail would be required with sufficient offset to avoid disturbance of the railroad infrastructure during construction and operations.

Figure 9: Rails-with-Trails (SLRG RR) Alternative Location

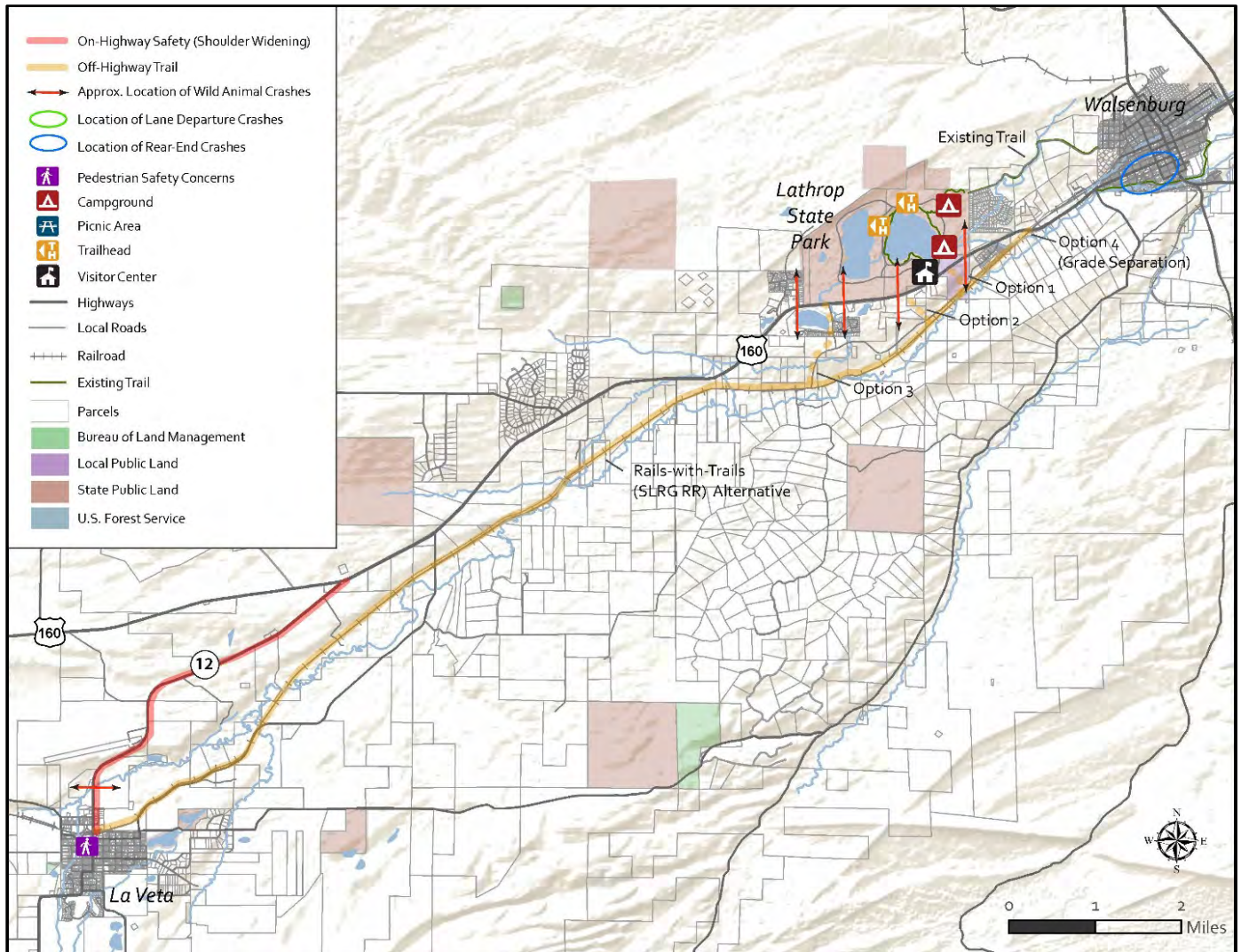
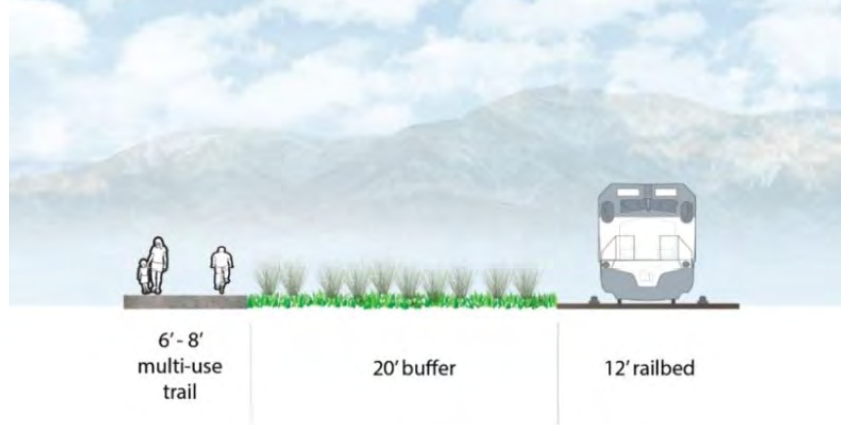


Figure 10: Rails-with-Trails (SLRG RR) Alternative Typical Section



As shown in **Figure 9**, there are four options for how the trail would transition from the park entrance at US 160 and connect the park with the railroad alignment. For each option, the trail would enter the park at the existing main entrance. These options, as shown, include:

- **Option 1** - A route transition and connection utilizing local public land where an easement may be easier to obtain than on a privately-owned parcel. The trail would be located along US 160 a short distance east of the entrance with a crossing of US 160 at the park entrance location.
- **Option 2** - Directly across from the main entrance to the park where an easement would be sought on the western edge of the Spanish Peaks Regional Health Center property. The trail would cross US 160 at the park entrance location.
- **Option 3** - A point one mile to the west of the park entrance where US 160 intersects with Spanish Peaks Drive. The trail would be located along US 160 west of the entrance with a crossing of US 160 at the park entrance.
- **Option 4** - A crossing and connection utilizing the existing US 160 bridge over the railroad located east of the park entrance. The trail would be adjacent to the railroad and would pass under US 160 at this location. At a point south of the park entrance, the existing SLRG Railroad, which continues to the west, transitions ownership to the Union Pacific Railroad, extending to the east. Therefore, this option would need to be coordinated with both the SLRG and Union Pacific Railroads.

An important issue for connecting with the park is how the trail would safely cross US 160 from north to south. Due to the configuration of the existing highway, consisting of three or four travel lanes, and the relatively high posted speed limit (60 mph) near the park, a grade-separated pedestrian crossing may need to be considered, or if crossing at-grade, a stop condition with signal control be provided. More detailed study would need to examine this issue to identify where a crossing would be most suitable and what types of crossing treatments would maximize safety and minimize the potential for conflicts between motorists and trail users. In addition, Huerfano County has developed a conceptual plan for constructing a pedestrian overpass at or near the park entrance to provide a safe pedestrian connection between the park and the Spanish Peaks Regional Health Center to the south.

Another overriding and critical issue for this alternative is the acceptability of jointly using the railroad right-of-way for trail uses. Coordination with the Iowa Pacific Railroad, the current holding company for the SLRG Railroad, would be required. Depending on the transition option for connecting to the park, if Option 4 is ultimately preferred, coordination with the Union Pacific Railroad would also be required. Design details for the trail and terms for trail construction, operations and maintenance would need to be negotiated and agreed upon within a shared use agreement(s).

The Rails-with-Trails (SLRG RR) Alternative would provide a six to eight-foot multi-use trail connecting Lathrop State Park, and essentially Walsenburg, with La Veta on a trail separate from and independent of US 160 and SH 12. The eastern terminus of the trail at Lathrop State Park would provide parking, restrooms, a visitor center and soft surface trails around Martin and Horseshoe Lakes. There is also an existing off-street trail that extends from the northeast corner of the park to the western edge of Walsenburg. Continued coordination with CPW would be needed for siting the trailhead improvements and operational arrangements.



Illustration (concept only) of the Rails-with-Trails (SLRG RR) Alternative.

This alternative would provide a lower stress and more scenic option than the On-Highway Trail Alternatives, providing vistas of the Spanish Peaks to the south. While conceptually located within the railroad right-of-way, the trail would be located at a sufficient distance from the tracks to minimize the potential for conflict between trail users and passing trains. At its western terminus, the trail would tie into the north side of downtown La Veta. This trail would create a new and unique connection between Walsenburg, Lathrop State Park, and La Veta that could be enjoyed for bicycle commuting and/or recreation for a wide range of ages and abilities.

Cuchara Ridge Alternative

The Cuchara Ridge Alternative, located within the Alpine Segment, provides an off-highway trail east of the byway within the San Isabel National Forest, extending around Cuchara to the east and connecting with Cucharas Pass. North of Cuchara, at the point where SH 12 intersects the north-south dike or ridge located east of Cuchara, the trail would begin and leave the SH 12 (CDOT) right-of-way and enter the USFS property. The trail would be located along the ridge on the east side of Cuchara extending south to the Cucharas Pass where it would intersect with SH 12. For a short distance, the trail would be concurrent with the existing Dikes Trail along the ridge, which has been identified as a segment of the Colorado Front Range Trail. To the fullest extent possible, the trail would be located within the USFS property. Further coordination and agreement would be required with the USFS for this alternative. While details and operational arrangements need to be determined, initial discussions with the USFS have suggested openness to the trail improvements.

Figure 11 and **12** present the location and features of the alternative. **Figure 13** presents the trail typical section. As shown, this alternative would be separate from SH 12 throughout its length, connecting with SH 12 at its terminals and trailheads. While the existing Dikes Trail would provide connections to Cuchara, additional study and considerations would be needed to provide a spur connection from the CFRT to Cuchara Mountain Resort - a planned recreational destination and attraction located west of SH 12.

Figure 11: Cuchara Ridge Alternative Location (1 of 2)

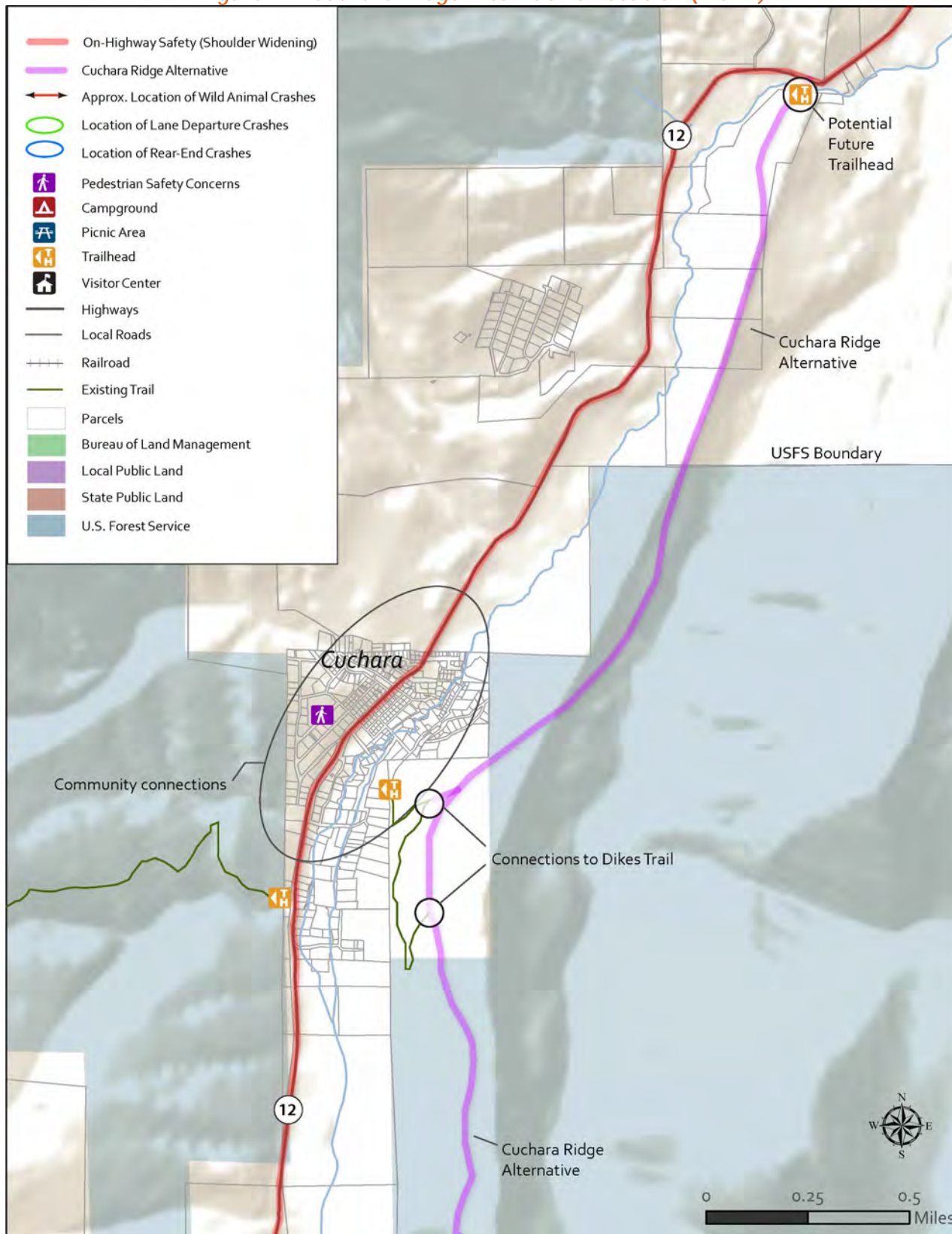


Figure 12: Cuchara Ridge Alternative Location (2 of 2)

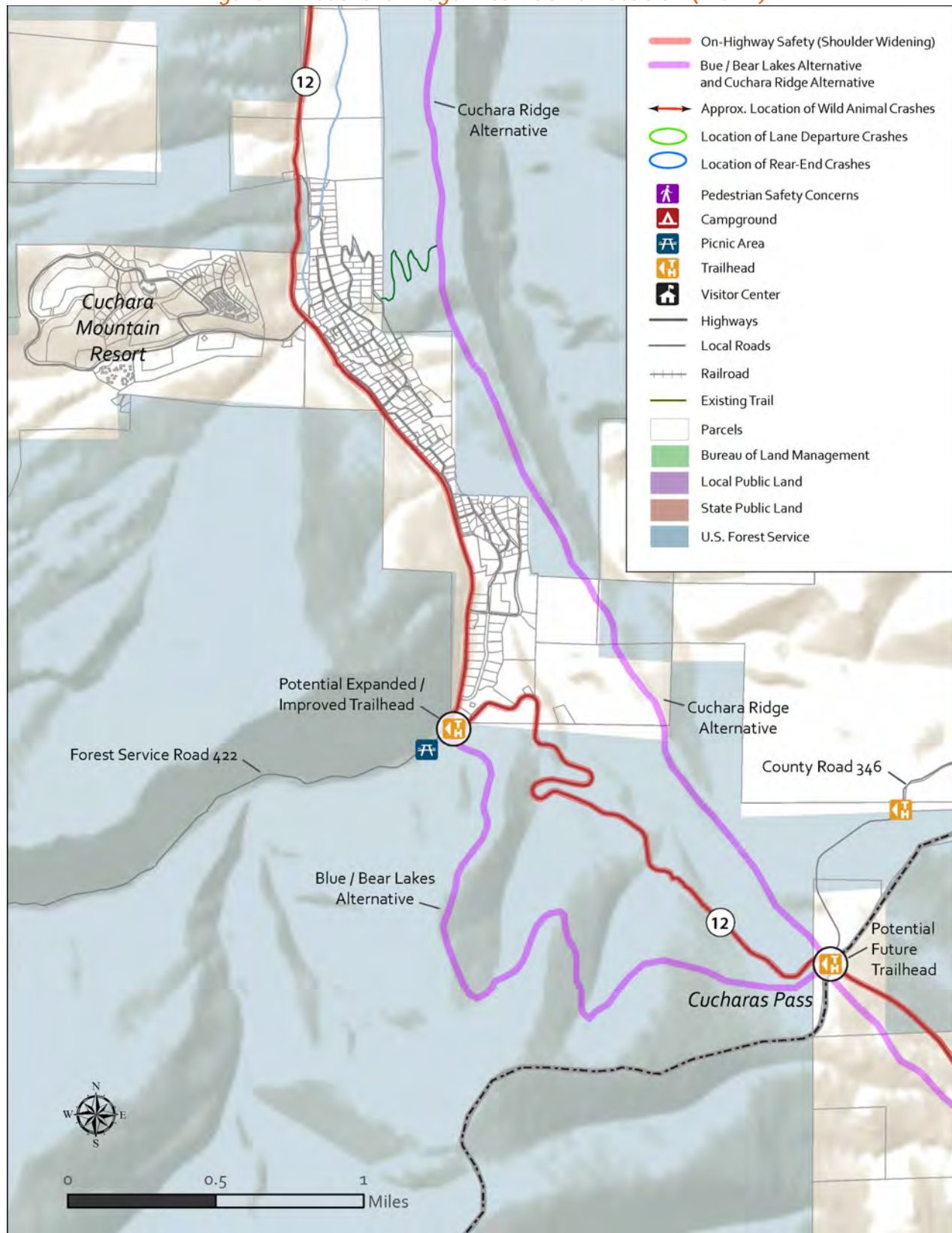
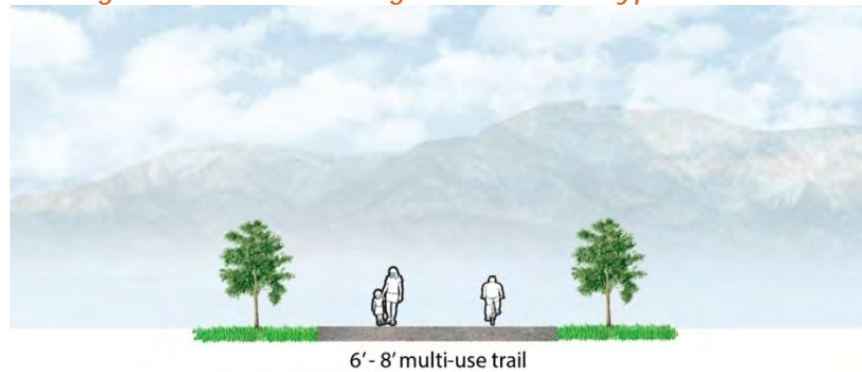


Figure 13: Cuchara Ridge Alternative Typical Section

The Cuchara Ridge Alternative would provide a six to eight-foot multi-use trail that would essentially follow the ridge to the east of Cuchara and SH 12. This alternative seeks to take advantage of the terrain and notable scenic amenities in this portion of the Corridor to provide users with a unique trail experience. Although the alternative would not provide a direct connection to Cuchara, Cuchara Mountain Resort, and the amenities provided via Forest Service Road 422 (e.g., Blue and Bear Lakes), it would align with an existing section of the CFRT and seek to leverage the USFS's expressed desire to expand public access to lands under their management. In addition, this alternative could include a new map kiosk, a small shelter and bench, and trash receptacles at the two proposed trailheads. This alternative also provides the ability to achieve desirable grades up to the pass. The roadway gradient along SH 12 from the Cuchara Mountain Resort to the pass exceeds the desired six percent maximum. Consequently, this alternative would better accommodate all trail users and abilities.



Illustration of the Cuchara Ridge Alternative, which would overlap with the existing Dikes Trail east of Cuchara – a designated segment of the CFRT.

Blue/Bear Lakes Alternative

Similar to the Cuchara Ridge Alternative and also located within the Alpine Segment, this alternative is intended to utilize USFS property as much as possible and provide trail users a more natural experience and setting than being on or next to the byway. Furthermore and similarly, this alternative would provide desirable grades along the steep portion of the Corridor where existing SH 12 gradients exceed the desired maximum of six percent. As shown in **Figure 12**, being on an independent alignment with switchbacks and utilizing the available terrain, it has the ability to provide acceptable vertical grades along the trail. **Figure 13** presents the typical section for this alternative.

Forest Service Road 422, the northern terminus for the alternative, is a sensible connection point for the trail and would be a good location for an improved staging area because the road provides access to four designated picnic areas, the Blue Lake and Bear Lake Campgrounds, day use areas, and the Indian Creek and Bear Lake Trailheads. Following the intersection point with Forest Service Road

422, the trail would continue off-highway, to the west of SH 12, and be located within the San Isabel National Forest until County Road 364 at Cucharas Pass. This southern terminus location provides connections to a variety of recreational and highly scenic amenities including, but not limited to, the Farley Wildflower Overlook, Cordova Summit Trailhead, and Chaparral Trailhead. Each trailhead could include a kiosk with a CFRT map and information, a shelter and bench, trash receptacles and byway-related amenities.

Further coordination and agreement would be required with the USFS for this alternative. While details and operational arrangements need to be determined, initial discussions with the USFS have suggested openness to the trail improvements.

Meadows Alternative

Located within the Alpine Segment, as shown in **Figure 14**, this alternative begins at Cucharas Pass (County Road 364) and extends south to a connection with SH 12 at a point near North Lake. This alternative was identified to address the steep vertical highway grades south of the pass and to take advantage of the scenery for a more appealing user experience. This area also includes large property holdings adjacent to SH 12, thereby improving the likely feasibility of the necessary right-of-way acquisition. **Figure 13** presents the typical trail section for this alternative.

The trail route would be located along the adjoining meadows and valley adjacent to and west of SH 12 between the pass and North Lake. Utilizing the terrain and switchbacks, as necessary, the route would potentially provide vertical grades less than six percent. The route would be aligned, in coordination with the affected landowners, to minimize property impacts and avoid unusable remnant parcels. Farther south, but north of North Lake, SH 12 has several waterway crossings. At these locations, the trail alignment would likely be located near SH 12, to be assessed in subsequent studies, to utilize the highway embankment to cross the waterway areas. The trail route would intersect with SH 12 at a point near the turnoff to County Road 21.6

The Meadows Alternative would provide a highly scenic off-highway trail between Cucharas Pass and North Lake. At a length of approximately six miles, the trail would provide users the experience of travelling through an alpine meadow with far views of the Sangre De Cristo Mountains and the Spanish Peaks. Foreseeably, users could bicycle or hike from North Lake up to the Pass and back on the Meadows Trail as a day trip or part of a multi-day excursion. This alternative also includes consideration of a spur trail that would provide users with



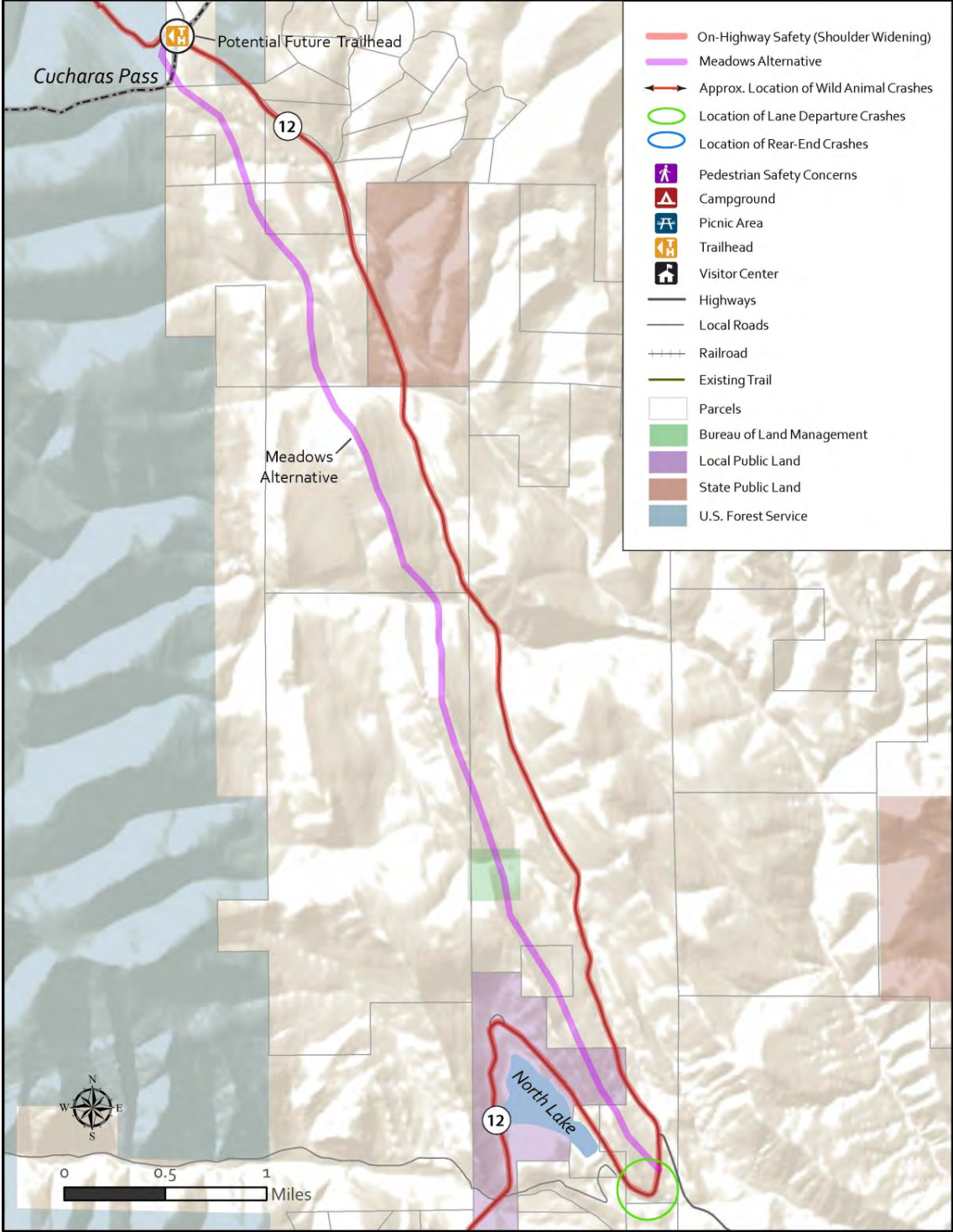
Both the Blue/Bear Lakes and Cuchara Ridge Alternatives would connect to Cucharas Pass (County Road 364) at their southern terminus, as illustrated.



The Meadows Alternative would extend from Cucharas Pass to North Lake. As illustrated, the off-highway trail would provide users with an alpine meadow experience.

direct access to North Lake from the main trail. While North Lake does not currently offer picnic, camping, or hiking options (i.e., designated trails), it is a very scenic resource and does offer a publicly accessible boat ramp and fishing. A spur trail connecting the main trail to an accessible point on North Lake would need to be examined in a future study.

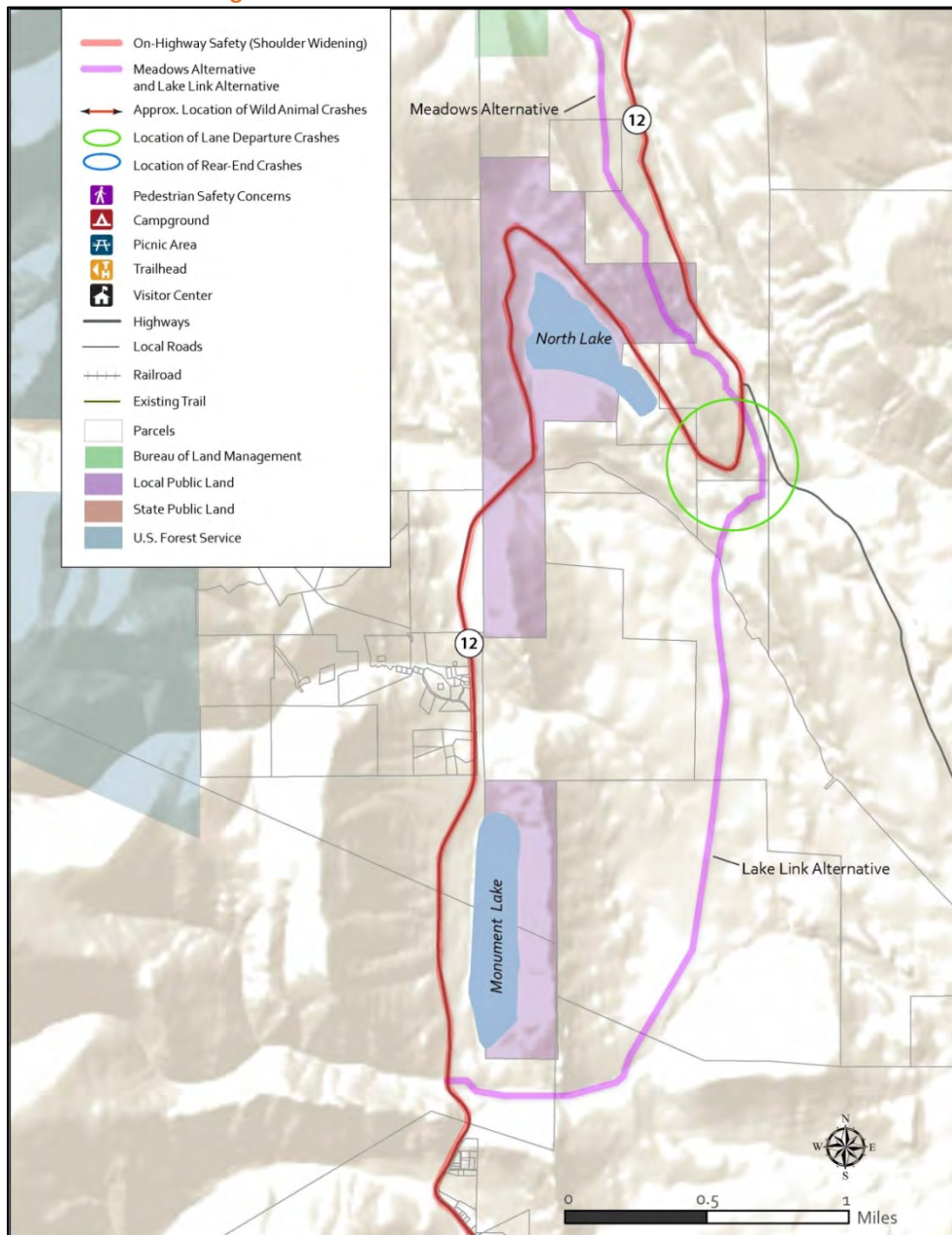
Figure 14: Meadows Alternative Location



Lake Link Alternative

As shown on **Figure 15**, located within the Alpine Segment, this alternative begins at SH 12 on the eastern side of North Lake. South of SH 12, the trail route is aligned in a southwest direction toward Monument Lake. Between the lakes, the trail would be located within private property. The routing of the trail would need to be coordinated with the affected landowners, with the intent to minimize property impacts and avoid unusable parcel remnants. Approaching Monument Lake, as shown, the trail route would border its southern edge and provide good access to the Monument Lake Resort and Park, which provides recreational vehicle and tent sites, fishing, and picnicking. The trail reconnects with SH 12 just south of Monument Lake. **Figure 13** presents the typical section for this alternative.

Figure 15: Lake Link Alternative Location



The Lake Link Alternative would establish a new off-highway connection between two of the Corridor's well-known amenities - North Lake and Monument Lake. At a length of approximately 2.5-miles (one-way), the trail would provide users with an enjoyable day trip option, especially for daily visitors or overnight guests staying at the Monument Lake Resort which includes a 20-room lodge hotel, 13 standalone cabins, tent sites, a bar, restaurant, and a marina. It would provide a new recreational opportunity that does not exist today. Like the Meadows Alternative, it would connect with North Lake via a spur trail to be studied further. Connecting these recreational resources would enhance both these important resources. Also similar with the Meadows Alternative, this alternative would provide users with an attractive and enjoyable Alpine Meadow experience with scenic views of the lakes, dike formations and nearby mountains.



The Lake Link Alternative extends from North Lake to Monument Lake, and as illustrated, would provide a new, off-highway trail between two of the corridor's important recreational and scenic amenities.

Rails-to-Trails (Old Trinidad RR) Alternative

The Rails-to-Trails (Old Trinidad RR) Alternative, located within the Mining Segment, would provide an off-highway trail connecting Stonewall with Trinidad Lake State Park via the Old Trinidad Railroad. This railroad, currently inactive, potentially provides an opportunity to utilize an existing and unused transportation corridor as a multi-use trail through a rails-to-trails conversion. This alternative has the advantage of mild vertical grades, limited highway interactions, an existing railbed (though currently unmaintained) and existing drainage culverts and waterway bridges.

Located primarily south of and parallel to SH 12, the railroad alignment extends over 20 miles between the former Elk Mine and Trinidad Lake State Park. West of the mine, the railbed is less defined, yet apparent and distinguishable, such that the alternative could extend westerly from the mine to a transition to the byway just east of Stonewall. As shown on **Figure 16**, at its eastern terminus, the trail would tie into the Park on its western edge and continue on the Reilly Canyon Trail alignment to the existing visitor center in the north central portion of the park where the trail would terminate at the trailhead and staging area. **Figure 17** presents the trail typical section.



An illustration of the Rails-to-Trails (Old Trinidad RR) Alternative on the old railbed generally located south of SH 12 within the Purgatoire River Valley.

Figure 16: Rails-to-Trails (Old Trinidad RR) Alternative

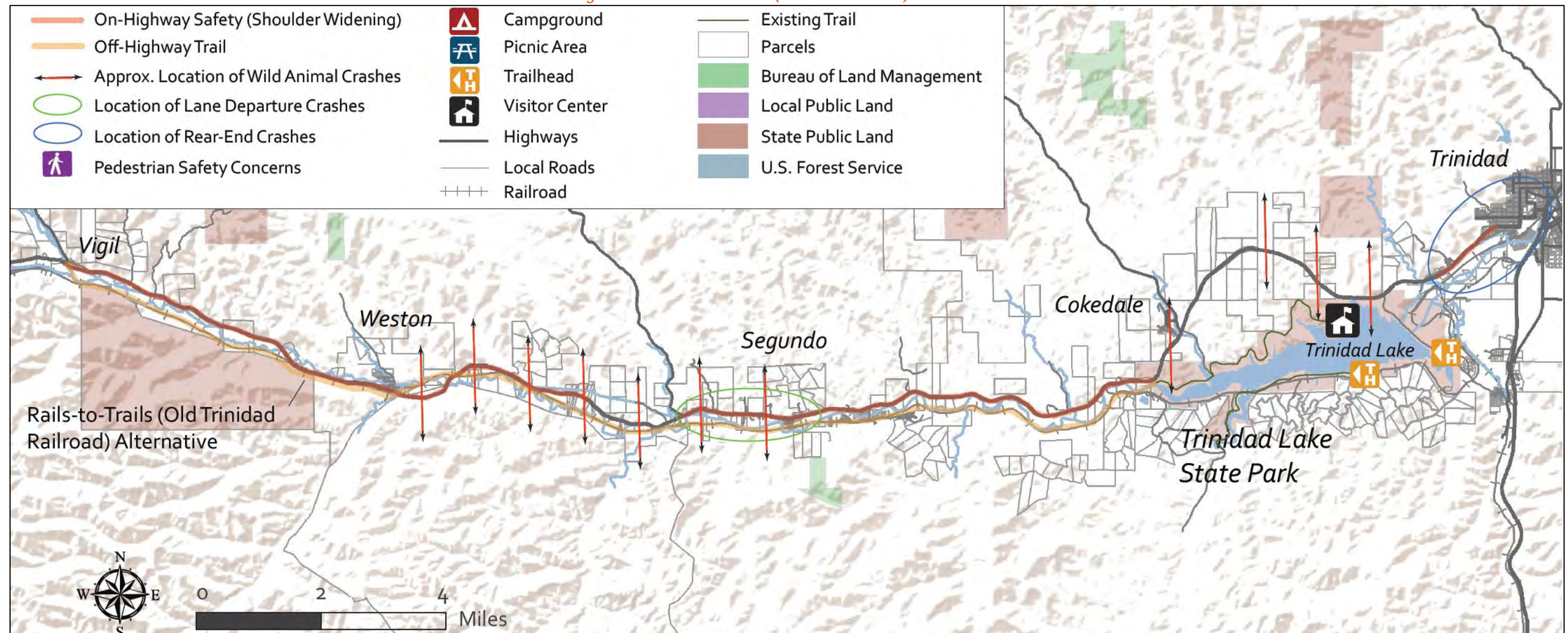
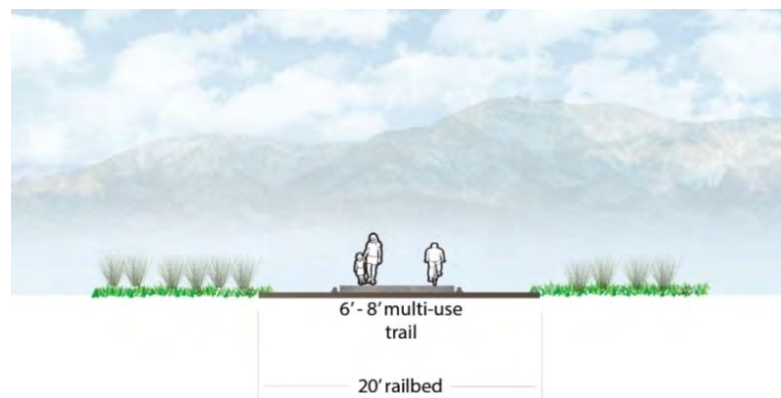


Figure 17: Rails-to-Trails (Old Trinidad RR) Typical Section



An important issue is the future connectivity of the CFRT with the local trail system in Trinidad. Future connections between Trinidad and the State Park are currently being discussed and planned locally. Current trail planning by the City envisions a westerly extension of the existing Old Sopris Trail along the Purgatoire River and County Road 20.8 to ultimately provide a connection with the southeast side of the park and the South Shore Trailhead. In coordination with the park's trail system planning, the existing South Shore Trail could then be extended to the west to circumnavigate the lake and provide a connection to the Reilly Canyon Trail and the CFRT. Furthermore, trail planning is currently underway for a potential connection between Trinidad Lake State Park and the newly designated state park at Fishers Peak, located south of Trinidad. More detailed study of these trail connections is needed following the PEL Study.

The former rail corridor, which is the basis for this alternative, presents a unique opportunity. Conceptually, the new trail would introduce an off-highway facility for the full extent of the Mining Segment. The trail would follow the scenic Purgatoire River Valley and, in many locations, it would be immediately adjacent to the river. This alternative also presents unique opportunities in relation to the existing and envisioned trail network within and adjacent to Trinidad Lake State Park. At its eastern end, this alternative would connect to the existing Reilly Canyon Trail, thereby providing a significant expansion (approximately 20 miles) of the existing trail network. Connecting to the trails within the park would also trigger a series of possibilities for connecting to Trinidad's local trail system and new trails that may be created to connect Trinidad, the existing state park, and the new state park at Crazy French Ranch, expected to open in 2021. Conceptually, trail connections between these three destinations would provide residents and visitors with a highly unique experience and access to a variety of scenic and recreational amenities.

It is important to note however, that the status of the New Elk Mine is uncertain. It may become operational again and ownership has indicated that, if so, resumption of rail operations between the mine and Trinidad would occur. Should the mine reopen, the abandoned railbed would be reclaimed, the rail infrastructure would be reconstructed, and rail operations would commence, making the conceptual use of the old railroad as a trail infeasible.

The status of the mine's operations and ownership's intent relating to the railbed should continue to be monitored following this study. Should ownership not reopen the mine and elect to abandon the former railroad right-of-way and use rights, it is recommended that a rails-to-trails conversion be pursued with the Surface Transportation Board. This would entail coordination and cooperation with other property owners along the railroad right-of-way. This alternative, in part or as a whole, would be contingent upon the railroad abandonment and successful coordination with all involved parties.

Byway Amenity Recommendations

Understanding traveler characteristics is important for tailoring an amenities improvement plan that is responsive to their desires, attracts travel, and leverages the features of the byway. Surveys show that visitors to Colorado visit state and national parks and enjoy history, culture, and museums - all attributes of the byway. It is also important to understand the nature and dynamics of trip making. Critical to this dynamic is the availability and integration of traveler information and opportunities. Local resident and business owner sentiments and aspirations are also important to effectively deploying and mobilizing an amenities plan.

Significant engagement with the Corridor's stakeholders was performed in the support of the PEL Study and the investigation of the byway improvements plan. Through extensive discussions and public engagement, local stakeholders have affirmed, out of concern for the economic vitality of the region, general support for visitor-oriented improvements on the byway. Furthermore, close coordination with the Byway Governing Board was provided, including coordination with the byway's comprehensive planning.

The recommended byway amenities plan is presented in **Table 7**. Based on the noted traveler characteristics, improvement goals, the Corridor's natural and community assets, and the overarching preservation concerns of the stakeholders, these recommendations address the needs, expectations and desires of contemporary byway travelers. This plan presents a comprehensive program of improvements for new or improved infrastructure. To be integrated with the CFRT improvements, it is in concert with an overarching initiative for a renewed informational campaign and sustained operations for the byway. It is also to be coordinated with the local communities and businesses.

Byway Amenities Defined:

The Scenic Highway of Legends Byway is a means for travelers to experience the Spanish Peaks Country. In many respects, the byway itself is an amenity. But in addition, amenities are features or sites along the byway for travelers to be more hands-on with nature, geology and history. Features include scenic pull-offs, visitor centers and museums. Each is an opportunity, through interpretive signage and other information, for travelers to learn and engage. Each site is also an opportunity for integration with the CFRT through wayfinding signage and trail access.

As shown, a wide variety of improvements are recommended, with varying degrees of ongoing operational, maintenance and community coordination requirements, as well as joint development opportunities with the CFRT.

Table 7: Byway Amenity Project Improvements

| Site | Feature | Location and Description | Trail Integration |
|--------------------------------------|------------------|--|---|
| Vista - Walsenburg to La Veta | | | |
| 1 | Trailhead | Lathrop State Park (Main Entrance) - Byway and CFRT maps and information | Incorporate with CFRT signage and trailhead facilities |
| 2 | Wayside Park | US 160/CR 450 - Improve existing kiosk, add picnic tables with shade and prefab toilet | None - located west of SH 12 |
| 3 | Scenic Pull-off | MP 3.2 (approx.) - Improve existing pull-off for safety; add parking and three-panel kiosk | CFRT connection for On-Highway options |
| 4 | Visitor Center | La Veta (Same block as Library/Museum) - Replace existing signage, install bike self-repair and EV (electric vehicle) stations | CFRT to be located along Main Street (SH 12) in front of Visitor Center |
| Alpine - La Veta to Vigil | | | |
| 5 | Scenic Pull-off | Profile Rock (MP 8.7 approx.) - new pull-off for views of geologic features | CFRT connection |
| 6 | Scenic Pull-off | Devil's Staircase (MP 11.0 approx.) - improve existing pull-off with parking and new signage | CFRT connection |
| 7 | Visitor Center | Cuchara - Signage and restroom, history of community, recreation, and EV (electric vehicle) charging station | CFRT connection for On-Highway options with spur trail for Off-Highway Ridge option |
| 8 | Trailhead | Blue/Bear Lake Trailhead (Existing) - Add signage for SHOL and geology | CFRT connection for On-Highway options with spur trail for Off-Highway Ridge option |
| 9 | Scenic Pull-off | Cucharas Pass - Add wayfinding signage and regional USFS information | CFRT connection with spur trail for Farley's Overlook |
| 10 | Scenic Pull-off | North Lake (MP 29 approx.) - Refresh and improve existing kiosk; 3 new panels | CFRT connection with On-Highway options and Off-Highway Lake Link option |
| 11 | Scenic Pull-off | Monument Lake (MP 33.0 approx.) - Add signage and public access to Park facilities | CFRT connection with On-Highway options and Off-Highway Lake Link option |
| 12 | Visitor Center | Stonewall - Add Geological Education Center, restrooms, picnic area, parking and EV (electric vehicle) charging station | CFRT connection |
| Mining - Vigil to Trinidad | | | |
| 13 | Historic Markers | Add historical markers (coalmining, Hispano, and Native American histories) | CFRT connection for On-Highway options with historic signage for Off-Highway Rails-to-Trails option |
| 14 | Scenic Pull-off | Improve current pull-off that serves as entrance to the town of Cokedale | CFRT connection via spur trail with Trinidad Lake State Park |
| 15 | Visitor Center | Cokedale - Expand museum with better directional signage from SHOL | CFRT connection via spur trail with Trinidad Lake State Park |
| 16 | Trailhead | Trinidad Lake State Park (Main Entrance) - Byway and CFRT maps and information | Incorporate with CFRT signage and trailhead facilities |
| 17 | Rest Area | I-25 El Moro Rest Area (Existing) - Add SHOL and CFRT information and maps | None |

The recommended byway amenity projects include the installation of electric vehicle (EV) charging stations in each of three communities - La Veta, Cuchara and Stonewall. For EV travelers, these stations would provide fuel assurance (freedom from “range anxiety”) and easy access to local information. For these communities, the new stations would provide expanded opportunities for local businesses to connect with travelers.

FHWA standards for EV Corridor Developments are specified in Section 1413 of the 2016 FAST Act - the current federal funding and authorization bill for surface transportation called Fixing America's Surface Transportation (FAST) Act. The State of Colorado is working aggressively to accelerate the adoption of EVs to both decrease greenhouse emissions and promote more sustainable travel. The Governor's goal is 100% "renewables" by 2040 and an increase from the 29,000 EVs now on the roads of Colorado to 940,000 EVs. Currently over 1,000 EV charging stations serve the state. The Colorado Energy Office operates Charge Ahead Colorado, a program that funds 80% of construction costs for new qualifying stations. Competitive grants are awarded with priority given to applicants in three categories: work places, multifamily residences, and tourist locations (including Colorado Scenic Byways). The Colorado Tourism Office provides a tool kit on Colorado.com with EV educational materials for community decision makers. Successful participation in these programs can propel the Scenic Highway of Legends to become a part of a rapidly developing national network of EV charging stations.

Technology Recommendations

CDOT leverages statewide planning efforts to coordinate statewide priorities for future technologies that save lives and reduce congestion. This PEL Study is an opportunity for that purpose. These opportunities for the consideration of technologies within the Study Corridor, depending on funding and other priorities within the state and region, could include:

- **Fiber Optic Cable** - If possible, in coordination with highway widening and safety improvements or on-highway trail improvements, as appropriate, CDOT should coordinate with local telecommunications providers to consider jointly constructing fiber cable along the US 160 and SH 12 right-of-way.
- **Roadway Weather Information System (RWIS)** - CDOT should evaluate opportunities to utilize sensors within the Corridor to measure weather and pavement conditions and communicate adverse weather alerts to travelers along SH 12 and within the region through roadside variable message signs or other means.

Agency and Public Coordination

A comprehensive program of public and agency involvement activities, tailored specifically for this study, was conducted in support of the study's recommendations. This study incorporated feedback received from various groups and communities engaged together in regional topics while exploring and discussing specific issues locally. Comments and input received helped inform and frame the study's findings and recommendations.

A study-specific program of agency and public activities was defined at the outset of the PEL Study. The program was designed to provide key input and comments at each critical phase or step of the study process - Purpose and Need, existing conditions, alternatives evaluation, and study recommendations. The public participation process was designed to:

- Provide direction for the study through focused input from key stakeholders as well as to obtain broad public input, views and opinions.
- Engage a diverse group of public and agency participants during the PEL Study process.
- Provide real-time information concerning the views expressed by the public about the project and the alternatives throughout the study process.
- Identify public and agency concerns so they could be addressed.
- Increase the public's awareness of planning and participation activities to build their capacity to become further involved.



Appendix D -
Agency/Public
Involvement

In addition, its construct and execution were based on the overarching desired outcome to:

- Increase public and stakeholder awareness of issues concerning the byway.
- Balance and integrate competing needs.
- Ensure agreement between the agencies.
- Listen to stakeholders and get support for potential improvements.
- Establish public confidence in CDOT, SCCOG and the PEL process.
- Allow early identification of critical issues and problems.

Public and Agency Involvement At-a-Glance:

- **Study Steering Committee** - Four meetings with 12 members
- **Study Technical/Stakeholder Committee** - Four meetings with roughly 75 members
- **Factsheets/eNewsletters** - Published and released four times
- **Events** - Two public meetings, multiple coffee chats, and several one-on-one meetings
- **Project Database Contacts** - 410

To understand the needs of users and the communities in the Study Corridor, the study engaged stakeholders representing the Corridor's diverse communities, geographies, and interests. Stakeholders included businesses, communities, historic preservation interests, elected officials, bicycle and pedestrian users, environmental and recreational advocates, landowners, railroads and mining interests.

Multiple project teams and working groups were convened including a Project Technical Team, a Study Steering Committee, and a Technical/Stakeholder Committee. External public communications included stakeholder and public meetings, small informal meetings (coffee chats) and one-on-one meetings. Communication aids supporting and increasing public awareness included: eNewsletters, factsheets and posters (English and Spanish), mailings, posters, postcards, media relations and press releases, a study website, social media tools, and a study email database.

Integration of Public and Agency Involvement

The PEL Study started in the spring of 2019 and concluded in the summer of 2020. At each step of the study’s progression, the study’s analyses and decision-making processes were conducted in tandem with the engagement of the agencies, stakeholders and the public. The discussions and comments offered corresponded with the progression of the study process. Initial engagement focused on the Purpose and Need and study goals. Subsequently, the study alternatives were developed and evaluated, at more-detailed levels of screening, in coordination with the project teams. Agencies and stakeholders provided comments and input during these evaluations and throughout the study.

General Input Received from Agencies and Stakeholders

Through the outreach activities, comments were received and incorporated into the study. General input and feedback received are summarized in **Table 8**.

Table 8: Summary of Stakeholder Input Themes

| Theme | Summary |
|----------------------|---|
| Safety | <ul style="list-style-type: none"> • Improve safety for pedestrians and bicyclists along the byway. • Consider better speed enforcement or reduced speed limits. • Narrow shoulders in most places along SH 12 - consider increasing shoulder width. • The roadway and roadside are too narrow along the byway. |
| Mobility | <ul style="list-style-type: none"> • A wider shoulder or new trail is needed for pedestrians and bicyclists along the byway. |
| Communities | <ul style="list-style-type: none"> • Consider the unique needs of each of the communities. • Consider alternatives for parking issues in Cuchara. • Sidewalks needed in Cuchara. • Crosswalks needed in La Veta. |
| Landowners | <ul style="list-style-type: none"> • Concerns about private property impacts if the byway is widened. • Concerns about private property impacts for off-highway trail alternatives. |
| Connectivity | <ul style="list-style-type: none"> • Provide trail connections to Lathrop and Trinidad Lake State Parks. • Trail connections between Trinidad Lake State Park, the Trinidad trail system, and the new state park at Fishers Peak are needed. |
| Economic Development | <ul style="list-style-type: none"> • Constructing new trail facilities would attract more users - some viewed this positively while others expressed concerns about safety. • More visitor stops along the byway would be beneficial. • Improvements should be coordinated with the byway planning. |
| Implementation | <ul style="list-style-type: none"> • Funding is the greatest challenge for implementation. • Funding will likely be secured from multiple sources. • The overall SML trail oversight approach will develop as progress is made on the initial projects. |

Environmental Resource Considerations

The existing natural and manmade environment in the Study Area was an important consideration in the evaluation of alternatives. Study recommendations include the future consideration of these resources during the development of the recommended projects and further study of the trail alternatives. Moving forward, continued environmental review and agency coordination will ensure that future projects protect the resources that are important to the byway, its communities and local residents.

This chapter provides a planning-level summary of potential environmental considerations within the Study Area. It identifies constraints that may affect future National Environmental Policy Act (NEPA) and environmental review decisions and projects. Projects resulting from this study that include a federal nexus, such as when federally funded or when federal agency coordination is necessary, may be required to follow the NEPA process. In this is not the case, at a minimum, environmental reviews would be necessary in compliance with federal and state regulations. The information presented in this chapter is intended to inform that event.

The PEL Study identified resources early in the planning process to avoid sensitive environmental resources and fatal flaw impacts during the development of improvement alternatives. All the environmental and community resource information discussed, and summarized below, was gathered using readily available sources and was not ground verified. As a result, all resource information would need to be reviewed and updated during future NEPA or environmental review processes.



Appendix B -
Existing Corridor
Conditions

NEPA Documentation Next Steps

If federally funded, NEPA requires the analysis of environmental impacts associated with a project. It also requires those impacts to be avoided, minimized, and mitigated. There are three types of NEPA documentation:

- **Environmental Impact Statement (EIS)** - This documentation is prepared for projects that are anticipated to result in significant environmental impacts and/or are very controversial.
- **Categorical Exclusion (CatEx)** - This documentation is used for projects that are not anticipated to result in significant environmental impacts.
- **Environmental Assessment (EA)** - This documentation is prepared when there is insufficient information to determine if a project would result in significant environmental impacts.

As funding becomes available for the implementation of the PEL Study recommendations, CDOT or other sponsoring agencies, in consultation with coordinating agencies, would determine the appropriate level of NEPA study required for project delivery.

National Environmental Policy Act (NEPA):

NEPA is a federal law requiring federal agencies to assess the environmental effects of their projects, such as highway or trail improvements, prior to making decisions. Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions (i.e., projects). Agencies also provide opportunities for public review and comments. While not a NEPA study, the PEL Study process is intended to utilize the NEPA decision-making process to streamline the advancement of its recommendations.

Environmental Resource Next Steps

Key resources with potential for impact during implementation of future projects are as follows:

- **Cultural Resources** - Future projects would require a comprehensive Class III cultural resource survey, documentation of resources, an effects evaluation, and coordination with the Colorado State Historic Preservation Office (SHPO). Additionally, historic properties may qualify as Section 4(f) resources under the U.S. Department of Transportation Act of 1966 and require additional analysis and approval from the Federal Highway Administration (FHWA). Therefore, to prevent unnecessary delays, early coordination with the Cultural Resource Specialist is strongly recommended.
- **Environmental Justice** - There is a high population of Hispanic or Latino residents in the Study Area, so all future public involvement activities should consider limited English proficiency populations.
- **Farmlands** - Soils within the Study Area have been classified by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) as “Prime Farmland if Irrigated.” However, no visual inspection of these areas was completed. Further investigation is needed to determine if these areas are still active, irrigated farmlands. If required, overall impacts to prime farmlands would be overseen by the Farmland Protection Policy Act and would need to be avoided and minimized. Clearance from the NRCS may be required.
- **Floodplains** - Designed encroachments into the Cucharas River, Purgatoire River, and their tributaries should be minimized and occur only after consultation with the Federal Emergency Management Agency, the Colorado Water Conservation Board, the U.S. Army Corps of Engineers (USACE), and local floodplain regulators. If detailed Zone AE or other detailed flood zones are encountered, Conditional Letters of Map Revision (CLOMR) and/or no-rise certifications may be required. If required, interagency coordination should begin before the NEPA permitting stage.
- **Geologic Resources and Soils** - The potential for expansive soils along the Corridor is low to medium. However, a qualified scientist or engineer should investigate for swelling or expansive soils prior to the design and construction of projects recommended by the PEL Study. Subsidence also may be a consideration in some areas, such as near Cokedale.
- **Hazardous Materials** - CDOT requires an initial site assessment (ISA) or a Phase I environmental site assessment (ESA) for Categorical Exclusion projects or acquisition of properties with potential hazardous materials concerns. An ISA or Phase I ESA typically takes one to two months to complete unless right of entry causes delays. The assessments remain valid for 180 days and may be updated within a year. After one year, the report may be used only as a reference in a new Phase I ESA or ISA due to the potential for changes in on-site conditions.
- **Noise** - If a future project is classified as a Type I project, a noise analysis would be required during the NEPA process (CDOT, 2015). A Type I project consists of capacity increases; alignment changes; or the addition of weigh stations, rest stops, ride-share lots, and toll plazas. The analysis would need to address all noise sensitive receptors within 500 feet of the project footprint. To quantify the noise levels, field measurements at existing and planned noise sensitive receptors would be needed to develop a comparison between measured and modeled results.

- **Recreational Resources** - If a Section 4(f) or Section 6(f) evaluation is necessary for recreational resources, adequate time should be built into the design schedule to avoid delays and obtain project clearances. A Section 4(f) evaluation may require design modifications, mitigation considerations, and approval by FHWA. If a Section 6(f) conversion of land is necessary, a replacement parcel of equal or higher recreational value at a one-to-one ratio must be identified. The official with jurisdiction, CPW, and the National Park Service (NPS) must approve the replacement land. The CPW and NPS would not permit the conversion of Section 6(f) land to occur until the replacement property has been fully acquired and is available to serve public outdoor recreational uses.
- **Threatened and Endangered Species, Other Special-Status Species, and Wildlife** - Time should be built into project schedules for fieldwork and documentation of these resources. Potential impacts to special-status species would need to be assessed, and coordination with the U.S. Fish and Wildlife Service (USFWS) may be required. If a Senate Bill 40 wildlife certification is required, coordination with CPW and CDOT would need to occur and a mitigation plan would be required.

If construction is proposed during the migratory bird nesting season, preconstruction surveys would be required. If active nests are found, non-construction zones would need to be established around each nest until the young have fledged. The nesting season is species-dependent and can range from April 1 to August 31. Additionally, depending on project location, a wildlife crossing analysis may be required.

- **Wetlands and Other Waters of the U.S.** - When wetland impacts are expected, the project team should build adequate time into the design schedule to allow a wetland delineation and consequent permitting.
- **Visual Resources** - Future projects that have FHWA/CDOT oversight would need to assess impacts to visual resources along the Corridor. The analysis should follow FHWA’s *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA, 2015) and CDOT’s Visual Impact Assessment Guidelines (CDOT 2019).

Environmental Resource Agency Coordination

During the PEL Study, direct coordination with environmental resource agencies was performed. In coordination with the Agency and Public Engagement Plan, this coordination included active participation in the Study Technical Committee, which met multiple times during the course of the study; review and comment of study reports; and in some instances, direct coordination meetings. Specific reports submitted for agency review and comment included the *Existing Corridor Conditions Report* and the *Final PEL Study Report*. Agency correspondence is included in **Appendix E**.



Appendix E - Agency Correspondence

List of Resource Agencies:

- | | |
|--|---|
| US Army Corps of Engineers | Colorado State Historic Preservation Office |
| US Fish and Wildlife Service | Huerfano County |
| US Forest Service | Las Animas County |
| Colorado Department of Natural Resources | City of Walsenburg |
| Colorado Department of Public Health and Environment | City of Trinidad |
| Colorado Parks and Wildlife | Purgatoire Watershed Partnership |
| Colorado State Forestry Service | |

Implementation Plan

The Implementation Plan advances the PEL Study recommendations into action. It identifies the next steps for coordination, project identification and priorities for accomplishing the complete vision for highway safety, trail and amenity improvements along the byway. With funding being the essential trigger, it includes guidance for future funding opportunities and local trail administration.

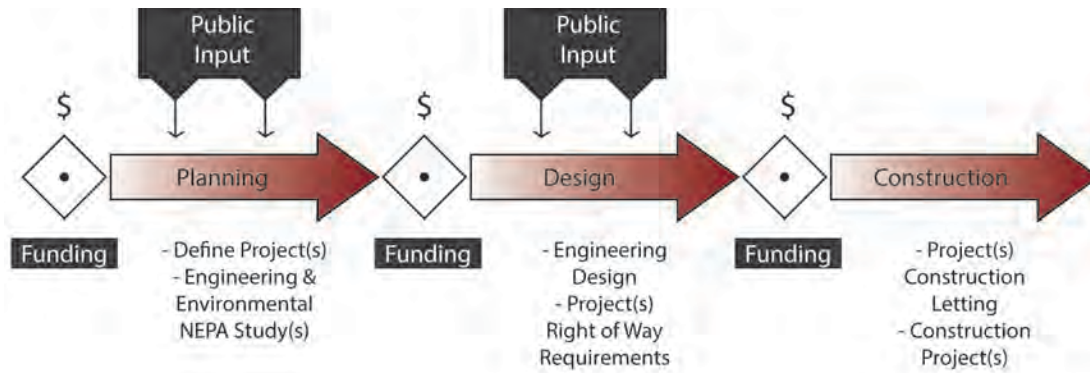
The PEL Study recommendations include an integrated master plan of highway safety projects, trail alternatives for more study, and byway amenity projects. However, due to funding limitations, all improvements cannot advance at once. A more strategic and itemized approach is needed to advance the projects individually, based on priorities, leading to the full build-out and completion of the study's recommendations - the Implementation Plan. Guiding this plan are overarching goals, including:

- **Independence** - While all projects need to be coordinated for consistency based on the PEL Study's recommendations, projects need to have independent function and utility. As individual projects advance into more detail study, design and construction, project-specific decisions need to avoid impacts or implications on adjoining or interrelated projects within the overall master plan.
- **Priorities** - The plan needs to provide guidance on the suggested phasing or sequencing of the individual project recommendations based on their relative, comparative merits. Qualitative analyses of the implementation goals, by project type, provide the basis for defining project priorities resulting in a logical and effective build-out of the overall master plan over time as funding is secured.
- **Prerequisites** - Underpinning the advancement of the project recommendations are two foundational prerequisites - funding and trail governance. The ability to advance the project recommendations is dependent upon funding and will require the coordination of multiple agencies with varying roles and purviews. Hand-in-hand with funding is the opportunity to organize local agency and regional oversight approaches, in coordination with other agencies, to fund, build, operate and maintain the trail improvements. A menu of coordinated funding opportunities and guidance for trail oversight is needed to guide the master plan implementation.

Project Coordination

The PEL Study provides a master plan of recommended project improvements. It defines the overall framework of projects upon which subsequent environmental studies, analyses and engineering designs will be based. Securing funding will initiate the advancement of projects. Continued coordination and partnerships with the relevant sponsoring or cooperating agencies and the local communities will be necessary for securing the funding, advancing the projects into design development, and maintaining and operating the improvements. While guidance is provided on project priorities, which projects advance first will depend on these partnerships. Through these partnerships, when funding is identified as shown in **Figure 18**, the next steps for the projects will entail more planning, then engineering design, leading to construction.

Figure 18: Project Development Process



Engagement and coordination with the public and local communities will also continue to be integral to the Implementation Plan. The PEL Study is not the final opportunity for local stakeholders to provide input and be engaged. It is the first step in a series of future engagement opportunities. During the planning phase, depending on the scope of the project and the sources of funding, each project will be studied for environmental compliance, including NEPA as necessary. These studies will include engineering and environmental analyses to further define the details of the individual projects. In coordination with the public, stakeholders and potentially affected landowners, these studies will determine the preferred and recommended alignments and layouts for the projects. Following the planning phase, additional more direct public engagement will be performed to coordinate the development of the project design details.



Implementing the PEL Study project recommendations will include additional opportunities for public input and engagement.

Highway Safety Projects and Priorities

The recommended alternatives carried forward for additional study include highway safety improvements and trail alternatives. The highway safety improvements are consistent for each trail alternative and can be implemented independently. However, whenever possible, it is desirable for the corresponding trail study to be completed in coordination with the highway safety project to include the preferred trail alternative, as appropriate, within the highway safety improvements. At a minimum, highway safety improvements should include trail provisions and not preclude the future addition of the trail.

The highway safety projects are based on the overall highway safety recommendations from the PEL Study. Discreet and independent projects have been defined based on 1) logical and functional limits and 2) variations within the Corridor’s weighted crash rates. Project priorities were generally assigned based on the magnitude of the crash rates within the project limits, with projects in areas with higher crash rates given higher priority, in descending order.

While the project limits and prioritization provide guidance for the build-out of the safety improvements, other factors, such as available funding or integration with maintenance activities, could affect the actual project implementation and sequencing. The actual delivery of the projects by CDOT is to be flexible and adjustable, as necessary, based on conditions at that time. The schedule for the each project’s construction is dependent upon the availability of funding and other priorities within the state and region.

Table 9 presents the recommended highway safety projects and prioritization. Planning-level construction cost estimates for 2020 are provided. These estimates include construction items plus the engineering design and right-of-way costs. Estimates for highway construction do not include any maintenance-related activities associated with the roadway widening, such as full-width pavement rehabilitation or replacement. For the trail costs, where appropriate, the On-Highway Trail (Separated) Alternative was assumed.



Appendix F - Cost Estimates

Table 9: Highway Safety Projects and Priorities

| Project Priority | General Description | Route | Project Location | | | Highway Constr. Cost (\$M 2020) | Trail Constr. Cost (\$M 2020) |
|------------------|------------------------------------|--------|------------------|---------|----------------|---------------------------------|-------------------------------|
| | | | From (MP) | To (MP) | Length (Miles) | | |
| 1 | Segundo Area | SH 12 | 52.8 | 56.8 | 4.0 | \$2.5 | \$7.4 |
| 2 | Vigil Area | SH 12 | 42.1 | 44.1 | 2.0 | \$0.7 | \$2.6 |
| 3 | Curve SE of North Lake | SH 12 | 27.0 | 29.0 | 2.0 | \$1.7 | \$4.1 |
| 4 | US 160 to La Veta (N) | SH 12 | 0.0 | 4.6 | 4.6 | \$3.2 | \$5.5 |
| 5 | Vigil (E) to Segundo (W) | SH 12 | 44.1 | 52.8 | 8.7 | \$4.4 | \$18.5 |
| 6 | La Veta (S) to Cuchara Mtn. Resort | SH 12 | 5.8 | 18.4 | 12.6 | \$18.7 | \$18.7 |
| 7 | Santa Fe/Main Street Intersection | SH 12 | 70.7 | 70.8 | 0.1 | \$2.6 | NA |
| 8 | Segundo (E) to Cokedale (W) | SH 12 | 56.8 | 61.4 | 4.6 | \$8.6 | \$8.1 |
| 9 | Monument Park to Vigil (W) | SH 12 | 33.6 | 42.1 | 8.5 | \$4.7 | \$13.1 |
| 10 | North Lake to Monument Park | SH 12 | 29.0 | 33.6 | 4.6 | \$3.8 | \$7.0 |
| 11 | US 160 Railroad Crossing | US 160 | 304.8 | 305.2 | 0.4 | \$0.1 | NA |
| 12 | Jansen Area | SH 12 | 68.1 | 69.1 | 1.0 | \$3.4 | NA |
| 13 | City of La Veta | SH 12 | 4.6 | 5.8 | 1.2 | \$0.7 | NA |
| 14 | Cuchara Mtn. Resort to North Lake | SH 12 | 18.4 | 27.0 | 8.6 | \$7.1 | \$9.2 |
| Total | | | | | 62.9 | \$62.2 | \$94.2 |

Trail Projects and Priorities

Based on the recommended trail alternatives from the PEL Study, upon securing the necessary funding, additional studies will be needed to identify the preferred trail alternative. Separate and coordinated studies for multiple sections of the overall Study Corridor are recommended based on Sections of Independent Utility (SIU) criteria. These criteria ensure decisions in one section, or study, do not have unacceptable impacts on adjoining sections. Depending on the sources of funding and sponsoring agencies, these studies could include NEPA review and compliance. At a minimum, each study needs to comply with federal and/or state environmental regulatory and permitting requirements, including agency coordination. Coordination with the FHWA and other agencies is recommended to confirm the type of study necessary for each SIU.

The termini and scope of each trail study are based on the following SIU criteria:

- **Purpose and Need** - Provide local and consistent application of the Corridor’s overall Purpose and Need, as defined by the PEL Study.
- **Logical and Independent Utility** - Study termini need to provide independent function, use and utility for the trail.
- **Range of Alternatives** - Each study needs to fully encompass the relevant range of trail alternatives recommended by the PEL Study.
- **Environmental Resource Impacts** - Study termini need to avoid the potential bifurcation or fragmentation of impacts to relevant environmental resources, including cumulative impact considerations, by the trail improvements.

Based on these criteria, **Table 10** presents the recommended projects for additional study. Included are planning-level 2020 construction cost estimates for the trail alternatives. Due to several alternatives within each project, the costs are presented in ranges for each project. These estimates include, at a conceptual level of detail, construction items plus the engineering design and right-of-way costs. Estimates for the On-Highway Trail Alternatives do not include any maintenance-related activities associated with the roadway widening, such as full-width pavement rehabilitation or replacement.



Appendix F - Cost Estimates

Table 10: Future Studies of Recommended Trail Alternatives

| SIU | From | To | Trail Alternatives | | | Constr. Cost (\$M 2020) | |
|-----|-----------------------|-----------------------|-------------------------------|-----------|---------------------------------------|-------------------------|-----------------------------|
| | | | On-Highway Trail Alternatives | | Off-Highway Trail Alternatives | | Combination of Alternatives |
| | | | Attached | Separated | | | |
| 1 | Lathrop State Park | North Side of La Veta | X | X | Rails-with-Trails (SLRG RR) (1) | \$10 to \$13 | |
| 2 | North Side of La Veta | South Side of La Veta | X | X | | < \$1 | |
| 3 | South Side of La Veta | MP 14 USFS Boundary | X | X | | \$0 to \$8 (2) | |
| 4 | MP 14 USFS Boundary | Cucharas Pass | X | X | Cuchara Ridge and Blue/Bear Lakes | \$3 to \$8 | |
| 5 | Cucharas Pass | North Lake | X | X | Meadows | \$2 to \$6 | |
| 6 | North Lake | Monument Lake | X | X | Lake Link | \$2 to \$5 | |
| 7 | Monument Lake | Stonewall | X | X | | \$3 to \$4 | |
| 8 | Stonewall | Trinidad Lake SP | X | X | Rails-to-Trails (Old Trinidad RR) (3) | \$14 to \$29 | |

Note: (1) Contingent upon acceptability with current or future railroad ownership (Iowa Pacific RR is currently in receivership)
 (2) On-Highway Trail (Attached) Alternative would have no cost due to eight-foot shoulder widening for highway safety between La Veta and Cuchara
 (3) Contingent upon the status of the Elk Mine operations and disposition of railroad ownership

Many factors can influence the sequence or order in which the trail projects could be advanced. Each SIU can advance independently of one another, yet in a coordinated fashion. The timing of the projects will depend, in part, on funding. Multiple projects can advance concurrently or adjoining projects may be combined, based on agency goals.

To guide the prioritization of the trail projects, an evaluation of the influencing factors was performed. These factors are based on the alternatives evaluation measures and include:

- **Safety** - Project provides trail accommodations in areas with high Level of Traffic Stress (LTS).
- **Bicycle/Pedestrian Use** - Project provides trail accommodations in areas with higher user demand.
- **Connections** - Project provides trail connections to communities and amenities.
- **User Attraction** - Project provides an appealing experience which would attract users.
- **Byway Features** - Project integrates trail with planned or existing Byway features.
- **Costs** - Trail has comparatively lower construction costs.
- **Right-of-Way Requirements** - Trail has higher likely “acceptability” of potentially necessary right-of-way acquisition.

Table 11 provides a subjective evaluation of the prioritization factors for each trail project.

Table 11: Trail Project Priority Evaluation

| Project (SIU) | Safety | Bicycle/Ped Use | Connections | User Attraction | Byway Features | Costs | ROW Requirements | Average Score |
|---------------|--------|-----------------|-------------|-----------------|----------------|-------|------------------|---------------|
| 1 | | | | | | | | 1.1 |
| 2 | | | | | | | | 2.1 |
| 3 | | | | | | | | 1.7 |
| 4 | | | | | | | | 2.3 |
| 5 | | | | | | | | 1.4 |
| 6 | | | | | | | | 2.1 |
| 7 | | | | | | | | 2.0 |
| 8 | | | | | | | | 1.4 |

Legend: Blank = No measurable comparative benefit
 = Minor comparative benefit
 = Moderate comparative benefit
 = High comparative benefit

Ideally, the trail projects should be sequenced in adjoining sections to provide increased trail length, continuity and improved usability as it is built in phases. As suggested by the evaluation, the initial priority segments within the Corridor extend between La Veta and Cucharas Pass (SIU 2 through 4) and between North Lake and Stonewall (SIU 6 and 7). The following phases are recommended to complete the trail fully through the Corridor:

- **Phase 1 (Start-up Projects)** - Due to lower construction costs and beneficial interactions with existing attractions and amenities, ideal initial projects include within La Veta (SIU 2) and between North Lake and Monument Lake (SIU 6) - one project each in Huerfano and Las Animas Counties.
- **Phase 2 (Priority Projects)** - Complete the priority segments extending from La Veta to Cucharas Pass (SIU 3 and 4) and from Monument Lake to Stonewall (SIU 7).
- **Phase 3 (Core Completion)** - Complete the trail between Cucharas Pass and North Lake (SIU 5) to provide a continuous multi-use trail fully between La Veta and Stonewall - arguably the signature and most appealing area within the Corridor for recreationalists.
- **Phase 4 (Completion)** - Full completion of the Southern Mountain Loop (SML) trail would include projects between Walsenburg and La Veta (SIU 1) and between Stonewall and Trinidad (SIU 8).

This suggested phasing plan advances the core of the SML trail within the Alpine Segment of the Corridor to address the highest safety needs and to complement the byway's scenic appeal and support the growth of tourism within the Corridor's mountain communities.

Beyond funding, other key considerations potentially influencing the phasing of the trail projects include:

- **Old Trinidad Railroad Abandonment** - Advancement of the trail alternative along the Old Trinidad Railroad (SIU 8) is contingent upon the Elk Mine's decision to request the abandonment of the line due to the cessation of mining operations. Should this request be made of the Surface Transportation Board, procedures are available to pursue the possible reuse of the railroad as a public trail (i.e., rails-to-trails). This request would be subject to the Board's approval and the coordination and necessary cooperation with other affected landowners and rights along the railroad alignment. If approved, the necessary agreements and funding could be pursued.

This trail alternative has the benefit of relatively lower costs on a per mile basis due to the existing rail bed, embankment and drainage structures. The rail and tie have previously been salvaged. Furthermore, as a possible extension of the City of Trinidad's trail system and the envisioned trail connection between Trinidad Lake State Park and the new state park at Fishers Peak, a rails-to-trails project would be an attractive and complementary addition to the recreational and tourism investments within the Trinidad area. If successful, the trail alternative along the Old Trinidad Railroad would provide added recreational opportunities for residents and visitors to the region, connecting Stonewall with Trinidad and completing roughly 32 miles of the SML Segment of the CFRT.

- **Coordination with USFS** - The USFS has expressed a desire and willingness to jointly pursue and develop the CFRT within the San Isabel National Forest. Expanding the CFRT within the National Forest, in coordination with the USFS, is contingent upon securing the necessary funding for construction and maintenance and developing joint use agreements. Should new funding opportunities arise with the USFS (SIU 4), the trail project priorities would need to be revisited.

Byway Amenity Projects and Priorities

The recommended improvements include new or improved amenities for the byway. These improvements, or features, are consistent for each recommended trail alternative and can be implemented independently. However, whenever possible, it is desirable for the byway amenities to be developed in coordination with the highway safety improvements and the trail alternatives. At a minimum, the byway improvements should include CFRT provisions and not preclude the future addition of the trail or highway safety improvements.

Based on the byway project recommendations from the PEL Study, and upon securing the necessary funding, additional study and design development is needed for each site. Each site, or project, should be coordinated with the SHOL Comprehensive Plan (Byway Corridor Management Plan) and each can advance independent of one another. The projects should be delivered in coordination with informational, promotional and preservation activities by the byway as contained within the Byway Corridor Management Plan.

The recommended projects consist of a wide variety of improvement types, ranging from interpretive signing to new buildings with supporting public facilities. All projects require a commitment of construction funding while others require an additional sustained funding source for ongoing maintenance and operations. Projects of a similar type with lower construction costs, though geographically dispersed within the Corridor, could be bundled or packaged for procurement and construction efficiencies. Projects with higher construction costs would likely be constructed as standalone projects. Higher cost projects, such as the visitor center improvements, could be delivered in phases in coordination with the local communities as funding is secured.

Many factors will influence which byway projects would be beneficial to advance before another. The timing of the projects will depend on funding. Multiple projects can advance concurrently, based on the goals of partnering agencies and parties.

An important consideration in the phasing of the overall improvements is Wayshowing, which is a collection of signs, maps, brochures and electronic media that have been developed to aid travelers in their journey. This kind of information system is critical to travelers as they first choose a destination, then preplan their itineraries, and finally connect directly with the places and people that can help them realize the experience they have envisioned. Phasing the build-out of the improvements in a way that builds the information system in a logical sequence is important to supporting the traveler experience over time.

Components of a Wayshowing System:

- **Entrances, Exit and Gateway Signage** - Identification of where to enter and exit a route or byway.
- **Orientation Stops** - Pull-offs, turn-outs and other places for motorists to stop to help them create, refresh and expand their mental maps of the route, its intrinsic qualities, and overarching interpretive theme with exhibits, maps and other means of communication.
- **Repetitive Route Markers** - A sequence of visual cues for motorists to follow along a route, such as the Colorado Byways sign.
- **Directional Signage to Key Destinations** - Signs that alert and guide travelers to featured stops and attractions along a specified route.
- **Portable Map** - A carry-on map of a byway corridor or travel region locating its various attractions and amenities.

To guide the prioritization of the byway projects, to be determined by the sponsoring agencies, an evaluation of the factors potentially influencing project priorities was performed. To aid the evaluation, project types were categorized and organized based on their funding and agency coordination requirements. The project categories include:

- **Category 1** - Projects which require construction funding primarily within the purview of the byway, as the sponsoring agency, with some coordination requirements with other agencies and third parties. Ongoing maintenance and operations funding would not be required or would be performed voluntarily in coordination with others. These projects typically have lower construction costs and are primarily related to the Wayshowing System, such as entrances and gateway signage, repetitive route markers, and directional signage.
- **Category 2** - Projects which require construction funding with a high degree of agency coordination and joint sponsorship. Ongoing maintenance and operations would be provided by others through interagency agreement. Includes orientation stops, pull-offs and turn-outs.
- **Category 3** - Projects which, in addition to construction funding, require an ongoing funding source for continued operations and maintenance. These projects typically have higher construction costs but could be implemented in phases to defray the full build-out costs. They include interpretive installations in conjunction with visitor centers.

Based on the project categories, an evaluation of the influencing prioritization factors was performed for each project. These include:

- **Existing Facilities** - Project is located within an existing site that could be modified or expanded to include the byway amenity. Public activities currently occur which the byway amenities would complement.
- **CFRT Integration** - Project is located at a primary or secondary CFRT gateway or staging area with opportunities to jointly share trail and byway wayfinding information and maps.
- **Visitor Information** - Project provides opportunities to present and engage the public with more in-depth historic and/or natural (including geologic) information.
- **Public Restrooms** - Project provides new restroom facilities or is located where public restroom facilities currently exist.
- **Phasing** - Project has the ability to be implemented in phases to reduce the initial capital expenditures.

Table 12 provides a subjective evaluation of the prioritization factors for each trail project. As shown, the byway projects are organized to show the comparative benefits by category.

Table 12: Byway Amenity Project Priority Evaluation

| Site | Feature | Location | Category | | | Existing Facilities | CFRT Integration | Visitor Info | Public Restrooms | Phasing | Average Score |
|------|------------------|--------------------|----------|---|---|---------------------|------------------|--------------|------------------|---------|---------------|
| | | | 1 | 2 | 3 | | | | | | |
| 1 | Trailhead | Lathrop State Park | X | | | ✓✓✓ | ✓✓✓ | ✓ | ✓✓✓ | | 2.0 ✓ |
| 8 | Trailhead | Blue/Bear Lake | X | | | ✓ | ✓ | ✓ | ✓ | | 0.8 ✓ |
| 10 | Scenic Pull-off | North Lake | X | | | ✓✓ | ✓ | ✓ | ✓ | | 1.0 ✓ |
| 11 | Scenic Pull-off | Monument Lake | X | | | ✓✓ | ✓ | ✓ | ✓✓✓ | | 1.4 ✓ |
| 13 | Historic Markers | Mining Segment | X | | | ✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓✓ | 2.0 ✓ |
| 16 | Trailhead | Trinidad Lake SP | X | | | ✓✓✓ | ✓✓✓ | ✓✓ | ✓✓✓ | | 2.2 ✓ |
| 17 | Rest Area | I-25 El Moro | X | | | ✓✓✓ | | ✓ | ✓✓✓ | | 1.4 ✓ |
| 2 | Wayside Park | US 160/CR 450 | | X | | ✓✓ | | ✓✓✓ | ✓ | ✓✓ | 1.6 ✓ |
| 3 | Scenic Pull-off | La Veta Overview | | X | | | ✓✓ | ✓✓ | | | 0.8 ✓ |
| 5 | Scenic Pull-off | Profile Rock | | X | | | ✓✓ | ✓✓ | | | 0.8 ✓ |
| 6 | Scenic Pull-off | Devil's Staircase | | X | | ✓ | ✓✓ | ✓✓ | | | 1.0 ✓ |
| 9 | Scenic Pull-off | Cucharas Pass | | X | | ✓ | ✓✓✓ | ✓ | | | 1.0 ✓ |
| 14 | Scenic Pull-off | Cokedale | | X | | ✓✓✓ | ✓✓ | ✓✓✓ | ✓✓✓ | ✓ | 2.4 ✓ |
| 4 | Visitor Center | La Veta | | | X | ✓✓ | ✓✓✓ | ✓✓✓ | ✓✓✓ | ✓✓✓ | 2.8 ✓ |
| 7 | Visitor Center | Cuchara | | | X | ✓ | ✓✓✓ | ✓ | ✓✓✓ | ✓ | 1.8 ✓ |
| 12 | Visitor Center | Stonewall | | | X | ✓ | ✓✓✓ | ✓✓ | ✓✓✓ | ✓✓ | 2.2 ✓ |
| 15 | Visitor Center | Cokedale | | | X | ✓✓✓ | ✓✓✓ | ✓✓✓ | ✓✓✓ | ✓✓✓ | 3.0 ✓ |

Legend: Blank = No measurable comparative benefit
 ✓ = Minor comparative benefit
 ✓✓ = Moderate comparative benefit
 ✓✓✓ = High comparative benefit

As shown, the evaluation supports a short-term strategy of improvements to steadily build the quality of the overall visitor experience, first addressing the hierarchy of visitor needs (safety, information, restrooms, and visitor services). The next group of projects, in this hierarchy, would address the need to add depth and breadth to existing experiences for scenic vistas, outdoor recreation and cultural/heritage attractions. Finally, the long-term strategy would build the collection of five pull-offs and one Geology Education Center (Stonewall Visitor Center) which would be the centerpiece of the byway's future investment in highlighting the national importance of the region's geology.

The recommended phasing plan is summarized in Table 13. Current order-of-magnitude construction cost estimates for each site are included. These planning-level estimates are presented as ranges due to the high degree of uncertainties and variability of the scope of each project at this time. These estimates reflect the relative magnitude of the likely construction cost, ranging from low (less than

\$100,000) to high (more than \$1M). For the purposes of the PEL Study, these estimates are intended to provide guidance for the programming of the projects and the pursuit of funding. Additional programming, scoping and design development for each project would be needed before more precise construction cost estimates can be developed.

Table 13: Byway Amenity Project Priorities

| Site | Feature | Location | Category | | | Phase | | | | Constr. Cost (\$2020) | Description |
|--------|------------------|--------------------|----------|---|---|-------|---|---|---|--------------------------|--|
| | | | 1 | 2 | 3 | 1 | 2 | 3 | 4 | | |
| 4 | Visitor Center | La Veta | | | X | X | | | | < \$100,000 | Welcome center signage and bike repair station - utilize existing facilities |
| 7 | Visitor Center | Cuchara | | | X | X | | | | \$100,000 to \$500,000 | Convert existing bldg. with restrooms and signage (outdoor interpretive panel) |
| 12 (1) | Visitor Center | Stonewall | | | X | X | | | | \$500,000 to \$1,000,000 | Convert existing bldg. with restrooms and signage (initial phase) |
| 15 | Visitor Center | Cokedale | | | X | X | | | | \$500,000 to \$1,000,000 | Expand existing coal mining exhibits and add new exhibits at museum |
| 1 | Trailhead | Lathrop State Park | X | | | | X | | | < \$100,000 | Signage (3-panel kiosk) |
| 2 | Wayside Park | US 160/ CR 450 | | X | | | X | | | \$100,000 to \$500,000 | Signage (3-panel kiosk), picnic tables with shade and restrooms |
| 13 | Historic Markers | Mining Segment | X | | | | X | | | < \$100,000 | Four 1-panel monument markers (one per site) |
| 14 | Scenic Pull-off | Cokedale | | X | | | X | | | < \$100,000 | Upgrade existing signage |
| 16 | Trailhead | Trinidad Lake SP | X | | | | X | | | < \$100,000 | Signage (3-panel kiosk) |
| 17 | Rest Area | I-25 El Moro | X | | | | X | | | < \$100,000 | Topographic maps (4 ft. by 4ft.) showing SHOL and amenity sites |
| 3 | Scenic Pull-off | La Veta Overview | | X | | | | X | | \$100,000 to \$500,000 | Site development, paved parking and signage (3-panel kiosk) |
| 5 | Scenic Pull-off | Profile Rock | | X | | | | X | | \$100,000 to \$500,000 | Site development, paved parking and signage (3-panel kiosk) |
| 6 | Scenic Pull-off | Devil's Staircase | | X | | | | X | | \$100,000 to \$500,000 | Upgrade existing site, paved parking and new signage (3-panel kiosk) |
| 8 | Trailhead | Blue/Bear Lake | X | | | | | X | | < \$100,000 | Signage (3-panel kiosk) |
| 9 | Scenic Pull-off | Cucharas Pass | | X | | | | X | | \$100,000 to \$500,000 | Signage (3-panel kiosk) with structural pergola |
| 10 | Scenic Pull-off | North Lake | X | | | | | X | | < \$100,000 | Add three additional panels to existing kiosk |
| 11 | Scenic Pull-off | Monument Lake | X | | | | | X | | < \$100,000 | Add public access signage |
| 12 (1) | Visitor Center | Stonewall | | | X | | | | X | > \$1,000,000 | New building with restrooms, geology exhibits, picnic area and parking |

Note: (1) Project (Site) 12 is included twice reflecting the phasing of the project.

- **Phase 1 (Immediate Priorities)** - The four visitor centers in La Veta, Cuchara, Stonewall and Cokedale (Projects 4, 7, 12 and 15) scored at or near the highest, with all four projects needed to offer visitor information, restrooms, and CFRT integration. While each is a Category 3 project, phasing of the projects should be considered by leveraging existing facilities to reduce the initial capital costs. All can open for the summer travel season in

existing facilities (via rental or public building), and offer visitor information to a captive audience - visitors on the route whose needs are immediate.

- **Phase 2 (Gateway and Orientation Locations)** - Lathrop State Park and Trinidad Lake State Park (Projects 1 and 16) also scored high with trail connectivity with the CFRT, well maintained restrooms, and front desk staffing. Each site provides direct interactions with travelers. El Moro Rest stop on I-25 (Project 17), a CDOT facility, offers a large bank of restroom facilities, outdoor informational kiosks, and serves 25,000 visitors a month. The US 160/CR 450 Wayside Park (Project 2) in Huerfano County serves as a gateway from US 160 for eastbound traffic. The Cokedale pull-off across from the coke ovens (Project 14) can serve more formally as the gateway location for the historical towns and settlements located in the Mining Segment for traffic entering the byway from the south. This phase would also include installing Historic Markers (Project 13) within the Mining Segment. Within this group of projects, the Category 1 projects could be the higher priority due to the lower construction costs. Project 2 is currently in planning and development by Huerfano County.
- **Phase 3 (Site-Specific Locations)** - Five pull-offs that support the national importance of the geology features include the LaVeta pull-off (Project 3), Devil's Staircase (Project 6), Profile Rock (Project 5), Blue/Bear Lakes turnoff (Project 8), and Farley Overlook at Cucharas Pass (Project 9). Two additional site-specific signage project recommendations are Monument Lake and North Lake (Projects 10 and 11). Within this phase the projects consist of a mix of Category 1 and 2 projects. Due to lower construction costs, the Category 1 projects could be the higher priority.
- **Phase 4 (Geological Education Center)** - This proposed center in Stonewall (Project 12) will serve as an educational center that will interpret four geological features that define the area: the Dakota Wall, the system of Radial Dikes, the K-Pg Boundary, and the Spanish Peaks. While an initial phase of this project could be started in Phase 1, Phase 4 would entail a full build-out of this new facility.

This suggested phasing plan stimulates the growth of tourism within three mountain communities in the Alpine Section (LaVeta, Cuchara, and Stonewall) and positions Cokedale to play a much more active role in establishing a system of information for the Mining Segment. Strengthening the interface with visitors in all four of these communities and increasing the reliability of information will be key to communicating the range of activities and visitor services currently available to visitors. It stimulates new activity in both Huerfano and Las Animas Counties and requires participation from both counties as well as the individual communities. These will require investments in staffing (volunteer or paid) and maintenance of facilities. The establishment and cleaning of restrooms has been a barrier to the development of visitor centers in several of the communities, with the burden of public restrooms currently shifted to small retail establishments.

This phasing sequence also favors the expansion of facilities that are already in use and are maintained by agencies that include the USFS, CDOT, CPW, Huerfano County and Las Animas County. Long established working relationships between the byway and these partner organizations bodes well for accomplishing the planning and joint funding that will be required. Furthermore, the Board of the Scenic Highway of Legends and businesses along the byway are committed to building the infrastructure necessary to create a new focus on the geological assets of the region.

Project Funding

Identifying and securing future funding is essential to realizing the projects recommended in the PEL Study. With the varying types of projects, ranging from highway, to trail and byway-related construction projects, and with the potential for the integration of projects into a single project delivery, an amalgamation of funding sources may be required to fully fund a project. As the state's highway agency, CDOT has the means and responsibility of funding and maintaining highway-related improvements to the byway; though its funding is limited and there are many competing priorities across the state and region. For non-highway projects, such as the trail or byway amenity improvements, additional and complementary funding sources are available and would likely need to be secured.



Appendix G -
Funding Sources

With the likely need to integrate and coordinate funding sources, the continued development and fostering of interagency partnerships with cooperating agencies is essential. Depending on the type of project, securing project construction funding may require a local sponsoring agency, such as the counties or the byway, to have both a construction funding match and possibly the demonstrated means of operating and maintaining the project. Interagency agreements may need to be established for both construction funding and sustained maintenance. For the trail, creating a trail governing entity and sustained funding source would facilitate its implementation. The SHOL Byway Board has the enabling authority to coordinate and oversee byway improvements and enter into interagency agreements, but does not have a sustained funding source.

Currently, due to the lack of dedicated funding sources, the primary means of funding trail and byway amenity projects would be through grants. Multiple existing funding sources are available, though each typically requires a competitive application and award process. **Table 14** identifies the potential federal, state, regional, and local funding sources to support the construction of the safety, trail and byway projects. The table provides an initial determination of whether the projects would be eligible for a specific funding source based on current information. When funding is actually pursued, the continued viability of the funding source and eligibility requirements would need to be verified by the lead agency or applicant(s). A more detailed description and eligibility requirements for each existing funding source is presented in **Appendix H**. Furthermore, additional potential approaches for generating new funding sources could be developed by organizing a management entity for the SML trail, as described in the Trail Management Section.

Trail Management

Management will be an important consideration for implementing future trail improvements along the byway and completing the SML Segment of the CFRT. Whereas oversight and management authorities and responsibilities are currently established for the recommended highway and byway amenity projects, a management entity for implementing the trail project recommendations does not currently exist. Notwithstanding the trail grant opportunities, this entity may be equally critical for both managing and funding the new trail. What management entity is potentially established and how it will function can help address critical, guiding questions such as:



Appendix H - Trail
Management

- Who or what ultimately owns the trail?
- How will the trail be branded and promoted throughout Colorado and nationwide?
- How will construction of the trail be funded and who will maintain and manage it over time?
- How will segments or specific projects be prioritized over time?

Table 14: Project Funding Sources

| <i>Funding Sources</i> | <i>Agency</i> | <i>Highway Safety</i> | <i>On-Highway Attached / Separated Trail</i> | <i>Off-Highway Trail</i> | <i>Byway Amenities</i> |
|--|---------------|-----------------------|--|--------------------------|------------------------|
| FEDERAL AGENCIES | | | | | |
| BUILD Grant | USDOT | ✓ | ✓ | ✓ | |
| Highway Safety Improvement Program | CDOT | ✓ | ✓ | | |
| Recreational Trails Program | FHWA | | ✓ | ✓ | |
| Rivers, Trails & Conservation Assistance Program | CPW | | ✓ | ✓ | ✓ |
| Transportation Alternatives | CDOT | ✓ | ✓ | ✓ | ✓ |
| Federal Lands Transportation Program | USDOT | ✓ | ✓ | ✓ | ✓ |
| Federal Lands Access Program | CDOT | ✓ | ✓ | ✓ | ✓ |
| Land and Water Conservation Fund | CPW | | ✓ | ✓ | |
| Outdoor Recreational Legacy Partnership | CPW | | ✓ | ✓ | |
| Community Development Block Grant Program | DOLA | ✓ | ✓ | | |
| Urban and Community Forestry | TSFS | | ✓ | ✓ | |
| Recreation Economy for Rural Communities | EPA | | ✓ | ✓ | |
| Environmental Education Grants Program | EPA | | | | ✓ |
| Railway-Highway Crossings | CDOT | ✓ | ✓ | ✓ | |
| Safe Routes to School | CDOT | ✓ | ✓ | ✓ | |
| Rural Business Development Grants | USDA | ✓ | ✓ | ✓ | ✓ |
| COLORADO STATE AGENCIES | | | | | |
| Connect Initiative | GOCO | | ✓ | ✓ | ✓ |
| The Rural Technical Assistance Program | OED | ✓ | ✓ | ✓ | ✓ |
| Non-Motorized Trails Grant | CPW | | ✓ | ✓ | ✓ |
| Conservation Trust Fund | DOLA | | ✓ | ✓ | |
| Statewide Multimodal Options Funds | CDOT | ✓ | ✓ | ✓ | |
| Can Do Colorado Community Challenge | CDOT | ✓ | ✓ | | ✓ |
| Colorado Energy Office | CEO | | | | ✓ |

| <i>Funding Sources</i> | <i>Agency</i> | <i>Highway Safety</i> | <i>On-Highway Attached / Separated Trail</i> | <i>Off-Highway Trail</i> | <i>Byway Amenities</i> |
|---|---------------|-----------------------|--|--------------------------|------------------------|
| FOUNDATIONS, CORPORATIONS, AND ASSOCIATIONS | | | | | |
| The Bar NI Ranch Community Service Fund | | ✓ | ✓ | ✓ | ✓ |
| Boettcher Foundation | | ✓ | ✓ | ✓ | ✓ |
| El Pomar Foundation | | ✓ | ✓ | ✓ | ✓ |
| Gates Family Foundation | | ✓ | ✓ | ✓ | ✓ |
| Doppelt Family Trail Development Fund | | | ✓ | ✓ | ✓ |
| Activating Places and Spaces Together | | ✓ | | | |
| The National Forest Foundation Matching Awards Program | | | | ✓ | |
| National Wilderness Stewardship Alliance Trail Stewardship Fund | | | | ✓ | |
| The National Fish and Wildlife Foundation Acres for America Grant Program | | | ✓ | ✓ | ✓ |
| Walmart Foundation Local Community Grant | | ✓ | ✓ | ✓ | ✓ |
| The International Mountain Bicycling Association Trail Accelerator Grants | | | | ✓ | |
| People for Bikes Community Grant | | ✓ | ✓ | ✓ | |
| AETNA Cultivating Health Community Grant | | ✓ | ✓ | ✓ | |

Formalizing an appropriate management structure can help cohesively address these types of questions and foster the critical partnerships across jurisdictions, agencies, and landowners that will be essential for trail construction, maintenance and management.

Following completion of the PEL Study, it’s recommended that the existing Study Steering Committee, or a legacy group of county representatives and community leaders, reconvene to discuss the management issue. An open discussion on the availability of resources and partnerships already in place within the Corridor will help guide a decision on whether a formal management structure is desired and if so, what the most feasible and appropriate option is.

The following management structures are commonly used for trails across the United States and can be considered for the SML trail. Each is described in more detail in **Appendix H**. The implications and abilities of each to secure funding are briefly described, as cross referenced with the identified potential trail funding sources. In addition, case studies for various management structures are provided to guide their consideration, including the merits and challenges for each example.

- **Single Government Organization** - This structure is used for trails managed by a single agency. This entity could be either a federal, state, or local agency, and would have different

requirements and level of authority depending on its classification. Because the SML trail transects multiple jurisdictions and has significant complexity and costs associated with future trail planning, construction, and maintenance, management by a singular local agency (e.g., Walsenburg, La Veta, Trinidad, Huerfano County or Las Animas County) is not a feasible option. However, if the management entity is sufficiently resourced, ownership by a singular governmental agency, such as the state, is an option warranting further exploration. A state agency, in many respects, may be well-prepared to implement and maintain a multi-jurisdictional trail. For example, CDOT or CPW are two state agencies that could singularly ‘own’ the trail or manage its operations. If, for instance, the preferred trail alternative is fully along or contiguous with CDOT right-of-way, CDOT could be the primary sponsor and authority for the trail’s construction and management.

- **Nonprofit Organization and Local Partnership** - This option includes shared ownership and management responsibilities between a nonprofit organization and local jurisdictions. The nonprofit may be an existing organization that is passionate about the SML trail, or one that is newly created. The nonprofit organization would provide the centralized structure in terms of trail planning, coordination, and implementation, and local jurisdictions (counties and cities) on the SML would provide right-of-way through easements and oversee trail construction, operations, and maintenance. It could solicit funding from a comparatively wider pool of sources than a state agency, including private and philanthropic donations. In addition, a non-profit would generally be nimbler than a state agency in terms of staffing, program development, advocacy and communications.
- **Cooperative Agreement** - A cooperative agreement would allow local agencies, such as Cuchara, for example, to manage segments of the trail within their respective jurisdictions, while another ‘central’ entity oversees project planning, programming, and overall coordination. A central trail manager could be a single agency or commission, and would share cooperative agreements with local entities for overseeing trail operations and maintenance. Because the central trail manager would need to establish and maintain cooperative agreements with multiple local entities, agencies, and landowners, this model could create uncertainty or inconsistency throughout the Corridor and may not be favorable as the optimal management structure for the SML trail.
- **Joint Powers Authority (JPA)** - A JPA is an entity that allows its member agencies to jointly exercise common powers. This structure would allow for one entity (the Authority) to oversee a trail that passes through multiple jurisdictions. The JPA would own the trail corridor, manage planning and implementation for the trail, and eventually operations and maintenance. The JPA is typically funded by member agency funds, and can pursue donations and grants as well as issue bonds. The JPA could also accept funds from federal, state and local sources, and collect revenue and other fees from the trail. Partnering with a nonprofit could provide further support through donations and volunteers. While establishing an Authority would involve initial administrative and overhead costs, a JPA is considered to be a strong potential management structure for the SML trail and should be given additional consideration.
- **Commission** - A Commission is overseen by a governing board made up of participating agencies and municipalities. The Commission typically funds its operating expenses through membership contributions that could, in the case of SML, be based on population or acreage or percent of trail within respective jurisdictions. Due to the anticipated costs of trail construction and maintenance over time relative to the revenue of local governments and agencies on the Corridor, this management structure is not recommended for the SML trail.

Outstanding Issues

As shown in **Table 15**, a number of outstanding issues would need to be addressed in the subsequent planning studies for the recommended trail alternatives.

Table 15: Outstanding Trail Planning Issues

| SIU | From | To | Outstanding Trail Planning Issues |
|-----|-----------------------|--------------------------|---|
| 1 | Lathrop State Park | North Side of La Veta | <ul style="list-style-type: none"> Acceptability of rails-with-trail concept with the SLRG railroad Trailhead configuration, features and use arrangements with the CPW at Lathrop State Park Best route option for connecting the Rails-with-Trails (SLRG Railroad) Alternative with Lathrop State Park Traffic control or grade separation for the US 160 trail crossing at the Lathrop State Park main entrance Spur trail connections from the CFRT to the State Wildlife Management Areas east of La Veta |
| 2 | North Side of La Veta | South Side of La Veta | <ul style="list-style-type: none"> None |
| 3 | South Side of La Veta | MP 14 USFS Boundary | <ul style="list-style-type: none"> None |
| 4 | MP 14 USFS Boundary | Cucharas Pass | <ul style="list-style-type: none"> Agreements with the USFS for the joint use of the San Isabel National Forest for the Cuchara Ridge and Blue/Bear Lakes Alternatives Spur trail connections with Cuchara and the Cuchara Mountain Resort for the Curchara Ridge Alternative |
| 5 | Cucharas Pass | North Lake | <ul style="list-style-type: none"> Spur trail connections between the CFRT and North Lake |
| 6 | North Lake | Monument Lake | <ul style="list-style-type: none"> Spur trail connections between the CFRT and North Lake |
| 7 | Monument Lake | Stonewall | <ul style="list-style-type: none"> None |
| 8 | Stonewall | Trinidad Lake State Park | <ul style="list-style-type: none"> Acceptability of the rails-to-trails concept with the former Old Trinidad Railroad ownership Trail connections to Trinidad Lake State Park and an easterly connection from the park to City of Trinidad trail system and the new state park at Fishers Peak. Trailhead configuration, features and use arrangements with the CPW at Trinidad Lake State Park |

Action Plan

The PEL Study recommendations and Implementation Plan provide a long-term infrastructure vision for the byway. Fulfilling this vision will be a long-term endeavor. Achieving the full safety, mobility and economic benefits of these investments will require a concerted and sustained commitment and may require new locally-based approaches to management and funding. While its full realization may seem daunting, as initial projects are completed and the related successes are demonstrated, momentum and excitement within the byway communities and partnering agencies will intensify. Integrating the vision with other economic development and tourism initiatives will further demonstrate their cumulative benefits and build momentum for continued investments within the region.

As CDOT, the byway and local agencies pursue the implementation of the study’s recommendations, there are several suggested strategies to maximize the opportunities as they arise:

- **Leverage the Safety Improvements** - While CDOT has many needs across the state and region, it does have a funding source for improving the state’s transportation system. As funding becomes available, implementing safety improvements can be a catalyst and means of advancing the trail alternatives. At a minimum, provisions for trail and byway improvements could be included, such as right-of-way. Major roadway maintenance or replacement could also be a means of advancing trail improvements.
- **Promote the Vision** - The PEL Study provides an excellent platform for promoting the vision for the Corridor. It provides the overall plan to support grant applications to show grantees the benefits of investments within the Corridor. Sharing the vision with the governing boards of potential partners will build the excitement, communicate the vision and prepare the path for future grant applications when they become available.
- **Program the Vision** - Based on the guidance from the Implementation Plan, the counties and local communities should work with CDOT and SCCOG to prioritize the improvements for inclusion in the regional planning processes. These processes include the CDOT Statewide Planning Processes, the Development Program (10-year list of projects), the State Transportation Improvement Program, and the South Central Transportation Planning Region planning administered by the SCCOG.

The first step in realizing this vision is taking initial action. Recommended initial actions are summarized in **Table 16**. Initiating and then maintaining these actions will provide the foundation for implementing the master plan of projects as funding is secured.

Table 16: Recommended Action Plan

| Highway Safety Projects (CDOT) | Trail Projects (Local Agency) | Byway Amenity Projects (SHOL Byway Board) |
|--|--|--|
| <ul style="list-style-type: none"> • Consider and evaluate the inclusion of the recommended highway safety project(s) in the CDOT State Transportation Improvement Program (STIP). • Continue coordination and support of local agency initiatives for trail and byway projects. | <ul style="list-style-type: none"> • Convene a Trails Advisory Group (TAG) representing the two-county region to further explore management and funding approaches for the SML trail. The SCCOG could provide a leading role in organizing the TAG. • In coordination with the TAG and SHOL Byway Board, SCCOG to track and monitor current funding opportunities and notices of availability. • SCCOG to continue to monitor the status of the New Elk Mine operations and potential abandonment of the Old Trinidad Railroad. | <ul style="list-style-type: none"> • The SHOL Byway Board to continue to track and monitor current byway-related funding opportunities and notices of availability. |

Appendix A - PEL Questionnaire





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



PEL Questionnaire

This questionnaire is intended to act as a summary of the Planning process and ease the transition from the planning study to a NEPA analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, and much (or all) of the history of decisions, etc, is not passed along. Different planning processes take projects through analysis at different levels of detail. Without knowing how far, or in how much detail a planning study went, NEPA project teams often re-do work that has already been done.

Planning teams need to be cautious during the alternative screen process; alternative screening should focus on purpose and need/corridor vision, fatal flaw analysis and possibly mode selection. This may help minimize problems during discussions with resource agencies. Alternatives that have fatal flaws or do not meet the purpose and need/corridor vision cannot be considered viable alternatives, even if they reduce impacts to a particular resource. This questionnaire is consistent with 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environmental Linkage process.

Instructions: These questions should be used as a guide throughout the planning process. The questionnaire should be filled out as the study progresses. It is a beneficial tool to keep leadership and program managers up to date on a study's progress. When a PEL study (i.e. corridor study) is started, this questionnaire will be given to the project team. Some of the basic questions to consider are: "What did you do?", "What didn't you do?" and "Why?". When the team submits the study to FHWA for review, the completed questionnaire will be included with the submittal. FHWA will use this questionnaire to assist in determining if an effective PEL process has been applied before NEPA processes are authorized to begin. The questionnaire should be included in the planning document as an executive summary, chapter, or appendix.

1. Background:

- a. What is the name of the PEL document and other identifying project information (e.g. subaccount or STIP numbers)?

Southern Mountain Loop Planning and Environmental Linkages Study

- b. Who is the lead agency for the study? (FHWA, FTA, CDOT, Local Agency)

South Central Council of Governments (SCCOG) and CDOT

- c. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were conducted. (Include project start date and end date).

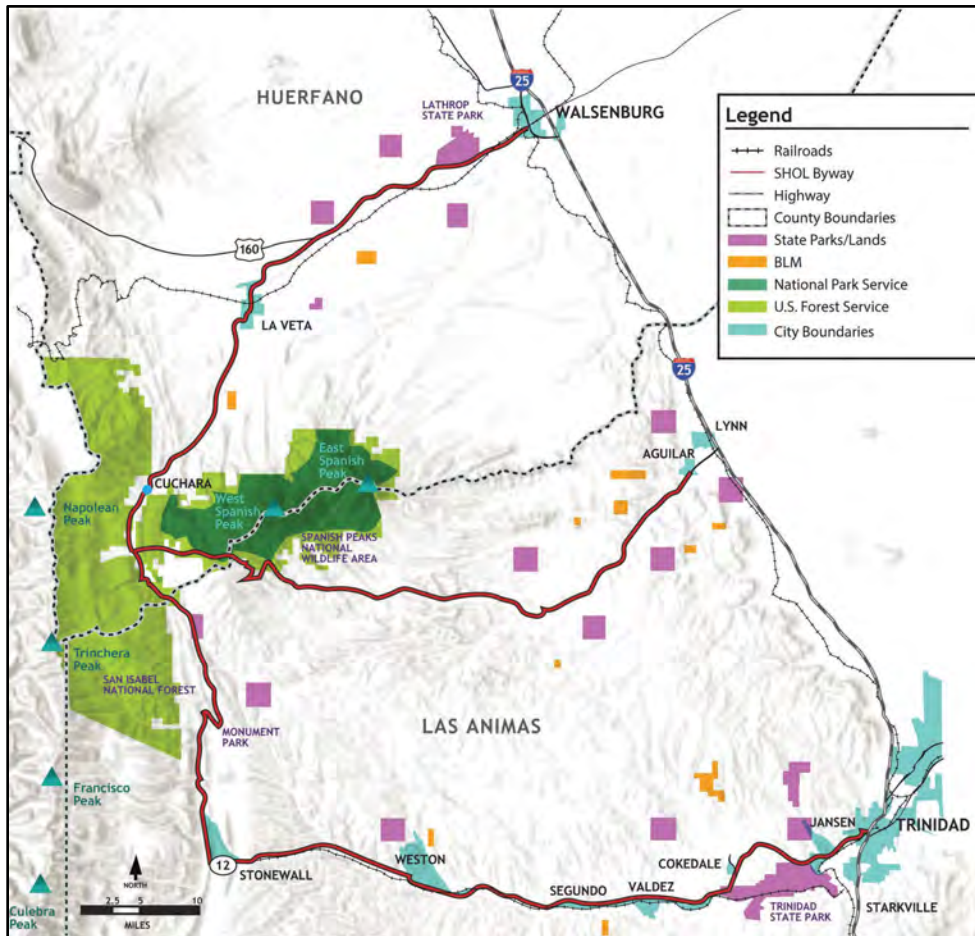
Start - February 2019
 Logical Termini Memo - March 2019
 Purpose and Need (Draft) - March 2019
 Safety Assessment Report - June 2019
 Committee Meetings No. 1 (Goals and P&N) - June 2019
 Landowner Information Report - August 2019
 Existing Corridor Conditions Report (Draft) - August 2019
 Coffee Chats 1st Round - August 2019
 Committee Meetings No. 2 (Potential Alternatives) - September 2019
 Public Open House (P&N and Corridor Conditions) - September 2019
 Purpose and Need (Final) - October 2019
 Existing Corridor Conditions Report (Final) - December 2019
 Coffee Chats 2nd Round - January 2020
 Committee Meetings No. 3 (Alternatives Screening) - April 2020
 Alternatives Report (Draft) - April 2020
 Committee Meetings No. 4 (Implementation Plan) - June 2020
 Alternatives Report (Final) - June 2020
 Public Open House (Recommendations and Implementation) - July 2020
 Draft PEL Study Report - July 2020
 Final PEL Study Report - August 2020 (anticipated)
 End - September 2020 (anticipated)

- d. Provide a description of the existing transportation corridor, including project limits, length of study corridor, modes, number of lanes, shoulder, access control and surrounding environment (urban vs. rural, residential vs. commercial, etc.)

Corridor Description: Located in south central Colorado, the Study Corridor (the Corridor) extends along United States Highway 160 (US 160) and Colorado State Highway (SH 12) between Walsenburg and Trinidad, a distance of roughly 82 miles. This corridor has been designated as the Scenic Highway of Legends (SHOL) Byway by the Colorado Scenic and Historic Byways Commission. The Corridor generally begins in Walsenburg and extends west along US 160 to the SH 12 intersection. Continuing south through the Town of La Veta, the Corridor extends along SH 12 over Cucharas Pass to the Village of Stonewall, and then east through multiple small communities, terminating in Trinidad. Other than a few small cities and communities, the Corridor is predominately rural and alpine, including Cucharas Pass, and includes the San Isabel National Forest. Small communities in the Corridor include La Veta, Cuchara, Stonewall, Weston, Segundo, Valdez, Cokedale and Jansen.

Infrastructure Description: Within the Study Corridor, US 160 is generally a two-lane highway and begins at milepost 305.38 in Walsenburg and extends to the west to SH 12 at milepost 294. US 160 is four lanes within Walsenburg, transitioning to two lanes on the western side of the city, and includes some three-lane sections within the Corridor. SH 12 begins at its intersection with US 160 (milepost 0.0) and extends 78.33 miles southerly to Trinidad.

Throughout the Corridor, existing shoulder widths vary. Many existing shoulder widths, both along US 160 and SH 12, do not meet current CDOT guidelines. The majority of SH 12 consists of narrow shoulders (0 to 2-feet wide).



- e. Who was the sponsor of the PEL study? (CDOT, Local Agency [name the local agency], Other)

South Central Council of Governments (SCCOG) and CDOT

- f. Who was included on the study team (Name and title of agency representatives, PMT, TWG, consultants, etc.)?

Project Technical Team (PTT):

- Walt Boulden - SCCOG Executive Director/PM
- Don Scanga - CDOT R2 PM
- Ajin Hu - CDOT R2 Program Engineer
- Shannon Ford - CDOT R2 Environmental
- Wendy Pettit - CDOT R2 Planning
- Laurel Jones - CDOT R2 Bike/Ped
- Bryan Meyers - CDOT Bike/Ped
- Troy Halouska - CDOT PEL Manager

- Tricia Sergeson - FHWA
- Armando Henriquez - FHWA
- Jerry Mugg - Hg Consult (PM/Roadway)
- Ted Heyd - Alta (Trails)
- Judy Walden - Walden Mills (Byway)
- Carol Coates - Atkins (Environmental)
- Monica Ramey - Bachman PR (Public Involvement)

Study Steering Committee:

- PTT Members
- Tim Crisler - Trinidad Parks and Rec Advisory Committee
- Greg Sund - Trinidad City Manager (former)
- Dean Moltrier - Las Animas County Commissioner (former)
- John Galusha - Huerfano County Administrator
- Marilyn Russell - La Veta Town Board (former)
- Deb Malone - Scenic Highway of Legends Board

Study Technical/Stakeholder Committee:

- PTT Members
- Study Steering Committee Members
- Mike Trujillo, CO Parks and Wildlife
- Stacey Koury, Lathrop State Park
- Crystal Dreiling, Trinidad Lake State Park
- Destiny Chapman, USFS Pike & San Isabel National Forests
- John Baumchen, USFS Pike and San Isabel National Forests
- Melanie Bounds, Huerfano County Government
- Bob Lucero, Las Animas County
- Allison Michaels, USFWS
- Steven Turner, History Colorado, the Historical Society
- Peter Olmstead, US Army Corps of Engineers, Albuquerque District
- Tripp Minges, CDPHE - Water Quality Division
- Jerry Henderson CDPHE - Hazardous Material
- Karen Wolf - Trinidad
- Jeffer Wingate - U.S. Forest Service/San Carlos
- Alex Alma - CPW CO Front Range Trail
- Ben Lenth - Colorado Land Trust
- Derek Sokoloski - CO State Forestry Service
- Mike Moore - Highway of Legends
- Janet Richards - Spanish Peaks Alpine Alliance
- Bob Holder - Colorado Wildlife
- Julie Knudson - Purgatory River Water District
- Russ Pallone - Trinidad Lake State Park
- Jeni Jackson - Old Sopris Trail
- Cindy Campbell - Huerfano Parks & Rec District
- Anton Aldretti - Huerfano Parks & Rec District
- Travis Sauder - CO Parks and Wildlife

- Luke Svare - CO Parks and Wildlife
- Kent Hay - Spanish Peaks Cycling
- Kerrie Meyler - Spanish Peaks Cycling
- Ben Wiley - Walsenburg
- Pat Sandoval - Trinidad
- Sandy Borthick - La Veta/Spanish Peaks
- LaRissa Morris - La Veta-Cuchara Chamber
- Bree Lessar - La Veta RE-2 School District
- Juan Dalaroca - Trinidad Tourism Board
- Paula Berg - La Veta Fire Protection District Auxiliary
- David Staffen - La Veta Fire Department
- Harold Willburn - La Veta Town Marshal
- Jim Chamberlain - La Veta Town Marshal
- Georgi Ann Clark - Town of Trinidad
- Cy Michaels - Trinidad Tourism Board
- Louis Fineberg
- Phil Dorenkamp - Town of Las Animas
- Paula Lucero - Town of Las Animas
- Derek Navarette - Las Animas County
- Gaye Davis - La Veta School District Re2
- Tim and Ellen Lancaster - Stone Wall Shoppe and Rest.
- Arica Andreatta - Spanish Peaks Biz Alliance Real Estate
- Anna Lee - Bachman Assoc. Real Estate
- Lois Adams - The Cuchara Foundation
- John Littlefield - The Cuchara Foundation
- Cuchara Mountain Park Advisory Committee (CMPAC)
- Mark White - La Veta
- Karl Gabrielson - Trinidad Former City Planner
- Gary Weston - La Veta
- Shannon Youngquist-Lucy - Trinidad
- Anton Aldretti - Huerfano Parks & Rec District
- Jason Hagan - CO Parks and Wildlife
- Bill Naccarato - Primera School District
- Blake Byall - Primera School District K-12
- Vicki Koepsel - Huerfano County
- Carl Young - Huerfano County
- Evan Sander - Huerfano County
- Bob Kennemer - Huerfano County
- Marty Hackett - Colorado Welcome Center
- Joel Dunlap - BarNI Ranch
- Brad Cabot - BarNI Ranch
- Kevin Shanks - THK Associates
- Randall Navarro - THK Associates

- g. List the recent, current or near future planning studies or projects in the vicinity?
What is the relationship of this project to those studies/projects?

- Colorado Front Range Trail Implementation Plan (CPW 2007) - Master Plan for CFRT which designated the SHOL byway as the preferred location for the SML (Southern Mountain Loop) trail.
- Colorado Front Range Trail: From South of Pueblo to Trinidad (CPW 2006) - Provided more details on the CFRT route planning (see map).
- Scenic Highway of Legends Byway Management Plan (SHOL 2001 - Updated 2020) - Established goals for the byway feature improvements.
- La Veta Parks, Open Space and Trails Master Plan (La Veta 2020) - helped identified Main Street as the preferred location for the CFRT.
- Trinidad Trails and Greenways Master Plan (Trinidad 2015) - Master plan for local trails within the city and desired to connect to Trinidad Lake State Park.
- Huerfano County Trails Master Plan (Huerfano 2011) - Master plan for local trails within the county and connections to Lathrop State Park.
- Cuchara Mountain Park Master Plan (Huerfano County 2019) - Plan for converting old ski resort to recreational center and established it as a key activity center for trail connectivity.
- Crazy French Ranch Acquisition and Future Master Plan (Future) - Identified a new state park to be developed at the Crazy French Ranch property.

2. Methodology used:

- a. Did the Study follow the FHWA PEL Process? If the Study was conducted by another US DOT Agency, provide a crosswalk table to demonstrate how the FHWA Process was utilized.

The study followed the FHWA PEL process

- b. How did the Study meet each of the PEL Coordination Points identified in 23 USC 168?
 - Coordination Point 1 (Determine Reason for PEL Study and Desired Outcome) - Presumably done by CDOT and SCCOG prior to launching the study
 - Coordination Point 2 (Develop P&N, Goals and Objectives) - An initial framework was developed soon after the study start-up and was perfected and evolved as the study progressed leading to the final approval by FHWA.
 - Coordination Point 3 (Evaluate and Screen Alternatives ...) - The process of alternatives evaluation and screening consisted of working with the PTT to agree on the overall evaluation framework (two levels), which was then applied to the alternatives including P&N, environmental, feasibility and other factors. Evidence of this coordination point entails the review, comment and approval by the PTT of the Alternatives Report which documented the evaluation and screening processes.

- Coordination Point 4 (Final PEL Document) - The Final PEL Study Report includes the review, comment and approval of the PTT (anticipated).
- c. What NEPA terminology/language was used and how did you define them? (Provide examples or list)

NEPA terminology was utilized as follows:

- PEL Study was described using NEPA terms such as environmental resources, existing infrastructure conditions, corridor needs, define potential improvements, and linking the study's recommendations with the subsequent environmental studies
- Planning context
- Purpose and Need, including a full section on defining the purpose of the study and the identified needs to be addressed
- Evaluation and screening of alternatives through a two-level process including P&N and environmental resource impact factors
- Recommended trail alternatives for more detailed study through NEPA, as appropriate
- Agency and public involvement including direct coordination with resource agencies and copies of correspondence
- Joint development opportunities with the USFS for trail alternatives within the San Isabel National Forest
- Environmental resource considerations including NEPA next steps and the definition of NEPA and its requirements for proposed actions
- Listing of potential next NEPA steps including CatEx and EA.
- Listing of next steps for major NEPA resource types
- Implementation plan recognizing the funding trigger for NEPA and SIU definition requirements, such as independence and avoidance of impact fragmentation

- d. How do you see these terms being used in NEPA documents?

The PEL Study streamlines the next steps, potentially including NEPA and environmental analysis and permitting, depending on the sponsoring agencies and funding sources. This is accomplished by establishing the P&N, defining the range of trail alternatives to advance into the next more-detailed studies, identifying the important environmental resource considerations, defining the outstanding planning issues to be further considered, and identifying the opportunities for future coordination and joint development with agencies.

- e. What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by CDOT and the local agency, with buy-in from FHWA, USACE, and USFWS.

The key steps for the study's decision making coincided with the PEL coordination points - P&N, identification and screening of alternatives, and alternatives recommendations. These stepped decisions were coordinated and approved by the PTT through direct engagement in coordination meetings and through reports

review, comment and approval. PTT members included CDOT, SCCOG and FHWA. In addition, the study committees were engaged similarly throughout the study, which included representatives of all participating (see list of committee memberships). At the outset of the study, correspondence to all resource agencies was submitted and reports were released for comment (Existing Corridor Conditions and Final PEL Study Report (anticipated)) for comment. Individual coordination meetings were also held with local CPW representatives at the state parks and with the USFS.

- f. How should the PEL information below be presented in NEPA?

The PEL Study provides an overall corridor-wide framework for P&N, environmental resources and recommended alternatives and should be referenced as a starting point for the more-detailed study of the trail alternatives to streamline the next studies and maximize the use of the PEL Study.

3. Agency coordination:

- a. Provide a synopsis of coordination with federal, tribal, state and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.

At the outset of the study, an introduction and invitation letter to participate in the Study Technical Committee was submitted to all resource agencies. Many directly involved agencies participated in the committee throughout the study and provided review and comment of study reports. Copies of reports were submitted to all agencies on the list, including those agencies that didn't directly participate. Individual discussions were held with the CPW and the USFS.

- b. What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved in the PEL study? This includes all federal agencies if the study is being led by a local agency or transit oriented study seeking to utilize the FHWA PEL Process.

Public agencies with transportation-related responsibilities participating in the study included CDOT, FHWA, CPW, USFS and the local counties and cities. Coordination was also performed directly with the railroad owners within the Corridor.

- c. What steps will need to be taken with each agency during NEPA scoping?

Overall coordination with all agencies with regulatory environmental resource oversight will be necessary for the subsequent NEPA studies. These resources and agencies are listed in the PEL Study Report. In addition, particular coordination will be necessary with the CPW for coordination of trail alternatives with the two state parks and with the USFS for alternatives within the San Isabel National Forest. Depending on the project sponsorship and sources of funding, this could include sponsoring and/or cooperating agency status.

4. Public coordination:

- a. Provide a synopsis and table of your coordination efforts with the public and stakeholders.

A study-specific program of agency and public activities was defined at the outset of the PEL Study. The program was designed to provide key input and comments at each critical phase or step of the study process - Purpose and Need, existing conditions, alternatives evaluation, and study recommendations. Tactics included two public open houses, multiple coffee chats at two key stages of the study, participation in community events and fairs, a Study Stakeholder Committee which included key representatives from communities, business groups and advocacy groups, and social media. Communication aids supporting and increasing public awareness included: eNewsletters, factsheets, mailings, posters, postcards, media relations and press releases, a study website, social media tools, and a study email database.

5. Corridor Vision/Purpose and Need:

- a. What was the scope of the PEL study and the reason for doing it?

Colorado's Scenic Highway of Legends (SHOL) Byway stretches roughly 82 miles between Walsenburg and Trinidad along US 160 and SH 12. It provides access to historic communities and recreational activities for both locals and visitors. The Corridor has additionally been identified as the preferred route for 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. In addition, Huerfano and Las Animas Counties are two of the most economically challenged and underserved counties in Colorado and the tourism economy, supported by the byway, has lagged behind other regions within the state. Regional and local leadership consider tourism-related assets, such as recreational trails and the byway, as being integral to the region's overall quality of life and attractiveness as a place to live and work. Therefore, a renewed vision and improvement plan for the Corridor, entailing highway safety, multi-use trail, and byway-related infrastructure improvements is desired as a catalyst to realize the full potential of the region's existing and planned tourism-related assets and fulfilling the region's goals of economic sustainability and vibrancy.

The scope of the study was structured based on these overall objectives - to improve highway safety and provide a regional and local multi-use trail, completing the SML segment of the CFRT, along the byway. Specific study activities included an assessment of the Corridor's transportation needs, conditions and environmental setting; identification of recommended improvements through an evaluation and screening process; and an implementation plan. These activities were performed in coordination with a program of agency and public coordination and engagement activities.

- b. What is the vision for the corridor?

The recommended vision for the corridor includes a recommended and integrated master plan of projects to improve highway and pedestrian safety, to complete the SML segment of the CFRT, and add traveler-related amenities to the byway. The

study's goals of improving safety for all travelers, providing a well-connected multi-use trail, preserving and promoting the region's natural environment and communities, and complementing the byway's continued development provided the basis for these recommendations.

c. What were the goals and objectives?

In addition to directly improving safety and accommodating and connecting the Corridor with a multi-use trail, the study was an opportunity to converge these needed transportation solutions with the broader economic goals of the region. These broader goals and objectives included:

- Develop partnerships with agencies and local community leaders to carry forward the study recommendations.
- Identify and evaluate the improvement alternatives in a manner that reflects the values of residents which both promote and protect the intrinsic qualities that draw visitors to the region.
- Integrate the recommended improvements in support of the ongoing planning for the byway and local, community trails.
- Provide guidance on how to potentially fund, administer and maintain a regional trail system.

d. What is the PEL Purpose and Need statement?

The purpose of the study is to improve highway safety and provide a regional and local multi-use trail, completing the SML segment of the CFRT, along the Scenic Highway of Legends Byway between Walsenburg and Trinidad.

Integrated transportation-related improvements are needed to address:

- **Wild Animal Crashes** - Localized areas within the Corridor have higher concentrations of wild animal crashes.
- **Roadway Configurations (Lane Departure Crashes)** - Existing roadway configurations are inadequate and contribute to localized areas of higher lane departure crashes.
- **Transition Zones (Rear-end Crashes)** - Transition areas within the Corridor between the rural and urban-like settings have higher incident rates for rear-end crashes.
- **Bicycling Safety** - Existing roadway shoulder widths and treatments are inadequate for bicyclists.
- **Pedestrian Crossing Safety** - Existing pedestrian crossing movements in La Veta, Cuchara and Stonewall create unsafe conditions.
- **Multi-use Trail Accommodations** - There are currently no accommodations for non-motorized users, of varying abilities, to travel through and within the Corridor.
- **Multi-use Trail Connectivity** - Multi-use trail connections between the Corridor's amenities do not currently exist.

- e. What steps will need to be taken during the NEPA process to make this a project-level purpose and need statement?

The PEL Study P&N provides a corridor-wide framework of the needs to be addressed by the recommended projects. For the highway safety projects, more detailed analysis of the crash history in local areas will be needed to specifically identify the root causes and local applications of the recommended solutions. For the trail alternatives, more specific needs for trail accommodations and connections to local attractions will need to be itemized, depending on the limits and scope of the more-detailed study.

6. Range of alternatives considered, screening criteria and screening process:

- a. What types of alternatives were looked at? (Provide a one or two sentence summary and reference document.)

It was determined that the Highway Safety Alternative would not solely fulfill the study's P&N. Therefore, it was not considered as a standalone alternative, but rather as a supplemental alternative or set of improvements common for all trail alternatives. Trail alternatives included the No-Build, On-Highway Trail (attached or separated from the byway but within CDOT right-of-way), and multiple Off-Highway Trail Alternatives. An overall Design Intent was established based on the overarching goals of the CFRT to identify all potential and reasonable Off-Highway Trail Alternatives. These guidelines included user experience, the use of available existing corridors, right-of-way feasibility, and joint development with other parties and agencies, such as the use of federal lands.

- b. How did you select the screening criteria and screening process?

The screening process structure and measures directly reflected the overall Design Intent and the P&N. The level-of-detail reflected the range of decisions to be made by the study and the study's scope given the corridor's long length. The screening criteria included the P&N, Environmental Considerations, and Feasibility Factors through a two-level process.

- c. For alternative(s) that were screened out, briefly summarize the reasons for eliminating or not recommending the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)

For the Level 1 screening, alternatives were eliminated due to not fulfilling the P&N. These included the Highway Safety Alternative, which was carried forward as a supplemental alternative consistently included with all trail alternatives. Off-highway Alternatives were not carried forward due to not sufficiently connecting the CFRT with the Corridor's attractions. For the Level 2 screening, several Off-Highway Trails were not recommended based on a relative comparative evaluation of the benefits and impacts to environmental resources, property impacts and operational considerations.

- d. How did the team develop Alternatives? Was each alternative screened consistently?

Each alternative was consistently evaluated based on the screening factors. Alternatives were developed based on a set of trail concepts that were applied to the Corridor to form the alternatives. Workshops were conducted with study committees to identify the full range of potential alternatives. Findings from the screenings were then vetted with the committees at meetings and with the general public through coffee chats and public open houses.

- e. Which alternatives were recommended? Which should be brought forward into NEPA and why?

The following trail alternatives are recommended to advance into more detailed study, including NEPA as appropriate:

- No-Build - Maintain the Corridor in its existing configuration.
- On-Highway Trail (Attached) - Provide trail accommodations attached to the byway shoulders, in addition to the shoulder widening, as necessary, for highway safety.
- On-Highway Trail (Separated) - Provide a bi-directional trail along the byway separated from the roadway and within the existing CDOT right-of-way, to the extent possible.
- Off-Highway Trail - Provide a bi-directional trail on an alignment separate from and independent of the byway and existing CDOT right-of-way, including:
 - Rails-with-Trails (SLRG Railroad) Alternative
 - Cuchara Ridge Alternative
 - Blue/Bear Lakes Alternative
 - Meadows Alternative
 - Lake Link Alternative
 - Rails-to-Trails (Old Trinidad RR) Alternative

All trail improvement concepts include a common set of highway safety, byway amenity and technology improvements.

- f. Did the public, stakeholders, and agencies have an opportunity to comment during this process? Summarize the amount of public interest in the PEL Study.

The public, stakeholder and agencies actively participated in the PEL Study and its decision making. This participation included four committee meetings, two public meetings and multiple locally-based coffee chats. Local interest was evident by the active and consistent engagement and the relatively high number of participants at the events.

- g. Were there unresolved issues with the public, stakeholders and/or agencies?

Yes, not in the sense of supporting the study's recommendation, but rather issues to be considered and addressed in the subsequent more detailed studies. These issues include the following:

| SIU | From | To | Outstanding Trail Planning Issues |
|-----|-----------------------|--------------------------|---|
| 1 | Lathrop State Park | North Side of La Veta | <ul style="list-style-type: none"> Acceptability of rails-with-trail concept with the SLRG railroad Trailhead configuration, features and use arrangements with the CPW at Lathrop State Park Best route option for connecting the Rails-with-Trails (SLRG Railroad) Alternative with Lathrop State Park Traffic control or grade separation for the US 160 trail crossing at the Lathrop State Park main entrance Spur trail connections from the CFRT to the State Wildlife Management Areas east of La Veta |
| 2 | North Side of La Veta | South Side of La Veta | <ul style="list-style-type: none"> None |
| 3 | South Side of La Veta | MP 14 USFS Boundary | <ul style="list-style-type: none"> None |
| 4 | MP 14 USFS Boundary | Cucharas Pass | <ul style="list-style-type: none"> Agreements with the USFS for the joint use of the San Isabel National Forest for the Cuchara Ridge and Blue/Bear Lakes Alternatives Spur trail connections with Cuchara and the Cuchara Mountain Resort for the Cuchara Ridge Alternative |
| 5 | Cucharas Pass | North Lake | <ul style="list-style-type: none"> Spur trail connections between the CFRT and North Lake |
| 6 | North Lake | Monument Lake | <ul style="list-style-type: none"> Spur trail connections between the CFRT and North Lake |
| 7 | Monument Lake | Stonewall | <ul style="list-style-type: none"> None |
| 8 | Stonewall | Trinidad Lake State Park | <ul style="list-style-type: none"> Acceptability of the rails-to-trails concept with the former Old Trinidad Railroad ownership Trail route transitions around the New Elk Mine and to Stonewall from the former railroad alignment for the Rails-to-Trails (Old Trinidad Railroad) Alternative Trail connections to Trinidad Lake State Park Trailhead configuration, features and use arrangements with the CPW at Trinidad Lake State Park |

7. Planning assumptions and analytical methods:

- a. What is the forecast year used in the PEL study?

Traffic growth and capacity operations are not an issue for the byway. Current volume to capacity ratios for SH 12 are around 0.2 with little projected growth in traffic.

- b. What method was used for forecasting traffic volumes?

Projections were based on historical counts.

- c. Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long-range transportation plan?

The Corridor's vision and P&N reflect that the primary traffic-related needs are safety related.

- d. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs and network expansion?

Existing and current trends in population and land use were used as the basis for the study. Projected network expansion within and near the Corridor includes the continuation of the CFRT through and to the north of Walsenburg.

8. What pieces of the PEL can transfer directly to the NEPA phase of a project?

The study was conducted to be fully streamlined and transferred to the subsequent recommended highway safety, trail alternatives and byway amenity projects.

9. Resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:

- a. In the PEL study, at what level of detail were the resources reviewed and what was the method of review?

The PEL Study identified resources early in the planning process, as documented in the Existing Corridor Conditions Report, to avoid sensitive environmental resources and fatal flaw impacts during the development of improvement alternatives. This inventory and identification also served as a basis for identifying opportunities to jointly develop and integrate trail improvements with other past or future federal and state actions, such as the existing and planned state parks, local trail systems, public facilities and the national forest. All the environmental and community resource information was gathered using readily available sources and was not ground verified. As a result, all resource information would need to be reviewed and updated during future NEPA or environmental review processes. This level-of-detail and overall approach to defining the environmental setting was provided to all relevant resources.

- b. Is this resource present in the area and what is the existing environmental condition for this resource?

The following resources were identified and inventoried for the study. Each is present within the Corridor and/or Study Area, in varying extent and quality. Resources were mapped and cataloged as the basis for the alternatives identification, analysis and evaluation. For each, the regulatory drivers that guide the impact considerations were identified and described, including the oversight authority and agency.

- 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

- c. What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?

The following describes the next steps and processes for the consideration of resources addressed by the study within subsequent NEPA and environmental analyses:

- **Cultural Resources** - Future projects would require a comprehensive Class III cultural resource survey, documentation of resources, an effects evaluation, and coordination with the Colorado State Historic Preservation Office (SHPO). Additionally, historic properties may qualify as Section 4(f) resources under the U.S. Department of Transportation Act of 1966 and require additional analysis and approval from the Federal Highway Administration (FHWA).
- **Environmental Justice** - There is a high population of Hispanic or Latino residents in the Study Area, so all future public involvement activities should consider limited English proficiency populations.
- **Farmlands** - Soils within the Study Area have been classified by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) as “Prime Farmland if Irrigated.” Further investigation is needed to determine if these areas are still active, irrigated farmlands. If required, overall impacts to prime farmlands would be overseen by the Farmland Protection Policy Act and would need to be avoided and minimized. Clearance from the NRCS may be required.
- **Floodplains** - Designed encroachments into the Cucharas River, Purgatoire River, and their tributaries should be minimized and occur only after consultation with the Federal Emergency Management Agency, the Colorado Water Conservation Board, the U.S. Army Corps of Engineers (USACE), and local floodplain regulators. If detailed Zone AE or other detailed flood zones are encountered, Conditional Letters of Map Revision (CLOMR) and/or no-rise certifications may be required. If required, interagency coordination should begin before the NEPA permitting stage.
- **Geologic Resources and Soils** - The potential for expansive soils along the Corridor is low to medium. However, a qualified scientist or engineer should investigate for swelling or expansive soils prior to the design and construction of projects recommended by the PEL Study. Subsidence also may be a consideration in some areas, such as near Cokedale.
- **Hazardous Materials** - CDOT requires an initial site assessment (ISA) or a Phase I environmental site assessment (ESA) for Categorical Exclusion projects or acquisition of properties with potential hazardous materials concerns.
- **Noise** - If a future project is classified as a Type I project, a noise analysis would be required during the NEPA process (CDOT, 2015). A Type I project is not anticipated.
- **Recreational Resources** - If a Section 4(f) or Section 6(f) evaluation is necessary for recreational resources, adequate time should be built into the design schedule to avoid delays and obtain project clearances. A Section 4(f) evaluation may require design modifications, mitigation considerations,

and approval by FHWA. If a Section 6(f) conversion of land is necessary, a replacement parcel of equal or higher recreational value at a one-to-one ratio must be identified. The official with jurisdiction, CPW, and the National Park Service (NPS) must approve the replacement land. The CPW and NPS would not permit the conversion of Section 6(f) land to occur until the replacement property has been fully acquired and is available to serve public outdoor recreational uses.

- **Threatened and Endangered Species, Other Special-Status Species, and Wildlife** - Time should be built into project schedules for fieldwork and documentation of these resources. Potential impacts to special-status species would need to be assessed, and coordination with the U.S. Fish and Wildlife Service (USFWS) may be required. If a Senate Bill 40 wildlife certification is required, coordination with CPW and CDOT would need to occur and a mitigation plan would be required. If construction is proposed during the migratory bird nesting season, preconstruction surveys would be required. If active nests are found, non-construction zones would need to be established around each nest until the young have fledged. The nesting season is species-dependent and can range from April 1 to August 31. Additionally, depending on project location, a wildlife crossing analysis may be required.
- **Wetlands and Other Waters of the U.S.** - When wetland impacts are expected, the project team should build adequate time into the design schedule to allow a wetland delineation and consequent permitting.

d. How will the data provided need to be supplemented during NEPA?

For each project and proposed action, the identified resources would need to be verified through site surveys to confirm the location, extent and quality of the resource and its proximity and potential impact by the project to supplement the information gathered and assessed by the PEL Study. Working with the design development and detailing, as necessary and appropriate, measures to avoid and minimize the impacts would be performed and incorporated into the project's design. Procedures and processes would be followed pursuant to the regulatory guidance germane to the type of resource potentially being impacted. Accordingly, close and proactive coordination with the appropriate regulatory agencies would be performed.

10. List resources that were not reviewed in the PEL study and why? Indicate whether or not they will need to be reviewed in NEPA and explain why.

Though not identified by the study, additional resource considerations may be warranted during future transportation improvements along the Corridor. These resources were not detailed in the study 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:

- a. Air Quality
- b. Cumulative Impacts
- c. Noxious Weeds

- d. Paleontology
- e. Vegetation
- f. Water Quality

11. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where it can be found.

While cumulative impacts were not addressed by the study in a broader and regional sense, particularly relating to the long-term impacts of tourism growth generated by the trail improvements, considerations in the formulation of the alternatives and the project definitions were provided. For the northern terminus of the SML segment of the CFRT at Lathrop State Park, it was confirmed that an existing trail extending to the north currently exists. This confirms that a future extension of the trail to the north as part of the CFRT would not have unavoidable and unforeseen cumulative impacts. In the formulation of the subsequent trail studies, cumulative impacts were considered such that decisions in one study would not have unacceptable impacts on decisions in adjoining studies.

12. Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.

Due to the level-of-detail, the PEL Study did not make specific mitigation strategy recommendations, but rather provided general guidance for the consideration of impact avoidance, minimization and mitigation. For the identified opportunities to jointly develop the trail and its facilities with others, recommendations for the continued coordination and cooperation with the partnering state and federal agencies were provided, which could include mitigation.

13. What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products which can be used or provided to agencies or the public during the NEPA scoping process?

The PEL Study products have been shared and where appropriate, coordinated with the various resource agencies. It is recommended that the PEL Study findings be utilized as a starting point, updated as appropriate, for the subsequent NEPA and fully referenced to streamline the process and maximize efficiencies. The study's findings, as updated, should be referenced and discussed with the agencies as part of the scoping process for subsequent NEPA.

14. Are there any other issues a future project team should be aware of?

- a. Examples: Utility problems, access or ROW issues, encroachments into ROW, problematic land owners and/or groups, contact information for stakeholders, special or unique resources in the area, etc.

The PEL Study includes the identification of relevant outstanding planning issues that would need to be resolved in the subsequent NEPA studies.

15. Provide a table of identified projects and/or a proposed phasing plan for corridor build out.

Recommended Highway Safety Projects:

| Project Priority | General Description | Route | Project Location | | | Highway Constr. Cost (\$M 2020) | Trail Constr. Cost (\$M 2020) |
|------------------|------------------------------------|--------|------------------|---------|----------------|---------------------------------|-------------------------------|
| | | | From (MP) | To (MP) | Length (Miles) | | |
| 1 | Segundo Area | SH 12 | 52.8 | 56.8 | 4.0 | \$2.5 | \$7.4 |
| 2 | Vigil Area | SH 12 | 42.1 | 44.1 | 2.0 | \$0.7 | \$2.6 |
| 3 | Curve SE of North Lake | SH 12 | 27.0 | 29.0 | 2.0 | \$1.7 | \$4.1 |
| 4 | US 160 to La Veta (N) | SH 12 | 0.0 | 4.6 | 4.6 | \$3.2 | \$5.5 |
| 5 | Vigil (E) to Segundo (W) | SH 12 | 44.1 | 52.8 | 8.7 | \$4.4 | \$18.5 |
| 6 | La Veta (S) to Cuchara Mtn. Resort | SH 12 | 5.8 | 18.4 | 12.6 | \$18.7 | \$18.7 |
| 7 | Santa Fe/Main Street Intersection | SH 12 | 70.7 | 70.8 | 0.1 | \$2.6 | NA |
| 8 | Segundo (E) to Cokedale (W) | SH 12 | 56.8 | 61.4 | 4.6 | \$8.6 | \$8.1 |
| 9 | Monument Park to Vigil (W) | SH 12 | 33.6 | 42.1 | 8.5 | \$4.7 | \$13.1 |
| 10 | North Lake to Monument Park | SH 12 | 29.0 | 33.6 | 4.6 | \$3.8 | \$7.0 |
| 11 | US 160 Railroad Crossing | US 160 | 304.8 | 305.2 | 0.4 | \$0.1 | NA |
| 12 | Jansen Area | SH 12 | 68.1 | 69.1 | 1.0 | \$3.4 | NA |
| 13 | City of La Veta | SH 12 | 4.6 | 5.8 | 1.2 | \$0.7 | NA |
| 14 | Cuchara Mtn. Resort to North Lake | SH 12 | 18.4 | 27.0 | 8.6 | \$7.1 | \$9.2 |
| Total | | | | | 62.9 | \$62.2 | \$94.2 |

Recommended Trail Alternatives Projects:

| SIU | From | To | Trail Alternatives | | | |
|-----|-----------------------|-----------------------|-------------------------------|-----------|---------------------------------------|-----------------------------|
| | | | On-Highway Trail Alternatives | | Off-Highway Trail Alternatives | Combination of Alternatives |
| | | | Attached | Separated | | |
| 1 | Lathrop State Park | North Side of La Veta | X | X | Rails-with-Trails (SLRG RR) (1) | |
| 2 | North Side of La Veta | South Side of La Veta | X | X | | |
| 3 | South Side of La Veta | MP 14 USFS Boundary | X | X | | |
| 4 | MP 14 USFS Boundary | Cucharas Pass | X | X | Cuchara Ridge and Blue/Bear Lakes | X |
| 5 | Cucharas Pass | North Lake | X | X | Meadows | X |
| 6 | North Lake | Monument Lake | X | X | Lake Link | |
| 7 | Monument Lake | Stonewall | X | X | | |
| 8 | Stonewall | Trinidad Lake SP | X | X | Rails-to-Trails (Old Trinidad RR) (2) | |

Ideally, the trail projects should be sequenced in adjoining sections to provide increased trail length, continuity and improved usability as it is built in phases. As suggested by the evaluation, the initial priority segments within the Corridor extend between La Veta and Cucharas Pass (SIU 2 through 4) and between North Lake and Stonewall (SIU 6 and 7). The following phases are recommended to complete the trail fully through the Corridor:

- a. **Phase 1 (Start-up Projects)** - Due to lower construction costs and beneficial interactions with existing attractions and amenities, ideal initial projects include within La Veta (SIU 2) and between North Lake and Monument Lake (SIU 6) - one project each in Huerfano and Las Animas Counties.

- b. **Phase 2 (Priority Projects)** - Complete the priority segments extending from La Veta to Cucharas Pass (SIU 3 and 4) and from Monument Lake to Stonewall (SIU 7).
- c. **Phase 3 (Core Completion)** - Complete the trail between Cucharas Pass and North Lake (SIU 5) to provide a continuous multi-use trail fully between La Veta and Stonewall - arguably the signature and most appealing area within the Corridor for recreationalists.
- d. **Phase 4 (Completion)** - Full completion of the Southern Mountain Loop (SML) trail would include projects between Walsenburg and La Veta (SIU 1) and between Stonewall and Trinidad (SIU 8).

This suggested phasing plan advances the core of the SML trail within the alpine areas of the Corridor to address the highest safety needs and to complement the byway's scenic appeal and support the growth of tourism within the Corridor's mountain communities.

Recommended Byway Amenity Projects:

| Site | Feature | Location | Category | | | Phase | | | | Constr. Cost (\$2020) | Description |
|--------|------------------|--------------------|----------|---|---|-------|---|---|---|--------------------------|--|
| | | | 1 | 2 | 3 | 1 | 2 | 3 | 4 | | |
| 4 | Visitor Center | La Veta | | | X | X | | | | < \$100,000 | Welcome center signage and bike repair station - utilize existing facilities |
| 7 | Visitor Center | Cuchara | | | X | X | | | | \$100,000 to \$500,000 | Convert existing bldg. with restrooms and signage (outdoor interpretive panel) |
| 12 (1) | Visitor Center | Stonewall | | | X | X | | | | \$500,000 to \$1,000,000 | Convert existing bldg. with restrooms and signage (initial phase) |
| 15 | Visitor Center | Cokedale | | | X | X | | | | \$500,000 to \$1,000,000 | Expand existing coal mining exhibits and add new exhibits at museum |
| 1 | Trailhead | Lathrop State Park | X | | | | X | | | < \$100,000 | Signage (3-panel kiosk) |
| 2 | Wayside Park | US 160/CR 450 | | X | | | X | | | \$100,000 to \$500,000 | Signage (3-panel kiosk), picnic tables with shade and restrooms |
| 13 | Historic Markers | Mining Segment | X | | | | X | | | < \$100,000 | Four 1-panel monument markers (one per site) |
| 14 | Scenic Pull-off | Cokedale | | X | | | X | | | < \$100,000 | Upgrade existing signage |
| 16 | Trailhead | Trinidad Lake SP | X | | | | X | | | < \$100,000 | Signage (3-panel kiosk) |
| 17 | Rest Area | I-25 El Moro | X | | | | X | | | < \$100,000 | Topographic maps (4 ft. by 4ft.) showing SHOL and amenity sites |
| 3 | Scenic Pull-off | La Veta Overview | | X | | | | X | | \$100,000 to \$500,000 | Site development, paved parking and signage (3-panel kiosk) |
| 5 | Scenic Pull-off | Profile Rock | | X | | | | X | | \$100,000 to \$500,000 | Site development, paved parking and signage (3-panel kiosk) |
| 6 | Scenic Pull-off | Devil's Staircase | | X | | | | X | | \$100,000 to \$500,000 | Upgrade existing site, paved parking and new signage (3-panel kiosk) |
| 8 | Trailhead | Blue/Bear Lake | X | | | | | X | | < \$100,000 | Signage (3-panel kiosk) |
| 9 | Scenic Pull-off | Cucharas Pass | | X | | | | X | | \$100,000 to \$500,000 | Signage (3-panel kiosk) with structural pergola |
| 10 | Scenic Pull-off | North Lake | X | | | | | X | | < \$100,000 | Add three additional panels to existing kiosk |
| 11 | Scenic Pull-off | Monument Lake | X | | | | | X | | < \$100,000 | Add public access signage |
| 12 (1) | Visitor Center | Stonewall | | | X | | | | X | > \$1,000,000 | New building with restrooms, geology exhibits, picnic area and parking |

Note: (1) Project (Site) 12 is included twice reflecting the phasing of the project.

16. Provide a list of what funding sources have been identified to fund projects from this PEL?

| <i>Funding Sources</i> | <i>Agency</i> | <i>Highway Safety</i> | <i>On-Highway Attached / Separated Trail</i> | <i>Off-Highway Trail</i> | <i>Byway Amenities</i> |
|--|---------------|-----------------------|--|--------------------------|------------------------|
| FEDERAL AGENCIES | | | | | |
| BUILD Grant | USDOT | ✓ | ✓ | ✓ | |
| Highway Safety Improvement Program | CDOT | ✓ | ✓ | | |
| Recreational Trails Program | FHWA | | ✓ | ✓ | |
| Rivers, Trails & Conservation Assistance Program | CPW | | ✓ | ✓ | ✓ |
| Transportation Alternatives | CDOT | ✓ | ✓ | ✓ | ✓ |
| Federal Lands Transportation Program | USDOT | ✓ | ✓ | ✓ | ✓ |
| Federal Lands Access Program | CDOT | ✓ | ✓ | ✓ | ✓ |
| Land and Water Conservation Fund | CPW | | ✓ | ✓ | |
| Outdoor Recreational Legacy Partnership | CPW | | ✓ | ✓ | |
| Community Development Block Grant Program | DOLA | ✓ | ✓ | | |
| Urban and Community Forestry | TSFS | | ✓ | ✓ | |
| Recreation Economy for Rural Communities | EPA | | ✓ | ✓ | |
| Environmental Education Grants Program | EPA | | | | ✓ |
| Railway-Highway Crossings | CDOT | ✓ | ✓ | ✓ | |
| Safe Routes to School | CDOT | ✓ | ✓ | ✓ | |
| Rural Business Development Grants | USDA | ✓ | ✓ | ✓ | ✓ |
| COLORADO STATE AGENCIES | | | | | |
| Connect Initiative | GOCO | | ✓ | ✓ | ✓ |
| The Rural Technical Assistance Program | OED | ✓ | ✓ | ✓ | ✓ |
| Non-Motorized Trails Grant | CPW | | ✓ | ✓ | ✓ |
| Conservation Trust Fund | DOLA | | ✓ | ✓ | |
| Statewide Multimodal Options Funds | CDOT | ✓ | ✓ | ✓ | |
| Can Do Colorado Community Challenge | CDOT | ✓ | ✓ | | ✓ |
| Colorado Energy Office | CEO | | | | ✓ |

| <i>Funding Sources</i> | <i>Agency</i> | <i>Highway Safety</i> | <i>On-Highway Attached / Separated Trail</i> | <i>Off-Highway Trail</i> | <i>Byway Amenities</i> |
|---|---------------|-----------------------|--|--------------------------|------------------------|
| FOUNDATIONS, CORPORATIONS, AND ASSOCIATIONS | | | | | |
| The Bar NI Ranch Community Service Fund | | ✓ | ✓ | ✓ | ✓ |
| Boettcher Foundation | | ✓ | ✓ | ✓ | ✓ |
| El Pomar Foundation | | ✓ | ✓ | ✓ | ✓ |
| Gates Family Foundation | | ✓ | ✓ | ✓ | ✓ |
| Doppelt Family Trail Development Fund | | | ✓ | ✓ | ✓ |
| Activating Places and Spaces Together | | ✓ | | | |
| The National Forest Foundation Matching Awards Program | | | | ✓ | |
| National Wilderness Stewardship Alliance Trail Stewardship Fund | | | | ✓ | |
| The National Fish and Wildlife Foundation Acres for America Grant Program | | | ✓ | ✓ | ✓ |
| Walmart Foundation Local Community Grant | | ✓ | ✓ | ✓ | ✓ |
| The International Mountain Bicycling Association Trail Accelerator Grants | | | | ✓ | |
| People for Bikes Community Grant | | ✓ | ✓ | ✓ | |
| AETNA Cultivating Health Community Grant | | ✓ | ✓ | ✓ | |

Appendix B - Existing Corridor Conditions Report



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

Prepared by:

Hg Consult, Inc.
Atkins
Alta Planning + Design
Walden Mills Group

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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.

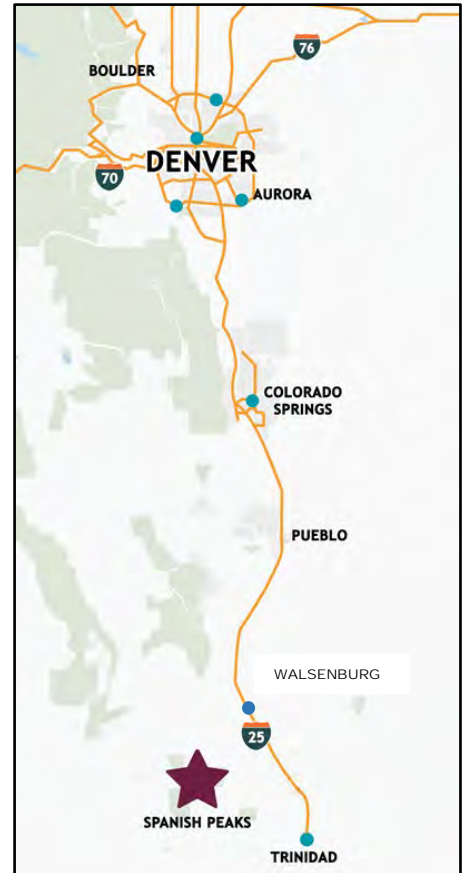
The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT) have initiated the Southern Mountain Loop Planning and Environmental Linkages (PEL) Study to investigate highway safety, bicycle/multi-use trail, and byway-related improvements along the Corridor. The 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.



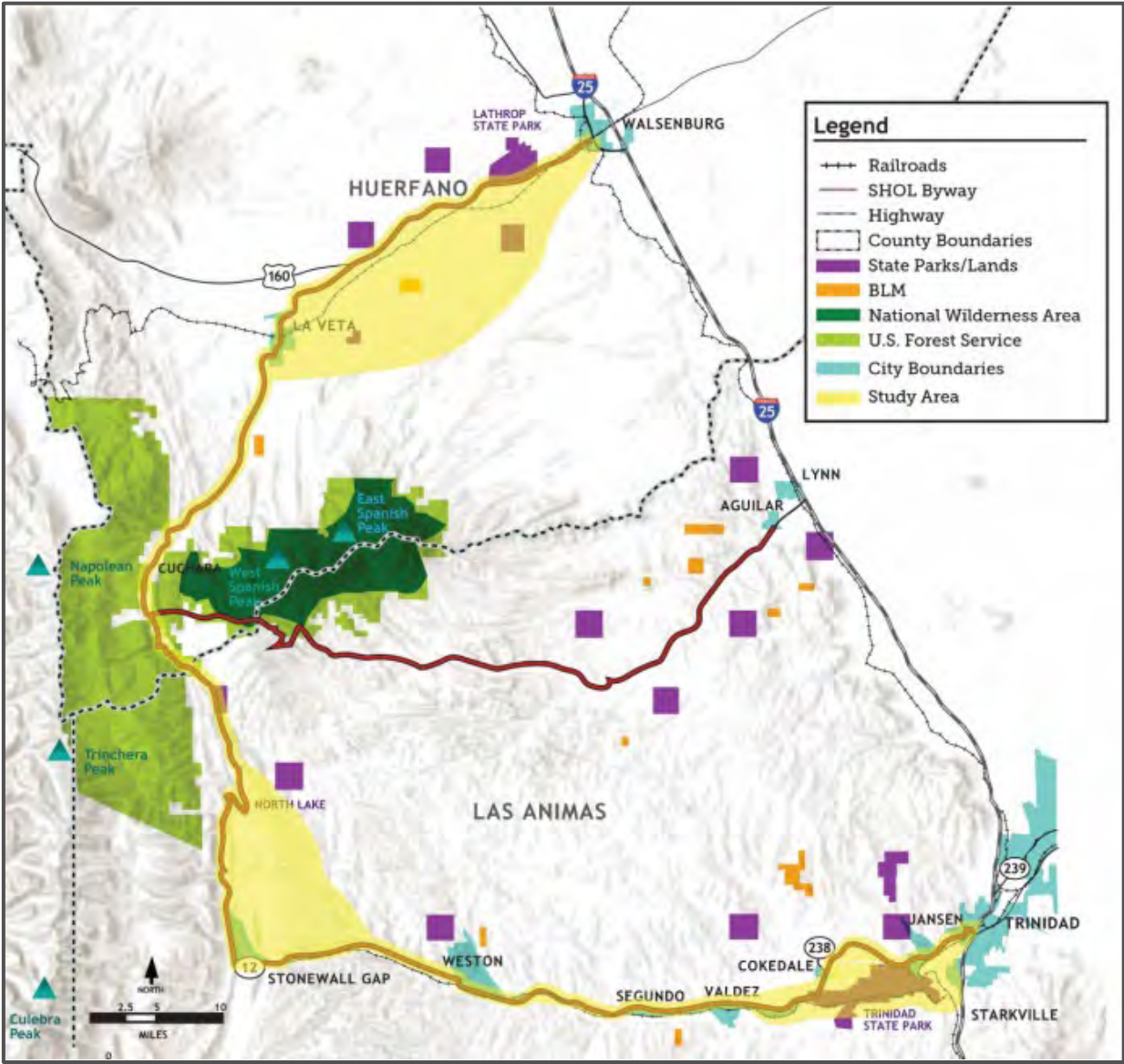
The Corridor is located in the heart of Spanish Peaks Country between Walsenburg and Trinidad, Colorado.

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.



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

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* (Huerfano 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.



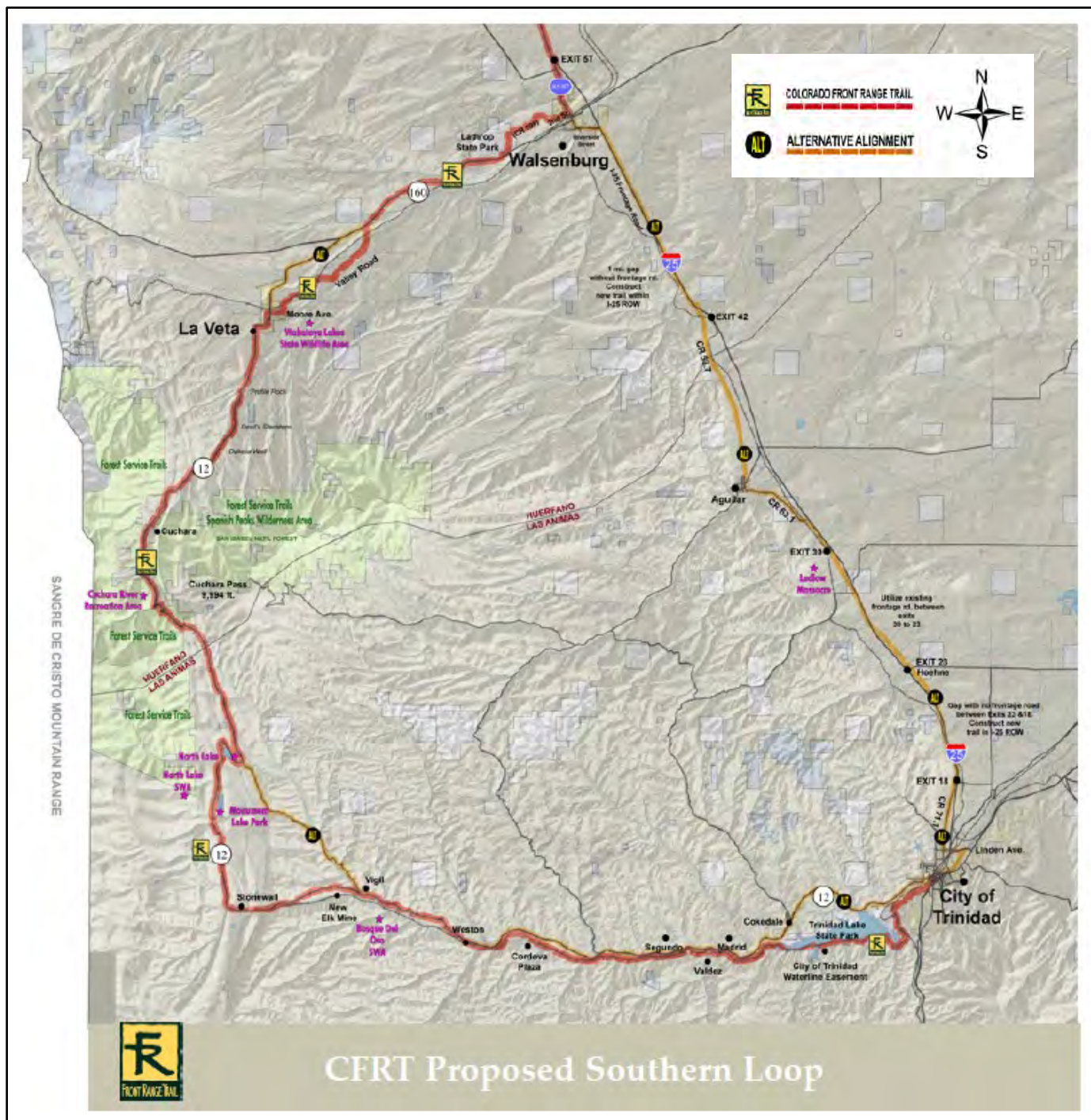
Colorado Front Range Trail: From South of Pueblo to Trinidad

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



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.

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).

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.

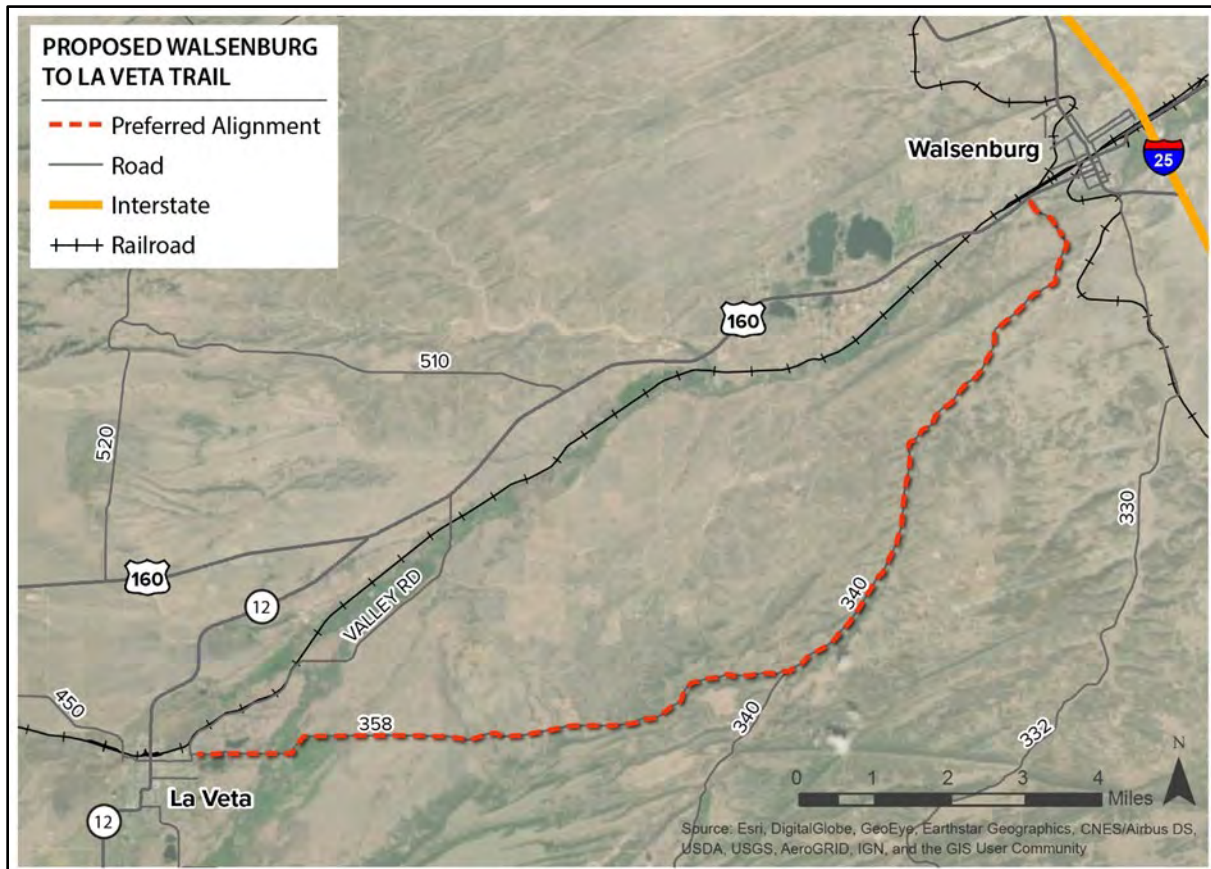
Huerfano County Trails Master Plan

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.

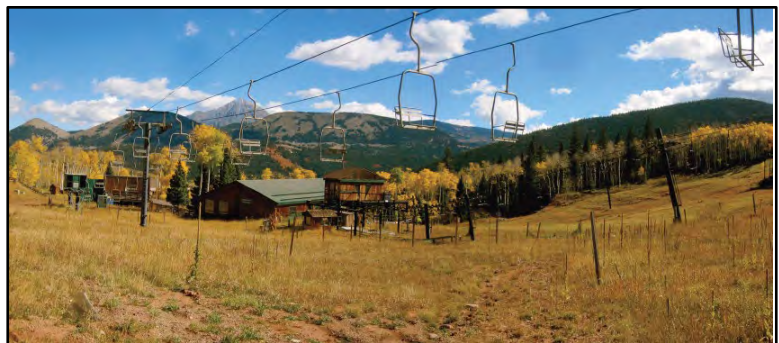
Figure 3: Proposed Walsenburg to La Veta Trail



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

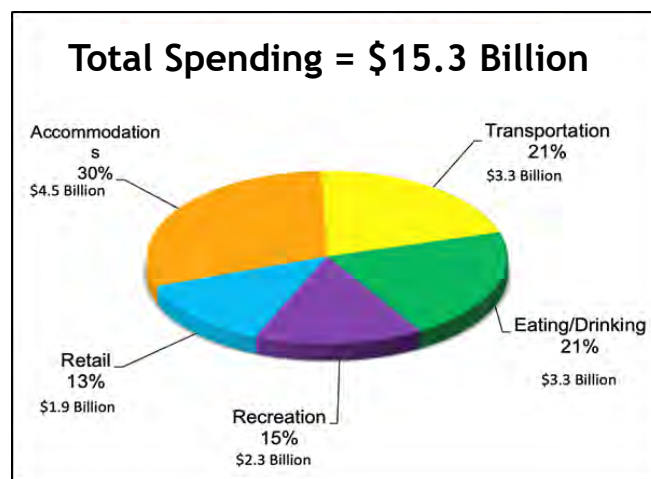
Both Huerfano and Las Animas Counties benefit economically from pass-through traffic on the two major transportation corridors within the area - I-25 (north-south) and US 160 (east-west). Businesses in both counties have sprung up to directly support travelers on these roadways, providing commodities 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

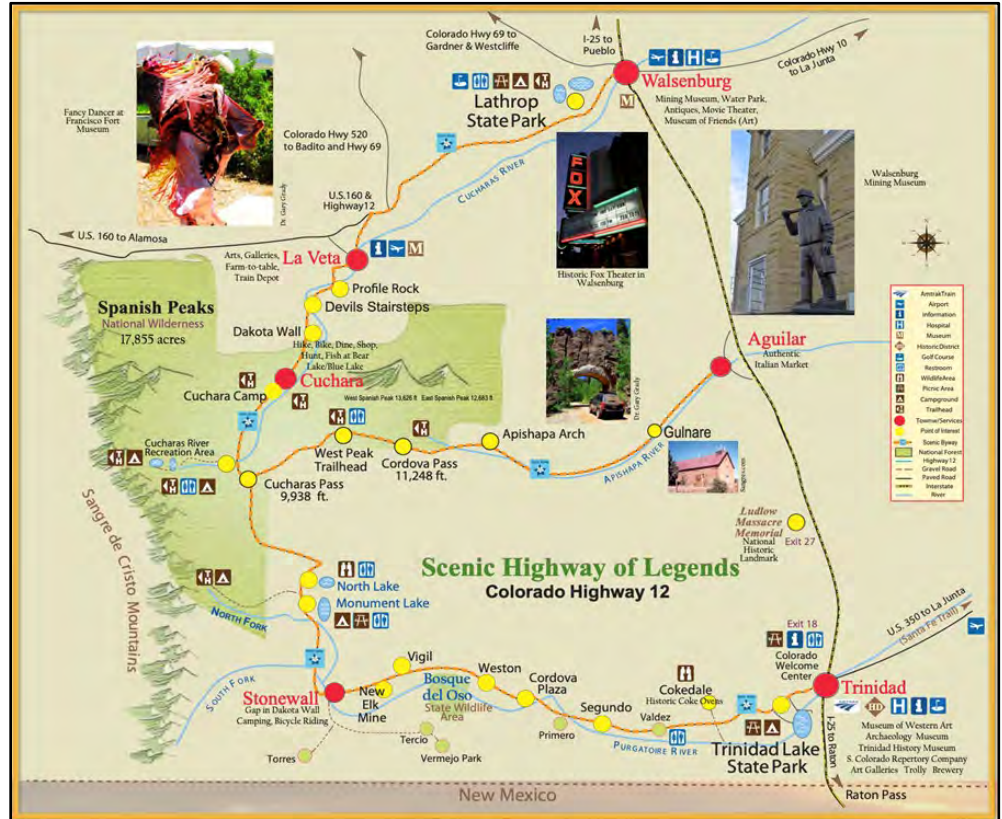
The SHOL is one of the many features which attract visitors and tourists to the Spanish Peaks region. While the tourism value of the byway is difficult to quantify, its impact is profound. The byway has made this rural region of Colorado visible and accessible to the traveling public. According to visitor 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 YouTube 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).

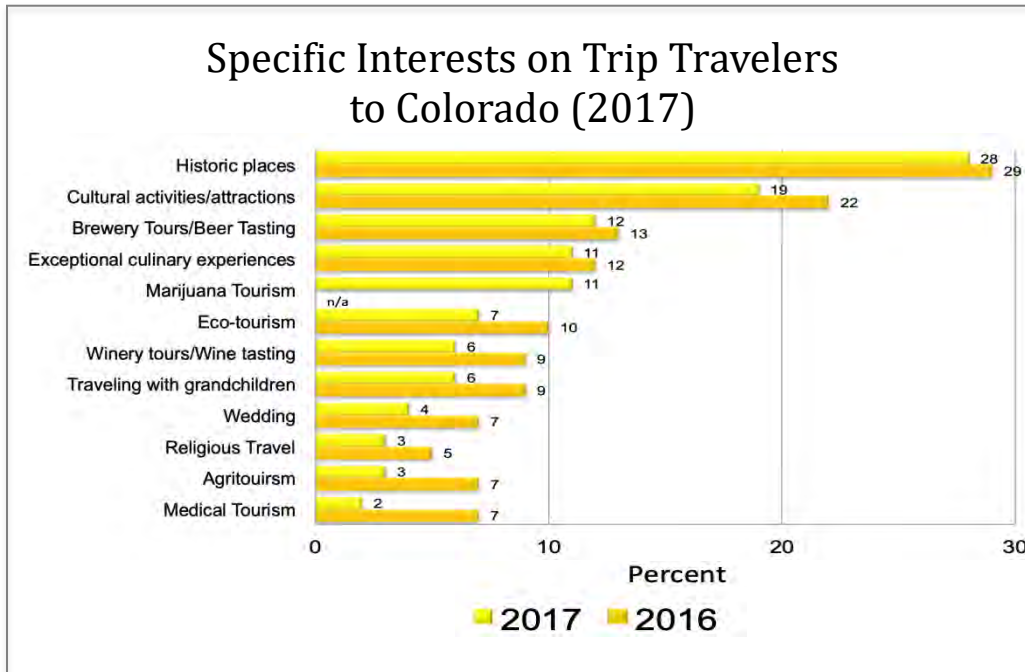
Visitor Characteristics

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.

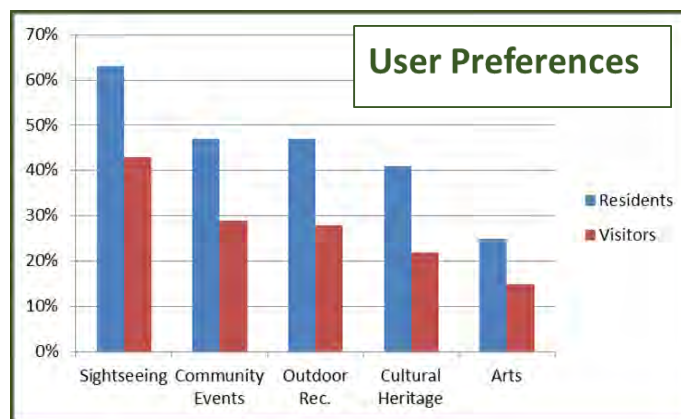
Figure 5: Specific Interests of Trip Travelers to Colorado (2017)



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

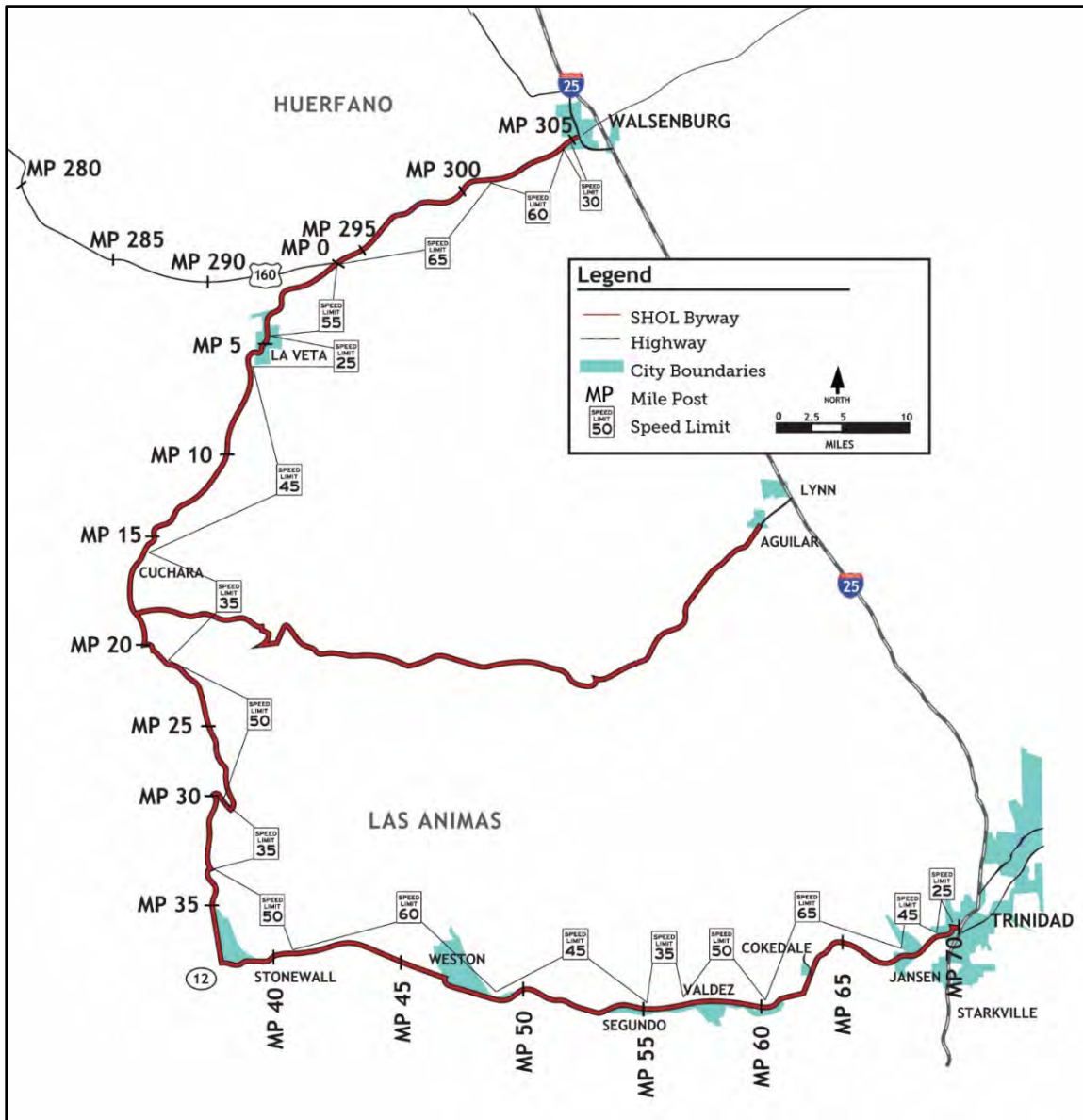
Posted speeds vary considerably throughout the Corridor. The management of speed through appropriate posted speed limits, combined with roadway design factors, is an essential element of highway safety. Posted speed limits should reflect the maximum reasonable and safe speed for normal conditions. Speed 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 foot 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.

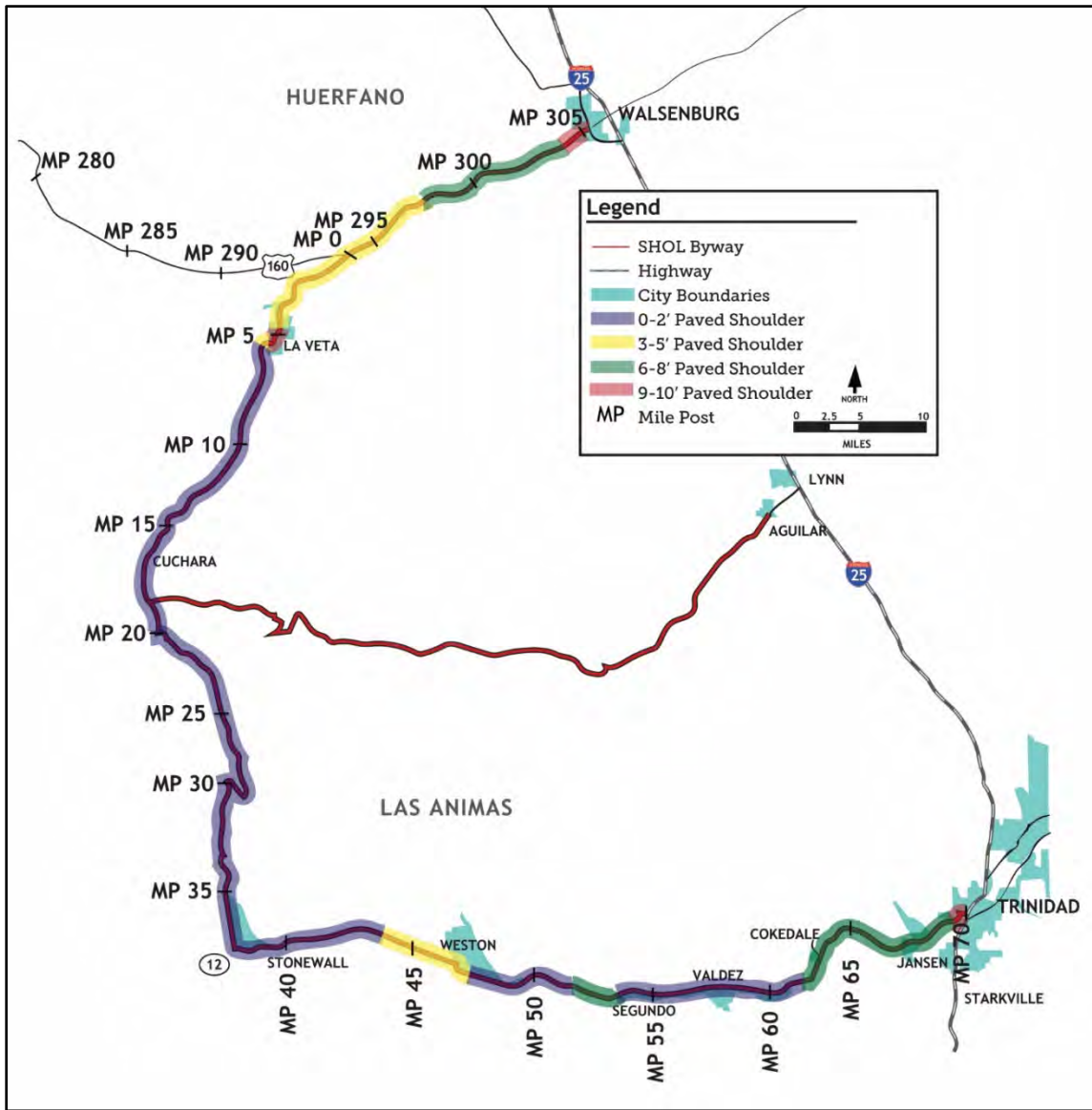
Figure 7: Posted Speeds



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

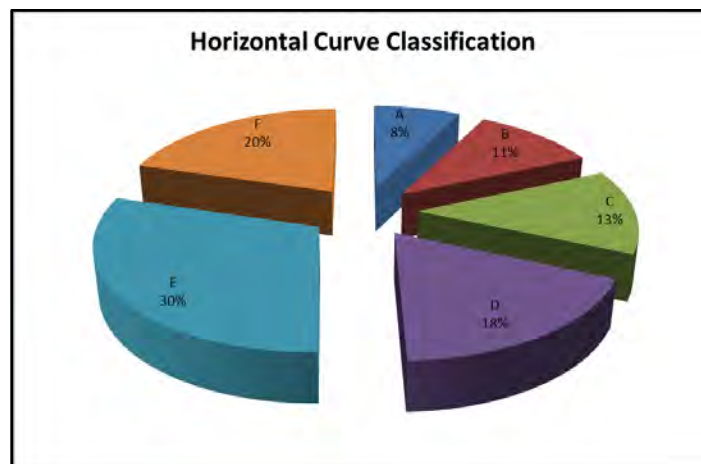
Horizontal curves along the Corridor were analyzed for deficiencies based on centerline data collected for CDOT’s Linear Referencing System (LRS). CDOT periodically drives their roadway network to collect centerline data for their LRS. As part of the data collection, on-board software records each horizontal 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

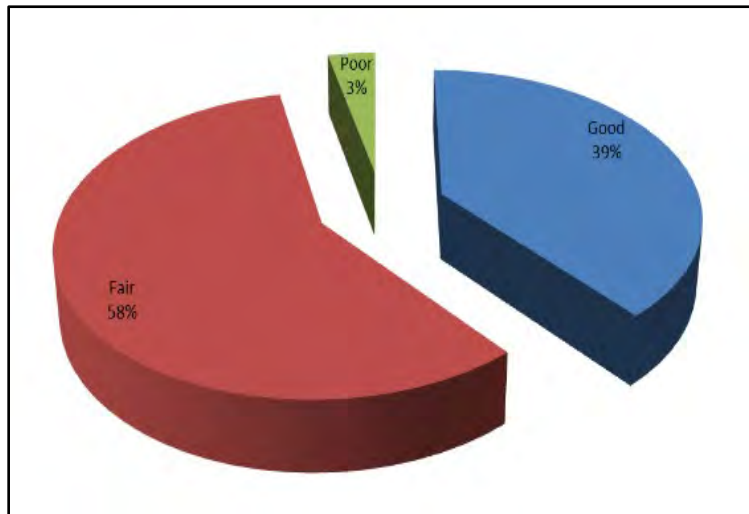
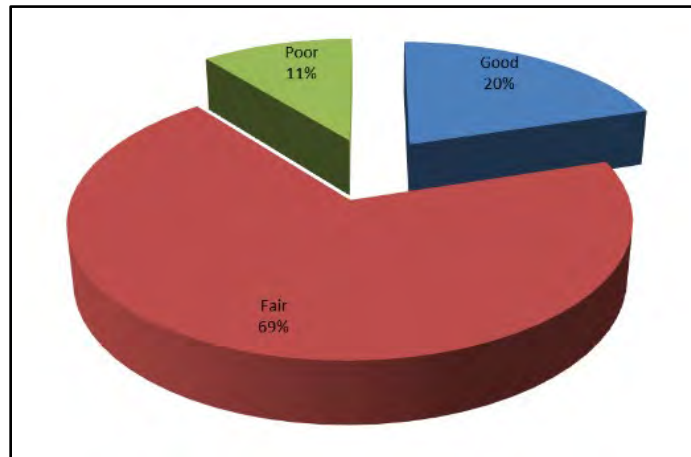


Figure 11: SH 12 IRI Category Proportions



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

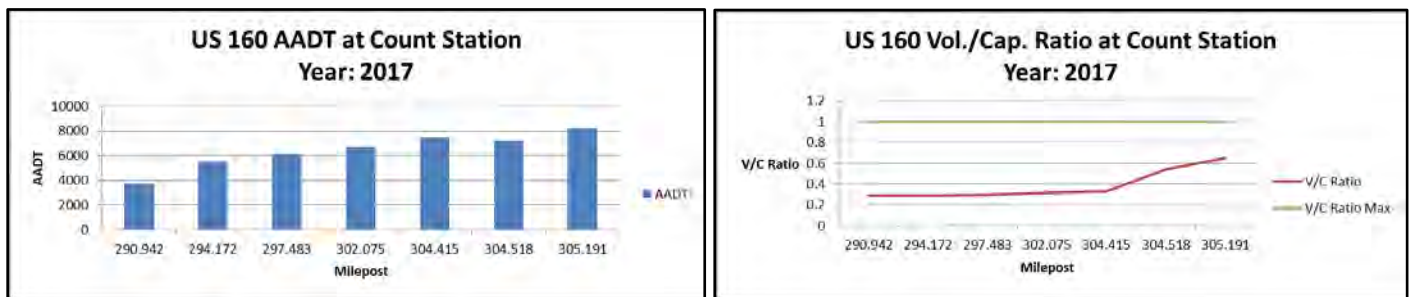
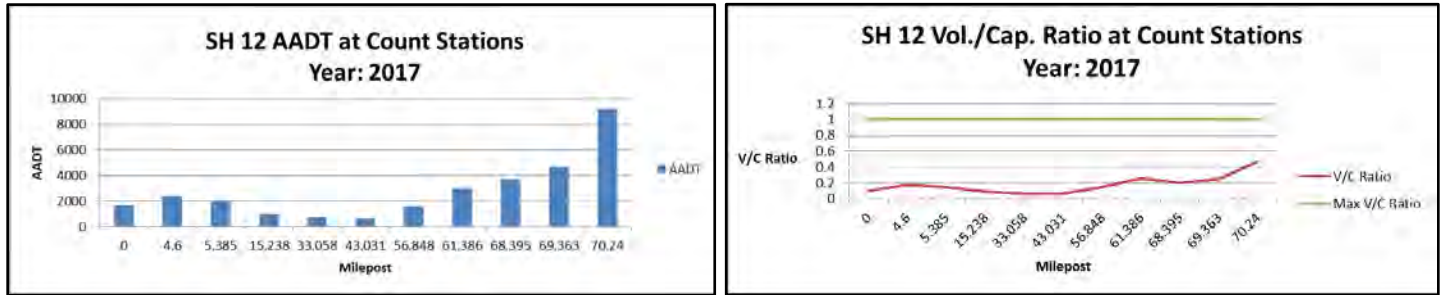


Figure 13: SH 12 Traffic Volumes and V/C Ratios



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

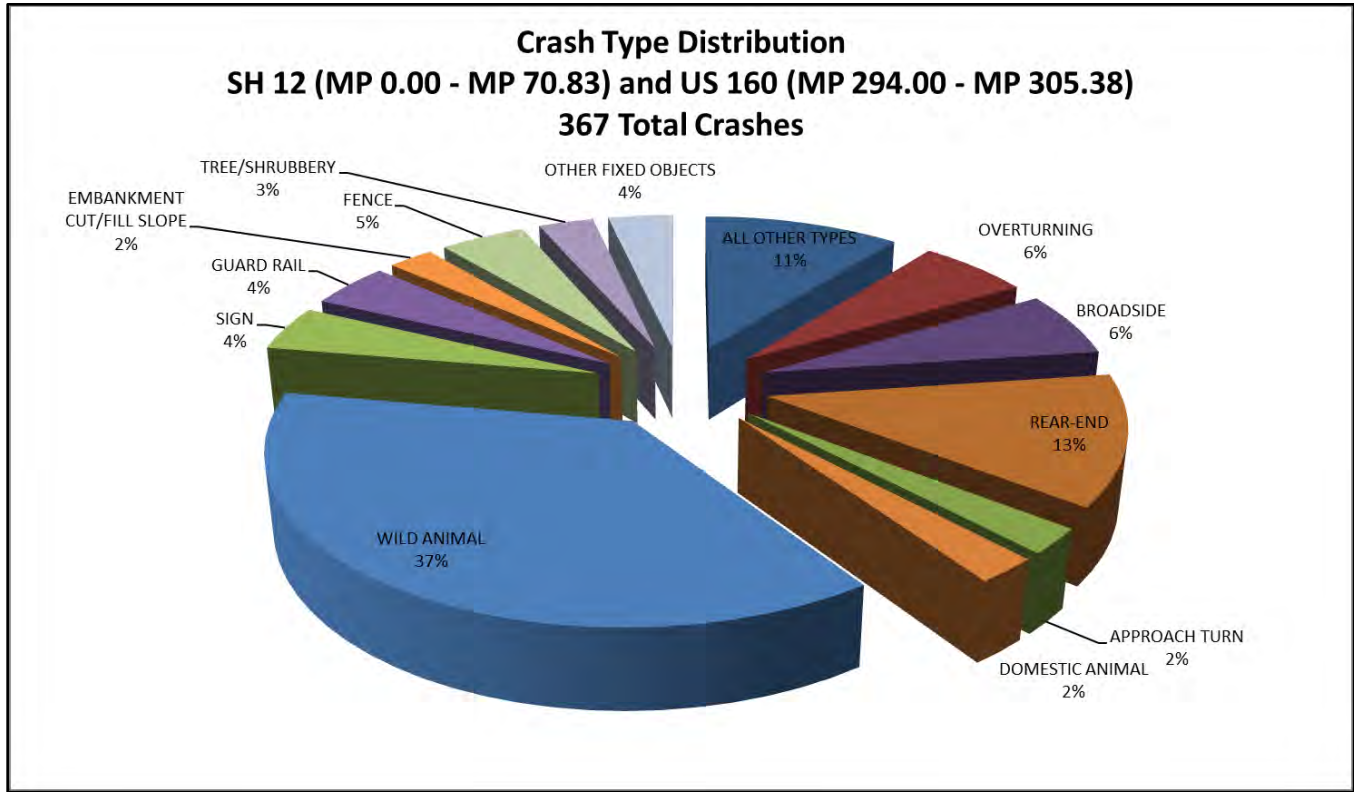
| Year | Number of Crashes | | | |
|------------------------------|-------------------|-----------|------------------|------------|
| | Fatality | Injury | PDO ¹ | Total |
| January 2013 - December 2013 | 1 | 10 | 58 | 69 |
| January 2014 - December 2014 | 1 | 16 | 69 | 86 |
| January 2015 - December 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

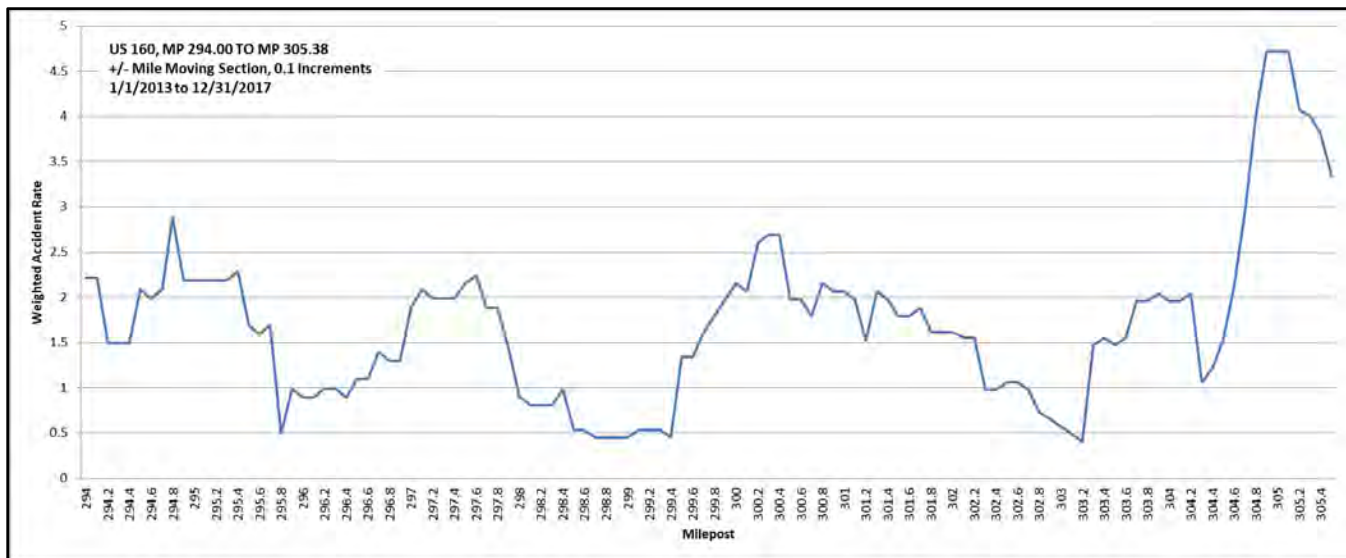


Figure 16: SH 12 Weighted Crash Rate

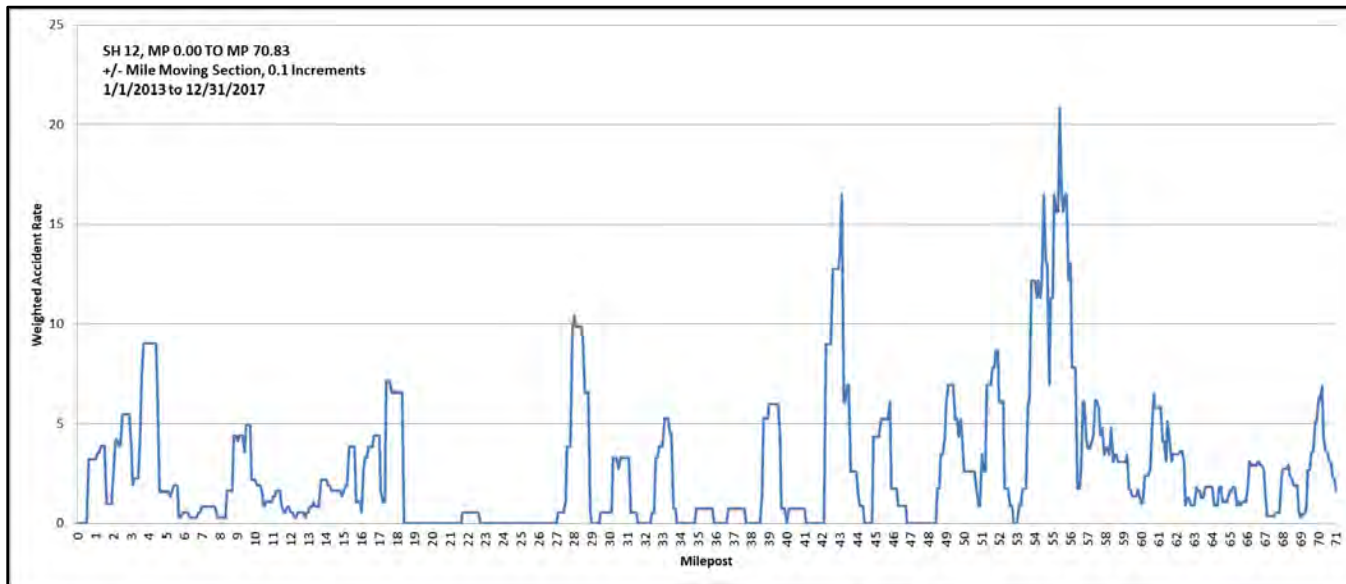


Figure 17: Total Number of Crashes on US 160

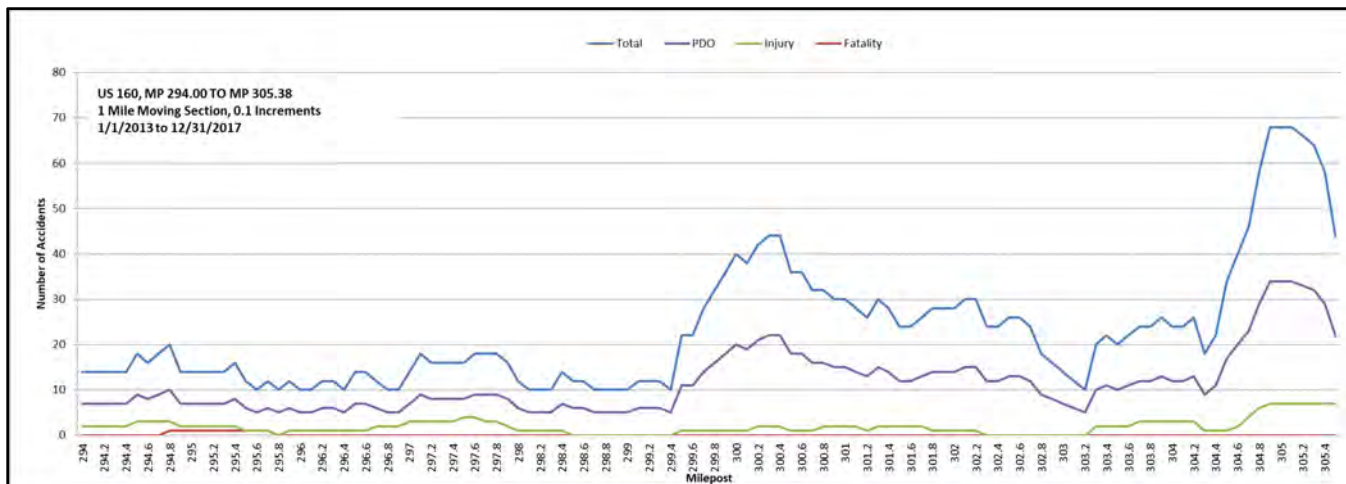


Figure 18: Total Number of Crashes on SH 12

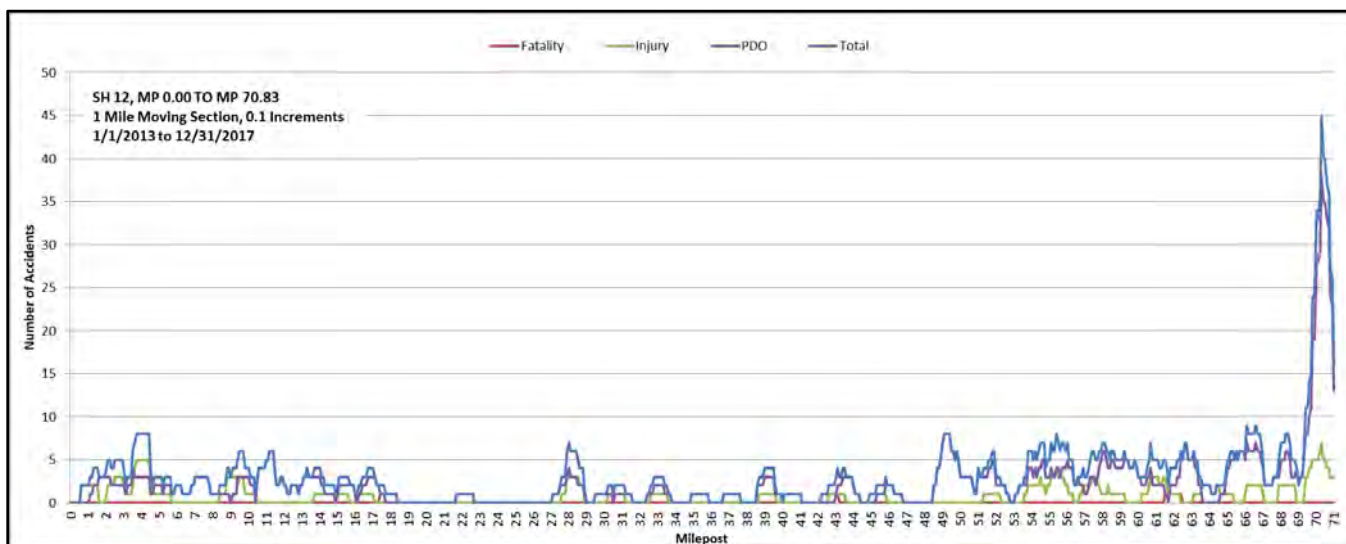


Figure 19: Number of Wild Animal Crashes on US 160

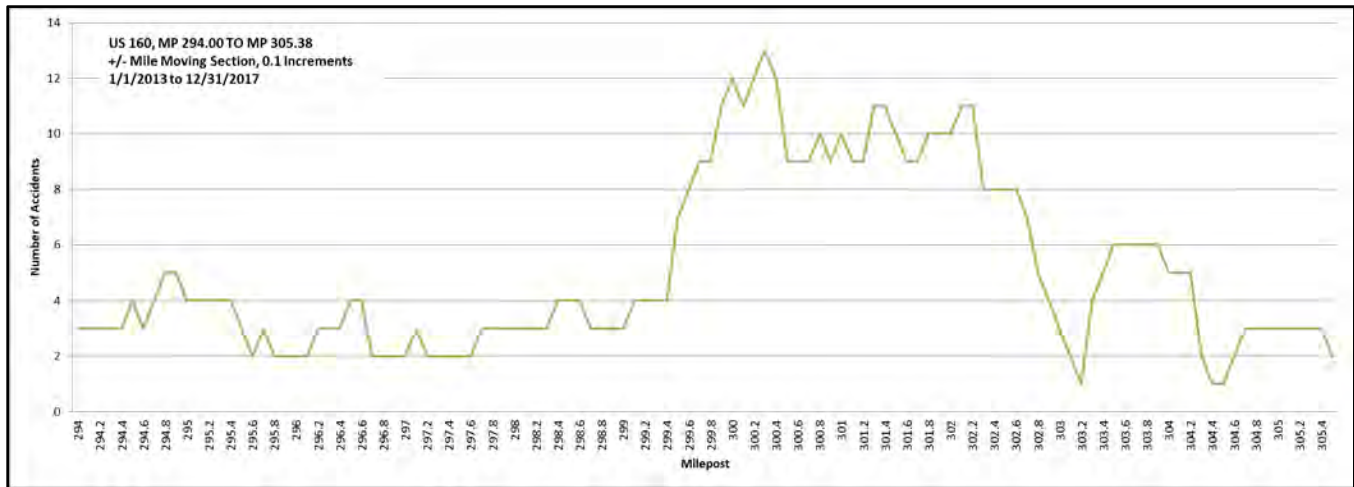
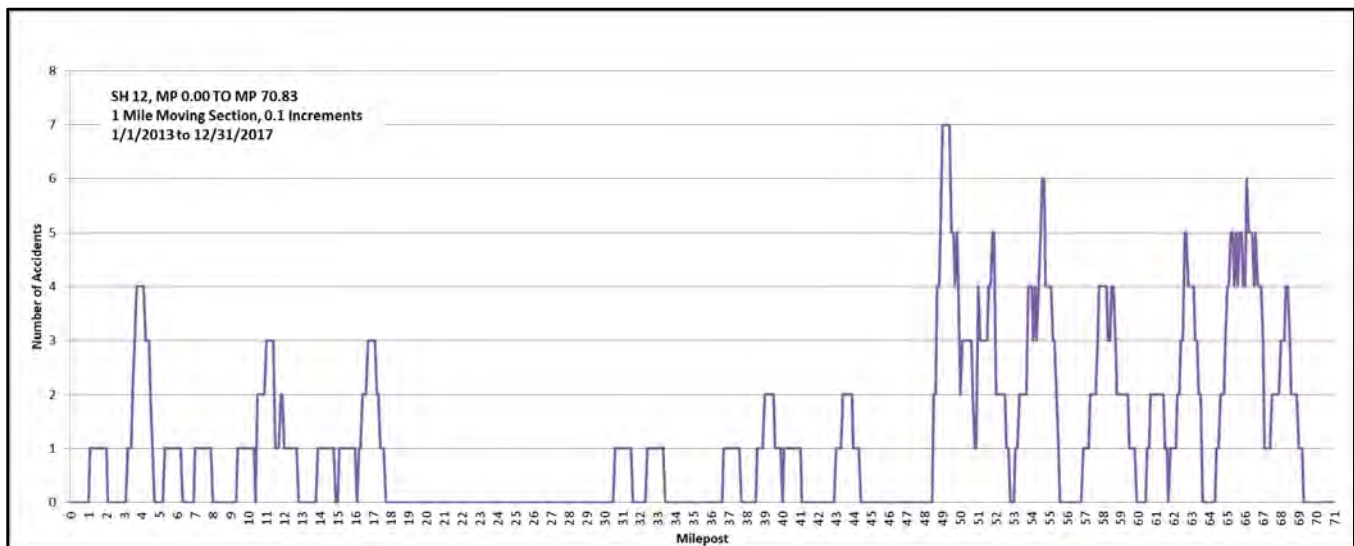


Figure 20: Number of Wild Animal Crashes on SH 12



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 Cristo 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.

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.

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.



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



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.

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 pursuing renewal of operations.

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 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.



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



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

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.

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.

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.

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



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



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



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

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.

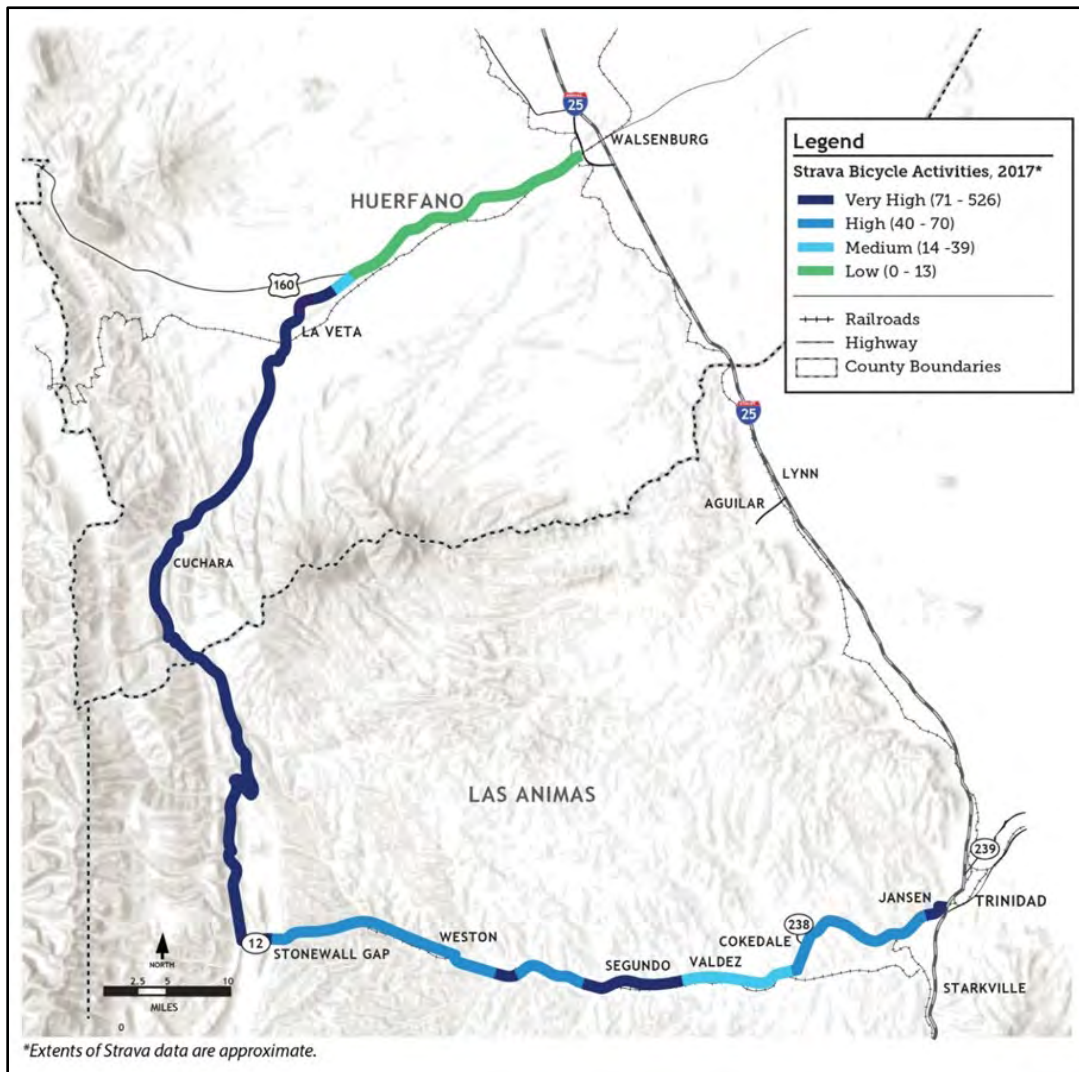
As shown on **Figure 21**, the Strava data findings for the Corridor include:

- 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).



A relatively wide shoulder exists near Stonewall, heading east.

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) **Enthusied 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 “Enthusied and Confident”; the majority (51 percent) identified as “Interested but Concerned”; and the rest (37 percent) identified as “No Way, No How”.

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 “Enthusied 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.



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.

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).

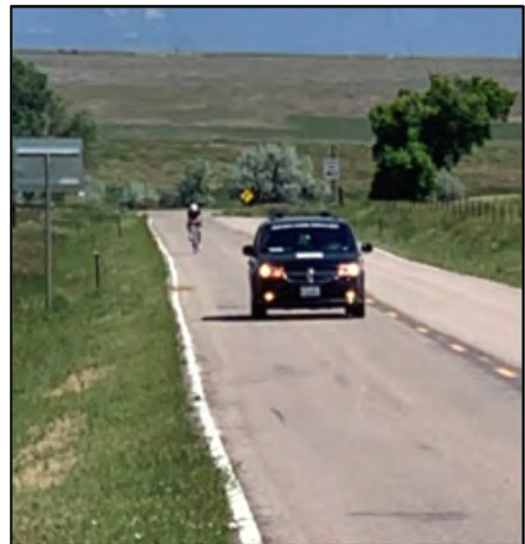
In the ELTS method:

- 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.

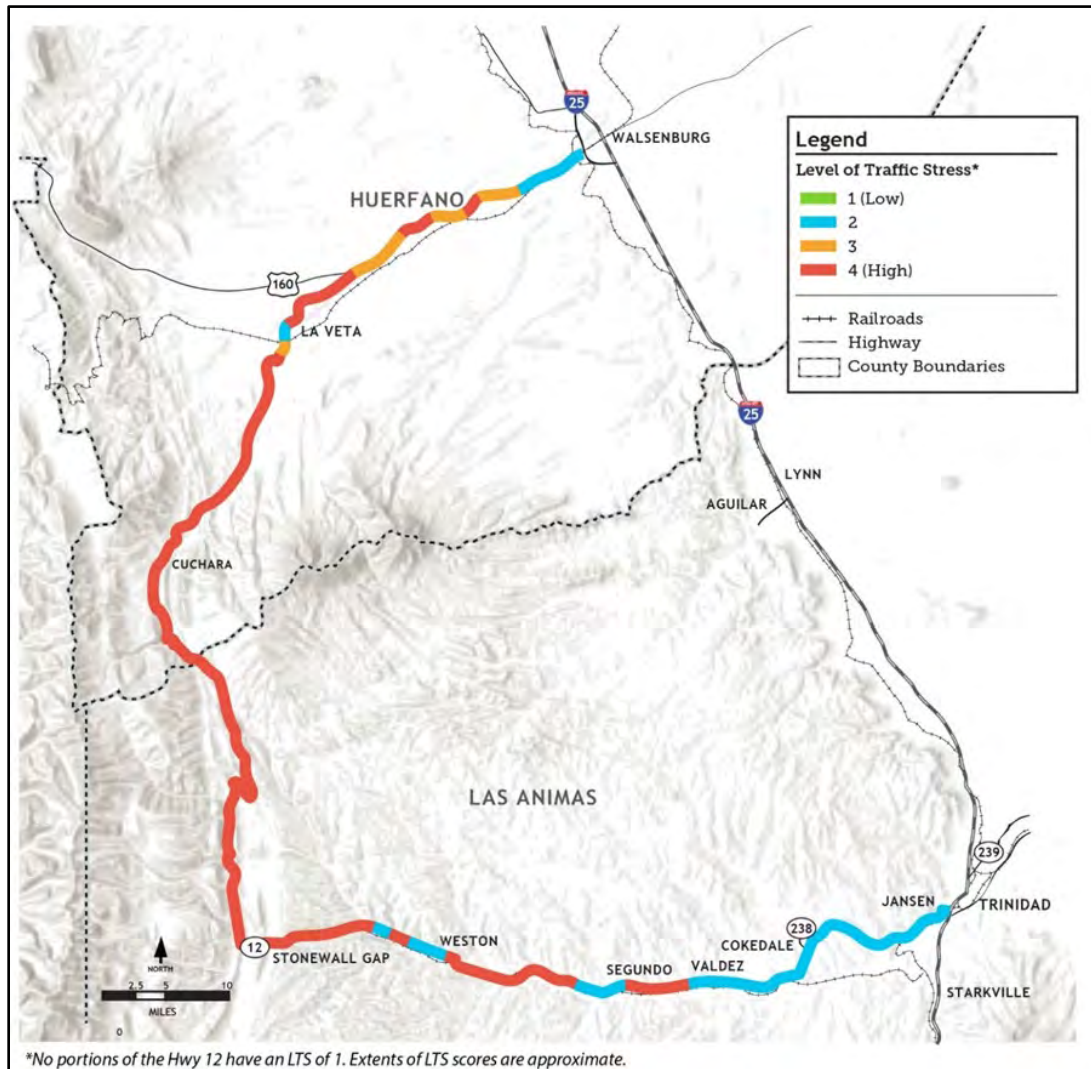
According to the CDOT report, the Corridor is primarily LTS 4 (high stress and only suitable for experienced bicyclists), with some sections of LTS 3 (moderate traffic stress and suitable for “observant and confident adult bicyclists”) and LTS 2 (little traffic stress but not suitable for children). 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 “Enthusied 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.

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

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).

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



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



The Spring Creek Trailhead includes restroom facilities and parking.



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.

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

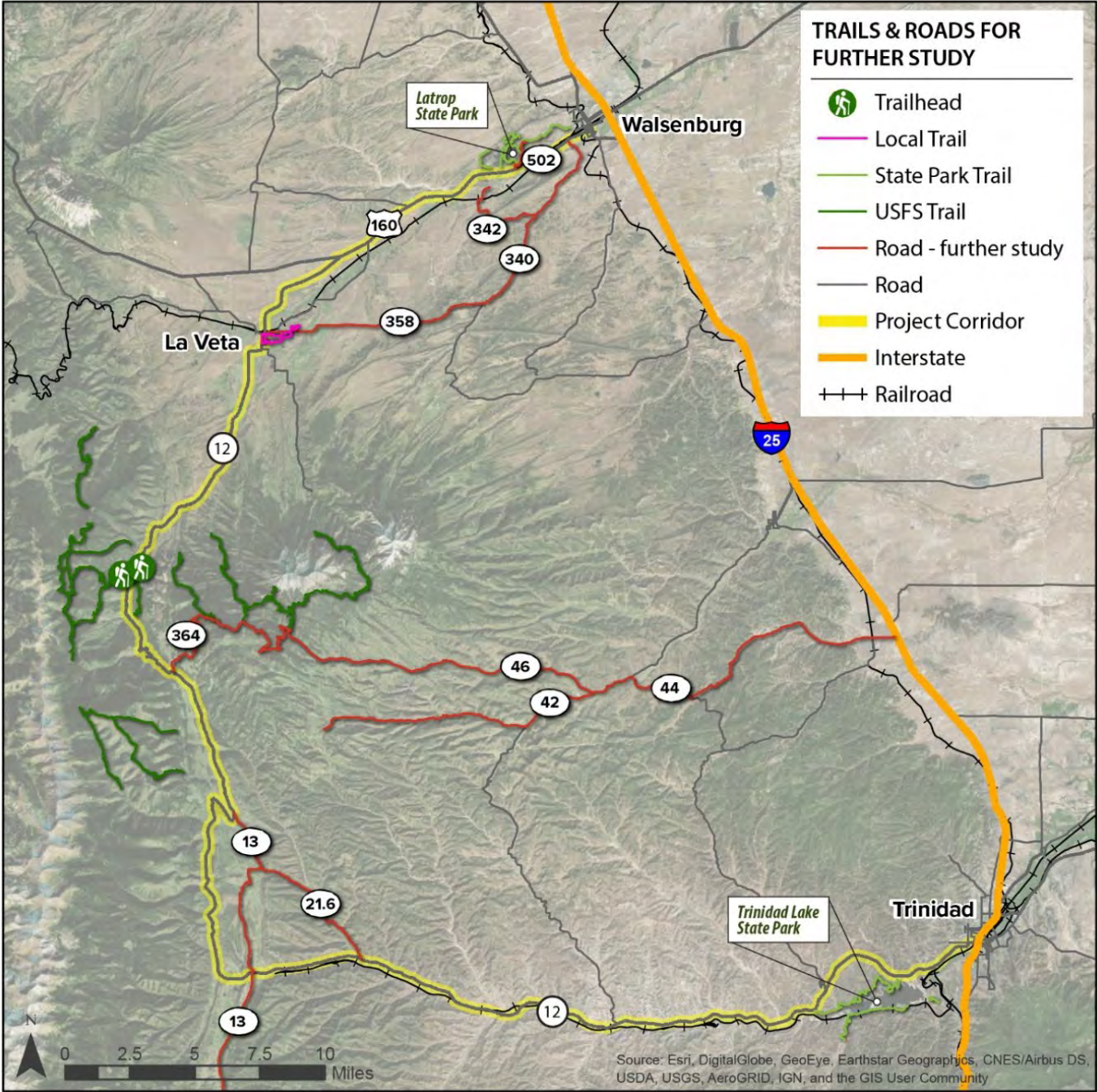


Figure 24: Trails Within and Adjacent to Lathrop State Park

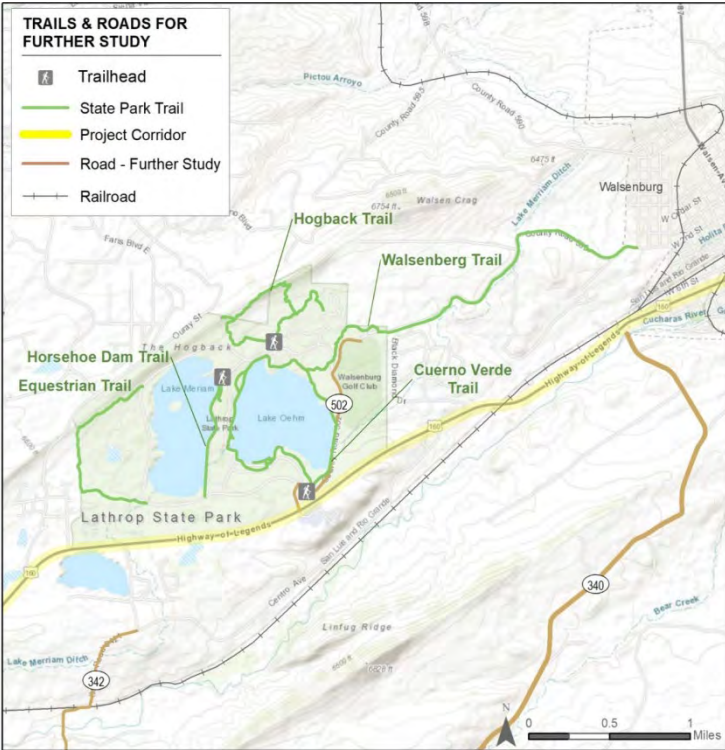


Figure 25: Trails and Amenities in and near La Veta

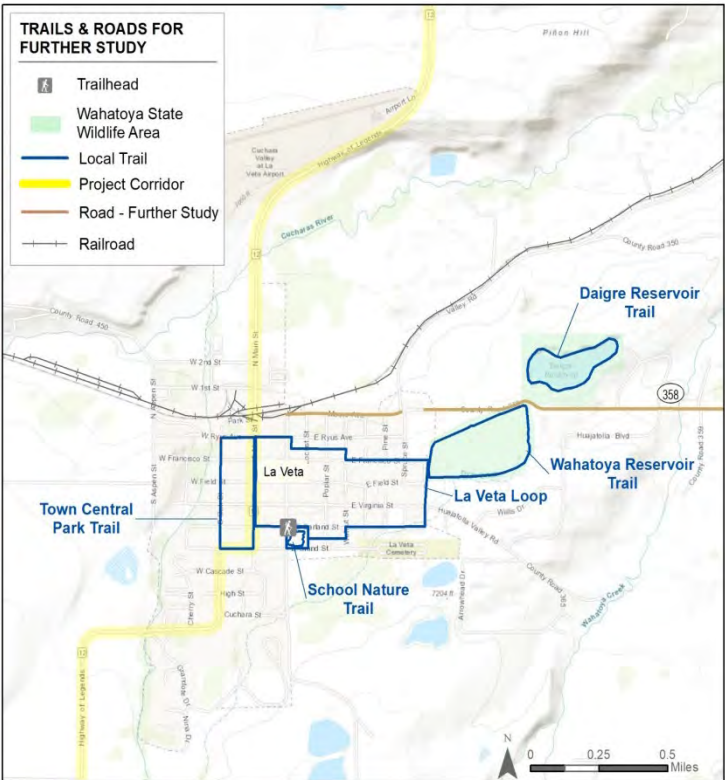


Figure 26: Trails, Trail heads, and Campgrounds near Cordova Pass

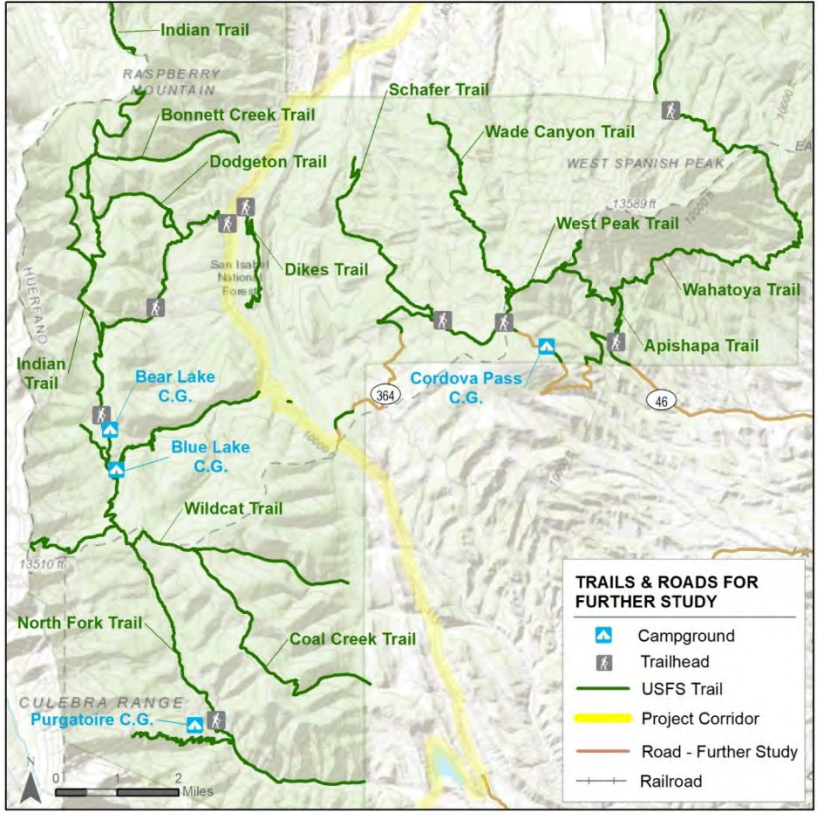
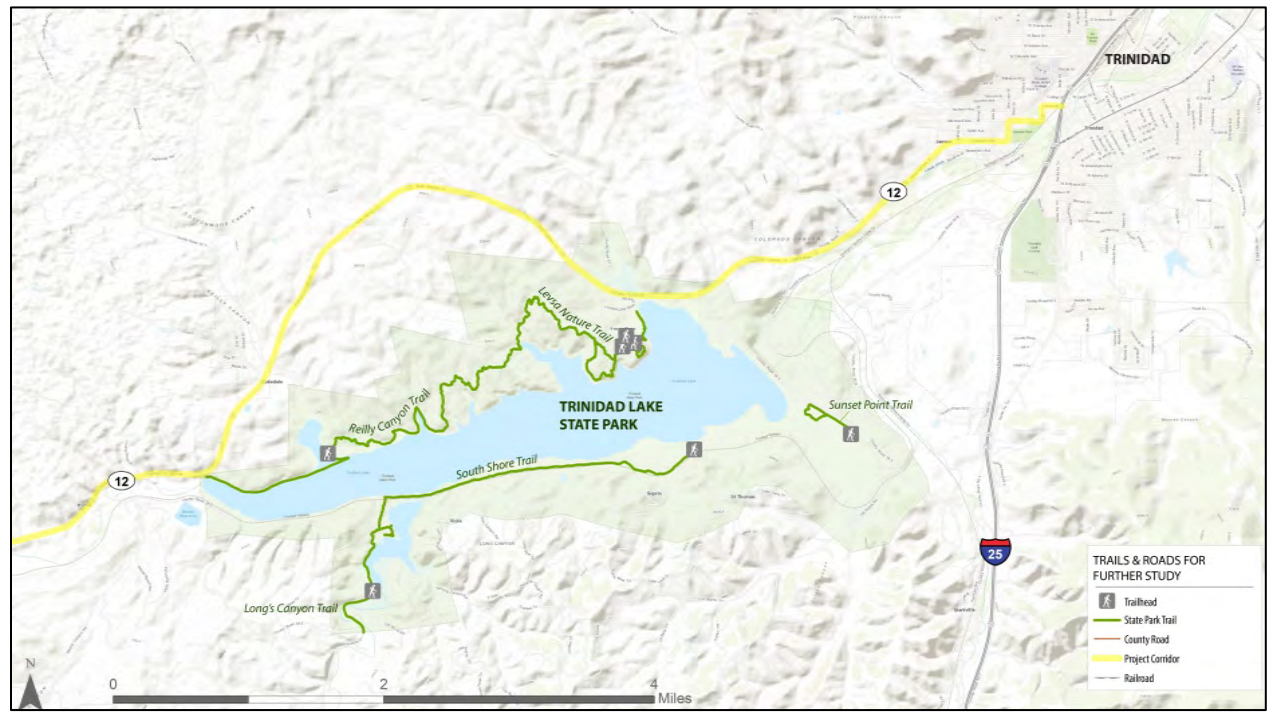


Figure 27: Trails and Trailheads at Trinidad Lake State Park



Cultural, Heritage and Eco-Tourism Facilities

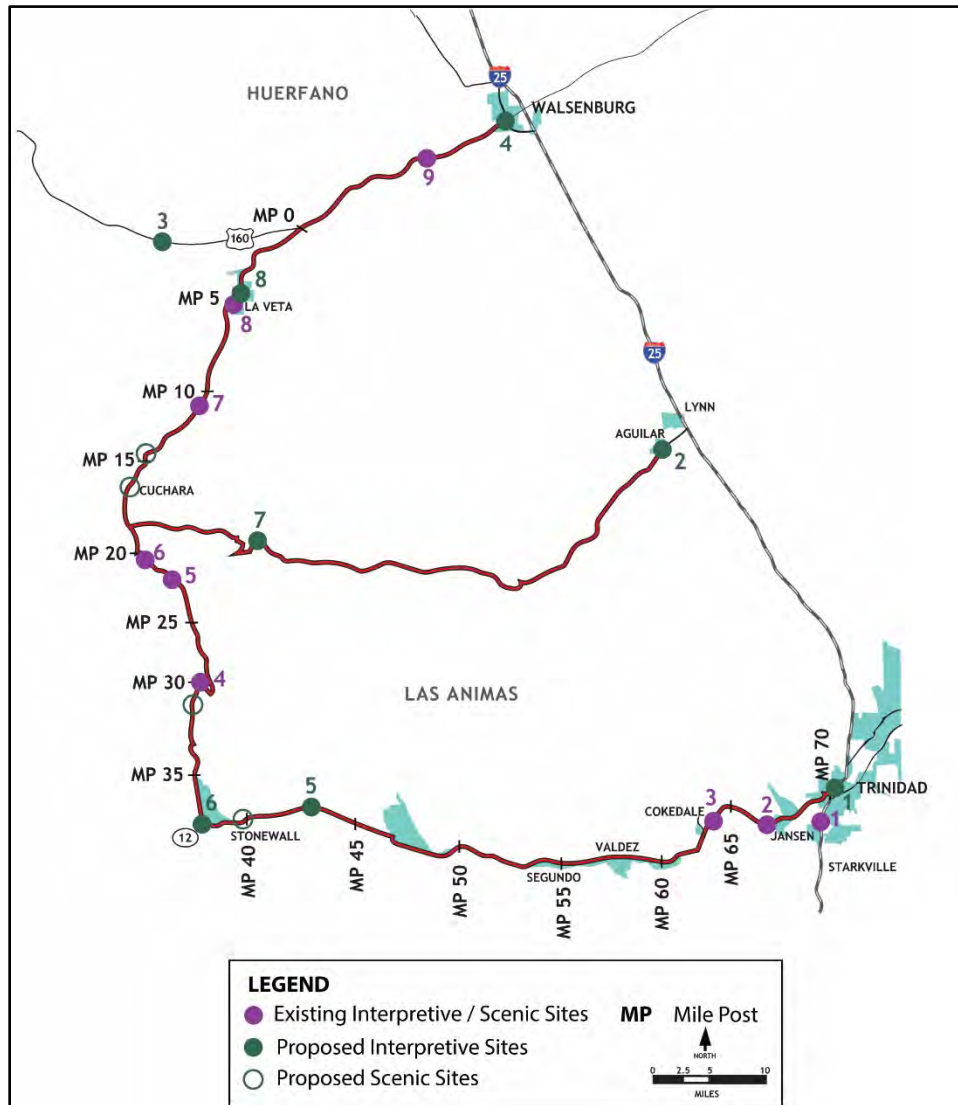
There are a number of existing byway-related facilities along and associated with the SHOL. These facilities include pull-off areas with kiosks along the SH 12 roadway and other interpretive signage or related displays associated with other publically accessed facilities. Combined with SHOL pamphlets 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. Levs 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.

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

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

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 metates), 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

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.

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

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 Tract 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 Tract 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 Tract 300, Block Group 2 | 671 | 0 | .89 | 1.0 | 32.79 | 0 | 35 |
| Census Tract 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

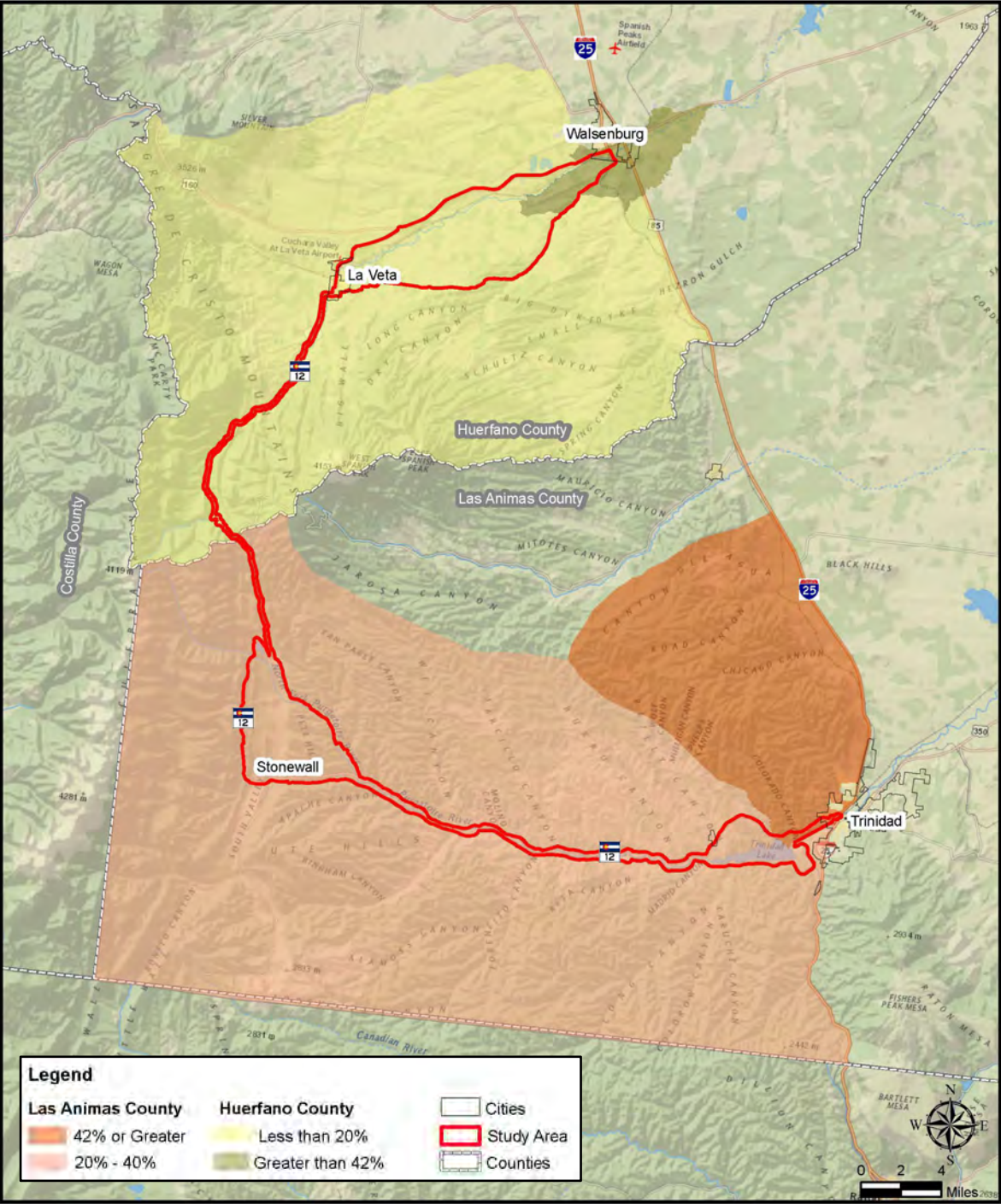
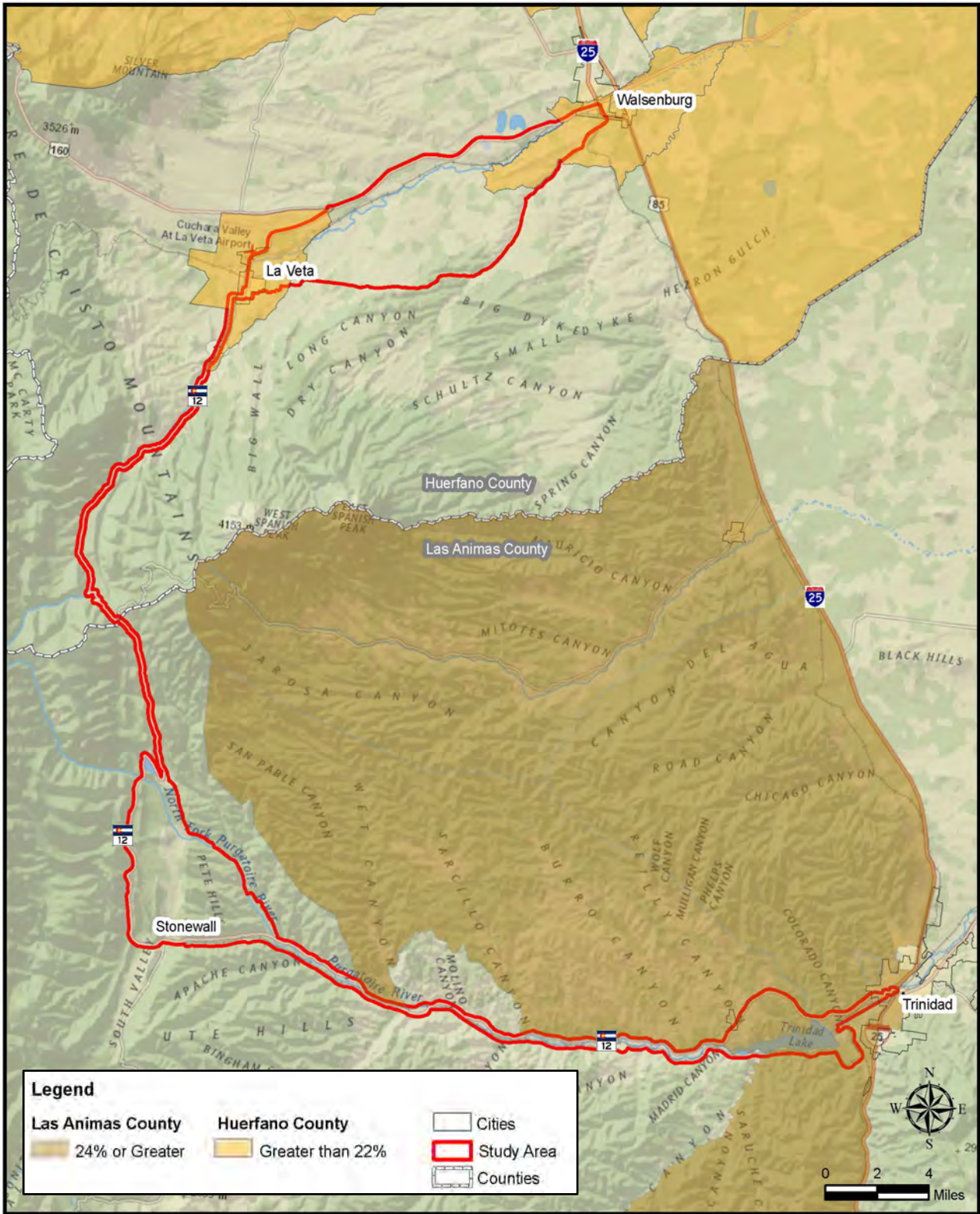


Figure 30: Percent Low-Income Households, Walsenburg to Trinidad



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

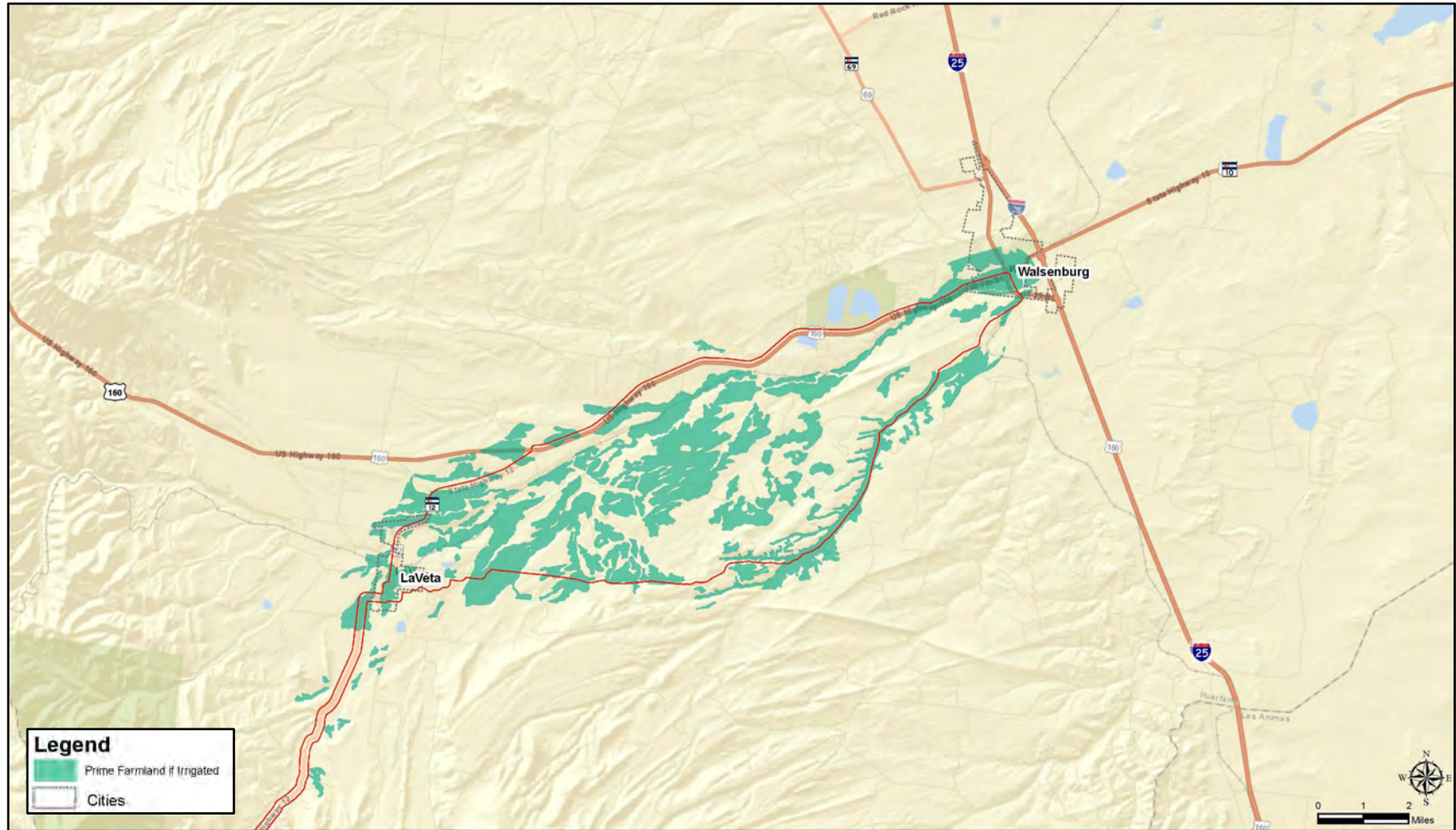


Figure 32: Prime Farmland, La Veta to Stonewall

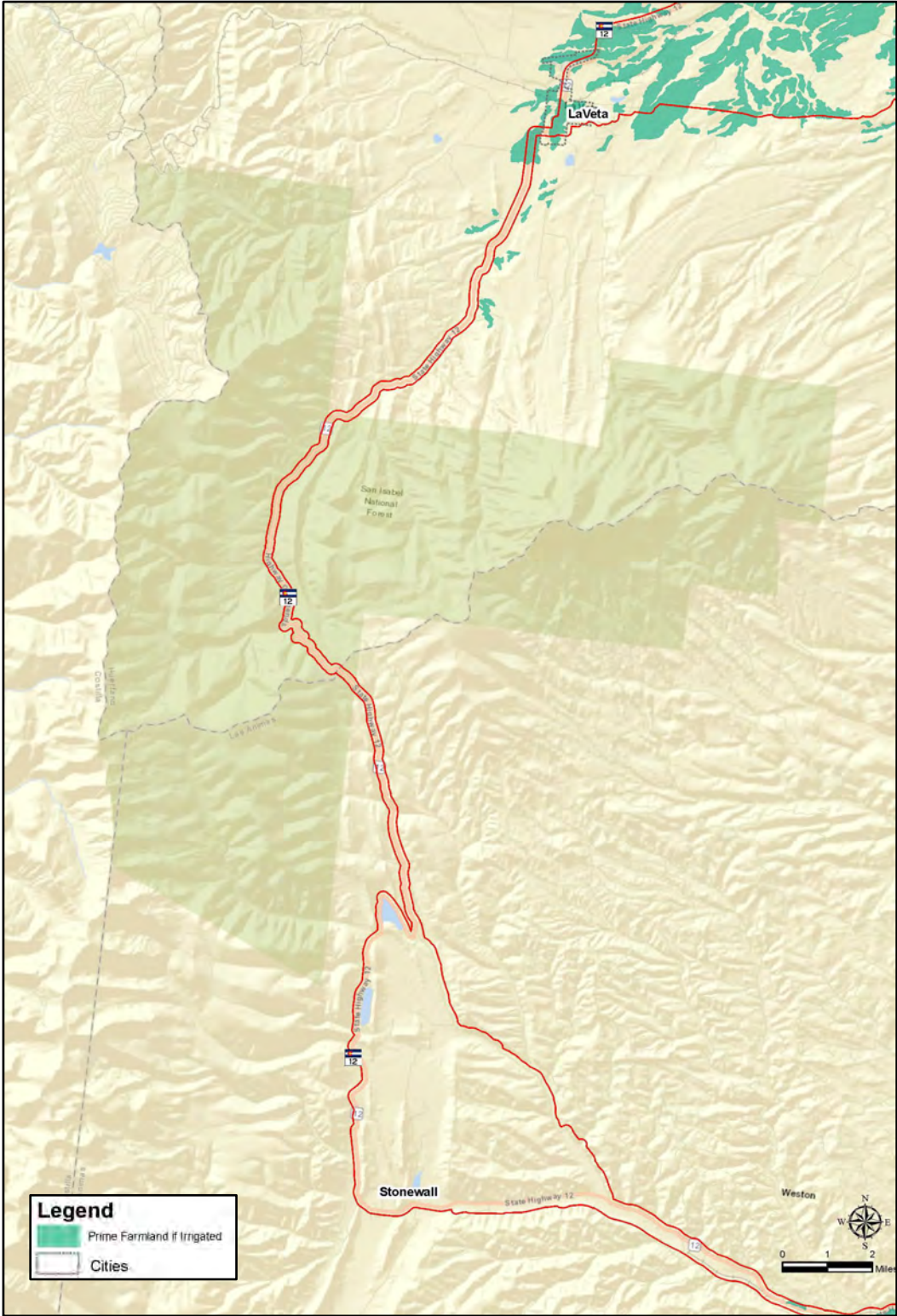


Figure 33: Prime Farmland, Stonewall to Trinidad



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

Agency/Stakeholder Coordination:

Agencies and stakeholders for floodplain-related issues include:

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

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.

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.

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.



Cucharas Pass is the highest point along the Corridor.

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

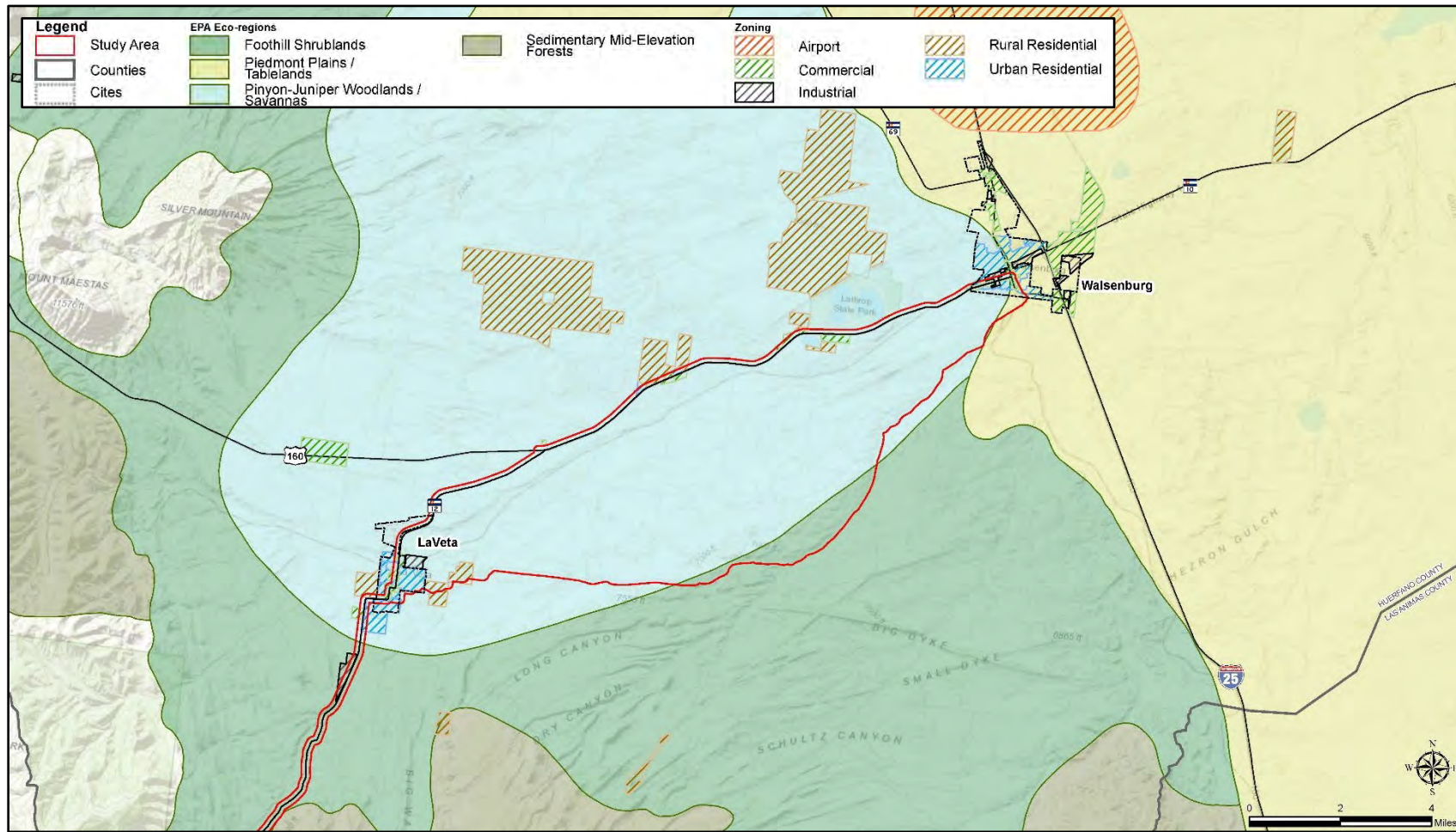


Figure 35: Ecoregions and Zoning, La Veta to Stonewall

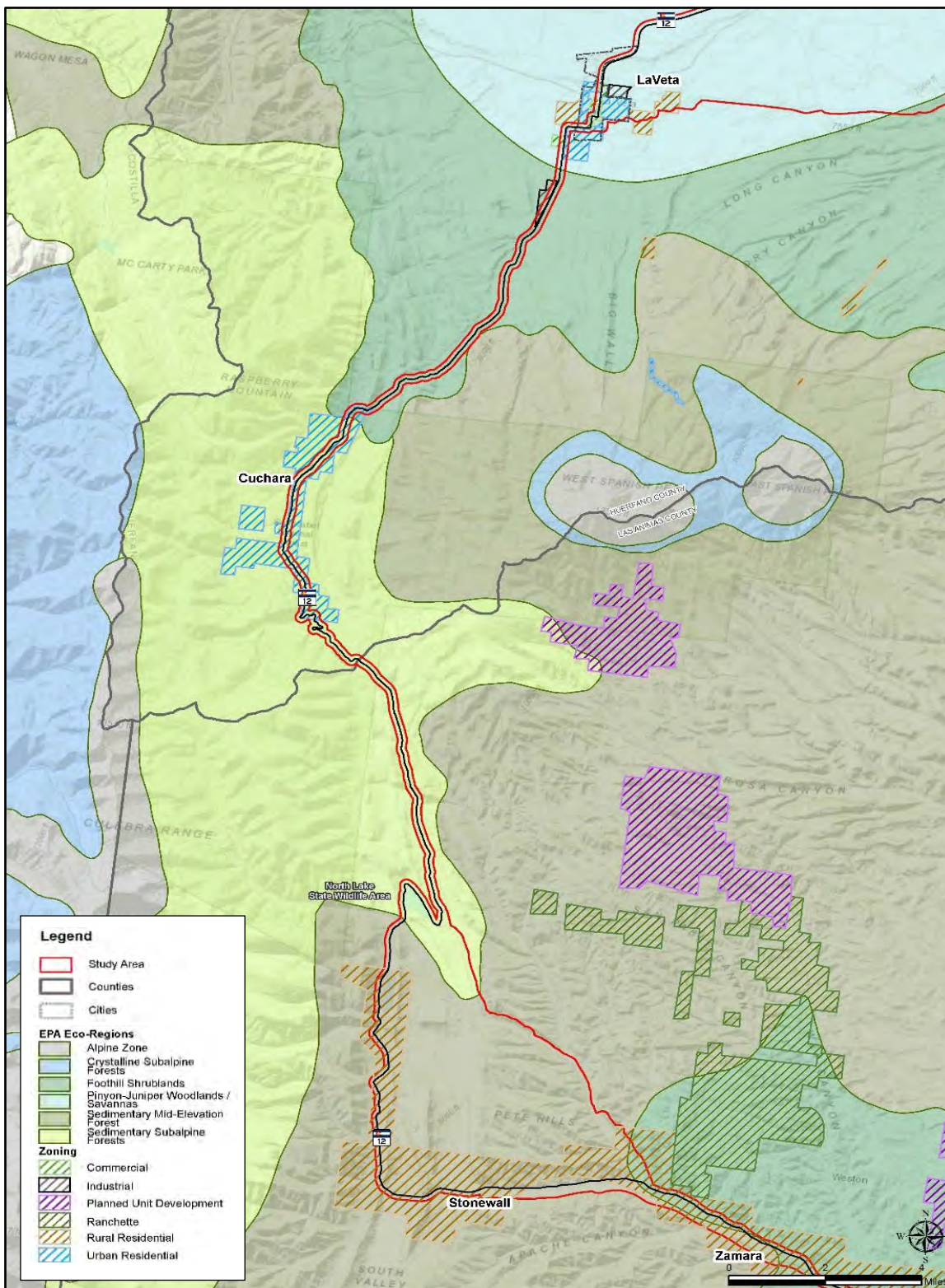
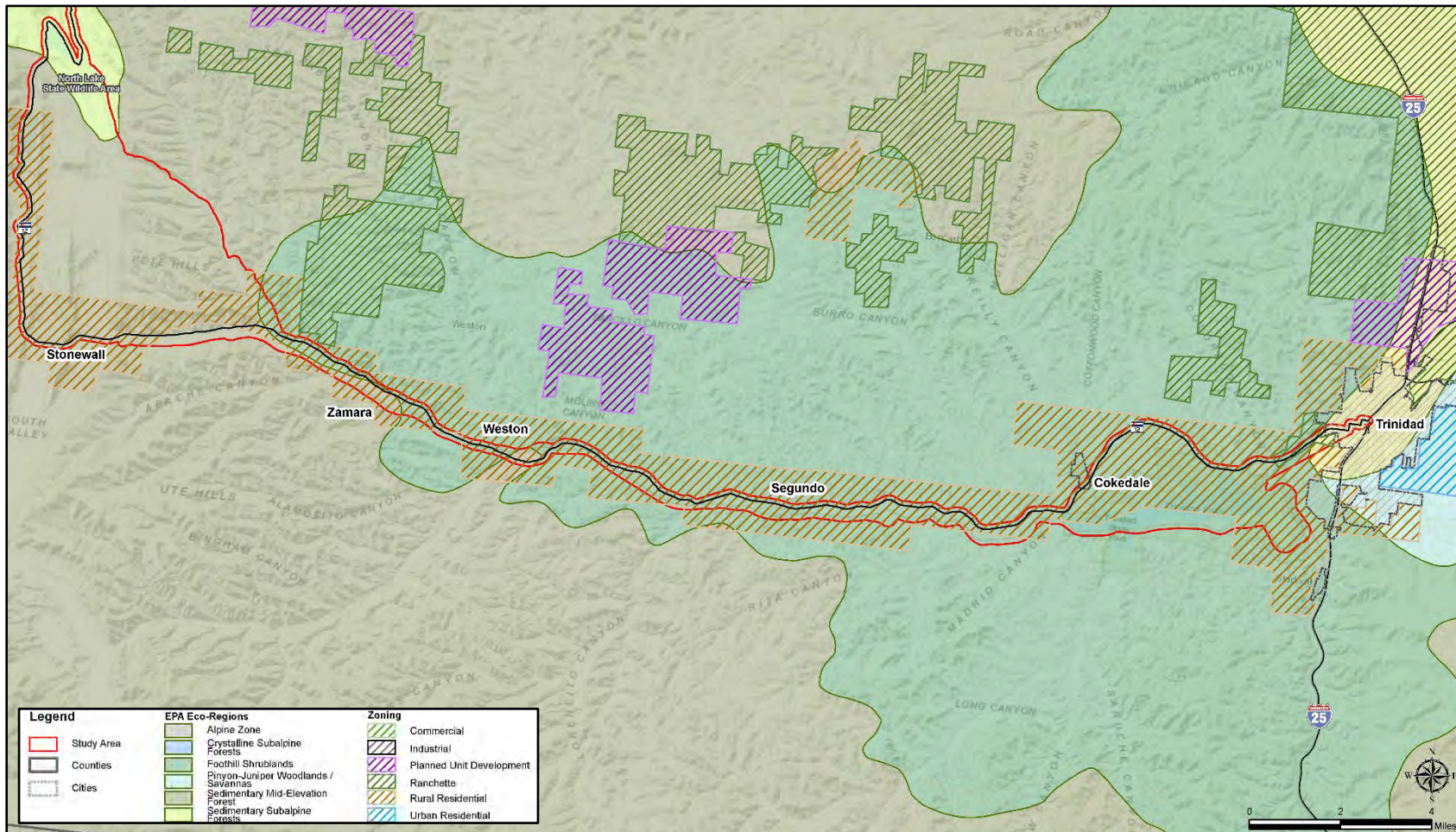


Figure 36: Ecoregions and Zoning, Stonewall to Trinidad



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 $L_{eq}(h)$ * | 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 38: Existing Conditions Noise Sensitive Area, La Veta to Stonewall

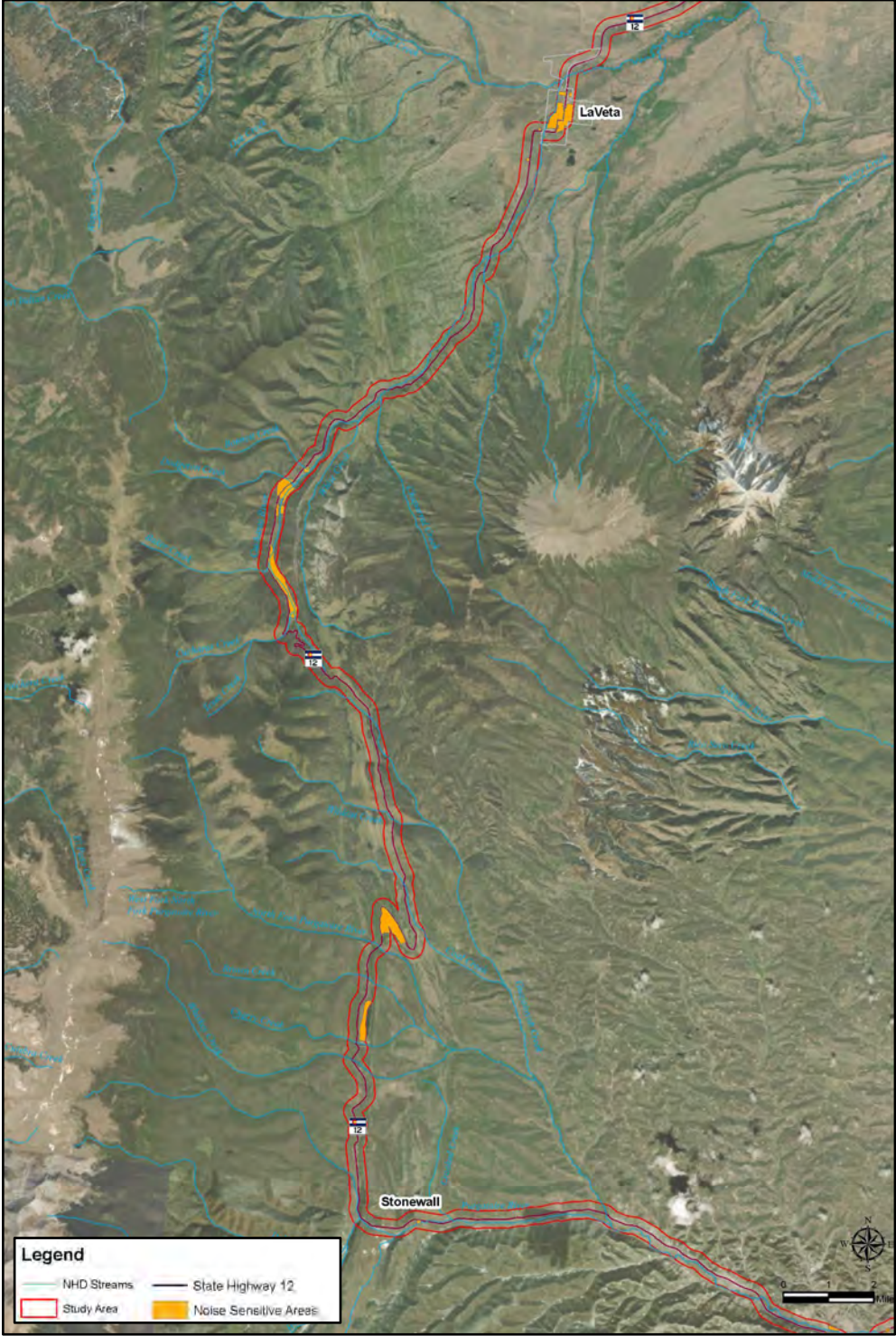


Figure 39: Existing Conditions Noise Sensitive Area, Stonewall to Trinidad



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 | <ul style="list-style-type: none"> • GOAL High School • Huerfano County Opportunity and Enrichment School • First Baptist Church • Young Soldiers for Christ • Huerfano Community Bible Church |
| Town of La Veta | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Bible Baptist Church • Church of the Nazarene • Head Start School • Trinidad High School • Central Park • Loudon-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

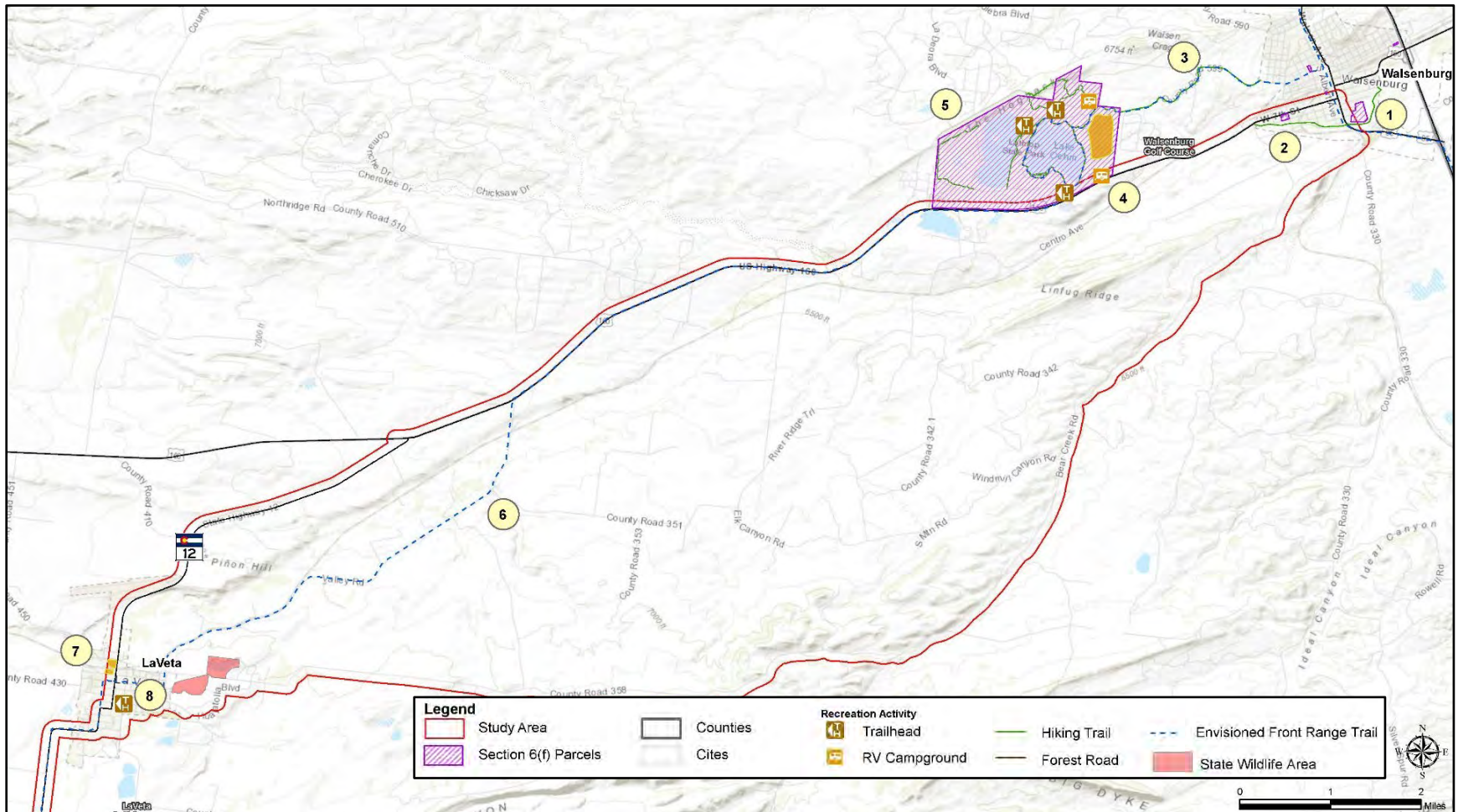


Figure 41: Recreation Activities, La Veta to Stonewall

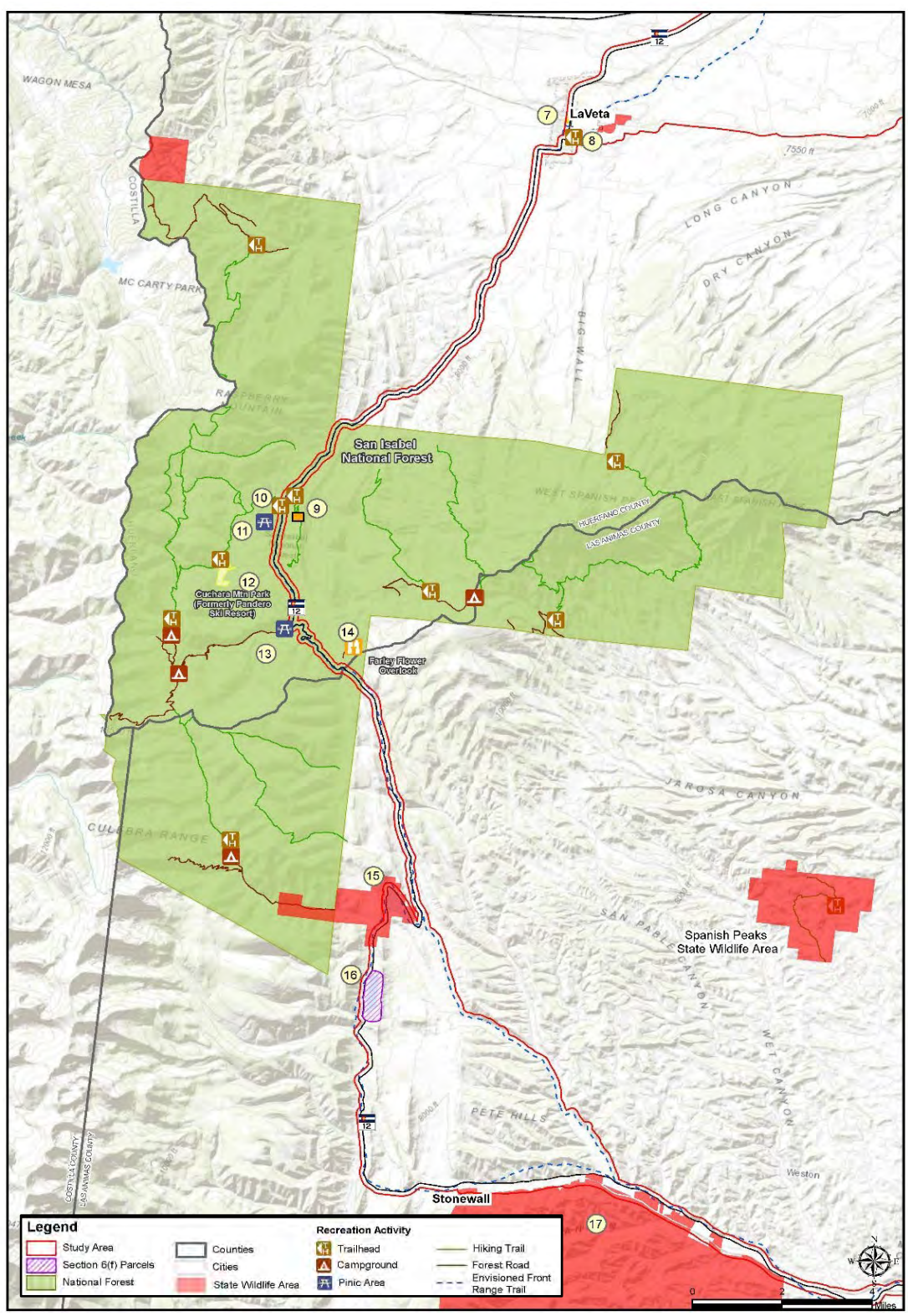


Figure 42: Recreation Activities, Stonewall to Trinidad

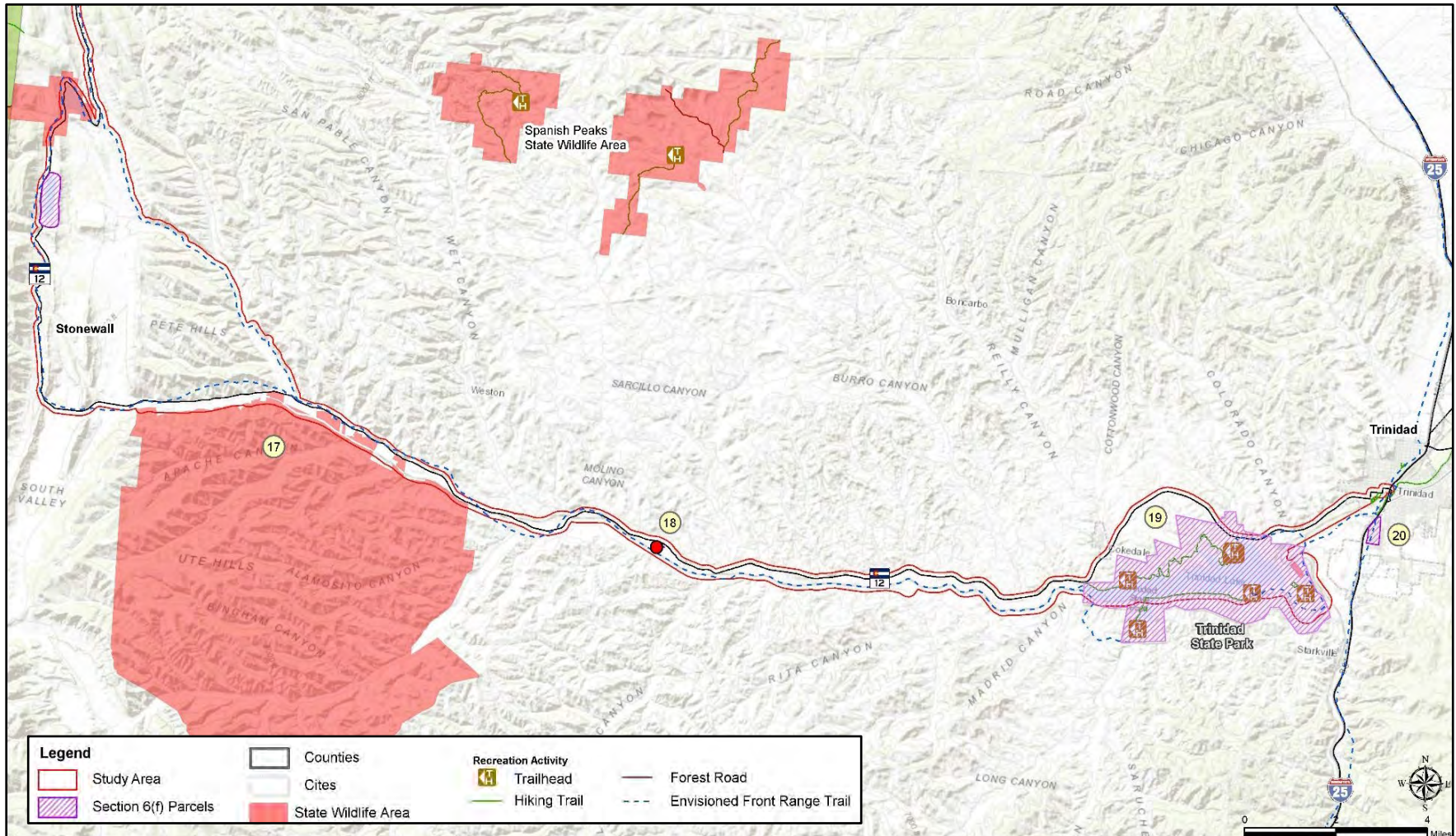


Table 15: Formal Parks, Trails, Recreational Areas, and Refuges within Study Area

| 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.

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.

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

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 are 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 | <i>Onchorhynchus clarkia stomias</i> | 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 | <i>Strix occidentalis lucida</i> | 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 | <i>Lynx canadensis</i> | FT | Dense sub-alpine forests, willow-choked streams, avalanche chutes, and suitable habitat for primary prey (snowshoe hare, <i>Lepus americanus</i>); 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 | <i>Gulo gulo luscus</i> | 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 | <i>Zapus hudsonius luteus</i> | 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 (<i>Alnus</i> spp.) and willows (<i>Salix</i> spp.); 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. |

¹FT=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

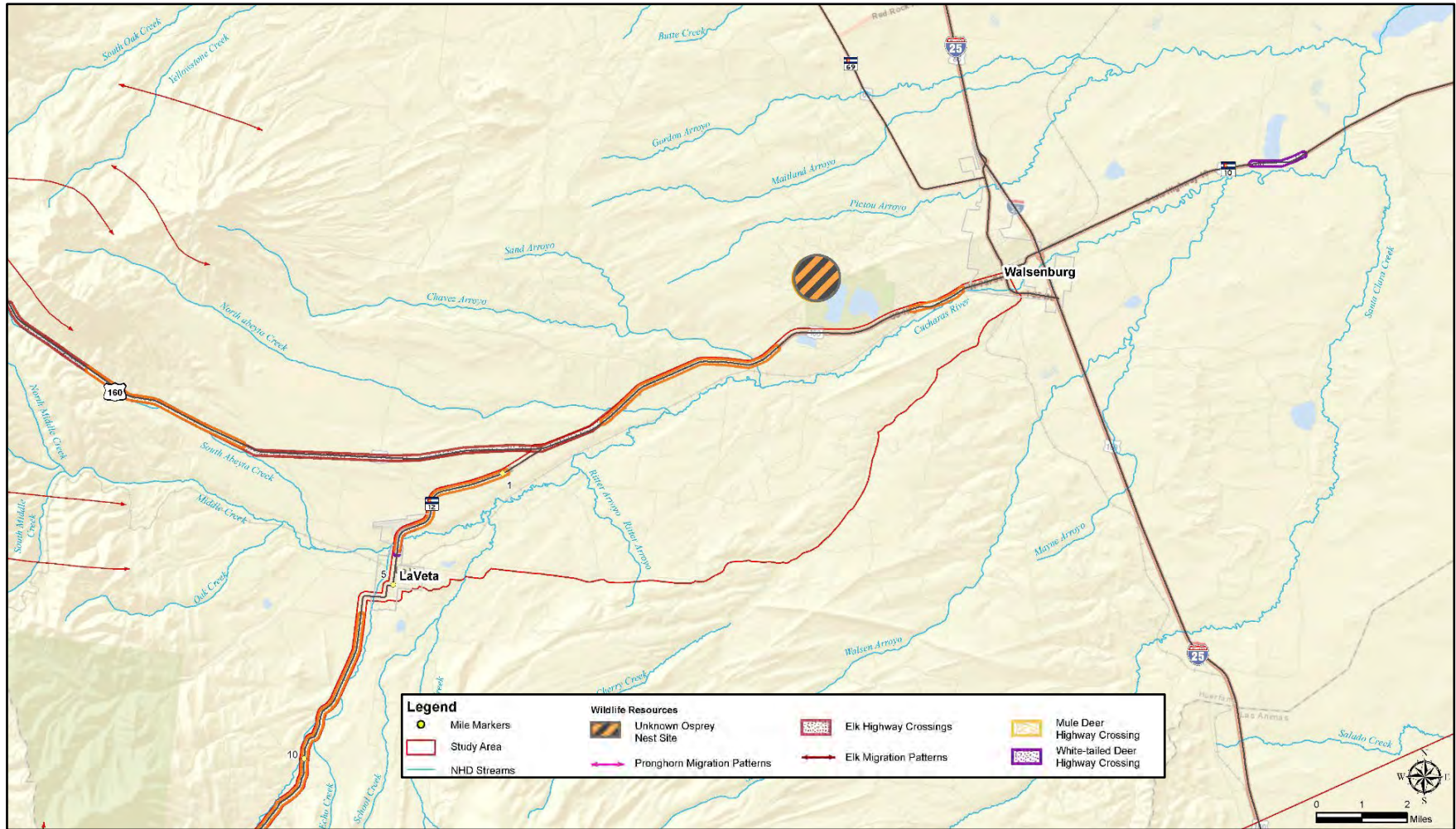


Figure 44: Existing Conditions Wildlife Resources, La Veta to Stonewall

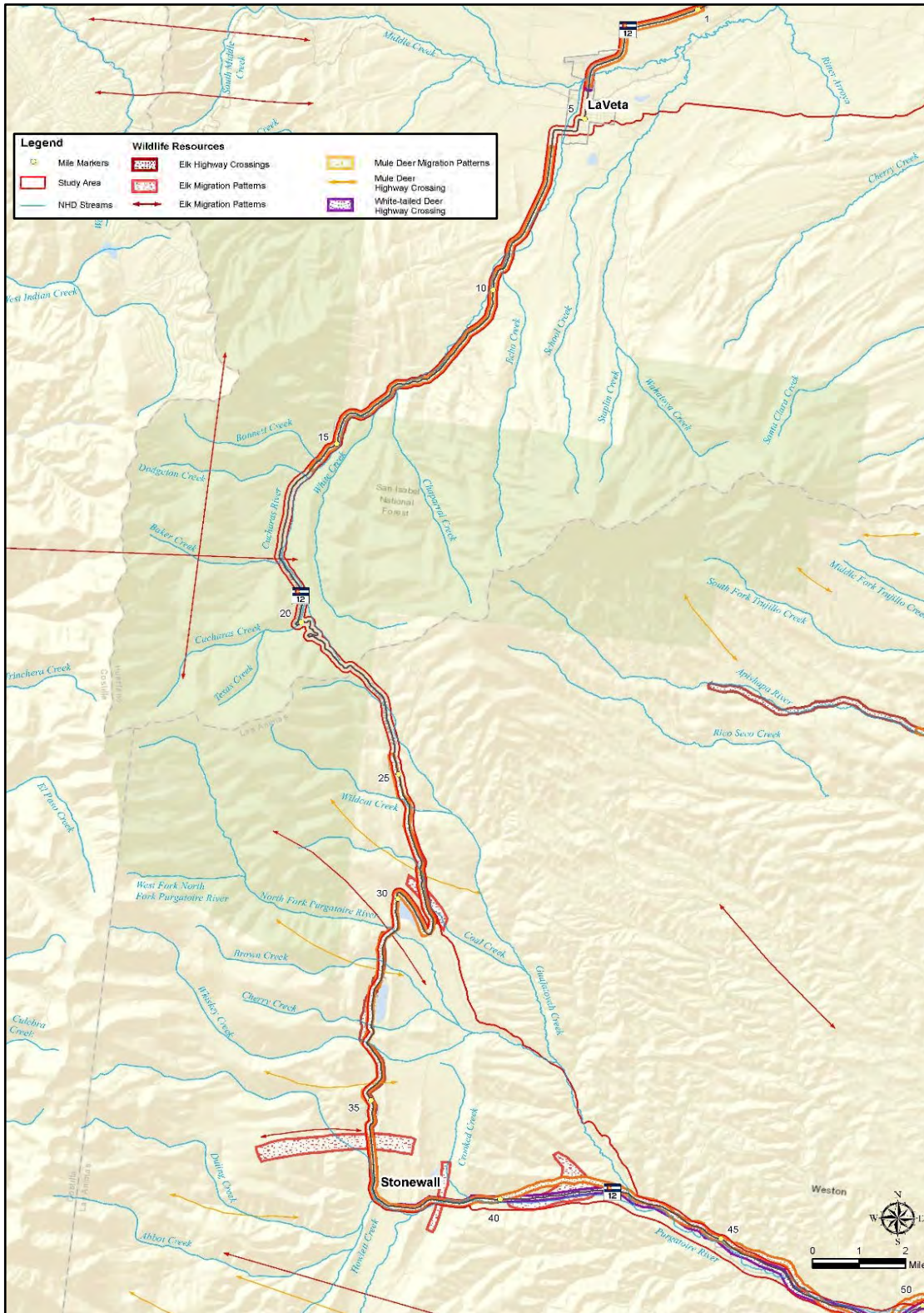
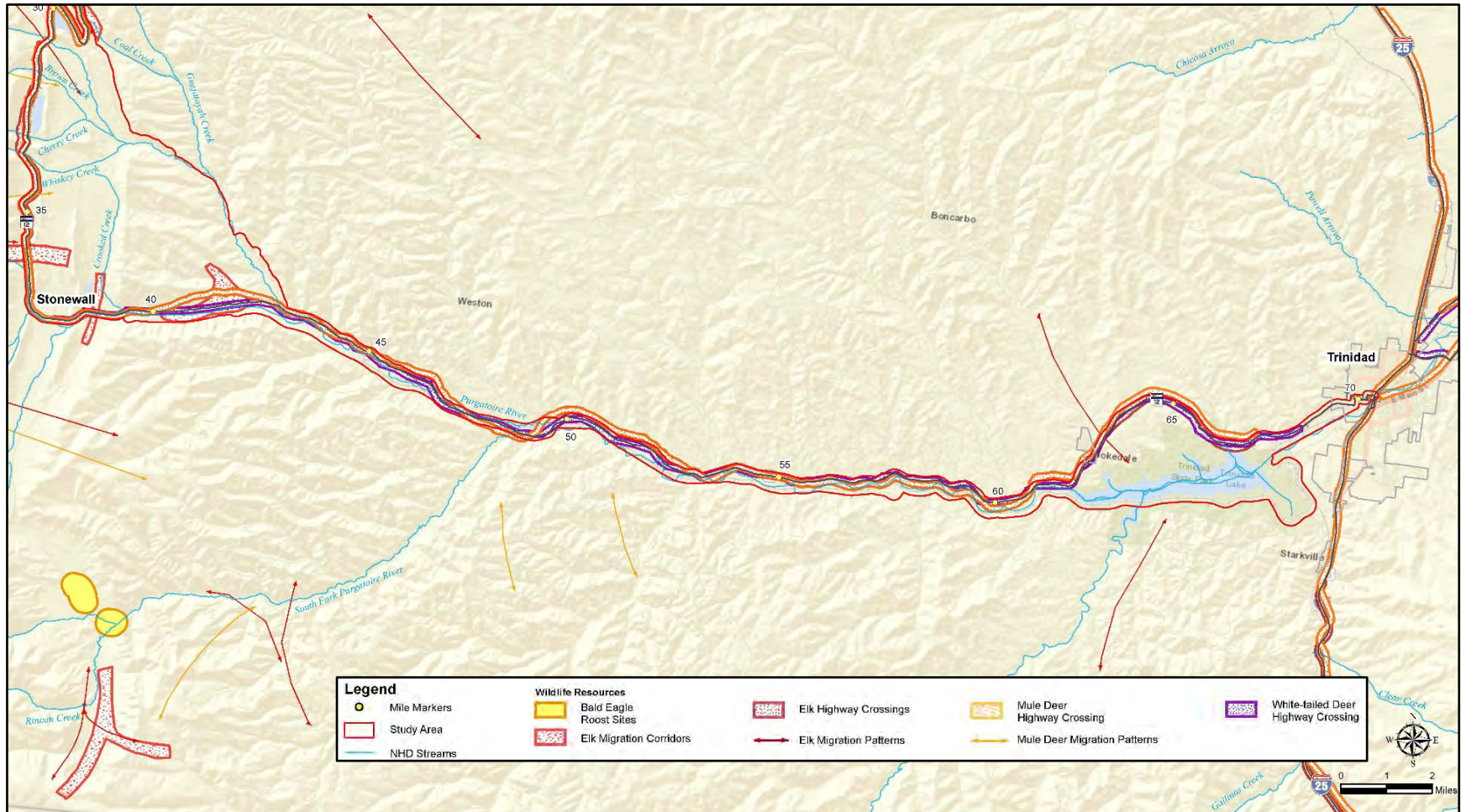


Figure 45: Existing Conditions Wildlife Resources, Stonewall to Trinidad



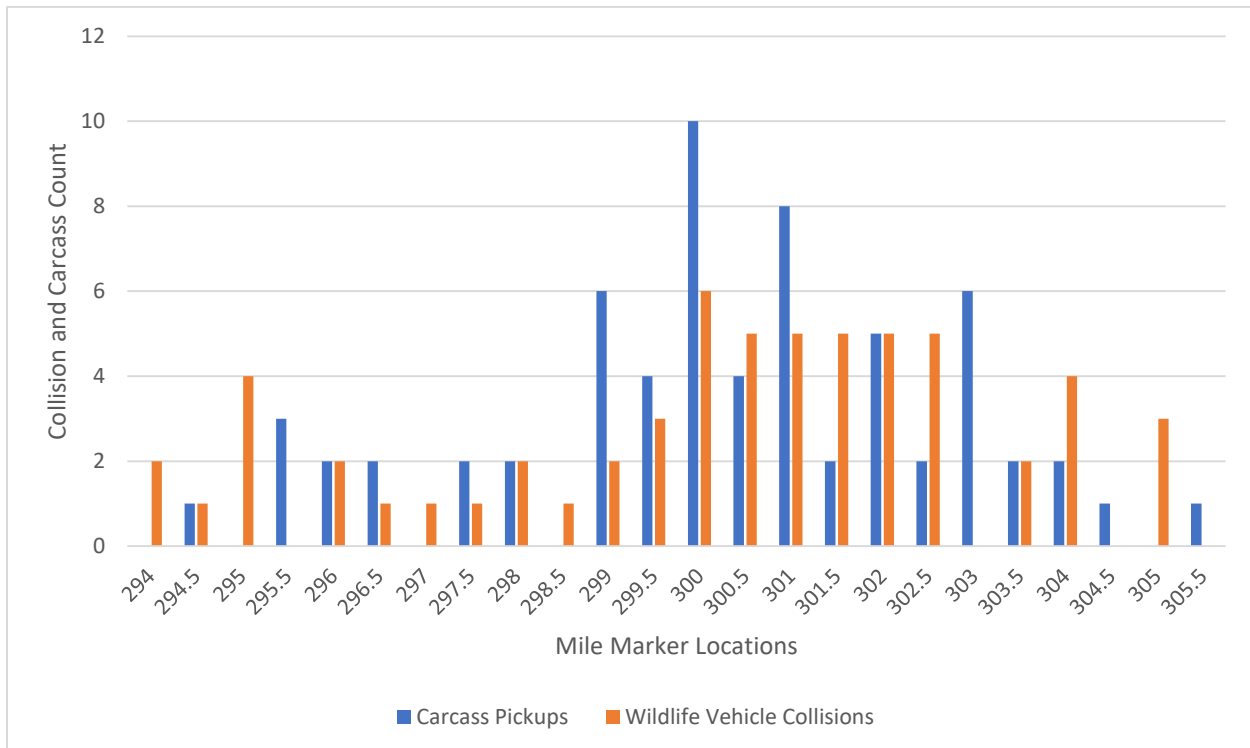
Based on the observed vegetation communities and water sources within the Study Area, habitat for numerous species of mammals, birds, reptiles, amphibians, fish, and invertebrates may occur within the Study Area. As shown on **Figure 43** to **Figure 45** three ungulate species occur regularly within 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:

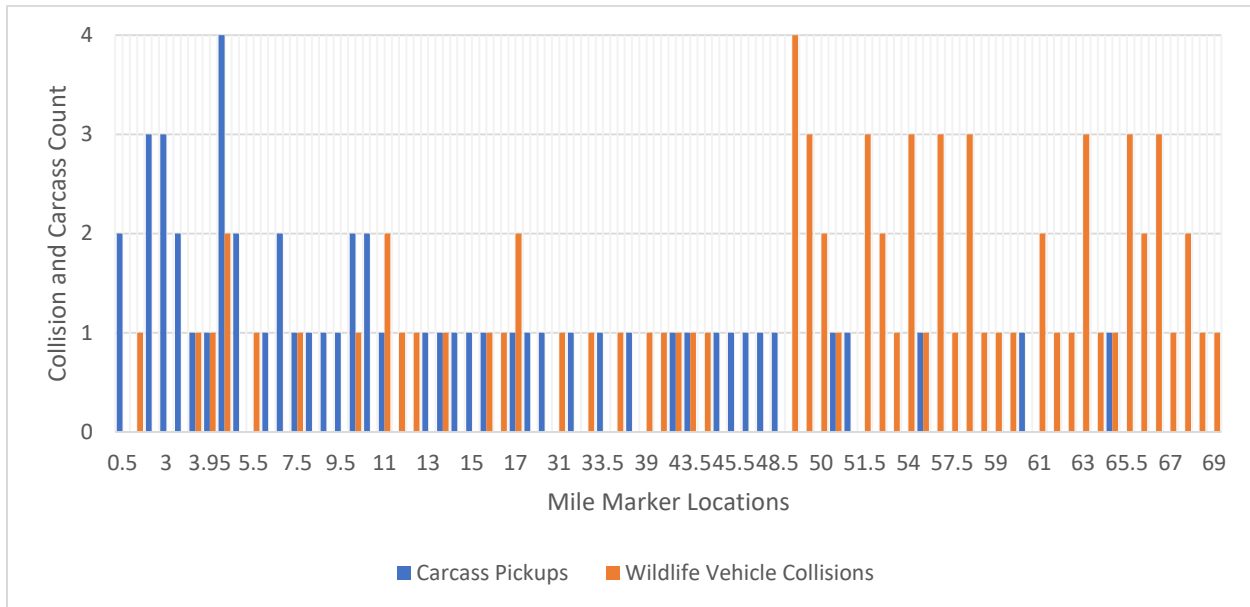
- US 160: mile markers 295 to 296, 299 to 303, and 304 to 305
- SH 12: mile markers 2 to 4, 10 to 11, 49 to 59, and 61 to 68

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

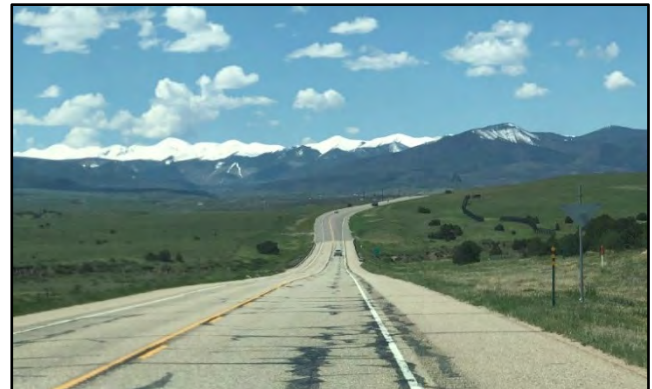
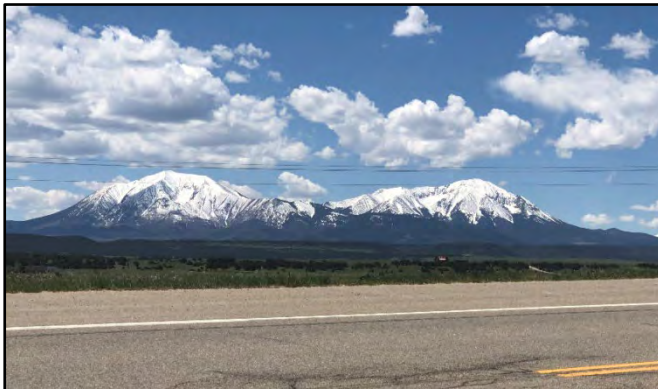
The visual character of the northern-most section of the Corridor in Walsenburg is typical of small city urban residential and commercial. The foreground views contain the US 160 roadway lined with various structures, utility poles, residences, and businesses. Vegetation that can be seen is a mixture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

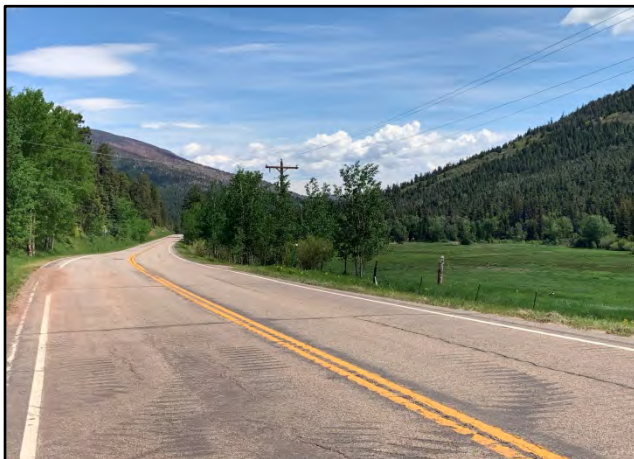
In the Town of La Veta, the foreground views along Main Street are predominantly commercial, with adjacent residential uses. Between La Veta and Cuchara, the foreground and background views are dominated by hills, ridges, and foot slopes as the roadway climbs in elevation. The vegetation is mostly sagebrush 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

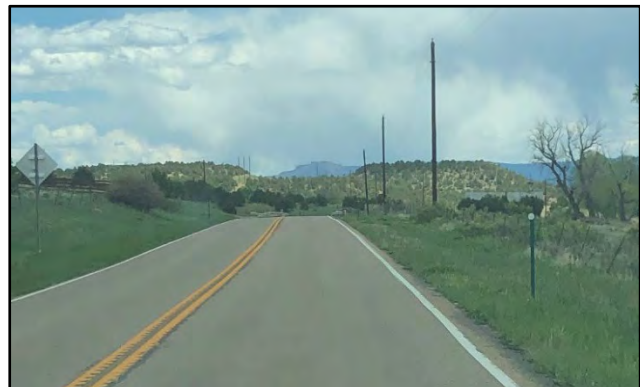
The viewshed between Stonewall and Trinidad changes dramatically from the more northern sections of the Corridor. The background views are lower and flatter shrubland, although there are some hills with coniferous woodlands that can be seen. The foreground along this stretch contains several small communities 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.

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.



Typical visual character in Downtown Trinidad.

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

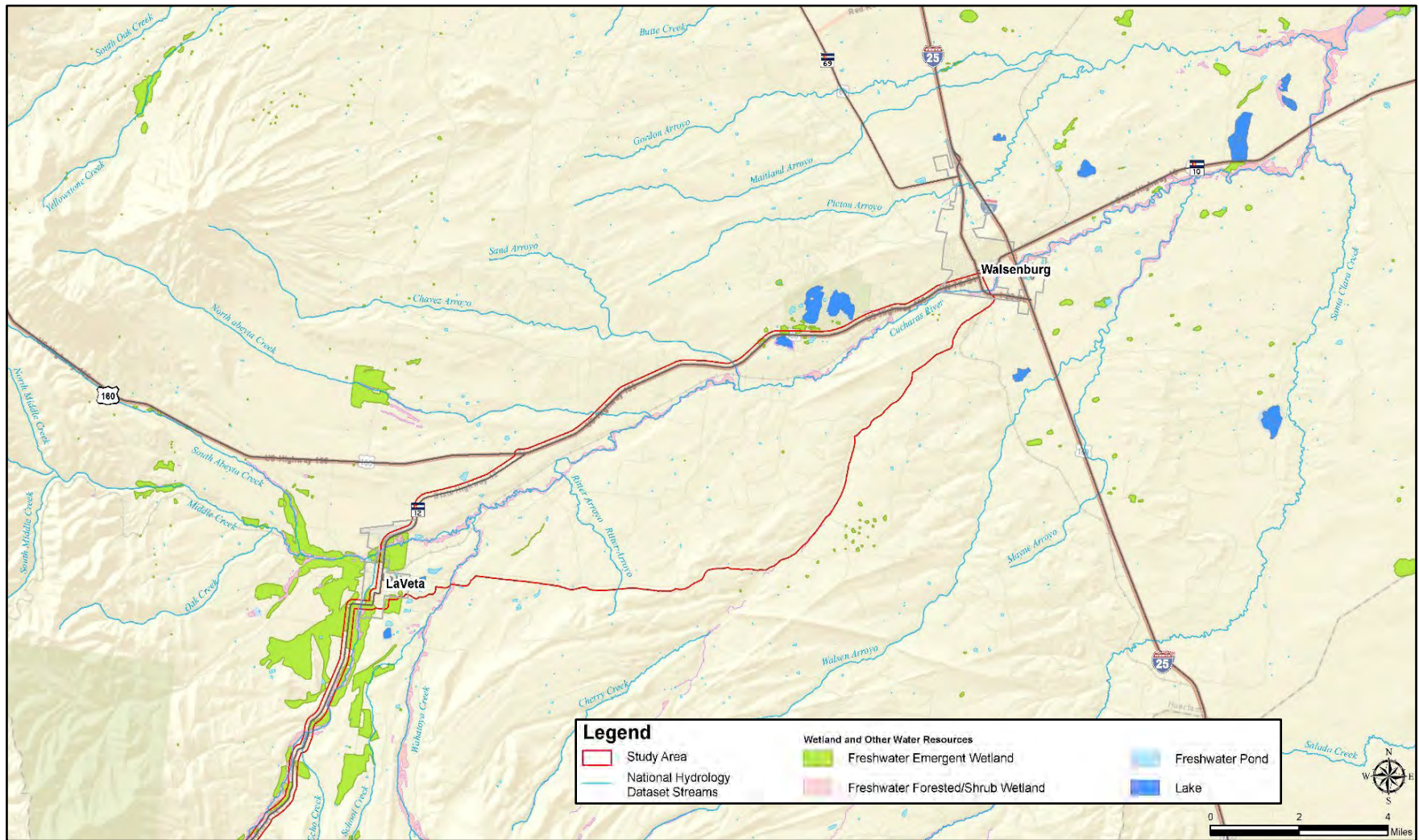


Figure 49: Existing Conditions Wetlands and Other Waters of the U.S., La Veta to Stonewall

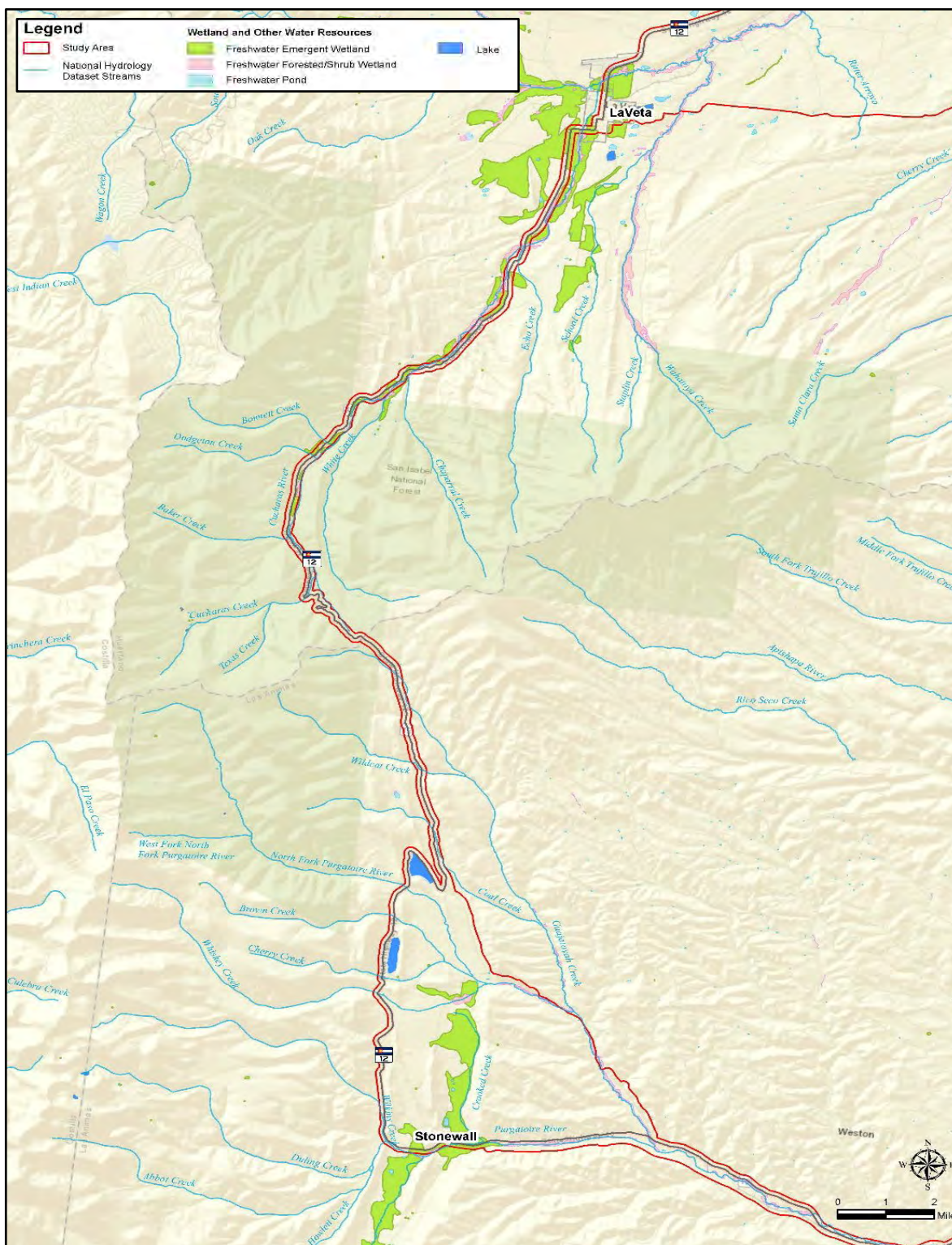
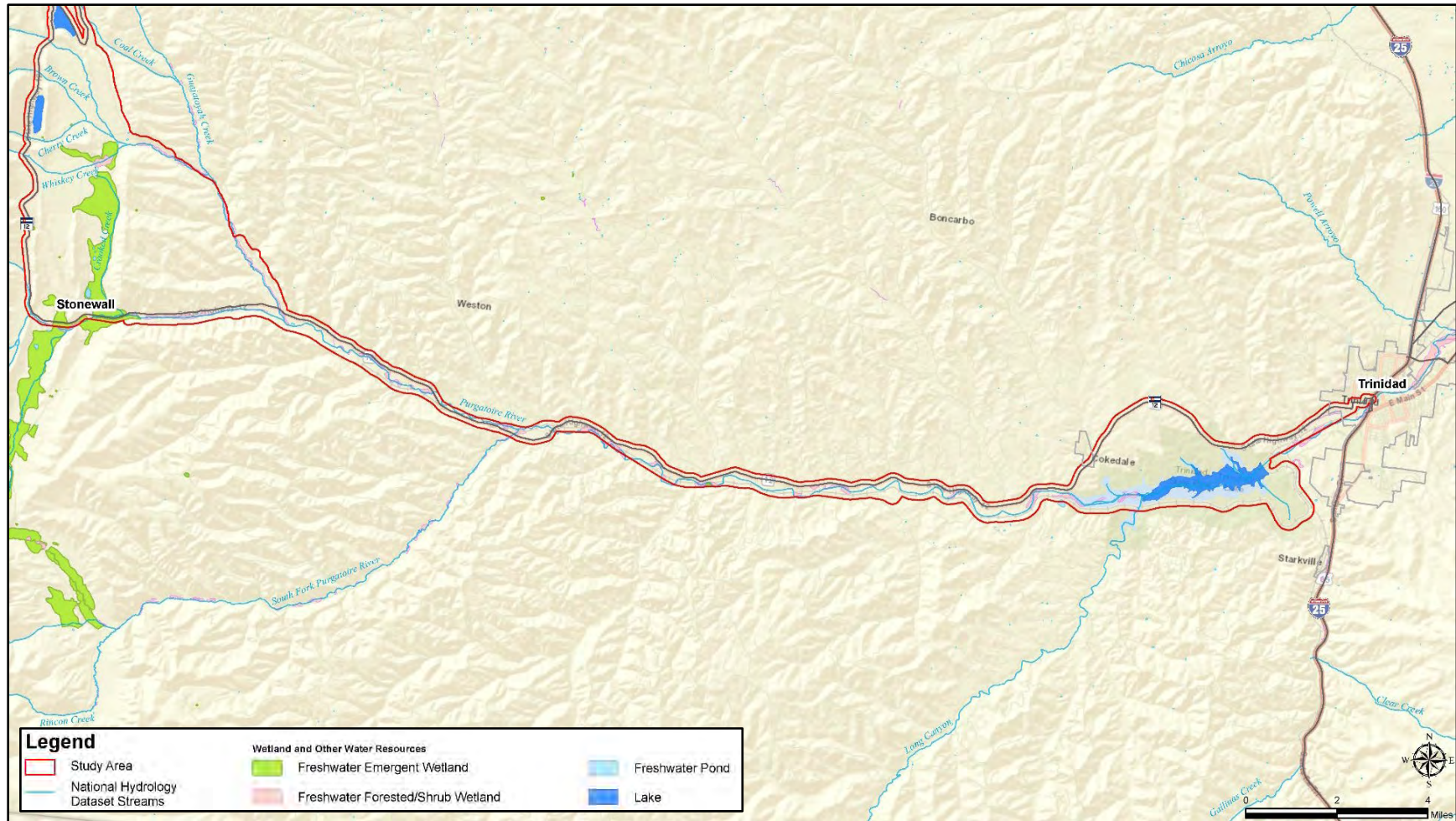


Figure 50: Existing Conditions Wetlands and Other Waters of the U.S., Stonewall to Trinidad



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.

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Appendix C - Alternatives Report



Southern Mountain Loop

Planning and Environmental Linkages (PEL) Study

Alternatives Report

July 2020 (FINAL)



Prepared for:

South Central Council of Governments
Colorado Department of Transportation
Region 2

Prepared by:

Hg Consult, Inc.
Atkins
Alta Planning + Design
Walden Mills Group
Bachman PR

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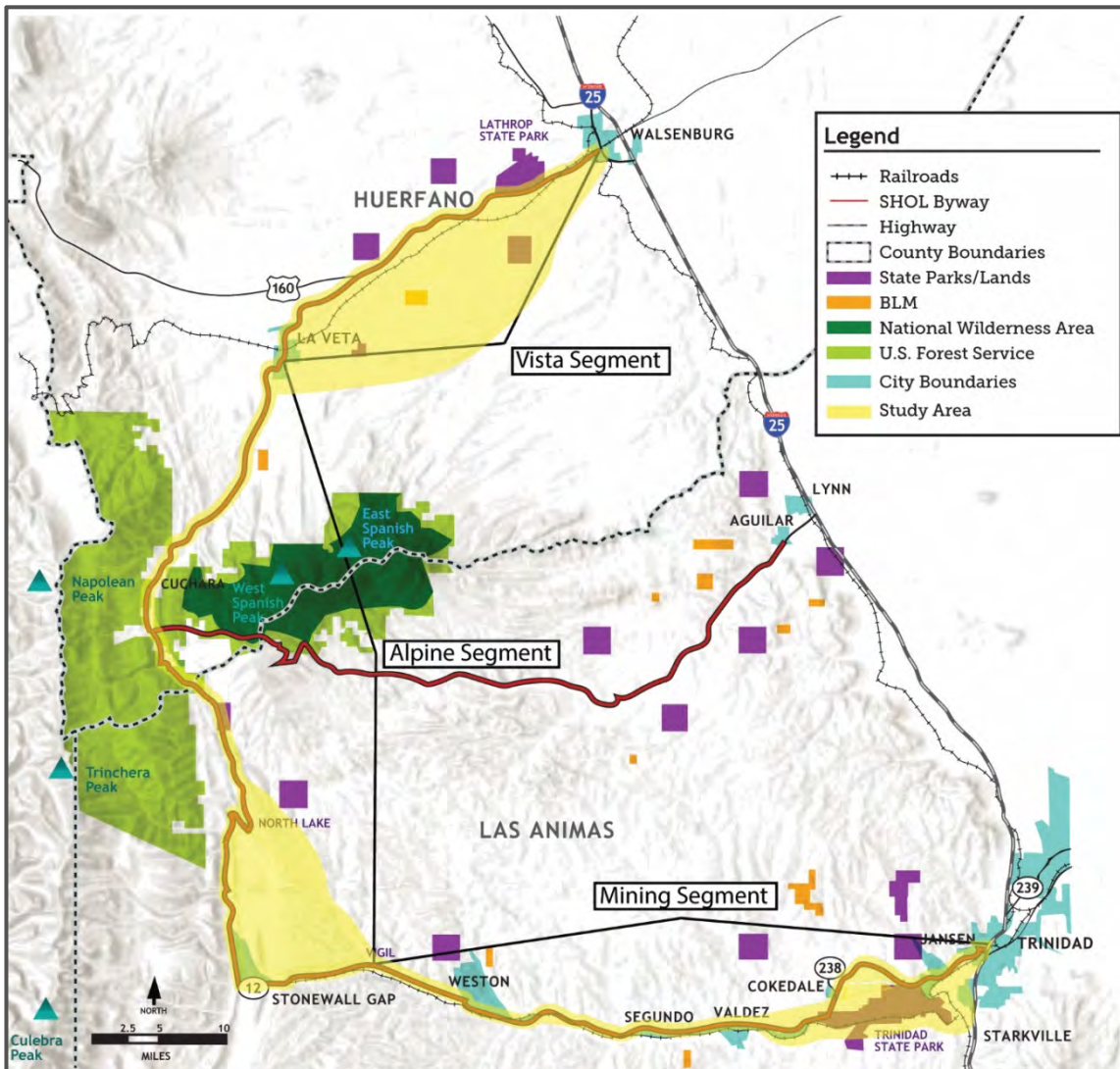
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Introduction

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). 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 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. Based on the existing conditions and anticipated problem areas within the Corridor, the study’s intent is to identify and assess transportation-related improvements to address the observed transportation needs. The *Alternatives Report* documents the transportation improvement alternatives identification and evaluation process. **Figure 1** presents the Study Area and Corridor.

Figure 1: Study Area Map



Purpose and Need

The purpose of the project is to improve highway safety and provide a regional and local multi-use trail, completing the SML segment of the CFRT, along the Scenic Highway of Legends Byway between Walsenburg and Trinidad.

Integrated transportation-related improvements are needed to address:

- **Wild Animal Crashes** - Localized areas within the Corridor have higher concentrations of wild animal crashes.
- **Roadway Configurations (Lane Departure Crashes)** - Existing roadway configurations are inadequate and contribute to localized areas of higher lane departure crashes. A majority of the Corridor has no or very narrow roadway shoulders.
- **Transition Zones (Rear-end Crashes)** - Transition areas within the Corridor between the rural and urban-like settings have higher incident rates for rear-end crashes.
- **Bicycling Safety** - Existing roadway shoulder widths and treatments are inadequate for bicyclists. There are sporadically placed “Share the Road” signs along the Corridor.
- **Pedestrian Crossing Safety** - Existing pedestrian crossing movements in La Veta, Cuchara and Stonewall create unsafe conditions.
- **Multi-use Trail Accommodations** - There are currently no accommodations for non-motorized users, of varying abilities, to travel through and within the Corridor.
- **Multi-use Trail Connectivity** - Multi-use trail connections between the Corridor’s amenities do not currently exist.

Alternatives Evaluation Process

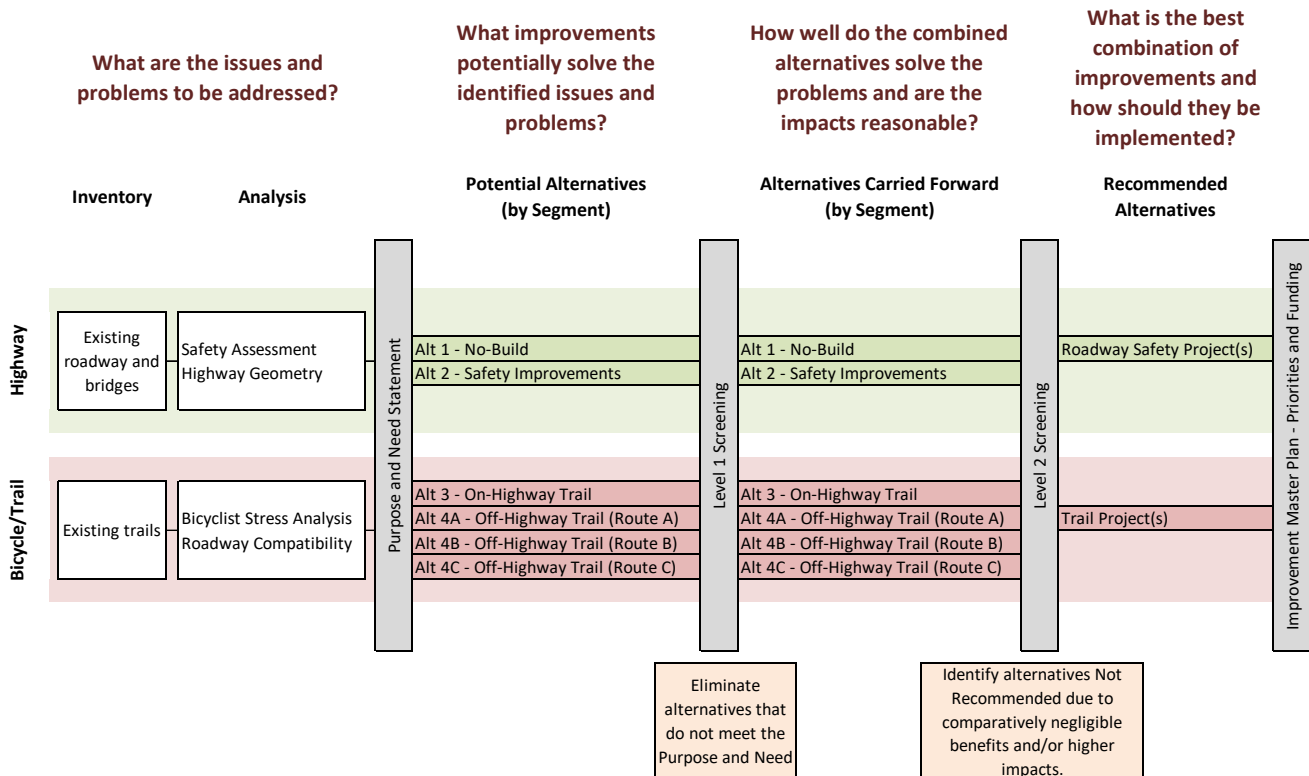
The alternative evaluation process entailed developing evaluation criteria based on the Purpose and Need, defining a reasonable range of improvement alternatives, and screening the alternatives through a two-tiered evaluation process. **Figure 2** illustrates the alternatives development and evaluation process.

The Purpose and Need provided the framework and measures for the evaluation of the alternatives. Multiple preliminary alternatives were defined to fulfill the needs identified by the Purpose and Need. These alternatives were formed by combining various improvement concepts into defined and unique alternatives by segment. These concepts represent the various typical applications of highway and trail improvements within the Corridor. Concepts for trail improvements included implementing multi-use trail features along the highway right-of-way, either attached or separated from the existing highway roadway, or independent of CDOT’s right-of-way (i.e., Off-Highway). As part of this process, transportation conditions and environmental resource concerns and opportunities were identified in the *Existing Corridor Conditions Report* to guide the development and evaluation of the alternatives. Agency and public concerns were incorporated into the alternatives evaluation process. Input and concerns were gathered through direct engagement in study committee meetings, review of study materials, and informal public open houses.

The alternatives were developed and evaluated according to three Corridor segments. Combined, the segments represent the alternatives through the full Corridor. These segments have been identified, as shown on **Figure 1**, as follows:

- Vista Segment (Walsenburg to La Veta)
- Alpine Segment (La Veta to Vigil)
- Mining Segment (Vigil to Trinidad)

Figure 2: Alternatives Development and Evaluation Process



As shown in **Figure 2**, the Purpose and Need identifies the issues and problems in the Corridor that need to be addressed. Accordingly, a range of potential alternatives was defined and evaluated in the Level 1 screening based on whether or not each would accomplish the identified needs in the Purpose and Need. Each potential alternative was defined and evaluated as a standalone improvement alternative. Those alternatives not fulfilling the Purpose and Need were eliminated from further consideration.

Alternatives carried forward from the Level 1 evaluation were then defined and evaluated in more detail in the Level 2 screening. The Level 2 evaluation measures were expanded, as appropriate, to include environmental resources considerations and other information for comparing the alternatives, such as feasibility and construction costs. For Level 2, to the extent possible, quantifiable measures were provided. Otherwise, relative ratings were utilized. The Level 2 screening identified the recommended alternatives to be studied further following the PEL Study.

Recommendations from the Level 2 screening were then packaged into a defined set of improvements in an Implementation Plan which identifies individual, yet inter-related projects for further project development, including additional study, design, and when funded, construction. The Implementation Plan identifies the recommended projects and priorities and is included in the *Final PEL Study Report*.

Table 1 presents the evaluation framework and type of measures for the Level 1 and Level 2 alternatives screening processes.

Table 1: Alternatives Evaluation Framework

| Evaluation Issue | | Need/Goal | Level 1 | Level 2 |
|--|--|---|---------|------------|
| Purpose and Need | Safety | Reduce Wild Animal Crashes | Yes/No | (See Note) |
| | | Reduce Lane Departure Crashes | Yes/No | Number |
| | | Reduce Rear-end Crashes | Yes/No | Rating |
| | | Improve Bicyclist Safety | Yes/No | Rating |
| | | Improve Pedestrian Safety | Yes/No | Rating |
| | Regional/Local Trail System | Accommodate Multi-use Trail | Yes/No | Number |
| | | Connect to Existing Amenities | Yes/No | Number |
| Environmental Considerations | Environmental Compliance and Stewardship | Avoid Biological Impacts | | Rating |
| | | Avoid Cultural Impacts | | Rating |
| | | Avoid Community Impacts | | Rating |
| | | Maximize Use of Public Lands | | Rating |
| Feasibility | Ability to Phase and Construct Trail | Reduce Challenges for Trail ROW Acquisition | | Rating |
| | | Ability to Build Trail in Useable Phases | | Rating |
| | | Applicability of Securing Trail Funding | | Rating |
| Additional Information for Comparison Purposes | | Highway Construction Costs | | Number |
| | | Trail Construction Costs | | Number |
| | | Amount of Trail in CDOT ROW | | Number |
| | | Number of Highway/Trail At-grade Crossings | | Number |
| | | Agency/Public Stakeholder Support | | Rating |

Note: For the Level 2 evaluation, the Reduce Wild Animal Crashes factor was not considered a differentiating factor. While this need is recognized and would be addressed by the highway safety improvements, given the high variability of the potentially recommended wildlife crash mitigation measures and their relative effectiveness, this factor was normalized for the Level 2 evaluation. Whatever mitigation measures would be implemented, their benefits would be realized consistently by all the alternatives. For these reasons, this factor was not considered a differentiator for the Level 2 screening and alternatives recommendations. Following the PEL Study, additional study would be necessary by CDOT to determine the appropriate wildlife safety improvements at each high crash concentration area. Addressing the need to reduce wildlife crashes is independent of other highway safety and trail improvement considerations.

Range of Improvement Concepts

A range of improvement concepts was identified to define typical improvement applications which, when combined into alternatives, address the identified safety needs and accommodate a multi-use trail with connections to amenities within the Corridor. These concepts include the following:

- **No-Build** - Maintain the Corridor in its existing configuration. This concept provides a basis for the evaluation and comparison of the improvement concepts.
- **Highway Safety** - Provide improvements to US 160 and SH 12 to address the safety needs within the Corridor.

- **On-Highway Trail (Attached)** - Provide trail accommodations attached to the US 160 and SH 12 roadway shoulders for the full length of the Corridor.
- **On-Highway Trail (Separated)** - Provide a bi-direction trail along the full length of the Corridor separated from the US 160 and SH 12 roadways within the existing CDOT right-of-way, to the extent possible.
- **Off-Highway Trail** - Provide a bi-directional trail on a route or alignment separate from and independent of the US 160 and SH 12 roadways and existing CDOT right-of-way.

No-Build Concept

Under the No-Build Concept, there would be no improvements to highway safety and a multi-use trail would not be provided. Existing US 160 and SH 12 would continue to be maintained in their current configurations. Although this concept would not satisfy the Purpose and Need for the project, it provides a basis of comparison with the other concepts.

Typical roadway sections illustrating the current roadway configurations for each of the three segments, by milepost (MP), are shown **Figures 3, 4 and 5**. **Table 2** presents the existing shoulder widths along the Corridor which would be maintained with the No-Build Concept.

*Figure 3: Vista Segment - US 160 Typical Section
Location Near MP 299*

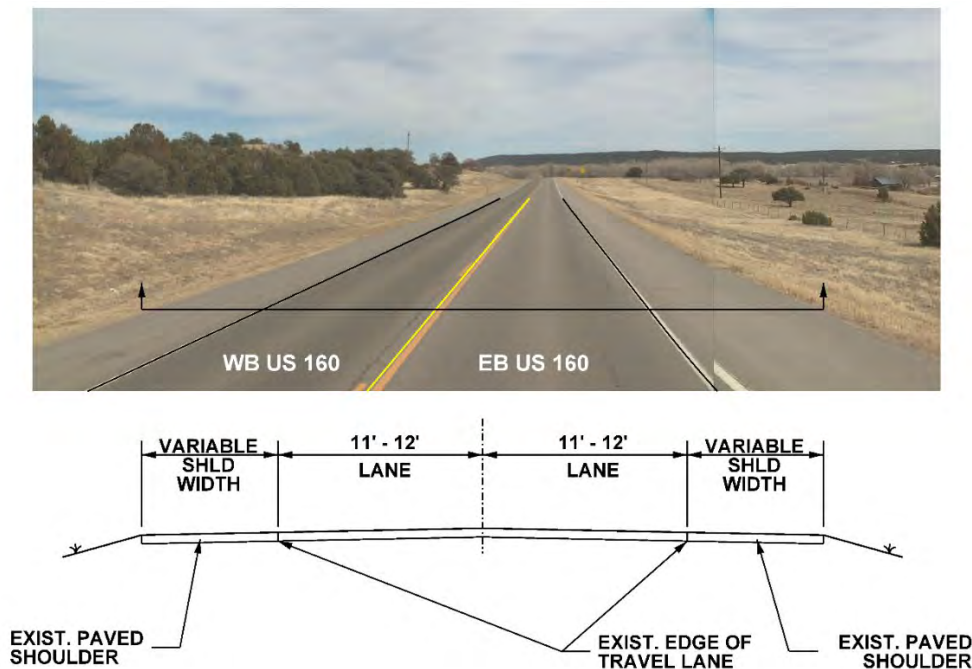


Figure 4: Alpine Segment - SH 12 Typical Section
Location Near MP 32

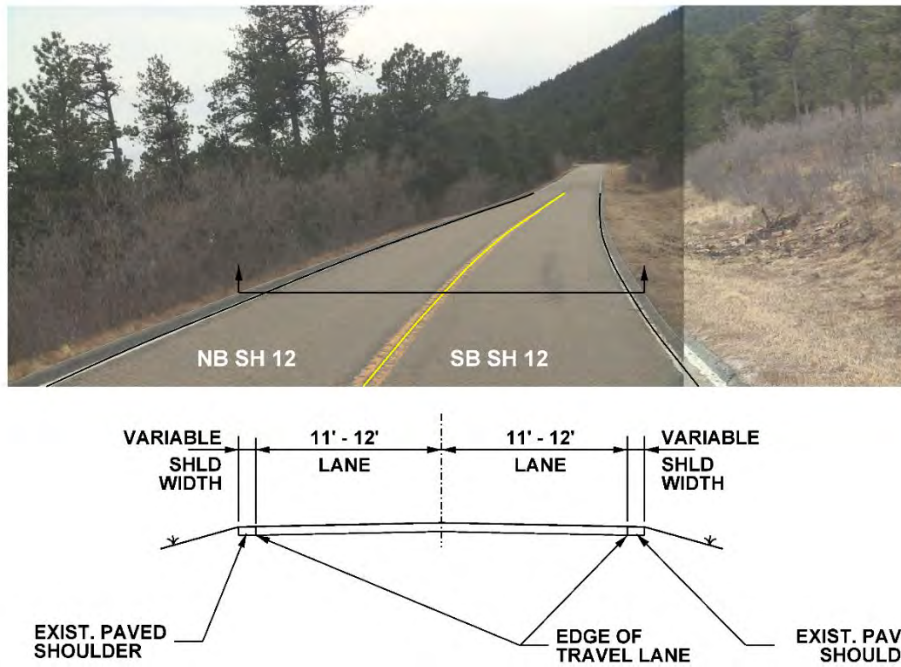


Figure 5: Mining Segment - SH 12 Typical Section
Location Near MP 50

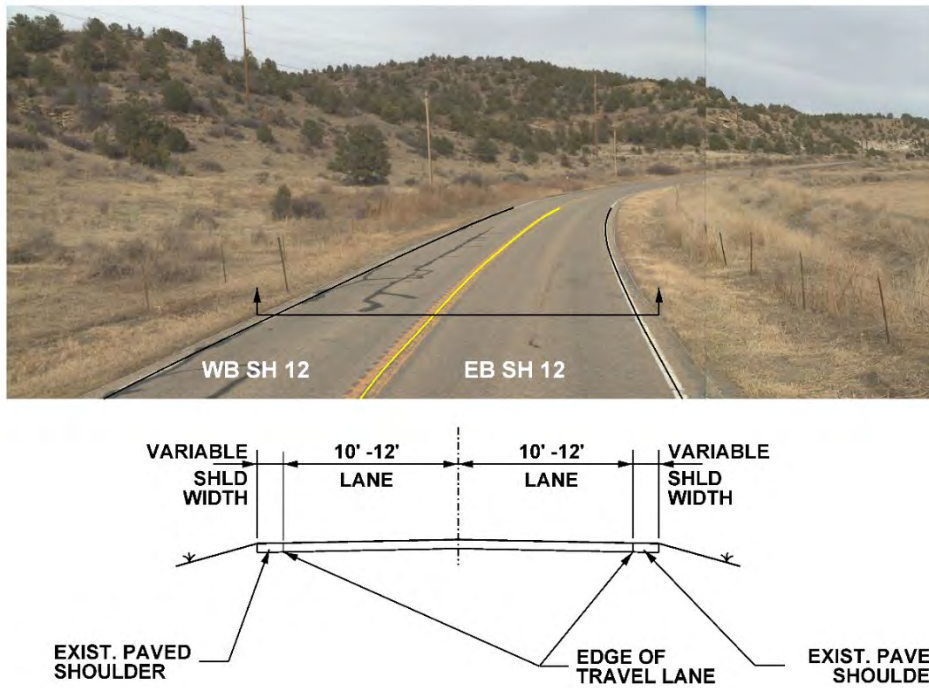


Table 2: Existing Roadway Shoulder Widths

| <i>Location</i> | <i>Existing Paved Shoulder Width</i> |
|--|--------------------------------------|
| Vista - Walsenburg to La Veta | |
| Walsenburg to US 160/SH 12 Intersection | 8' - 10' |
| US 160/SH 12 Intersection to La Veta (Moore Ave) | 3' |
| Alpine - La Veta to Vigil | |
| Ryus Ave to Oak St/Grand Ave Intersection | 10' |
| Oak St/Grand Ave Intersection to MP 5.8 | 5' |
| MP 5.8 to Cuchara | 0' - 2' |
| Cuchara to Vigil | 2' |
| Mining - Vigil to Trinidad | |
| Vigil to MP 47.4 | 3' - 5' |
| MP 47.4 to MP 52.0 | 0' - 2' |
| MP 52.0 to Co Rd 41.6 (MP 53.7) | 6' |
| Co Rd 41.6 (MP 53.7) to Co Rd 55.7 (MP 61.4) | 2' |
| Co Rd 55.7 (MP 61.4) to Co Rd 65.4 (MP 68.1) | 8' |
| Co Rd 65.4 (MP 68.1) to Trinidad (Nickerson Ave) | 2' |
| Nickerson Ave to I-25 | 10' |

Highway Safety Concept

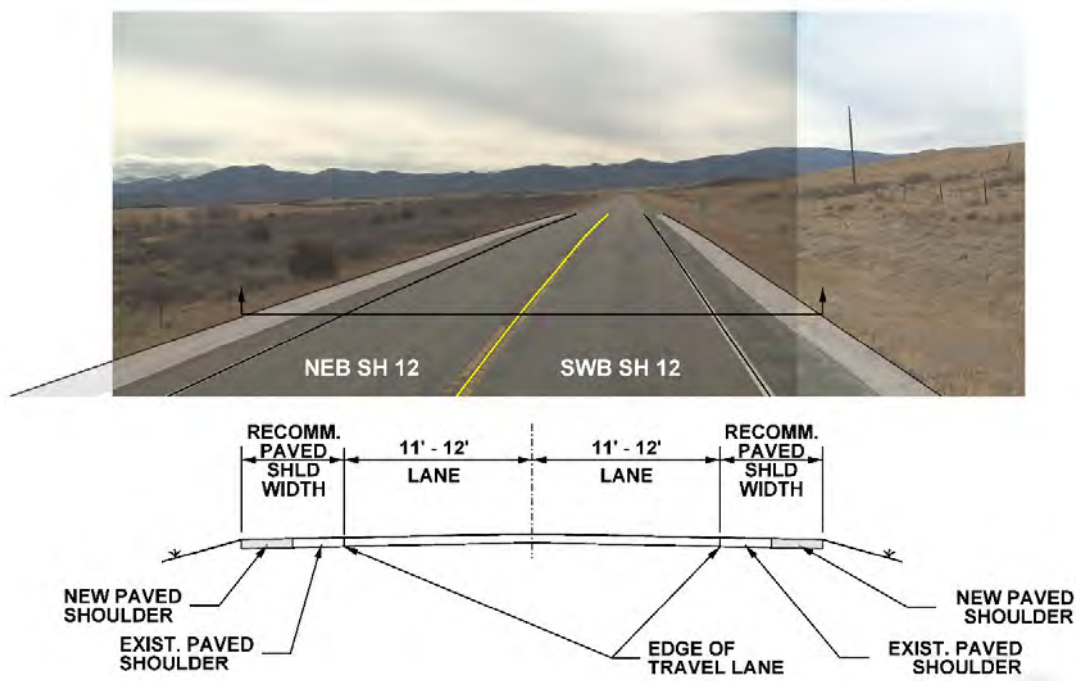
Under the Highway Safety Concept, only safety improvements to the Corridor would be considered. Providing a multi-use trail along the Corridor would not be included. This concept includes the following safety-related improvements:

- General corridor-wide safety improvements including edge line rumble strips along the full length of the Corridor to reduce run off the road crashes; renewed striping and retroreflectivity of all existing signs; replacing rigid delineators with flexible delineators; a review and correction, as necessary, of advanced curve warning signs and chevrons; and the consideration of spot speed studies to evaluate the appropriateness of existing posted speed limits.
- Wild animal crashes would be addressed at the identified locations of higher crash concentrations.
- To address lane departure crashes, shoulder widening to minimum CDOT standards would be provided throughout the Corridor. Additionally, safety improvements would be provided at the observed locations of higher lane departure crash locations.
- Rear-end crashes along the Corridor would be addressed through safety improvements at the observed higher concentration locations.
- Bicycle safety would be addressed through measures such as signage and shoulder pavement markings per CDOT standards.
- Pedestrian safety in La Veta, Cuchara, and Stonewall would be addressed through measures such as traffic calming, marked crosswalks, additional sidewalks, and signage.

The Highway Safety Concept typical sections for each of the three segments are shown in **Figures 6, 7 and 8**. **Table 3** presents the recommended improved minimum roadway shoulder widths, per CDOT

standards, for the Corridor. For continuity of shoulder widths, existing bridge structures would be widened consistent with the approach roadway shoulder widths, as shown in **Table 4**.

*Figure 6: Vista Segment - SH 12 Safety Typical Section
Location Near MP 2*



*Figure 7: Alpine Segment - SH 12 Safety Typical Section
Location Near MP 32*

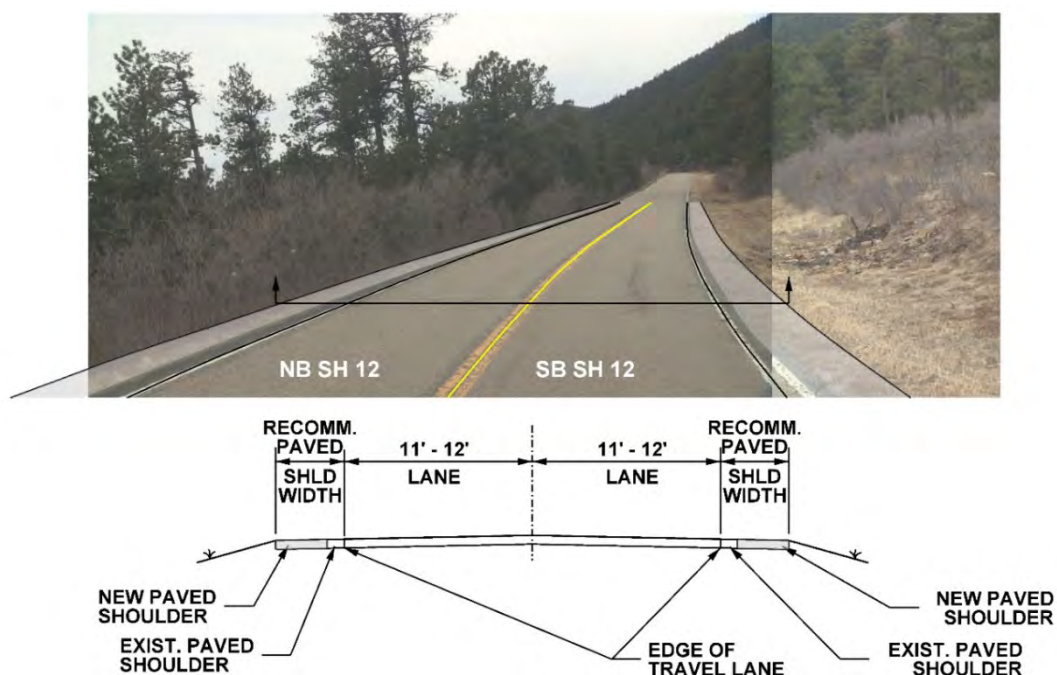


Figure 8: Mining Segment - SH 12 Safety Typical Section Location Near MP 50

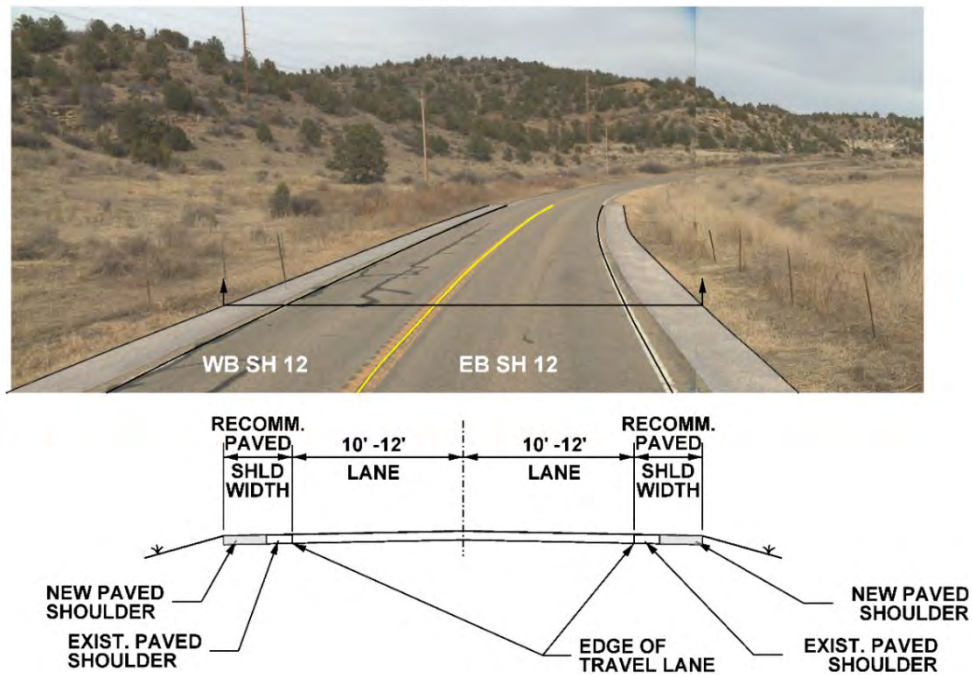


Table 3: Highway Safety Concept Roadway Shoulder Widths

| Location | Existing Paved Shoulder Width | Recommended Paved Shoulder Width | Widen Paved Shoulder |
|--|-------------------------------|----------------------------------|----------------------|
| Vista - Walsenburg to La Veta | | | |
| Walsenburg to US 160/SH 12 Intersection | 8' - 10' | 8' | 0' |
| US 160/SH 12 Intersection to La Veta (Moore Ave) | 3' | 6' | 3' |
| Alpine - La Veta to Vigil | | | |
| Moore Ave to Oak St/Grand Ave Intersection | 10' | 8' | 0' |
| Oak St/Grand Ave Intersection to MP 5.8 | 5' | 8' | 3' |
| MP 5.8 to Cuchara | 0' - 2' | 8' | 6' - 8' |
| Cuchara to Monument Lake | 2' | 6' | 4' |
| Monument Lake to Vigil | 2' | 4' | 2' |
| Mining - Vigil to Trinidad | | | |
| Vigil to MP 47.4 | 3' - 5' | 4' | 0' - 1' |
| MP 47.4 to MP 52.0 | 0' - 2' | 4' | 2' - 4' |
| MP 52.0 to Co Rd 41.6 (MP 53.7) | 6' | 4' | 0' |
| Co Rd 41.6 (MP 53.7) to Co Rd 47.7 (Valdez) | 2' | 4' | 2' |
| Co Rd 47.7 (Valdez) to Co Rd 55.7 (MP 61.4) | 2' | 8' | 6' |
| Co Rd 55.7 (MP 61.4) to Co Rd 65.4 (MP 68.1) | 8' | 8' | 0' |
| Co Rd 65.4 (MP 68.1) to Trinidad (Nickerson Ave) | 2' | 8' | 6' |
| Nickerson Ave to I-25 | 10' | 8' | 0' |

Table 4: Highway Safety Concept Bridge Shoulder Widths

| Route | MP | Bridge ID | Existing Shoulder Width (ft) | Recomm. Shoulder Width (ft) | Bridge Widening (ft) | Location |
|-------------------------------|---------|-----------|------------------------------|-----------------------------|----------------------|------------------------------------|
| Vista - Walsenburg to La Veta | | | | | | |
| US 160 | 296.097 | N-17-I | 8' | 8' | NA | 1.9 Miles East of Jct SH 12 |
| US 160 | 299.377 | N-17-BR | 10' | 8' | NA | 5 Miles West of Walsenburg |
| US 160 | 303.412 | N-17-BQ | 8' | 8' | NA | 2 Miles West of Walsenburg |
| SH 12 | 3.979 | N-16-O | 0.5' | 6' | 11' | 4 Miles South of Jct US 160 |
| Alpine - La Veta to Vigil | | | | | | |
| SH 12 | 5.677 | O-16-H | 5' | 8' | 6' | 2 Miles South of La Veta |
| SH 12 | 8.801 | O-16-G | 3' | 8' | 10' | 4.2 Miles South of La Veta |
| SH 12 | 12.953 | O-16-C | 4' | 8' | 8' | 8 Miles South of La Veta |
| SH 12 | 33.489 | P-16-B | 6' | 4' | NA | 0.5 Miles SE of Monument Park |
| SH 12 | 38.818 | P-16-D | 3' | 4' | 2' | 0.2 Miles East of Stonewall |
| SH 12 | 39.384 | P-16-A | 3' | 4' | 2' | 6.3 Miles SE of Monument Park |
| SH 12 | 42.759 | P-17-F | 3' | 4' | 2' | 4.2 Miles East of Stonewall |
| Mining - Vigil to Trinidad | | | | | | |
| SH 12 | 44.118 | P-17-AF | 8' | 4' | NA | 10.7 Miles SE of Monument Park |
| SH 12 | 46.658 | P-17-AG | 6' | 4' | NA | 1.9 Miles NW of Weston |
| SH 12 | 48.698 | P-17-J | 7' | 4' | NA | At Weston |
| SH 12 | 49.666 | P-17-AE | 5' | 4' | NA | 1 Miles East of Weston |
| SH 12 | 51.144 | P-17-K | 3.4' | 4' | NA | 2.5 Miles East of Weston |
| SH 12 | 51.466 | P-17-L | 3.4' | 4' | NA | 2.9 Miles East of Weston |
| SH 12 | 53.727 | P-17-A | 3.3' | 4' | NA | 5.2 Miles East of Weston |
| SH 12 | 55.713 | P-18-CC | 10' | 4' | NA | At Segundo |
| SH 12 | 58.178 | P-18-CD | 4' | 8' | 8' | 2.4 Miles East of Segundo |
| SH 12 | 60.406 | P-18-L | 2' | 8' | 12' | 4.7 Miles East of Segundo |
| SH 12 | 62.749 | P-18-AO | 10' | 8' | NA | At Cokedale |
| SH 12 | 67.864 | P-18-CB | 8' | 8' | NA | 2.5 Miles West of I-25 in Trinidad |
| SH 12 | 70.601 | P-18-AX | 8' | 8' | NA | Just East of I-25 in Trinidad |

On-Highway Trail (Attached) Concept

This concept would entail providing a multi-use trail contiguous with (attached to) the existing lanes of travel along US 160 and SH 12 through the full length of the Corridor. Throughout the Corridor, existing shoulders, in each direction, would be widened to fully accommodate bicyclists and pedestrians, as follows:

- The trail would be entirely within CDOT right-of-way, to the greatest extent feasible, and utilize as much of the existing roadway shoulder(s) as possible.
- Consistent with CDOT design standards identified in Chapter 14 of CDOT’s *Roadway Design Guide*, the trail would be a minimum of eight-feet wide along the roadway shoulder in each direction providing two directional shared-use paths. CDOT refers to this concept as a “bike lane”, as identified in the design guide.
- Several elements would be considered to help distinguish the facility as a multi-use trail such as pavement markings and Share the Road signs.

The On-Highway Trail (Attached) Concept typical sections for each of the three segments are shown below in **Figures 9, 10** and **11**. **Table 5** presents the recommended improved minimum shoulder widths, per CDOT standards, for the Corridor. Existing bridge structures would be widened consistent with the approach roadway shoulder widths.

Figure 9: Vista Segment - On-Highway Trail (Attached) Concept Typical Section Location Near MP 2

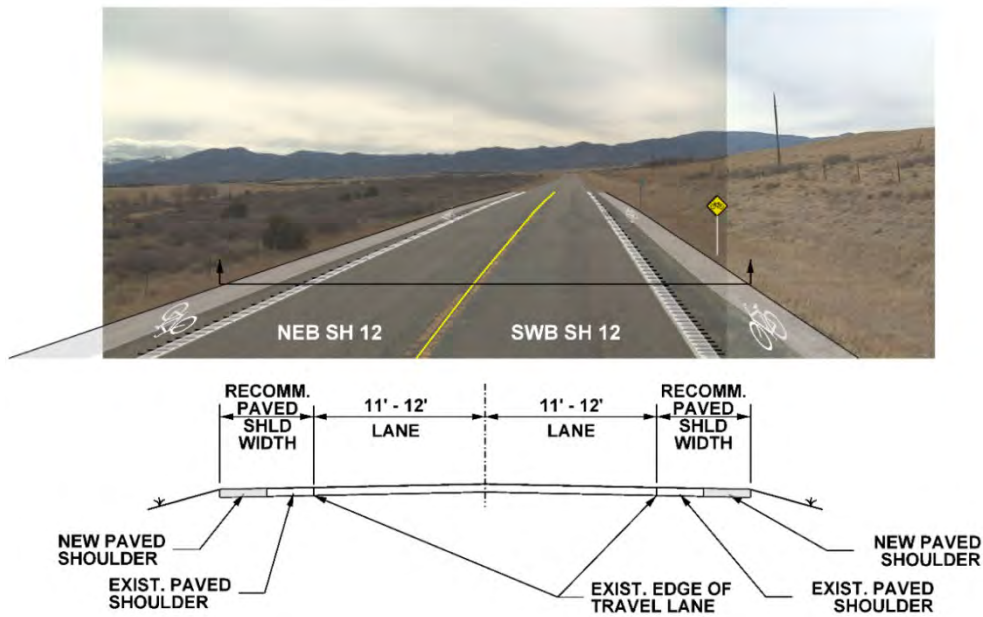


Figure 10: Alpine Segment - On-Highway Trail (Attached) Concept Typical Section Location Near MP 32

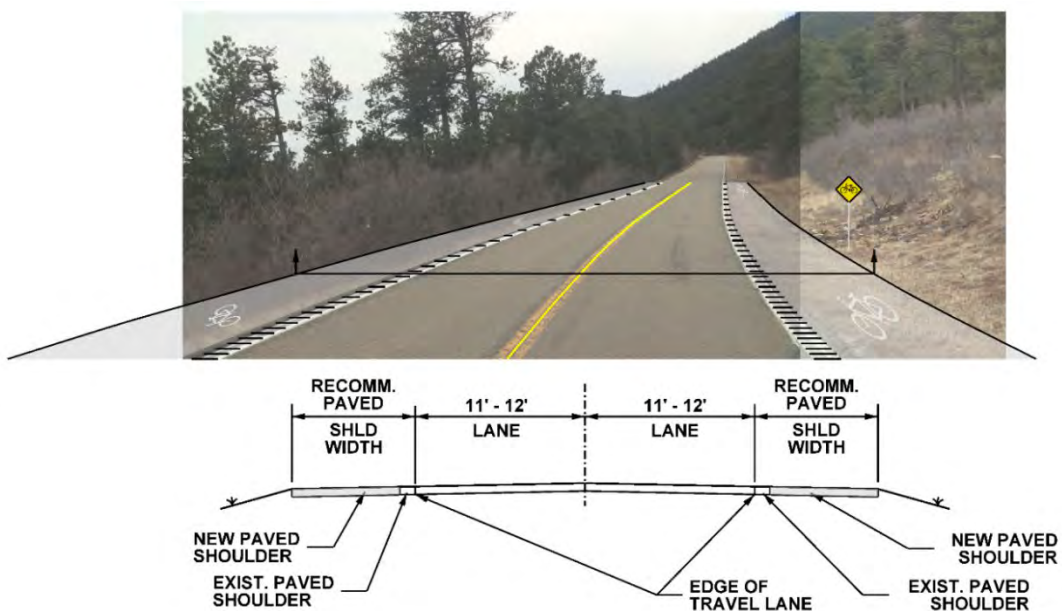


Figure 11: Mining Segment - On-Highway Trail (Attached) Concept Typical Section Location Near MP 50

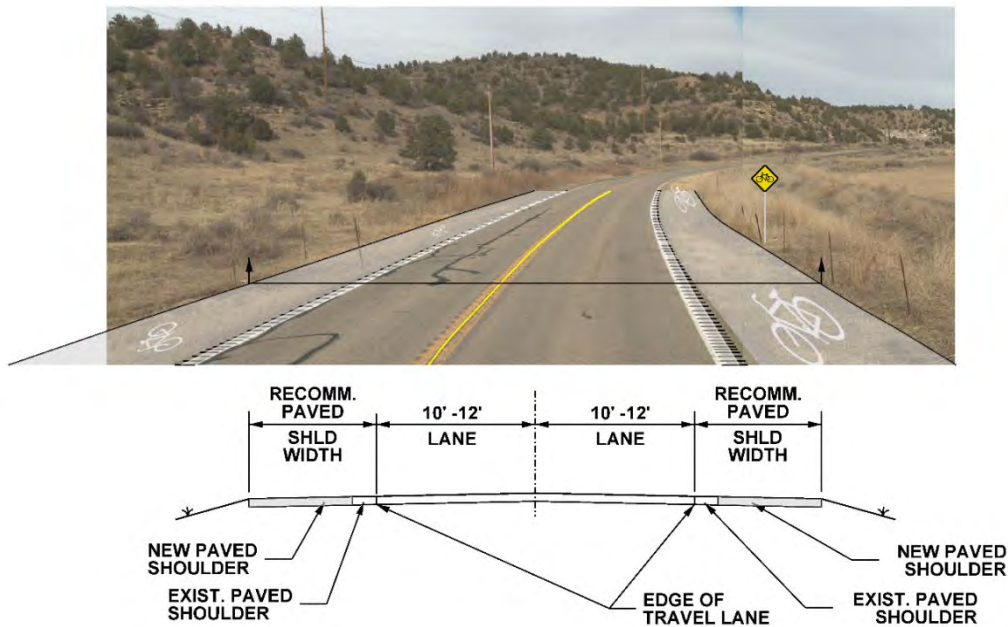


Table 5: On-Highway Trail (Attached) Concept Shoulder Widths

| Location | Existing Paved Shoulder Width | Recommended Paved Shoulder Width | Widen Paved Shoulder |
|--|-------------------------------|----------------------------------|----------------------|
| Vista - Walsenburg to La Veta | | | |
| Walsenburg to US 160/SH 12 Intersection | 8' - 10' | 8' | 0' |
| US 160/SH 12 Intersection to La Veta (Moore Ave) | 3' | 8' | 5' |
| Alpine - La Veta to Vigil | | | |
| Moore Ave to Oak St/Grand Ave Intersection | 10' | 8' | 0' |
| Oak St/Grand Ave Intersection to MP 5.8 | 5' | 8' | 3' |
| MP 5.8 to Cuchara | 0' - 2' | 8' | 6' - 8' |
| Cuchara to Monument Lake | 2' | 8' | 6' |
| Monument Lake to Vigil | 2' | 8' | 6' |
| Mining - Vigil to Trinidad | | | |
| Vigil to MP 47.4 | 3' - 5' | 8' | 3' - 5' |
| MP 47.4 to MP 52.0 | 0' - 2' | 8' | 6' - 8' |
| MP 52.0 to Co Rd 41.6 (MP 53.7) | 6' | 8' | 2' |
| Co Rd 41.6 (MP 53.7) to Co Rd 47.7 (Valdez) | 2' | 8' | 6' |
| Co Rd 47.7 (Valdez) to Co Rd 55.7 (MP 61.4) | 2' | 8' | 6' |
| Co Rd 55.7 (MP 61.4) to Co Rd 65.4 (MP 68.1) | 8' | 8' | 0' |
| Co Rd 65.4 (MP 68.1) to Trinidad (Nickerson Ave) | 2' | 8' | 6' |
| Nickerson Ave to I-25 | 10' | 8' | 0' |

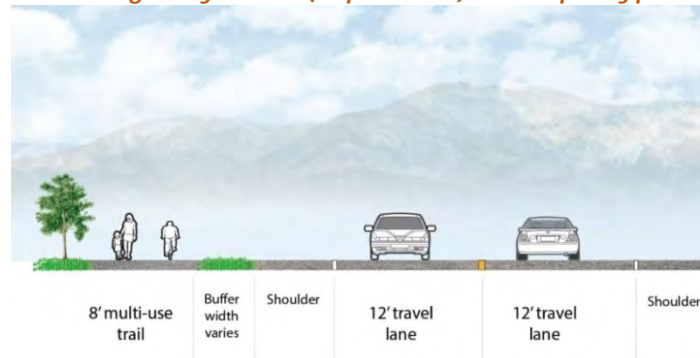
On-Highway Trail (Separated) Concept

This concept includes providing a multi-use bi-directional trail that would generally follow the existing alignments of US 160 and SH 12 within the existing CDOT right-of-way to the greatest extent

possible. The bi-directional trail would be physically separated from the existing roadway by a vegetative buffer, a vertical element or possibly some combination thereof. Consistent with CDOT design standards identified in Chapter 14 of CDOT's *Roadway Design Guide*, the trail would be a minimum of eight-feet wide. CDOT refers to this concept as a "shared use path", per the design guide.

The On-Highway Trail (Separated) Concept typical section for the entire Corridor is shown in **Figure 12**.

Figure 12: On-Highway Trail (Separated) Concept Typical Section



Off-Highway Trail Concept

This concept would entail providing a new multi-use trail, generally along the Corridor, but on an alignment or route separate from and independent of the existing US 160 and SH 12 CDOT right-of-way. The trail would meet current CDOT standards, with a width of eight feet, and as a minimum, the CFRT guidelines which allow a trail width of six feet, if needed. Reasonable and potentially feasible opportunities to locate the new trail on independent routes or alignments would be utilized by this concept to enhance the user experience, better accommodate users of all abilities, and better connect the trail with the Corridor's various amenities, such as existing trailheads, communities and recreational facilities.

Not all areas along the Corridor would lend itself to the application of this concept. In some areas, physical constraints, such as terrain and topography, limit its potential application. In other areas, existing private property subdivisions and smaller landholdings would affect the potential feasibility of the necessary real estate acquisition for the trail. The intent, therefore, is to utilize reasonable and available opportunities for a new trail alignment where other transportation corridors currently exist within the Study Area, such as a county road, railroad, or utility, or where private property holdings may be conducive, such as within the San Isabel National Forest, owned by the United States Forest Service (USFS), or areas with large private property parcels.

Accordingly, the Off-Highway Trail Concept has five potential types of applications, or options, within the Study Area. As shown on **Figures 13 to 17**, these include the following:

- **Rails-with-Trails** - Multi-use trail would be located along and adjacent to the San Luis & Rio Grande (SLRG) Railroad, owned by the Iowa Pacific and Union Pacific Railroads and located between Walsenburg and La Veta (**Figure 13**). This configuration, with sufficient offset between the trail and tracks, would allow the continued operations of the railroad.
- **Rails-to-Trails** - Multi-use trail would be located on the existing railbed of the Old Trinidad Railroad, located between Trinidad and the Elk Mine along the Purgatoire River Valley and roughly parallel with SH 12 (**Figure 14**).

- **County Roads** - Multi-use trail would be located along and adjacent to an existing county road within existing public right-of-way to the extent possible (Figure 15). There are multiple county roads within the Study Area where this concept could be applied.
- **Utility Corridor** - Multi-use trail would be located along an existing major utility corridor (Figure 16), such as the Trinidad Waterline, which is located between Monument Lake and the City of Trinidad generally along and near County Road 21.6 and SH 12.
- **Route** - Multi-use trail would be located on a separate and independent alignment from existing transportation or utility corridors (Figure 17).

Figure 13: Off-Highway Trail (Rails-with-Trail) Concept Typical Section

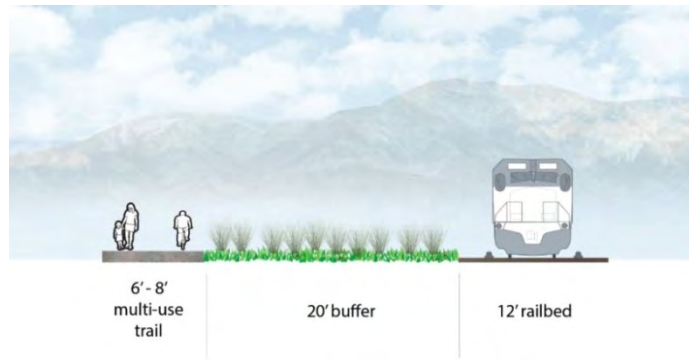


Figure 14: Off-Highway Trail (Rails-to-Trail) Concept Typical Section

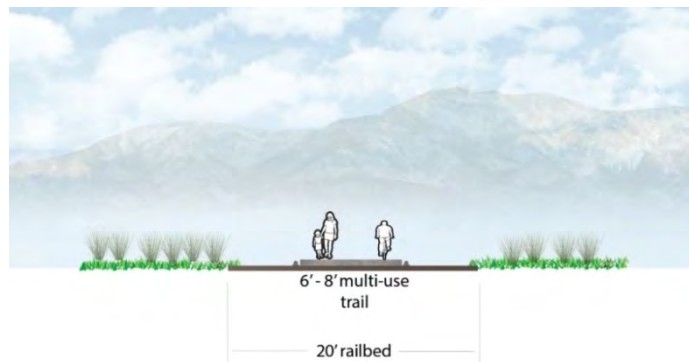


Figure 15: Off-Highway Trail (County Road) Concept Typical Section

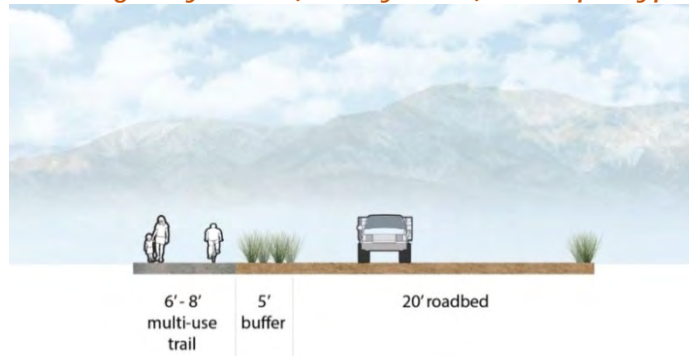


Figure 16: Off-Highway Trail (Utility Corridor) Concept Typical Section

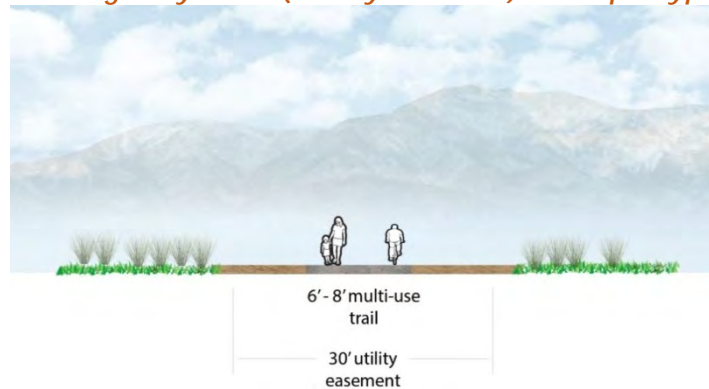
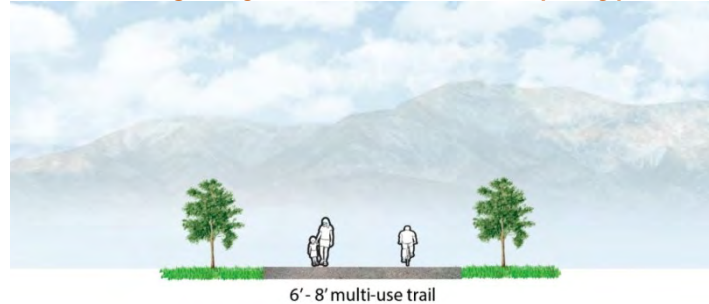


Figure 17: Off-Highway Trail (Route) Concept Typical Section



Level 1 Alternatives and Screening

The initial potential alternatives were defined and organized by applying the improvements concepts to the Corridor as standalone alternatives. Recognizing that none of the concepts would fully meet the study's Purpose and Need, the trail concepts were combined with the Highway Safety Concept to form the Level 1 alternatives. Each resulting trail alternative includes the Highway Safety Improvements Alternative. In addition, because not all Off-Highway Trail Concept route options extend fully through the segment limits, some of the off-highway trail alternatives are a combination of On-Highway and Off-Highway Trail Concepts. In these instances, the On-Highway Trail (Separated) Concept was assumed for the portions of the alternative's route located along the highway. Furthermore, in the Alpine Segment, the alternatives were defined to include all possible combinations of the various Off-Highway Trail (Route) options.

The Level 1 alternatives were defined in accordance with the segment delineations. All trail alternatives in the Vista Segment would begin and connect to the trail system at Lathrop State Park. Similarly, all trail alternatives in the Mining Segment end and connect to the trail system at Trinidad Lake State Park. **Table 6** presents a summary of the Level 1 alternatives, showing the combinations of improvement concepts comprising the alternative. **Appendix A** presents maps, by segment, for each alternative - each alternative is presented on an individual map.

Table 6: Level 1 Alternatives

| Level 1 Alternative | Concepts | | | | | Description |
|---|----------|----------------|-------------------------|--------------------------|---------------|---|
| | No-Build | Highway Safety | On-Hwy Trail (Attached) | On-Hwy Trail (Separated) | Off-Hwy Trail | |
| Vista - Walsenburg to La Veta | | | | | | |
| Alt P1 - No-Build | ✓ | | | | | Maintain existing US 160 and SH 12 |
| Alt P2 - Highway Safety Improvements | | ✓ | | | | Safety improvements along US 160 and SH 12 |
| Alt P3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Alt P2 plus trail along highway shoulders |
| Alt P3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Alt P2 plus trail within CDOT right-of-way |
| Alt P4A - Off-Highway Trail (Rails-w-Trails) | | ✓ | | | ✓ | Alt P2 plus trail along SLRG Railroad |
| Alt P4B - Off-Highway Trail (CR 340/358) | | ✓ | | | ✓ | Alt P2 plus trail along CR 340 and 358 |
| Alt P4C - Off-Highway Trail (CR 340/350) | | ✓ | | | ✓ | Alt P2 plus trail along CR 340 and 350 |
| Alpine - La Veta to Vigil | | | | | | |
| Alt P1 - No-Build | ✓ | | | | | Maintain existing US 160 and SH 12 |
| Alt P2 - Highway Safety Improvements | | ✓ | | | | Safety improvements along US 160 and SH 12 |
| Alt P3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Alt P2 plus trail along highway shoulders |
| Alt P3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Alt P2 plus trail within CDOT right-of-way |
| Alt P4A - Off-Highway Trail (R-M-LL) | | ✓ | | ✓ | ✓ | Alt P2 plus trail along R-M-LL Options |
| Alt P4B - Off-Highway Trail (CR-BBL-M-LL) | | ✓ | | ✓ | ✓ | Alt P2 plus trail along CR-BBL-M-LL Options |
| Alt P4C - Off-Highway Trail (R-M-21.6) | | ✓ | | ✓ | ✓ | Alt P2 plus trail along R-M-21.6 Options |
| Alt P4D - Off-Highway Trail (CR-BBL-M-21.6) | | ✓ | | ✓ | ✓ | Alt P2 plus trail along CR-BBL-M-21.6 Options |
| Mining - Vigil to Trinidad | | | | | | |
| Alt P1 - No-Build | ✓ | | | | | Maintain existing US 160 and SH 12 |
| Alt P2 - Highway Safety Improvements | | ✓ | | | | Safety improvements along US 160 and SH 12 |
| Alt P3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Alt P2 plus trail along highway shoulders |
| Alt P3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Alt P2 plus trail within CDOT right-of-way |
| Alt P4A - Off-Highway Trail (Rails-to-Trails) | | ✓ | | | ✓ | Alt P2 plus trail along Old Trinidad Railroad |
| Alt P4B - Off-Highway Trail (Waterline) | | ✓ | | | ✓ | Alt P2 plus trail along Trinidad Waterline |

For the Vista and Mining Segments, all of the Off-Highway Trail Alternatives extend fully through the limits of the segment. This is not the case for the Alpine Segment. Within this segment, the Off-Highway Trail Alternatives entail a combination of Off-Highway Trail (Route) Concept options with the On-Highway Trail (Separated) Trail Concept to comprise an alternative extending fully through the segment. As shown in Table 6 and the maps in Appendix A, Alternatives P4A, P4B, P4C, and P4D include various combinations of these options. Within the Alpine Segment, the following Off-Highway Trail (Route) Concept options were identified and are included in various combinations within the Off-Highway Trail Alternatives:

- **Ridge (R) Option** - North of Cuchara, at the point where SH 12 intersects the north-south dike or ridge aligned east of Cuchara, the trail would leave the SH 12 CDOT right-of-way and enter the San Isabel National Forest property. The trail would be located along the ridge on the east side of Cuchara extending south to the Cucharas Pass where it would intersect with SH

12. For a short distance, the trail would be concurrent with the existing Dikes Trail along the ridge. To the fullest extent possible, the trail would be located within the USFS property.

- **Cucharas River (CR) Option** - In the general location where SH 12 enters the San Isabel National Forest north of Cuchara, the trail would leave the SH 12 CDOT right-of-way and traverse south, east of SH 12, along or near the Cucharas River through Cuchara. Continuing south, the trail would continue generally along the river to an intersection with SH 12 near or at the SH 12/Forest Service Road 422 Intersection - the access road to the Blue Lake and Bear Lake Campgrounds.
- **Blue and Bear Lakes (BBL) Option** - At the SH 12/Forest Service Road 422 Intersection, the trail would traverse the mountain slopes west of SH 12, within the San Isabel National Forest, to an intersection with SH 12 at Cucharas Pass.
- **Meadows (M) Option** - At Cucharas Pass, the trail would leave the SH 12 CDOT right-of-way and be located west of SH 12 within the adjacent meadows, intersecting with SH 12 a short distance north of North Lake. The trail would generally be located in the large private landowner parcels west of SH 12.
- **Lake Link (LL) Option** - At or near the SH 12 curve southeast of North Lake, the trail would leave the SH 12 CDOT right-of-way and extend south, on the east sides of North Lake and Monument Lake, providing a link between the lakes and their associated trail systems. The trail would be located east of SH 12, reconnecting with SH 12 at a location south of and near to Monument Lake.
- **County Road 21.6 (21.6) Option** - At the northern intersection of CR 21.6 and SH 12, the trail would leave the SH 12 CDOT right-of-way and be located along CR 21.6 to its southern intersection with SH 12 near Vigil.

Tables 7, 8 and 9 present the Level 1 evaluation for each segment of the project. Based on the evaluation of each alternative by segment, the summary of the results includes:

- **Retained for Comparison Purposes** - Alternative is retained for further, more detailed analysis to provide a basis of comparison for the alternatives carried forward.
- **Carried Forward** - Alternative has the potential to address one or more project needs and will be evaluated further in Level 2 with additional definition and conceptual design.
- **Eliminated** - Alternative does not satisfactorily meet the Purpose and Need established within this study and will not be considered further.

The Level 1 evaluation identified several alternatives which would not sufficiently fulfill the Purpose and Need, and therefore, were eliminated from further consideration, subject to additional public and stakeholder comments. Because Alternative P2 would not sufficiently meet the Purpose and Need as a standalone alternative, due to not accommodating or providing connections for non-motorized users, this alternative was eliminated. Though eliminated as a standalone alternative, this alternative was included in all carried forward trail alternatives as a supplemental improvement. In addition, within the Alpine Segment, Alternatives P4C and P4D were eliminated. These two alternatives, each including the County Road 21.6 Option, would not sufficiently connect the trail to the Corridor's attractions due to the bypassing of Monument Park and Stonewall. While Alternative P1 would not fulfill the Purpose and Need, it was retained to provide a basis of comparison in the Level 2 evaluation. All other alternatives were carried forward into the Level 2 evaluation.

Table 7: Vista Level 1 Evaluation

| Southern Mountain Loop PEL Study Potential Alternatives Evaluation Segment 1 - Walsenburg to La Veta Vista Segment | | Alt P1 - No-Build | Alt P2 - Highway Safety Improvements | Includes Alt P2 - Safety Improvements | | | | | |
|---|---|---|--|---------------------------------------|--|--|--|--|-----|
| | | | | Alt P3A - On-Highway Trail (Attached) | Alt P3B - On-Highway Trail (Separated) | Alt P4A - Off-Highway Trail (Rails-w-Trails) | Alt P4B - Off-Highway Trail (CR 340/358) | Alt P4C - Off-Highway Trail (CR 340/350) | |
| Evaluation Issue | Need | | | | | | | | |
| Purpose and Need | Safety - Does Alternative Improve the Conditions that Contribute to Higher Crash Rates and Address Bicycle/Pedestrian Safety? (See Note 1) | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Wild Animal Crashes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Lane Departure Crashes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Rear-end Crashes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Improve Bicyclist Safety | No | Yes | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions to Improve Pedestrian Safety | NA | NA | NA | NA | NA | NA | NA |
| | Regional and Local Multi-use Trail - Does Alternative Provide Accommodations and Connections for Non-motorized Users Along the Corridor? | Provide Multi-use Trail Facilities along Corridor to Accommodate Non-Motorized Uses | No | No | Yes | Yes | Yes | Yes | Yes |
| | | Provide Multi-use Trail Connections to Local Trails and Attractions along the Corridor | No | No | Yes | Yes | Yes | Yes | Yes |
| Summary of Results | | Retained for Comparison Purposes (See Note 2) | Eliminated | Carried Forward | Carried Forward | Carried Forward | Carried Forward | Carried Forward | |
| Notes | | This alternative does not meet the P&N but is retained for comparison purposes | This alternative does not meet the P&N and is eliminated | | | | | | |

Notes:

1. The safety-related needs identified in the Purpose and Need Statement apply to the full corridor. Each of these needs does not necessarily apply to each segment. In these instances, a rating of Not Applicable (NA) is provided. For example, there is not a need to address a high concentration of Wild Animal Crashes in Segment 2 (La Veta to Vigil) based on crash data, so a rating of NA is provided for this need in this instance.
2. The No-Build Alternative is retained to provide a comparison of the benefits and impacts of the improvement alternatives with the alternative of maintaining existing US 160 and SH 12 in their current configurations.
3. The "Eliminated" recommendation is based on the alternative not fulfilling the Purpose and Need and is subject to stakeholder review and input.

Table 8: Alpine Level 1 Evaluation

| Southern Mountain Loop PEL Study Potential Alternatives Evaluation Segment 2 - La Veta to Vigil Alpine Segment | | | Alt P1 - No-Build | Alt P2 - Highway Safety Improvements | Includes Alt P2 - Safety Improvements | | | | | |
|---|--|---|--|--|---------------------------------------|--|--------------------------------------|---|--|--|
| | | | | | Alt P3A - On-Highway Trail (Attached) | Alt P3B - On-Highway Trail (Separated) | Alt P4A - Off-Highway Trail (R-M-LL) | Alt P4B - Off-Highway Trail (CR-M-BBL-LL) | Alt P4C - Off-Highway Trail (R-M-21.6) | Alt P4D - Off-Highway Trail (CR-BBL-21.6) |
| Evaluation Issue | | Need | | | | | | | | |
| Purpose and Need | Safety - Does Alternative Improve the Conditions that Contribute to Higher Crash Rates and Address Bicycle/Pedestrian Safety? (See Note 1) | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Wild Animal Crashes | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Lane Departure Crashes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Rear-end Crashes | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Improve Bicyclist Safety | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions to Improve Pedestrian Safety | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Regional and Local Multi-use Trail - Does Alternative Provide Accommodations and Connections for Non-motorized Users Along the Corridor? | Provide Multi-use Trail Facilities along Corridor to Accommodate Non-Motorized Uses | No | No | Yes | Yes | Yes | Yes | Yes | Yes |
| | | Provide Multi-use Trail Connections to Local Trails and Attractions along the Corridor | No | No | Yes | Yes | Yes | Yes | No | No |
| Summary of Results | | | Retained for Comparison Purposes (See Note 2) | Eliminated | Carried Forward | Carried Forward | Carried Forward | Carried Forward | Eliminated (See Note 3) | Eliminated (See Note 3) |
| Notes | | | This alternative does not meet the P&N but is retained for comparison purposes | This alternative does not meet the P&N and is eliminated | | | | | This alternative would have safety issues along CR 21.6 and would bypass Monument Lake and Stonewall | This alternative would have safety issues along CR 21.6 and would bypass Monument Lake and Stonewall |

Notes:

1. The safety-related needs identified in the Purpose and Need Statement apply to the full corridor. Each of these needs does not necessarily apply to each segment. In these instances, a rating of Not Applicable (NA) is provided. For example, there is not a need to address a high concentration of Wild Animal Crashes in Segment 2 (La Veta to Vigil) based on crash data, so a rating of NA is provided for this need in this instance.
2. The No-Build Alternative is retained to provide a comparison of the benefits and impacts of the improvement alternatives with the alternative of maintaining existing US 160 and SH 12 in their current configurations.
3. The "Eliminated" recommendation is based on the alternative not fulfilling the Purpose and Need and is subject to stakeholder review and input.

Table 9: Mining Level 1 Evaluation

| Southern Mountain Loop PEL Study Potential Alternatives Evaluation Segment 3 - Vigil to Trinidad Mining Segment | | Alt P1 - No-Build | Alt P2 - Highway Safety Improvements | Includes Alt P2 - Safety Improvements | | | | |
|--|---|---|--|---------------------------------------|--|---|--|-----|
| | | | | Alt P3A - On-Highway Trail (Attached) | Alt P3B - On-Highway Trail (Separated) | Alt P4A - Off-Highway Trail (Rails-to-Trails) | Alt P4B - Off-Highway Trail (Trinidad Waterline) | |
| Evaluation Issue | Need | | | | | | | |
| Purpose and Need | Safety - Does Alternative Improve the Conditions that Contribute to Higher Crash Rates and Address Bicycle/Pedestrian Safety? (See Note 1) | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Wild Animal Crashes | No | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Lane Departure Crashes | No | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Reduce Rear-end Crashes | No | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions along Corridor to Improve Bicyclist Safety | No | Yes | Yes | Yes | Yes | Yes |
| | | Address Unsafe Physical or Operational Conditions to Improve Pedestrian Safety | NA | NA | NA | NA | NA | NA |
| | Regional and Local Multi-use Trail - Does Alternative Provide Accommodations and Connections for Non-motorized Users Along the Corridor? | Provide Multi-use Trail Facilities along Corridor to Accommodate Non-Motorized Uses | No | No | Yes | Yes | Yes | Yes |
| | | Provide Multi-use Trail Connections to Local Trails and Attractions along the Corridor | No | No | Yes | Yes | Yes | Yes |
| Summary of Results | | Retained for Comparison Purposes (See Note 2) | Eliminated | Carried Forward | Carried Forward | Carried Forward | Carried Forward | |
| Notes | | This alternative does not meet the P&N but is retained for comparison purposes | This alternative does not meet the P&N and is eliminated | | | | | |

Notes:

1. The safety-related needs identified in the Purpose and Need Statement apply to the full corridor. Each of these needs does not necessarily apply to each segment. In these instances, a rating of Not Applicable (NA) is provided. For example, there is not a need to address a high concentration of Wild Animal Crashes in Segment 2 (La Veta to Vigil) based on crash data, so a rating of NA is provided for this need in this instance.
2. The No-Build Alternative is retained to provide a comparison of the benefits and impacts of the improvement alternatives with the alternative of maintaining existing US 160 and SH 12 in their current configurations.
3. The "Eliminated" recommendation is based on the alternative not fulfilling the Purpose and Need and is subject to stakeholder review and input.

Level 2 Alternatives and Screening

The improvement alternatives carried forward from the Level 1 screening were defined in more detail and screened through the Level 2 evaluation. The Level 2 alternatives were defined and organized similar to the first screening. However, due to the number of off-highway trail options and alternative combinations within the Alpine Segment, this segment was subdivided into five segments (Alpine 1 Segment through Alpine 5 Segment) for the Level 2 evaluation (see **Figure 18**). Each of these newly defined segments encompasses the full range of alternative combinations within its limits. The Vista and Mining Segments were defined similar to the Level 1 screening, for a total of seven segments constituting the full corridor. As with Level 1, each alternative was defined and evaluated as a standalone alternative by segment and each trail alternative includes the Highway Safety Improvements.

The Level 2 evaluation segments were defined as follows:

- **Vista Segment** - Walsenburg to La Veta
- **Alpine 1 Segment** - La Veta to MP 14
- **Alpine 2 Segment** - MP 14 to Cucharas Pass
- **Alpine 3 Segment** - Cucharas Pass to North Lake
- **Alpine 4 Segment** - North Lake to Monument Lake
- **Alpine 5 Segment** - Monument Lake to Vigil
- **Mining Segment** - Vigil to Trinidad

For the Level 2 evaluation, more detailed study of the alternatives was performed per the evaluation criteria and in localized areas for the off-highway trail connections and routing. For these alternatives, more detailed study of the trail route was performed to assess the general feasibility of the trail to safely accommodate trail users, to be built considering potential right-of-way requirements, and to connect with the Corridor’s attractions. In addition, for the Level 2 evaluation, byway-related features and technology improvements were identified which would be applied uniformly to each Level 2 Alternative.

Table 10 presents the range of alternatives for each Level 2 evaluation segment.

Figure 18: Alpine Level 2 Evaluation Segments

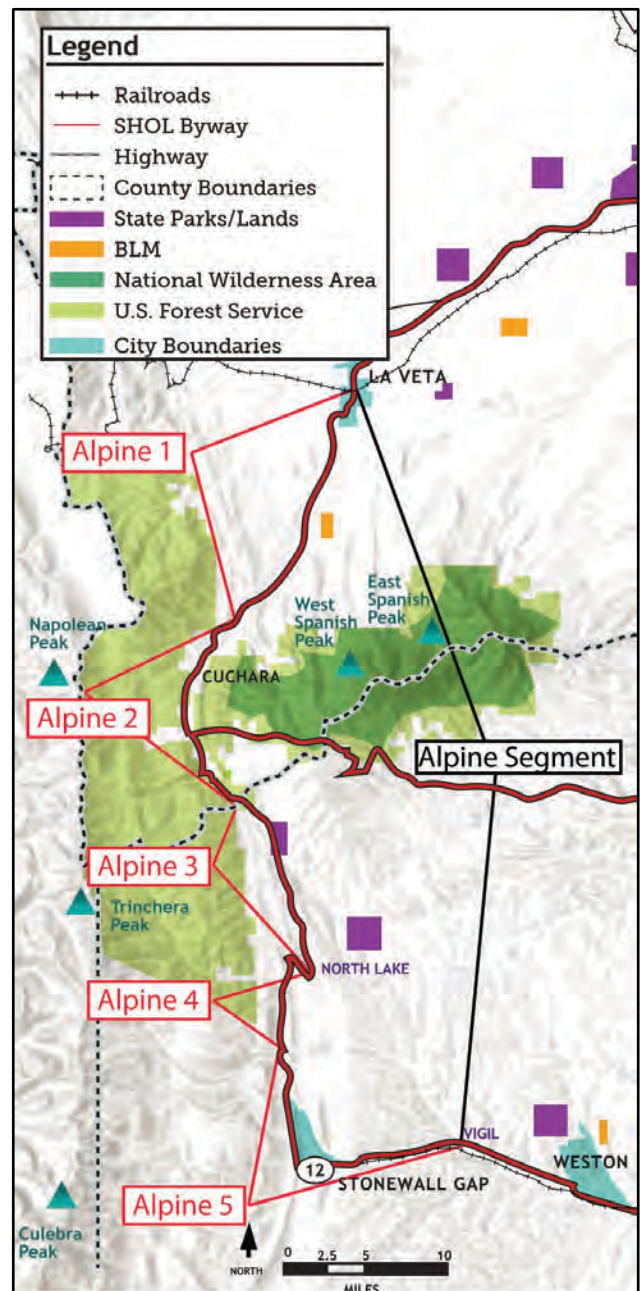


Table 10: Level 2 Alternatives

| Level 2 Alternative | Concepts | | | | | Areas of More Detailed Localized Trail Study (See Notes) |
|--|----------|----------------|-------------------|--------------------|---------------|--|
| | No-Build | Highway Safety | On-Hwy (Attached) | On-Hwy (Separated) | Off-Hwy Trail | |
| Vista - Walsenburg to La Veta | | | | | | |
| 1 - No-Build | ✓ | | | | | None |
| 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Connections to Lathrop State Park and La Veta |
| 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Connections to Lathrop State Park and La Veta |
| 4A - Off-Highway Trail (Rails-w-Trails) | | ✓ | | | ✓ | Connections to Lathrop State Park and La Veta |
| 4B - Off-Highway Trail (CR 340/358) | | ✓ | | | ✓ | Connections to Lathrop State Park and La Veta |
| 4C - Off-Highway Trail (CR 340/350) | | ✓ | | | ✓ | Connections to Lathrop State Park and La Veta |
| Alpine 1 - La Veta to MP 14 (San Isabel National Forest) | | | | | | |
| 1 - No-Build | ✓ | | | | | None |
| 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | None |
| 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | None |
| Alpine 2 - MP 14 (San Isabel National Forest) to Cucharas Pass | | | | | | |
| 1 - No-Build | ✓ | | | | | None |
| 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | None |
| 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | None |
| 4A - Off-Highway Trail (Ridge (R)) | | ✓ | | | ✓ | Route and connections for Ridge (R) Option |
| 4B - Off-Highway Trail (Cucharas River (CR)) | | ✓ | | ✓ | ✓ | Route and connections for Cucharas River (CR) Option |
| 4C - Off-Highway Trail (Blue/Bear Lakes (BBL)) | | ✓ | | ✓ | ✓ | Route and connections for Blue/Bear Lakes (BBL) Options |
| 4D - Off-Highway Trail (CR + BBL) | | ✓ | | ✓ | ✓ | Route and connections for CR + BBL Options |
| Alpine 3 - Cucharas Pass to North Lake | | | | | | |
| 1 - No-Build | ✓ | | | | | None |
| 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | None |
| 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | None |
| 4A - Off-Highway Trail (Meadows (M)) | | ✓ | | | ✓ | Route and connections for Meadows (M) Option |
| Alpine 4 - North Lake to Monument Lake | | | | | | |
| 1 - No-Build | ✓ | | | | | None |
| 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | None |
| 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | None |
| 4A - Off-Highway Trail (Lake Link (LL)) | | ✓ | | | ✓ | Route and connections for Lake Link (LL) Option |
| Alpine 5 - Monument Lake to Vigil | | | | | | |
| 1 - No-Build | ✓ | | | | | None |
| 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | None |
| 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | None |
| Mining - Vigil to Trinidad | | | | | | |
| 1 - No-Build | ✓ | | | | | None |
| 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Connections to Trinidad Lake State Park |
| 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Connections to Trinidad Lake State Park |
| 4A - Off-Highway Trail (Rails-to-Trails) | | ✓ | | | ✓ | Connections to Trinidad Lake State Park |
| 4B - Off-Highway Trail (Waterline) | | ✓ | | | ✓ | Connections to Trinidad Lake State Park |

Notes:

1. Localized more detailed study of the highway safety improvements are uniformly included in each trail alternative.
2. More detailed overall study of all alternatives was performed per the Level 2 evaluation criteria.
3. Byway-related and technology improvements would be applied uniformly to each alternative.

Highway Safety Improvements

The highway safety improvements would entail the application of the Highway Safety Concept through the full length of the Corridor. Each trail alternative includes the highway safety improvements. Safety-related improvements include general roadside enhancements such as rumble strips; renewed striping, signage, delineators and curve warning signage; and speed studies to evaluate existing posted speed limits. Bicycle safety improvements would include signage and shoulder pavement markings per CDOT standards. Throughout the Corridor, shoulder widening would be included to meet current CDOT width standards (see [Table 3](#) and [Table 4](#)). In addition, to address localized safety needs for higher concentration areas of wild animal crashes, lane departure crashes, rear-end crashes, and areas with pedestrian crossing safety concerns, the following improvements would be included:

- Wildlife Crossing Improvements** - There are four areas within the Corridor with higher concentrations of wildlife crashes: Martin Lake to Walsenburg Reservoir, Cucharas River north of La Veta, Purgatoire River east of Weston, and Reilly Canyon and Carpios Canyon near Trinidad Lake. Each of these areas is in the vicinity of water sources such as canyons, rivers, and lakes that are in close proximity to the highway. At each location, additional study would be performed by CDOT to determine the extent of the need and to define the recommended safety measures.
- US 160 Walsenburg RR Crossing Improvements** - Due to a higher concentration of crashes, improvements are needed along US 160 at the existing railroad crossing located within Walsenburg. Based on the crash data, though limited and additional study is recommended at this location, the railroad appears to be the primary contributing factor. In the five-year analysis period, 34 crashes have occurred within 2,000 feet of the tracks. Of those, 16 were rear-end type crashes occurring almost exclusively during the day with many occurring during peak hour traffic. Nine of the 16 crashes involved stopped traffic. The crash data does not note why the vehicles were stopped in traffic. The existing railroad warning signs are located approximately 500 feet from the tracks. During peak hour traffic, it is estimated traffic will queue 500 feet if delayed five minutes for a train and 1,000 feet if delayed 10 minutes. It is recommended that queue lengths be studied in the field and, if appropriate, additional advance railroad crossing signs with train-activated flashing lights be installed to provide more advanced warning of stopped traffic. [Figure 19](#) presents an aerial map of the area.
- La Veta Pedestrian Crossing Improvements** - Local residents have expressed concerns with pedestrian safety in La Veta. There were no reported pedestrian crashes in the five-year study period at this location. As shown on [Figure 20](#), the improvements would entail improved pedestrian crossings with new signage, striping, and ADA compliant ramps at those locations with higher concentrations of pedestrians crossing the street. These pedestrian improvements should be coordinated with the new pedestrian facilities constructed for the new PK-12 school currently being planned north of the railroad and east of SH 12, including a new and improved access intersection with SH 12.
- Cuchara Pedestrian Crossing Improvements** - Local residents in Cuchara have expressed concerns with pedestrian safety, particularly regarding pedestrians walking along SH 12. No pedestrian vehicle crashes were reported in Cuchara within the five-year study period. As shown on [Figure 21](#), the improvements would entail a new sidewalk(s) along SH 12 connecting the downtown area to the residential areas and community center to the south.

Designated signed and striped pedestrian crossing(s) on SH 12 would be included to safely connect the residential areas west of SH 12 with the residential and commercial areas on the other side. Additional more-detailed study would be needed to identify the optimal location(s) and number of pedestrian crossings, including site distance considerations.

Figure 19: US 160 RR Crossing Improvements



Figure 20: La Veta Pedestrian Crossing Improvements

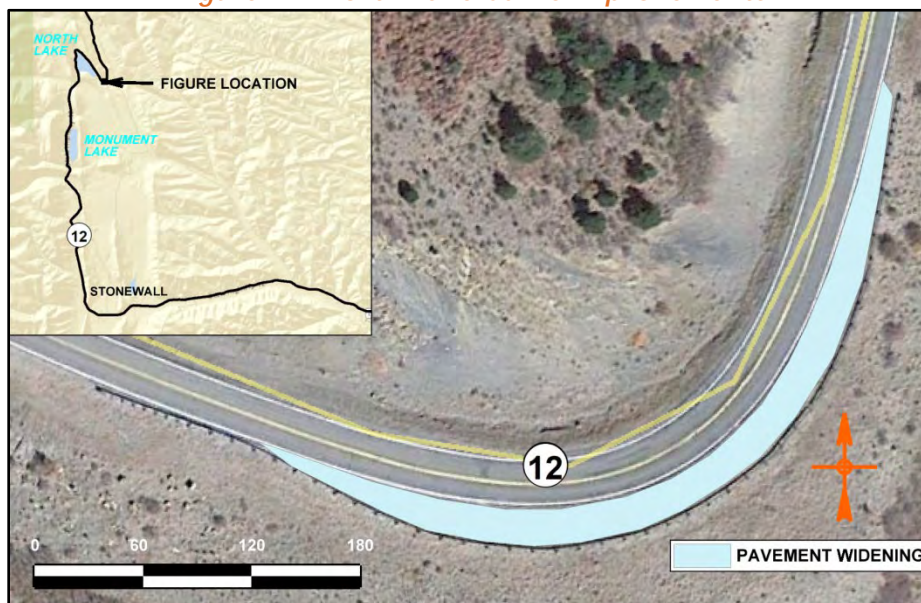


Figure 21: Cuchara Pedestrian Crossing Improvements



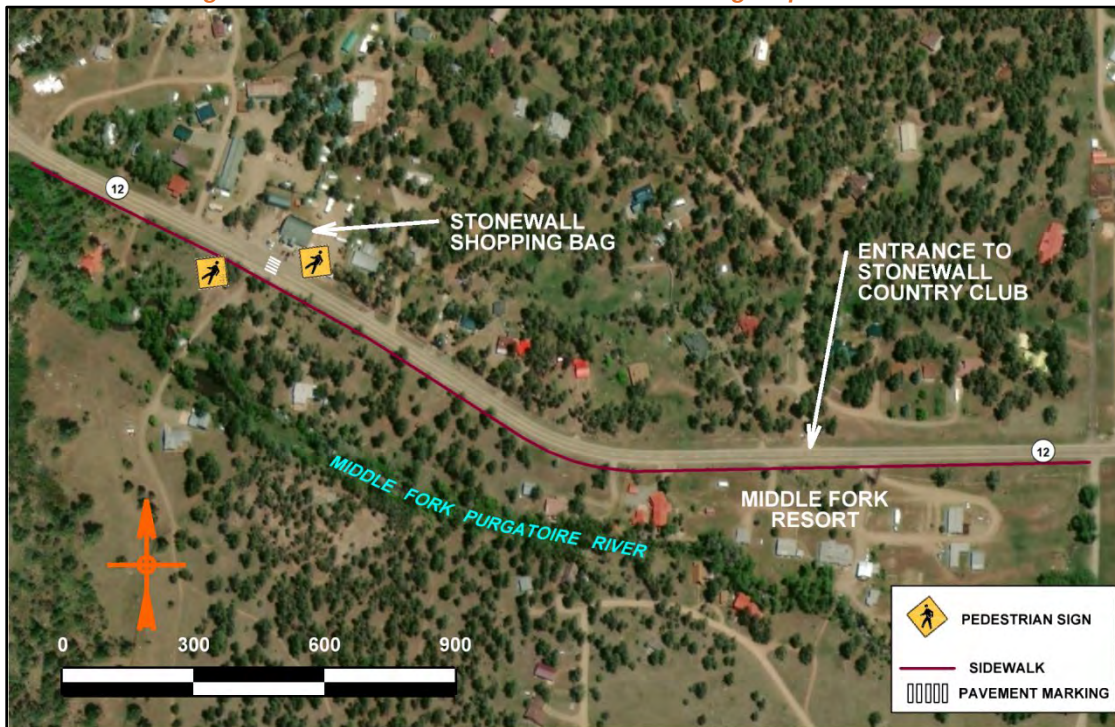
- North Lake Curve Improvements** - Weighted crash rates are elevated in the vicinity of the sharp curve located just southeast of North Lake. Four crashes, of which two were injury crashes, occurred at this location during the five-year study period. Three of the four crashes involved the guardrail on the outside of curve and one involved vehicle overturning. Currently, there is a wide aggregate shoulder on the outside of the curve between the edge of travel way and the guardrail. As shown in **Figure 22**, it is recommended to fully pave the shoulder up to the guardrail with asphalt to help errant vehicles recover before impacting the guardrail. In addition, it is recommended to field review the adequacy of existing advanced curve warning signage, especially as it relates to the compound horizontal curvature on the northwest approach to the curve.

Figure 22: North Lake Curve Improvements



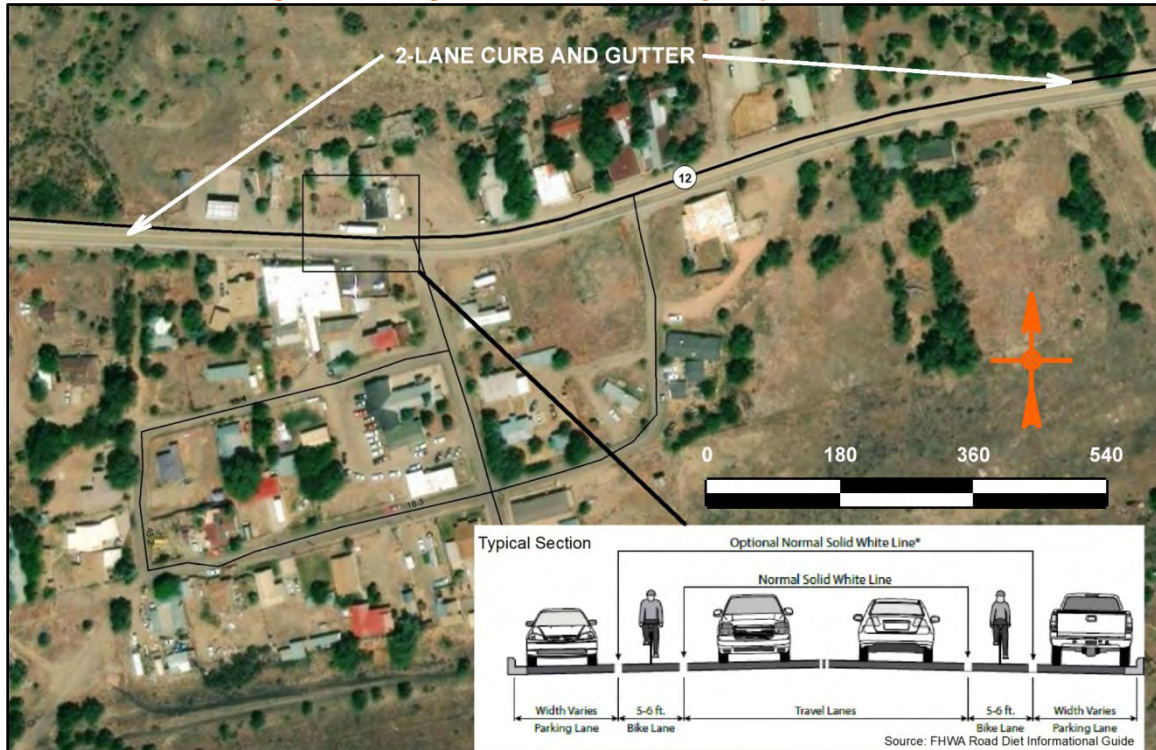
- Stonewall Pedestrian Crossing Improvements** - Local residents in Stonewall have expressed concerns with pedestrian safety, particularly regarding pedestrians walking along SH 12. No pedestrian vehicle crashes were reported in Stonewall within the five-year study period. As shown in **Figure 23**, the improvements at this location would entail a new sidewalk along SH 12 connecting the residential areas to the main commercial area. Based on initial stakeholder comments, a sidewalk along the south side of SH 12 is illustrated with a designated, signed and striped pedestrian crossing near the main commercial area. More detailed study of these improvements would be needed to identify the appropriate sidewalk location and limits and crossing location.

Figure 23: Stonewall Pedestrian Crossing Improvements



- Vigil Area Roadway Improvements** - The weighted crash rate in the area around Vigil is elevated. Over the five-year study period, there have been four crashes in a one-mile section near Vigil, including a fatality, an injury, and two property damage only crashes. The injury and fatality crashes involved motorcycles departing the road and occurred in different curves about a half mile apart. Of the other two crashes, one involved a wild animal and the other boulders in the road at night under wet conditions. No crash pattern is evident. Besides widening the shoulders per CDOT standards, no additional recommendations are included at this location.
- Segundo Area Roadway Improvements** - The area around Segundo has the highest weighted crash rate within the Corridor. In addition to shoulder widening through the area to meet CDOT standards, the improvements would include improved access management for numerous driveways and clearly defined roadside parking areas, bike lane designations, and sidewalks (see **Figure 24**). The improved roadway would include striping and a curb and gutter section. Advanced reduced speed signage is also recommended. Benefits would include better and more defined access points and traffic calming with clearly defined roadway purposes.

Figure 24: Segundo Area Roadway Improvements

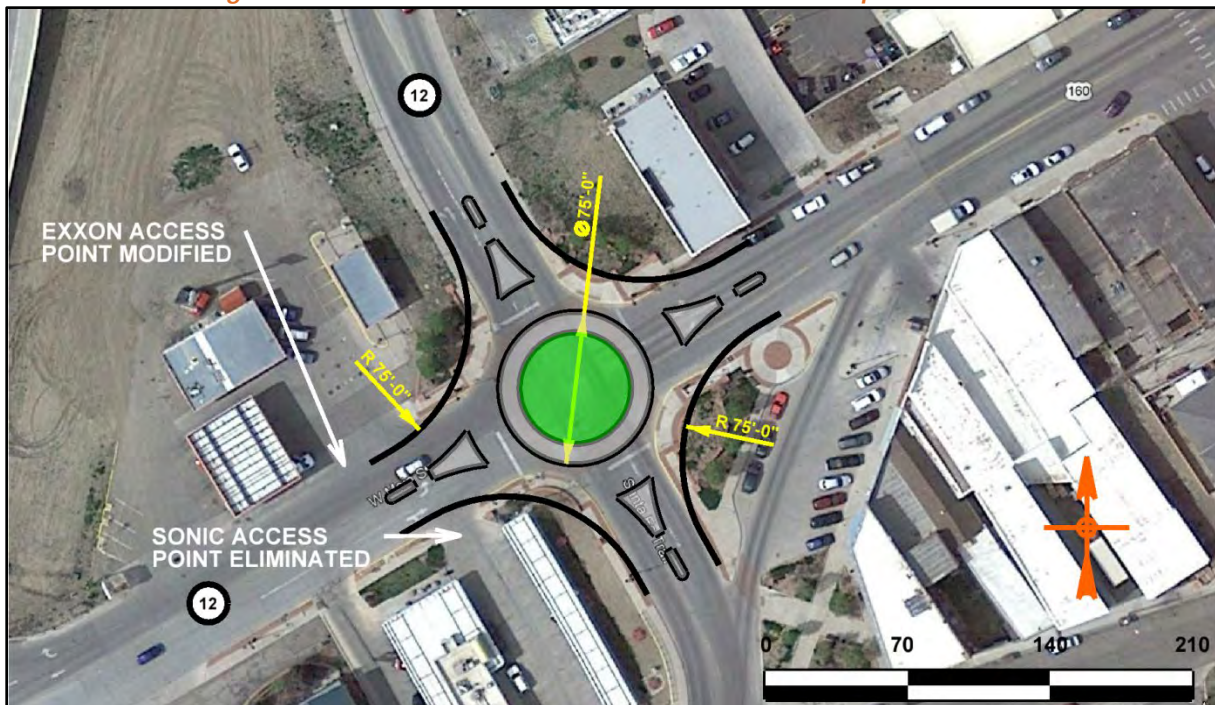


- Jansen Area Roadway Improvements** - Outside of Trinidad and Walsenburg, Jansen has the highest number of intersection-related crashes. At this location, as shown in **Figure 25**, the improvements would include a new curb and gutter section. This would better define the access points, provide separation from vehicular traffic for non-motorized users through this narrow section, and provide a traffic calming measure. In addition, it is recommended that consolidation of some entrances into single points of access be considered to improve safety through this area.
- Santa Fe/Main Street Intersection Improvements** - The intersection at Santa Fe and Main Street, located in Trinidad, has the highest number of crashes anywhere within the Corridor. Crash data were only analyzed within the intersection itself and along the SH 12 approaches to the intersection (i.e., north and west legs). Traffic volumes were not available at the intersection. It is recommended the intersection be further investigated. Based on more detailed study and assessment, more specific safety improvements could be identified. Depending on the study's findings, the intersection could be a good candidate for a roundabout to reduce crashes and crash severities. This type of improvement could have an added benefit of creating a gateway type feature for traffic destined to downtown Trinidad. A crash reduction analysis indicates a roundabout could modestly reduce the number and severity of crashes at this location. As shown in **Figure 26**, a roundabout could pose some access challenges, most acutely in the southwest quadrant of the intersection. The existing cutoff and parking in the southeast quadrant would also need to be addressed. Another potential option would entail the signalization of the intersection, which appears unlikely to be warranted, but should be further investigated based on more detailed traffic and crash data.

Figure 25: Jansen Area Roadway Improvements



Figure 26: Santa Fe/Main Street Intersection Improvements



Trail Improvements

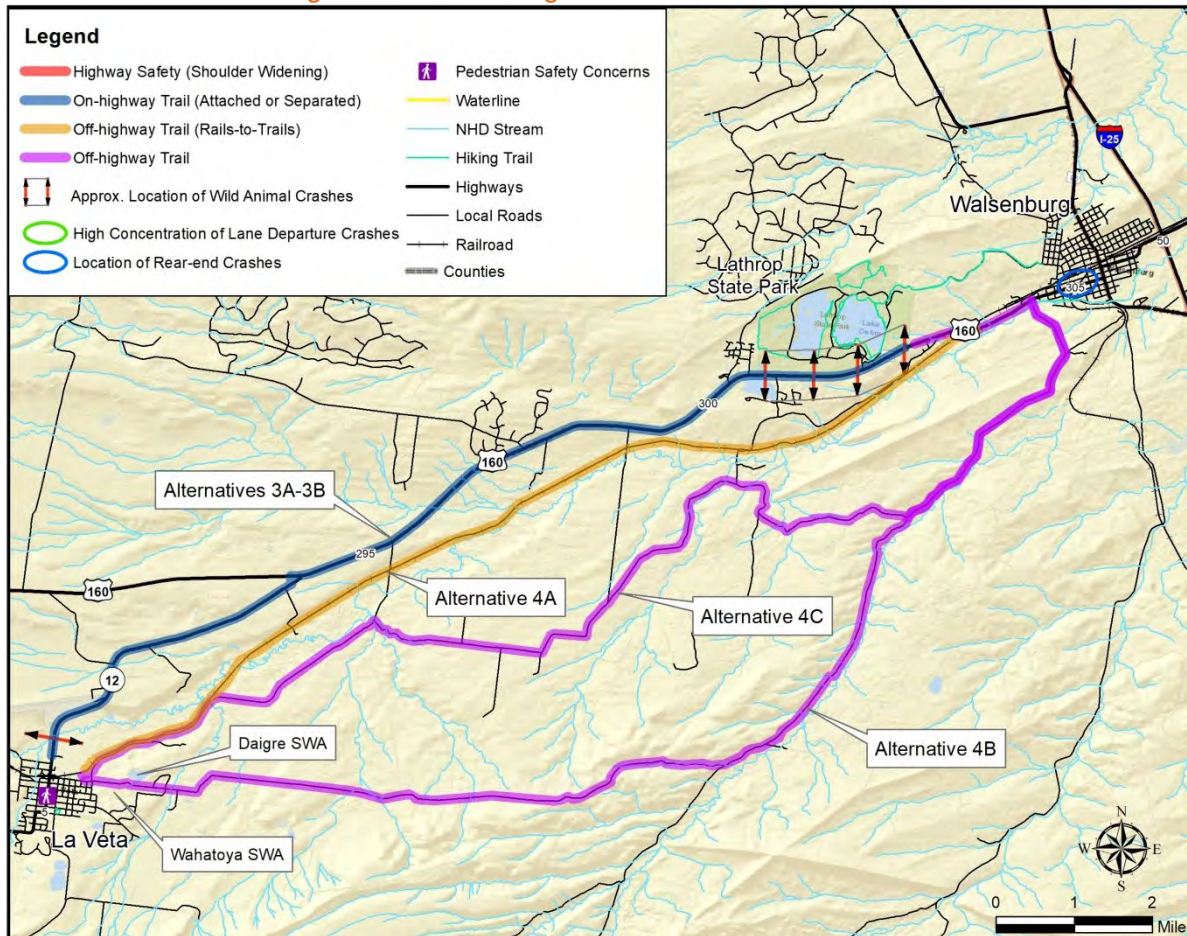
Local areas of more detailed study of the trail improvements included those areas with connections to existing trailheads, such as Lathrop State Park and Trinidad Lake State Park, and in the vicinity of existing communities (La Veta, Cuchara and Cuchara Mountain Resort). The Off-Highway Trail Alternatives were also defined in more detail for the Alpine Segments.

Vista Segment

The Vista Segment extends from Walsenburg to the north side of La Veta at the intersection of SH 12 (Main Street) and Moore Avenue. Each of the Off-Highway Trail Alternatives extends through the full segment independent of US 160 and SH 12. The Vista Segment includes the following Level 2 Alternatives (see **Figure 27**):

- Alternative 1 - No-Build
- Alternative 3A - On-Highway Trail (Attached)
- Alternative 3B - On-Highway Trail (Separated)
- Alternative 4A - Off-Highway Trail (Rails-w-Trails)
- Alternative 4B - Off-Highway Trail (CR 340/358)
- Alternative 4C - Off-Highway Trail (CR 340/350)

Figure 27: Vista Segment Level 2 Alternatives



Additional trail route studies were performed for the connections to Lathrop State Park and the City of La Veta.

- Lathrop State Park** - Walsenburg is the northern terminus of the SML segment of the CFRT. As shown on **Figure 28**, for the purposes of the PEL Study, all trail alternatives for the Vista Segment would originate at Lathrop State Park, which provides a strong gateway due to its visitor center, restrooms, existing trails, and ample parking. This trailhead location would include wayfinding signage for the trail and general rules of use, and could include additional visitor information about the byway. The trail connection and trailhead configuration and operations would need to be coordinated with Colorado Parks and Wildlife. The park also offers a direct connection to an existing multi-use trail that borders County Road 599 (to the east of the park) and ultimately ties into the western edge of Walsenburg near West 2nd Street. This existing trail connection ensures the connectivity of the SML Segment of the CFRT with a future CFRT segment to the north of Walsenburg, to be planned and built in the future as part of the overall CFRT Master Plan.

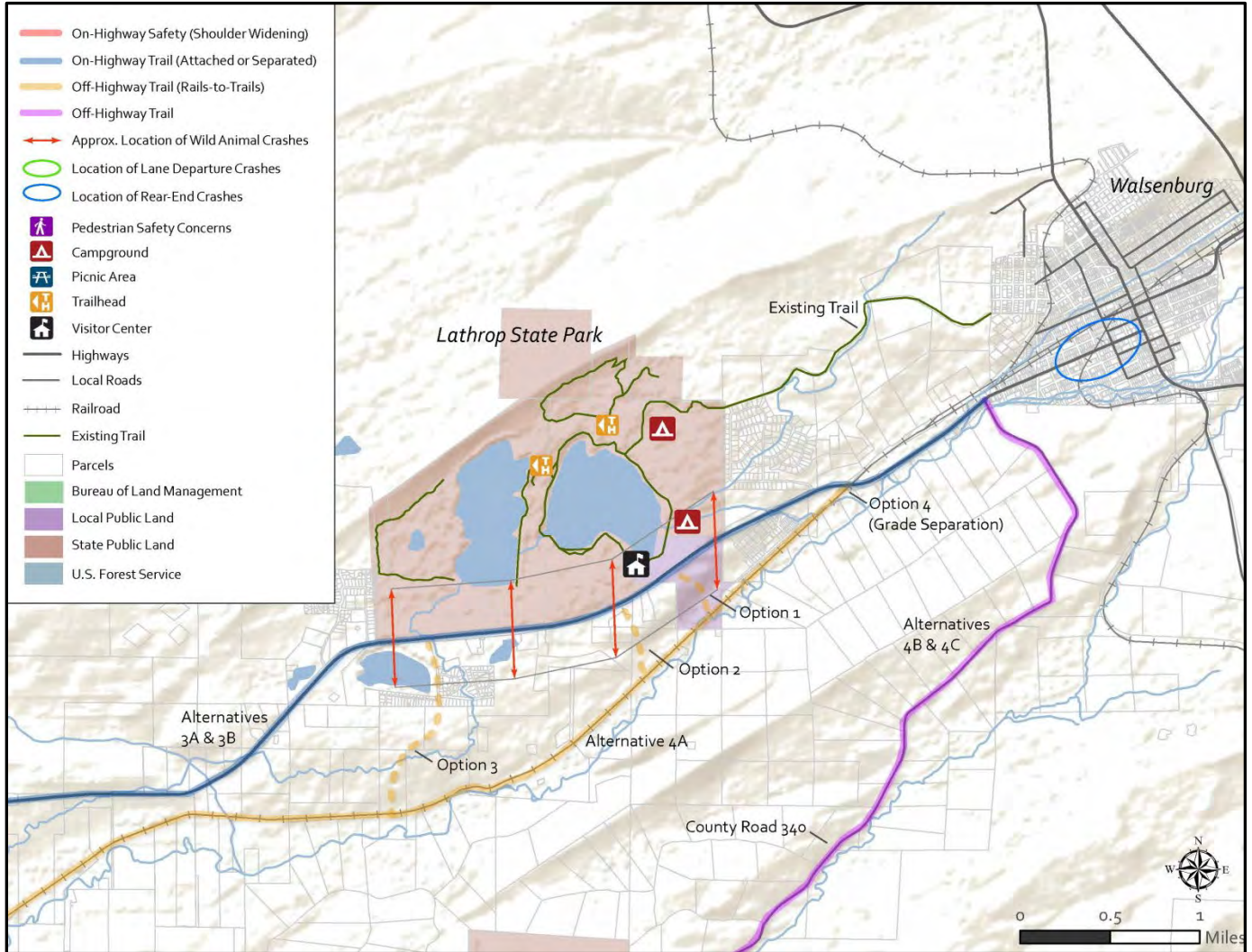
As shown, Alternatives 3A and 3B would be located along the park's frontage; Alternative 3A being a trail attached to US 160 and Alternative 3B being detached but close to the edge of the roadway within CDOT right-of-way to the extent possible. Each alternative would cross US 160 at the park entrance.

Alternative 4A entails the Rails-with-Trails Concept which would conceptually be located within the SLRG Railroad right-of-way to the south of Lathrop State Park and US 160 and extending to the west. As shown, there are four options for how the trail would transition from the park entrance at US 160 and connect the park with the railroad alignment. For each option, the trail would enter the park at the existing main entrance. These options, as shown, include:

- Option 1** - A route transition and connection utilizing local public land where an easement may be easier to obtain than on a privately-owned parcel. The trail would be located along US 160 a short distance east of the entrance with a crossing of US 160 at the park entrance location.
- Option 2** - Directly across from the main entrance to the park where an easement would be sought on the western edge of the Spanish Peaks Regional Health Center property. The trail would cross US 160 at the park entrance location.
- Option 3** - A point one mile to the west of the park entrance where US 160 intersects with Spanish Peaks Drive. The trail would be located along US 160 west of the entrance with a crossing of US 160 at the park entrance.
- Option 4** - A crossing and connection utilizing the existing US 160 bridge over the railroad located east of the park entrance. The trail would be adjacent to the railroad and would pass under US 160 at this location. At a point south of the park entrance, the existing SLRG Railroad, which continues to the west, transitions ownership to the Union Pacific Railroad, extending to the east. Therefore, this option would need to be coordinated with both the SLRG and Union Pacific Railroads.

Alternatives 4B and 4C would be located along County Road 340 to the south of US 160. From the park entrance, each would follow the US 160 alignment along the north side for approximately two miles to the east where both would cross US 160 at the Country Road 340 intersection. For this two-mile segment, it's assumed that the On-Highway Trail (Separated) Concept would apply.

Figure 28: Trail Connections at Lathrop State Park



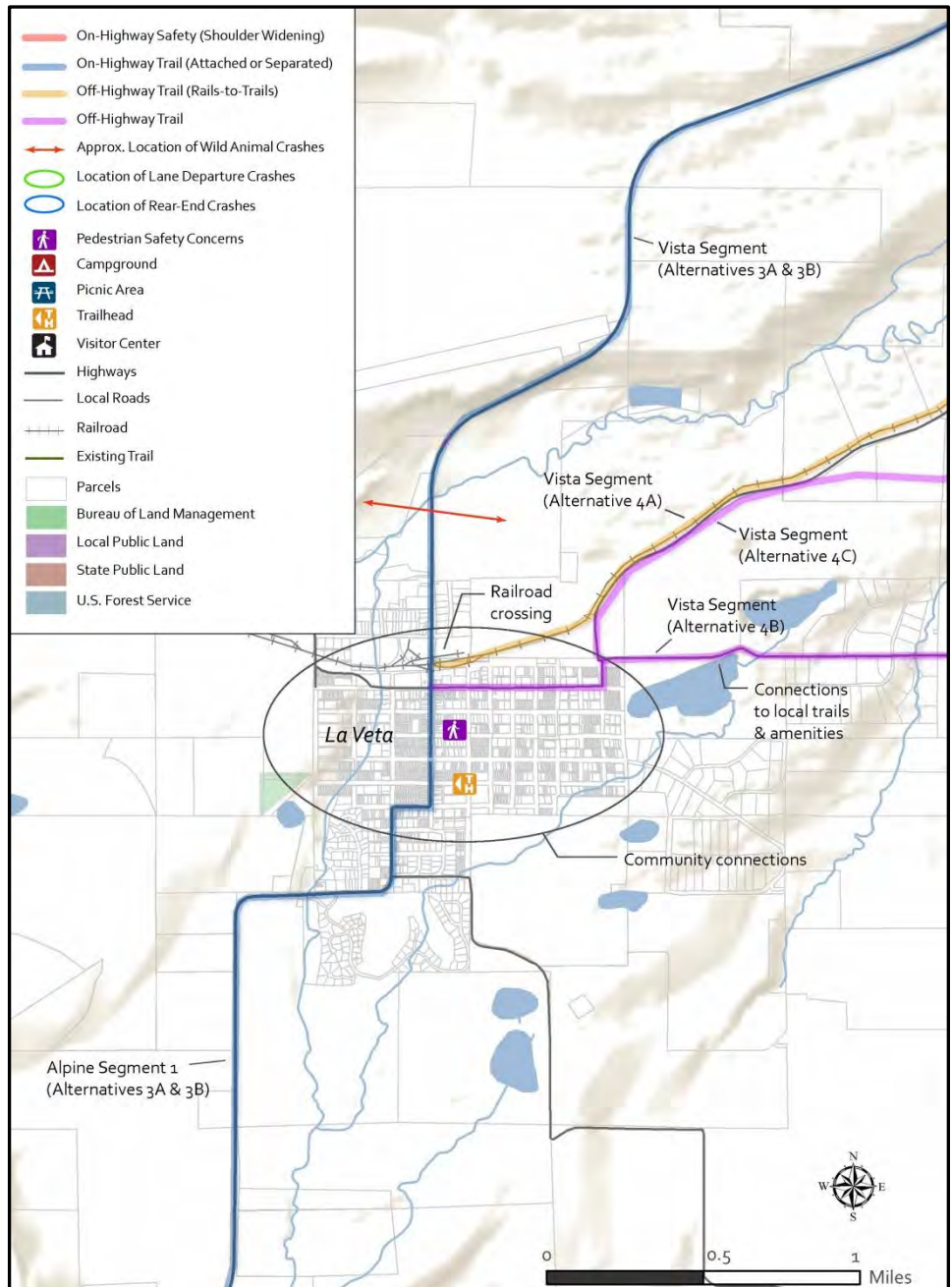
Regardless of the trail alternative, an important issue for connecting with the park is how the trail would safely cross US 160 from north to south. Due to the configuration of the existing highway, consisting of three or four travel lanes, and the relatively high posted speed limit (60 mph) near the park, a grade-separated pedestrian crossing may need to be considered, or if crossing at-grade, a stop condition with signal control be provided. More detailed study would need to examine this issue to identify where a crossing would be most suitable and what types of crossing treatments would maximize safety and minimize the potential for conflicts between motorists and trail users. In addition, Huerfano County has developed a conceptual plan for constructing a pedestrian overpass at or near the park entrance to provide a safe pedestrian connection between the park and the Health Center to the south.

- **La Veta** - La Veta is one of the primary attractions within the Corridor. In addition to providing visitors and residents with access to services and amenities, it includes a local system of trails and open space for recreational activities.

As shown in **Figure 29**, the trail alternatives enter La Veta from the north at three different locations. Through La Veta, all trail alternatives would follow the alignment of SH 12 as it enters, passes through, and leaves La Veta to the south.

Within the Vista Segment, Alternatives 4A, 4B and 4C are the off-highway trail alternatives. They all approach La Veta from the northeast/east along the existing SLRG Railroad or county roads and each ties into the highway alignment in the vicinity of Moore Avenue and Main Street (SH 12) immediately north of downtown La Veta. At this point, as shown, the off-highway trail alternatives end and the trail would extend to the south through La Veta utilizing either the attached or separated on-highway trail alternative (Alpine 1 Segment). Through La Veta, the trail would be located along SH 12

Figure 29: Trail Alternatives and Connections within La Veta



and would be integrated with the recommended highway safety improvements. As the trail follows Main Street through La Veta, trail users would have access to historical and cultural attractions and other amenities (i.e., lodging, restaurants, and shops).

One notable variation in this area is seen with Alternative 4B. Following the alignment of County Road 358, the trail would pass near and adjacent to the 203-acre Wahatoya Lakes State Wildlife Management Area which is located one mile east of La Veta. This area, which includes the Daigre Reservoir and the Wahatoya Lake Reservoir, offers visitors opportunities for fishing, picnicking, hiking, wildlife viewing, and non-motorized boating. Established trails in the area include the Wahatoya Lake Trail and the Daigre Reservoir Trail. For those alternatives not directly connecting to this area, it is recommended that a trail spur connection be considered, in coordination with the La Veta Parks, Trails, and Open Space Master Plan, to provide access for CFRT users.

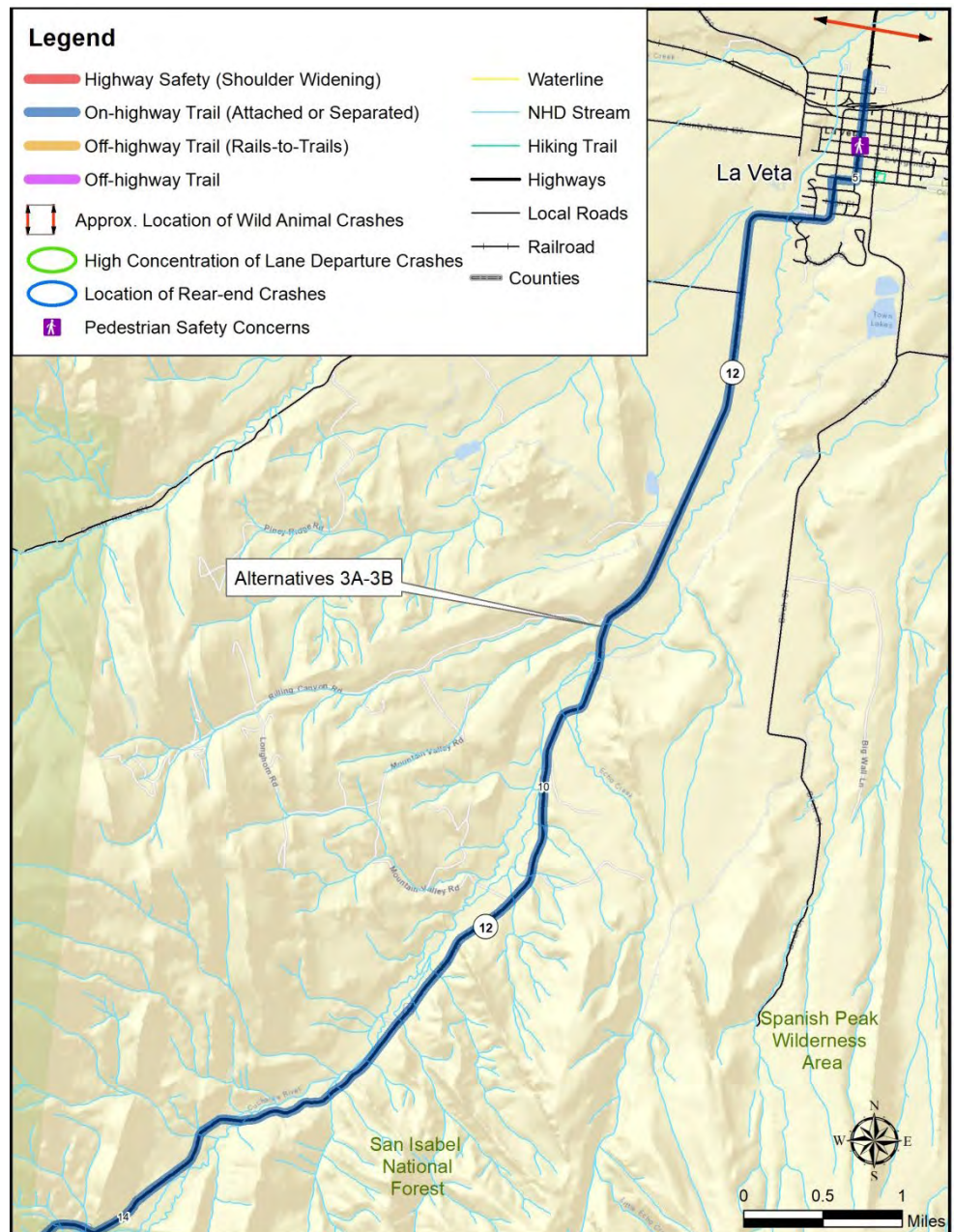
Figure 30: Alpine 1 Segment Level 2 Alternatives

Alpine 1 Segment

The Alpine 1 Segment extends from the north side of La Veta at the intersection of SH 12 (Main Street) and Moore Avenue, extending through La Veta, and terminating at or near MP 14. MP 14 is generally the location where SH 12 intersects with a ridge aligned to the south and located east of Cuchara. This location is also generally where SH 12 enters the San Isabel National Forest.

The Alpine 1 Segment includes the following Level 2 alternatives (see Figure 30):

- Alternative 1 - No-Build
- Alternative 3A - On-Highway Trail (Attached)
- Alternative 3B - On-Highway Trail (Separated)



Alpine 2 Segment

Within the Alpine 2 Segment, extending between MP 14 and Cucharas Pass, in addition to the On-Highway Trail Alternatives are several Off-Highway Trail Alternatives. The alternatives within the Alpine 2 Segment include the following:

- Alternative 1 - No-Build
- Alternative 3A - On-Highway Trail (Attached)
- Alternative 3B - On-Highway Trail (Separated)
- Alternative 4A - Off-Highway Trail (Ridge)
- Alternative 4B - Off-Highway Trail (Cucharas River)
- Alternative 4C - Off-Highway Trail (Blue/Bear Lakes)
- Alternative 4D - Off-Highway Trail (Cucharas River + Blue/Bear Lakes)

The Off-Highway Trail Alternatives within this segment include all possible combinations of the off-highway trail options extending through the segment. Alternative 4A (Off-Highway Trail (Ridge)) extends fully through the segment independent of SH 12. For the others, the On-Highway Trail (Separated) is assumed for where the alternative is located along SH 12.

- **Alternative 4A (Off-Highway Trail (Ridge))** - As shown on **Figures 31** and **32**, this alternative would leave the highway at the point where SH 12 intersects the dike ridge which extends to the south and is located east of and parallel with the Cucharas River up to Cucharas Pass. This point, roughly MP 14, is also at or near where SH 12 enters the San Isabel National Forest. This point of departure from the highway and beginning of this alternative provides a logical location for the creation of a new trailhead and small staging area.

As much as possible, this trail route would be located within USFS property, generally located along the ridge to Cucharas Pass. In concept, this option is advantageous due to its singular, public agency ownership and the USFS's expressed desire and commitment to enhance public access to its lands. Just southeast of Cuchara, the trail route would establish a direct connection to the existing Dikes Trail. Notably, the Dikes Trail is currently a recognized and designated segment of the CFRT. South of this location, the trail route would continue in a southeasterly direction and again, the alignment would be positioned to overlap with USFS land as much as possible, minimizing potential conflicts with private property.

This alternative terminates at Cucharas Pass where it would intersect with SH 12. This location (at Cucharas Pass) provides an excellent opportunity to create a more defined staging/rest area on the SML trail. County Road 364, which intersects with SH 12 at the pass, provides access to recreational and scenic amenities to the east including the Farley Overlook, the Cordova Pass Campground, and the Chaparral, Apishapa, and Cordova Summit Trailheads. In addition to CFRT signage, this location also provides an excellent opportunity to include signage and information about the San Isabel National Forest and the byway.

Figure 31: Alpine 2 Segment Level 2 Alternatives (1 of 2)

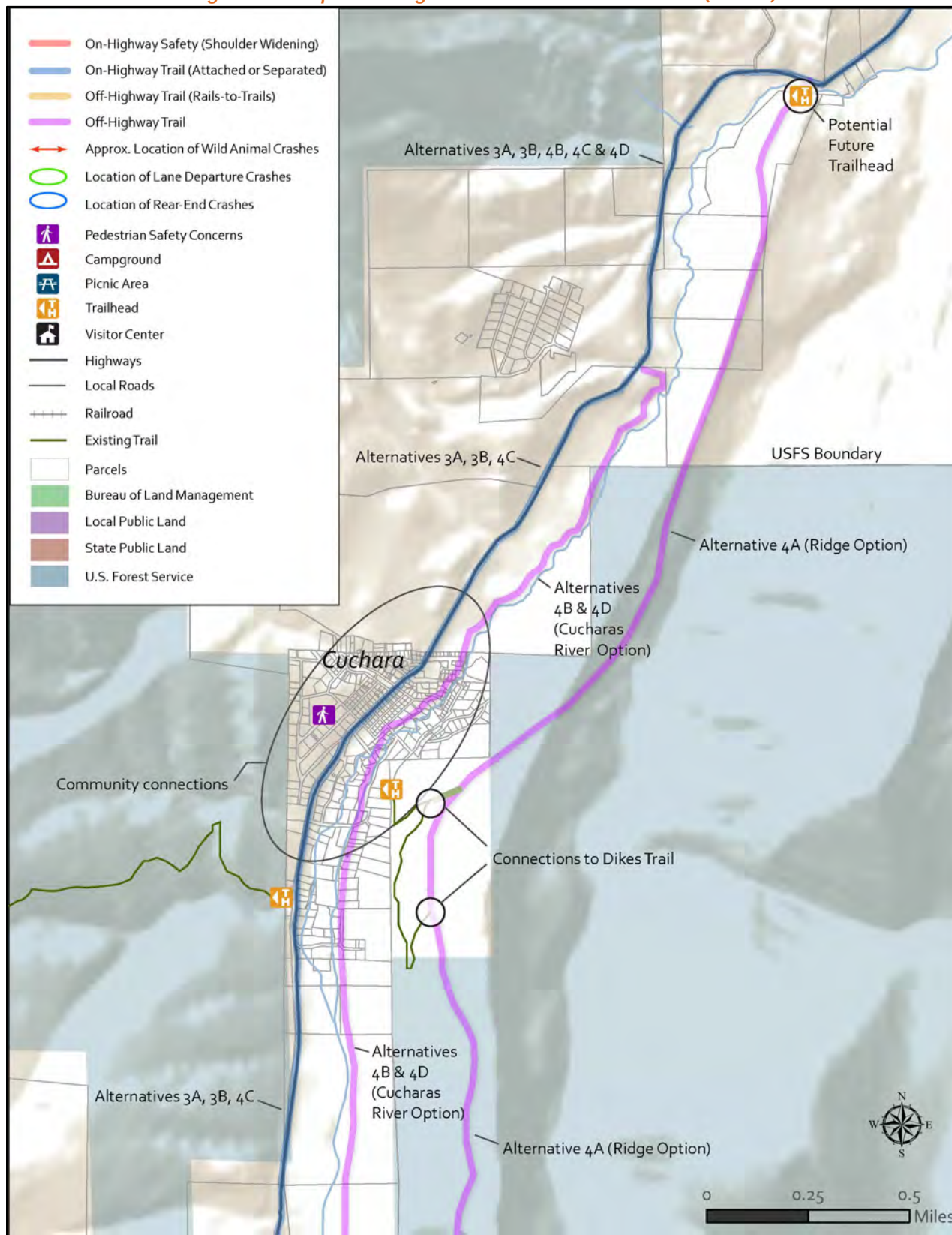
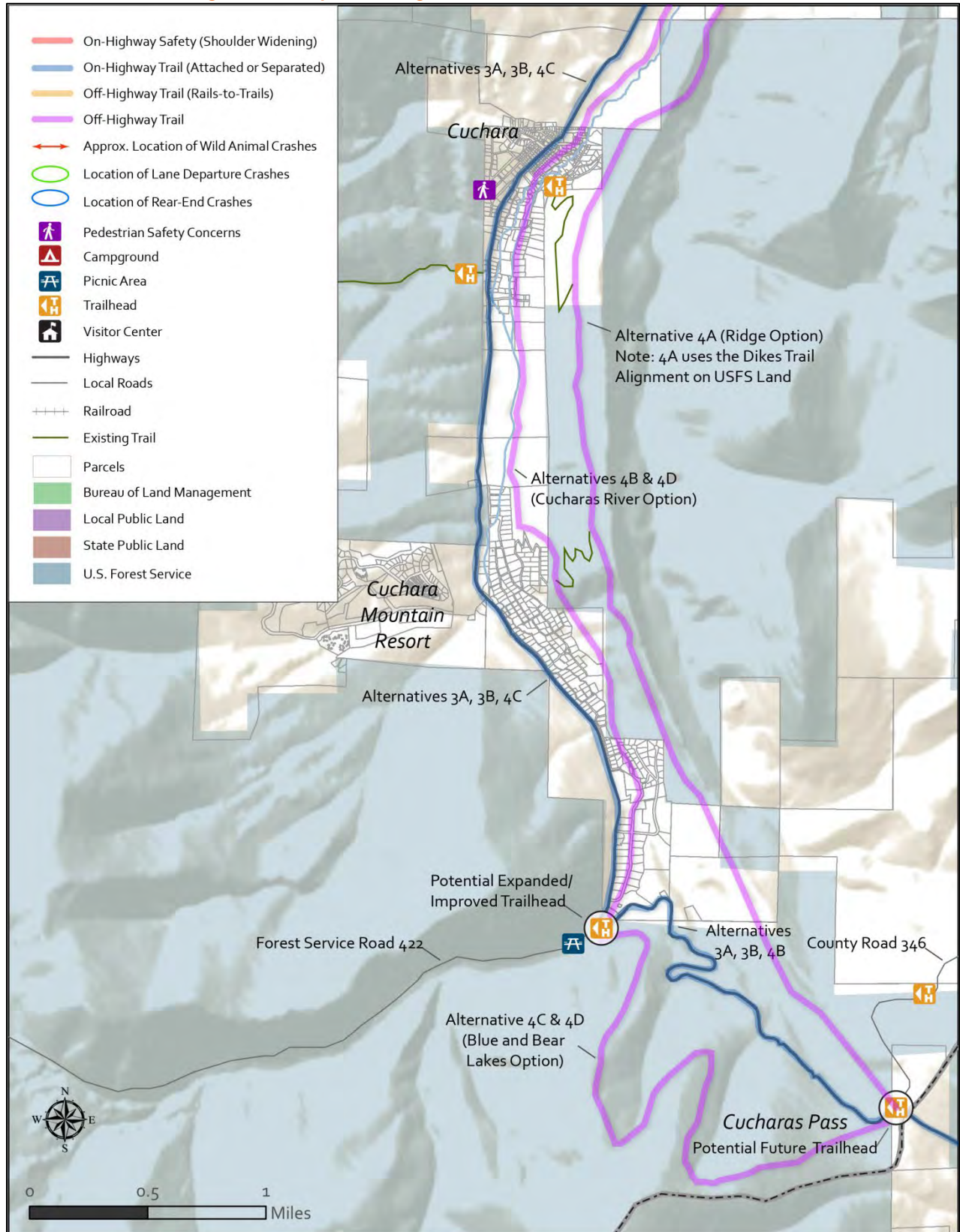


Figure 32: Alpine 2 Segment Level 2 Alternatives (2 of 2)



- **Alternative 4B (Off-Highway Trail (Cucharas River))** - As shown in **Figures 31** and **32**, this alternative utilizes the Cucharas River floodplain to provide a “river walk” experience for the CFRT users. Notwithstanding the private property implications adjacent to the river, the intent of the option is to utilize the river and associated floodplain area for a trail route.

At a point north of Cuchara, near MP 15 where SH 12 is located near the Cucharas River, the trail would depart from the highway alignment and extend south along and adjacent to the riverbed. The trail would extend through Cuchara, providing connections to the Cuchara Downtown Area and linking it with the Cuchara Recreational Center to the south. Within this general area, the trail would deviate from the river alignment and be located along Cuchara’s local streets. South of Cuchara, the trail would continue along the river to a transition back to the SH 12 alignment at the intersection with Forest Service Road 422 - the access road to the Blue and Bear Lakes Campgrounds. This alternative would provide a direct trail connection, including potential trail signage and staging areas, with Cuchara, the existing Dikes Trail, and the existing public facilities at the SH 12 and Forest Service Road 422 intersection. A trail spur connection with the Cuchara Mountain Resort should be considered in subsequent more detailed studies of this alternative.

- **Alternative 4C (Off-Highway Trail (Blue and Bear Lakes))** - Similar to Alternative 4A, this alternative is intended to utilize USFS property and provide trail users a more natural experience and setting. As shown in **Figures 31** and **32**, being on an independent alignment with switchbacks and utilizing the available terrain, it has the additional benefit of potentially providing acceptable vertical grades along the trail. Between Forest Service Road 422 and Cucharas Pass, the vertical grades along SH 12 exceed six percent. Forest Service Road 422 is also a sensible connection point for the trail and would be a good location for an improved staging area because the road provides access to four designated picnic areas, the Blue Lake and Bear Lake Campgrounds, day use areas, and the Indian Creek and Bear Lake Trailheads. Following the intersection point with Forest Service Road 422, the trail would continue off-highway, to the west of SH 12, and be located within the San Isabel National Forest until County Road 364 at Cucharas Pass.
- **Alternative 4D (Off-Highway Trail (Cucharas River + Blue/Bear Lakes))** - This alternative combines the Cucharas River Option from Alternative 4B with the Blue/Bear Lakes Option from Alternative 4C.

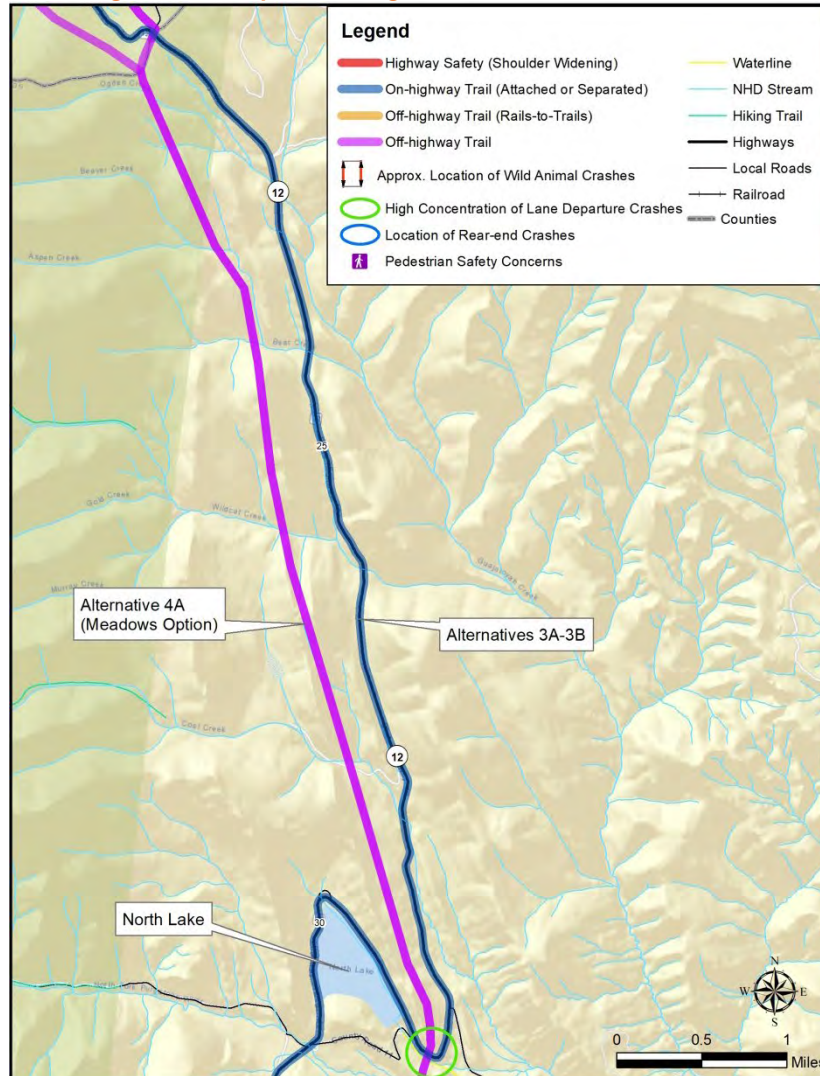
Alpine 3 Segment

The Alpine 3 Segment extends from Cucharas Pass to North Lake. This segment includes the following Level 2 alternatives (see **Figure 33**):

- Alternative 1 - No-Build
- Alternative 3A - On-Highway Trail (Attached)
- Alternative 3B - On-Highway Trail (Separated)
- Alternative 4A - Off-Highway Trail (Meadows)

Within this segment, in addition to the On-Highway Trail Alternatives, Alternative 4A (Off-Highway Trail (Meadows)) extends fully through the segment independent of SH 12.

Figure 33: Alpine 3 Segment Level 2 Alternatives



- Alternative 4A (Off-Highway Trail (Meadows))** - As shown in **Figure 33**, this alternative connects to the staging area at Cucharas Pass and extends south to a connection with SH 12 at a point near North Lake. This option was identified to address the steep vertical highway grades south of the pass and to take advantage of the scenery for a more appealing user experience. This area also includes large property holdings adjacent to SH 12, thereby improving the likely feasibility of the necessary right-of-way acquisition.

The trail route would be located along the adjoining meadows and valley adjacent to and west of SH 12 between the pass and North Lake. Utilizing the terrain and switchbacks, as necessary, the route would potentially provide vertical grades less than six percent. The route would be aligned, in coordination with the affected landowners, to minimize property impacts and avoid unusable remnant parcels. Farther south, but north of North Lake, SH 12 has several waterway crossings. At these locations, the trail alignment would likely be located near SH 12 to utilize the highway embankment to cross the waterway areas. The trail route would intersect with SH 12 at a point near to and north of the highway curve southeast of North Lake.

Alpine 4 Segment

The Alpine 4 Segment extends from North Lake to Monument Lake. This segment includes the following Level 2 alternatives (see **Figure 34**):

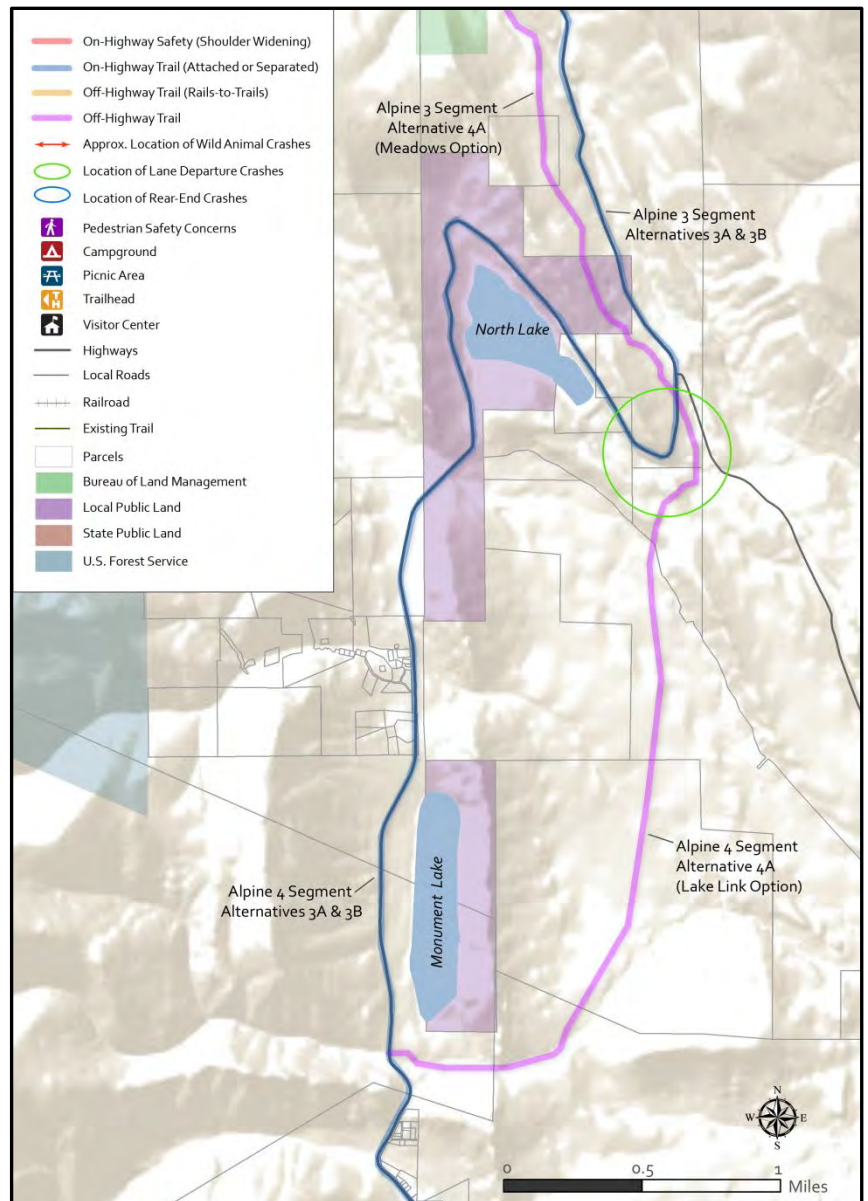
- Alternative 1 - No-Build
- Alternative 3A - On-Highway Trail (Attached)
- Alternative 3B - On-Highway Trail (Separated)
- Alternative 4A - Off-Highway Trail (Lake Link)

Within this segment, in addition to the On-Highway Trail Alternatives, Alternative 4A (Off-Highway Trail (Lake Link)) extends fully through the segment independent of SH 12.

- **Alternative 4A (Off-Highway Trail (Lake Link))** - As shown on **Figure 34**, this alternative begins at SH 12 on the eastern side of North Lake. As shown, the trail would transect a small portion of the Wildlife Management Area before crossing SH 12 in close proximity to County Road 21.6 (on the eastern side of the highway). While North Lake does not currently offer picnic, camping, or hiking options (i.e., designated trails), it is a very scenic resource and does offer a publicly accessible boat ramp and fishing. A spur trail connecting the main trail to an accessible point on North Lake would need to be examined in a future study.

South of SH 12, this option continues in a southwest direction toward Monument Lake. Between the lakes, the trail route would be located within private property. The routing of the trail would need to be coordinated with the affected landowners, with the intent to minimize property impacts and avoid unusable parcel remnants. Approaching Monument Lake, as shown, the

Figure 34: Alpine 4 Segment Level 2 Alternatives



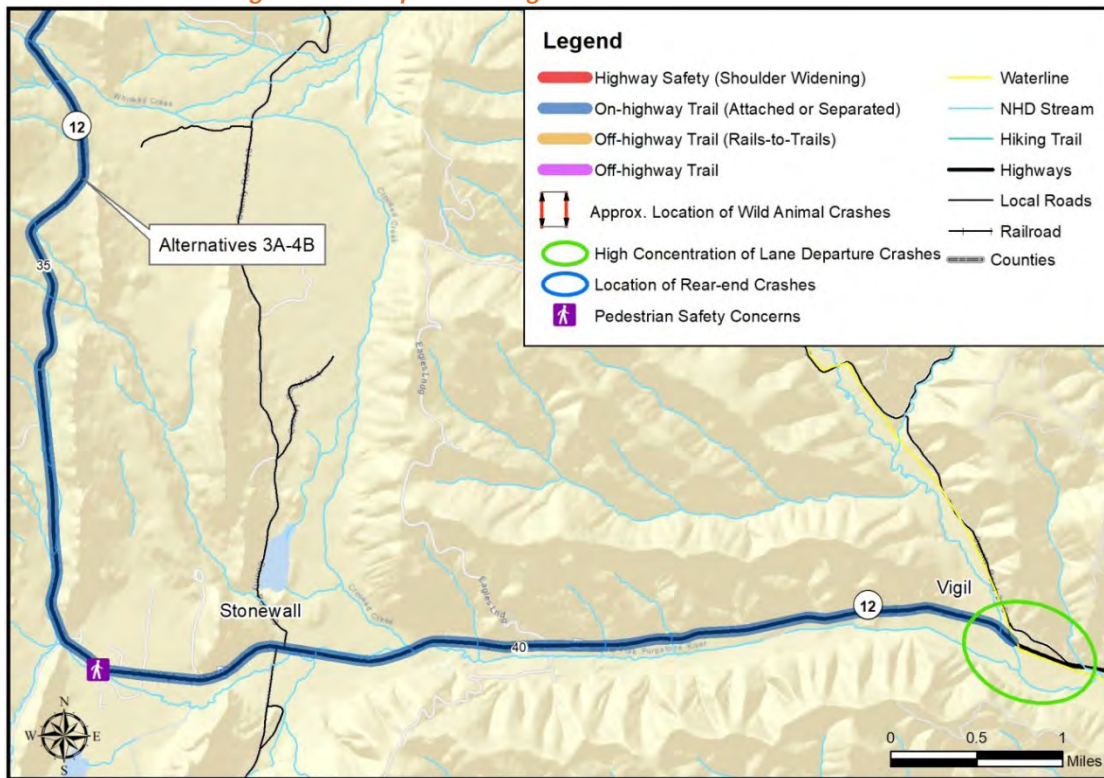
trail route would border its southern edge and provide good access to the Monument Lake Resort and Park, which provides Recreational Vehicle and tent sites, fishing, and picnicking. The trail reconnects with SH 12 just south of Monument Lake where it would continue toward Stonewall.

Alpine 5 Segment

The Alpine 5 Segment extends from the Monument Lake to Vigil. This segment includes the following Level 2 alternatives (see **Figure 35**):

- Alternative 1 - No-Build
- Alternative 3A - On-Highway Trail (Attached)
- Alternative 3B - On-Highway Trail (Separated)

Figure 35: Alpine 5 Segment Level 2 Alternatives

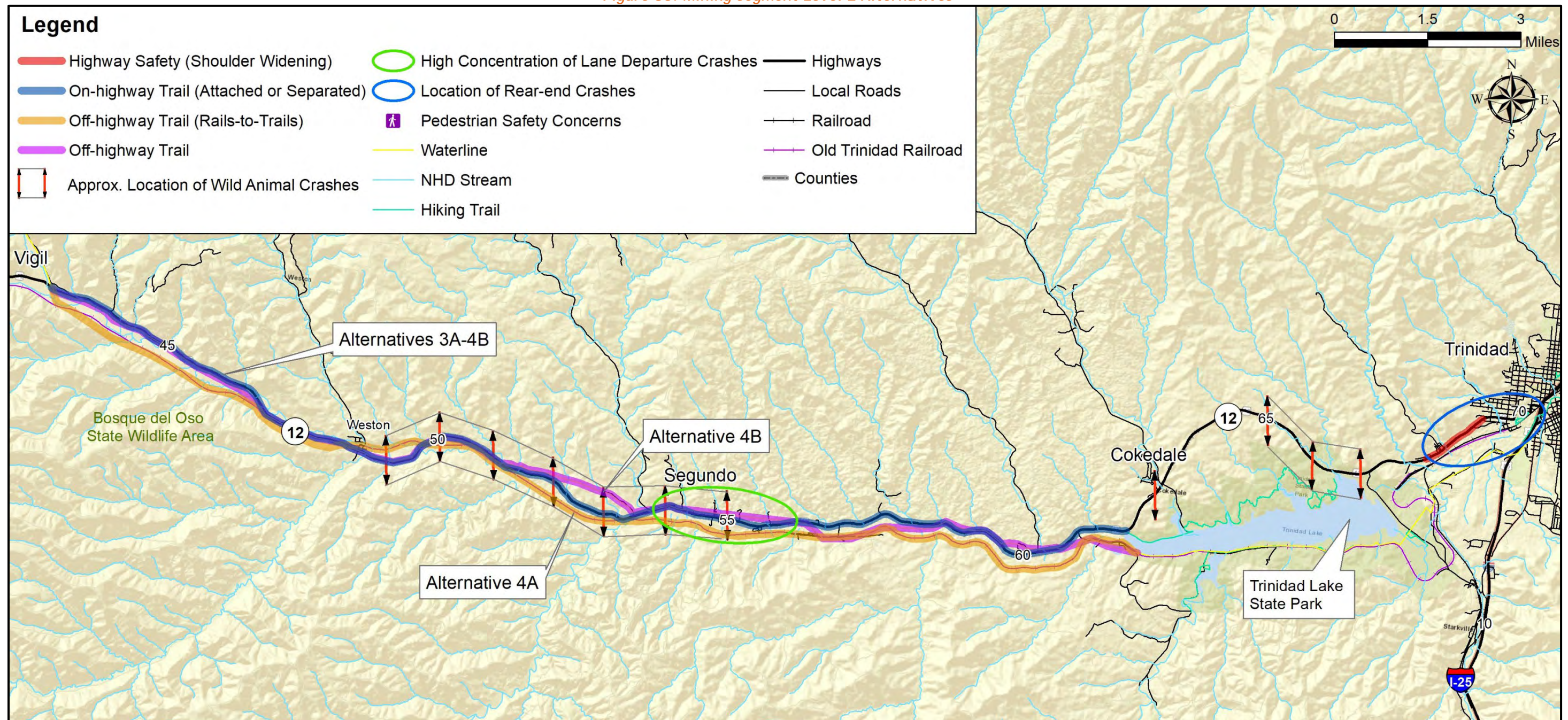


Mining Segment

The Mining Segment extends from Vigil to Trinidad. Each of the Off-Highway Trail Alternatives extends through the full segment independent of SH 12. The Mining Segment includes the following Level 2 alternatives (see **Figure 36**):

- Alternative 1 - No-Build
- Alternative 3A - On-Highway Trail (Attached)
- Alternative 3B - On-Highway Trail (Separated)
- Alternative 4A - Off-Highway Trail (Rails-to-Trails)
- Alternative 4B - Off-Highway Trail (Waterline)

Figure 36: Mining Segment Level 2 Alternatives

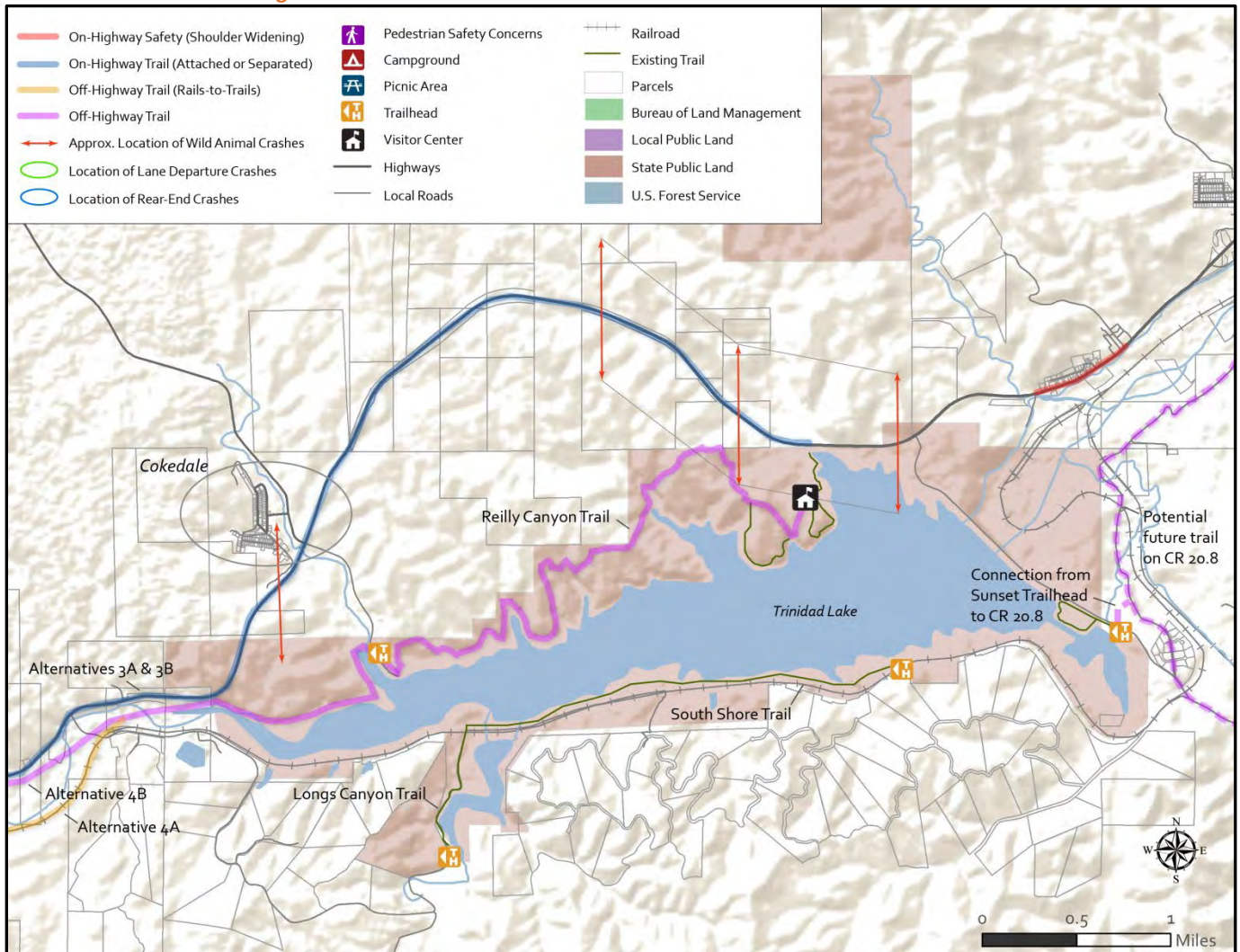


Additional trail route studies were performed for the connections to Trinidad Lake State Park.

- Trinidad Lake State Park** - The City of Trinidad is the southern terminus for the SML Segment of the CFRT. For the purposes of this PEL Study, similar to the trail terminus at the northern end near Walsenburg, Trinidad Lake State Park would serve as the southern gateway, trailhead, and staging area for the CFRT. As an important local and regional resource and destination offering many amenities in a highly scenic environment, the park serves as a logical entry point and gateway for the trail. Features and amenities at the park include: visitor center, amphitheater, boat ramps, campgrounds, retail (supply) store, picnic sites, a playground, restrooms, and hiking and walking trails.

As shown in **Figure 37**, all trail alternatives for the Mining Segment would connect with the park’s trail system and terminate at the visitor center. The visitor center provides a logical trailhead location, with vehicular access from SH 12, and would include CFRT signage for wayfinding and general rules of use, and could include additional visitor information about the byway. The trail connection and trailhead configuration and operations would need to be coordinated with Colorado Parks and Wildlife.

Figure 37: Trail Connections at Trinidad Lake State Park



Each of the trail alternatives within the Mining Segment approaches the park differently. As shown, Alternatives 3A and 3B would follow the SH 12 alignment to the park’s main entrance. As an option, considering the steeper highway vertical grades around the park, these alternatives could deviate from the SH 12 alignment at a point near and west of the park, and enter the park along its western edge. With this option, the trail route would connect with the existing Reilly Canyon Trail which extends easterly to the visitor center.

Alternatives 4A and 4B would both be located south of SH 12, along the Old Trinidad Railroad and the Trinidad Waterline, respectively, as they approach the western park boundary. As

shown, they would conjoin at a point just west of the park. Each would then proceed easterly to connect with the existing Reilly Canyon Trail and continue on that trail's alignment to the existing visitor center in the north central portion of the park where the trail would terminate at the trailhead and staging area.

An important issue is the future connectivity of the CFRT with the local trail system in Trinidad. Future connections between Trinidad and the park are currently being discussed, researched, and planned locally. Current trail planning by the City envisions a westerly extension of the existing Old Sopris Trail along the Purgatoire River and County Road 20.8 to ultimately provide a connection with the southeast side of the park and the South Shore Trailhead. In coordination with the park's trail system planning, the existing South Shore Trail could then be extended to the west to circumnavigate the lake and provide a connection to the Reilly Canyon Trail and the CFRT. Furthermore, trail planning is currently underway for a potential connection between Trinidad Lake State Park and the newly designated state park at Fishers Peak/Crazy French Ranch, located south of Trinidad. Further, more detailed study of these trail connections is needed following the PEL Study.

Byway Features

In the 1980s, the majority of travelers along the Scenic Highway of Legends Byway expected the low-key pleasures of a scenic drive on a road less traveled. The spectacular landscapes of the Spanish Peaks successfully delivered first rate scenic views and the small byway communities provided connections to local culture, food, lodging and recreation. Fishermen, hunters and campers returned year after year and multigenerational families maintained their patterns of annual retreat to their mountain cabins. Although there have been attempts to operate a ski resort in Cuchara, the area has remained primarily a summer destination for cabin and second home owners, for people on multi-destination driving tours, and for hunters and fishermen.

Thirty years later, changes in national travel trends and traveler expectations are creating new opportunities for the region. The sheer volume of people traveling to Colorado has made tourism a major contributor to the state's economy. It is estimated (see *Existing Corridor Conditions Report*) that in 2018 the State of Colorado received 82.5 million visitors who spent \$22.3 billion dollars. The purposes of their travel varied widely: visiting friends and relatives 41%, touring trips 13%, outdoor trips 12%, special events 10%, ski/snowboarding 5%, city trips 5%, combined business-leisure 5%, resort 4%, casino 3%, and other 2%.

Two of these segments, touring trips and outdoor trips which account for 25 percent of tourism travel, represent the future foundation of tourism along SH12. Today, these two traveler segments provide the basis for the planning of the byway's amenity improvements, as defined by the PEL Study in coordination with the byway's comprehensive planning. Together, considering the economic opportunities and possible benefits of building infrastructure and visitor amenities to promote the byway, the goals of the amenities plan are to safely accommodate travelers who want to be more active in the outdoors and to enable the scenic driving to include much more active engagement with both the landscape and the communities.

Understanding traveler characteristics is important for tailoring an amenities improvement plan that is responsive to their desires, attracts travel, and leverages the features of the byway. Profiles of visitors in both the touring and outdoor segments paint a picture of curious individuals who engage in a wide variety of activities. As expected, those in the touring sector visit state and national parks,

enjoy history, culture, and museums. They are active in the outdoors in many different ways. Travelers in the recreation sector also visit state and national parks, historic sites and landmarks, museums and art galleries. For both segments, travelers rank shopping highly and visit breweries, bars, and nightlife.

In developing an amenities plan for the byway, it is also important to understand the nature and dynamics of trip making. Critical to this dynamic is the availability and integration of traveler information and opportunities. Travelers engage in a long string of decisions that include identifying possible destination(s), gathering relevant information, identifying alternatives, weighing evidence, and finally taking some action. Once travelers arrive in a chosen destination, that decision making process cycles again and again as they figure out places to eat and how they will allocate time each day. Making these informed decisions depends on a rich supply of information that is easy to access electronically, print information that is located on site in the destination itself, and a system of directional and interpretive signage found outdoors in pull-offs, at gateways, and in significant geological, historical and cultural sites. Additionally, trailhead information specifies trail length, level of difficulty, elevation, availability of restrooms and water.

Local resident and business owner sentiments and aspirations are also important to effectively deploying and mobilizing the amenities plan. Significant engagement with the Corridor's stakeholders was performed in the support of the PEL Study. Through extensive discussions, local stakeholders have affirmed, out of concern for the economic vitality of the region, general support for improvements on the byway, with the caveat that any added facilities or amenities 1) consider the safety of both locals and visitors on the roadway; 2) respect and help support the character and lifestyles of local communities; and 3) help preserve the integrity of the natural landscapes and existing scenic viewsheds.

The recommended byway amenities plan is presented in **Table 11**. Based on the noted traveler characteristics, improvement goals, the Corridor's natural and community assets, and the overarching preservation concerns of the stakeholders, these recommendations address the needs, expectations and desires of contemporary byway travelers. This plan presents a comprehensive program of improvements for new or improved infrastructure, to be integrated with the CFRT improvements. It was developed in concert with an overarching initiative for a renewed informational campaign and sustained operations, to be coordinated with the local communities and businesses. Combined, this plan addresses the underlying keys of attracting tourists to the byway by recognizing that travelers:

- **Need** safety, information, bathrooms, food, lodging, and fuel.
- **Expect** information that describes opportunities for outdoor recreation, cultural and heritage attractions, and special events in addition to detailed information on restaurants, lodging and entertainment.
- **Desire** destinations that are authentic and distinctive, that provide opportunities to learn something new, and that offer ways for travelers to personalize their experiences

As shown in **Table 11**, a wide variety of improvements are recommended, with varying degrees of ongoing operational, maintenance and community coordination requirements, as well as joint development opportunities with the CFRT. These include byway orientation signage at Lathrop State Park, Trinidad Lake State Park, a new US 160 Wayside Park west of SH 12 (with a restroom), and at the I-25 El Moro Rest Area. New or improved visitor centers with wayfinding signs are recommended in LaVeta, Cuchara, and Stonewall (with bathrooms). New or improved interpretive panels or kiosk

installations are recommended at the Wayside Park and the multiple Scenic Pull-offs, with Historical Markers between Trinidad and Weston. Finally, it is recommended that the existing Cokedale Museum exhibits be expanded.

Table 11: Byway-Related Amenity Improvements

| Site | Feature | Location and Description | Trail Integration |
|--------------------------------------|------------------|--|---|
| Vista - Walsenburg to La Veta | | | |
| 1 | Trailhead | Lathrop State Park (Main Entrance) - Byway and CFRT maps and information | Incorporate with CFRT signage and trailhead facilities |
| 2 | Wayside Park | US 160/CR 450 - Improve existing kiosk, add picnic tables with shade and prefab toilet | None - located west of SH 12 |
| 3 | Scenic Pull-off | MP 3.2 (approx.) - Improve existing pull-off for safety; add parking and three-panel kiosk | CFRT connection for On-Highway options |
| 4 | Visitor Center | La Veta (Same block as Library/Museum) - Replace existing signage, install bike self-repair and EV (electric vehicle) stations | CFRT to be located along Main Street (SH 12) in front of Visitor Center |
| Alpine - La Veta to Vigil | | | |
| 5 | Scenic Pull-off | Profile Rock (MP 8.7 approx.) - new pull-off for views of geologic features | CFRT connection |
| 6 | Scenic Pull-off | Devil's Staircase (MP 11.0 approx.) - improve existing pull-off with parking and new signage | CFRT connection |
| 7 | Visitor Center | Cuchara - Signage and restroom, history of community, recreation, and EV (electric vehicle) charging station | CFRT connection for On-Highway options with spur trail for Off-Highway Ridge option |
| 8 | Trailhead | Blue/Bear Lake Trailhead (Existing) - Add signage for SHOL and geology | CFRT connection for On-Highway options with spur trail for Off-Highway Ridge option |
| 9 | Scenic Pull-off | Cucharas Pass - Add wayfinding signage and regional USFS information | CFRT connection with spur trail for Farley's Overlook |
| 10 | Scenic Pull-off | North Lake (MP 29 approx.) - Refresh and improve existing kiosk; 3 new panels | CFRT connection with On-Highway options and Off-Highway Lake Link option |
| 11 | Scenic Pull-off | Monument Lake (MP 33.0 approx.) - Add signage and public access to Park facilities | CFRT connection with On-Highway options and Off-Highway Lake Link option |
| 12 | Visitor Center | Stonewall - Add Geological Education Center, restrooms, picnic area, parking and EV (electric vehicle) charging station | CFRT connection |
| Mining - Vigil to Trinidad | | | |
| 13 | Historic Markers | Add historical markers (coalmining, Hispano, and Native American histories) | CFRT connection for On-Highway options with historic signage for Off-Highway Rails-to-Trails option |
| 14 | Scenic Pull-off | Improve current pull-off that serves as entrance to the town of Cokedale | CFRT connection via spur trail with Trinidad Lake State Park |
| 15 | Visitor Center | Cokedale - Expand museum with better directional signage from SHOL | CFRT connection via spur trail with Trinidad Lake State Park |
| 16 | Trailhead | Trinidad Lake State Park (Main Entrance) - Byway and CFRT maps and information | Incorporate with CFRT signage and trailhead facilities |
| 17 | Rest Area | I-25 El Moro Rest Area (Existing) - Add SHOL and CFRT information and maps | None |

Technology Features

CDOT leverages statewide planning efforts to coordinate statewide priorities for future technologies that save lives and reduce congestion. The overarching plan is called the Smart Mobility Plan. This plan, currently under development, identifies areas of opportunities where technologies, both established and emerging, could benefit highways and corridors throughout the State, such as the US 160 and SH 12 Corridor.

CDOT's Smart Mobility Plan is a multi-year plan for the delivery of technologies across the State. Corridors within connected regions, with high traffic volumes, and linking major metro areas (such as Interstates) are the highest priority for deployment and build-out. Given its relatively low traffic volumes, needs, and technology deployment opportunities, it is not envisioned that the Study Corridor will be a priority.

While not envisioned as a likely priority, opportunities for the consideration of technologies within the Study Corridor, depending on funding and other priorities within the state and region, could include:

- **Fiber Optic Cable** - If possible, in coordination with highway widening and safety improvements or on-highway trail improvements, as appropriate, CDOT should coordinate with local telecommunications providers to consider jointly constructing fiber cable along the US 160 and SH 12 right-of-way.
- **Roadway Weather Information System (RWIS)** - CDOT should evaluate opportunities to utilize sensors within the Corridor to measure weather and pavement conditions and communicate adverse weather alerts to travelers along SH 12 and within the region through roadside variable message signs or other means.

Level 2 Alternatives Evaluation

Based on the more detailed and localized studies, an evaluation was performed for the Level 2 Alternatives. **Tables 12** thru **18** present the evaluation for the Vista, Alpine and Mining Segments. As shown, the Level 2 evaluation included a combination of quantifiable and qualitative measures. To compare each alternative's relative ability to address each factor, the evaluation was color coded based on the degree of benefits or impacts - high, moderate or low. Based on an overall preponderance of the evaluation, a summary of findings was provided for each alternative by segment. As shown, the findings include:

- **Recommended** - Alternative satisfactorily addresses the project needs, has relatively higher benefits and lower impacts, and consequently is recommended to be studied further in subsequent studies and preliminary design activities.
- **Not Recommended** - Alternative satisfactorily addresses the project needs but is not recommended for further consideration due to comparatively lower benefits or higher impacts.

Table 12: Vista Level 2 Evaluation (1 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Vista Segment) | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | | | | |
|--|--|--|--|--|---|---|---|---|---|
| Evaluation Issue | Need/Goal | Measure | | Alternative 3A On-highway Trail (Attached) | Alternative 3B On-highway Trail (Separated) | Alternative 4A Off-Highway Trail (Rails-w-Trails) | Alternative 4B Off-Highway Trail (CR 340/358) | Alternative 4C Off-Highway Trail (CR 340/342) | |
| Purpose and Need | Safety | Reduce Lane Departure Crashes | Number of Reduced Crashes | No changes to physical conditions and crashes would not be reduced | Shoulder widening would reduce around 1 crash per year | Shoulder widening would reduce around 1 crash per year | Shoulder widening would reduce around 1 crash per year | Shoulder widening would reduce around 1 crash per year | Shoulder widening would reduce around 1 crash per year |
| | | Reduce Rear-end Crashes | Ability to Reduce Crashes | No changes to physical conditions and crashes would not be reduced | Safety improvements at Walsenburg RR crossing would reduce the risk of crashes | Safety improvements at Walsenburg RR crossing would reduce the risk of crashes | Safety improvements at Walsenburg RR crossing would reduce the risk of crashes | Safety improvements at Walsenburg RR crossing would reduce the risk of crashes | Safety improvements at Walsenburg RR crossing would reduce the risk of crashes |
| | | Improve Bicyclist Safety | Degree of Improved Bicyclist Safety Along the Roadway | No changes to physical conditions and on-road bicyclist safety would not be improved | Additional (8 ft.) shoulder width would provide a moderate improvement to on-road bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety |
| | | Improve Pedestrian Safety | Degree of Improved Safety at Existing Pedestrian Crossing Locations | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | Regional/ Local Trail System | Accommodate Non-motorized Users (All Users and Abilities) | % of Full-Width Trail Route with Vertical Grade < 6% to Accommodate all Abilities | Accommodations for non-motorized users would not be provided | Majority (98%) of trail route would provide vertical grades < 6% | Majority (98%) of trail route would provide vertical grades < 6% | The trail route would provide vertical grades < 6% for its entire length | Due to ridge along CR 358, roughly 90% of trail route would provide vertical grades < 6% | Due to ridge along CR 342, roughly 90% of trail route would provide vertical grades < 6% |
| | | | % of Full-Width Trail Route Providing LTS < 3 | Accommodations for non-motorized users would not be provided | 40% of trail route would provide LTS < 3 due to high ADT (Avg. Daily Traffic) and posted speed along US 160 | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length |
| | | Connect to Existing Trails and Attractions | Number of Community Connections (Walsenburg) | A trail would not be provided | Trail connection to Walsenburg would be provided via Lathrop SP | Trail connection to Walsenburg would be provided via Lathrop SP | Trail connection to Walsenburg would be provided via Lathrop SP | Trail connection to Walsenburg would be provided via Lathrop SP | Trail connection to Walsenburg would be provided via Lathrop SP |
| | | | Number of Trailhead and Recreation Area Connections (Lathrop SP, Daigre SWMA, Wahatoya SWMA) | A trail would not be provided | Trail connection (1) would be provided to Lathrop SP | Trail connection (1) would be provided to Lathrop SP | Trail connection (1) would be provided to Lathrop SP | Trail connections (3) would be provided to Lathrop SP and the two SWMAs | Trail connection (1) would be provided to Lathrop SP |
| | Connect to Existing Trails and Attractions | Number of Geologic Landmark Connections (Big Wall) | A trail would not be provided | Trail connections to the Big Wall would not be provided | Trail connections to the Big Wall would not be provided | Trail connections to the Big Wall would not be provided | Trail connections to the Big Wall would not be provided | Trail connections to the Big Wall would not be provided | |
| | | Number of Byway Amenity Connections (Lathrop SP, US 160/CR 450 Pull-off) | A trail would not be provided | Trail connection (1) would be provided to Lathrop SP | Trail connection (1) would be provided to Lathrop SP | Trail connection (1) would be provided to Lathrop SP | Trail connection (1) would be provided to Lathrop SP | Trail connection (1) would be provided to Lathrop SP | |
| Environmental Considerations | Environmental Compliance and Stewardship | Biological Impacts | Ability to Avoid and Minimize Impacts to Wetlands/ Waters of US | No impacts would be incurred | Some wetlands adjacent to the roadway in the Lathrop State Park Area and the north side of La Veta | Some wetlands adjacent to the roadway in the Lathrop State Park Area and the north side of La Veta | Rail line is located with the floodplain of the Cucharas River - areas with a high number of wetlands | Trail alignment follows a County Road that does not have many adjacent wetlands | Trail alignment follows a County Road that does not have many adjacent wetlands |
| | | Cultural Impacts | Ability to Avoid and Minimize Impacts to Cultural Resources | No impacts would be incurred | There are many cultural sites adjacent to this alignment | There are many cultural sites adjacent to this alignment | There are many cultural sites adjacent to this alignment | There are many cultural sites adjacent to this alignment | |
| | | Community Impacts | Ability to Avoid and Minimize Impacts to Businesses/Residences | No impacts would be incurred | Trail would mostly occur within the transportation right-of-way of US 160 and SH 12. | Trail would mostly occur within the transportation right-of-way of US 160 and SH 12. | Trail would mostly occur within railroad right-of-way | Trail would mostly occur within the transportation right-of-way of County roads. | Trail would mostly occur within the transportation right-of-way of County roads. |
| | | Maximize Use of Public Lands for Trail | Ability to Utilize Public Lands for Trail Route | A trail would not be provided | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | Low ability to utilize public lands as trail would be located within existing RR ROW | High ability to utilize public lands as trail would be located mostly within existing County ROW | High ability to utilize public lands as trail would be located mostly within existing County ROW |

Green = Comparatively beneficial and/or low impacts

Black = Comparatively neutral benefits and/or moderate impacts

Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 12: Vista Level 2 Evaluation (2 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Vista Segment) | | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | | | |
|--|---|---|--|---|--|---|--|---|---|
| Evaluation Issue | Need/Goal | Measure | Alternative 3A On-highway Trail (Attached) | | Alternative 3B On-highway Trail (Separated) | Alternative 4A Off-Highway Trail (Rails-w-Trails) | Alternative 4B Off-Highway Trail (CR 340/358) | Alternative 4C Off-Highway Trail (CR 340/342) | |
| Additional Information for Comparing Alternatives | | | | | | | | | |
| Feasibility | Ability to Phase and Construct Trail Improvements | Reduce Challenges of Trail ROW Acquisition | Relative Measure of Ease and Likely Acceptability of Trail ROW Acquisition | A trail would not be provided | Due to trail route along highway with sufficient ROW width, high acceptability of ROW acquisition | High acceptability due to limited ROW likely being required along SH 12 between US 160 and La Veta | Due to current RR ownership liability concerns, very low acceptability of ROW acquisition | Medium acceptability due to limited ROW likely being required along county roads | Medium acceptability due to limited ROW likely being required along county roads |
| | | Build Trail in Manageable and Functional Phases | Ability to Build Trail in Fundable Phases with Sections of Independent Utility (SIU) | A trail would not be provided | High ability to build the trail in useful SIU along with phased highway safety construction | Medium ability to build the trail in useful SIU and separate from highway safety construction - two functional phases | Low ability to build the trail in useful SIU and separate from highway safety construction - one functional phase (must build full trail length) | Low ability to build the trail in useful SIU and separate from highway safety construction - one functional phase (must build full trail length) | Low ability to build the trail in useful SIU and separate from highway safety construction - one functional phase (must build full trail length) |
| | | Applicability of Securing Trail Funding | Opportunity to Secure Additional Trail Funding Sources | A trail would not be provided | Building trail would be integral to safety improvements and high opportunity of securing incremental additional funding | Building trail could be integral to safety improvements, being located within CDOT ROW, and medium opportunity of securing incremental additional funding | Medium opportunity due to rails-with-trails concept providing additional potential funding sources from rails-and-trails advocacy agencies | Low additional opportunity due to full independence from CDOT safety improvements | Low additional opportunity due to full independence from CDOT safety improvements |
| Other | Additional Information for Comparison Purposes | Highway Construction Costs (millions) | | No highway construction | \$3 to \$4 | \$2 to \$3 | \$2 to \$3 | \$2 to \$3 | \$2 to \$3 |
| | | Trail Construction Costs (millions) | | A trail would not be provided - no trail construction | \$0 | \$4 to \$5 | \$4 to \$5 | \$6 to \$7 | \$6 to \$7 |
| | | Ability to Integrate Trail with CDOT Roadway Maintenance (% of Trail within CDOT ROW) and Ease of Maintenance | | A trail would not be provided | High ability to maintain trail with normal CDOT maintenance activities (100%) | Medium ability to maintain trail with normal CDOT maintenance as trail would be separate from the roadway but generally within ROW (100%) | Low ability to maintain trail with normal CDOT maintenance activities as trail is mostly outside ROW (5% est.) and maintenance arrangements would be required | Low ability to maintain trail with normal CDOT maintenance activities as trail is mostly outside ROW (10% est.) and maintenance arrangements would be required | Low ability to maintain trail with normal CDOT maintenance activities as trail is mostly outside ROW (10% est.) and maintenance arrangements would be required |
| | | Number of Highway/Trail Crossings | | A trail would not be provided | A minimum of 2 crossings would be required (1 in each trail direction) for US 160 | A minimum of 1 crossing would be required for US 160 | A minimum of 1 crossing would be required for US 160 | A minimum of 1 crossing would be required for US 160 | A minimum of 1 crossing would be required for US 160 |
| | | Number of Public Restroom/Refuge Sites | | A trail would not be provided | Public facilities (1) would be provided at the Lathrop SP trailhead, in coordination with the CPW | Public facilities (1) would be provided at the Lathrop SP trailhead, in coordination with the CPW | Public facilities (1) would be provided at the Lathrop SP trailhead, in coordination with the CPW | Public facilities (2) would be provided at the Lathrop SP trailhead and SWMA sites, in coordination with the CPW | Public facilities (1) would be provided at the Lathrop SP trailhead, in coordination with the CPW |
| | | Agency/Public Stakeholder Support | | Low support because no trail would be provided | Medium support because the trail would not fully accommodate all users and abilities | High support because the trail would fully accommodate all users and abilities | Higher support because the trail would fully accommodate all users and abilities along a new and appealing route | Higher support because the trail would fully accommodate all users and abilities along a new and appealing route | Higher support because the trail would fully accommodate all users and abilities along a new and appealing route |
| Summary of Results | | | | CARRIED FORWARD | RECOMMENDED | RECOMMENDED | RECOMMENDED | NOT RECOMMENDED | NOT RECOMMENDED |
| Notes | | | | The No-Build Alternative is carried forward into subsequent studies for comparison purposes with the benefits and impacts of the recommended alternatives | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide partial accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide full accommodations and partial connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability due to route being mostly within CDOT ROW | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide full accommodations and partial connections for trail users, 2) have mitigable potential environmental impacts, and 3) could have medium implementability depending on potential changes in RR ownership | This alternative is not recommended because of the incompatibility of the trail concept with maintenance activities along the county roads and the incongruity of an improved trail adjacent to an unimproved roadway | This alternative is not recommended because of the incompatibility of the trail concept with maintenance activities along the county roads and the incongruity of an improved trail adjacent to an unimproved roadway |
| Outstanding Issues | | | | None | This alternative would not fully accommodate all trail users and abilities due to level of traffic stress and user safety. A trail spur connection to the SWMA sites needs to be considered. | Grade-separated trail crossings of US 160 need to be evaluated for user safety. A trail spur connection to the SWMA sites needs to be considered. | This alternative is contingent upon changes in current RR ownership and an acceptable joint use agreement and maintenance arrangements. A trail connection to the SWMA sites needs to be considered. | None | None |

Green = Comparatively beneficial and/or low impacts
 Black = Comparatively neutral benefits and/or moderate impacts
 Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 13: Alpine 1 Level 2 Evaluation (1 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 1 Subsegment) | | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | |
|--|--|---|---|--|--|---|
| Evaluation Issue | Need/Goal | Measure | Alternative 3A On-Highway Trail (Attached) | | Alternative 3B On-Highway Trail (Separated) | |
| Purpose and Need | Safety | Reduce Lane Departure Crashes | Number of Reduced Crashes | No changes to physical conditions and crashes would not be reduced | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year |
| | | Reduce Rear-end Crashes | Ability to Reduce Crashes | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | Improve Bicyclist Safety | Degree of Improved Bicyclist Safety Along the Roadway | No changes to physical conditions and on-road bicyclist safety would not be improved | Additional (8 ft.) shoulder width would provide a moderate improvement to on-road bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety |
| | | Improve Pedestrian Safety | Degree of Improved Safety at Existing Pedestrian Crossing Locations | No changes to physical conditions and pedestrian safety in La Veta | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in La Veta | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in La Veta |
| | Regional/ Local Trail System | Accommodate Non-motorized Users (All Users and Abilities) | % of Full-Width Trail Route with Vertical Grade < 6% to Accommodate all Abilities | Accommodations for non-motorized users would not be provided | 100% of trail route (not including very short sections) would provide vertical grades < 6% | 100% of trail route (not including very short sections) would provide vertical grades < 6% |
| | | | % of Full-Width Trail Route Providing LTS < 3 | Accommodations for non-motorized users would not be provided | 100% of trail route would provide LTS < 3 due to low ADT (Avg. Daily Traffic) | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length |
| | | Connect to Existing Trails and Attractions | Number of Community Connections (La Veta) | A trail would not be provided | Trail connections to La Veta would be provided | Trail connections to La Veta would be provided |
| | | | Number of Trailhead and Recreation Area Connections | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | | Number of Geologic Landmark Connections (Profile Rock and Devils Staircase) | A trail would not be provided | Trail connections to both geologic landmarks would be provided | Trail connections to both geologic landmarks would be provided |
| | | | Number of Byway Amenity Connections (La Veta, Profile Rock and Devils Staircase) | A trail would not be provided | Trail connections to all 3 amenities sites would be provided | Trail connections to all 3 amenities sites would be provided |
| Environmental Compliance and Stewardship | Biological Impacts | Ability to Avoid and Minimize Impacts to Wetlands/ Waters of US | No impacts would be incurred | There are 3 Cucharas River crossings with minimal impacts anticipated | There are 3 Cucharas River crossings with minimal impacts anticipated | |
| | Cultural Impacts | Ability to Avoid and Minimize Impacts to Cultural Resources | No impacts would be incurred | Bike lane within SH 12 roadway has minimal potential to impact cultural properties in La Veta | Separated trail along SH 12 has moderate potential to impact cultural properties in La Veta | |
| | Community Impacts | Ability to Avoid and Minimize Impacts to Businesses/Residences | No impacts would be incurred | Bike lane within SH 12 roadway has minimal potential to impact adjacent properties in La Veta | Separated trail along SH 12 has moderate potential to impact adjacent properties in La Veta | |
| | Maximize Use of Public Lands for Trail | Ability to Utilize Public Lands for Trail Route | A trail would not be provided | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | |

Green = Comparatively beneficial and/or low impacts

Black = Comparatively neutral benefits and/or moderate impacts

Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 13: Alpine 1 Level 2 Evaluation (2 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 1 Subsegment) | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | |
|--|---|---|---|--|--|---|
| Evaluation Issue | Need/Goal | Measure | | Alternative 3A On-Highway Trail (Attached) | Alternative 3B On-Highway Trail (Separated) | |
| Additional Information for Comparing Alternatives | | | | | | |
| Feasibility | Ability to Phase and Construct Trail Improvements | Reduce Challenges of Trail ROW Acquisition | Relative Measure of Ease and Likely Acceptability of Trail ROW Acquisition | A trail would not be provided | Due to trail route along highway with 60' to 100' ROW width, high acceptability of ROW acquisition | Low ability within La Veta due to space constraints for separated trail and medium acceptability south of La Veta due to some ROW likely being required |
| | | Build Trail in Manageable and Functional Phases | Ability to Build Trail in Fundable Phases with Independent Utility | A trail would not be provided | High ability to build the trail in useful segments along with phased highway safety construction | Medium ability to build the trail in useful segments and separate from highway safety construction |
| | | Applicability of Securing Trail Funding | Opportunity to Secure Additional Trail Funding Sources | A trail would not be provided | Building trail would be integral to safety improvements and high opportunity of securing incremental additional funding | Building trail could be integral to safety improvements, being located within CDOT ROW, and medium opportunity of securing incremental additional funding |
| Other | Additional Information for Comparison Purposes | Highway Construction Costs (millions) | | No highway construction | \$12 to \$16 | \$11 to \$15 |
| | | Trail Construction Costs (millions) | | A trail would not be provided - no trail construction | \$0 | \$4 to \$5 |
| | | Ability to Integrate Trail with CDOT Roadway Maintenance (% of Trail within CDOT ROW) and Ease of Maintenance | | A trail would not be provided | High ability to maintain trail with normal CDOT maintenance activities (100%) | Medium ability to maintain trail with normal CDOT maintenance as trail would be separate from the roadway but within CDOT ROW (100%) |
| | | Number of Highway/Trail At-grade Crossings | | A trail would not be provided | No crossings of SH 12 would be required | No crossings of SH 12 would be required |
| | | Number of Public Restroom/Refuge Sites | | A trail would not be provided | Public facilities would be provided in La Veta | Public facilities would be provided in La Veta |
| | | Agency/Public Stakeholder Support | | Low support because no trail would be provided | High support because the trail would accommodate all users and abilities | High support because the trail would accommodate all users and abilities |
| Summary of Results | | | CARRIED FORWARD | RECOMMENDED | RECOMMENDED | |
| Notes | | | The No-Build Alternative is carried forward into subsequent studies for comparison purposes with the benefits and impacts of the recommended alternatives | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability due to route mostly within CDOT ROW | |
| Outstanding Issues | | | None | None | Within La Veta this alternative would have higher potential property impacts due to the tight ROW and would not provide additional trail user benefits due to low posted speeds and lack of need for trail separation | |

Green = Comparatively beneficial and/or low impacts

Black = Comparatively neutral benefits and/or moderate impacts

Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 14: Alpine 2 Level 2 Evaluation (1 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 2 Subsegment) | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | | | | | |
|--|--|---|---|--|--|---|---|---|---|---|
| Evaluation Issue | Need/Goal | Measure | | Alternative 3A On-Highway Trail (Attached) | Alternative 3B On-Highway Trail (Separated) | Alternative 4A Off-Highway Trail (Ridge) | Alternative 4B Off-Highway Trail (River) | Alternative 4C Off-Highway Trail (BB Lakes) | Alternative 4D Off-Highway Trail (River+BB Lakes) | |
| Purpose and Need | Safety | Reduce Lane Departure Crashes | Number of Reduced Crashes | No changes to physical conditions and crashes would not be reduced | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year |
| | | Reduce Rear-end Crashes | Ability to Reduce Crashes | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | Improve Bicyclist Safety | Degree of Improved Bicyclist Safety Along the Roadway | No changes to physical conditions and on-road bicyclist safety would not be improved | Additional (8 ft.) shoulder width would provide a moderate improvement to on-road bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety |
| | | Improve Pedestrian Safety | Degree of Improved Safety at Existing Pedestrian Crossing Locations | No changes to physical conditions and pedestrian safety in Cuchara would not be improved | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in Cuchara | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in Cuchara | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in Cuchara | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in Cuchara | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in Cuchara | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in Cuchara |
| | Regional/ Local Trail System | Accommodate Non-motorized Users (All Users and Abilities) | % of Full-Width Trail Route with Vertical Grade < 6% to Accommodate all Abilities | Accommodations for non-motorized users would not be provided | Due to Cucharas Pass, roughly 25% of trail route would provide vertical grades < 6% | Due to Cucharas Pass, roughly 25% of trail route would provide vertical grades < 6% | Due to greater route flexibility, 100% of trail route would provide vertical grades < 6% | Due to Cucharas Pass, roughly 60% of trail route would provide vertical grades < 6% | Due to Cucharas Pass, roughly 75% of trail route would provide vertical grades < 6% | Due to greater route flexibility, 90% of trail route would provide vertical grades < 6% |
| | | | % of Full-Width Trail Route Providing LTS < 3 | Accommodations for non-motorized users would not be provided | 100% of trail route would provide LTS < 3 due to low ADT (Avg. Daily Traffic) | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length |
| | | Connect to Existing Trails and Attractions | Number of Community Connections (Cuchara and Mnt Resort) | A trail would not be provided | Trail connections to both communities would be provided | Trail connections to both communities would be provided | Trail connections to both communities would not be provided | Trail connections to both communities would be provided | Trail connections to both communities would be provided | Trail connections to both communities would be provided |
| | | | Number of Trailhead and Recreation Area Connections (Spring Creek TH, Dikes Trail TH, Blue/Bear Lakes TH) | A trail would not be provided | Trail connections to all 3 trailheads would be provided | Trail connections to all 3 trailheads would be provided | Trail connections to all 3 trailheads would not be provided | Trail connections to all 3 trailheads would be provided | Trail connections to all 3 trailheads would be provided | Trail connections to all 3 trailheads would be provided |
| | | | Number of Geologic Landmark Connections | There are no geologic landmarks in this segment | There are no geologic landmarks in this segment | There are no geologic landmarks in this segment | There are no geologic landmarks in this segment | There are no geologic landmarks in this segment | There are no geologic landmarks in this segment | There are no geologic landmarks in this segment |
| | | | Number of Byway Amenity Connections (Cuchara and Cucharas Pass) | A trail would not be provided | Trail connections to both Byway amenity sites would be provided | Trail connections to both Byway amenity sites would be provided | Trail connections to only Cucharas Pass would be provided | Trail connections to both Byway amenity sites would be provided | Trail connections to both Byway amenity sites would be provided | Trail connections to both Byway amenity sites would be provided |
| Environmental Considerations | Environmental Compliance and Stewardship | Biological Impacts | Ability to Avoid and Minimize Impacts to Wetlands/ Waters of US | No impacts would be incurred | Through the Town of Cuchara, there are some wetlands along SH 12 | Through the Town of Cuchara, there are some wetlands along SH 12 | Through the Town of Cuchara, the trail would occur on the ridge to the east of town | Through the Town of Cuchara, the trail would occur within the Cucharas River floodplain | Through the Town of Cuchara, there are some wetlands along SH 12 | Through the Town of Cuchara, the trail would occur within the Cucharas River floodplain |
| | | Cultural Impacts | Ability to Avoid and Minimize Impacts to Cultural Resources | No impacts would be incurred | Trail alignment along SH 12 has potential to impact cultural properties within the Town of Cuchara | Trail alignment along SH 12 has potential to impact cultural properties within the Town of Cuchara | Less impacts to cultural properties expected along the Ridge to the east of Cuchara | Trail alignment would occur along the Cuchara River and potentially impact cultural properties within the Town. This alignment would not occur along an existing roadway. | Trail alignment along SH 12 has potential to impact cultural properties within the Town of Cuchara | Trail alignment would occur along the Cuchara River and potentially impact cultural properties within the Town. This alignment would not occur along an existing roadway. |
| | | Community Impacts | Ability to Avoid and Minimize Impacts to Businesses/Residences | No impacts would be incurred | Trail alignment along SH 12 has potential to impact adjacent properties within the Town of Cuchara | Trail alignment along SH 12 has potential to impact adjacent properties within the Town of Cuchara | The ridge to the east of Cuchara is owned by the U.S. Forest Service | Trail alignment has the potential to impact the most properties within the Town of Cuchara | Trail alignment along SH 12 has potential to impact adjacent properties within the Town of Cuchara and off-highway route to Cucharas Pass is owned by U.S. Forest Service | Trail alignment has the potential to impact the most properties within the Town of Cuchara |
| | | Maximize Use of Public Lands for Trail | Ability to Utilize Public Lands for Trail Route | A trail would not be provided | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | High ability to utilize public lands as off-highway trail would be located in USFS property | Low ability to utilize public lands as off-highway trail would be located mostly within private property with limited use of USFS property | High ability to utilize public lands as off-highway trail would be located in USFS property | Low ability to utilize public lands as off-highway property with some use of USFS property north of Cucharas Pass |

Green = Comparatively beneficial and/or low impacts
 Black = Comparatively neutral benefits and/or moderate impacts
 Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 14: Alpine 2 Level 2 Evaluation (2 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 2 Subsegment) | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | | | | | |
|--|---|---|---|--|--|---|---|---|---|--|
| Evaluation Issue | Need/Goal | Measure | | Alternative 3A On-Highway Trail (Attached) | Alternative 3B On-Highway Trail (Separated) | Alternative 4A Off-Highway Trail (Ridge) | Alternative 4B Off-Highway Trail (River) | Alternative 4C Off-Highway Trail (BB Lakes) | Alternative 4D Off-Highway Trail (River+BB Lakes) | |
| Additional Information for Comparing Alternatives | | | | | | | | | | |
| Feasibility | Ability to Phase and Construct Trail Improvements | Reduce Challenges of Trail ROW Acquisition | Relative Measure of Ease and Likely Acceptability of Trail ROW Acquisition | A trail would not be provided | Due to trail route along highway with sufficient ROW width, high acceptability of ROW acquisition | Medium acceptability due to some ROW likely being required along SH 12 near Cuchara | Due to trail route within U.S. Forest Service property, high acceptability of ROW acquisition | Low acceptability due to a higher number of parcels likely being required near Cuchara along Cucharas River floodplain | Medium acceptability due to some ROW likely being required along SH 12 near Cuchara and off highway route within U.S. Forest Service property | Low acceptability due to a higher number of parcels likely being required near Cuchara along Cucharas River floodplain |
| | | Build Trail in Manageable and Functional Phases | Ability to Build Trail in Fundable Phases with Independent Utility | A trail would not be provided | High ability to build the trail in useful SIU along with phased highway safety construction | Medium ability to build the trail in useful segments and separate from highway safety construction - multiple functional phases between communities and destinations | Medium ability to build the trail in useful segments as trail is located fully off the highway could be built in two useful phases | Medium ability to build the trail in useful segments and separate from highway safety construction - multiple functional phases between communities and destinations | Medium ability to build the trail in useful segments and separate from highway safety construction - multiple functional phases between communities and destinations | Medium ability to build the trail in useful segments and separate from highway safety construction - multiple functional phases between communities and destinations |
| | | Applicability of Securing Trail Funding | Opportunity to Secure Additional Trail Funding Sources | A trail would not be provided | Building trail would be integral to safety improvements and high opportunity of securing incremental additional funding | Building trail could be integral to safety improvements, being located within CDOT ROW, and medium opportunity of securing incremental additional funding | Building phases of trail outside of CDOT ROW would not be integral to safety improvements but U.S. Forest Service partnership could increase funding sources, presenting medium opportunity | Building phases of trail outside of CDOT ROW would not be integral to safety improvements, presenting low opportunity of securing incremental additional funding | Building phases of trail outside of CDOT ROW would not be integral to safety improvements but U.S. Forest Service partnership could increase funding sources, presenting medium opportunity | Building phases of trail outside of CDOT ROW would not be integral to safety improvements, presenting low opportunity of securing incremental additional funding |
| Other | Additional Information for Comparison Purposes | Highway Construction Costs (millions) | No highway construction | \$8 to \$11 | \$6 to \$8 | \$6 to \$8 | \$6 to \$8 | \$6 to \$8 | \$6 to \$8 | |
| | | Trail Construction Costs (millions) | A trail would not be provided - no trail construction | \$0 | \$3 to \$4 | \$2 to \$3 | \$2 to \$3 | \$2 to \$3 | \$3 to \$4 | |
| | | Ability to Integrate Trail with CDOT Roadway Maintenance (% of Trail within CDOT ROW) and Ease of Maintenance | A trail would not be provided | High ability to maintain trail with normal CDOT maintenance activities (100%) | Medium ability to maintain trail with normal CDOT maintenance as trail would be separate from the roadway but within CDOT ROW (100%) | Low ability to maintain trail with normal CDOT maintenance as most of trail would be separate from the roadway alignment (0% within CDOT ROW) | Low ability to maintain trail with normal CDOT maintenance as most of trail would be separate from the roadway alignment (40% within CDOT ROW) | Low ability to maintain trail with normal CDOT maintenance as most of trail would be separate from the roadway alignment (75% within CDOT ROW) | Low ability to maintain trail with normal CDOT maintenance as most of trail would be separate from the roadway alignment (15% within CDOT ROW) | |
| | | Number of Highway/Trail At-grade Crossings | A trail would not be provided | No crossings of SH 12 would be required | No crossings of SH 12 would be required | Two crossings of SH 12 would be required | Two crossings of SH 12 would be required | Two crossings of SH 12 would be required | | |
| | | Number of Public Restroom/Refuge Sites | A trail would not be provided | Public facilities would be provided at three locations (Cuchara, Spring Creek TH, Blue/Bear Lakes TH) | Public facilities would be provided at three locations (Cuchara, Spring Creek TH, Blue/Bear Lakes TH) | Public facilities would not be provided | Public facilities would be provided at three locations (Cuchara, Spring Creek TH, Blue/Bear Lakes TH) | Public facilities would be provided at three locations (Cuchara, Spring Creek TH, Blue/Bear Lakes TH) | Public facilities would be provided at three locations (Cuchara, Spring Creek TH, Blue/Bear Lakes TH) | |
| | | Agency/Public Stakeholder Support | Low support because no trail would be provided | Medium support because the trail would not fully accommodate all users and abilities | High support because the trail would more fully accommodate all users and abilities, except for the steeper grades at Cucharas Pass | Higher support because the trail would fully accommodate all users and abilities along a new and appealing route | Low support because trail would likely require ROW from multiple privately owned parcels, especially near Cuchara | High support because the trail would more fully accommodate all users and abilities, except for the steeper grades at Cucharas Pass | Low support because trail would likely require ROW from multiple privately owned parcels, especially near Cuchara | |
| Summary of Results | | | CARRIED FORWARD | RECOMMENDED | RECOMMENDED | RECOMMENDED | NOT RECOMMENDED | RECOMMENDED | NOT RECOMMENDED | |
| Notes | | | The No-Build Alternative is carried forward into subsequent studies for comparison purposes with the benefits and impacts of the recommended alternatives | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability due to route mostly within CDOT ROW | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users (assuming a connection with and improvements to the Dikes Trail), 2) have mitigable potential environmental impacts, and 3) have medium implementability due to route mostly within U.S. Forest Service property | This alternative is not recommended because of higher environmental impacts, higher number of property parcel impacts and low implementability | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have medium implementability due to route mostly within CDOT ROW and U.S. Forest Service property | This alternative is not recommended because of higher environmental impacts, higher number of property parcel impacts and low implementability | |
| Outstanding Issues | | | None | This alternative would not fully accommodate all trail users and abilities along SH 12 at Cucharas Pass due to high vertical grades. Other trail concepts need to be considered in this area. | This alternative would not fully accommodate all trail users and abilities along SH 12 at Cucharas Pass due to high vertical grades. Other trail concepts need to be considered in this area. | This alternative is contingent upon the acceptability of use arrangements with the USFS. Trail spur connections to Cuchara and Cuchara Mtn Resort and nearby trailheads need to be evaluated for full connections. | None | This alternative is contingent upon the acceptability of use arrangements with the USFS and private landholdings. | None | |

Green = Comparatively beneficial and/or low impacts
 Black = Comparatively neutral benefits and/or moderate impacts
 Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 15: Alpine 3 Level 2 Evaluation (1 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 3 Subsegment) | | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | |
|--|--|---|---|--|--|---|---|
| Evaluation Issue | Need/Goal | Measure | Alternative 3A On-Highway Trail (Attached) | | Alternative 3B On-Highway Trail (Separated) | Alternative 4A Off-Highway Trail (Meadow) | |
| Purpose and Need | Safety | Reduce Lane Departure Crashes | Number of Reduced Crashes | No changes to physical conditions and crashes would not be reduced | Shoulder widening and North Lake Curve improvements would reduce less than 1 crash per year | Shoulder widening and North Lake Curve improvements would reduce less than 1 crash per year | Shoulder widening and North Lake Curve improvements would reduce less than 1 crash per year |
| | | Reduce Rear-end Crashes | Ability to Reduce Crashes | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | Improve Bicyclist Safety | Degree of Improved Bicyclist Safety Along the Roadway | No changes to physical conditions and on-road bicyclist safety would not be improved | Additional (8 ft.) shoulder width would provide a moderate improvement to on-road bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety |
| | | Improve Pedestrian Safety | Degree of Improved Safety at Existing Pedestrian Crossing Locations | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | Regional/ Local Trail System | Accommodate Non-motorized Users (All Users and Abilities) | % of Full-Width Trail Route with Vertical Grade < 6% to Accommodate all Abilities | Accommodations for non-motorized users would not be provided | Due to Cucharas Pass, roughly 35% of trail route would provide vertical grades < 6% | Due to Cucharas Pass, roughly 35% of trail route would provide vertical grades < 6% | Due to greater route flexibility, 100% of trail route would provide vertical grades < 6% |
| | | | % of Full-Width Trail Route Providing LTS < 3 | Accommodations for non-motorized users would not be provided | 100% of trail route would provide LTS < 3 due to low ADT (Avg. Daily Traffic) | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length |
| | | Connect to Existing Trails and Attractions | Number of Community Connections | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | | Number of Trailhead and Recreation Area Connections (North Lake SWMA) | A trail would not be provided | Trail connections would be provided | Trail connections would be provided | Trail connections would be provided |
| | | | Number of Geologic Landmark Connections | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | | Number of Byway Amenity Connections (Cucharas Pass and North Lake) | A trail would not be provided | Trail connections to both Byway amenity sites would be provided | Trail connections to both Byway amenity sites would be provided | Trail connections to both Byway amenity sites would be provided |
| Environmental Compliance and Stewardship | Environmental Compliance and Stewardship | Biological Impacts | Ability to Avoid and Minimize Impacts to Wetlands/ Waters of US | No impacts would be incurred | Minimal impacts with 4 creek crossings | Minimal impacts with 4 creek crossings | Minimal impacts with 4 creek crossings |
| | | Cultural Impacts | Ability to Avoid and Minimize Impacts to Cultural Resources | No impacts would be incurred | Minimal cultural resources located within this segment | Minimal cultural resources located within this segment | Minimal cultural resources located within this segment |
| | | Community Impacts | Ability to Avoid and Minimize Impacts to Businesses/Residences | No impacts would be incurred | No communities located within this segment | No communities located within this segment | No communities located within this segment |
| | | Maximize Use of Public Lands for Trail | Ability to Utilize Public Lands for Trail Route | A trail would not be provided | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | Low ability to utilize public lands as off-highway trail would be located mostly within private property |

Green = Comparatively beneficial and/or low impacts

Black = Comparatively neutral benefits and/or moderate impacts

Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 15: Alpine 3 Level 2 Evaluation (2 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 3 Subsegment) | | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | |
|--|--|---|--|---|--|--|---|
| Evaluation Issue | Need/Goal | Measure | Alternative 3A On-Highway Trail (Attached) | | Alternative 3B On-Highway Trail (Separated) | Alternative 4A Off-Highway Trail (Meadow) | |
| Additional Information for Comparing Alternatives | | | | | | | |
| Feasibility | Ability to Phase and Construct Trail Improvements | Reduce Challenges of Trail ROW Acquisition | Relative Measure of Ease and Likely Acceptability of Trail ROW Acquisition | A trail would not be provided | Due to trail route along highway with sufficient ROW width, high acceptability of ROW acquisition | Due to trail route along CDOT ROW with sufficient width (> 130 feet), high acceptability of ROW acquisition | Low acceptability due to ROW being required from a number of large private land holdings |
| | | Build Trail in Manageable and Functional Phases | Ability to Build Trail in Fundable Phases with Independent Utility | A trail would not be provided | High ability to build the trail in useful segments along with phased highway safety construction | Medium ability to build the trail in useful segments and separate from highway safety construction | Medium ability to build the trail in useful segments and separate from highway safety construction |
| | | Applicability of Securing Trail Funding | Opportunity to Secure Additional Trail Funding Sources | A trail would not be provided | Building trail would be integral to safety improvements and high opportunity of securing incremental additional funding | Building trail could be integral to safety improvements, being located within CDOT ROW, and medium opportunity of securing incremental additional funding | Building phases of trail outside of CDOT ROW would not be integral to safety improvements, presenting low opportunity of securing incremental additional funding |
| Other | Additional Information for Comparison Purposes | Highway Construction Costs (millions) | | No highway construction | \$4 to \$6 | \$3 to \$4 | \$3 to \$4 |
| | | Trail Construction Costs (millions) | | A trail would not be provided - no trail construction | \$0 | \$3 to \$4 | \$3 to \$4 |
| | | Ability to Integrate Trail with CDOT Roadway Maintenance (% of Trail within CDOT ROW) and Ease of Maintenance | | A trail would not be provided | High ability to maintain trail with normal CDOT maintenance activities (100%) | Medium ability to maintain trail with normal CDOT maintenance as trail would be separate from the roadway but within CDOT ROW (100%) | Low ability to maintain trail with normal CDOT maintenance as most of trail would be separate from the roadway alignment (0% within CDOT ROW) |
| | | Number of Highway/Trail At-grade Crossings | | A trail would not be provided | No crossings of SH 12 would be required | No crossings of SH 12 would be required | Two crossings of SH 12 would be required |
| | | Number of Public Restroom/Refuge Sites | | A trail would not be provided | Public facilities would not be provided | Public facilities would not be provided | Public facilities would not be provided |
| | | Agency/Public Stakeholder Support | | Low support because no trail would be provided | Medium support because the trail would not fully accommodate all users and abilities due to steeper grades at Cucharas Pass | Medium support because the trail would not fully accommodate all users and abilities due to steeper grades at Cucharas Pass | Low support because trail would likely require ROW from multiple privately owned parcels |
| Summary of Results | | | | CARRIED FORWARD | RECOMMENDED | RECOMMENDED | RECOMMENDED |
| Notes | | | | The No-Build Alternative is carried forward into subsequent studies for comparison purposes with the benefits and impacts of the recommended alternatives | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and partially provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and partially provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability due to route mostly within CDOT ROW | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and fully provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) potentially have high implementability depending on ROW acceptability with several large private property land holdings |
| Outstanding Issues | | | | None | This alternative would not fully accommodate all trail users and abilities along SH 12 at Cucharas Pass due to high vertical grades. Other trail concepts need to be considered in the area of Cucharas Pass. | This alternative would not fully accommodate all trail users and abilities along SH 12 at Cucharas Pass due to high vertical grades. Other trail concepts need to be considered in the area of Cucharas Pass. | This alternative is contingent upon the acceptability of ROW acquisition with several large private land holdings. |

Green = Comparatively beneficial and/or low impacts

Black = Comparatively neutral benefits and/or moderate impacts

Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 16: Alpine 4 Level 2 Evaluation (1 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 4 Subsegment) | | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | |
|--|--|--|--|--|--|---|---|
| Evaluation Issue | Need/Goal | Measure | Alternative 3A On-Highway Trail (Attached) | | Alternative 3B On-Highway Trail (Separated) | Alternative 4A Off-Highway Trail (Lake Link) | |
| Purpose and Need | Safety | Reduce Lane Departure Crashes | Number of Reduced Crashes | No changes to physical conditions and crashes would not be reduced | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year |
| | | Reduce Rear-end Crashes | Ability to Reduce Crashes | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | Improve Bicyclist Safety | Degree of Improved Bicyclist Safety Along the Roadway | No changes to physical conditions and on-road bicyclist safety would not be improved | Additional (8 ft.) shoulder width would provide a moderate improvement to on-road bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety |
| | | Improve Pedestrian Safety | Degree of Improved Safety at Existing Pedestrian Crossing Locations | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | Regional/ Local Trail System | Accommodate Non-motorized Users (All Users and Abilities) | % of Full-Width Trail Route with Vertical Grade < 6% to Accommodate all Abilities | Accommodations for non-motorized users would not be provided | 100% of trail route would provide vertical grades < 6% | 100% of trail route would provide vertical grades < 6% | 100% of trail route would provide vertical grades < 6% |
| | | | % of Full-Width Trail Route Providing LTS < 3 | Accommodations for non-motorized users would not be provided | 100% of trail route would provide LTS < 3 due to low ADT (Avg. Daily Traffic) | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length |
| | | Connect to Existing Trails and Attractions | Number of Community Connections | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | | Number of Trailhead and Recreation Area Connections (North Lake SWMA and Monument Lake SWMA) | A trail would not be provided | Trail connections to both recreational areas would be provided | Trail connections to both recreational areas would be provided | Trail connections to both recreational areas would be provided |
| | | Number of Geologic Landmark Connections | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | |
| | | Number of Byway Amenity Connections (North Lake and Monument Lake) | A trail would not be provided | Trail connections to both Byway amenity sites would be provided | Trail connections to both Byway amenity sites would be provided | Trail connections to both Byway amenity sites would be provided | |
| Environmental Considerations | Environmental Compliance and Stewardship | Biological Impacts | Ability to Avoid and Minimize Impacts to Wetlands/ Waters of US | No impacts would be incurred | Minimal impacts with 3 creek crossings | Minimal impacts with 3 creek crossings | Minimal impacts with 3 creek crossings |
| | | Cultural Impacts | Ability to Avoid and Minimize Impacts to Cultural Resources | No impacts would be incurred | Minimal cultural resources located within this segment | Minimal cultural resources located within this segment | Minimal cultural resources located within this segment |
| | | Community Impacts | Ability to Avoid and Minimize Impacts to Businesses/Residences | No impacts would be incurred | No communities located within this segment | No communities located within this segment | No communities located within this segment |
| | | Maximize Use of Public Lands for Trail | Ability to Utilize Public Lands for Trail Route | A trail would not be provided | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | Low ability to utilize public lands as off-highway trail would be located mostly within private property |

Green = Comparatively beneficial and/or low impacts
 Black = Comparatively neutral benefits and/or moderate impacts
 Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 16: Alpine 4 Level 2 Evaluation (2 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 4 Subsegment) | | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | |
|--|--|---|--|---|--|--|---|
| Evaluation Issue | Need/Goal | Measure | Alternative 3A On-Highway Trail (Attached) | | Alternative 3B On-Highway Trail (Separated) | Alternative 4A Off-Highway Trail (Lake Link) | |
| Additional Information for Comparing Alternatives | | | | | | | |
| Feasibility | Ability to Phase and Construct Trail Improvements | Reduce Challenges of Trail ROW Acquisition | Relative Measure of Ease and Likely Acceptability of Trail ROW Acquisition | A trail would not be provided | Due to trail route along highway with sufficient ROW width, high acceptability of ROW acquisition | Medium acceptability due to some ROW likely being required near Monument Lake | Low acceptability due to ROW being required from a number of large private land holdings |
| | | Build Trail in Manageable and Functional Phases | Ability to Build Trail in Fundable Phases with Independent Utility | A trail would not be provided | High ability to build the trail in useful segments along with phased highway safety construction | Medium ability to build the trail in useful segments and separate from highway safety construction | Low ability to build the trail in useful segments (must build entire segment) and separate from highway safety construction |
| | | Applicability of Securing Trail Funding | Opportunity to Secure Additional Trail Funding Sources | A trail would not be provided | Building trail would be integral to safety improvements and high opportunity of securing incremental additional funding | Building trail could be integral to safety improvements, being located within CDOT ROW, and medium opportunity of securing incremental additional funding | Building phases of trail outside of CDOT ROW would not be integral to safety improvements, presenting low opportunity of securing incremental additional funding |
| Other | Additional Information for Comparison Purposes | Highway Construction Costs (millions) | | No highway construction | \$6 to \$8 | \$4 to \$5 | \$4 to \$5 |
| | | Trail Construction Costs (millions) | | A trail would not be provided - no trail construction | \$0 | \$2 to \$3 | \$1 to \$2 |
| | | Ability to Integrate Trail with CDOT Roadway Maintenance (% of Trail within CDOT ROW) and Ease of Maintenance | | A trail would not be provided | High ability to maintain trail with normal CDOT maintenance activities (100%) | Medium ability to maintain trail with normal CDOT maintenance as trail would be separate from the roadway but within CDOT ROW (100%) | Low ability to maintain trail with normal CDOT maintenance as most of trail would be separate from the roadway alignment (0% within CDOT ROW) |
| | | Number of Highway/Trail At-grade Crossings | | A trail would not be provided | No crossings of SH 12 would be required | No crossings of SH 12 would be required | Two crossings of SH 12 would be required |
| | | Number of Public Restroom/Refuge Sites | | A trail would not be provided | Public facilities would be provided at Monument Lake | Public facilities would be provided at Monument Lake | Public facilities would be provided at Monument Lake |
| | | Agency/Public Stakeholder Support | | Low support because no trail would be provided | High support because the trail would accommodate all users and abilities | High support because the trail would accommodate all users and abilities | Low support because trail would likely require ROW from multiple privately owned parcels |
| Summary of Results | | | | CARRIED FORWARD | RECOMMENDED | RECOMMENDED | RECOMMENDED |
| Notes | | | | The No-Build Alternative is carried forward into subsequent studies for comparison purposes with the benefits and impacts of the recommended alternatives | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability due to route mostly within CDOT ROW | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and fully provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) potentially have high implementability depending on ROW acceptability with several large private property land holdings |
| Outstanding Issues | | | | None | None | None | This alternative is contingent upon the acceptability of ROW acquisition with several large private land holdings. |

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 Black = Comparatively neutral benefits and/or moderate impacts
 Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 17: Alpine 5 Level 2 Evaluation (1 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 5 Subsegment) | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | |
|--|--|---|---|--|--|--|
| Evaluation Issue | Need/Goal | Measure | | Alternative 3A On-Highway Trail (Attached) | Alternative 3B On-Highway Trail (Separated) | |
| Purpose and Need | Safety | Reduce Lane Departure Crashes | Number of Reduced Crashes | No changes to physical conditions and crashes would not be reduced | Shoulder widening improvements would reduce less than 1 crash per year | Shoulder widening improvements would reduce less than 1 crash per year |
| | | Reduce Rear-end Crashes | Ability to Reduce Crashes | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment |
| | | Improve Bicyclist Safety | Degree of Improved Bicyclist Safety Along the Roadway | No changes to physical conditions and on-road bicyclist safety would not be improved | Additional (8 ft.) shoulder width would provide a moderate improvement to on-road bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety |
| | | Improve Pedestrian Safety | Degree of Improved Safety at Existing Pedestrian Crossing Locations | No changes to physical conditions and pedestrian safety in Stonewall would not be improved | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in Stonewall | Improved crossing facilities would provide a high improvement to pedestrian crossing safety in Stonewall |
| | Regional/ Local Trail System | Accommodate Non-motorized Users (All Users and Abilities) | % of Full-Width Trail Route with Vertical Grade < 6% to Accommodate all Abilities | Accommodations for non-motorized users would not be provided | Roughly 100% of trail route (there are two short sections with high grades) would provide vertical grades < 6% | Roughly 100% of trail route (there are two short sections with high grades) would provide vertical grades < 6% |
| | | | % of Full-Width Trail Route Providing LTS < 3 | Accommodations for non-motorized users would not be provided | 100% of trail route would provide LTS < 3 due to low ADT (Avg. Daily Traffic) | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length |
| | | Connect to Existing Trails and Attractions | Number of Community Connections (Stonewall) | A trail would not be provided | Trail connections would be provided | Trail connections would be provided |
| | | | Number of Trailhead and Recreation Area Connections (Bosque Del Oso SWMA) | A trail would not be provided | Trail connections to the recreational areas would be provided | Trail connections to the recreational areas would be provided |
| | | Number of Geologic Landmark Connections (Dakota Wall) | A trail would not be provided | Trail connections to the geologic landmarks would be provided | Trail connections to the geologic landmarks would be provided | |
| | | Number of Byway Amenity Connections (Stonewall Pull-off) | A trail would not be provided | Trail connections to the Byway amenity site would be provided | Trail connections to the Byway amenity site would be provided | |
| Environmental Considerations | Environmental Compliance and Stewardship | Biological Impacts | Ability to Avoid and Minimize Impacts to Wetlands/ Waters of US | No impacts would be incurred | Minimal impacts with 3 creek crossings | Minimal impacts with 3 creek crossings |
| | | Cultural Impacts | Ability to Avoid and Minimize Impacts to Cultural Resources | No impacts would be incurred | Trail alignment along SH 12 has potential to impact cultural properties within the Town of Stonewall | Trail alignment along SH 12 has potential to impact cultural properties within the Town of Stonewall |
| | | Community Impacts | Ability to Avoid and Minimize Impacts to Businesses/ Residences | No impacts would be incurred | Trail alignment along SH 12 has potential to impact adjacent properties within the Town of Stonewall | Trail alignment along SH 12 has potential to impact adjacent properties within the Town of Stonewall |
| | | Maximize Use of Public Lands for Trail | Ability to Utilize Public Lands for Trail Route | A trail would not be provided | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW |

Green = Comparatively beneficial and/or low impacts
 Black = Comparatively neutral benefits and/or moderate impacts
 Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 17: Alpine 5 Level 2 Evaluation (2 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Alpine 5 Subsegment) | | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | |
|--|--|---|--|---|--|--|
| Evaluation Issue | Need/Goal | Measure | Alternative 3A On-Highway Trail (Attached) | | Alternative 3B On-Highway Trail (Separated) | |
| Additional Information for Comparing Alternatives | | | | | | |
| Feasibility | Ability to Phase and Construct Trail Improvements | Reduce Challenges of Trail ROW Acquisition | Relative Measure of Ease and Likely Acceptability of Trail ROW Acquisition | A trail would not be provided | Due to trail route along highway with sufficient ROW width, high acceptability of ROW acquisition | Medium acceptability due to some ROW likely being required along SH 12 near Stonewall |
| | | Build Trail in Manageable and Functional Phases | Ability to Build Trail in Fundable Phases with Independent Utility | A trail would not be provided | High ability to build the trail in useful segments along with phased highway safety construction | Medium ability to build the trail in useful segments and separate from highway safety construction |
| | | Applicability of Securing Trail Funding | Opportunity to Secure Additional Trail Funding Sources | A trail would not be provided | Building trail would be integral to safety improvements and high opportunity of securing incremental additional funding | Building trail could be integral to safety improvements, being located within CDOT ROW, and medium opportunity of securing incremental additional funding |
| Other | Additional Information for Comparison Purposes | Highway Construction Costs (millions) | | No highway construction | \$9 to \$11 | \$4 to \$6 |
| | | Trail Construction Costs (millions) | | A trail would not be provided - no trail construction | \$0 | \$4 to \$5 |
| | | Ability to Integrate Trail with CDOT Roadway Maintenance (% of Trail within CDOT ROW) and Ease of Maintenance | | A trail would not be provided | High ability to maintain trail with normal CDOT maintenance activities (100%) | Medium ability to maintain trail with normal CDOT maintenance as trail would be separate from the roadway but within CDOT ROW (100%) |
| | | Number of Highway/Trail At-grade Crossings | | A trail would not be provided | No crossings of SH 12 would be required | No crossings of SH 12 would be required |
| | | Number of Public Restroom/Refuge Sites | | A trail would not be provided | Public facilities would be provided at Stonewall | Public facilities would be provided at Stonewall |
| | | Agency/Public Stakeholder Support | | Low support because no trail would be provided | High support because the trail would accommodate all users and abilities | High support because the trail would accommodate all users and abilities |
| Summary of Results | | | | CARRIED FORWARD | RECOMMENDED | RECOMMENDED |
| Notes | | | | The No-Build Alternative is carried forward into subsequent studies for comparison purposes with the benefits and impacts of the recommended alternatives | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability due to route mostly within CDOT ROW |
| Outstanding Issues | | | | None | None | None |

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Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 18: Mining Level 2 Evaluation (1 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Mining Segment) | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | | | | |
|---|------------------------------|---|--|--|---|---|---|---|--|
| Evaluation Issue | Need/Goal | Measure | | Alternative 3A On-Highway Trail (Attached) | Alternative 3B On-Highway Trail (Separated) | Alternative 4A Off-Highway Trail (Rails-to-Trails) | Alternative 4B Off-Highway Trail (Trinidad Waterline) | | |
| Purpose and Need | Safety | Reduce Lane Departure Crashes | Number of Reduced Crashes | No changes to physical conditions and crashes would not be reduced | Shoulder widening (8 ft) and Vigil/Segundo roadside improvements would reduce around 2 crashes per year | Shoulder widening and Vigil/Segundo roadside improvements would reduce around 1 crash per year | Shoulder widening and Vigil/Segundo roadside improvements would reduce around 1 crash per year | Shoulder widening and Vigil/Segundo roadside improvements would reduce around 1 crash per year | |
| | | Reduce Rear-end Crashes | Ability to Reduce Crashes | No changes to physical conditions and crashes would not be reduced | Jansen roadside and Santa Fe/Main St improvements would reduce less than 1 crash per year | Jansen roadside and Santa Fe/Main St improvements would reduce less than 1 crash per year | Jansen roadside and Santa Fe/Main St improvements would reduce less than 1 crash per year | Jansen roadside and Santa Fe/Main St improvements would reduce less than 1 crash per year | |
| | | Improve Bicyclist Safety | Degree of Improved Bicyclist Safety Along the Roadway | No changes to physical conditions and on-road bicyclist safety would not be improved | Additional (8 ft.) shoulder width would provide a moderate improvement to on-road bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | A separated trail would remove bicyclists from the roadway and provide a high improvement to bicyclist safety | |
| | | Improve Pedestrian Safety | Degree of Improved Safety at Existing Pedestrian Crossing Locations | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | This need is not applicable to this segment | |
| | Regional/ Local Trail System | Accommodate Non-motorized Users (All Users and Abilities) | % of Full-Width Trail Route with Vertical Grade < 6% to Accommodate all Abilities | Accommodations for non-motorized users would not be provided | With exception of highway segment around Trinidad Lake, most of trail route (approx 97%) would provide vertical grades < 6% | With exception of highway segment around Trinidad Lake, most of trail route (approx 97%) would provide vertical grades < 6% | Utilizing the former Elk Mine rail bed, 100% of trail route would provide vertical grades < 6% | Roughly 80% of trail route would provide vertical grades < 6% | |
| | | | % of Full-Width Trail Route Providing LTS < 3 | Accommodations for non-motorized users would not be provided | 100% of trail route would provide LTS < 3 due to low ADT (Avg. Daily Traffic) | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length. | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length. | 100% of trail route would provide LTS < 3 due to separation of trail from roadway for full length. | |
| | | Connect to Existing Trails and Attractions | Number of Community Connections (Segundo, Cokedale, Trinidad via Trinidad Lake SP) | A trail would not be provided | Trail connections to all 3 communities would be provided | Trail connections all 3 communities would be provided | Trail connections to 1 community (Trinidad via Trinidad SP) would be provided | Trail connections to 2 communities (Segundo and Trinidad via Trinidad SP) would be provided | |
| | | | Number of Trailhead and Recreation Area Connections (Trinidad Lake SP) | A trail would not be provided | Trail connections to 1 trailhead and recreational area would be provided | Trail connections to 1 trailhead and recreational area would be provided | Trail connections to 1 trailhead and recreational area would be provided | Trail connections to 1 trailhead and recreational area would be provided | |
| | | | Number of Geologic Landmark Connections (Cokedale - Coal Mining) | A trail would not be provided | Trail connections to 1 geologic landmark would be provided | Trail connections to 1 geologic landmark would be provided | No trail connections to geologic landmarks would be provided | No trail connections to geologic landmarks would be provided | |
| | | | Number of Byway Amenity Connections (Mining TBD pull-off) | A trail would not be provided | Trail connections to 1 Byway amenities (pull-offs) would be provided | Trail connections to 1 Byway amenities (pull-offs) would be provided | No trail connections to Byway amenities (pull-offs) would be provided | Trail connections to 1 Byway amenities (pull-offs) would be provided | |
| | Environmental Considerations | Environmental Compliance and Stewardship | Biological Impacts | Ability to Avoid and Minimize Impacts to Wetlands/ Waters of US | No impacts would be incurred | There are some wetlands within the SH 12 transportation right-of-way | There are some wetlands within the SH 12 transportation right-of-way | Trail would occur on the existing rail bed | Waterline meanders through the area and has the greatest potential for impacting wetlands including 11 new significant waterway crossings |
| | | | Cultural Impacts | Ability to Avoid and Minimize Impacts to Cultural Resources | No impacts would be incurred | There are numerous cultural resources along this segment of SH 12 | There are numerous cultural resources along this segment of SH 12 | Trail would occur on the existing rail bed | Waterline meanders through the area and has the greatest potential for impacting cultural resources |
| | | | Community Impacts | Ability to Avoid and Minimize Impacts to Businesses/ Residences | No impacts would be incurred | Trail would mostly occur within the transportation right-of-way of SH 12 | Trail would mostly occur within the transportation right-of-way of SH 12 | Trail would occur on the existing rail bed | The waterline meanders through the area and has the greatest potential to impact residential properties |
| | | | Maximize Use of Public Lands for Trail | Ability to Utilize Public Lands for Trail Route | A trail would not be provided | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | High ability to utilize public lands as trail would be located mostly within existing CDOT ROW | Low ability to utilize public lands as off-highway trail would be located along RR ROW | Low ability to utilize public lands as off-highway trail would be located mostly within private property along the existing waterline easement |

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 Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Table 18: Mining Level 2 Evaluation (2 of 2)

| Southern Mountain Loop PEL Study Level 2 Alternatives Evaluation (Mining Segment) | | | | Alternative 1 No-Build | Includes Highway Safety Improvements (Alternative P2 from Level 1 Screening) | | | |
|---|---|---|--|---|---|---|---|--|
| Evaluation Issue | Need/Goal | Measure | Alternative 3A On-Highway Trail (Attached) | | Alternative 3B On-Highway Trail (Separated) | Alternative 4A Off-Highway Trail (Rails-to-Trails) | Alternative 4B Off-Highway Trail (Trinidad Waterline) | |
| Additional Information for Comparing Alternatives | | | | | | | | |
| Feasibility | Ability to Phase and Construct Trail Improvements | Reduce Challenges of Trail ROW Acquisition | Relative Measure of Ease and Likely Acceptability of Trail ROW Acquisition | A trail would not be provided | Due to trail route along highway with sufficient ROW width, high acceptability of ROW acquisition | Medium acceptability due to some ROW likely being required along SH 12 in local communities | Low acceptability due to uncertainty of future mine operations and possible resumption of rail service | Low acceptability due to location of waterline in relationship to multiple privately-owned parcels and probable need for acquisition |
| | | Build Trail in Manageable and Functional Phases | Ability to Build Trail in Fundable Phases with Independent Utility | A trail would not be provided | Medium ability to build the trail in useful SIU along with phased highway safety construction | Medium ability to build the trail in useful SIU and separate from highway safety construction - multiple functional phases between communities | Low ability to build the trail in useful SIU and separate from highway safety construction - one functional phase (must build full trail length) | Low ability to build the trail in useful SIU and separate from highway safety construction - one functional phase (must build full trail length) |
| | | Applicability of Securing Trail Funding | Opportunity to Secure Additional Trail Funding Sources | A trail would not be provided | Building trail would be integral to safety improvements and high opportunity of securing incremental additional funding | Majority of trail construction would be within CDOT ROW presenting medium opportunity of securing incremental additional funding | Medium opportunity due to rail to trail concept providing additional potential funding sources from advocacy agencies | Low additional opportunity due to full independence from CDOT safety improvements |
| Other | Additional Information for Comparison Purposes | Highway Construction Costs (millions) | | No highway construction | \$19 to \$23 | \$13 to \$16 | \$13 to \$16 | \$13 to \$16 |
| | | Trail Construction Costs (millions) | | A trail would not be provided - no trail construction | \$0 | \$6 to \$8 | \$6 to \$8 | >\$10 |
| | | Ability to Integrate Trail with CDOT Roadway Maintenance (% of Trail within CDOT ROW) and Ease of Maintenance | | A trail would not be provided | High ability to maintain trail with normal CDOT maintenance activities (100%) | Medium ability to maintain trail with normal CDOT maintenance as trail would be separate from the roadway but within CDOT ROW (100%) | Low ability to maintain trail with normal CDOT maintenance activities as trail would be fully outside ROW and maintenance arrangements would be required | Low ability to maintain trail with normal CDOT maintenance activities as trail would be fully outside ROW and maintenance arrangements would be required |
| | | Number of Highway/Trail At-grade Crossings | | A trail would not be provided | No crossings of SH 12 would be required | No crossings of SH 12 would be required | Two crossings of SH 12 would be required | Five crossings of SH 12 would be required (plus 6 crossings of the RR) |
| | | Number of Public Restroom/Refuge Sites | | A trail would not be provided | Public facilities (1) would be provided at Trinidad Lake State Park | Public facilities (1) would be provided at Trinidad Lake State Park | Public facilities (1) would be provided at Trinidad Lake State Park | Public facilities (1) would be provided at Trinidad Lake State Park |
| | | Agency/Public Stakeholder Support | | Low support because no trail would be provided | Medium support because the trail would not fully accommodate all users and abilities | High support because the trail would fully accommodate all users and abilities | Higher support because the trail would fully accommodate all users and abilities along a new and appealing route | Low support due to numerous private property impacts |
| Summary of Results | | | | CARRIED FORWARD | RECOMMENDED | RECOMMENDED | RECOMMENDED | NOT RECOMMENDED |
| Notes | | | | The No-Build Alternative is carried forward into subsequent studies for comparison purposes with the benefits and impacts of the recommended alternatives | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and full connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide accommodations and full connections for trail users, 2) have mitigable potential environmental impacts, and 3) have high implementability due to route mostly within CDOT ROW | This alternative is recommended for further evaluation in subsequent studies because it would 1) address the safety needs and provide full accommodations and partial connections for trail users, 2) have mitigable potential environmental impacts, and 3) could have high implementability depending on Elk Mine closure, RR abandonment and use arrangements with current RR ROW landowners | This alternative is not recommended because it would not sufficiently accommodate trail users due to a high percentage of steep grades, safety concerns (higher number of crossings) and low implementability. Some segments of this alternative located adjacent to or near SH 12 could be reasonable design options in association with either Alternative 3A or 3B. |
| Outstanding Issues | | | | None | This alternative would not fully accommodate all trail users and abilities along SH 12 due to level of traffic stress and around Trinidad Lake due to high vertical grades. Other trail concepts need to be considered in the areas of high vertical grades. | This alternative would not sufficiently accommodate all trail users and abilities along SH 12 around Trinidad Lake due to high vertical grades. Other trail concepts need to be considered in this area. | This alternative would not potentially be feasible unless the Elk Mine ownership elects to abandon the RR with the Surface Transportation Board. | None |

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 Black = Comparatively neutral benefits and/or moderate impacts
 Red = Comparatively minor benefits and/or high impacts

LTS = Level of Traffic Stress; SP = State Park; SWMA = State Wildlife Management Area; TH = Trailhead

Level 2 Alternatives Screening Recommendations

Based on the evaluation, the alternatives were screened and a finding for each was determined - Recommended or Not Recommended. A finding of “Carried Forward” was provided for Alternative 1 - No-Build. While this alternative would not fulfill the Purpose and Need, this alternative would be carried forward into subsequent studies, as necessary, to provide a basis of comparison for the recommended alternatives. **Table 19** presents a summary of the recommended alternatives.

Table 19: Level 2 Screening Recommended Alternatives

| Level 2 Screening Recommended Alternative ⁽¹⁾ ⁽²⁾ | Concepts | | | | | Description |
|--|----------|----------------|-------------------------|--------------------------|---------------|--|
| | No-Build | Highway Safety | On-Hwy Trail (Attached) | On-Hwy Trail (Separated) | Off-Hwy Trail | |
| Vista - Walsenburg to La Veta | | | | | | |
| Alt 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Attached trail along highway shoulders |
| Alt 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Separated trail within CDOT right-of-way |
| Alt 4A - Off-Highway Trail (Rails-w-Trails) | | ✓ | | | ✓ | Trail along and adjacent to SLRG Railroad |
| Alpine 1 - La Veta to MP 14 (San Isabel National Forest) | | | | | | |
| Alt 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Attached trail along highway shoulders |
| Alt 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Separated trail within CDOT right-of-way |
| Alpine 2 - MP 14 (San Isabel National Forest) to Cucharas Pass | | | | | | |
| Alt 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Attached trail along highway shoulders |
| Alt 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Separated trail within CDOT right-of-way |
| Alt 4A - Off-Highway Trail (Ridge) | | ✓ | | | ✓ | Trail along the Ridge Option |
| Alt 4C - Off-Highway Trail (Blue/Bear Lakes) | | ✓ | | ✓ | ✓ | Alt 3B with trail along Blue/Bear Lakes Option |
| Alpine 3 - Cucharas Pass to North Lake | | | | | | |
| Alt 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Attached trail along highway shoulders |
| Alt 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Separated trail within CDOT right-of-way |
| Alt 4A - Off-Highway Trail (Meadows) | | ✓ | | | ✓ | Trail along the Meadows Option |
| Alpine 4 - North Lake to Monument Lake | | | | | | |
| Alt 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Attached trail along highway shoulders |
| Alt 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Separated trail within CDOT right-of-way |
| Alt 4A - Off-Highway Trail (Lake Link) | | ✓ | | | ✓ | Trail along the Lake Link Option |
| Alpine 5 - Monument Lake to Vigil | | | | | | |
| Alt 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Attached trail along highway shoulders |
| Alt 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Separated trail within CDOT right-of-way |
| Mining - Vigil to Trinidad | | | | | | |
| Alt 3A - On-Highway Trail (Attached) | | ✓ | ✓ | | | Attached trail along highway shoulders |
| Alt 3B - On-Highway Trail (Separated) | | ✓ | | ✓ | | Separated trail within CDOT right-of-way |
| Alt 4A - Off-Highway Trail (Rails-to-Trails) | | ✓ | | | ✓ | Trail along the Old Trinidad Railroad |

Notes: (1) No-Build Alternative is carried forward for comparison purposes.

(2) All trail alternatives include Highway Safety Improvements, Byway Amenity Improvements and Technology Improvements.

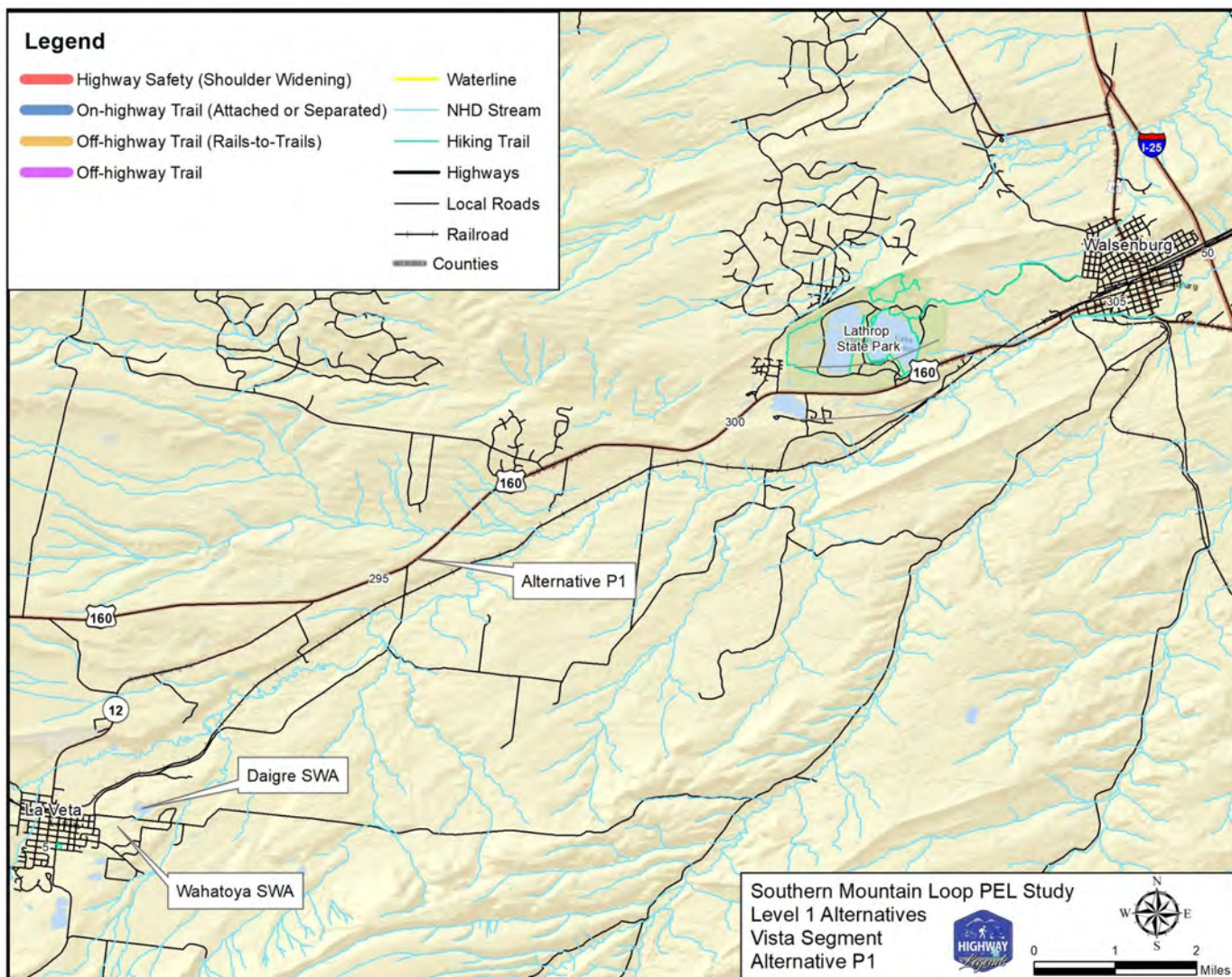
The evaluation findings for each alternative were based on a relative comparison of its benefits and impacts with other alternatives within each segment.

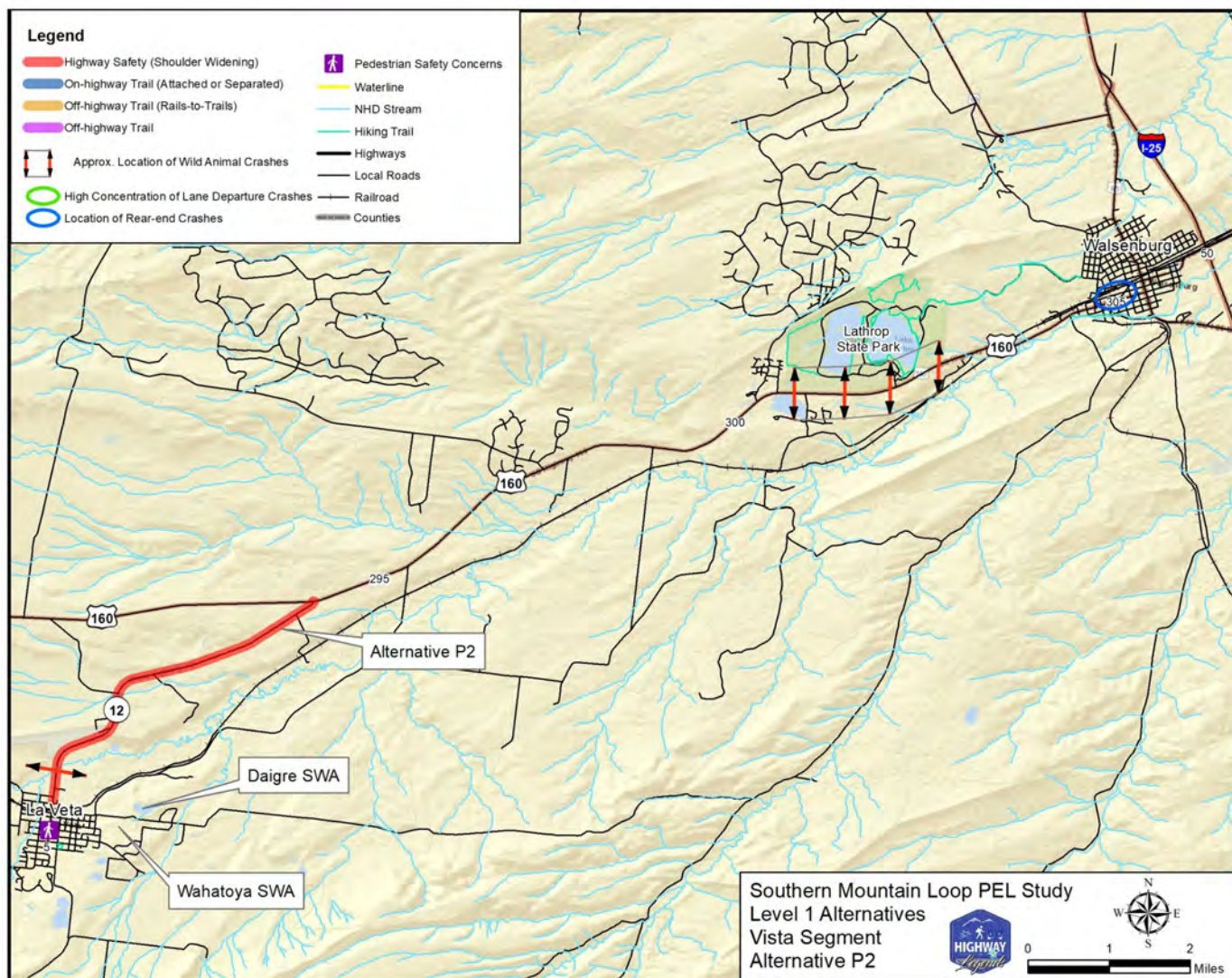
Within the Vista Segment, Alternatives 4B and 4C would have comparatively lower benefits for the ability to build and maintain the trail. Underlying each alternative is the incompatibility of the trail concept with the maintenance activities for the unimproved and adjacent county roads. In contrast, Alternative 4A would have the ability to attract additional rails-with-trails funding. For these reasons, within the Vista Segment, Alternatives 4B and 4C were Not Recommended. All other alternatives within the Vista Segment are Recommended.

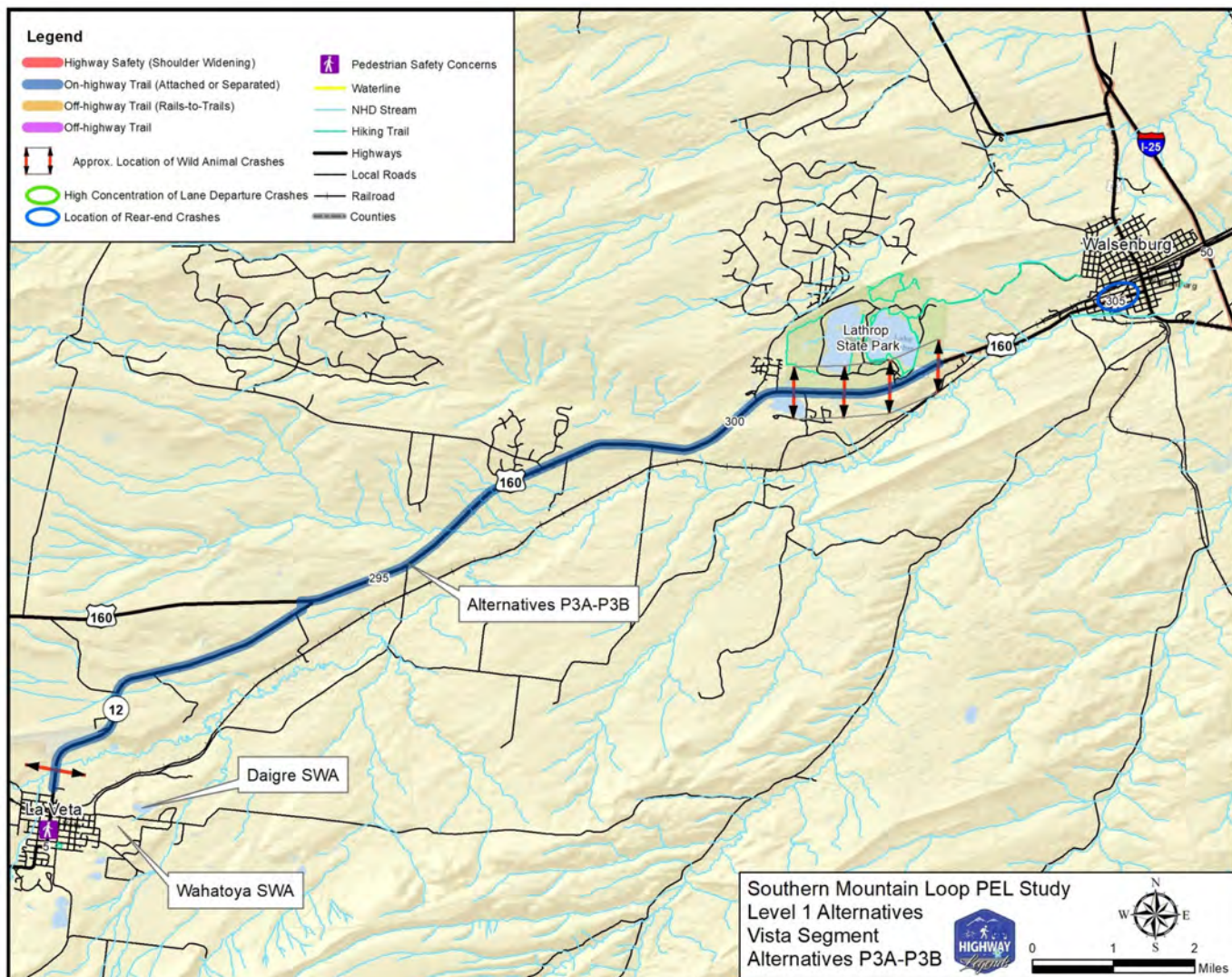
Within the Alpine 2 Segment, all alternatives which include the Cucharas River Option would have comparatively higher biological and cultural impacts, a notably higher number of property parcel impacts, and generally lower public support. For these reasons, Alternatives 4B and 4D within the Alpine 2 Segment, each containing the Cucharas River Option, were Not Recommended. All other alternatives within the various Alpine Segments are Recommended.

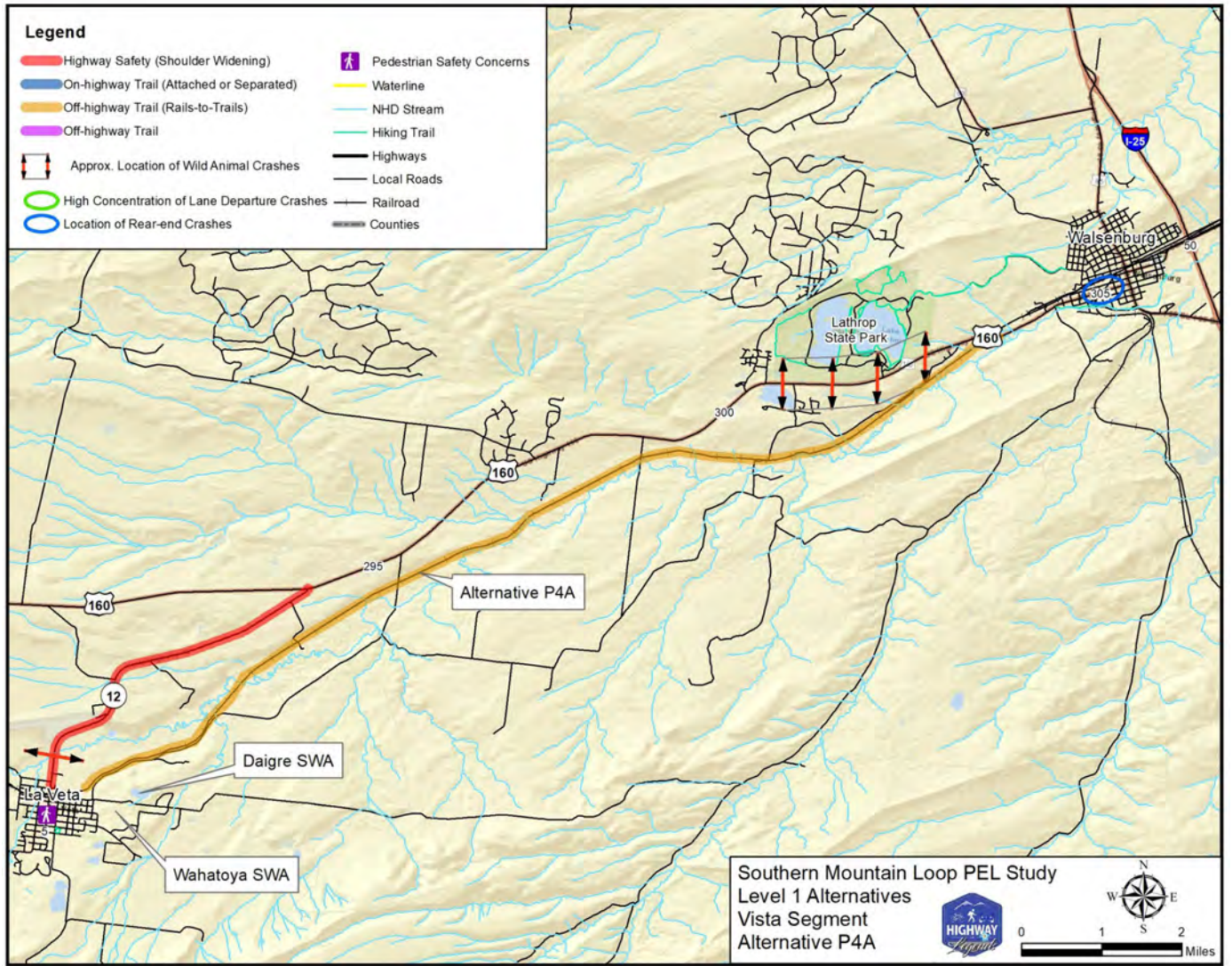
Within the Mining Segment, Alternative 4B is Not Recommended because it would not sufficiently accommodate trail users due to a high percentage of steep grades, would have safety concerns (higher number of highway crossings) and would have a low ability to be implemented. All other alternatives within the Mining Segment are Recommended.

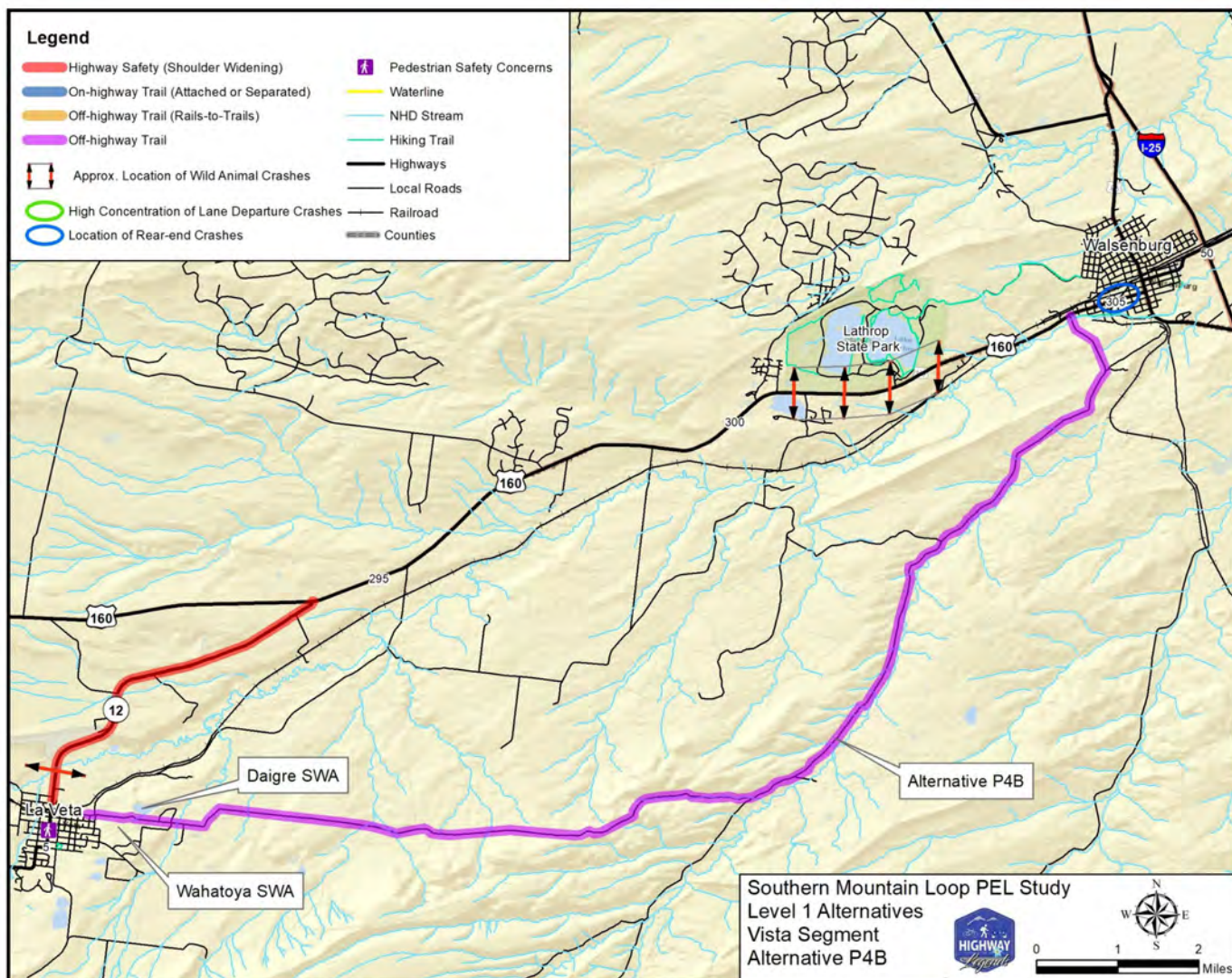
Appendix A - Level 1 Alternatives Maps

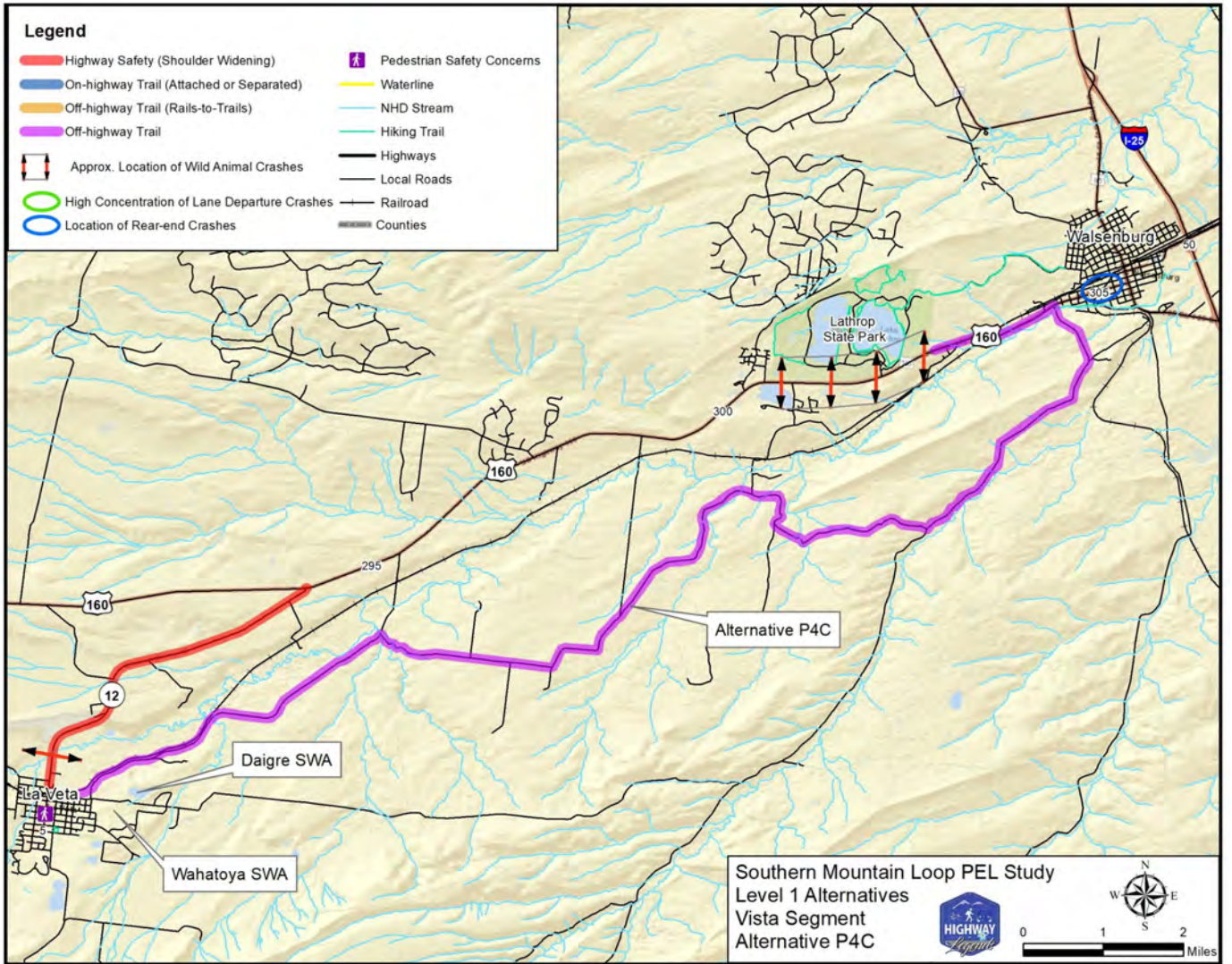


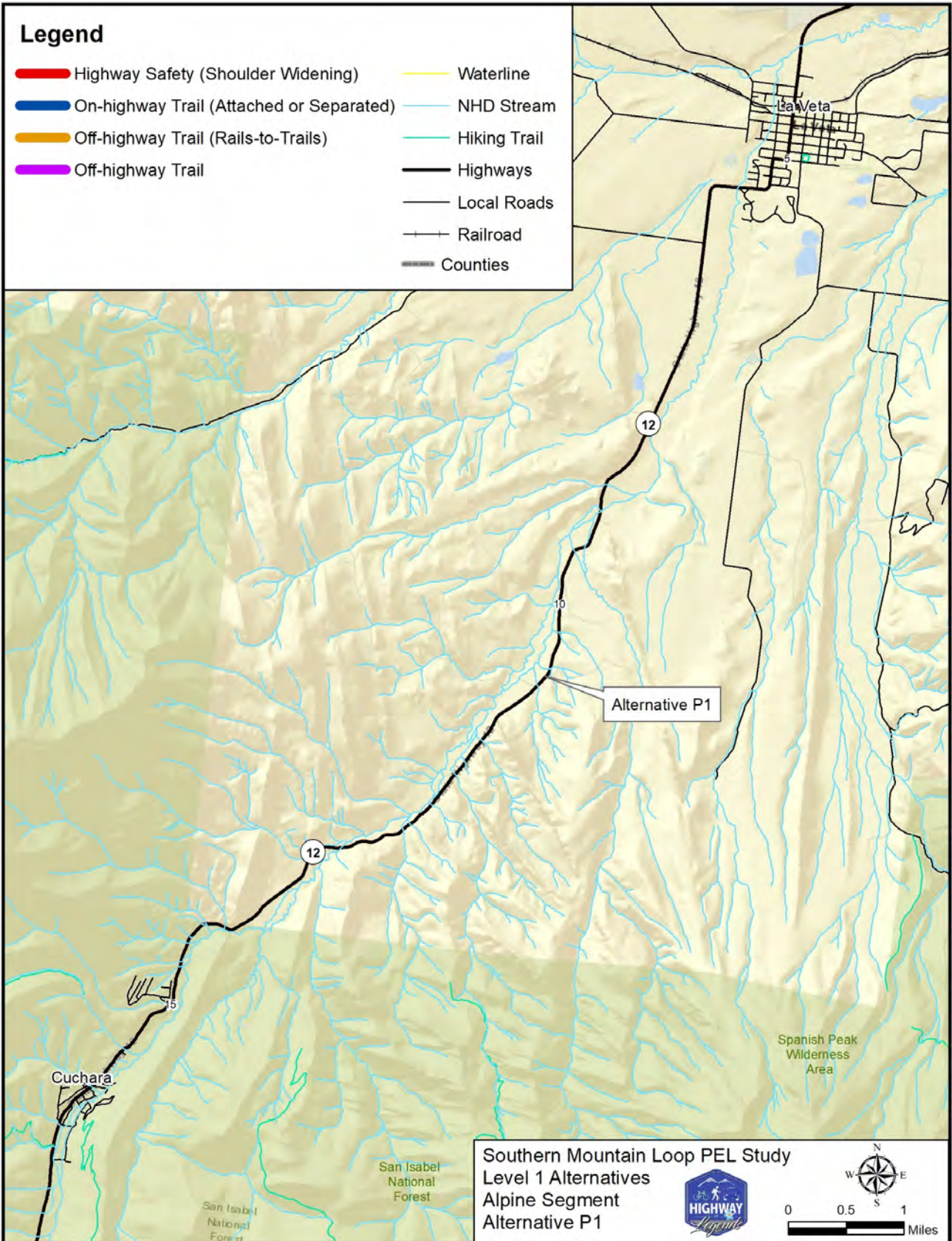


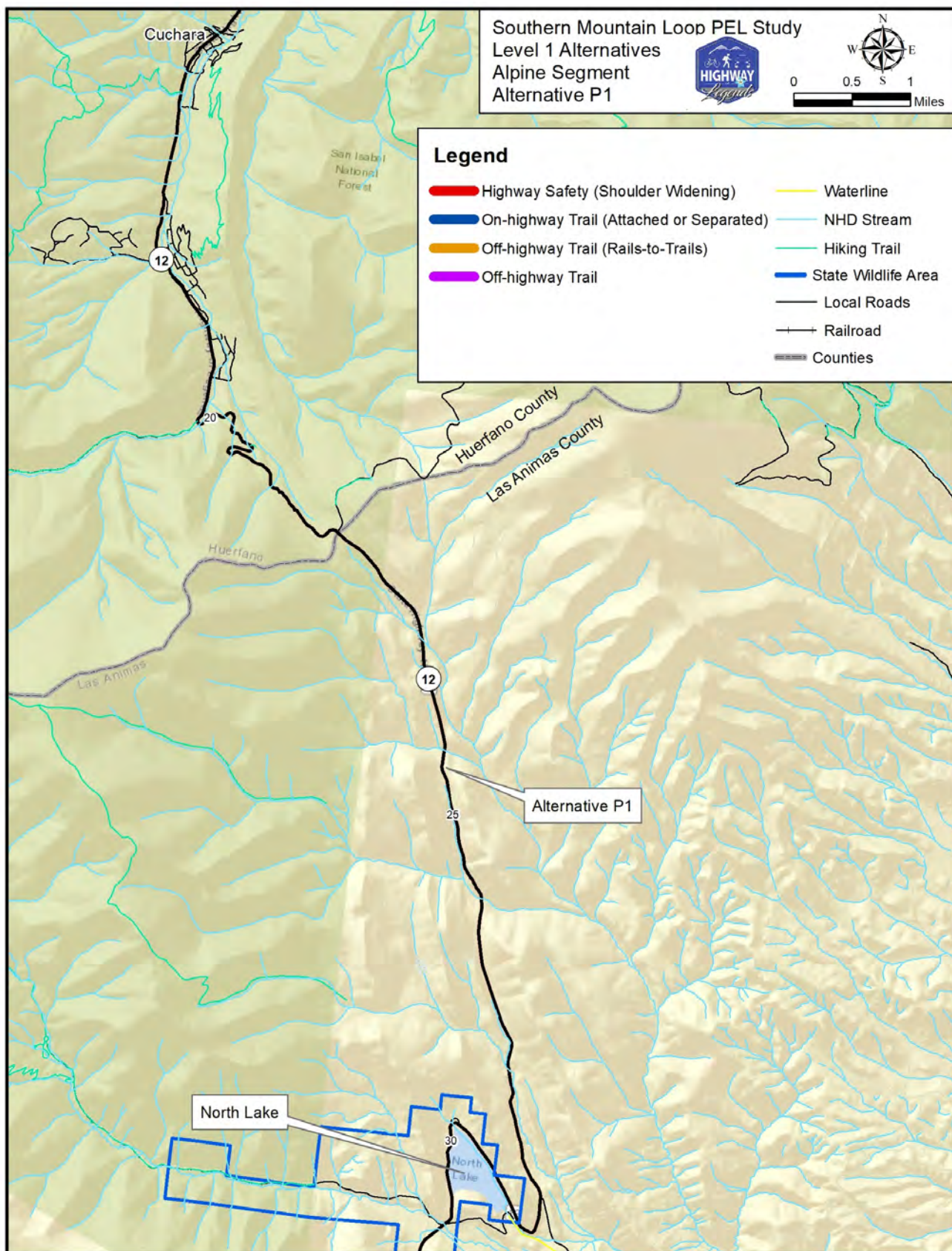


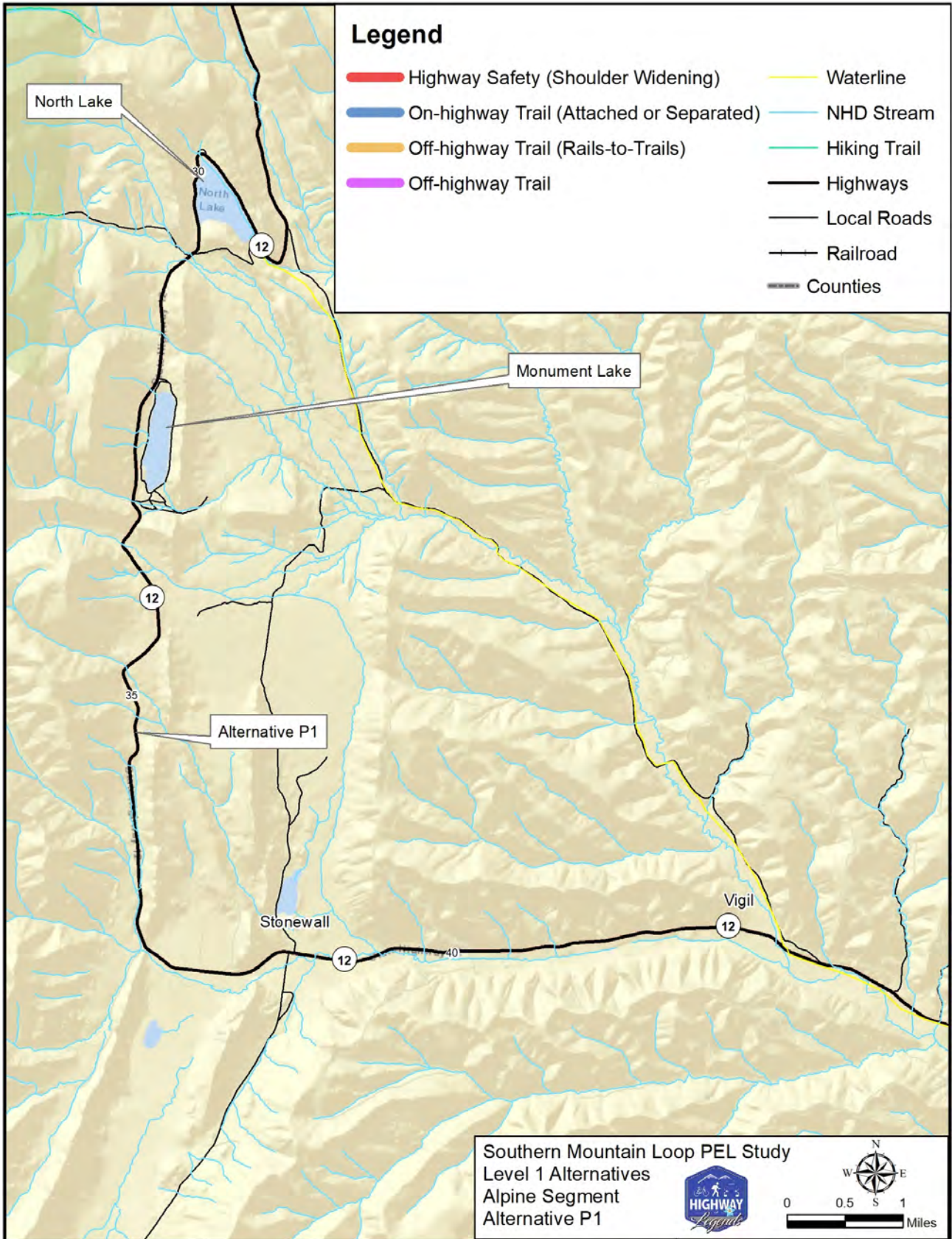


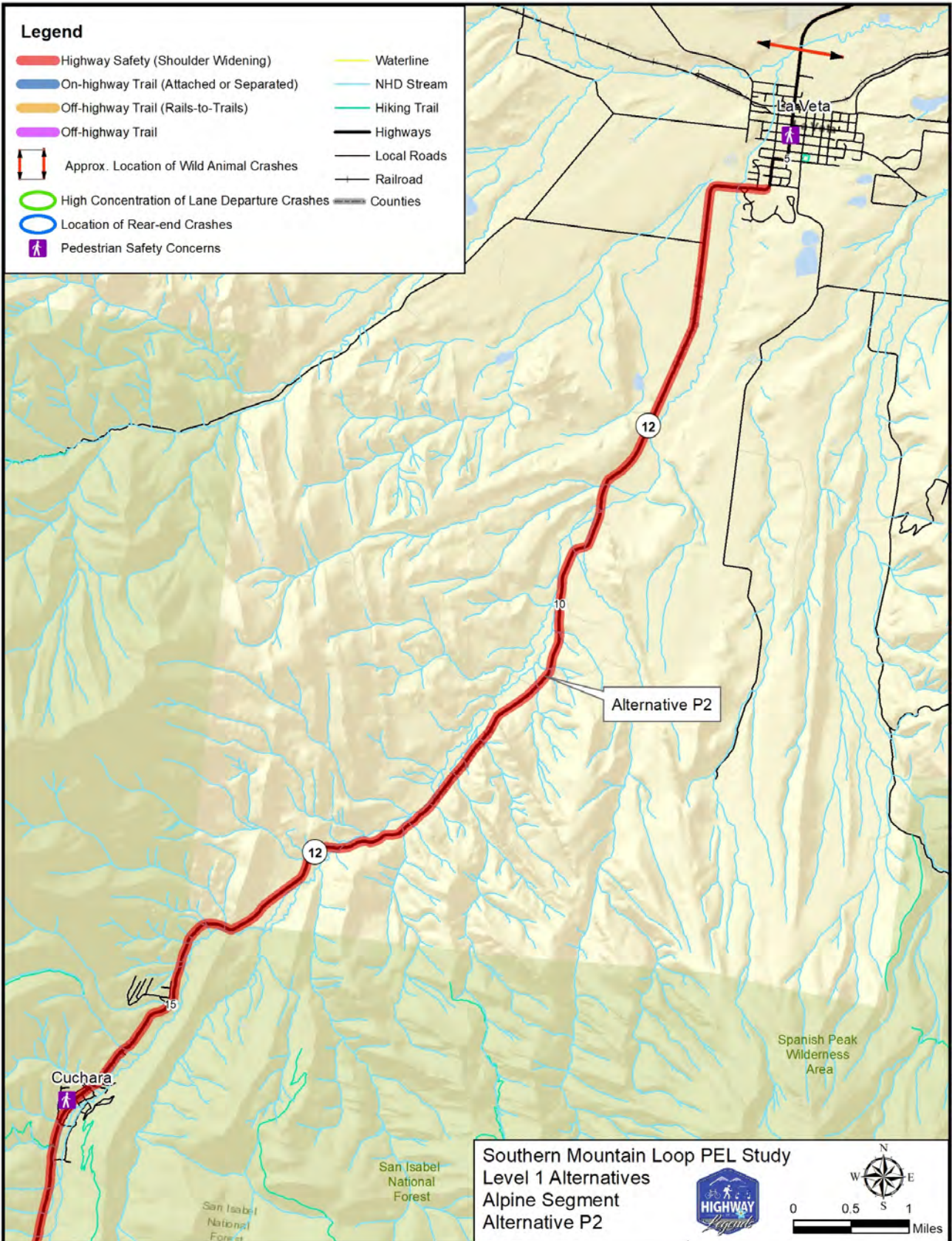


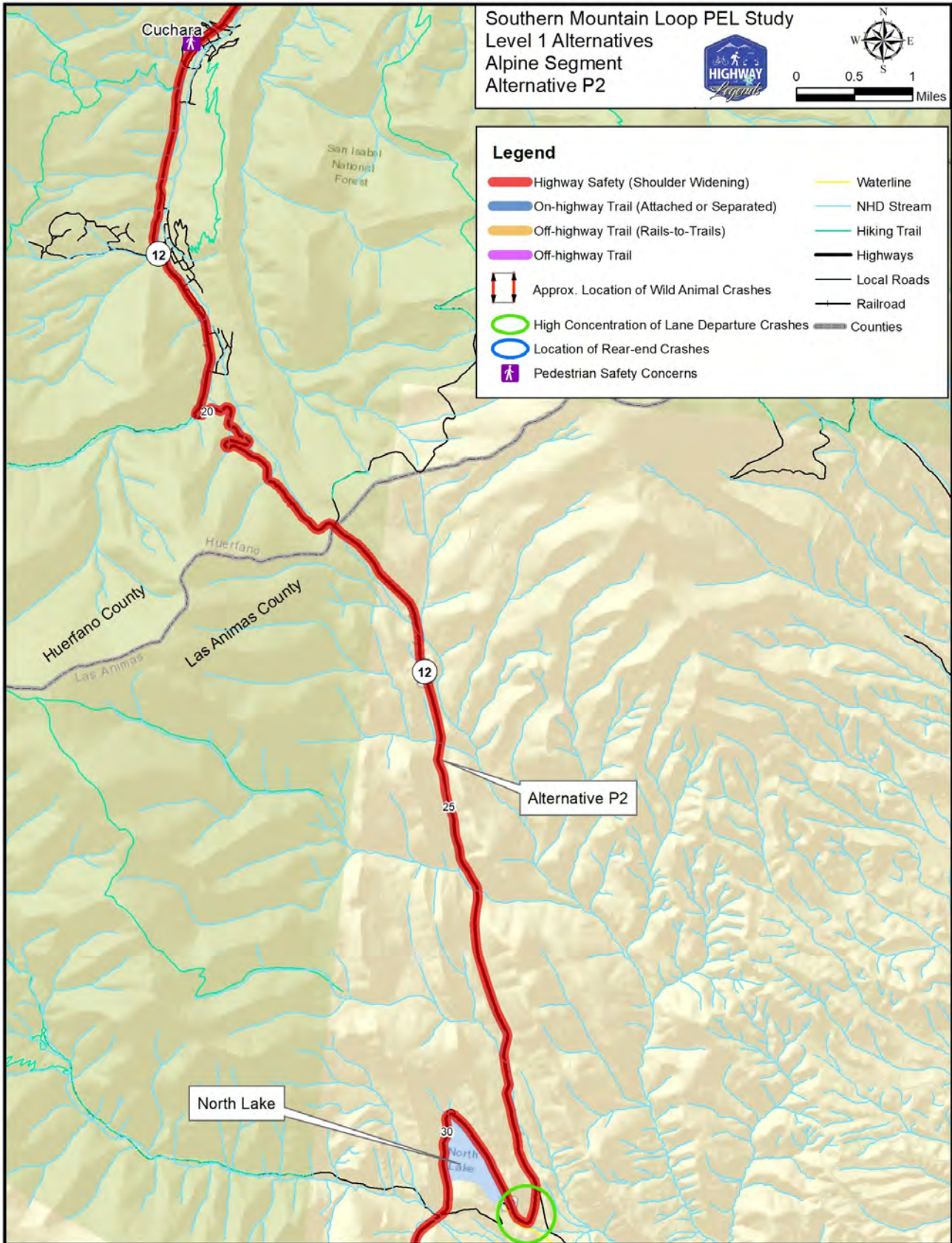


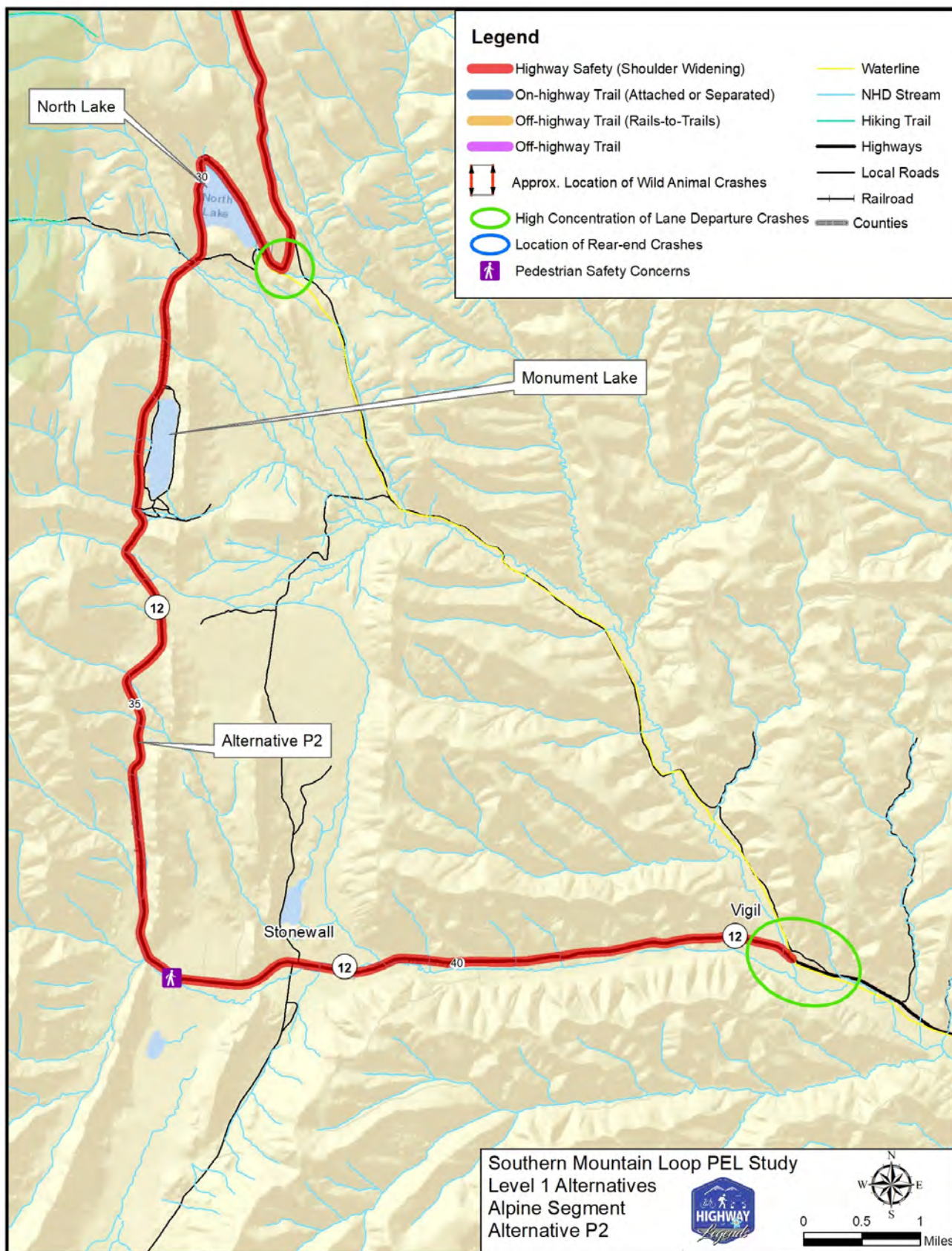


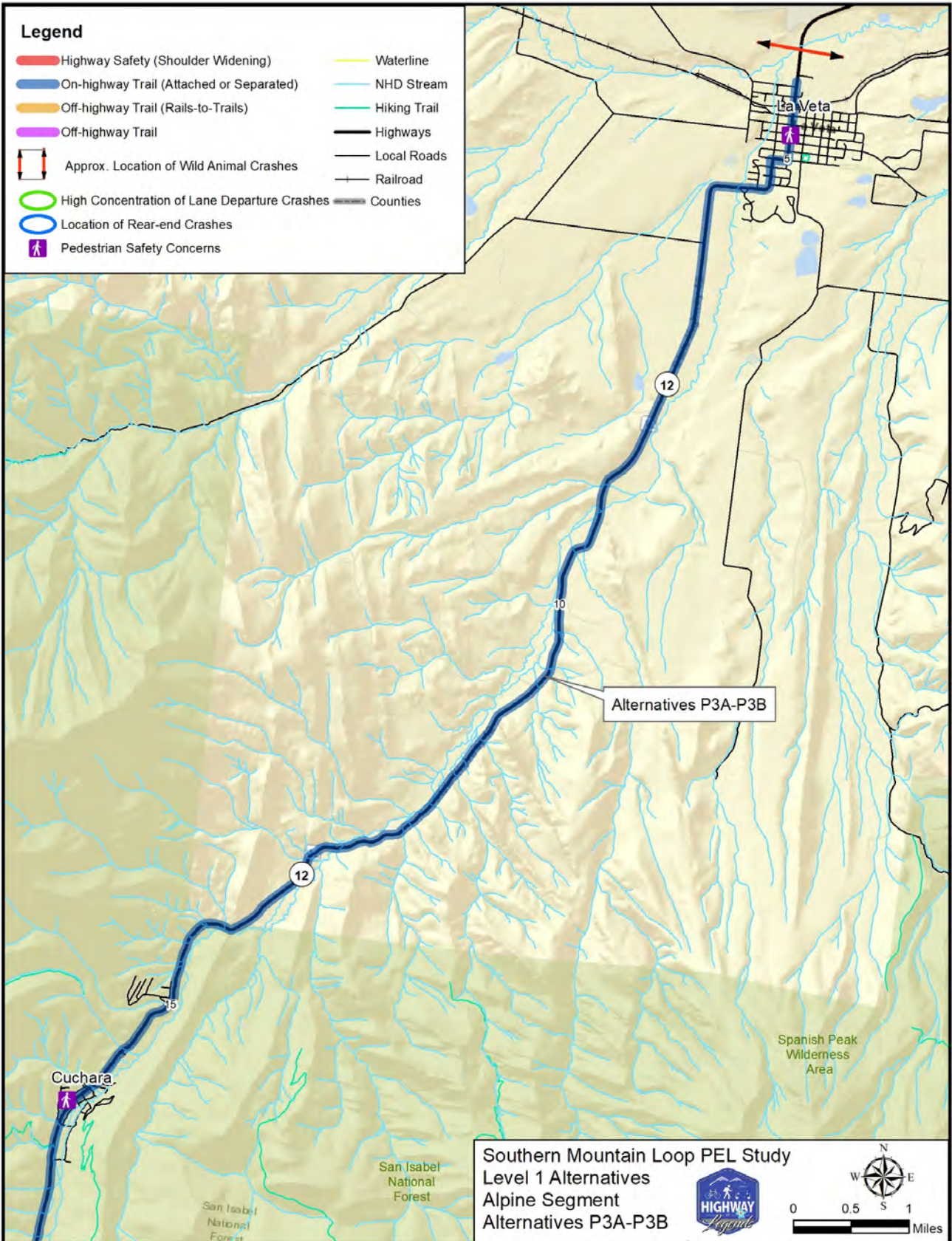


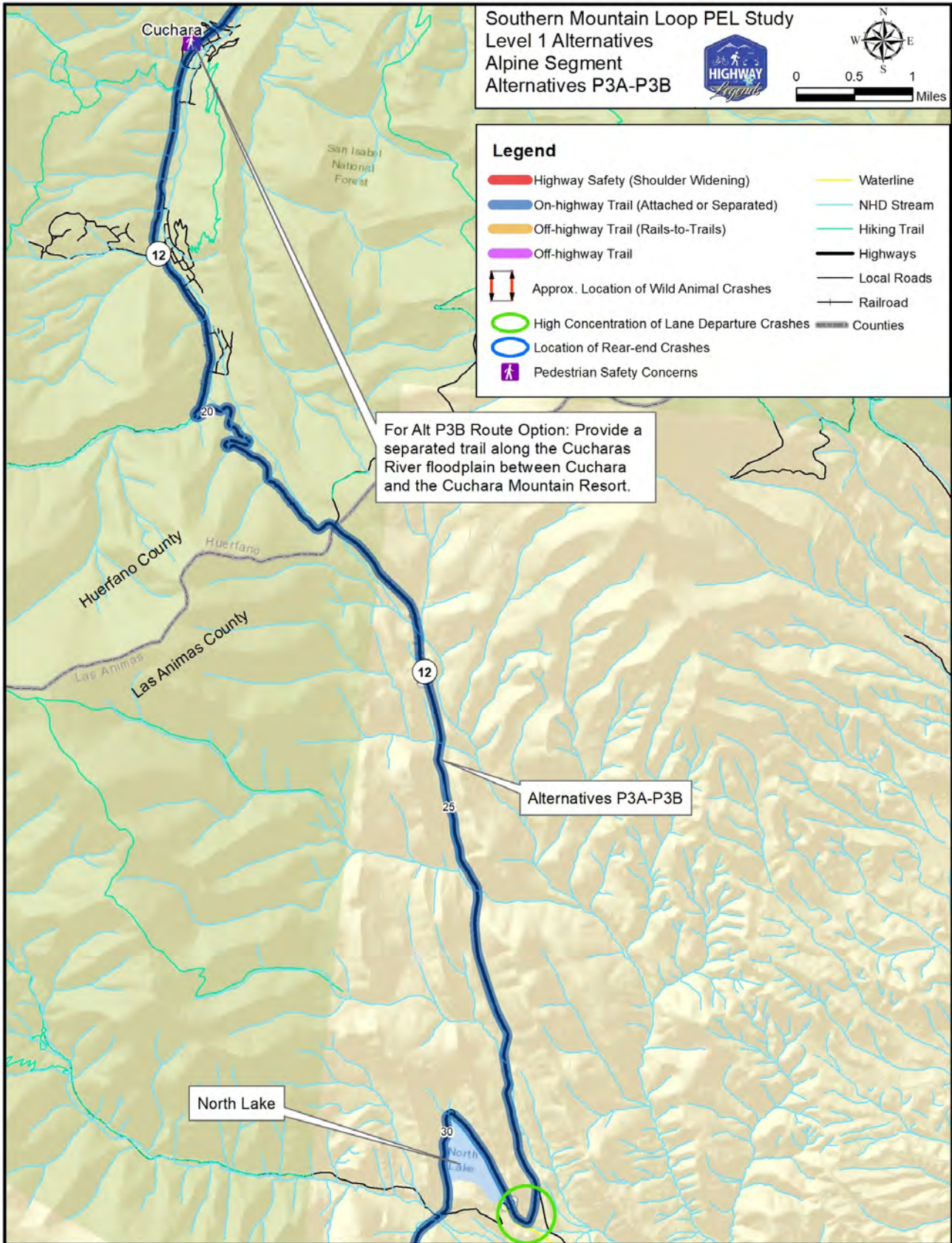


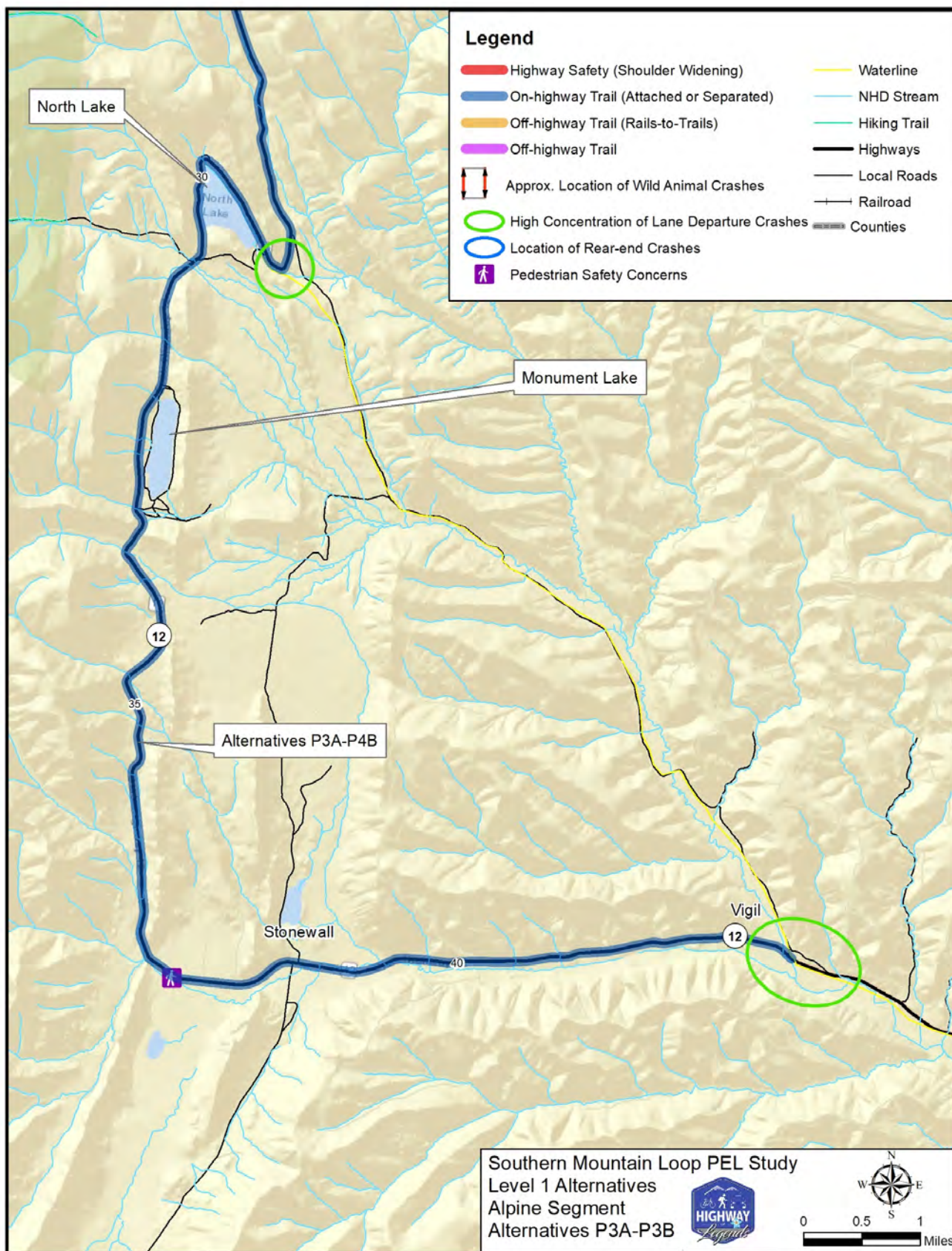


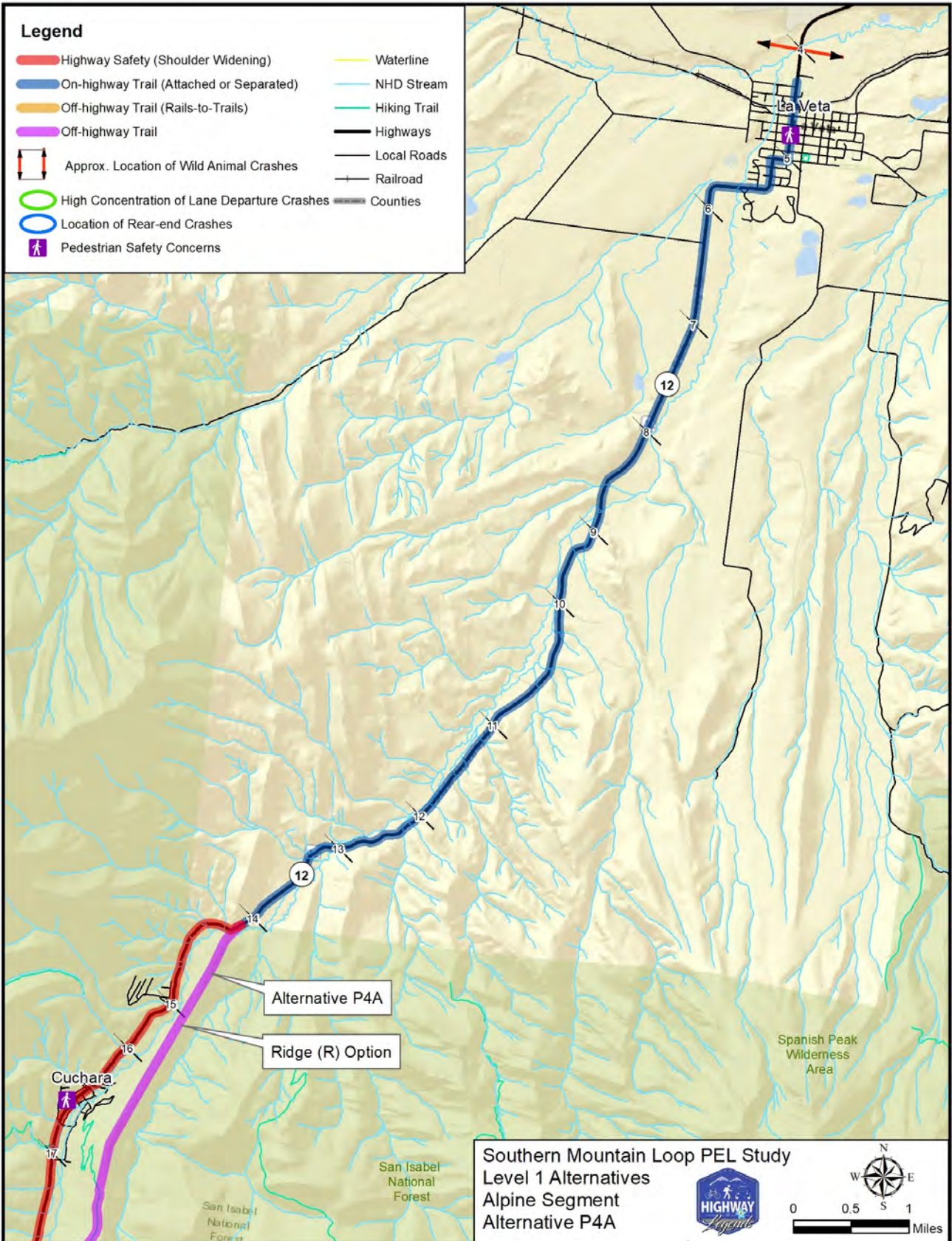


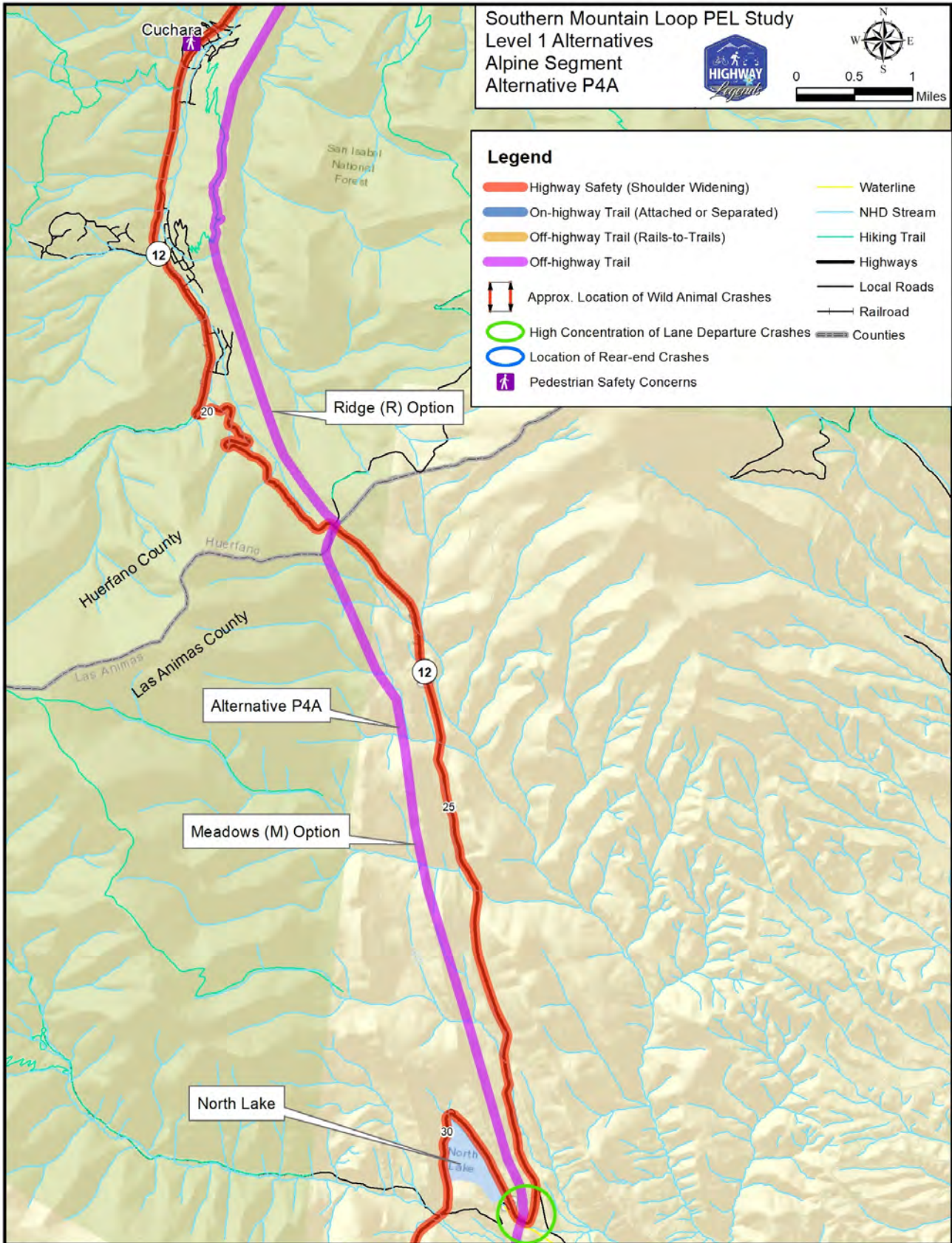


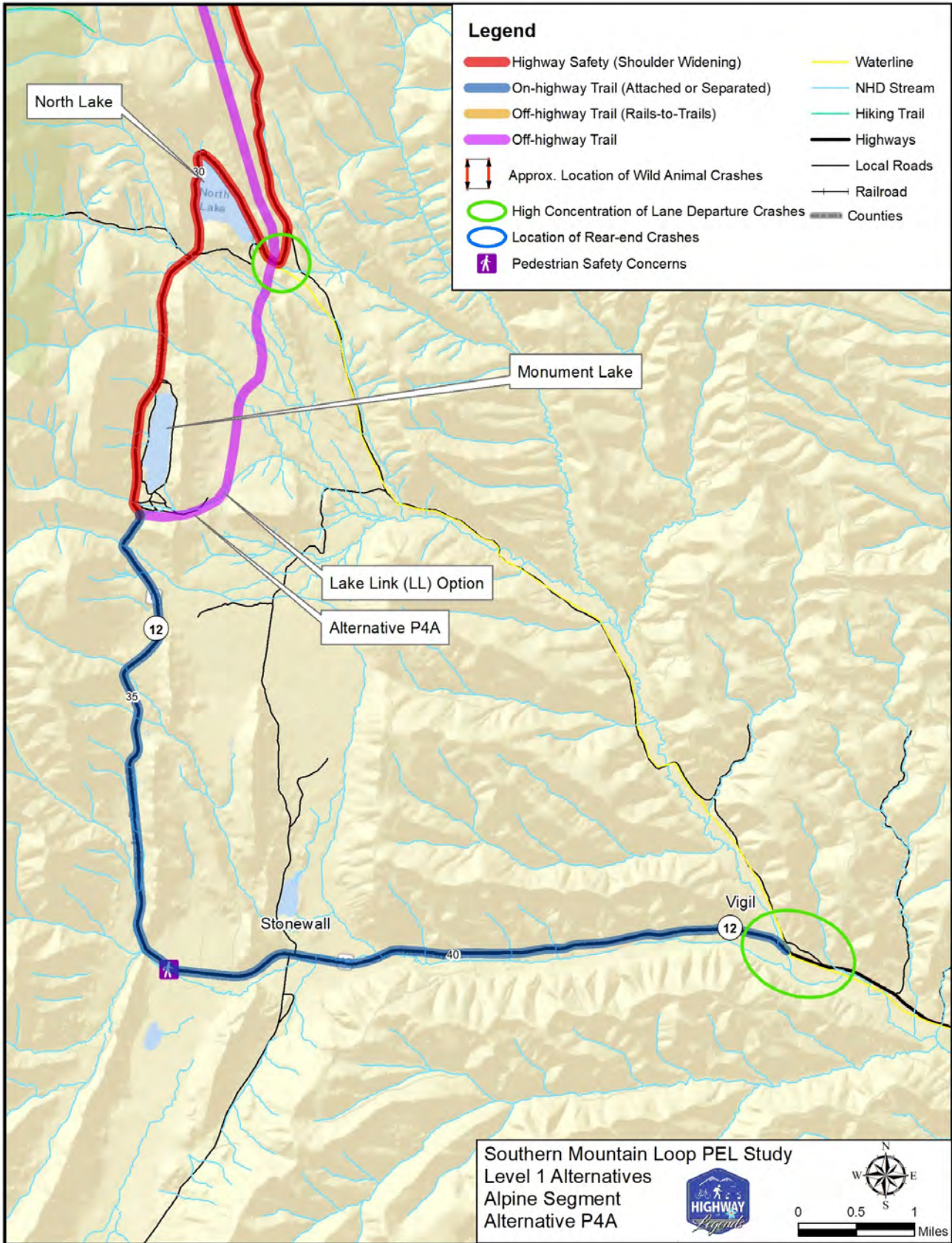


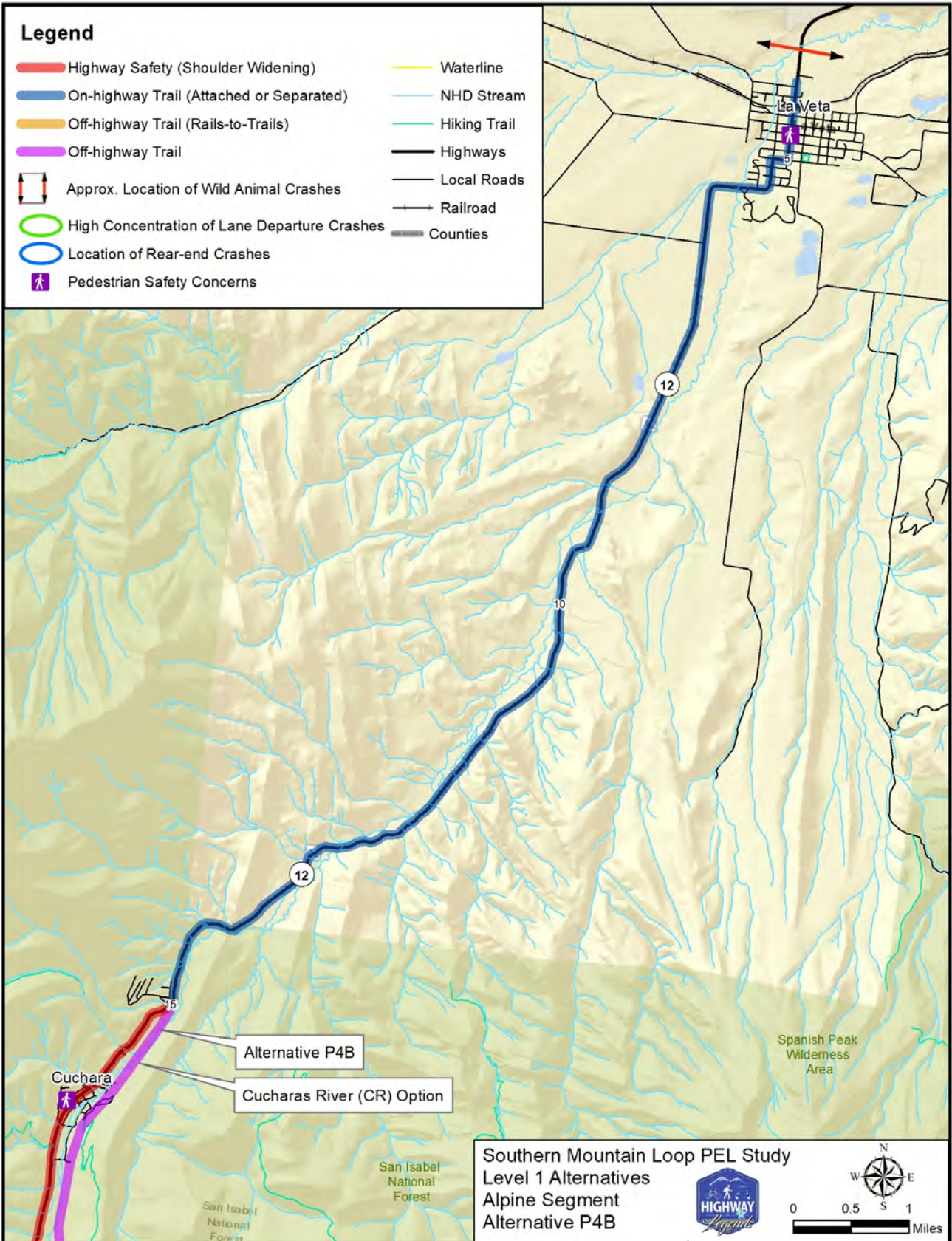


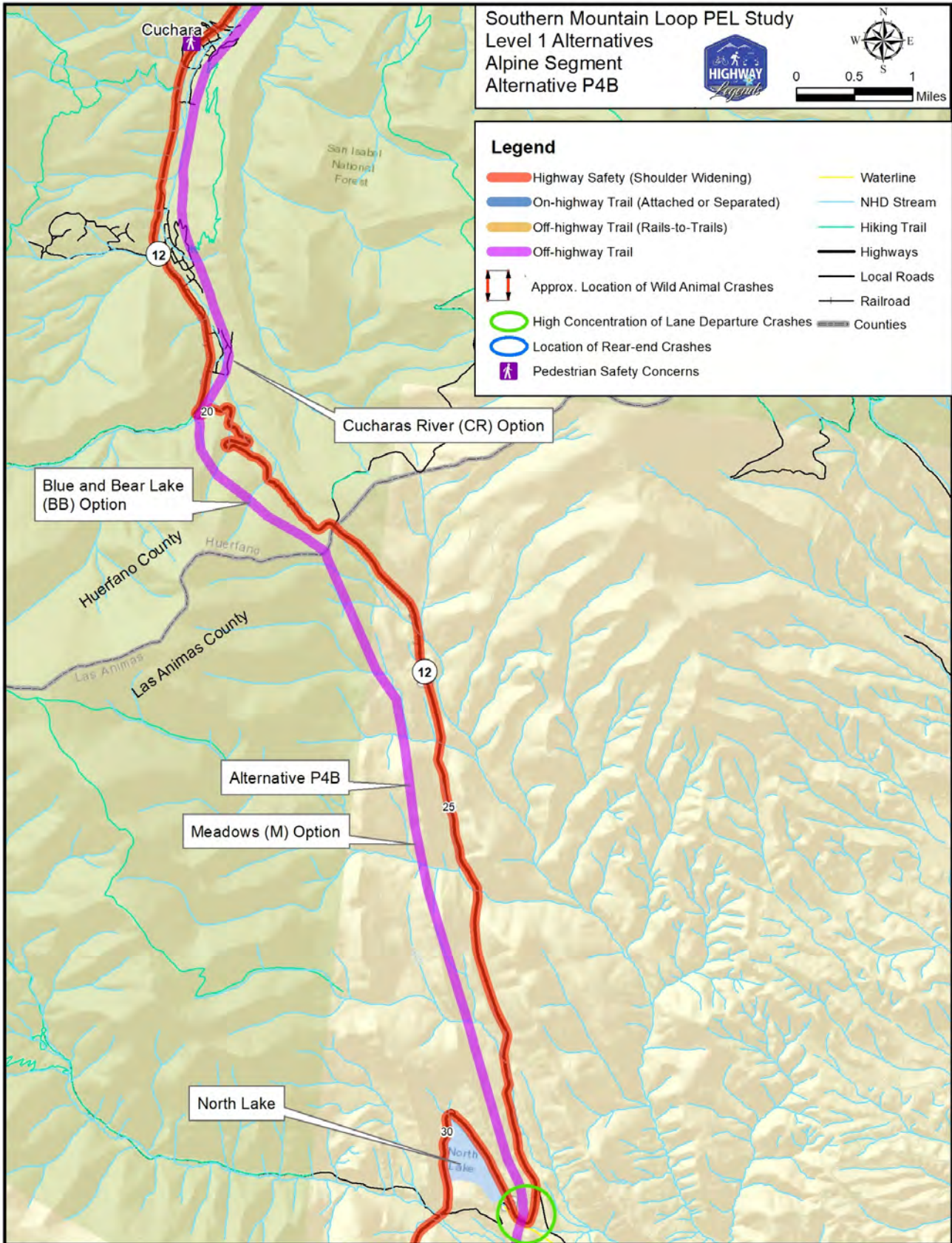


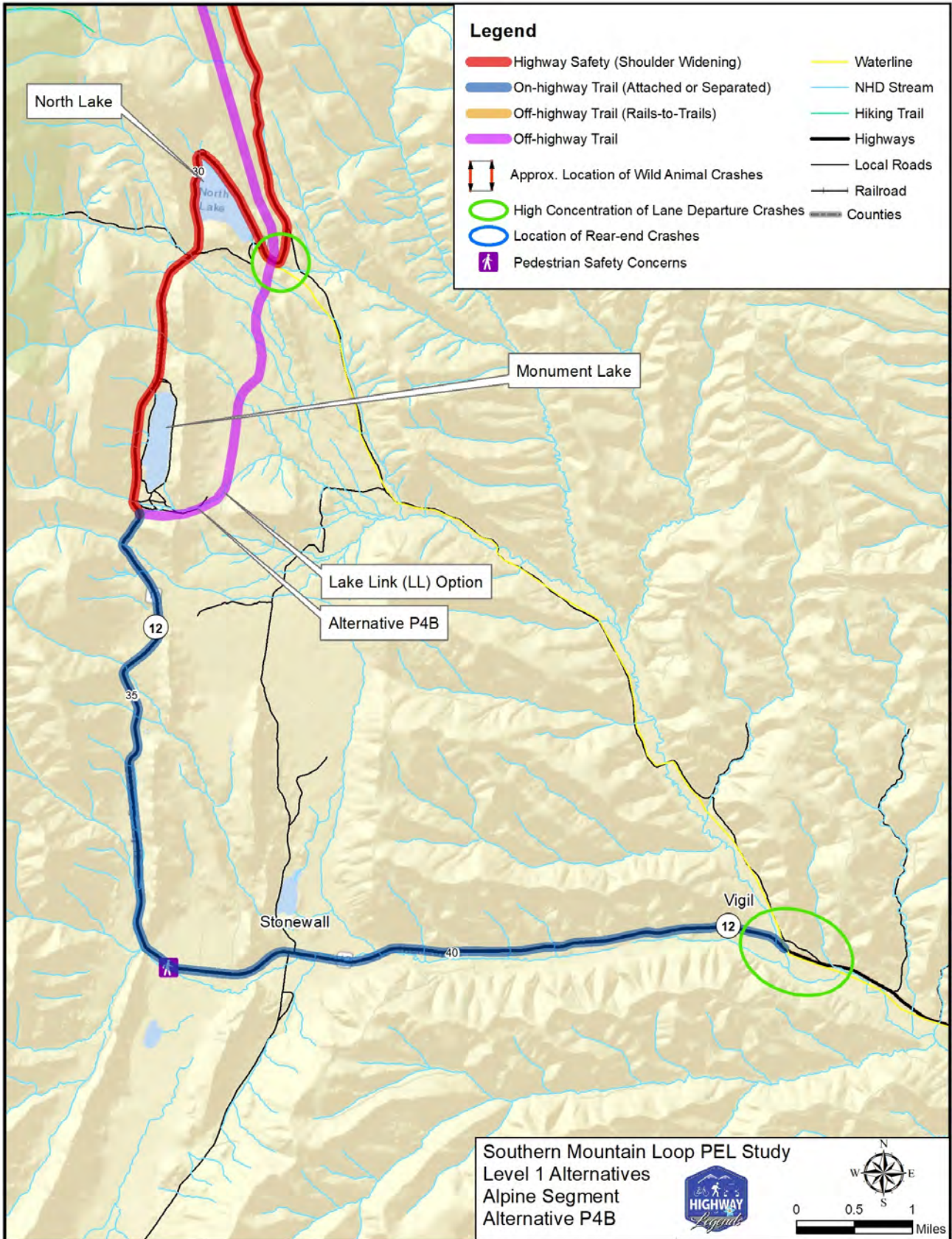


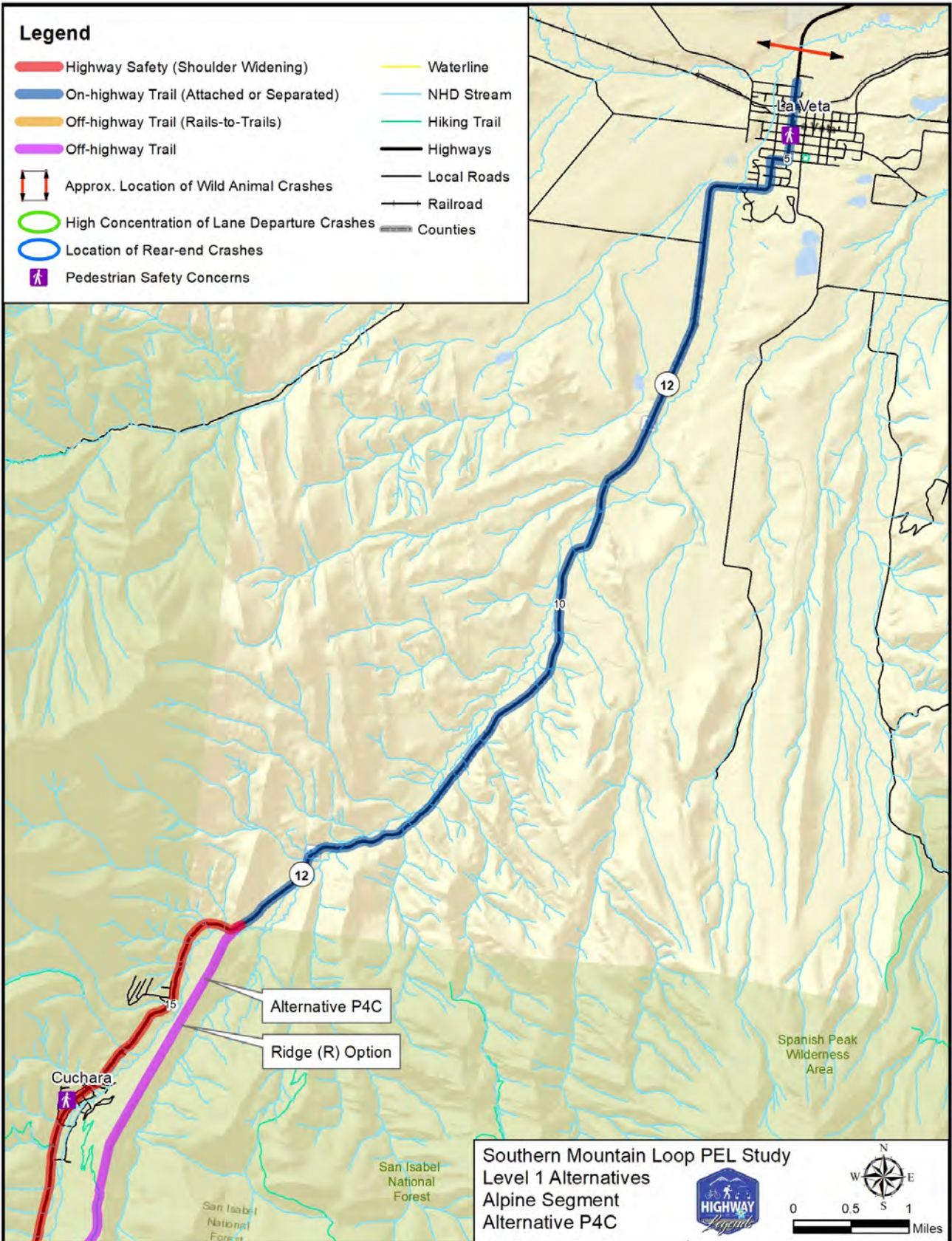


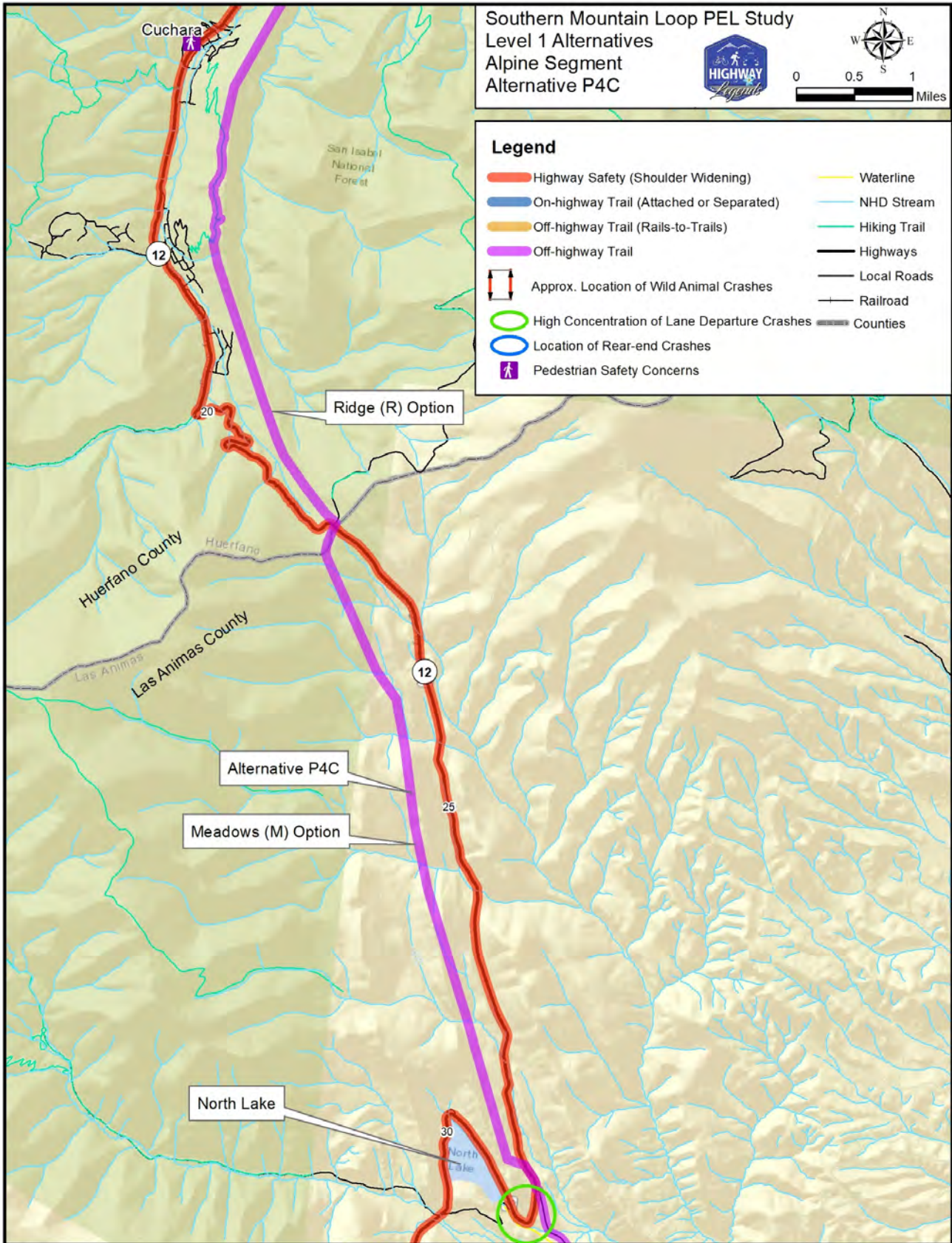


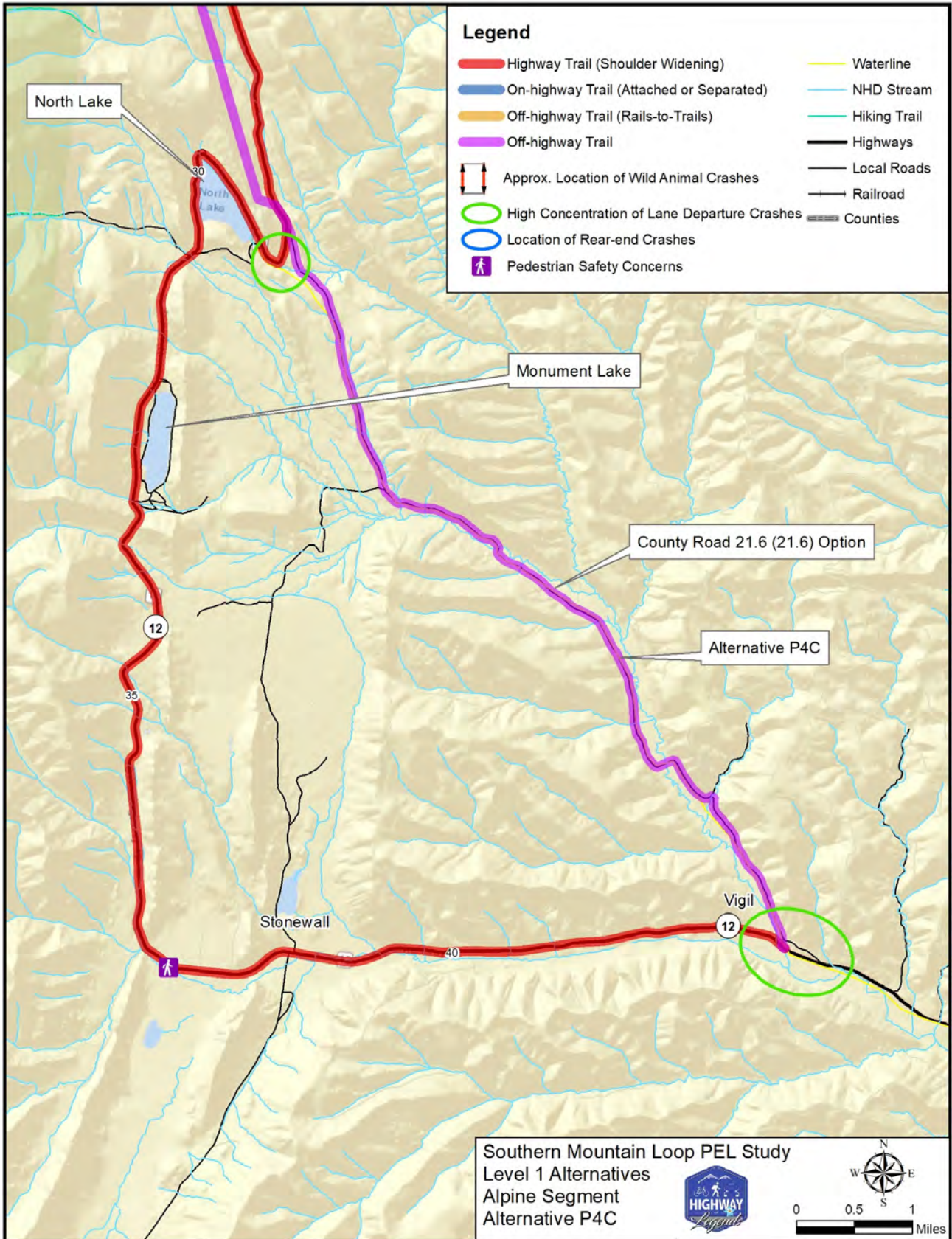


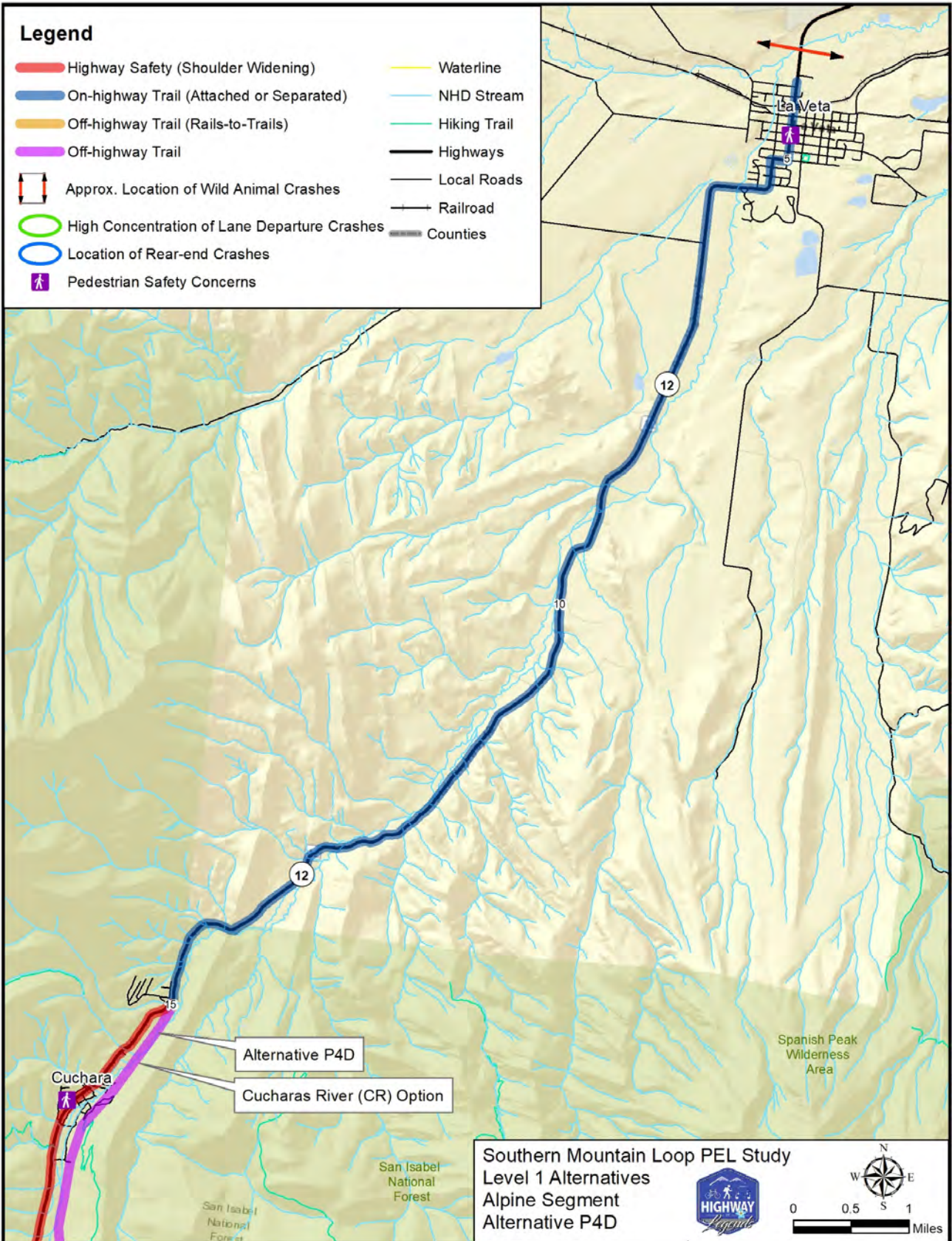


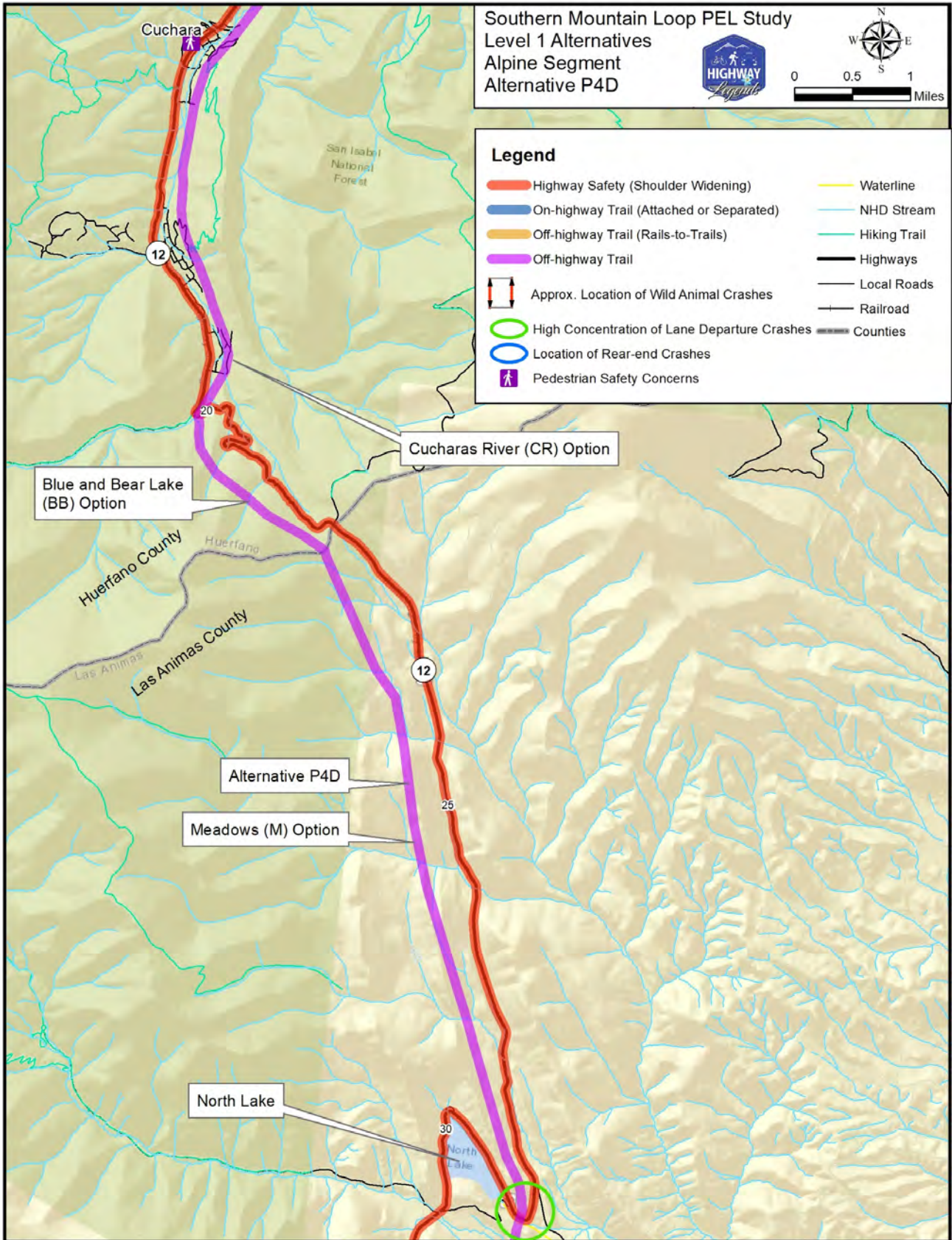


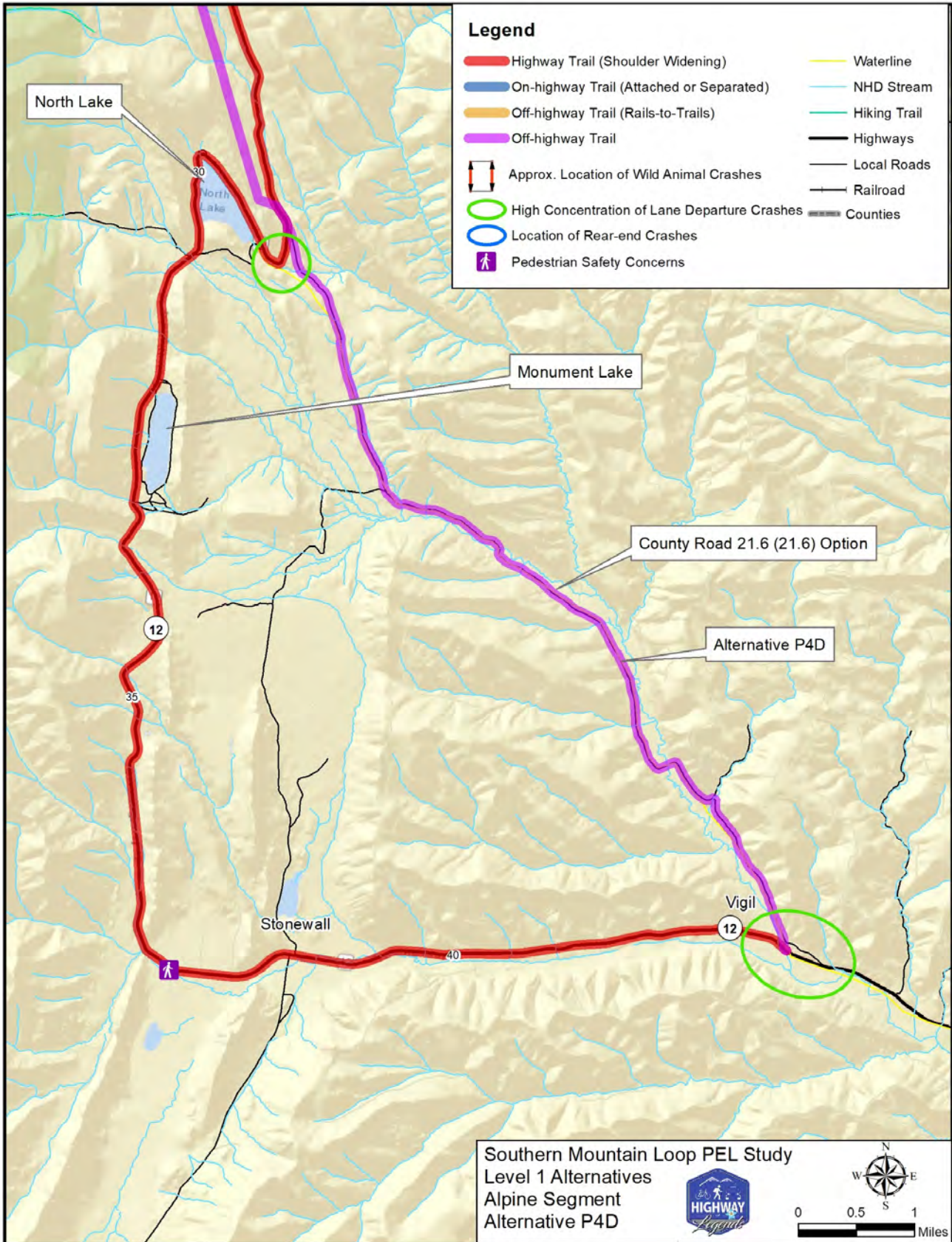


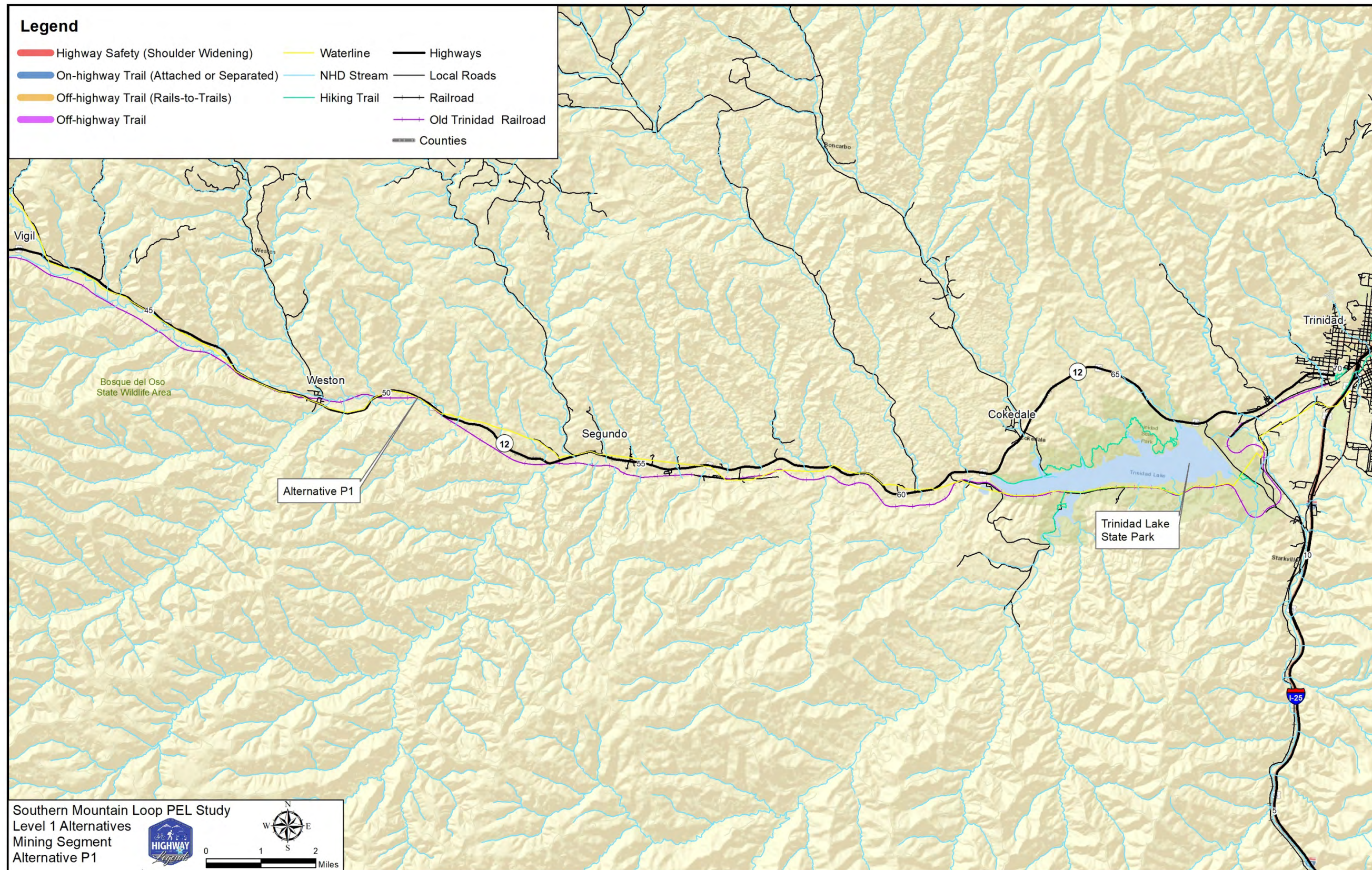


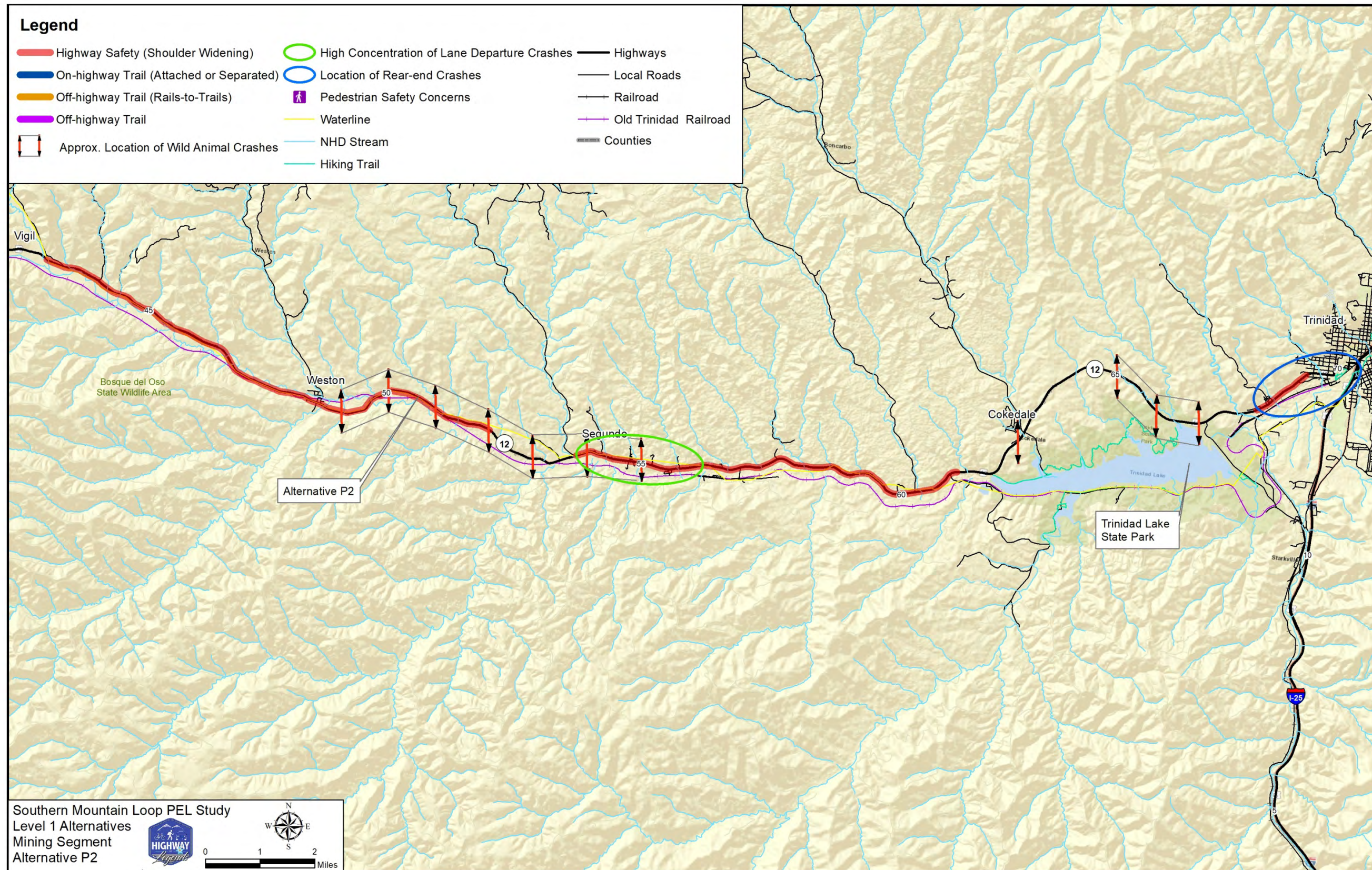


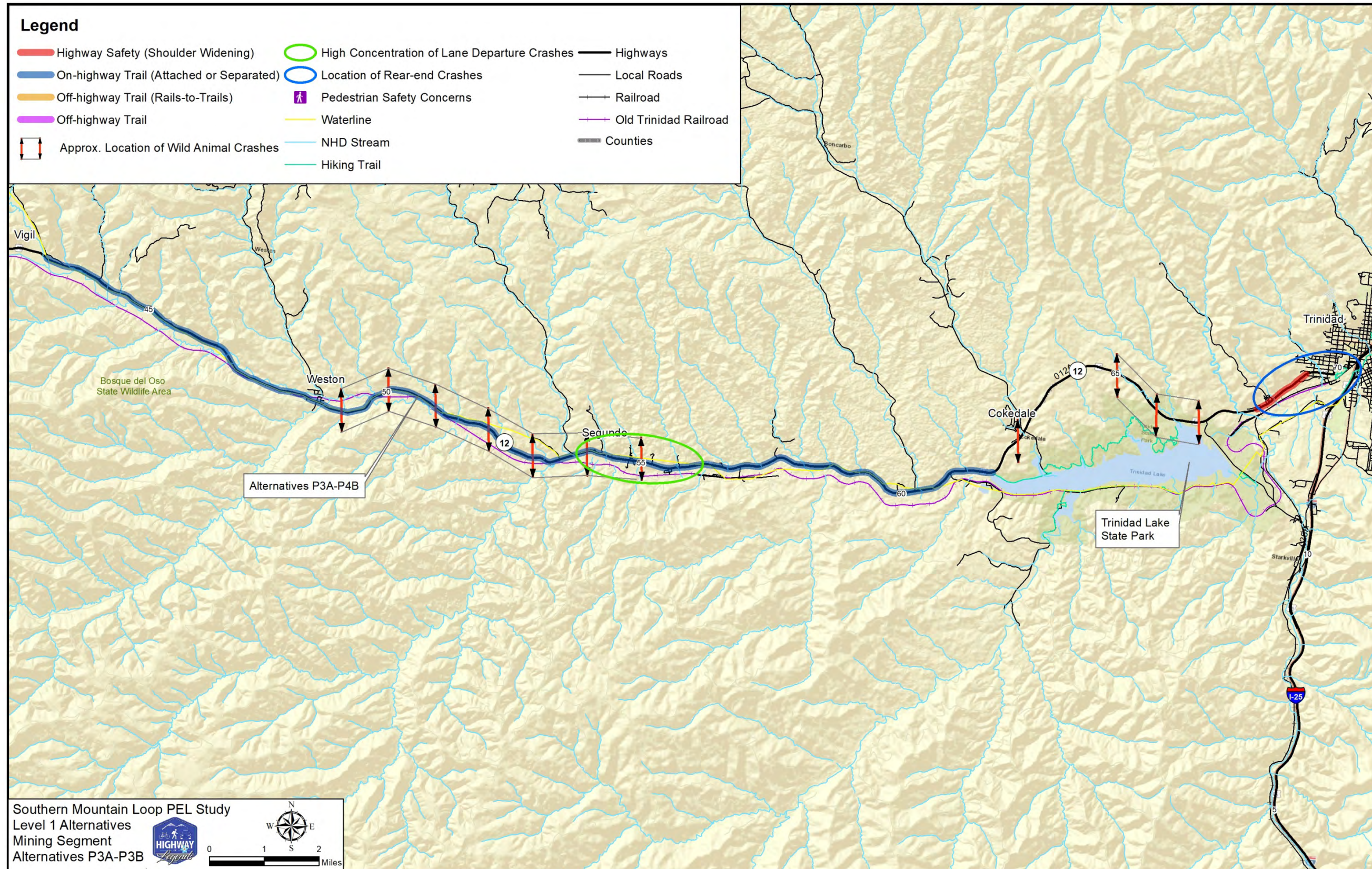


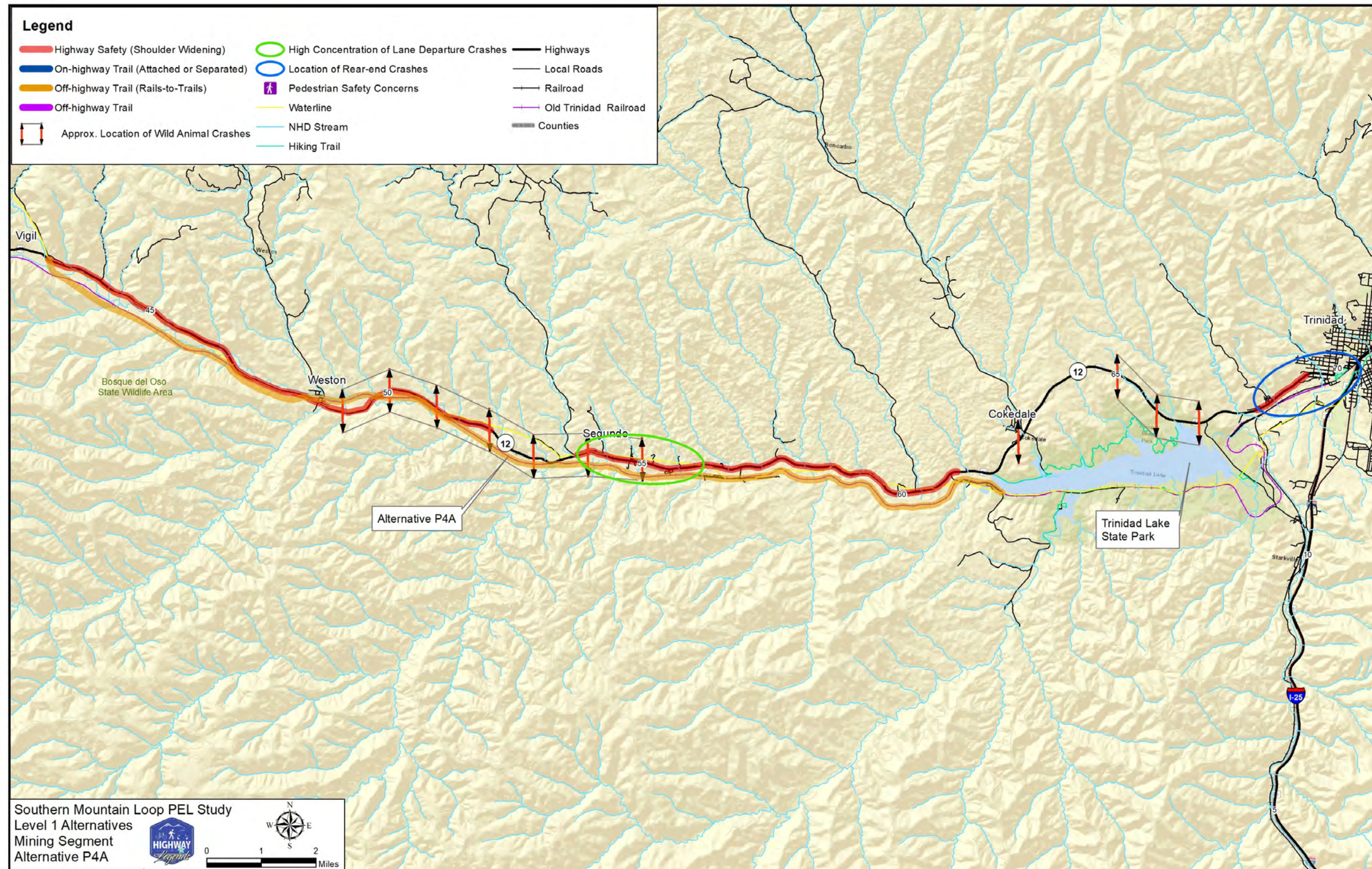


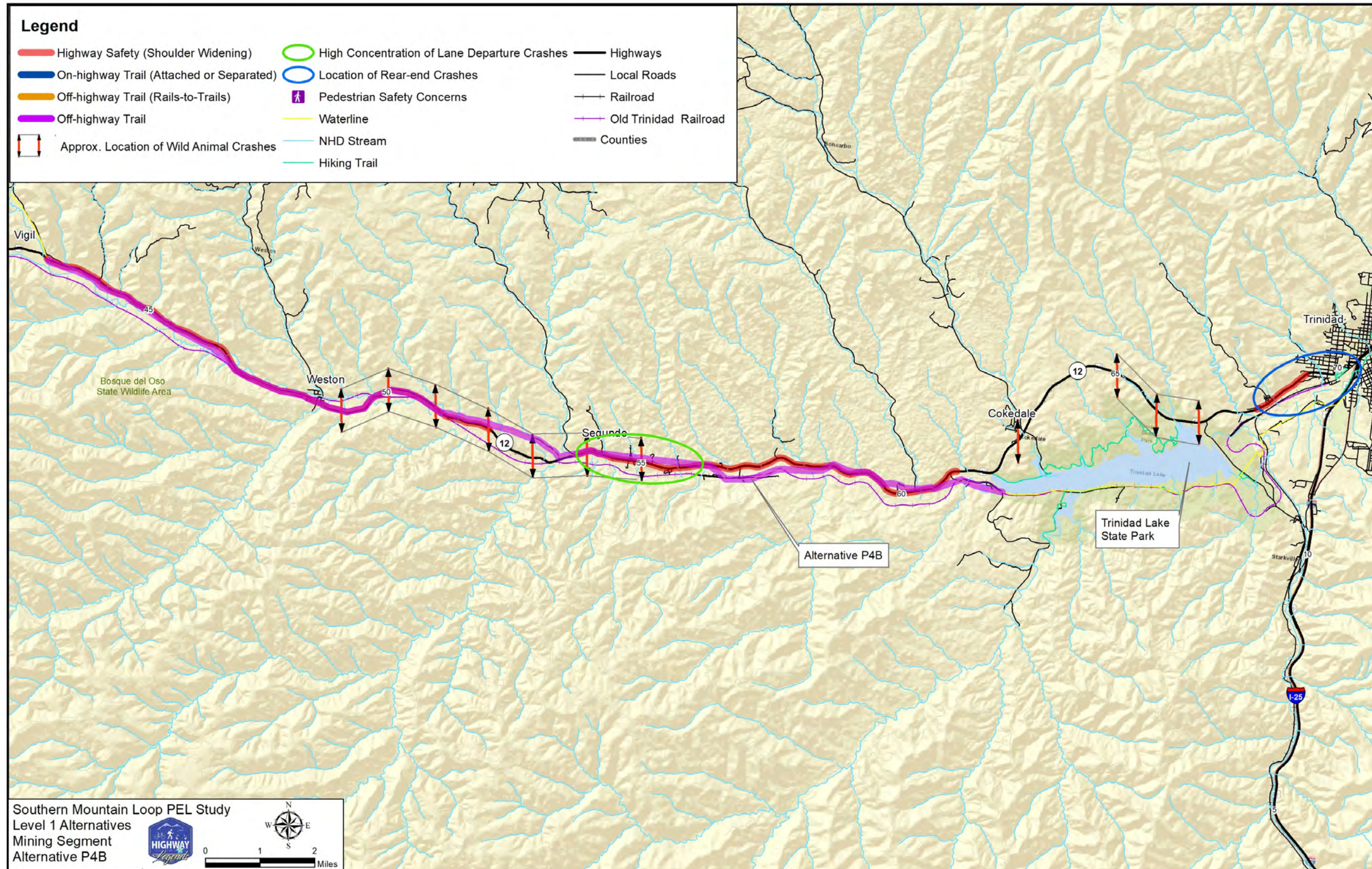












Appendix D - Agency/Public Involvement





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



Agency and Public Involvement

Elements of the Public Involvement

Public involvement was solicited at every stage of the study. This included open discussion, written comments and well-publicized meetings. Methods within the plan include:

- Awareness methods to encourage public and stakeholder attendance in the study process.
- Education methods to help the public and stakeholders better understand the purpose and need and the possibilities and issues/parameters involved in studying and implementing the project.
- Public and stakeholder input to identify issues and opportunities important to them.
- Documenting and evaluating public/stakeholder input provided evidence of the public involvement activities and the results of their input/influence into the planning process, and provided the information needed to evaluate progress.

Awareness and Education Methods

Awareness methods were used to encourage public and stakeholder attendance in the study process and education methods to help the public and stakeholders better understand the purpose and need and the possibilities and issues/parameters. Awareness and education methods of public communication opportunities included a combination of the following:



- One-on-One Meetings
 - Landowner Meetings
 - Agency Meetings

- Stakeholder / Technical / Steering Committee Meetings - The PEL Study included the formation of these committees.
- City Council and County Commissioner Briefings
- Coffee Chats - Informal Meetings
- Public Open Houses
- Project website - materials posted on CDOT/SCCOG project website included project photos, links to relevant studies/projects and news articles, study printed material and PowerPoint presentation PDFs, e-newsletter PDFs, other communication materials
- Press releases/social media posts
- Periodic electronic progress reports/enewsletters
- News media releases and coordination - public meeting notices were distributed to local appropriate print and electronic media and through the social media channel. See Appendix C for media outlets.
- Poster/flyers - since not everyone has internet capabilities, flyers and posters with key study information and public meeting dates were posted and distributed.

Agency Coordination

Resource Agency Coordination

US Forest Service - The project study team met with the US Forest Service to discuss trail options through the corridor. Colorado Parks and Wildlife were also engaged through conference calls, study presentation to CPW group and meetings.

In addition, Lathrop State Park and Trinidad Lake State Park were involved on the Technical and Stakeholder Committees. Lathrop State Park hosted the technical team meeting on July 24, 2019. Both parks have been engaged throughout the process providing feedback to each phase of the study.

Other Coordination

Railroad - Study team members participated in conference calls with Mike McConville with Iowa Pacific and Olin Dirks from Union Pacific. These calls provided insight on their openness to a rails-with- trails type of concept.

Local Mine - Study team members met and had a conference call with Louis Headly, General Manager of New Elk Mine. This communication provided information on the trail opportunities and traffic around the mine. See Appendix.



Landowner Meetings - A mailing was sent to identified major corridor property owners. In addition, the team reached out with phone calls to make landowners aware of the study. A variety of landowner meetings occurred through one-on-ones, conference calls and coffee chats, which took place to gather landowner input on highway safety and corridor trail opinions.

Public Participation - Public and Stakeholder Outreach

Outreach focused on key corridor stakeholders immediately adjacent to the 82-mile corridor. Stakeholders participated in the study represented their organization and/or constituent base, provided input, and worked through specific elements of the study in a collaborative process.



Project Technical Team

The PEL Study included the formation of a Project Technical Team (PTT) that met frequently to define the purpose and need, define alternatives, and select recommended safety and trail improvement alternatives. This team provided direct review, comment and approval of all study products. PTT members included the consultant team, CDOT staff, the SCCOG Executive Director and Federal Highway and Administration (FHWA) staff.

- Invited Participants
 - Walt Boulden - SCCOG
 - Ajin Hu - CDOT R1
 - Laurel Jones - CDOT R1
 - Troy Halouska - CDOT Central
 - Tricia Sergeson - FHWA
 - Don Scanga - CDOT R1
 - Shannon Ford - CDOT R1
 - Wendy Pettit - CDOT R1
 - Bryan Meyer - CDOT Central
 - Armando Henriquez - FHWA

Study Steering Committee

A Study Steering Committee was convened to provide local guidance for the study. This committee met four times over the course of the 18-month project.

- Roles and Responsibilities
 - Provided oversight to the study.
 - Conduit of the study to community.
 - This committee communicated with the local leaders and gathered information regarding resources of concern.
 - Local approval for study recommendations.
- Participants
 - Tim Crisler - Trinidad Parks and Rec Advisory Board
 - Mike Valentine - Trinidad City Manager
 - Dean Moltrer - Las Animas County Commissioner (former)
 - Dennis Hoyt
 - John Galusha - Huerfano County Administrator
 - Marilyn Russell - La Veta Town Board (former)
 - Victor Gutierrez
 - Deb Malone - SHOL Board
 - Cindy Campbell



- Greg Sund - Trinidad City Manager (former)

Steering Committee meetings were held June and Sept. 2019, and April and June 2020.

Study Technical Committee

The PEL Study included the formation of a Study Technical Committee that met to coordinate technical issues relating to environmental resources and public lands. Technical Committee members included the consultant team, CDOT staff, the SCCOG Executive Director and resource agencies. During the study, at the request of the engaged agencies, this committee was folded into the Study Stakeholder Committee since the agencies wanted to also attend those meetings. The Study Technical Committee met in June, August 2019 and April, June 2020.

- The role of this committee is resource-agency and environmental related.
 - Identified scope of environmental issues.
 - Confirmed relative importance of identified resources.
 - Provided input on impact avoidance and mitigation.
 - Identified and conceptualized joint development opportunities.
- Participants - Listed in the Stakeholder/Technical Committee.

Study Stakeholder Committee

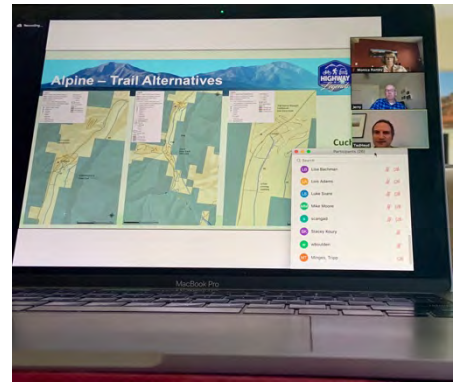
A Study Stakeholder Committee was convened four times over the course of the 18-month project. Comprised of local community and business leaders, this committee provided input on community issues and concerns. This committee was combined with the Study Technical Committee.



- Roles and Responsibilities
 - Represented their organization and/or constituent base.
 - Provided input and work through specific elements of the study in a collaborative process.
 - Hosted an initial collaborative ‘kick-off’ chartering meeting to gain a common understand of project goals, expectations, roles of key participants, methods of communications and to discussed key factors important to the success of the project.
 - A PTT meeting took place at Lathrop State Park in late July 2019. This provided an opportunity to debrief the team on the first round of committee meetings.
- Participants
 - Mike Trujillo, CO Parks and Wildlife
 - Stacey Koury, Lathrop State Park
 - Crystal Dreiling, Trinidad State Park
 - Destiny Chapman, Pike & San Isabel Nat. Forests
 - John Baumchen, Pike & San Isabel National Forests

- John Galusha, Huerfano County Government
- Melanie Bounds, Huerfano County Government
- Bob Lucero, Las Animas County
- Allison Michaels, USFWS
- Steven Turner, History Colorado, the Historical Society
- Peter Olmstead, US Army Corps of Engineers, Albuquerque District - South Colorado Regulatory Office
- Tripp Minges, CDPHE - Water Quality Division
- Jerry Henderson CDPHE - Hazardous Material
- Karen Wolf, Trinidad
- Jeffer Wingate, U.S. Forest Service/San Carlos
- Alex Alma, CO Front Range Trail
- Ben Lenth, Colorado Land Trust
- Derek Sokoloski, CO State Forestry Service
- Mike Moore, Highway of Legends
- Janet Richards, Spanish Peaks Alpine Alliance
- Bob Holder, Colorado Wildlife
- Julie Knudson, Purgatory River - Water District
- Russ Pallone, Trinidad State Park
- Jeni Jackson, Old Sopris Trail
- Cindy Campbell, Huerfano Parks & Rec District
- Anton Aldretti, Huerfano Parks & Rec District
- Travis Sauder, CO Parks and Wildlife Luke Svare, CO Parks and Wildlife
- Kent Hay, Spanish Peaks Cycling
- Kerrie Meyler, Spanish Peaks Cycling
- Ben Wiley, Walsenberg
- Pat Sandoval, Trinidad
- Sandy Borthick, La Veta/Spanish Peaks
- LaRissa Morris, La Veta-Cuchara Chamber
- Bree Lessar, La Veta RE-2 School District
- Juan Dalaroca, Trinidad Tourism Board
- Paula Berg, La Veta Fire Protection District Auxiliary
- David Staffen, La Veta Fire Department
- Harold Willburn, La Veta Town Marshal
- Jim Chamberlain, La Veta Town Marshal
- Georgi Ann Clark, Town of Trinidad
- Cy Michaels, Trinidad Tourism Board
- Louis Fineberg
- Phil Dorenkamp, Town of Las Animas
- Paula Lucero, Town of Las Animas
- Derek Navarette, Las Animas County
- Gaye Davis, La Veta School District Re2
- Tim and Ellen Lancaster, Stone Wall Shoppe and Rest.
- Arica Andreatta, Spanish Peaks Biz Alliance - Real Estate
- Anna Lee, Bachman Assoc. - Real Estate
- Lois Adams, The Cuchara Foundation
- John Littlefield, The Cuchara Foundation
- Cuchara Mountain Park Advisory Committee (CMPAC)
- Mark White, La Veta

- Karl Gabrielson, Trinidad Former City Planner
- Gary Weston, La Veta
- Shannon Youngquist-Lucy, Trinidad
- Anton Aldretti, Huerfano Parks & Rec District
- Jason Hagan, CO Parks and Wildlife
- Bill Naccarato, Primera School District
- Blake Byall, Primera School District K-12
- Vicki Koepsel, Huerfano County
- Carl Young, Huerfano County
- Evan Sander, Huerfano County
- Bob Kennemer, Huerfano County
- Marty Hackett, Colorado Welcome Center
- Joel Dunlap, BarNI Ranch
- Brad Cabot, BarNI Ranch
- Kevin Shanks, THK Associates
- Randall Navarro, THK Associates



Invitees to the stakeholder group signed a Stakeholder Charter. The Charter established the purpose of the project, critical success factors, negotiation and agreement, and communication expectations. The steering and stakeholder committees were involved in the alternatives that were considered.



The following summarizes the committee meetings:

- **Meeting No. 1 (June 2019)** - In mid-June the committees met at Cuchara Mountain Resort to discuss the study. The participants were asked what they want to see for an enhanced corridor, how to create buy-in for the study's recommendations, and what key issues are critical to moving the corridor forward. Stakeholders finished the day by endorsing the PEL Study Team Charter.

We the undersigned acknowledge and agree to the Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Team Charter. We are committed to working as a team by following through on commitments and helping one another toward a successful project outcome.

- **Meeting No. 2 (Sept. 2019)** - Stakeholder meetings took place at Monument Lake Lodge September 18. An overview of the alternatives process was presented by the project team and participants collaborated in a workshop setting to identify and discuss possible alternatives. The results from this process assisted the team with improvement ideas.
- **Meeting No. 3 (April 2020)** - Due to COVID 19 the April committee meetings were held as virtual Zoom meetings. Highway safety improvement, trail alternatives and SHOL Byway features were presented and discussed. Approximately 28 stakeholders and 15 steering committee members participated in these meetings.

- **Meeting No. 4 (July 2020)** - Due to COVID 19 the July committee meetings were held as virtual Zoom meetings. Implementation plans for the highway safety improvements, trail alternatives and SHOL Byway features were presented and discussed. Discussions were also held regarding funding and oversight for the trail improvements.

Elected Official Communications

Elected officials received invitations via regular communications and e-newsletter project updates to all stakeholder and public meetings. Also, working with the SCCOG, the Consultant Team ensured that the elected officials who represent the area were fully informed with periodic briefings.

- Steering Committee to provide on-going updates to elected officials
- Periodic briefings during milestones
- E-Newsletter project updates
- Invitations to public meetings



Festival Events

Postcard information and posters were provided in English and Spanish with coffee chat information about the study and upcoming public meeting and coffee chat dates were handed out to attendees. Project team answered questions about the study. Events included:

Friday, Aug. 9

Stonewall Century Ride Pre-Dinner, La Veta, CO

Stuff fact sheets into over 100 participant bags.

Saturday, Aug. 10

Trinidad Community Farmer's Market Cimino Park, Trinidad, CO

Wandered round the event and handed out 35 fact to stakeholders

Saturday, Aug. 10

Huerfano County Fair, La Veta 4H Barn

Wandered round the event and handed out 35 fact to stakeholders

Saturday, October 5

La Veta Oktoberfest

Approximately 24 residents stopped by the information booth and sign-up to receive additional project information.

Informal Stakeholder Briefings (one-on-one) and Coffee Chats

Meetings occurred in conjunction with regularly scheduled meetings of these groups, located at key businesses locations throughout the Corridor. All coffee chats meetings were promoted through community calendars, press releases and social media.

- Public agencies
- Business owners
- Conservation land groups
- Adjacent property owners
- Key corridor stakeholders immediately adjacent to the project limits

Coffee Chats - August 2019

Informal Coffee Chats meetings were held in Trinidad, Stonewall, Cuchara, La Veta and Walsenburg in August. Local residents were provided opportunities to meet with the study team and share their thoughts about issues and concerns within the SML corridor.

Tuesday, Aug. 20

The Stonewall Shopping Bag, Weston, CO 81091

Approximately 16 local residents and property owners attended.

Cuchara Dog Bar, Cuchara, CO 81055

Approximately 8 local residents attended.

Walsenburg La Plaza Inn, Walsenburg, CO 81089

Approximately 5 local residents attended

Wednesday, Aug. 21

La Veta Library, La Veta, CO 81055

Approximately 8 local residents attended

Mooses Social Club, Trinidad, CO 81082

Approximately 8 local residents attended.

Thursday, Aug. 22

La Veta Paradise Coffee, La Veta, CO 81055

Approximately 8 local residents attended.

Serendipity Coffee House, 528 Main St, Walsenburg, CO

Approximately 3 local residents attended

Coffee Chats- January 2020

Tuesday, Jan. 14

The Stonewall Shopping Bag, Weston, CO 81091

Approximately 16 local residents and property owners attended.

- Some expressed concerns about cyclists along SH 12 and safety issues.
- Some expressed concern about CDOT needing to acquire ROW and private property rights.
- Some expressed the need for better speed enforcement.

Wednesday, Jan. 15

Mooses Social Club, Trinidad, CO 81082

Approximately three local residents attended.

- Attendees were supportive of trail and safety improvements.
- Expressed concerns about current SH 12 being safe for cyclists.

Thursday, Jan. 16

La Veta Mercantile, La Veta, CO 81055

Approximately 24 local residents and property owners attended.

- Very supportive of byway trail and safety improvements.

Public Meetings - Sept. 2019

Approximately 50 community members attended a public open house at Trinidad State College to learn more and provide input about improvements and enhancements to the Corridor. Landowners and participants were able to convey their concerns about safety with the project team. Other participating agencies, such as the Colorado Parks and Wildlife and the US Forest Service, attended the events and engaged with the public and stakeholders in discussing issues, concerns and opportunities along the Corridor. The public meeting was promoted through social media, community calendars, press releases and eNewsletters to the database that included all those interested in the study.





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



Public Meeting Summary

Trinidad College - Pioneer Room | September 18, 2019 | 5:30 – 7:30 p.m.

Comments/Questions Asked

- Wildlife accidents are a big issue
- No place along SH 12 to safely pull off the road and safely get out of the car
- Fisher's Peak State Park – connect Trinidad Lake State Park for synergy
- Eliminate the traffic congestion on SH 12
- There is planned roundabout at Exit 11 on both sides of the highway
- Get ahead of the design/engineering now and make a nice trail connection
- Of trails that are already built, what percent of the trails are off the road?
- What kind of bicycle traffic is there now?
- Annual Century Ride has 150 participants
- The PowerPoint presentation will be put on the website.
- Will this road and trail be open to E-Bikes?
All State Parks allow for E-Bikes. There are 3 classes of E-bikes. Class 1 and 3 are fine on the roads. Class 2 with a motorized throttle is not allowed.
- Will these be walking trails as well?
The intent is for multi-use. Different sections lend themselves to different uses.
- Anything like this will make safety worse. Need to get the speed limit lowered and enforce it.
- A running group uses CR 340 for a 20-mile run from LaVeta to Walsenburg.
- On CR 358 you will encounter wild horses. It is a close parallel to SH 12 and could be an alternate route.
- On US 160, the last "Ride the Rockies" had 9 injuries and one person killed. There were no emergency services at this end. Look at alternate routes. SH 12 is an accident waiting to happen.
- On US 160 there are continual accidents. There is not enough man-power to patrol the area.
- Doesn't work when you have bicycles on the road.
- Bicycles are a constant pain in the neck.
- Who is going to pay for all this when bicycles cause accidents?
- CDOT can't even maintain SH 12 now, the county sure can't.
- Walt Boulden – this is a study about safety. If we are attracting bicycles, then we need to plan ahead for it how to handle the increased bicycle traffic. Bicyclist are already coming so we need to plan for it.
- Take the railroad back, at least to the mine and that will help.
- Look at the Colorado Springs Rock Island Trail Study for using the railroad track.
- CR 21.6 is predominately privately held. What are you thinking for that area?
- If safety is the over-riding theme, do you know that the Elk Mine is reopening and there will be truck traffic barreling along the road? How will you deal with that? The mining operation will have to coordinate with CDOT.

- Is it a law that you have to wear a helmet when bicycling a state highway? Bicyclist on the roadway without a helmet is putting a lot of burden on the vehicle driven.
- Will your study identify how much property you will have to purchase from land owners and how much it will cost?
- Are you looking at imminent domain?
- What is the budget for the study? \$250,000 from a TAP grant combined with \$750,000 state and federal money
- What is the timeline for the study being done? Summer of 2020
- A supplement plan will identify feasible projects over the long-term, over 10 years and in pieces. Cost of construction is yet to be determined.
- Called Captain Lyons, State Highway Patrol, and he knew nothing about the study.
- Vehicle owners pay gas taxes. Bicyclists don't pay taxes. Who will make decisions, people here or in Denver?
- The focus of the study, bikes will be here, how do we address safety?
- CR 21.6 has no fencing. Will you be fencing it on both sides? Every year, people are killed. You are opening a can of worms with this.
- People are parking all over the sides of roads. You add bicyclists and it will be worse.
- The roads have rocks and gravel. This needs to be cleaned up.





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



Welcome!

Public Open House
(Study Introduction)

Southern Mountain Loop
Planning and Environmental
Linkages Study

September 18, 2019:
5:30 pm to 7:30 pm

No Formal Presentation



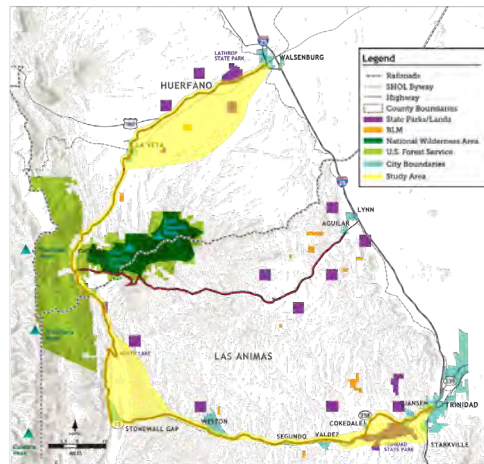
Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



Study Background:

PURPOSE OF PROJECT

The purpose of the project is to improve safety, provide a regional and local multi-use trail, and improve connections and access to recreational facilities and communities along the Colorado Scenic Highway of Legends Byway (US 160 and SH 12) between Walsenburg and Trinidad.





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



What is a PEL Study?

- Planning-level study for transportation issues and environmental concerns along a corridor.
- Decision-making tool for "projects".
- Enables CDOT and local agencies to advance projects into next steps based on priorities and funding.

Note: Next steps would include funding, NEPA (National Environmental Policy Act) Studies, public meetings, design, and permitting, before construction of a project could begin.

Kinds of Decisions In Study

- Scope and limits of projects
- Environmental setting and issues
- Plan for Implementation

Types of Analyses within Study

- Travel characteristics and demand
- Economic development and land use
- Natural and manmade environment
- Agency and public involvement



Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



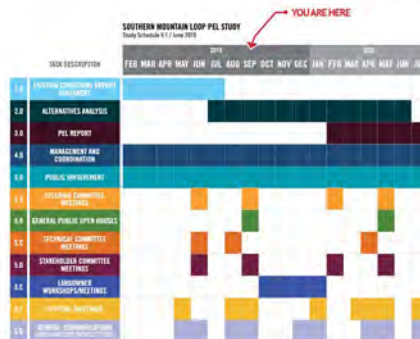
Study Process and Schedule:

Agency/Public Information

- Study Intro - June/July 2019
- Existing Issues - Aug/Sept 2019
- Alternatives - Dec/Jan 2020
- Recommendations - April/May 2020
- Implementation Plan/Report - July 2020

HOW TO STAY INFORMED

- Stakeholder Meetings
- Coffee Chats
- Public Open Houses
- Project Website
- eNewsletters
- Social Media
- Press Releases
- Presentations





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



US 160 and SH 12 Traffic and Safety

1.

Roadway Section

The corridor has highly variable shoulder widths ranging from 0-feet to 10-feet.

2.

Traffic Volumes

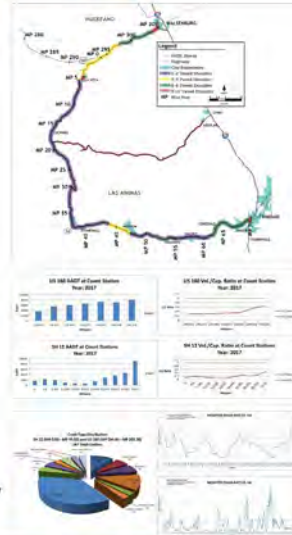
Current and projected traffic volumes do not exceed roadway capacities.

*Does not include possible future truck traffic from New Elk Mine.

3.

Crash History

Based on historical records from January 2013 through December 2017



Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



Multi-Use Trail

COLORADO FRONT RANGE TRAIL
Planned trail by Colorado Parks & Wildlife along Front Range from Wyoming to New Mexico.



LEVEL OF TRAFFIC STRESS FOR BICYCLISTS

Traffic volumes, number of lanes, pavement markings, shoulder widths, and posted speed limits affect stress levels for bicyclists.



CONNECTIONS AND ACCESS

- Local communities and resorts
- State Parks (Lathrop and Trinidad Lake)
- Trailheads and Trails
- State Wildlife Areas
 - Wahatoya
 - North Lake
 - Bosque del Oso
- San Isabel National Forest
- Spanish Peaks National Wilderness Area



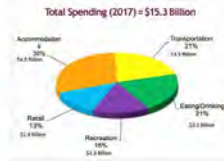
Southern Mountain Loop

Highway 12 Planning and Environmental Linkages (PEL) Study



Scenic Byway Features

SCENIC HIGHWAY OF LEGENDS BYWAY
 One of the first highways designated (1989) as a Colorado Scenic and Historic Byway.



IMPACT OF TOURISM IN COLORADO
 Tourism is a significant contributor to the state's economy.



BYWAY INTERPRETIVE SITES
 The byway includes a number of existing and planned pull-offs with interpretive signs for tourists to enjoy the surrounding scenery and learn about the area's rich history.



Southern Mountain Loop

Highway 12 Planning and Environmental Linkages (PEL) Study



Environmental Resources

- 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





Southern Mountain Loop

Highway 12 Planning and Environmental Linkages (PEL) Study



Thank you for attending!

Public Open House
Southern Mountain Loop Planning
and Environmental Linkages Study
September 18, 2019: 5:30 pm to 7:30 pm

Comments may be provided:

- Comment form
- Email – SouthernMountainLoop@gmail.com

Stay Connected:

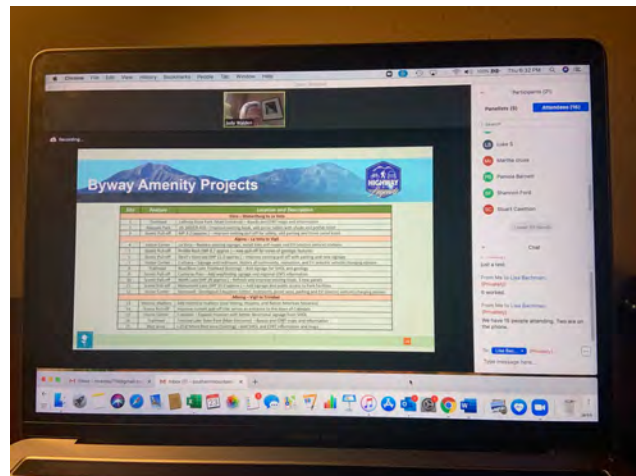
- <https://www.codot.gov/library/studies/co-12-sml-pel>
or
- <https://www.colorado.gov/pacific/sccog>
Click on Development link to access additional information
about the SML PEL Study.

Questions?

- Call: 719-427-1078
- Email: SouthernMountainLoop@gmail.com

Public Meetings - July 2020

Due to the Coronavirus pandemic the project team conducted the final public engagement via a Zoom webinar. Approximately 25 community members attended the virtual public house to learn more about the recommendations and the next steps. Overall tenor of the comments was positive and supportive of the study's recommendations. The public meeting was promoted through social media, community calendars, press releases and eNewsletters to the database that included all those interested in the study.





Southern Mountain Loop

Highway 12 Planning and Environmental Linkages (PEL) Study



Virtual Public Open House Summary

July 23, 2020 | 6 - 7 p.m.

Recorded Presentation:

https://us02web.zoom.us/rec/share/vZ1oPa3fqkFLQ5XOxhDRR0lxMZ65T6a82igYq_UFxB7D6aEm2o8lyqF2Fhl8ISYj

Approximately 20 people joined a Zoom Webinar for the final public engagement for the Southern Mountain Loop Planning and Environmental Linkages Study.

Comments/Questions Asked

- Thank you for hosting tonight's event! Very exciting!
- Is there an on-road or near road option for the stretch that is proposed to follow the old railroad bed west of Trinidad?
- Who will be responsible for paying for this? I am assuming Taxpayers? Grants?
- When will we actually be able to take advantage of the new routes?
- How long until the PEL is adopted?
- Will this presentation be available for us to access/provide a link to in the future so I can help get others engaged in this?
https://us02web.zoom.us/rec/share/vZ1oPa3fqkFLQ5XOxhDRR0lxMZ65T6a82igYq_UFxB7D6aEm2o8lyqF2Fhl8ISYj
- This proposal looks very interesting and exciting! We love the LaVeta/Cuchara area and are excited about the ideas presented. We really resonate with the "Think Big and start small" concept...Thank you for all the effort and the presentation!
- How will the results be presented to the Regional Planning Board?
- Is CPW weighing in on the alternatives for off highway? There is huge wild game in the area - how will that impact that industry?
- Is there a specific organization that will be spearheading next steps, or do you have any suggestions for developing a solid collaboration for next steps?
- Thank you so much for all of your hard work!



Southern Mountain Loop Planning and Environmental Linkages (PEL) Study

Public Virtual Open House



July 23, 2020 – 6 to 7 p.m.



Virtual Public Open House



Meeting Logistics

- This meeting has been called to conduct business on behalf of Colorado Department of Transportation and South Central Council of Governments.
- Only the host and presenters will be sharing their screen during this meeting.
- All microphones and video cameras will be muted/off until after the formal presentation.
- Activities that disrupt, delay or otherwise interfere with the meeting are prohibited. Any who disrupts or otherwise impedes the orderly conduct of the meeting shall be removed.

Sponsored By:






Virtual Public Open House

Meeting Logistics

- The presentation portion of this meeting will be recorded and posted online for anyone who was not able to attend the meeting.
- Following the presentation, we will stop recording and will transition to the public engagement portion of the meeting.
- At that time attendees can ask questions through the Q&A feature. Please provide us with your name when you are asking a question.
- Only the host and individuals designated by the host will be permitted to share their screen during this meeting.
- Please limit comments to the topic of tonight's meeting.


Sponsored By:




Welcome

Agenda




- Study Background
- Study Goals and Process
- Study Recommendations
- Next Steps
- Questions and Answers
- Wrap-up



Study Background



- Colorado Front Range Trail (CFRT) by Colorado Parks & Wildlife
 - Planned Multi-use Trail from Wyoming to New Mexico
 - Identified the Scenic Highway of Legends (SHOL) Byway as the Southern Mountain Loop (SML)
- Transportation Alternatives Program (TAP) Grant
 - Advance the planning of the CFRT along the SML
 - Submitted by Huerfano/Las Animas Counties – administered by SCCOG
- CDOT – Interested in highway safety along the SHOL
- SCCOG/CDOT Partnership – Perform an integrated highway safety and trail planning study as a Planning and Environmental Linkages (PEL) Study



5

What is a PEL Study



- Planning-level study for transportation issues and environmental concerns along a corridor.
- Decision-making tool for “projects”.
- Enables CDOT and local agencies to advance projects into next steps based on priorities and funding.
 - NEPA (National Environmental Policy Act)
 - Permitting
 - Design and Construction

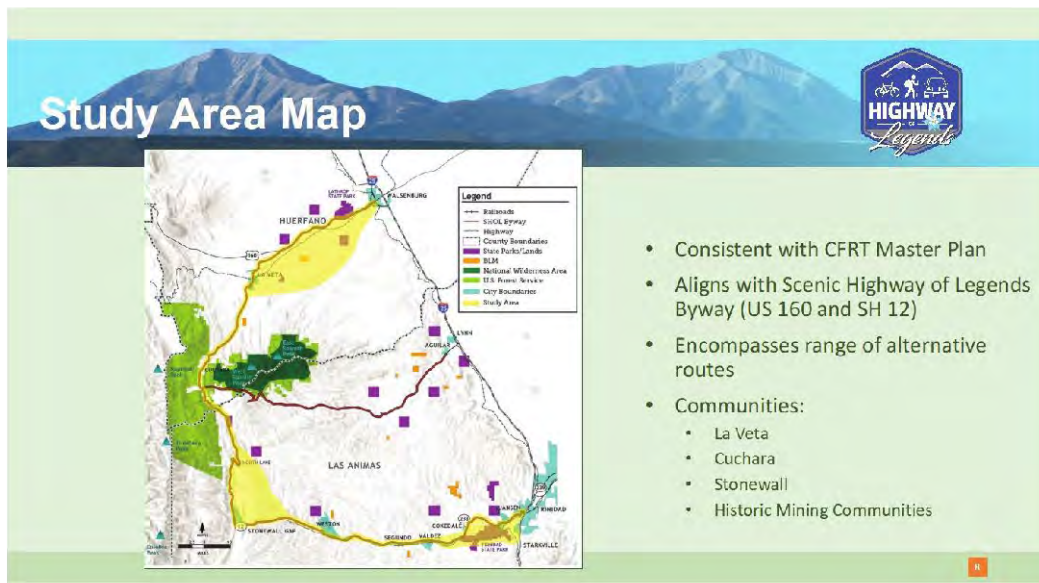
Planning Decisions

- Scope and limits of projects
- Environmental setting and issues
- Plan for implementation

Planning Analysis

- Travel characteristics and demand
- Economic development and land use
- Natural and manmade environment
- Agency and public involvement

5



Draft Purpose and Need



PURPOSE

The purpose of the project is to improve highway safety and provide a regional and local multi-use trail along the Scenic Highway of Legends Byway between Walsenburg and Trinidad.

NEED

Integrated improvements to address:

- Highway Safety
 - Wildlife Crossings
 - Substandard Roadway Configurations
 - Rural-Urban Transitions
 - Bicycle and Pedestrian Safety
- Regional and Local Multi-Use Trail
 - Accommodations
 - Connections

9

Study Process and Schedule



Goals and Purpose → Alternatives → Implementation

- Start of Study – February 2019
- Study Intro – June/July 2019
- Existing Issues – Aug/Sept 2019
- Coffee Chats – August 2019
- Purpose and Need – Sept 2019
- Public Mtg – Sept 2019

- Level 1 Alts – Sept/Dec 2019
- Coffee Chats – January 2020
- Level 2 Alts – Jan/April 2020
- Recommendations – April/June 2020

- Implementation Plan – July 2020
- Public Mtg - TODAY
- Final Report – August 2020

10

Agency/Public Involvement




- Goal – Active engagement with local opinions/views
- Study Committees (Technical/Steering/Stakeholder)
- Public Open Houses and Coffee Chats
- Communication Tools:
 - Website (SCCOG/CDOT)
 - Press Releases
 - Social Media
 - Newsletters/Fact Sheets
 - Email
 - Posters
 - Postcard Mailings








Study Stakeholder Committee with Signed Charter – June 19, 2019

11

Study Recommendations



-  **Highway Safety Projects** – Included with all trail projects
-  **Multi-use Trail Projects** – Narrow range of trail alternatives for more detailed study
-  **Byway Amenity Projects** – Included with all trail projects



12

Highway Safety Projects

- Wildlife Crossings – 4 Locations
- Lane Departure Crashes
 - Shoulder Widening
 - Roadway Configuration – North Lake, Vigil and Segundo
- Transition Zones (Rear-end Crashes)
 - Walsenburg (RR Crossing)
 - Jansen
 - Santa Fe/Main St Intersection (Trinidad)
- Bicycle Safety – Signage and Pavement Markings
- Pedestrian Safety
 - La Veta
 - Cuchara
 - Stonewall

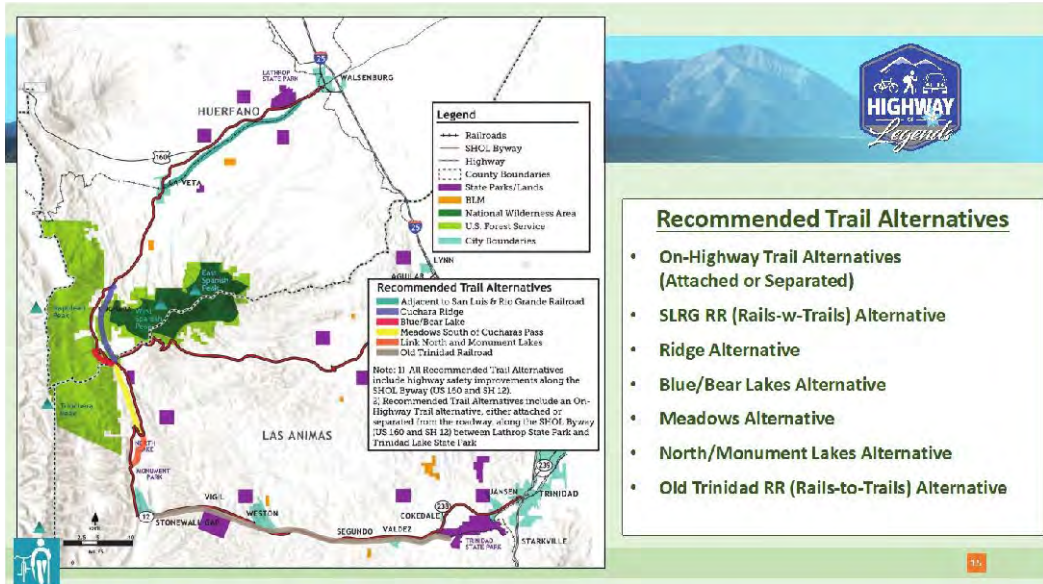
**US 160 / SH 12 TYPICAL SECTION
WALSENBURG TO LA VETA
LOCATION NEAR MP 2 SHOWN
(see table for shoulder dimensions)**




Highway Safety Projects – Priorities

- Can advance independent of trail alternatives
- Based on Weighted Accident Rates
- Coordinate with Trail Studies
- Depends on CDOT Funding and Overall Priorities
- Could be Implemented Differently - Flexibility

| Project Priority | S/U | General Description | Route | Project Location | | | Highway Constr. Cost (\$M 2017\$) | Trail Constr. Cost (\$M 2017\$) |
|------------------|-----|-----------------------------------|--------|------------------|---------|-------------|-----------------------------------|---------------------------------|
| | | | | Tran (mi) | TD (MP) | Length (mi) | | |
| 1 | 8 | Segundo Area | SH 12 | 52.8 | 56.8 | 4.0 | \$2.5 | \$7.4 |
| 2 | 8 | Vigil Area | SH 12 | 42.1 | 44.1 | 2.0 | \$0.7 | \$2.6 |
| 3 | 5/6 | Curve SE of North Lake | SH 12 | 27.0 | 29.0 | 2.0 | \$1.7 | \$4.1 |
| 4 | 1 | US 160 to La Veta (N) | SH 12 | 0.0 | 4.6 | 4.6 | \$9.2 | \$5.5 |
| 5 | 8 | Vigil (E) to Segundo (W) | SH 12 | 41.1 | 52.8 | 8.7 | \$1.4 | \$18.5 |
| 6 | 3/4 | La Veta (S) to Cuchara Mt. Resort | SH 12 | 5.8 | 18.4 | 12.6 | \$18.7 | \$18.7 |
| 7 | 8 | Santa Fe/Main Street Intersection | SH 12 | 70.7 | 70.8 | 0.1 | \$7.6 | NA |
| 8 | 8 | Segundo (E) to Cokedale (W) | SH 12 | 55.8 | 51.1 | 4.6 | \$8.6 | \$8.1 |
| 9 | 7/8 | Monument Park to Vigil (W) | SH 12 | 11.6 | 47.1 | 8.5 | \$4.7 | \$11.7 |
| 10 | 6/7 | North Lake to Monument Park | SH 12 | 29.0 | 33.6 | 4.6 | \$9.8 | \$7.0 |
| 11 | 1 | US 160 Railroad Crossing | US 160 | 304.8 | 305.2 | 0.4 | \$0.1 | NA |
| 12 | 8 | Jansen Area | SH 12 | 68.1 | 79.1 | 1.0 | \$3.4 | NA |
| 13 | 2 | City of La Veta | SH 12 | 4.5 | 5.8 | 1.2 | \$0.7 | NA |
| 14 | 1 | Cuchara Mt. Resort to North Lake | SH 12 | 15.4 | 27.0 | 8.6 | \$7.1 | \$9.2 |






On-Highway Trail Alternatives

“Attached” with Shoulder

“Separated” from Roadway

Off-Highway Trail Alternatives




Byway Amenity Projects



- Scenic Pulloffs
- Need for public restrooms and refuge
- Public areas for picnics
- Interpretive signage expanded
- Cultural amenities for the greatest number of visitors
- Focal point for each community (Visitor Centers)





Byway Amenity Projects

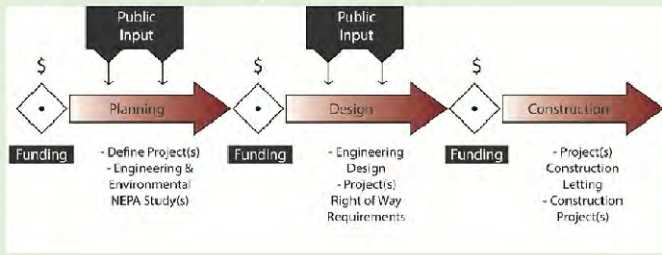


| Site | Feature | Location and Description |
|--------------------------------------|------------------|---|
| Vista – Walsenburg to La Veta | | |
| 1 | Trailhead | Lathrop State Park (Main Entrance) – Byway and CRT maps and information |
| 2 | Wayside Park | US 160/CR 450 – Improve existing kiosk, add picnic tables with shade and prefab toilet |
| 3 | Scenic Pull-off | MP 3.2 (approx.) – Improve existing pull-off for safety; add parking and three-panel kiosk |
| Alpine – La Veta to Vigil | | |
| 4 | Visitor Center | La Veta – Relocate existing signage, install bike self-repair and EV (electric vehicle) stations |
| 5 | Scenic Pull-off | Profile (lock (MP 8.7 approx.) – new pull-off for views of geologic features |
| 6 | Scenic Pull-off | Devil's Staircase (MP 11.0 approx.) – improve existing pull-off with parking and new signage |
| 7 | Visitor Center | Cucharas – Signage and restroom, history of community, recreation, and EV (electric vehicle) charging station |
| 8 | Trailhead | Blue/Bear Lake Trailhead (Existing) – Add signage for SHOL and geology |
| 9 | Scenic Pull-off | Cucharas Pass – Add wayfinding signage and regional USFS information |
| 10 | Scenic Pull-off | North Lake (MP 29 approx.) – Refresh and improve existing kiosk; 3 new panels |
| 11 | Scenic Pull-off | Monument Lake (MP 33.0 approx.) – Add signage and public access to Park facilities |
| 12 | Visitor Center | Stonewall - Geological Education Center, restrooms, picnic area, parking and EV (electric vehicle) charging station |
| Mining – Vigil to Trinidad | | |
| 13 | Historic Markers | Add historical markers (coal mining, Hispano, and Native American histories) |
| 14 | Scenic Pull-off | Improve current pull-off that serves as entrance to the town of Cokedale |
| 15 | Visitor Center | Cokedale – Expand museum with better directional signage from SHOL |
| 16 | Trailhead | Trinidad Lake State Park (Main Entrance) – Byway and CRT maps and information |
| 17 | Rest Area | I-25 El Moro Rest Area (Existing) – Add SHOL and CRT information and maps |

Implementation of Projects







- Continue Regional Collaboration
- Maintain Multi-agency Partnerships
- Pursue and Secure Funding
- Leverage Highway Safety Projects
- Think Big While Starting Small – Build Momentum

How to Comment



Your input is important:

- Send us your comments by July 31st
- Share with others
- Email or call
- Look for the final report on project website

Email: SouthernMountainLoop@gmail.com

Website: <https://www.codot.gov/library/studies/co-12-sml-pel>

Phone: 719.427.1078



Questions and Comments



Due to the large attendance and to make certain we don't talk over each other we will be answering questions through the Q&A mode. Please send us any questions at this time through the Q&A feature. For those attending by phone please text your questions or comments to 719-339-4109.



Communication Tools and Tactics

Awareness methods were used to encourage public and stakeholder attendance in the study process and education methods employed to help the public and stakeholders better understand the purpose and need and the possibilities and issues/parameters.

The following tools were used throughout the project to communicate project progress.

- **Project Website/Landing Page CDOT and SCCOG**

A basic project page was established on CDOT's website and linked to SCCOG as a tool to share information with the general public and stakeholders. The CDOT project page became the primary site for project information. Content was provided by the consultant team. Both sites included information about the project, history, purpose, need, scope, maps, photos/illustrations, progress, contact information, and other study document.



- CDOT project page: <https://www.codot.gov/library/studies/co-12-sml-pel>
- SCCOG project page: <https://www.colorado.gov/pacific/sccog/southern-mountain-loop-%E2%80%93-highway-12-planning-and-environmental-linkages-pel-study>

- **Stakeholder and Public Contact Database**

A contact database was developed that included agency partners, landowners, outdoor organizations, advocacy organizations, state/local tourism, economic development agencies, environmental resource agencies, State Byways, cycling/trail organization, chambers, community and business leaders and businesses. Each group was actively solicited for their input/feedback. The database was used for study updates, meeting notifications throughout the duration of the project.

- **E-Newsletter** - e-Newsletters were developed and distributed to more than 200 contacts in the database including agencies, stakeholders, property owners and members of the general public who requested information on the project. Seven e-newsletters were developed and distributed, that included public/stakeholder meeting reminders and one after the final public/stakeholder meeting.

- SML HWY 12 PEL Study - ENewsletter - Summer 2019 - Aug. 13, 2019 - <https://conta.cc/31vZHA>



- SML HWY 12 PEL Study - Coffee Chat Reminder - Aug. 18, 2019 - <https://conta.cc/31M8j6S>
- SML HWY 12 PEL Study - Public Meeting - Sept. 10, 2019 - <https://conta.cc/2LO1MCu>
- SML HWY 12 PEL Study - Public Meeting - Reminder - Sept. 16, 2019 <https://conta.cc/30izQeY>
- SML HWY 12 PEL Study - Upcoming Meetings - Jan. 2020 - Jan. 6, 2020 - <https://conta.cc/39IUFPv>
- SML HWY 12 PEL Study - ENewsletter - Jan. 2020 - Upcoming Meetings - Reminder - Jan. 13, 2020 - <https://conta.cc/2N8Ncqq>
- SML HWY 12 PEL Study - ENewsletter - April 2020 - Apr. 27, 2020 <https://conta.cc/3aCKEtC>
- SML HWY 12 PEL Study -Virtual Public Open House - July 14, 2020 <https://conta.cc/313IQaa>
- SML HWY 12 PEL Study - Public Open House - Reminder / Registration - July 22 and 23 <https://conta.cc/2D3qmi2>

Final Newsletters have been provided.

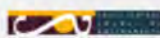
- News Media Releases - Information for media distribution was developed by the consultant team and submitted to CDOT and SCCOG for review and distribution to print, electronic and social media channels. The contact name on media releases was SCCOG Executive Director Walt Boulden. All requests for information from the news media about the project was coordinated through SCCOG Executive Director Walt Boulden. The project team forwarded all media inquiries to Walt Boulden.

- Scott Harrison, KRDO TV conducted an interview early in the project.
- Local newspapers, Trinidad Chronicle and The Walsenburg Journal also used these releases in their papers.





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



FOR IMMEDIATE RELEASE

May 15, 2019

Contact: Walt Boulden
South Central Council of Governments
719-845-1133
wboulden@sccog.net

Collaborative Planning Process Kicks-off for Road and Trail Improvement Options on Colorado's Scenic Highway of Legends Designed to Spur Tourism

Southeastern Colorado – The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT) are developing options for transportation improvements on Colorado's Scenic Highway of Legends (SHOL) Byway which stretches roughly 82 miles on the corridor between Walsenburg and Trinidad along US 160 and CO 12. This corridor has additionally 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.

"While tourism has had a positive impact to date, our two-county tourism economy has lagged behind other regions within the state," said Walt Boulden, Executive Director of South Central Council of Governments. "A renewed vision and investment plan for the Corridor, entailing highway safety, bicycle/recreational trail, and byway-related infrastructure improvements, can be a driving force in realizing the full potential of our region."

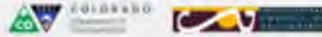
The improvement options are being developed through the SML Planning and Environmental Linkages (PEL) Study which will produce a comprehensive investment plan to serve visitors and all users. It will integrate highway safety with bicycle/recreational trail and byway-related improvements. This project will work with community stakeholders from Trinidad to Walsenburg to analyze and develop a range of improvements resulting in a blueprint for developing highway safety improvements. The corridor is a primary trail route so the study will also look at the best locations to access other existing hiking and bicycle trails, and will include byway-related tourism improvements. The study will take a closer look at issues that need to be addressed in the course of creating a biking and hiking path along the Corridor.

The public is invited to participate in coffee chats and public open houses over the next 16 months. A public open house meeting is planned to occur this summer before development of study recommendations.

Sign up to receive project information and notices of public open houses by sending an email to SouthernMountainLoop@gmail.com or call 719-427-1078. Information will be posted to <https://www.colorado.gov/sccog> in the near future.



Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



MEDIA ADVISORY
August 15, 2019

For more information:
Walt Boulden
South Central Council of Governments
719-845-1133
wboulden@sccog.net

Public invited to discuss road and trail improvement options for Colorado's Scenic Highway of Legends Planning study to improve safety and recreation tourism infrastructure as a catalyst for economic vitality

Southeastern Colorado (August 14, 2019) . . . The public is invited to learn more about improvements and enhancements to the Southern Mountain Loop (Colorado's Scenic Highway of Legends) during upcoming Coffee Chats and a public input meeting.

The Colorado Department of Transportation (CDOT) and The South Central Council of Governments (SCCOG) are conducting a Planning and Environmental Linkages (PEL) Study of the Southern Mountain Loop (SML) of the Colorado Front Range Trail and are seeking public input.

"The goal of the 18-month study," said Walt Boulden, executive director of the SCCOG, "is to identify options for transportation improvements along the 82 miles of the Colorado Scenic Highway of Legends Byway between Walsenburg and Trinidad (US 160 and CO 12). The result will be a comprehensive investment plan integrating highway safety with bicycle/recreational trail, cultural/heritage, and nature-based tourism infrastructure improvements along the corridor to serve visitors and all users, and as a catalyst for economic vitality in the region."

The Coffee Chats and public meeting are opportunities for citizens to meet with the study team and share their thoughts about opportunities and concerns within the corridor.

Community Coffee Chats

- o Tues., Aug. 20, from 11 a.m. to 1 p.m. -- The Stonewall Shopping Bag, 6689 State Hwy. 12, Weston, CO 81091
- o Tues., Aug. 20, from 2 to 4 p.m. -- Cuchara Dog Bar, 34 Cuchara Avenue, Cuchara, CO 81055
- o Tues., Aug. 20, from 5 to 6:30 p.m. -- Walsenburg La Plaza Inn, 118 W 6th St, Walsenburg, CO 81089
- o Wed., Aug. 21, from noon to 1 p.m. -- La Veta Library, 310 S. Main Street, La Veta, CO 81055
- o Wed., Aug. 21, from 3 to 6 p.m. -- Mooses Social Club, 308 W Main St, Trinidad, CO 81082
- o Thur., Aug. 22, from 8:30 to 10:30 a.m. -- La Veta Paradise Coffee, 305 S Main St, La Veta, CO 81055
- o Thur., Aug. 22, from noon to 2 p.m. -- Serendipity Coffee House, 528 Main St, Walsenburg, CO 81089

--more--



Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



PRESS RELEASE
January 7, 2020

For more information:

Walt Boulden
South Central Council of Governments
719-845-1133
wboulden@sccog.net

Public invited to discuss safety improvement alternatives for Colorado's Scenic Highway of Legends

Southeastern Colorado – (January 7, 2020) . . . The public is invited to learn more about the preliminary alternatives being considered as part of the Southern Mountain Loop Planning and Environmental Linkages Study at upcoming informal meetings.

The purpose of this study undertaken by the South Central Council of Governments and Colorado Department of Transportation is to improve highway safety and provide a regional and local multi-use trail, completing the Southern Mountain Loop (SML) segment of the Colorado Front Range Trail, along the Scenic Highway of Legends Byway Corridor between Walsenburg and Trinidad.

"Safety for locals and visitors is the primary concern with this study," said Walt Boulden, Executive Director of the South Central Council of Governments. "Improving safety while also providing a new trail as part of the Front Range Trail system would benefit both locals and visitors, and would further promote our region as a tourist destination."

The study team will be sharing information about the preliminary alternatives at these informal meetings. There will be opportunities to learn about the study, provide comments on the preliminary alternatives, or learn about the study's next steps. These meetings are relaxed and informal and will not include a presentation.

11 a.m. - 1 p.m., Tuesday, Jan. 14, 2020
The Stonewall Shopping Bag, 6689 State Hwy. 12, Weston, CO 81091


3 - 6 p.m., Wednesday, Jan. 15, 2020
Mooses Social Club, 308 W Main St, Trinidad, CO 81082

Noon - 1 p.m., Thursday, Jan. 16, 2020
La Veta Mercantile, 300 S. Main St., La Veta, CO 81055

The public may sign up to receive project information and public meeting notices by sending an email to SouthernMountainLoop@gmail.com or by calling 719-427-1078. For more information about the study, visit <https://www.colorado.gov/sccog>

###

View In browser: [Click here](#)



The banner features the 'Highway of Legends' logo on the left, which includes icons for a bicycle, a hiker, and a car. The main title 'Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study' is centered in a blue font. Below the title are logos for the Colorado Department of Transportation and the South Central Council of Governments, set against a background of a mountain landscape.

Press Release - July 2020

For more information:
Walt Boulden
South Central Council of Governments
719-845-1133
wboulden@sccog.net

Learn About the Final Planning Study Recommendations
Southern Mountain Loop - Highway 12 Planning Environmental Linkages (PEL) Study

Southeastern Colorado - (July 15, 2020) The public is invited to learn more about the Southern Mountain Loop (Colorado's Scenic Highway of Legends) study recommendations during an upcoming digital public engagement opportunity.

For the safety of our community during this COVID-19 pandemic the Colorado Department of Transportation and South Central Council of Governments are hosting this July 23 virtual webinar through Zoom. You may participate by computer or smart phone. If you don't have video access please use the phone number that will be provided at registration.

Virtual Public Engagement
Thursday, July 23, 2020 | 6 - 7 p.m.
Please register in advance by emailing SouthernMountainLoop@gmail.com
Upon receiving your email we will send a registration link.

The study identified the byways transportation-related needs and opportunities for the improved safety and accommodation of travelers and recreationalists who live in and visit the region. Based on these needs, a master plan of integrated improvements was recommended. The study's goals of improving safety for all travelers, providing a well-connected multi-use trail, preserving and promoting the region's natural environment and communities, and complementing the byways continued development provided the basis for these recommendations.

A final report for the PEL Study, which documents the study's decision making and agency coordination, will be published and will be available for public review on the project website in August <https://www.codot.gov/library/studies/co-12-sml-pel>. It will present planning-level details on the project recommendations and provide guidance on the next steps.

The public may sign up to receive project information by sending an email to SouthernMountainLoop@gmail.com or by calling 719-427-1078. For more information about the study, visit <https://www.codot.gov/library/studies/co-12-sml-pel>

###

[CLICK HERE](#) for PDF of press release
[CLICK HERE](#) for current fact sheet

- **Fact Sheets** - Four fact sheets were put together and included corridor map, email and hotline information. Content and design developed by consultant team. Printed pieces were distributed at key areas throughout the corridor to communicate to those without Internet capabilities about the study.
 - [Project Fact Sheet #1](#) - Introduction - June 2019

Southern Mountain Loop
Highway 12 Planning and Environmental Linkages (PEL) Study

INTRODUCTION
Colorado's Scenic Highway of Legends (SHOL) Byway stretches roughly 82 miles between Walsenburg and Trinidad along US 160 and CO 12. Located in south central Colorado, the byway provides access to recreation in the heart of the Spanish Peaks backcountry for both locals and visitors. Because of its natural beauty and untapped potential, this area has also 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.

While tourism has had a positive impact to date, the tourism economy in Huerfano and Las Animas Counties has lagged behind other regions within the state. A renewed vision and plan for the corridor, including highway safety, bicycle/multi-use trail, and byway-related infrastructure improvements, can be a driving force in realizing the full potential of the region's tourism-related assets. The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT) have initiated the SML Planning and Environmental Linkages (PEL) Study to create this renewed vision and produce a plan that attracts and serves visitors to the Spanish Peaks Country.

PROJECT GOALS

This project is intended to enhance the two-county region's tourism-related economy through a long-term investment plan for highway safety, bicycle/multi-use trail, cultural heritage, and nature-based tourism infrastructure improvements along the SHOL. The study will identify bicycle and trail improvements to complete the SML segment of the CFRT. It will do so by balancing the protection and promotion of the Spanish Peaks Country natural environment according to local community values and goals. Specific needs to be addressed by the study include:

- Improve safety for vehicles, bicyclists, and pedestrians along the corridor
- Provide a regional and local bicycle/multi-use trail system along the corridor
- Improve connections and access to communities and recreational areas along the corridor for all types of visitors and users



PUBLIC AND STAKEHOLDER OUTREACH

Outreach to businesses and residents in the study area is critical to ensure that the PEL study addresses local concerns and desired outcomes for future improvements. The business and resident outreach will occur throughout the study, providing opportunities for meaningful involvement and input. We will engage stakeholder groups for input in developing highway safety improvements, a primary trail route from which to access other existing hiking and bike trail along the corridor, and byway-related tourism improvements.

The project team will interact with communities throughout the corridor to better understand important issues, provide recommended improvements and identify opportunities throughout the corridor. The public will be provided a variety of opportunities to provide input.

PUBLIC OPEN HOUSES AND STAKEHOLDER COFFEE

The public is invited to participate in coffee chats and public open houses over the next 18 months.

- For updates and more information about the SML PEL Study and to receive email notices of the times/dates of future public open houses and stakeholder coffee chats, send an email asking to be added to the project database to: SouthernMountainLoop@gmail.com



For questions or to submit a comment, please send an email to: SouthernMountainLoop@gmail.com

For more information visit us at: <https://www.codot.gov/library/studies/co-12-smi-pel> Or <https://www.colorado.gov/pacific/sccog>

Click on Development link to access additional information about the SML PEL Study.

Questions? Call 719-427-1078

PROJECT CONTACTS:

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| Walt Boulden South Central Council of Governments 719-845-1133 wlboulden@sccog.net | Don Scanga Colorado Department of Transportation 719-548-5434 donscanga@state.co.us |
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o [Project Fact Sheet #2](#) - Corridor Transportation Issues - December 2019



Southern Mountain Loop
Highway 12 Planning and Environmental Linkages (PEL) Study

Colorado Department of Transportation

Fact Sheet No. 2 | December 2019

Study Overview

The South Central Council of Governments and Colorado Department of Transportation are studying the Scenic Highway of Legends (SHOL) byway, an 82 mile corridor between Walsenburg and Trinidad along US 160 and State Highway 12. The purpose of the project is to improve highway safety and provide a regional and local multi-use trail, completing the Colorado Front Range Trail (CFRT), along the byway. The CFRT is a planned multi-use trail by the Colorado Parks and Wildlife along the Front Range from Wyoming to New Mexico. This study, being conducted as a Planning and Environmental Linkages study, will determine a master plan of future projects to improve highway safety and provide a multi-use trail.



What are the Transportation Issues Within the Corridor?

A key first step in delivering transportation improvements is understanding the problems and issues needing to be solved. Specific needs and opportunities within the Corridor have been identified as follows:

- Highway Safety** - A review of a five-year crash history reveals that the Corridor's safety is generally typical of similar rural highways within Colorado. However, while not extraordinary, there are localized areas of higher crash concentrations. Not unexpected wind-gust crashes are the highest type of crash, accounting for 37 percent of all crashes. Crashes with fatal or as-of-duty-to-vehicle leaving the roadway, at count for 22 percent. Locations where these crashes typically occur are where there are opportunities to improve the highway's safety.
- Multi-use Trail Accommodations** - Much of the Corridor is used by bicyclists and pedestrians for recreation, local commuting and special events. Currently, there are no designated bicycle or pedestrian facilities fully along the SHOL. While bicyclists can legally travel along the highway, the narrow shoulders and steep grades do not adequately accommodate all cyclist types and abilities. Opportunities to provide better trail accommodations, as well as improve safety and complete the CFRT, include wider roadway shoulders as well as potentially a trail off the highway in some locations.
- Multi-use Trail Connectivity** - While there are local trails within the various communities and public lands, such as Lathrop and Trinidad Lake State Park and the San Ysidro National Forest, there are no trails that uniformly connect these amenities. The completion of the CFRT provides an opportunity to better connect these recreational resources.

Higher Crash Concentration Locations (US 160 and SH 12)

Wild Animal Crashes:

- Area around Lathrop State Park
- Cucharas River north of La Vite
- Purgatoire River east of Weston
- Canyons near Trinidad Lake State Park
- Local Departure Crashes
- Cuts southeast of North Lake
- One-mile section near Vigil
- Two-mile section near Segundo
- Beavered Crashes
- Walsenburg US 160 railroad crossing
- Short section near Jensen
- Local street intersection in Trinidad

What are the Improvement Concepts being Considered?


Improvements being considered include highway safety improvements plus a multi-use trail along the full length of the byway. The safety improvements would include local segregation plus at least four to eight full width roadway shoulders, depending on location and amount of traffic. A new eight foot wide multi-use trail, either along the highway or on a separate route, would connect and end at Lathrop State Park to the north and Trinidad Lake State Park to the south. For areas where the trail would run along the highway, the trail would be integrated into the highway roadside. For areas where off-highway trail routes are being considered, the roadway shoulders would be widened per the minimum safety width recommendations.

A number of alternative off-highway trail routes are being considered. A screening of these alternatives recommended the elimination of the County Road 21.6 route because it would bypass Monument Lake and Stonevale - two important and desirable connectors to the new trail.

What's Next?

The study team will be evaluating these improvement alternatives and will share information at upcoming study events. Opportunities to learn about the study, provide comments on the alternatives, or learn about the study's recommendations will include coffee chats and a public open house near the study's completion. Coffee chats will provide you an opportunity to casually and informally visit with team staff about the study.

These chats are not official public meetings, but rather opportunities for you to meet and visit with the team. A more formal public open house will be conducted following the chats. Look for announcements of these events in the coming months. The study is anticipated to be completed in the summer of 2020.



How to stay involved?

Your input is important to us. You can provide comments or be a part of an opportunity event by visiting the project website, sending us an email or giving us a call!

Email: SouthernMountainLoop@gmail.com
Website: <https://www.codot.gov/library/studies/co-12-smi-pel>
Phone: 719-427-1078

PROJECT CONTACTS:

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|---|--|
| Walt Boulden South Central Council of Governments 719-845-1133 wlboulden@sccog.net | Don Scanga Colorado Department of Transportation 719-548-5434 donscanga@state.co.us |
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MULTI-USE TRAIL ROUTE ALTERNATIVES

| | | |
|---|--|---|
| Vista Segment (Walsenburg to La Vite) Along Highway 12 Adjacent to County Road 340 and 350 County Road 340 and 350 | Alpine Segment (La Vite to Vigil) Along Highway 12 Along Cucharas River Near Cucharas Meadows South of Cucharas Falls Line North and Monument Lake County Road 21.6 (Eliminated) | Mining Segment (Vigil to Trinidad) Along Highway 12 Along Old Trinidad Rail Line Along Trinidad Walsenburg |
|---|--|---|

o [Project Fact Sheet #3](#) - Recommended Improvements - April 2020



Southern Mountain Loop
Highway 12 Planning and Environmental Linkages (PEL) Study

Colorado Department of Transportation

Fact Sheet No. 3 | July 2020

Study Overview

The South Central Council of Governments and Colorado Department of Transportation are studying the Scenic Highway of Legends (SHOL) byway, an 82-mile corridor between Walsenburg and Trinidad along US 160 and State Highway 12. The purpose of this project is to improve highway safety and provide a regional and local multi-use trail, completing the Colorado Front Range Trail (CFRT), along the byway. The CFRT is a planned multi-use trail by the Colorado Parks and Wildlife along the Front Range from Wyoming to New Mexico. This study, being conducted as a Planning and Environmental Linkages study, will determine a master plan of future projects to improve Highway safety and provide a multi-use trail.

Recommended Highway Safety Improvements

Providing only highway safety improvements would not fully address the needs of the byway. To fully accommodate all non-motorized users, such as bicyclists and pedestrians of varying abilities, and to provide trail connections to the communities and structures along the byway, trail improvements are needed in addition. The trail could be located along the byway, either attached to the roadway or separated yet within the CDOT right-of-way. In some locations, it may be advantageous to better suit the goals of the CFRT to locate the trail of the byway. Such instances include along an existing railroad corridor or within the San Isabel National Forest. If required, highway safety improvements would be included with the trail to fully meet the needs of the byway.

Recommended Trail Alternatives Screening

The trail alternatives recommended from the initial screening have been studied in more detail (see Fact Sheet No. 2 for initial screening findings). The alternatives include various combinations of on-highway and off-highway trail options beginning and ending at Laramie State Park to the north and Trinidad Lake State Park to the south. All trail alternatives include highway safety improvements.

Further analyses of the alternative trail routes were performed regarding terrain, connections to communities and railroads, and property considerations. Each was then evaluated regarding how well it serves the needs of the byway, its potential impacts to the environment, and its general feasibility for construction. A comparative screening of each alternative's overall benefits and impacts was then performed to form the Recommended Alternative - those alternatives that address the project needs and have relatively higher benefits and lower impacts. Each Recommended Alternative will move forward into more detailed analyses and review in future studies after the PEL Study is completed.

THE RECOMMENDED HIGHWAY SAFETY IMPROVEMENTS INCLUDE:

- Improved highway signage, pavement striping, and pavement tandem striping.
- More detailed study of wildlife crossings and crash mitigation at four locations.
- Wider and continuous roadway shoulders.
- Upgraded signage and roadway shoulder at the curve southeast of North Lake.
- Upgraded signage and a curb-and-gutter roadway section within Segundo and Jensen.
- Upgraded signage at the US 160 railroad crossing in Walsenburg.
- Modifications at the Santa Fe/Main Street intersection in Trinidad.
- Bicyclist and pedestrian crossings improvements in La Veta, Cochran, and Sbrewell.

ALTERNATIVES EVALUATION FACTORS

Needs:

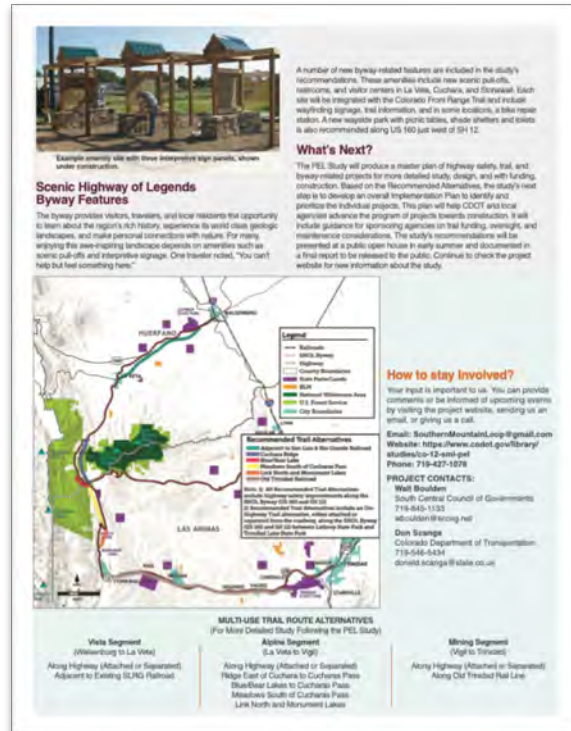
- Are the safety problems improved?
- Are trail accommodations for non-motorized users provided?
- Are trail connections to communities and recreational destinations provided?

Environment:

- Any impacts to existing environmental resources avoidable?

Implementation:

- Are the trail improvements affordable?
- What is the relative ease of trail construction?



Southern Mountain Loop
Highway 12 Planning and Environmental Linkages (PEL) Study

Colorado Department of Transportation

Fact Sheet No. 4 | July 2020

Study Overview

The South Central Council of Governments and Colorado Department of Transportation are studying the Scenic Highway of Legends (SHOL) byway, an 82-mile corridor between Walsenburg and Trinidad along US 160 and State Highway 12. The purpose of this project is to improve highway safety and provide a regional and local multi-use trail, completing the Colorado Front Range Trail (CFRT), along the byway. The CFRT is a planned multi-use trail by the Colorado Parks and Wildlife along the Front Range from Wyoming to New Mexico. This study, being conducted as a Planning and Environmental Linkages study, will determine a master plan of future projects to improve Highway safety and provide a multi-use trail.

Scenic Highway of Legends Byway Features

The byway provides visitors, travelers, and local residents the opportunity to learn about the region's rich history, experience its varied state, geologic landscapes, and make personal connections with nature. For many, enjoying this awe-inspiring landscape depends on amenities such as scenic pull-offs and interpretive signage. One traveler noted, "You can't help but feel something here."

A number of new byway-related features are included in the study's recommendations. These amenities include new scenic pull-offs, restrooms, and auto centers in La Veta, Cochran, and Sbrewell. Each site will be integrated with the Colorado Front Range Trail and include wayfinding signage, trail information, and in some locations, a bike repair station. A new welcome park with picnic tables, shade structures and benches is also recommended along US 160 just west of SH 12.

What's Next?

The PEL Study will produce a master plan of highway safety, trail, and byway-related projects for more detailed study, design, and with funding consideration. Based on the Recommended Alternatives, the study's next step is to develop an overall Implementation Plan to identify and prioritize the individual projects. This plan will help CDOT and local agencies advance the program of projects towards construction. It will include guidance for sponsoring agencies on trail funding, signage, and maintenance considerations. The study's recommendations will be presented at a public open house in early summer and documented in a final report to be released to the public. Continue to check the project website for new information about the study.

How to stay involved?

Your input is important to us. You can provide comments or be informed of upcoming events by visiting the project website, sending us an email, or giving us a call.

Email: SouthernMountainLoop@gmail.com
Website: <http://www.southcentralcog.org/libraries/studies/12-2019-2020>
Phone: 719-427-1079

PROJECT CONTACTS:
Walt Bowdler
South Central Council of Governments
719-840-1133
wbowdler@southcentralcog.org
Dan Scanga
Colorado Department of Transportation
719-544-6434
dscanga@state.co.us

MULTI-USE TRAIL ROUTE ALTERNATIVES

(For More Detailed Study, Following the PEL Study)

- Vista Segment (Walsenburg to La Veta)**
Along Highway (Attached or Separated), Adjacent to Existing SLDG Railroad
- Alpine Segment (La Veta to 79th)**
Along Highway (Attached or Separated), Ridge East of Cochran to Cochran Pass, Blue Bear Lakes to Cochran Pass, Meadow South of Cochran Pass, Link North and Monument Lakes
- Mining Segment (79th to Trinidad)**
Along Highway (Attached or Separated), Along Old Trinidad Rail Line

o [Project Fact Sheet #4 - Recommended Improvements - July 2020](#)



Southern Mountain Loop
Highway 12 Planning and Environmental Linkages (PEL) Study

Colorado Department of Transportation

Fact Sheet No. 4 | July 2020

Study Overview

The South Central Council of Governments and Colorado Department of Transportation (CDOT) are studying the Scenic Highway of Legends Byway, an 82-mile corridor between Walsenburg and Trinidad along US 160 and State Highway 12. The purpose of this project is to improve highway safety and provide a regional and local multi-use trail, completing the Colorado Front Range Trail (CFRT), along the byway. The CFRT is a planned multi-use trail by the Colorado Parks and Wildlife (CPW) along the Front Range from Wyoming to New Mexico. This study, being conducted as a Planning and Environmental Linkages (PEL) study, will determine a master plan of future projects to improve highway safety and provide a multi-use trail.

Study Recommendations – A Long-term Program of Byway Improvements

The study identified the byway's transportation-related needs and opportunities for the improved safety and accommodation of travelers and recreationists who live in and visit the region. Based on these needs, a master plan of integrated improvements was deemed merited. The study's goal of improving safety for all travelers, providing a well-connected multi-use trail, preserving and promoting the region's rich environment and communities, and complementing the byway's continued development provided the basis for these recommendations. The master plan includes:

Highway Safety Projects

A program of corridor-wide safety projects entailing upgraded signage and pavement treatments, wider and continuous roadway shoulders, safer roadway alignments and roadside treatments in several local areas, and safer pedestrian crossings in Bin La Veta, Cochran and Sbrewell.

Multi-use Trail Projects

A selective and tiered range of trail alternatives to be studied further either fully along the byway, attached to the highway or separated but within CDOT right-of-way, or along new routes independent of the byway in local areas. These local off-highway trail alternative routes, to be studied further following the PEL Study, are along existing railroads within the San Isabel National Forest, along portions of the byway that steep to accommodate all bicyclists and pedestrians.

Byway Amenity Projects

A program of new or improved byway features including scenic pull-offs, visitor centers with restrooms and traveler information, and interpretive signage to enhance the byway experience for travelers and visitors.



- **Social Media** - The project team provided social media content, but did not create social media accounts specific to the project. The team provided content and requested key groups to distribute through their channels.

Tweets - July 23, 2020

July 23 Virtual Open House:

Curious about the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study? Attend the final community virtual public open house 6-7PM, Thur., July 23. Contact us SouthernMountainLoop@gmail.com to receive the registration link info.

Attend the final public engagement to learn more about the Southern Mountain Loop Highway 12 Planning and Environmental Linkages Study recommendations. Registration is required. SouthernMountainLoop@gmail.com

For the safety of our community during this COVID-19 pandemic, CDOT and SCCOG are hosting a July 23 virtual public open house. You may participate by computer or smart phone. Registration is required. SouthernMountainLoop@gmail.com

Final Report of the Southern Mt. Loop Hwy. 12 PEL study will be posted on the project website in August. Check the website <https://www.codot.gov/library/studies/co-12-sml-pel> to review the final report.

Facebook Posts - July 23, 2020

July 23 Virtual Open House:

Curious about the Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study? Attend

the final community virtual public open house 6-7PM, Thur., July 23. Contact us SouthernMountainLoop@gmail.com to receive the registration link info. Join us to learn more about the final recommendations for the PEL Study.

Want to hear about the final recommendations from the Southern Mt. Loop Hwy. 12 PEL study? Send an email to SouthernMountainLoop@gmail.com to receive the registration link info.

The Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study identified the byway's transportation-related needs and opportunities for the improved safety and accommodation of travelers and recreationalists who live in and visit the region. Based on these needs, a master plan of integrated improvements was recommended. Check the website <https://www.codot.gov/library/studies/co-12-sml-pel> to review the final report.

The Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study's goals of improving safety for all travelers, providing a well-connected multi-use trail, preserving and promoting the region's natural environment and communities, and complementing the byway's continued development provided the basis for these recommendations. **Final Report of the Southern Mt. Loop Hwy. 12 PEL study will be posted on the project website in August.** Check the website <https://www.codot.gov/library/studies/co-12-sml-pel> to review the final report.

Don't forget about the virtual open house for the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study! It will start at 6 p.m., on Thursday, July 23. Send an email to SouthernMountainLoop@gmail.com to receive the registration link info.

The Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study requires continued coordination and partnerships with all sponsoring and cooperating agencies. This will be necessary for securing funding, advancing the projects into planning or design, and maintaining the improvements. It is envisioned that each project, in varying degrees, will entail multi-agency coordination and funding. Check the website <https://www.codot.gov/library/studies/co-12-sml-pel> to review the final report.

A final report for the PEL Study, which documents the study's decision making and agency coordination, will be published and will be available for public review on the project website. It will present planning-level details on the project recommendations and provide guidance on the next steps. This report will enable each project to move forward independently by the sponsoring agencies and will be incorporated into the additional, more-detailed study of the trail alternatives.

Continue to check the project website <https://www.codot.gov/library/studies/co-12-sml-pel> for new information about the study and to review the final report.

Posts For any Platform - May 2020

The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT) continues work on a Planning and Environmental Linkages (PEL) Study of the Scenic Highway of Legends Byway and the Southern Mountain Loop (SML) segment of the Colorado Front Range Trail. This study extends from Walsenburg to Trinidad, Colorado along United States Highway 160 and Colorado State Highway 12, a distance of about 82 miles. The project is centered along the two highways and includes the immediate bordering areas. More details at: <http://bit.ly/2Wnt3NG>

The planning study for CO 12 Southern Mountain Loop will determine a master plan of future projects to improve highway safety and provide a multi-use trail. Learn more at: <http://bit.ly/2Wnt3NG> Integrated transportations related improvements on Hwy 12 are needed to address safety, regional and local bicycle/multi-use trail system and connection and access to recreational facilities. Learn more at: <http://bit.ly/2Wnt3NG>

The CO 12 Southern Mountain Loop planning and environmental study objective has been working with community stakeholders to evaluate and develop improvements, create a blueprint for implementing highway safety projects, create a primary trail route from which to access other existing hiking and bicycle trails, and byway-related tourism improvements! More info at <http://bit.ly/2x1JlDc>

The CO 12 Southern Mountain Loop PEL Study team held stakeholder committee meetings to discuss recommended highway safety improvements and trail alternatives screenings. Visit <http://bit.ly/2Wnt3NG> and view the April 2020 stakeholder and steering committee presentations.

Providing only highway safety improvements would not fully address the needs of the Scenic Highway of Legends. Trail improvements are needed in addition to fully accommodate all non-motorized users and provide trail connections to the community and attractions. To learn more visit <http://bit.ly/2Wnt3NG>

The recommended Southern Mountain Loop - Highway 12, highway safety improvements include:
Improved highway signage, pavement striping, and pavement rumble strips
More detailed study of wildlife crossings and crash mitigation at four locations
Wider and continuous roadway shoulders
Upgraded signage and roadway shoulder at the curve southeast of North Lake

The trail alternatives recommended from the initial screening in the Southern Mountain Loop PEL Study have been studied in more detail. Visit <https://tinyurl.com/y7bpavkl> for initial screening findings.

During Spring 2020 the Southern Mountain Loop PEL Study team conducted further analyses of alternative trail routes regarding terrain, connections to communities and trailheads, and property considerations. Each was then evaluated regarding how well it solves the needs of the byway, its potential impacts to the environment, and its general feasibility for construction. To learn more visit <http://bit.ly/2Wnt3NG>

Each Recommended Alternative from the Southern Mountain Loop PEL Study will move forward into a more detailed analyses and reviewed in future studies after the PEL Study is completed. To learn more visit <http://bit.ly/2Wnt3NG>

The Southern Mountain Loop PEL Study Schedule includes:

- Implementation Plan - May/June 2020
- Public Open House - July 2020
- Planning and Environmental Linkages (PEL) Report - August 2020

Want to learn about the final SML PEL Public Meeting. A date for the event will be posted soon! Check out these websites for more information: <http://bit.ly/2Wnt3NG> and <http://bit.ly/2x1JlDc>

Have questions or need more information? Here's how to get in contact: <http://bit.ly/2x1JlDc> Or by email: SouthernMountainLoop@gmail.com

Interested in information about plans to improve the Scenic Highway of Legends Byway? Check out these two links: <http://bit.ly/2Rl57v2> and <http://bit.ly/2XifBAz>

A number of new by-way related features are included in the Southern Mountain Loop Planning and Environmental Linkages Study. These amenities include new scenic pull-offs, restrooms, and visitor centers in La Veta, Curchara, and Stonewall.

Tweets - May 2020

The planning study for CO 12 Southern Mountain Loop will determine a master plan of future projects to improve highway safety and provide a multi-use trail. Learn more at: <http://bit.ly/2Wnt3NG>

Integrated transportations related improvements on Hwy 12 are needed to address safety, regional and local bicycle/multi-use trail system and connection and access to recreational facilities. Learn more at: <http://bit.ly/2Wnt3NG>

The CO 12 Southern Mountain Loop PEL Study team held stakeholder committee meetings to discuss recommended highway safety improvements and trail alternatives screenings. Visit <http://bit.ly/2Wnt3NG>

The trail alternatives recommended from the initial screening in the Southern Mountain Loop PEL Study have been studied in more detail. Visit <https://tinyurl.com/y7bpavkl> for initial screening findings.

A number of new by-way related features are included in the Southern Mountain Loop Planning and Environmental Linkages Study. These amenities include new scenic pull-offs, restrooms, and visitor centers in La Veta, Cuchara, and Stonewall.

Have questions or need more information? Here's how to get in contact: <http://bit.ly/2x1JlDc> Or by email: SouthernMountainLoop@gmail.com

Interested in information about plans to improve the Scenic Highway of Legends Byway? Check out these two links: <http://bit.ly/2Rl57v2> and <http://bit.ly/2XifBAz>

Want to learn about the final SML PEL Public Meeting. Dates for this event will be posted soon! Check out these websites for more information: <http://bit.ly/2Wnt3NG> and <http://bit.ly/2x1JlDc>

Generic Posts For any Platform - July 2019

The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT) have initiated a Planning and Environmental Linkages (PEL) Study of the Scenic Highway of Legends Byway and the Southern Mountain Loop (SML) segment of the Colorado Front Range Trail. This study extends from Walsenburg to Trinidad, Colorado along United States Highway 160 and Colorado State Highway 12, a distance of about 82 miles. The project is centered along the two highways and includes the immediate bordering areas. More details at: <http://bit.ly/2Wnt3NG> and <http://bit.ly/2x1JlDc>

A planning study for the Southern Mountain Loop segment of the Colorado Front Range Trail is underway, intended to enhance the region's tourism-related economy through a long-term investment plan for highway safety, bicycle/multi-use trail, cultural/heritage, and nature-based tourism infrastructure improvements along the Scenic Highway of Legends Byway. Learn more at: <http://bit.ly/2x1JlDc>

Completing the CO 12 Southern Mountain Loop segment of the Colorado Front Range Trail is one of the goals. Alternative trail routes will be studied which balance the protection as well as promotion of the Spanish Peaks Country based on the local community values and desires for the long-term economic vitality of the region. Details at: <http://bit.ly/2x1JlDc>

The Southern Mountain Loop planning and environmental study is examining needs for improvements and produce conceptual design, funding, scheduling, and phasing recommendations for projects along the corridor, such as:

- Improved safety for vehicles, bicyclists, and pedestrians
 - Providing a regional and local bicycle/recreational trail system
 - Improving connections and access to communities and recreational areas for all types of visitors and users
- Check out CDOT's webpage to learn more <http://bit.ly/2Wnt3NG>

The CO 12 Southern Mountain Loop planning and environmental study objective is to work with community stakeholders to evaluate and develop improvements, create a blueprint for implementing highway safety projects,

create a primary trail route from which to access other existing hiking and bicycle trails, and byway-related tourism improvements! More info at <http://bit.ly/2x1JlDc>

Not only will the CO 12 Southern Mountain Loop planning and environmental study look for issues needing to be addressed while creating a biking and hiking path, it will also:

- Evaluate the existing and future operating conditions and features of the trail;
- Identify existing conditions and anticipated problem areas;
- Identify and define strategic areas that need to be addressed first; and
- Assess highway safety concerns regarding the new bike/trail while still giving access to cultural and recreational activities

Have questions or need more information? Here's how to get in contact: <http://bit.ly/2x1JlDc> Or by email: SouthernMountainLoop@gmail.com

Interested in information about plans to improve the Scenic Highway of Legends Byway? Check out these two links: <http://bit.ly/2Rl57v2> and <http://bit.ly/2XifBAz>

Curious about the CO 12 Southern Mountain Loop but don't want to make the trip? A study is underway for improvements. Check out current photos at <http://bit.ly/2x2E7al>

Have any thoughts about this area we should know for the trail/roadway study? Tell us! SouthernMountainLoop@gmail.com

About the PEL Study:

What is a PEL study? It stands for Planning and Environmental Linkages. It is a process for helping identify transportation decisions that consider environmental, community, and economic goals early in the planning stage to create a basis for more-detailed subsequent project development, design, and construction. The process is intended to lead to better decisions regarding efforts in the follow up planning, development, and implementation of projects, including securing funding. More about PEL studies at: <http://bit.ly/2Wnt3NG>

During the CO 12 Southern Mountain Loop PEL study we will work with the public and community stakeholders to identify the various transportation needs of the area. The goal is to obtain a better understanding of the community's values, how the transportation system currently functions and its current impacts, and how it can be improved now and in the future. Once these are identified, a series of plans for projects will be developed based on the findings. Learn more at <http://bit.ly/2x1JlDc>

Considerations that the CO 12 Southern Mountain Loop PEL study will address:

- Are there locations with numerous vehicular crashes?
- Are there recurring types of vehicular crashes or patterns of crashes?
- What are other safety concerns?
- What kind of highway improvements would address the safety concerns?
- What is the best location/formation for a regional trail for bicyclists and pedestrians, either along the highway or on a separate alignment?
- How might a trail system better connect communities and provide access to recreational areas?
- How would byway-related improvements, such as cultural or scenic pull-offs, provide new attractions for visitors and connect with the trail improvements?

Send your thoughts on these questions to us at: SouthernMountainLoop@gmail.com

Following the completion of the CO 12 Southern Mountain Loop PEL study, CDOT and the local agency South Central Council of Governments will have a set of identified projects as well as an implementation plan they will use to identify funding for project design and construction. These "bucket list" of improvement projects will be implemented along the Southern Mountain Loop over time as funding becomes available. Higher priority areas will likely be implemented first, but the goal is to eventually implement all of the projects identified in the PEL as conditions warrant and as funding becomes available; this will take place over several years.

The CO 12 Southern Mountain Loop PEL study will refer to and build off of past studies already completed. For example, here's a link to the Colorado Front Range Trail (CFRT) Master Plan <http://bit.ly/2WQ5Xku> Find more examples on CDOT's page <http://bit.ly/2Wnt3NG>

Public Agency and Outreach:

During the Southern Mountain Loop PEL Study we plan to communicate an inclusive and accessible process that provides an opportunity for the public to engage with the project team to provide input. We are seeking feedback from businesses, residents, property owners, and other interested members of the public through open houses, informal coffee chats, targeted meetings, as well as public information provided on the website and through email. Check out <http://bit.ly/2Wnt3NG> for future dates and times for these public functions!

During the Southern Mountain Loop planning and environmental study, three committees will meet three to four times over the course of the 18-month process. A technical committee is focusing on environmental issues, a steering committee is providing study oversight and a stakeholder committee is providing input and working through specific elements of the study. Want to know more about our public involvement process? Visit <http://bit.ly/2IOeXSj> for more information!

Communication with businesses and residents along the Southern Mountain Loop corridor, which is also the Scenic Highway of Legends Byway, is essential to ensure that the planning and environmental study addresses local concerns and desired outcomes for future improvements. Business and resident outreach will occur throughout the study, providing opportunities for meaningful involvement and input. Have opinions and comments we should know? Email us at SouthernMountainLoop@gmail.com

Here is how the Southern Mountain Loop project team plans on engaging with local communities for input into the planning and environmental study to identify trail and roadway improvements along the corridor:

- Stakeholder Meetings
- City Council and County Commissioner Briefings
- Coffee Chats - Informal Meetings
- Public Open Houses
- Project website - CDOT and SCCOG
- Press releases/social media posts
- Periodic electronic progress reports/enewsletters
- News media releases
- Fact sheets / flyers

Visit <http://bit.ly/2Wnt3NG> for dates on future public input functions!

Tweets - July 2019

About the Project:

The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (@ColoradoDOT) have initiated a Planning and Environmental Linkages (PEL) Study to connect and improve the Southern Mountain Loop of the Colorado Front Range Trail!

The Southern Mountain Loop (SML) Study extends from Walsenburg to Trinidad, Colorado along United States Highway 160 and Colorado State Highway 12, about 82 miles. The project is centered along the two highways and includes the immediate bordering areas.

The purpose of the SML PEL study is to increase the region's tourism economy through a long-term investment plan for highway safety, bicycle/multi-use trail, cultural/heritage, and nature-based tourism infrastructure improvements along the Scenic Highway of Legends Byway.

A study is underway to address how to best complete the SML area of the Colorado Front Range Trail, helping balance the protection as well as promotion of the Spanish Peaks Country based on local community values and desires.

Want to know what's happening along Highway 12? Here's a link with more information regarding the Southern Mountain Loop PEL Study: <http://bit.ly/2x1JlDc>

The SML PEL study seeks to identify where improvements are most needed regarding safety for vehicles, bicyclists, and pedestrians, fixing pavement/bridges, and creating a local trail system for surrounding communities!

The SML planning study team is working with community stakeholders to develop improvements concerning safety, a trail route to connect to other existing trails, and byway-related tourism improvements!

The CO 12 Southern Mountain Loop PEL study has several more objectives aside from safety improvements. Check out a complete list at <http://bit.ly/2x1JlDc>

Looking for more information about a study underway to improve the Scenic Highway of Legends Byway? Check out these two links: <http://bit.ly/2RL57v2> and <http://bit.ly/2XifBAz>

Check out @ColoradDOT webpage regarding the CO 12 Southern Mountain Loop PEL Study <http://bit.ly/2Wnt3NG>

Do you have questions regarding the CO 12 Southern Mountain Loop PEL Study? Send an email to SouthernMountainLoop@gmail.com

The CO 12 Southern Mountain Loop PEL study will relate to other studies that have been completed in the past. Check out <http://bit.ly/2ZA3jBl>

Curious about the CO 12 Southern Mountain Loop planning study but don't want to make the trip? Check out current photos at <http://bit.ly/2x2E7al>

Have any thoughts about needed improvements to the State Highway 12/Highway of Legends corridor we should know? Tell us! SouthernMountainLoop@gmail.com

About the PEL Study:

What is a PEL Study? A Planning and Environmental Linkages Study helps make decisions based on environmental, community, and economic goals early in the planning stage to create a basis for later more-detailed project development. More details at <http://bit.ly/2Wnt3NG>

The Southern Mountain Loop study goals are to obtain better understanding of community values, how the transportation system currently functions, and how it can be improved now/in the future. Findings will help create a list of needed projects along the corridor.

For a full list of the SML PEL study consideration questions, check out <http://bit.ly/2Wnt3NG> Do you have insight on these questions? Let us know! SouthernMountainLoop@gmail.com

Funding and final projects along So. Mountain Loop will be based on completion of the PEL study. A project "bucket list" will be developed for future improvements that will be applied along to the corridor over time as funding becomes available.

The CO 12 Southern Mountain Loop PEL study will refer to past studies already completed. For example, here's a link to the Colorado Front Range Trail (CFRT) Master Plan <http://bit.ly/2WQ5Xku> find more examples on CDOT's page <http://bit.ly/2Wnt3NG>

Public Agency and Outreach:

One goal through the SML PEL study is to communicate an inclusive and accessible process that provides an opportunity for engaging with interested parties, including businesses, residents, property owners, and other members of the public.

Three committees will help guide the 18-month SML study: a technical committee focuses on environmental issues, a steering committee provides study oversight, and a stakeholder committee provides input and works through specific study elements.

There are several ways we will engage with the public during the SML study including informal Coffee Chats and Public Open houses. Dates for the events will be posted soon! Check out these websites for more information: <http://bit.ly/2Wnt3NG> and <http://bit.ly/2x1JIDc>

Want to know more about the CO 12 Southern Mountain Loop study public involvement? Visit <http://bit.ly/2IOeXSi>

Tweets - Sept 2019

Sept. 18 Public Meeting:

Curious about the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study? Attend the public meeting 5:30-7PM, Wed., Sept. 18. At Trinidad State College, 600 Prospect St. Trinidad, CO 81082. In the Pioneer Room on the south end of the Sullivan Center building!

If you are attending the Southern Mt. Loop Hwy. 12 PEL study public meeting but need special ADA accommodations to participate, please call 719/488-5908 and if you require Spanish language translation to participate in this meeting, call 303-578-2505 at least 48 hours in advance.

Follow the progress of the Southern Mt. Loop Hwy. 12 PEL study by sending an email to SouthernMountainLoop@gmail.com requesting to be added to e-newsletter distribution list!

Don't forget about the public meeting for the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study! 5:30-7PM, Wed., Sept. 18. At Trinidad State College, 600 Prospect St. Trinidad, CO 81082. In the Pioneer Room on the south end of the Sullivan Center building!

Want to learn more about the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study and have the opportunity to share your thoughts? Join us at the public meeting 5:30-7PM, Wed., Sept. 18. At Trinidad State College, 600 Prospect St. Trinidad, CO 81082!

August 20 - 22 Coffee Chats:

You are invited to learn more about Southern Mt. Loop Hwy. 12 PEL study at our coffee chats! This is the opportunity for you to meet the Study Team members to learn more about the study and share your thoughts about opportunities within the corridor. Look for dates to follow!

Come and attend our first coffee chat 11AM to 1PM, Tues., Aug. 20, at The Stonewall Shopping Bag 6689 State Hwy. 12, Weston, CO 81091. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study!

Can't make the first coffee chat? No worries, there will be another one 2PM to 4PM, Tues., Aug. 20. At the Cuchara Dog Bar, 34 Cuchara Avenue, Cuchara, CO 81055. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study!

The third coffee chat will be from 5PM to 6:30PM, Tues., Aug. 20. At the Walsenburg La Plaza Inn 118 W 6th St, Walsenburg, CO 81089. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study!

Can't make the coffee chats on Aug. 20th? We have you covered! There will be more on Wed. Aug. 21st! The first will start at noon to 1PM at the La Veta Library 310 S. Main Street, La Veta, CO 81055. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study.

The next coffee chat will start at 3PM to 6PM, Wed., Aug. 21. At the Mooses Social Club 308 W Main St, Trinidad, CO 81082. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study and look out for more coffee chat dates!

The last two coffee chats will occur on Thurs., Aug. 22. The first will start at 8:30AM to 10:30AM at the La Veta Paradise Coffee 305 S Main St, La Veta, CO 81055. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study!

Last chance to attend a coffee chat! The final one will start at noon to 2PM Thurs., Aug. 22. at Serendipity, 528 Main St, Walsenburg, CO 81089. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study!

Facebook Posts - Sept. 2019

Sept. 18 Public Meeting:

Curious about the Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study? There will be a public meeting at 5:30-7PM, Wed., Sept. 18. At Trinidad State College, 600 Prospect St. Trinidad, CO 81082. It will be held in the Pioneer Room located on the south end of the Sullivan Center building. Join us to learn more about the project PEL study!

If you're planning on attending the Southern Mountain Loop Hwy. 12 PEL study public meeting but need special ADA accommodations to participate, please call 719/488-5908 and if you require Spanish language translation to participate in this meeting, call 303-578-2505 at least 48 hours in advance.

Want to follow the progress of the Southern Mt. Loop Hwy. 12 PEL study? Send an email to SouthernMountainLoop@gmail.com requesting to be added to e-newsletter distribution list!

Don't forget about the public meeting for the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study! It will start at 5:30-7PM, on Wednesday Sept. 18. At the Trinidad State College, 600 Prospect St. Trinidad, CO 81082. It will be held in the Pioneer Room on the south end of the Sullivan Center building!

August 20 - 22 Coffee Chats:

The public is invited to learn more about the Southern Mt. Loop Hwy. 12 PEL study by attending the public meeting and the upcoming coffee chats! These chats are opportunities for you to meet with the Study Team members to learn more about the study and share your thoughts about opportunities within the corridor. Look for dates to follow!

The first set of coffee chats will occur on Tuesday August 20th! There will be three different times and locations for these chats:

- 1) 11AM to 1PM at The Stonewall Shopping Bag 6689 State Hwy. 12, Weston, CO 81091
- 2) 2PM to 4PM at the Cuchara Dog Bar 34 Cuchara Avenue, Cuchara, CO 81055
- 3) 5PM to 6:30PM at the Walsenburg La Plaza Inn 118 W 6th St, Walsenburg, CO 81089

Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study and look out for more coffee chat dates!

Wasn't able to attend the first coffee chats? We have you covered! The second set of coffee chats will occur on Wednesday August 21st! There will be two different times and locations for these chats:

- 1) Noon to 1PM at the La Veta Library 310 S. Main Street, La Veta, CO 81055
 - 2) 3PM to 6PM at the Mooses Social Club 308 W Main St, Trinidad, CO 81082
- Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study and look out for more coffee chat dates!

The FINAL set of coffee chats will occur on Thursday August 22nd! There will be two different times and locations for these chats:

- 1) 8:30AM to 10:30AM at La Veta Paradise Coffee 305 S Main St, La Veta, CO 81055
- 2) Noon to 2PM at Serendipity Coffee House, 528 Main St, Walsenburg, CO 81089

Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study!

Tweets - Sept. 6, 2019

Sept. 18 Public Meeting:

Curious about the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study? Attend the public meeting 5:30-7PM, Wed., Sept. 18. At Trinidad State College, 600 Prospect St. Trinidad, CO 81082. In the Pioneer Room on the south end of the Sullivan Center building!

If you are attending the Southern Mt. Loop Hwy. 12 PEL study public meeting but need special ADA accommodations to participate, please call 719/488-5908 and if you require Spanish language translation to participate in this meeting, call 303-578-2505 at least 48 hours in advance.

Follow the progress of the Southern Mt. Loop Hwy. 12 PEL study by sending an email to SouthernMountainLoop@gmail.com requesting to be added to e-newsletter distribution list!

Don't forget about the public meeting for the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study! 5:30-7PM, Wed., Sept. 18. At Trinidad State College, 600 Prospect St. Trinidad, CO 81082. In the Pioneer Room on the south end of the Sullivan Center building!

Want to learn more about the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study and have the opportunity to share your thoughts? Join us at the public meeting 5:30-7PM, Wed., Sept. 18. At Trinidad State College, 600 Prospect St. Trinidad, CO 81082!

Facebook Posts - Sept. 6, 2019

Sept. 18 Public Meeting:

Curious about the Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study? There will be a public meeting at 5:30-7PM, Wed., Sept. 18. At Trinidad State College, 600 Prospect St. Trinidad, CO 81082. It will be held in the Pioneer Room located on the south end of the Sullivan Center building. Join us to learn more about the project PEL study!

If you're planning on attending the Southern Mountain Loop Hwy. 12 PEL study public meeting but need special ADA accommodations to participate, please call 719/488-5908 and if you require Spanish language translation to participate in this meeting, call 303-578-2505 at least 48 hours in advance.

Want to follow the progress of the Southern Mt. Loop Hwy. 12 PEL study? Send an email to SouthernMountainLoop@gmail.com requesting to be added to e-newsletter distribution list!

Don't forget about the public meeting for the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages

(PEL) Study! It will start at 5:30-7PM, on Wednesday Sept. 18. At the Trinidad State College, 600 Prospect St. Trinidad, CO 81082. It will be held in the Pioneer Room on the south end of the Sullivan Center building!

Tweets - Coffee Chats - Jan. 7, 2020

January 2020 - Coffee Chats / Informal Meetings:

The public is invited to learn more about the preliminary alternatives being considered as part of the Southern Mountain Loop Planning and Environmental Linkages Study at upcoming informal meetings. Look for dates to follow!

Come and attend informal meeting 11AM to 1PM, Tues., Jan. 14, at **The Stonewall Shopping Bag**, 6689 State Hwy. 12, Weston. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study's next steps.

Can't make the informal meeting? No worries, there will be another one 3PM to 6PM, Wed., Jan. 15 at the **Mooses Social Club**, 308 W Main St., Trinidad. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study's next steps!

Last chance to attend an informal meeting! The final one will start at noon to 1PM Thurs., Jan. 16, **La Veta Mercantile**, 300 S. Main St., La Veta. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study's next steps!

Facebook Posts - Coffee Chats - Jan. 7, 2020

General Information

An initial step of the Southern Mountain Loop Planning and Environmental Linkages (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. [CLICK HERE](#) to view the Existing Corridor Conditions Report that is presented for this purpose.

<https://www.codot.gov/library/studies/co-12-sml-pel>

The purpose of this study undertaken by the South Central Council of Governments and Colorado Department of Transportation is to improve highway safety and provide a regional and local multi-use trail, completing the Southern Mountain Loop (SML) segment of the Colorado Front Range Trail, along the Scenic Highway of Legends Byway Corridor between Walsenburg and Trinidad.

Want to follow the progress of the Southern Mt. Loop Hwy. 12 PEL study? Send an email to SouthernMountainLoop@gmail.com requesting to be added to e-newsletter distribution list!

Don't forget about the upcoming informal meetings Jan. 14 - Jan. 16 for the Southern Mt. Loop Hwy. 12 Planning and Environmental Linkages (PEL) Study!

January 2020 Coffee Chats/Informal Meetings:

The public is invited to learn more about the preliminary alternatives being considered as part of the Southern Mountain Loop Planning and Environmental Linkages Study at upcoming informal meetings.

The study team will be sharing information about the preliminary alternatives at these informal meetings. There will be opportunities to learn about the study, provide comments on the preliminary alternatives, or learn about the study's next steps. These meetings are relaxed and informal and will not include a presentation.

11 a.m. - 1 p.m., Tuesday, Jan. 14, 2020

The Stonewall Shopping Bag, 6689 State Hwy. 12, Weston, CO 81091

3 - 6 p.m., Wednesday, Jan. 15, 2020

Mooses Social Club, 308 W Main St., Trinidad, CO 81082

Noon - 1 p.m., Thursday, Jan. 16, 2020

La Veta Mercantile, 300 S. Main St., La Veta, CO 81055

The public may sign up to receive project information and public meeting notices by sending an email to SouthernMountainLoop@gmail.com or by calling 719-427-1078. For more information about the study, visit <https://www.colorado.gov/sccog>

Come and attend informal meeting 11AM to 1PM, Tues., Jan. 14, at The Stonewall Shopping Bag 6689 State Hwy. 12, Weston. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study's next steps!

<https://www.codot.gov/library/studies/co-12-sml-pel>

Can't make the informal meeting? No worries, there will be another one 3PM to 6PM, Wed., Jan. 15, at the Mooses Social Club, 308 W Main St, Trinidad. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study's next steps! <https://www.codot.gov/library/studies/co-12-sml-pel>

Last chance to attend an informal meeting! The final one will start at noon to 1PM Thurs., Jan. 16, La Veta Mercantile, 300 S. Main St, La Veta. Please come to learn more about the Southern Mt. Loop Hwy. 12 PEL study's next steps! <https://www.codot.gov/library/studies/co-12-sml-pel>

- Telephone Calls/Email - Telephone numbers and email addresses of designated project team members were made available for public comments and questions. In addition, consultant team set-up, recorded and update project phone voicemail with ongoing meeting and project information. The consultant team checked and responded to incoming messages and emails within 24 hours. The telephone numbers/email addresses were posted on the project website, and included in newsletters and other communications materials.
- Posters / postcards - Distributed throughout the 82-mile corridor to elected officials, events, chambers / library and local businesses. The posters and postcards were provided in both English and Spanish. The information focused on study of upcoming coffee chats and public meetings.

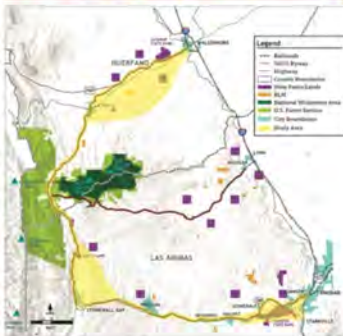


Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



Project Information

The South Central Council of Governments (SCCOG) and the Colorado Department of Transportation (CDOT) are conducting a Planning and Environmental Linkages (PEL) Study of the Southern Mountain Loop (SML) of the Colorado Front Range Trail (CFFT). This corridor, designated as the Home Highway of Legends (HOL) Keyway, connects from Walsenburg to Trinidad, Colorado along United States Highway 160 (US 160) and Colorado State Highway 12 (CO 12) - a distance of roughly 82 miles.



MAP OF STUDY AREA

The purpose of the study is to enhance the region's tourism-related economy through a long term investment plan for highway safety, bicycle/multi-use trail, cultural, and ecotourism infrastructure improvements along the SML, which completes the SML segment of the CFFT and balances the protection and promotion of the Spanish Peaks Country according to local community values and goals.

Integrated transportation-related improvements are needed to address:

- **Safety** - Existing roadway alignments and substandard shoulder widths, combined with higher bicycle usage and localized pedestrian areas, create potentially unsafe conditions for vehicles, bicyclists, and pedestrians along the Corridor.
- **Regional and Local Bicycle/Multi-Use Trail System** - The ability for bicyclists, pedestrians, and other users, both regional and local, to move through and within the Corridor is needed.
- **Connections and Access to Recreational Facilities** - Highway, bicycle, and pedestrian connectors between local activity centers, recreational facilities, and byway-related amenities are needed to improve community interactions and access to a range of activity types.

YOU'RE INVITED!

The public is asked to learn more about this study by attending the local coffee chats and public meeting, provide recommended improvements and identify opportunities throughout the corridor. If you require Spanish language translation to participate in these meetings, call 303-578-2505 at least 48 hours in advance.

Local Community Coffee Chats

- 11 a.m. - 1 p.m., Tuesday, Aug. 20
The Stonewall Shopping Bag
6669 State Hwy. 12, Weston, CO 81091
- 2 - 4 p.m., Sunday, Aug. 20
Cuchera Dog Bar
34 Cuchera Avenue, Cuchara, CO 81055
- 5 - 6:30 p.m., Sunday, Aug. 20
Walsenburg La Plaza Inn
118 W 6th St, Walsenburg, CO 81089
- Noon - 1 p.m., Wednesday, Aug. 21
La Vita Library
310 S. Main Street, La Vista, CO 81055
- 3 - 4 p.m., Wednesday, Aug. 21
Monks Social Club
308 W Main St, Trinidad, CO 81082
- 8:30 - 10:30 a.m., Thursday, Aug. 22
La Vita Paradise Coffee
305 S Main St, La Vista, CO 81055
- Noon - 2 p.m., Thursday, Aug. 22
Walsenburg Serenity
528 Main St, Walsenburg, CO 81089

Public Meeting

- 5:30 - 7:30 p.m., Wednesday, Sept. 18
Trinidad State College
Pioneer Room - located on the south end of the Sullivan Center building
600 Prospect Street, Trinidad, CO 81082



LEARN MORE

Email:
SouthernMountainLoop@gmail.com
Online:
www.colorado.gov/pacific/hctog
Click on Development link to access information about the SML PEL Study.
Call:
719-427-1078

Southern Mountain Loop
Highway 12 Planning and Environmental Linkages (PEL) Study

Información del proyecto

El Consejo Central Sur de Gobierno (SOUCCO) y el Departamento de Transporte de Colorado (CDOT) están buscando a todos los Estudios de Planificación y Vinculación Ambiental (PEL) del Circuito Montañés Sur (SML) del Sistema Front Range de Colorado (CFRT). Este corredor, designado como el nuevo Camino Carretera de Inyección (SHCL), se extiende desde Walsenburg hasta Trinidad, Colorado a lo largo de la ruta 160 (E-160) y la carretera estatal 13 (CO-13) de Colorado, una distancia de aproximadamente 62 millas (101 km).

¡LOS INVITAMOS!
Se le pide al público que desee informarse más sobre este estudio que asista a las charlas locales de café y a la reunión pública para comentar sobre las mejoras recomendadas y para identificar oportunidades en todo el corredor. Si usted necesita traducción al español para participar en estas reuniones, llame al 303-578-2305 con al menos 48 horas de anticipación.

Conferencias administrativas en español

- 11 a.m. - 1 p.m., Tuesday, Aug. 20
The Stonewall Shopping Bag
6689 State Hwy. 12, Weston, CO 81091
- 2 - 4 p.m., Tuesday, Aug. 20
Cuchara Dog Bar
34 Cuchara Avenue, Cuchara, CO 81055
- 5 - 6:30 p.m., Tuesday, Aug. 20
Walsenburg La Plaza Inn
118 W 6th St, Walsenburg, CO 81089
- Noon - 1 p.m., Wednesday, Aug. 21
La Veta Library
310 S. Main Street, La Veta, CO 81055
- 3 - 6 p.m., Wednesday, Aug. 21
Hopen Social Club
308 W Main St, Trinidad, CO 81082
- 8:30 - 10:30 a.m., Thursday, Aug. 22
La Veta Parrot Coffee
305 S Main St, La Veta, CO 81055
- Noon - 2 p.m., Thursday, Aug. 22
Walsenburg Brewery
528 Main St, Walsenburg, CO 81089

Reunión Pública

- 5:30 - 7:30 p.m., Wednesday, Sept. 18
Trinidad State College
Pioneer Room - en el lado sur del edificio Sullivan Center
600 Prospect Street, Trinidad, CO 81082

MAPA DEL AREA DE ESTUDIO
El objetivo de este proyecto es mejorar la economía relacionada con el turismo de la región de dos condados a través de un plan de inversión a largo plazo para la seguridad de las carreteras, senderos para bicicletas y para recreación, cultural y tradiciones históricas, y mejoras en la infraestructura turística basada en la naturaleza a lo largo del SHCL, que completará el segmento SML del CFRT y equilibra la protección y promoción de la zona de Spanish Peaks de acuerdo con los valores y objetivos de la comunidad local.

Se necesitan mejoras integradas relacionadas con transporte para responder a:

- Seguridad** - Las alineaciones de carreteras existentes y las dimensiones no estandarizadas de las banquetas, combinadas con un mayor uso de bicicletas y áreas peatonales localizadas, crean condiciones potencialmente inseguras para vehículos, ciclistas y peatones a lo largo del corredor.
- Sistema regional y local de bicicletas y senderos de usos múltiples** - Se necesita que los ciclistas, peatones y otros usuarios, tanto regionales como locales, tenga la capacidad de moverse a través y dentro del corredor.
- Conexiones y acceso a instalaciones recreativas regionales** - Se necesitan conexiones de carretera, bicicleta y peatones entre centros de actividades locales, instalaciones recreativas y servicios relacionados con caminos secundarios para mejorar las interacciones de la comunidad y el acceso a una variedad de tipos de actividades.

PARA MÁS INFORMACIÓN
Email: SouthernMountainLoop@gmail.com
Online: www.colorado.gov/pacific/ctd/12010
Puede el interactuar con "TownConnect" para acceder a información adicional con facilidad sobre el Estudio PEL PEL.
Llamas: 719-427-6578

Public Participation Comments

| Event | Dates | Action | Materials | Comments |
|--------|----------------------------------|--|--|---|
| | AUGUST | | | |
| Events | Friday and Saturday Aug. 9-10 | 4 - 9 p.m., Friday, Aug. 9 Stonewall Century Ride Pre-Dinner La Veta United Methodist Church, 416 S. Main St., La Veta, CO 81055 8 a.m. - Noon, Saturday, Aug. 10 Trinidad Community Farmer's Market Cimino Park, Trinidad, CO 2 p.m. - 7 p.m., Saturday, | Handout postcard information with coffee chat information about the study and upcoming public meeting and coffee chat dates. | <ul style="list-style-type: none"> Comments focused about questions regarding the study. |

| | | | | |
|----------------------|--|--|---|---|
| | | <p><u>Aug. 10</u></p> <p>Huerfano County Fair La Veta 4H Barn: 401-499 Moore Ave, La Veta, CO 81055</p> | | |
| Initial Coffee Chats | <p>Aug. 20-22</p> <p>Locations:</p> <p>Walsenburg LaVeta</p> <p>Trinidad</p> <p>Stonewall</p> | <p><u>COFFEE CHATS</u> <u>11 a.m. - 1 p.m.,</u> <u>Tuesday, Aug. 20</u> The Stonewall Shopping Bag 6689 State Hwy. 12, Weston, CO</p> | <ul style="list-style-type: none"> • Discuss study goals and purpose. • Get input on key issues. • Schedule around some events | <ul style="list-style-type: none"> • Pride and enthusiasm expressed for Stonewall Century Ride, the annual 100-mile bicycle ride based in Stonewall that has a well-established organizing committee • Expressed pleasure in having Stonewall on the route for Ride Across America, a coast-to-coast bicycle road race • When the mine is operating, the combination of coal trucks and bicycles is not good. • The number of bicyclists seems to be increasing every year • Stonewall needs a public place for travelers to be able to enjoy the scenery—a public park would be nice. • Concern expressed for the safety of bicyclists if significantly more bicyclists begin riding the 2-lane road that has narrow shoulders in most places • Disappointment with failure to enforce speed limits, and frequent collisions with wildlife • Local landowners discussed concerns about potential rails-to-trails (bike trail conversion) which could bring people onto adjoining private property. Several related stories of current problems along the new hiking trails next to the river in Trinidad that is attracting homeless people instead of recreationists • Enthusiasm for Fisher’s Peak new State Park on Raton Pass, and suggestions that trail development be concentrated near that end of the county and include connections to Trinidad Lake State Park. • Need for more rest stops with bathrooms |

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| Initial Coffee Chats | Aug. 20, 2019 Location: Cuchara | <u>2 - 4 p.m., Tuesday, Aug. 20</u> Cuchara Dog Bar 34 Cuchara Avenue, Cuchara, CO | <ul style="list-style-type: none"> • Discuss study goals and purpose. • Get input on key issues. | <ul style="list-style-type: none"> • Forest service revisiting usage of forest service lands • Increase the shoulder width or just add a shoulder • Corridor is too narrow • Yellow Pine Ranch has horseback rides and they cross SH12 with the rides • Cuchara is walkable. Lots of pedestrians and golf carts. • CDOT doesn't own the ROW in the vicinity of Cuchara. • More cyclists all the time. • Some high-altitude training occurring • A lot of cyclists go between La Veta to the Cuchara Pass however, some cyclists ride from Trinidad to La Veta • Highway life blood of community • Most hiking trails around Cuchara are under used. • Virtually impossible to go off alignment with a trail around Cuchara. • Sidewalk needed in Cuchara • There are parking issues around the Cuchara city center. • Trail could run through forest service land perhaps help with fire mitigation • Not enough places to put campers along the byway • Need more rest stops with bathrooms and trash removal. • On the opposite side from Yellow Pine Ranch there is a big potato field that could be used for parking. • Mike Moore (president of SHOL) has boxes full of plans from previous studies • They want Cuchara to be nice. They don't want it to become Aspen. • No traffic lights! <p>Per CPW (Lathrop State Park)</p> <ul style="list-style-type: none"> • 90% of visitors to Lathrop State Park are from Colorado Springs. Some Texans during the week. • 103 sites at Lathrop State Park are primitive and 80 sites are electric. (or was it 103 sites total and 80 are electric) |
| Initial Coffee Chat | Aug. 20, 2019 | <u>5 - 6:30 p.m., Tuesday, Aug. 20</u> Walsenburg La Plaza Inn | <ul style="list-style-type: none"> • Discuss study goals and purpose. • Get input on | <ul style="list-style-type: none"> • Participant likes the crushed brick (he wasn't sure if it was brick) around Lathrop State Park to run on. |

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| | Location: Walsenburg | 118 W 6th St, Walsenburg, CO 81089 | key issues. | <ul style="list-style-type: none"> • Like the idea of a bike path along County Road 59.9. • 14 trains a day through Walsenburg • Wayfinding signs for trail important • Lots of Hispanics in Walsenburg • They do not feel affinity an affinity with the rest of the communities along the SHOL. They do feel affinity with Gardner. • Walsenburg is a town of murals. • Lots of mining history. 1913-1914 nationwide labor movement. |
| Initial Coffee Chat | Aug. 21, 2019 Location: La Veta | <u>Noon - 1 p.m., Wednesday, Aug. 21</u> La Veta Library 310 S. Main St., La Veta, CO | <ul style="list-style-type: none"> • Discuss study goals and purpose. • Get input on key issues. | <ul style="list-style-type: none"> • School district building new school north of town where current football field is located. Currently no sidewalk to school. Attendee would like to see the potential SHOL multi-purpose trail integrated into the plans for the school. The school will be 74,000 sq. ft. with 350 students from pre-k through 12th grade and will cost 42 million. • Check out pedestrian dignity, walking co-op. Improve wheelchair accessibility. Some high-altitude training for long distance running occurring. Typically run 90 miles/per week. • River recently cleaned up. Perhaps the trail should come up Oak Street. Not a whole lot of bicycling available. Participant is a cyclist but doesn't feel comfortable cycling up SH12. Likes the economic impact the project could provide. Short trails would be nice too for locals and families with children. • Too much going to Cuchara. Access to forest service would be good. River is monitored to give flood warning 45 minutes before actual flooding. Public toilets needed along the route. Some questions about who owns the welcome center. |
| Initial Coffee Chat | Aug. 21, 2019 Location: Trinidad | <u>3 - 6 p.m., Wednesday, Aug. 21</u> Mooses Social Club 308 W Main St., Trinidad, CO 81082 | <ul style="list-style-type: none"> • Discuss study goals and purpose. • Get input on key issues. | <ul style="list-style-type: none"> • Irrigation ditches a big deal. • This area is the edge of adobe architecture. Mr. Vigil has an adobe house on his property. • Valdez had a bunch of coke ovens. A lot of them were used to build Oklahoma homes. The brickyards were east of Trinidad. Clay was on the west side. • SH 12 used to be much worse. CDOT has made a lot of improvements. |

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| | | | <ul style="list-style-type: none"> • He carried Fisher's Peak through the commission. Elk calving on Fisher's Peak. Fisher's Peak is loaded with biologists and ecologists. Colorado Wildlife and Parks to manage. If state park very limited parking. • Just started mapping this year with Strava, Ridespot, and Ride with GPS • 1600 miles of county road currently mapped • No traffic on the county roads • Cordova Pass could be better. The arch through one of the walls (dykes) is a destination point. • No need to widen county roads • Need to address fuel reduction to reduce impact of wildfires • Only one bike shop in town • Need to tie into what is going on at Fisher's Peak • Need to provide connection from SH12/I-25 interchange and Robinson. West side of town currently somewhat cut off from downtown. Perhaps a pedestrian bridge over the river and RR. The west side has the college and the high school. • Currently promoting a 50-mile gravel grinder event around Branson, CO. • Lots of beautiful places to ride near Branson with low traffic • Important local population is acceptive of bike riders. Might be good to provide cyclists good tips about respect particularly respecting private property. It could be done in the form of some sort of signage. • Valdez from Trinidad is uncomfortable to road bike. • It would be good to provide more rest stops along the loop. • Most people would be more comfortable with an off-alignment route. • Wolf being reintroduced into Colorado. Might be something to think about in regards to this study. What will the wolf/human interaction be? One of Colorado's gems is its outdoor spaces. How will the wolf reintroduction impact this? • A bike safety program for kids |
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| | | | | would be good. |
| Initial Coffee Chat - Round table discussion | Aug. 22, 2019 Location: La Veta | 8:30 - 10:30 a.m., Thursday, Aug. 22 La Veta Paradise Coffee 305 S Main St., La Veta, CO 81055 | <ul style="list-style-type: none"> • Discuss study goals and purpose. • Get input on key issues. | <ul style="list-style-type: none"> • The backside of Cuchara is very rough • Participation in the Centennial Race decreased this year due to recent flooding and past wild fires. • Through La Veta they did a bunch of clearing for flood mitigation all on private property. 150 people helped out. 1 or 2 private property owners wouldn't let them clear on their land even though it was free. • Would like some gravel stuff along the loop • More scenic overlooks • More places near dykes to pull off and for people to pull out easels and paint. • Internal connectivity with THK plans important • Enforce speeding through La Veta. No speed bumps. People are flying down Oak St. and SH12 through La Veta. • More crosswalks through La Veta, perhaps pretty crosswalks with unique designs. • Assisted Living community coming to La Veta soon. Important to accommodate them. • Pedestrian and traffic volumes only heavy for a block or two through La Veta. • People are becoming more and more interested in alternative modes of transportation. • A lot of equestrian use around Purgatoire campground and the North Lake trail. The North Lake trail is specifically designed for equestrian use. • La Veta trails website has maps of equestrian trails. • For safety purposes, communications along the loop are important. Identify cell phone dead zones. • Handicap ramps in La Veta needed. • Need to provide more safety information particularly the importance of wearing a helmet. • The school promotes Wild Wednesdays where kids walk or wheel to school. • Road biking is minimal. There is more gravel road riding. • Handful of people in La Veta ride |

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| | | | | <p>regularly. The new trail could promote more biking. No real good places to bike currently.</p> <ul style="list-style-type: none"> • No services between La Veta and Cuchara and then from Cuchara for a while. Need more campgrounds. • Guides would be helpful to provide organized bike rides and organized hiking trips. • Some bouldering opportunities. • 14ers are getting overloaded and therefore 13ers are becoming more popular. A lot of 13ers in the area. • Need to provide a balance between economy/ecotourism and keeping it pristine and local. • La Veta trails is going to be gifted a school building which is planned to become the Regional Environmental Center. • They don't want it to become a Carbondale or a Durango. • Largest black bear population in Colorado resides in Huerfano and Las Animas counties. • The loop needs more pull-outs with bathrooms and good interpretive signage. • A path along the river may be problematic since some of the property owners wouldn't even let them clear the river. • More camping needs to be provided in the existing facilities. • There is a state wildlife area nearby with no signage. • Somebody pointed out that most accidents involving cyclists and vehicles are caused by the cyclist. • They are working toward getting the byway named a national scenic byway. • It was a forest service byway first. • Hunting is huge in the area. • The Transamerica trail comes in from Trinidad on county roads and goes up toward Salida. Transamerica Trail has a blog. • Some of the events that come through town or near town are Race across America and Ride Across America. • No visitor center in La Veta although there is one in Walsenburg. |
| Initial Coffee | Aug. 22, | <u>Noon - 2 p.m., Thursday, Aug. 22</u> | <ul style="list-style-type: none"> • Discuss study goals and | <ul style="list-style-type: none"> • Walsenburg is a Murals City. Perhaps a mural advertising the |

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| Chats | 2019 Location: Walsenburg | Walsenburg Serendipity Coffee House 528 Main St., Walsenburg, CO 81089 | <ul style="list-style-type: none"> purpose. Get input on key issues. | <p>SHOL would be appropriate.</p> <ul style="list-style-type: none"> Sidewalks in Walsenburg need improvements. Several ADA ramps needed. Businesses are responsible for the sidewalks. Need to improve communication along the route. Need additional apps. A lot of potential with bikes along the route. Trucks along US 160 didn't bother one person. More crosswalk crossings needed in Walsenburg such as at the library and at the Loaf & Jug. Denis White is the current mayor. Mayoral elections are in November. Walsenburg has issues keeping city administrators. The Walsenburg Water Park and Lathrop State Park could be things Walsenburg could market along the route. |
| | SEPTEMBER | | | |
| Public Meeting | Wednesday, Sept. 18 | 5:30 - 7:30 p.m., Wednesday, Sept. 18 Trinidad State College Pioneer Room - located on the south end of the Sullivan Center building 600 Prospect Street, Trinidad, CO 81082 | <ul style="list-style-type: none"> Discuss study goals and purpose. Background of study. What is a PEL Study? Study process and schedule. US 160 and SH 12 Traffic and Safety Multi-Use Trail Scenic Byway Features Environmental Resources | <ul style="list-style-type: none"> Approximately 50 people attended the event. This was going to be an open house, but due to the number of questions we had a formal presentation with a PowerPoint presentation. Landowners were able to convey their concerns about safety. We were able to emphasize that this is a safety study and not an economic study. Provided a way to breakdown resistance to the project to see where participants fit and understand why. Parks and Wildlife and Forest Service were very engaged. Wildlife accidents are a big issue. No place along SH 12 to safely pull off the road and safely get out of the car. |
| | OCTOBER | | | |
| Booth | Saturday, Oct. 5, La Veta | <u>La Veta Oktoberfest</u> | <ul style="list-style-type: none"> Discuss study goals and purpose. Get input on key issues. | <ul style="list-style-type: none"> Approximately 24 residents stopped by the information booth and sign-up to receive additional project |
| | JANUARY 2020 | | | |

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| <p>Informal Meetings - Coffee Chats</p> | <p>Jan. 14, 2020 Location: Stonewall</p> | <p><u>COFFEE CHAT</u> <u>11 a.m. - 1 p.m.,</u> <u>Tuesday, Jan. 14</u> The Stonewall Shopping Bag, Weston, CO</p> | <ul style="list-style-type: none"> • Introduce alternative concepts. • Get feedback and input. • Discussions throughout the community. | <ul style="list-style-type: none"> • Concerns about cyclists along SH 12 and safety issues. • General supportive of eliminating CR 21.2 as a potential trail alternative route. • Some expressed concern about CDOT needing to acquire ROW and private property rights. • Some expressed the need for better speed enforcement. • Pedestrian facilities along SH 12 within the community of Stonewall are needed. • Traffic needs to slow down through the various communities along SH 12, such as Stonewall and Segunda. • Concerns were expressed about private property rights should the Old Trinidad rail line be pursued as a trail route alternative. • Lots of discussion about funding and how CDOT prioritizes its projects. |
| <p>Informal Meetings - Coffee Chats</p> | <p>Jan. 15, 2020 Location: Trinidad</p> | <p><u>COFFEE CHAT</u> <u>3 - 6 p.m., Wednesday,</u> <u>Jan. 15</u> Moose Social Club, Trinidad, CO</p> | <ul style="list-style-type: none"> • Introduce alternative concepts. • Get feedback and input. • Discussions throughout the community. | <ul style="list-style-type: none"> • Attendees were supportive of trail and safety improvements. • Expressed concerns about current SH 12 being safe for cyclists. • See a trail connection between Trinidad Lake State Park and the City's open spaces and the new state park as being very important. • Suggested having more pull-offs along the byway for visitors and sightseers. |
| <p>Informal Meetings - Coffee Chats</p> | <p>Jan. 16, 2020 Location: LaVeta</p> | <p><u>COFFEE CHAT</u> <u>Noon - 1 p.m., Thursday,</u> <u>Jan. 16</u> La Veta Merchantile, La Veta, CO</p> | <ul style="list-style-type: none"> • Introduce alternative concepts. • Get feedback and input. • Discussions throughout the community. | <ul style="list-style-type: none"> • Very supportive of byway trail and safety improvements. • Lots of discussion about how to fund trail improvements. • CPW is supportive of tying into the Lathrop State Park trail system and utilizing the park as a CFRT trailhead. CPW is currently developing a new policy that all users of the parks system will need to pay a fee - vehicles and pedestrians. • Lathrop is currently developing a new master plan with facility improvements within the park. Expansion or connections to the south, across US 160, are not currently envisioned. • One recognized issue for the CFRT is how to get across US 160 - an at-grade crossing would likely be |

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| | | | | <p>required, likely at the park entrance.</p> <ul style="list-style-type: none"> • Huerfano County suggested the idea of a trail overpass pedestrian bridge at the park entrance to connect the park with the community center on the south side. • Huerfano County is currently in discussions, along with other counties along the SLRG rail line (i.e., potentially forming a railroad district), with the Judge overseeing the IP receivership process. The hope is for the IP to enter into a bankruptcy process such that the new RR District could acquire the RR ROW through their current back-tax credits. The state AG is helping with this endeavor. If successful, the rails-with-trails concept would have potential legitimacy. |
| OTHER MEETINGS | | | | |
| Property Owner Meeting | <p>Jan. 14,2020</p> <p>Location: Weston, CO</p> | <p><u>Bar-NI Ranch</u> <u>1:30 p.m., Tuesday, Jan. 14</u></p> | <ul style="list-style-type: none"> • Introduce study. • Introduce alternative concepts. • Get feedback and input. | <ul style="list-style-type: none"> • Met with ranch manager - doesn't speak for the ranch ownership. • Generally supportive of public projects to support visitors. • Impacts of project could include ROW adjacent to SH 12. Their ranch abuts SH 12 north of Stonewall on the west side. Any future ROW discussions, if needed, would be with ranch ownership. • Supportive of pedestrian facility improvements in Stonewall. • Primary issues for the ranch, relating to public projects and access, is the issue of poaching and trespassing off of SH 12 - Elk hunting and Elk Horn Shed harvesting. Having more traffic along SH 12 would be beneficial to reduce these issues. • Bar-NI Ranch |
| Property Owner Meeting | <p>Jan. 14,2020</p> <p>Location: Weston, CO</p> | <p><u>Elk Mine, Weston, CO</u> <u>3 p.m. Tuesday, Jan. 14</u></p> | <ul style="list-style-type: none"> • Discuss study and introduce team member. • Introduce alternative concepts. • Get feedback and input. | <ul style="list-style-type: none"> • Nothing new to report on the status of the ongoing Purchase Agreement. July remains the target for the purchase decision. Developer/Financer is continuing its due diligence. A competitive bidding for the rail construction is underway. Purchase decision could extend beyond July. • If the purchase is not completed, current mine ownership will continue to look for buyers. At |

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| | | | | some point, if not purchased, ownership may decide to enter into a closure and reclamation process, at which time they'd engage the STB regarding the disposition of the rail ROW and property status. This would be the "trigger" upon which a potential trail conversion could be initiated. The Mine currently owns the 15 miles of rail east of the Mine, with lease rights farther to the east to Trinidad. |
| | JULY 2020 | | | |
| Virtual Public Open House | Thursday, July 23 | 6 - 7 p.m., Thursday, July 23 Zoom Webinar | <ul style="list-style-type: none"> • Discuss study goals • Background of study • Review study recommendations • Discuss Next Steps. | <ul style="list-style-type: none"> ▪ Approximately 25 people attended the event. ▪ Very positive and supportive of study's recommendations. ▪ Multiple questions about project funding and implementation. |

Database - Public/Stakeholder Groups and Media Outlets include, but are not limited to:

Homeowner Association representatives
 Developers with interests along the corridor
 Directly impacted property/business owners
 Stakeholders in the vicinity of the project
 Corridor property owners
 Bike groups
 Colorado Department of Transportation
 Federal Highway Administration
 Neighborhood representatives
 Elected Officials
 Interested citizens and residents

Media

Television

KOAA-TV - Pueblo / Colorado Springs
 KRDO-TV - Colorado Springs
 Fox 21 TV - Colorado Springs
 KKTV - Colorado Springs
 Denver TV Stations - KDVR News 31, KWGN News 2, KMGH News 7, KUSA News 9 and KRMA News 6

Radio

KSPK Radio - Walsenburg

Print

The Denver Post - Denver

The Gazette - Colorado Springs

Pueblo Chieftain - Pueblo

World Journal - Walsenburg

The Chronicle News - Trinidad

Spanish Peak Country - Walsenburg

New Legends Magazine - Cuchara Mountain / La Veta

Appendix E - Agency Correspondence





Southern Mountain Loop

Highway 12 Planning and Environmental Linkages (PEL) Study



May 17, 2019

From: Walt Boulden, South Central Council of Government, Project Manager

RE: South Mountain Loop Planning and Environmental Linkage Study -Technical Advisory Committee

The South Central Council of Governments (SCCOG), along with the Colorado Department of Transportation (CDOT), is conducting a Planning and Environmental Linkages (PEL) Study of the Southern Mountain Loop (SML) of the Colorado Front Range Trail. The SML corridor is approximately 82 miles long and extends from Walsenburg to Trinidad, Colorado along U.S. Highway 160 and Colorado State Highway 12. This corridor is also designated as the Scenic Highway of Legends Byway.

The SML Corridor, a popular bicycling route that is culturally rich, has varying design speeds and roadway elements, such as minimal shoulders and tight curves, that have contributed to localized areas of higher-than-expected vehicular crash rates. In addition, the bicycle route is not always connected and forces cyclists into uncomfortable and potentially unsafe riding conditions. The purpose of the PEL Study is to assess roadway safety issues and to identify optimal bike/trail routes and improvements that will also enhance cultural tourism within the study area. We will identify potential solutions and prioritize them so that they can be advanced to the next steps once funding is identified.

Understanding the ideas, perspectives, and needs of key stakeholders along the corridor is critical to building broadly supported decisions and solutions. As such, we are forming a Technical Advisory Committee (TAC) to help identify the scope of environmental issues, the importance of identified resources, impact avoidance and mitigation measures, and joint development opportunities. The committee will meet three times during the PEL process. As a resource agency with jurisdiction in the area, you have been identified as a key stakeholder for the corridor. To provide input and assure your interests are represented, we hope you, or a representative from your organization, will be able to attend these meetings.

If you, or your representative, are unable to participate in these meetings, you will be provided an opportunity to review and comment on the PEL Corridor Conditions Report. The report will document current conditions with regard to the transportation system and environmental resources. The information presented in the report will be the basis for developing and evaluating possible transportation improvements within the corridor. The anticipated distribution date of the report is Summer, 2020 We will send the report to your attention unless contact information is provided for a different recipient.

Meeting Details

The first Technical Committee meeting:

Date and Time: 10 a.m. - 12 p.m., Tuesday, June 11

Location: St. Charles Conference Room, CDOT Region 2, 5615 Wills Blvd., Pueblo, CO

We will be providing an overview of the project purpose, goals, and timeline; identifying stakeholder desires/needs, and discussing our public engagement approach.

Please RSVP by Monday, June 3 to Monica Ramey, public involvement specialist at Monica@Bachmanpr.com or by phone at 719-339-4109

Sincerely,

Walt Boulden
South Central Council of Government
Project Manager

Southern Mountain Loop - Hwy 12 PEL Study - Technical Committee Meeting - INVITATION

Monica Ramey <monica@bachmanpr.com>

Tue, May 21, 2019 at 8:30 AM

To: "MikeL.Trujillo@state.co.us" <MikeL.Trujillo@state.co.us>, "stacey.koury@state.co.us" <stacey.koury@state.co.us>, "crystal.dreiling@state.co.us" <crystal.dreiling@state.co.us>, "Destiny.chapman@usda.gov" <Destiny.chapman@usda.gov>, "John.baumchen@usda.gov" <John.baumchen@usda.gov>, "john@huerfano.us" <john@huerfano.us>, "Mbounds@huerfano.us" <Mbounds@huerfano.us>, "Robert.Lucero@lasanimascounty.org" <Robert.Lucero@lasanimascounty.org>, "Allison_Michael@fws.gov" <Allison_Michael@fws.gov>, "Steve.Turner@state.co.us" <Steve.Turner@state.co.us>, "Peter.D.Olmstead@usace.army.mil" <Peter.D.Olmstead@usace.army.mil>, "jerry.henderson@state.co.us" <jerry.henderson@state.co.us>, "karen.wolf@trinidad.co.gov" <karen.wolf@trinidad.co.gov>, "jwingate@fs.fed.gov" <jwingate@fs.fed.gov>, "alex.dean@state.co.us" <alex.dean@state.co.us>, "blenth@coloradoopenlands.org" <blenth@coloradoopenlands.org>, "robert.seel@state.co.us" <robert.seel@state.co.us>, "Derek.Sokoloski@colostate.edu" <Derek.Sokoloski@colostate.edu>, "REBB@centuryTel.net" <REBB@centurytel.net>, "bc.jr@outlook.com" <bc.jr@outlook.com>, "bob.holder@state.co.us" <bob.holder@state.co.us>, "jknudson@purgatoirepartners.org" <jknudson@purgatoirepartners.org>, "Pallone@q.com" <Pallone@q.com>, "jeni.jackson@trinidad.co.gov" <jeni.jackson@trinidad.co.gov>, "ccampbell@sprhc.com" <ccampbell@sprhc.com>
Cc: Lisa Bachman <lisa@bachmanpr.com>, "jmugg@hgcons.com" <jmugg@hgcons.com>, "Halouska, Troy" <Troy.Halouska@atkinsglobal.com>, Walt Boulden <wboulden@sccog.net>



May 20, 2019

From: Walt Boulden, South Central Council of Government, Project Manager

RE: South Mountain Loop Planning and Environmental Linkage Study -Technical Advisory Committee

The South Central Council of Governments (SCCOG), along with the Colorado Department of Transportation (CDOT), is conducting a Planning and Environmental Linkages (PEL) Study of the Southern Mountain Loop (SML) of the Colorado Front Range Trail. The SML corridor is approximately 82 miles long and extends from Walsenburg to Trinidad, Colorado along U.S. Highway 160 and Colorado State Highway 12. This corridor is also designated as the Scenic Highway of Legends Byway.

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Understanding the ideas, perspectives, and needs of key stakeholders along the corridor is critical to building broadly supported decisions and solutions. As such, we are forming a Technical Advisory Committee (TAC) to help identify the scope of environmental issues, the importance of identified resources, impact avoidance and mitigation measures, and joint development opportunities. The committee will meet three times during the PEL process. As a resource agency with jurisdiction in the area, you have been identified as a key stakeholder for the corridor. To provide input and assure your interests are represented, we hope you, or a representative from your organization, will be able to attend these meetings.

If you, or your representative, are unable to participate in these meetings, you will be provided an opportunity to review and comment on the PEL Corridor Conditions Report. The report will document current conditions with regard to the transportation system and environmental resources. The information presented in the report will be the basis for developing and evaluating possible transportation improvements within the corridor. The anticipated distribution date of the report is Summer, 2020. We will send the report to your attention unless contact information is provided for a different recipient.

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Date and Time: 10 a.m. - 12 p.m., Tuesday, June 11

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We will be providing an overview of the project purpose, goals, and timeline; identifying stakeholder desires/needs, and discussing our public engagement approach.

Please RSVP by Monday, June 3 to Monica Ramey, public involvement specialist at Monica@Bachmanpr.com or by phone at 719-339-4109.

Sincerely,

Walt Boulden
South Central Council of Government
Project Manager

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Southern Mountain Loop

Highway 12 Planning and Environmental Linkages (PEL) Study



November 6, 2019

To: Study Technical Committee and Coordinating Resource Agencies

From: Walt Boulden, South Central Council of Government, Project Manager

RE: Southern Mountain Loop Planning and Environmental Linkages Study - Study Technical Committee

The South Central Council of Governments (SCCOG), along with the Colorado Department of Transportation (CDOT), is conducting a Planning and Environmental Linkages (PEL) Study of the Southern Mountain Loop (SML) of the Colorado Front Range Trail. The SML corridor is approximately 82 miles long and extends from Walsenburg to Trinidad, Colorado along U.S. Highway 160 and Colorado State Highway 12. This corridor is also designated as the Scenic Highway of Legends Byway. Information regarding the study can be found at:

- <https://www.codot.gov/library/studies/co-12-sml-pel>
- <https://www.colorado.gov/pacific/sccog/southern-mountain-loop-%E2%80%93-highway-12-planning-and-environmental-linkages-pel-study>

As a member of the Study Technical Committee and as a coordinating resource agency, we are requesting your review and comment of the attached draft Existing Corridor Conditions Report. This report documents the current transportation system conditions and environmental resources within the Study Area. This information provides the basis for developing and evaluating possible transportation improvements along and adjacent to the byway. Understanding your perspectives is critical to building supported decisions and solutions. Your review and comment will help us understand and confirm the scope of the environmental issues, the importance of the identified resources and need for impact avoidance and mitigation measures, and the identification of joint development opportunities.

We are requesting that review comments, or questions be provided by November 22, 2019 to the following:

Monica Ramey, Public Involvement Specialist
Monica@Bachmanpr.com
719-339-4109

Thank you for your participation with this study. Comments received will be incorporated into the final report and the study process. It is anticipated that the Study Technical Committee will reconvene in the spring of next year to review the alternatives analysis and draft recommendations. An invitation to the meeting will be provided in advance.

Sincerely,

Walt Boulden
South Central Council of Government
Project Manager

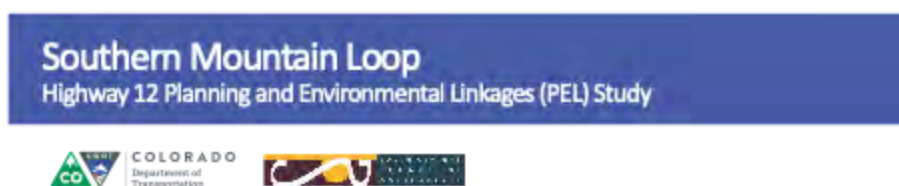
Attachment

SML PEL Study - Existing Conditions Report - FOR REVIEW

Monica Ramey <mramey719@gmail.com>

Wed, Nov 6, 2019 at 10:32 AM

To: MikeL.Trujillo@state.co.us, stacey.koury@state.co.us, crystal.dreiling@state.co.us, Destiny.chapman@usda.gov, John.baumchen@usda.gov, john@huerfano.us, Mbounds@huerfano.us, Robert.Lucero@lasanimascounty.org, Allison_Michael@fws.gov, Steve.Turner@state.co.us, Peter.D.Olmstead@usace.army.mil, tripp.minges@state.co.us, jerry.henderson@state.co.us, karen.wolf@trinidad.co.gov, jwingate@fs.fed.gov, alex.alma@state.co.us, blenth@coloradoopenlands.org, brad.henley@state.co.us, Derek.Sokoloski@colostate.edu, REBB@centurytel.net, bc.jr@outlook.com, bob.holder@state.co.us, jknudson@purgatoirepartners.org, Pallone@q.com, jeni.jackson@trinidad.co.gov, ccampbell@sprhc.com, aaldretti@sprhc.com, travis.sauder@state.co.us, Jason.Hagan@state.co.us
Cc: Walt Boulden <wboulden@sccog.net>, Don Scanga <donald.scanga@state.co.us>, Jerry Mugg <jmugg@hgcons.com>, Shannon Ford - CDOT <shannon.ford@state.co.us>



November 6, 2019

To: Study Technical Committee and Coordinating Resource Agencies

From: Walt Boulden, South Central Council of Government, Project Manager

RE: Southern Mountain Loop Planning and Environmental Linkages Study - Study Technical Committee

The South Central Council of Governments (SCCOG), along with the Colorado Department of Transportation (CDOT), is conducting a Planning and Environmental Linkages (PEL) Study of the Southern Mountain Loop (SML) of the Colorado Front Range Trail. The SML corridor is approximately 82 miles long and extends from Walsenburg to Trinidad, Colorado along U.S. Highway 160 and Colorado State Highway 12. This corridor is also designated as the Scenic Highway of Legends Byway. Information regarding the study can be found at:

- <https://www.codot.gov/library/studies/co-12-sml-pel>
- <https://www.colorado.gov/pacific/sccog/southern-mountain-loop-%E2%80%93-highway-12-planning-and-environmental-linkages-pel-study>

As a member of the Study Technical Committee and as a coordinating resource agency, we are requesting your review and comment of the attached draft Existing Corridor Conditions Report. This report documents the current transportation system conditions and environmental resources within the Study Area. This information provides the basis for developing and evaluating possible transportation improvements along and adjacent to the byway. Understanding your perspectives is critical to building supported decisions and solutions. Your review and comment will help us understand and confirm the scope of the

environmental issues, the importance of the identified resources and need for impact avoidance and mitigation measures, and the identification of joint development opportunities.

We are requesting that review comments, or questions be provided by November 22, 2019 to the following:

Monica Ramey, Public Involvement Specialist

Monica@Bachmanpr.com

719-339-4109

Thank you for your participation with this study. Comments received will be incorporated into the final report and the study process. It is anticipated that the Study Technical Committee will reconvene in the spring of next year to review the alternatives analysis and draft recommendations. An invitation to the meeting will be provided in advance.

Sincerely,

Walt Boulden
South Central Council of Government
Project Manager

Attachment

2 attachments

 **SML PEL Study Tech Comm Letter-Exist Cond Report 110619.pdf**
552K

 **SML PEL.Exist Cond Report Condense.JAM.Final.V1.pdf**
7272K



Jerry Mugg <jmugg@hgcons.com>

FW: US Forest Service - San Isabel National Forest, San Carlos Ranger District Comments - Southern Mountain Loop PEL

Monica Ramey <monica@bachmanpr.com>
To: "jmugg@hgcons.com" <jmugg@hgcons.com>

Wed, Nov 13, 2019 at 2:03 PM

For your information.

Monica Ramey |bachman pr

Monica@bachmanpr.com

719.488.5908 Main

719.339.4109 Mobile

From: "Chapman, Destiny L -FS" <destiny.chapman@usda.gov>
Date: Wednesday, November 13, 2019 at 12:05 PM
To: Monica Ramey <monica@bachmanpr.com>
Cc: "Baumchen, John -FS" <john.baumchen@usda.gov>
Subject: US Forest Service - San Isabel National Forest, San Carlos Ranger District Comments - Southern Mountain Loop PEL

Hello, Monica. Thank you for providing the San Carlos Ranger District the opportunity to comment on the Southern Mountain Loop PEL Study. At this time, we do not have any comments, but do look forward to seeing the alternatives that are developed. Once we know better what alternatives and recommendations you all are considering for the segments that cross National Forest System lands, we can better engage on this topic and ensure that our resource areas are addressed.

If you have any questions, please feel free to reach out. Thank you again.



Destiny Chapman
District Ranger

Forest Service

Pike/San Isabel National Forests &

Cimarron/Comanche National Grasslands

San Carlos Ranger District

p: 719-269-8701

c: 719-429-0032

destiny.chapman@usda.gov

[3028 East Main Street](#)

Canon City, CO 81212

www.fs.fed.us



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Jerry Mugg <jmugg@hgcons.com>

SML PEL Study - Existing Conditions Report - FOR REVIEW

Monica Ramey <mramey719@gmail.com>
To: "jmugg@hgcons.com" <jmugg@hgcons.com>

Wed, Nov 20, 2019 at 4:32 PM

For your information.

Monica Ramey |bachman pr

Monica@bachmanpr.com

719.488.5908 Main

719.339.4109 Mobile

From: "Dreiling - DNR, Crystal" <crystal.dreiling@state.co.us>
Date: Wednesday, November 20, 2019 at 1:45 PM
To: "mramey719@gmail.com" <mramey719@gmail.com>
Subject: Re: SML PEL Study - Existing Conditions Report - FOR REVIEW

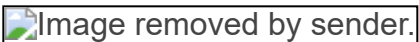
Hi! I've reviewed and just want to clarify the names of some of our trails at Trinidad Lake State Park. Please see attached.

Thanks!

Crystal Dreiling

Park Manager

Trinidad Lake State Park

Image removed by sender.

P 719.846.6951 | F 719.846.0676 | C 719.989.7189
[32610 State Highway 12, Trinidad, CO 81082](https://www.state.co.us/trinidad)

crystal.dreiling@state.co.us | cpw.state.co.us

On Wed, Nov 13, 2019 at 11:45 AM Henley - DNR, Brad <brad.henley@state.co.us> wrote:

All,

Do we have any “show stoppers”/comment/questions? Please send those to me by the end of this week, I'll consolidate and run by Brett. As the document states, “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.” Basically an inventory document at this time and at such a high level, I'm finding it hard to offer any substantial comment/questions. Unless we are finding something substantive missing especially wildlife impact related, I'd recommend we remain mute at this time and focus our efforts during the EIS/NEPA phase (if/when it materializes) where we have defined alternatives to analyze.

[Quoted text hidden]



2019_11_14_13_53_34.pdf

338K

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

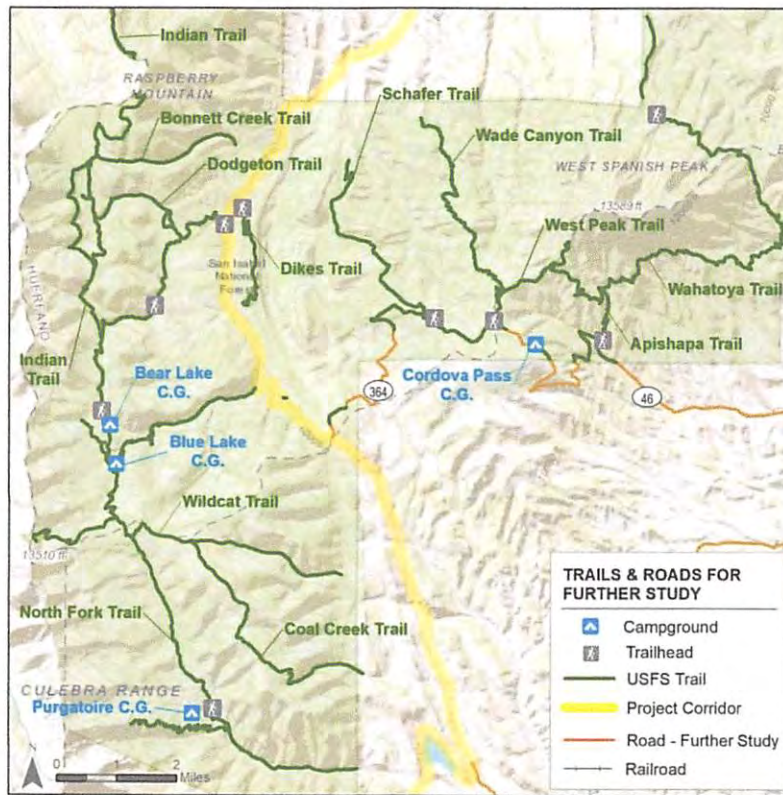
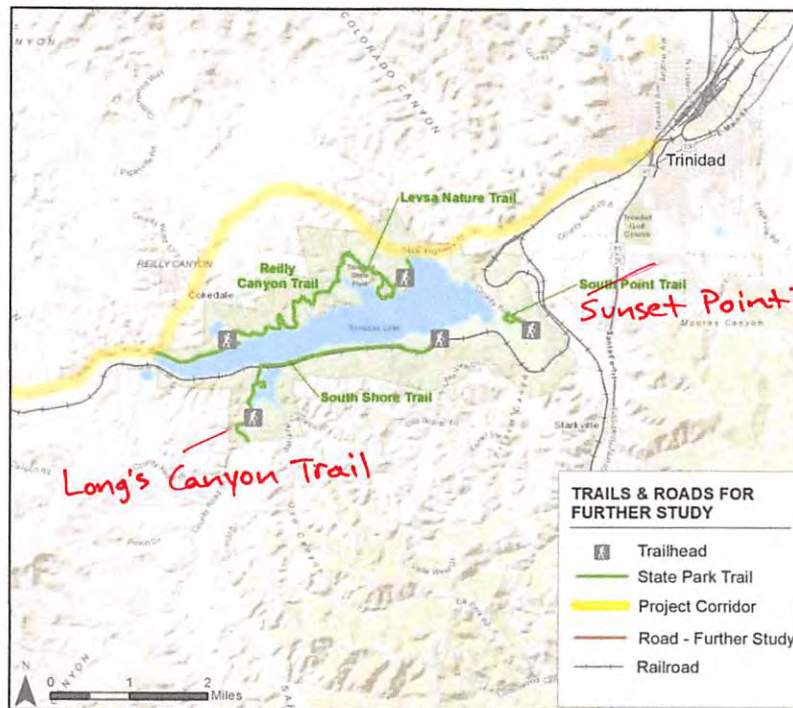


Figure 27: Trails and Trailheads at Trinidad Lake State Park



SML PEL

Chapman, Destiny L -FS <destiny.chapman@usda.gov>

Fri, Jan 17, 2020 at 4:25 PM

To: Jerry Mugg <jmugg@hgcons.com>, "tedheyd@altaplanning.com" <tedheyd@altaplanning.com>

Cc: "Wingate, Jeffer -FS" <jeffer.wingate@usda.gov>, "Baumchen, John -FS" <john.baumchen@usda.gov>

Hello. Thank you for meeting with me and Jeffer yesterday. It was very informative and great to see the maps with the possible alternatives. The San Carlos Ranger District does support providing access to the National Forest – it is public land after all.

However, there are a few things to keep in mind from my perspective:

- At this time, funding does not exist from the San Carlos Ranger District to construct or maintain any new trails proposed through this project.
- Any new trails would have to go through the NEPA process, and that would have to be built into our program of work. Specialist time could be a limiting factor as far as capacity to take on this NEPA.
- It would likely be easier to look at existing trailheads and infrastructure and how those could be incorporated into the proposed trail system rather than creating new trailheads on the Forest.
- How would long-term maintenance of the trail be handled? We would be interested in seeing a long-term agreement with partner organization for trail maintenance, as we do not have capacity at current staffing levels to take this on. I would be concerned that perhaps in 10 years, partners walk away from the project and the Ranger District is left with all of the maintenance responsibility and no capacity to carry that out.

If you have questions, please let me know. I'd be happy to discuss further.



Destiny Chapman
District Ranger

Forest Service

Pike/San Isabel National Forests &

Cimarron/Comanche National Grasslands

San Carlos Ranger District

p: 719-269-8701
c: 719-429-0032
destiny.chapman@usda.gov

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www.fs.fed.us



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U.S. Department
of Transportation
**Federal Highway
Administration**

Colorado Division

September 22, 2020

12300 W. Dakota Ave., Suite 180
Lakewood, Colorado 80228
720-963-3000
720-963-3001

Richard Zamora
Regional Transportation Director
CDOT Region 2
5615 Wills Blvd.
Pueblo, CO 81008

Subject: Southern Mountain Loop Planning and Environmental Linkages Study (PEL)

Dear Mr. Zamora:

This letter is to acknowledge the completion of the Planning and Environmental Linkages (PEL) study identified above, undertaken by CDOT in partnership with South Central Council of Governments. We appreciate and commend the efforts the team has undertaken to conduct this corridor planning study in a manner consistent with the Federal Highway Administration (FHWA) PEL guidance. The benefits of this streamlining effort will undoubtedly be realized in terms of time and cost savings on future National Environmental Policy Act (NEPA) studies conducted within the corridor planning study limits.

The completed PEL Questionnaire submitted to FHWA on September 10, 2020, as an attachment to the PEL Report, provides a good summary of the work completed in the PEL study and the information that will be needed once this project enters the NEPA process. As individual projects are initiated and funding becomes available, it will be necessary for FHWA to meet with CDOT and the Local Agencies to determine the scope of the NEPA study required, purpose and need, logical termini, and the extent to which the corridor study can be used to supplement or replace certain milestones in the NEPA process.

If you have any questions, please feel free to contact Armando Henriquez of this office at (720) 963-3031 or by email at Armando.henriquez@dot.gov.

Sincerely,

John M. Cater
Division Administrator

Cc:

Ajin Hu, CDOT Region 2 South Program Engineer
Walt Boulden, South Central Council of Governments Executive Director/PM
Gabriel Cosyleon, CDOT Region 2 Environmental Manager
Troy Halouska, CDOT PEL Program Manager

Appendix F - Cost Estimates



Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

Corridor Segment: Segundo

LIMITS: SH 12 - MP 52.8 to MP 56.8

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|-------------|--------------------|---------------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Widen Shoulders | | | | | | |
| Segundo Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 6 | \$66,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 3,559 | \$15,659.60 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 34 | \$10,540.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 2,076 | \$29,057.36 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 697 | \$16,020.91 | |
| 207-00205 | Topsoil | CY | \$12.00 | 2,388 | \$28,657.82 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 332 | \$1,992.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 33 | \$5,610.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 4 | \$12,434.18 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 2,149 | \$5,587.40 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 2,010 | \$86,436.51 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 2,799 | \$263,059.73 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 2,120 | \$7,420.29 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 215 | \$602.00 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 900 | \$90,900.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 3,559 | \$103,211.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 34 | \$51,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 28 | \$56,000.00 | |
| Rumble Strips | | | | | | |
| East-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 16,621 | \$8,310.72 | |
| West-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 16,621 | \$8,310.72 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 50 | \$1,250.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 14 | \$7,000.00 | |
| Improvements through Segundo | | | | | | |
| | Curb and Gutter and Storm Drain | LS | \$220,000.00 | 1 | \$220,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,095,060 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 1,095,060.24 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 54,753.01 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 344,943.98 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 224,213.58 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 1,718,971 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | UNIT | ITEM | % | COST | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 214,871.35 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 232,061.06 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 11.0% | 189,086.79 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 189,086.79 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 2,544,077 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: Segundo

LIMITS: SH 12 - MP 52.8 to MP 56.8

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Segundo Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 20,655 | \$1,858,950.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 80 | \$160,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 385 | \$1,155,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$3,173,950 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 3,173,950.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 158,697.50 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 999,794.25 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 649,866.26 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 4,982,308 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 622,788.50 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 672,611.58 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 11.0% | 548,053.88 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 548,053.88 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 7,373,816 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

Corridor Segment: Vigil

LIMITS: SH 12 - MP 42.1 to MP 44.1

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|-------------|--------------------|---------------|-------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Widen Shoulders | | | | | | |
| Vigil Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 2 | \$22,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 655 | \$2,882.00 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 14 | \$4,340.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 1,097 | \$15,358.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 221 | \$5,083.00 | |
| 207-00205 | Topsail | CY | \$12.00 | 1,439 | \$17,268.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 211 | \$1,266.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 21 | \$3,570.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 3 | \$8,400.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 1,295 | \$3,367.00 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 765 | \$32,895.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 1,144 | \$107,536.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 867 | \$3,034.50 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 129 | \$361.20 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 200 | \$20,200.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 655 | \$18,995.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 14 | \$21,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 9 | \$18,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 74 | \$8,140.00 | |
| Rumble Strips | | | | | | |
| East-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 10,560 | \$5,280.00 | |
| West-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 10,560 | \$5,280.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$324,256 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 324,255.70 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 16,212.79 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 102,140.55 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 66,391.35 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 509,000 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 63,625.05 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 68,715.05 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 6.3% | 32,067.02 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 55,990.04 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 729,398 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: Vigil

LIMITS: SH 12 - MP 42.1 to MP 44.1

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Vigil Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 10,463 | \$941,670.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 60 | \$120,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 37 | \$111,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,172,670 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 1,172,670.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 58,633.50 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 369,391.05 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 240,104.18 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 1,840,799 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 230,099.84 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 248,507.83 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 6.3% | 115,970.32 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 202,487.86 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 2,637,865 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

Corridor Segment: Curve SE of North Lake

LIMITS: SH 12 - MP 27.0 to MP 29.0

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
 UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | |
|---------------------------------------|---|------|-------------|----------|--------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| Widen Shoulders | | | | | |
| Curve SE of North Lake Segment | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 8 | \$88,000.00 |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 528 | \$2,323.20 |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 2 | \$620.00 |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 2,714 | \$37,996.00 |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 1,838 | \$42,274.00 |
| 207-00205 | Topsail | CY | \$12.00 | 3,034 | \$36,408.00 |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 211 | \$1,266.00 |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 21 | \$3,570.00 |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 6 | \$16,800.00 |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 2,731 | \$7,100.60 |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 2,554 | \$109,822.00 |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 3,358 | \$315,652.00 |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 2,544 | \$8,904.00 |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 273 | \$764.40 |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 50 | \$5,050.00 |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 528 | \$15,312.00 |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 2 | \$3,000.00 |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 24 | \$48,000.00 |
| Rumble Strips | | | | | |
| East-bound | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 10,560 | \$5,280.00 |
| West-bound | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 10,560 | \$5,280.00 |
| Signage | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 90 | \$2,250.00 |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 28 | \$14,000.00 |

SUBTOTAL OF BID ITEM COSTS **\$769,672** [A]

| ADDED PERCENTAGE ITEMS | UNIT | % RANGE | % USED | COST | |
|---|------|--------------------|------------------|---------------------|------------|
| BID ITEM COSTS | | PROJECT DEPENDENT | - | 769,672.20 | [A] |
| MOBILIZATION | % | (4-7% OF A) | 5.0% | 38,483.61 | [B] |
| CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 242,446.74 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 157,590.38 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | [A+B+C+D] | \$ 1,208,193 | [E] |

| ENGINEERING AND RIGHT-OF-WAY COSTS | UNIT | ITEM | % | COST | |
|------------------------------------|------|--------------|-------|------------|-----|
| CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 151,024.12 | [F] |
| CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 163,106.05 | [G] |
| RIGHT-OF-WAY | % | (0-30%) of E | 0.9% | 10,873.74 | [H] |
| DESIGN ENGINEERING | % | (11%) of E | 11.0% | 132,901.22 | [I] |

TOTAL PROJECT COST (E+F+G+H+I) **\$ 1,666,098** [J]

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements
LIMITS: SH 12 - MP 27.0 to MP 29.0

Corridor Segment: Curve SE of North Lake

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Curve SE of North Lake Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 10,224 | \$920,160.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 30 | \$60,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 306 | \$918,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,898,160 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 1,898,160.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 94,908.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 597,920.40 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 388,648.26 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 2,979,637 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 372,454.58 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 402,250.95 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 0.9% | 26,816.73 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 327,760.03 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 4,108,919 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

Corridor Segment: US 160 to La Veta

LIMITS: SH 12 - MP 0.0 to MP 4.6

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|-------------|--------------------|---------------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Widen Shoulders | | | | | | |
| Viail Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 13 | \$143,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 2,033 | \$8,945.20 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 24 | \$7,440.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 4,352 | \$60,928.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 2,337 | \$53,751.00 | |
| 207-00205 | Topsail | CY | \$12.00 | 5,234 | \$62,808.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 486 | \$2,916.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 49 | \$8,330.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 10 | \$28,000.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 4,711 | \$12,248.60 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 4,406 | \$189,458.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 5,907 | \$555,258.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 4,475 | \$15,662.50 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 471 | \$1,318.80 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 400 | \$40,400.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 2,033 | \$58,957.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 24 | \$36,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 0 | \$0.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 987 | \$108,570.00 | |
| Rumble Strips | | | | | | |
| East-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 24,288 | \$12,144.00 | |
| West-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 24,288 | \$12,144.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,418,279 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 1,418,279.10 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 70,913.96 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 446,757.92 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 290,392.65 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 2,226,344 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 278,292.95 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 300,556.39 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 6.3% | 140,259.65 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 244,897.80 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 3,190,350 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: US 160 to La Veta

LIMITS: SH 12 - MP 0.0 to MP 4.6

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Viail Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 24,198 | \$2,177,820.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 0 | \$0.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 90 | \$270,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$2,447,820 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 2,447,820.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 122,391.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 771,063.30 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 501,191.15 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 3,842,465 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 480,308.18 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 518,732.84 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 6.3% | 242,075.32 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 422,671.20 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 5,506,253 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: Vigil to Segundo

LIMITS: SH 12 - MP 44.1 to MP 52.8

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|----------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Vigil to Segundo Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 44,598 | \$4,013,820.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 60 | \$120,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 1,278 | \$3,834,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$7,967,820 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 7,967,820.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 398,391.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 2,509,863.30 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 1,631,411.15 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 12,507,485 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 1,563,435.68 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 1,688,510.54 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 11.0% | 1,375,823.40 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 1,375,823.40 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 18,511,078 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

Corridor Segment: La Veta to Mountain Resort

LIMITS: SH 12 - MP 5.8 to MP 18.4

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|-------------|--------------------|---------------|----------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Widen Shoulders | | | | | | |
| La Veta to Mountain Resort Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 74 | \$814,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 2,239 | \$9,851.60 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 22 | \$6,820.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 37,820 | \$529,480.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 32,301 | \$742,923.00 | |
| 207-00205 | Topsail | CY | \$12.00 | 29,855 | \$358,260.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 1,331 | \$7,986.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 133 | \$22,610.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 56 | \$156,800.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 26,869 | \$69,859.40 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 25,131 | \$1,080,633.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 32,345 | \$3,040,430.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 24,504 | \$85,764.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 2,687 | \$7,523.60 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 850 | \$85,850.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 2,239 | \$64,931.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 22 | \$33,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 72 | \$144,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 7,128 | \$784,080.00 | |
| Rumble Strips | | | | | | |
| East-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 66,528 | \$33,264.00 | |
| West-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 66,528 | \$33,264.00 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 940 | \$23,500.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 280 | \$140,000.00 | |
| Sidewalks in Cuchara | | | | | | |
| 608-00000 | Concrete Sidewalk | SY | \$100.00 | 380 | \$38,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$8,312,830 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 8,312,829.60 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 415,641.48 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 2,618,541.32 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 1,702,051.86 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 13,049,064 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | UNIT | ITEM | % | COST | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 1,631,133.03 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 1,761,623.68 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 6.3% | 822,091.05 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 1,435,397.07 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 18,699,309 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: La Veta to Mountain Resort

LIMITS: SH 12 - MP 5.8 to MP 18.4

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
 UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|----------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | La Veta to Mountain Resort Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 65,702 | \$5,913,180.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 60 | \$120,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 766 | \$2,298,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$8,331,180 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 8,331,180.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 416,559.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 2,624,321.70 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 1,705,809.11 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 13,077,870 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 1,634,733.73 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 1,765,512.42 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 6.3% | 823,905.80 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 1,438,565.68 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 18,740,587 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements
LIMITS: SH 12 - MP 70.7 to MP 70.8

Corridor Segment: Santa Fe Trail & Main Street Intersection

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|--------------------|------------------|---------------------|--------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Intersection Improvements (Roundabout) at Main St/Santa Fe Roundabout | LS | \$1,000,000.00 | 1 | \$1,000,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,000,000 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | UNIT | % RANGE | % USED | COST | | |
| BID ITEM COSTS | | PROJECT DEPENDENT | - | 1,000,000.00 | | [A] |
| MOBILIZATION | % | (4-7% OF A) | 5.0% | 50,000.00 | | [B] |
| CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 315,000.00 | | [C] |
| CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 204,750.00 | | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | [A+B+C+D] | \$ 1,569,750 | | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | UNIT | ITEM | % | COST | | |
| CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 196,218.75 | | [F] |
| CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 211,916.25 | | [G] |
| RIGHT-OF-WAY | % | (0-30%) of E | 28.7% | 450,518.25 | | [H] |
| DESIGN ENGINEERING | % | (11%) of E | 11.0% | 172,672.50 | | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | \$ 2,601,076 | | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

Corridor Segment: Segundo to Cokedale

LIMITS: SH 12 - MP 56.8 to MP 61.4

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|------|--------------------|----------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Widen Shoulders | | | | | | |
| Segundo to Cokedale Segment | | | | | | |
| | Clearing and Grubbing | ACRE | \$11,000.00 | 26 | \$286,000.00 | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 26 | \$286,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 14,098 | \$62,031.20 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 90 | \$27,900.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 12,070 | \$168,980.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 10,076 | \$231,748.00 | |
| 207-00205 | Topsoil | CY | \$12.00 | 10,359 | \$124,308.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 481 | \$2,886.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 48 | \$8,160.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 19 | \$53,200.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 9,323 | \$24,239.80 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 8,720 | \$374,960.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 11,241 | \$1,056,654.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 8,516 | \$29,806.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 932 | \$2,609.60 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 300 | \$30,300.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 14,098 | \$408,842.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 90 | \$135,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 112 | \$224,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 3,759 | \$413,490.00 | |
| Rumble Strips | | | | | | |
| East-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 24,035 | \$12,017.50 | |
| West-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 24,035 | \$12,017.50 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 50 | \$1,250.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 14 | \$7,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$3,697,400 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| | | | PROJECT DEPENDENT | - | 3,697,399.60 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 184,869.98 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 1,164,680.87 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 757,042.57 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 5,803,993 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 725,499.13 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 783,539.06 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 11.0% | 638,439.23 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 638,439.23 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 8,589,910 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: Segundo to Cokedale

LIMITS: SH 12 - MP 56.8 to MP 61.4

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Segundo to Cokedale Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 23,808 | \$2,142,720.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 100 | \$200,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 380 | \$1,140,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$3,482,720 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 3,482,720.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 174,136.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 1,097,056.80 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 713,086.92 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 5,467,000 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 683,374.97 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 738,044.96 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 11.0% | 601,369.97 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 601,369.97 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 8,091,160 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements
LIMITS: SH 12 - MP 33.6 to MP 42.1

Corridor Segment:
Monument Park to Vigil

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|-------------|--------------------|---------------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Widen Shoulders | | | | | | |
| Monument Park to Vigil Segment | | | | | | |
| | Clearing and Grubbing | ACRE | \$11,000.00 | 17 | \$187,000.00 | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 17 | \$187,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 2,154 | \$9,477.60 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 26 | \$8,060.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 5,962 | \$83,468.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 2,001 | \$46,023.00 | |
| 207-00205 | Topsail | CY | \$12.00 | 12,003 | \$144,036.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 955 | \$5,730.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 96 | \$16,320.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 22 | \$61,600.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 10,803 | \$28,087.80 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 5,774 | \$248,282.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 8,038 | \$755,572.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 6,090 | \$21,315.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 1,080 | \$3,024.00 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 200 | \$20,200.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 2,154 | \$62,466.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 26 | \$39,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 28 | \$56,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 1,151 | \$126,610.00 | |
| Rumble Strips | | | | | | |
| East-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 47,742 | \$23,871.00 | |
| West-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 47,742 | \$23,871.00 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 50 | \$1,250.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 14 | \$7,000.00 | |
| Sidewalks in Stonewall | | | | | | |
| 608-00000 | Concrete Sidewalk | SY | \$100.00 | 1,425 | \$142,500.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$2,120,763 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 2,120,763.40 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 106,038.17 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 668,040.47 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 434,226.31 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 3,329,068 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 416,133.54 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 449,424.23 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 5.5% | 183,098.76 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 366,197.52 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 4,743,922 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

LIMITS: SH 12 - MP 33.6 to MP 42.1

**Corridor Segment:
Monument Park to Vigil**

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|----------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Monument Park to Vigil Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 44,234 | \$3,981,060.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 70 | \$140,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 576 | \$1,728,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$5,849,060 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 5,849,060.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 292,453.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 1,842,453.90 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 1,197,595.04 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 9,181,562 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 1,147,695.24 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 1,239,510.86 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 5.5% | 504,985.91 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 1,009,971.81 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 13,083,726 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

Corridor Segment: North Lake to Monument Park

LIMITS: SH 12 - MP 29.0 to MP 33.6

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|-------------|--------------------|---------------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Widen Shoulders | | | | | | |
| North Lake to Monument Park Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 17 | \$187,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 649 | \$2,855.60 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 12 | \$3,720.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 6,243 | \$87,402.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 4,228 | \$97,244.00 | |
| 207-00205 | Topsail | CY | \$12.00 | 6,979 | \$83,748.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 486 | \$2,916.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 49 | \$8,330.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 13 | \$36,400.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 6,281 | \$16,330.60 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 5,875 | \$252,625.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 7,724 | \$726,056.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 5,852 | \$20,482.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 628 | \$1,758.40 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 350 | \$35,350.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 649 | \$18,821.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 12 | \$18,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 20 | \$40,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 0 | \$0.00 | |
| Rumble Strips | | | | | | |
| East-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 24,288 | \$12,144.00 | |
| West-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 24,288 | \$12,144.00 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 240 | \$6,000.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 70 | \$35,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,704,327 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 1,704,326.60 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 85,216.33 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 536,862.88 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 348,960.87 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 2,675,367 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | UNIT | ITEM | % | COST | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 334,420.84 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 361,174.50 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 6.3% | 168,548.10 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 294,290.33 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 3,833,800 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: North Lake to Monument Park

LIMITS: SH 12 - MP 29.0 to MP 33.6

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | North Lake to Monument Park Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 23,952 | \$2,155,680.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 30 | \$60,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 306 | \$918,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$3,133,680 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 3,133,680.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 156,684.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 987,109.20 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 641,620.98 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 4,919,094 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 614,886.77 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 664,077.71 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 6.3% | 309,902.93 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 541,100.36 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 7,049,062 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements
LIMITS: US 160 - MP 304.8 to MP 305.2

**Corridor Segment: US 160 At-Grade
 Railroad Crossing**

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|--|------|---------------------------|---------------|------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Signage | | | | | | |
| 202-00810 | Removal of Ground Sign | EACH | \$80.00 | 4 | \$320.00 | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 30 | \$750.00 | |
| | Actuated Flashing Lights | EACH | \$2,500.00 | 4 | \$10,000.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 6 | \$3,000.00 | |
| Pavement Marking | | | | | | |
| 627-00008 | Modified Epoxy Pavement Marking | GAL | \$60.00 | 33 | \$1,980.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$16,050 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | % USED | COST | |
| | | | | - | 16,050.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 10.0% | 1,605.00 | [B] |
| | CONTINGENCIES | % | (15-30% of (A+B)) | 30.0% | 5,296.50 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25% of (A+B+C)) | 15.0% | 3,442.73 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 26,394 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5% of E) | 12.5% | 3,299.28 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5% of E) | 13.5% | 3,563.22 | [G] |
| | RIGHT-OF-WAY | % | (0-30% of E) | 0.0% | - | [H] |
| | DESIGN ENGINEERING | % | (11% of E) | 11.0% | 2,903.36 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 36,160 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

LIMITS: SH 12 - MP 68.1 to MP 69.1

Corridor Segment: Jansen

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | |
|---|---|------|--------------|----------|--------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| Widen Shoulders | | | | | |
| Jansen Segment | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 5 | \$55,000.00 |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 1,774 | \$7,805.60 |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 14 | \$4,340.00 |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 2,524 | \$35,336.00 |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 2,107 | \$48,461.00 |
| 207-00205 | Topsail | CY | \$12.00 | 2,167 | \$26,004.00 |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 101 | \$606.00 |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 10 | \$1,700.00 |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 4 | \$11,200.00 |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 1,950 | \$5,070.00 |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 1,824 | \$78,432.00 |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 2,351 | \$220,994.00 |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 1,781 | \$6,233.50 |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 195 | \$546.00 |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 200 | \$20,200.00 |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 1,774 | \$51,446.00 |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 14 | \$21,000.00 |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 12 | \$24,000.00 |
| | Major Structures (Bridges) | SF | \$110.00 | 0 | \$0.00 |
| Rumble Strips | | | | | |
| East-bound | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 5,027 | \$2,513.50 |
| West-bound | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 5,027 | \$2,513.50 |
| Access Management through Jansen | | | | | |
| | Access Management | LS | \$670,000.00 | 1 | \$670,000.00 |

SUBTOTAL OF BID ITEM COSTS **\$1,293,401** [A]

| ADDED PERCENTAGE ITEMS | UNIT | % RANGE | % USED | COST | |
|---|------|--------------------|--------|---------------------|------------|
| BID ITEM COSTS | | PROJECT DEPENDENT | - | 1,293,401.10 | [A] |
| MOBILIZATION | % | (4-7% OF A) | 5.0% | 64,670.06 | [B] |
| CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 407,421.35 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 264,823.88 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | [A+B+C+D] | | \$ 2,030,316 | [E] |

| ENGINEERING AND RIGHT-OF-WAY COSTS | UNIT | ITEM | % | COST | |
|------------------------------------|------|--------------|-------|------------|-----|
| CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 253,789.55 | [F] |
| CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 274,092.71 | [G] |
| RIGHT-OF-WAY | % | (0-30%) of E | 28.7% | 582,700.80 | [H] |
| DESIGN ENGINEERING | % | (11%) of E | 11.0% | 223,334.80 | [I] |

TOTAL PROJECT COST (E+F+G+H+I) **\$ 3,364,234** [J]

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

LIMITS: SH 12 - MP 4.6 to MP 5.8

Corridor Segment: La Veta

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | |
|------------------------|---|------|-------------|----------|-------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| Widen Shoulders | | | | | |
| La Veta Segment | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 2 | \$22,000.00 |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 343 | \$1,509.20 |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 4 | \$1,240.00 |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 608 | \$8,512.00 |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 327 | \$7,521.00 |
| 207-00205 | Topsail | CY | \$12.00 | 732 | \$8,784.00 |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 127 | \$762.00 |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 13 | \$2,210.00 |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 1 | \$2,800.00 |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 658 | \$1,710.80 |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 616 | \$26,488.00 |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 881 | \$82,814.00 |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 667 | \$2,334.50 |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 66 | \$184.80 |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 700 | \$70,700.00 |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 343 | \$9,947.00 |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 4 | \$6,000.00 |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 0 | \$0.00 |
| | Major Structures (Bridges) | SF | \$110.00 | 507 | \$55,770.00 |
| Rumble Strips | | | | | |
| East-bound | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 6,336 | \$3,168.00 |
| West-bound | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 6,336 | \$3,168.00 |
| Signage | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 50 | \$1,250.00 |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 11 | \$5,500.00 |
| Curb Ramps | | | | | |
| 608-00010 | Concrete Curb Ramp | SY | \$160.00 | 67 | \$10,720.00 |
| 609-00015 | Detectable Warnings | SF | \$70.00 | 96 | \$6,720.00 |

SUBTOTAL OF BID ITEM COSTS **\$341,813** [A]

| ADDED PERCENTAGE ITEMS | UNIT | % RANGE | % USED | COST | |
|---|------|--------------------|------------------|-------------------|------------|
| BID ITEM COSTS | | PROJECT DEPENDENT | - | 341,813.30 | [A] |
| MOBILIZATION | % | (4-7% OF A) | 5.0% | 17,090.67 | [B] |
| CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 107,671.19 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 69,986.27 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | [A+B+C+D] | \$ 536,561 | [E] |

| ENGINEERING AND RIGHT-OF-WAY COSTS | UNIT | ITEM | % | COST | |
|------------------------------------|------|--------------|-------|-----------|-----|
| CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 67,070.18 | [F] |
| CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 72,435.79 | [G] |
| RIGHT-OF-WAY | % | (0-30%) of E | 1.4% | 7,511.86 | [H] |
| DESIGN ENGINEERING | % | (11%) of E | 11.0% | 59,021.76 | [I] |

TOTAL PROJECT COST (E+F+G+H+I) **\$ 742,601** [J]

Detailed Project Cost Estimate

PROJECT: SML PEL Safety Improvements

Corridor Segment: Mountain Resort to North Lake

LIMITS: SH 12 - MP 18.4 to MP 27.0

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
 UNITS: English

Hg Consult Inc

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ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|--|---|------|--------------------|----------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Widen Shoulders | | | | | | |
| Mountain Resort to North Lake Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 32 | \$352,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 2,988 | \$13,147.20 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 10 | \$3,100.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 11,672 | \$163,408.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 7,905 | \$181,815.00 | |
| 207-00205 | Topsoil | CY | \$12.00 | 13,047 | \$156,564.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 908 | \$5,448.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 91 | \$15,470.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 24 | \$67,200.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 11,743 | \$30,531.80 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 10,983 | \$472,269.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 14,441 | \$1,357,454.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 10,940 | \$38,290.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 1,174 | \$3,287.20 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 200 | \$20,200.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 2,988 | \$86,652.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 10 | \$15,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 64 | \$128,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 0 | \$0.00 | |
| Rumble Strips | | | | | | |
| East-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 45,408 | \$22,704.00 | |
| West-bound | | | | | | |
| 614-80385 | Rumble Strip | LF | \$0.50 | 45,408 | \$22,704.00 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 710 | \$17,750.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 210 | \$105,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$3,277,994 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| | | | PROJECT DEPENDENT | - | 3,277,994.20 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 163,899.71 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 1,032,568.17 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 671,169.31 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 5,145,631 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 643,203.92 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 694,660.24 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 0.9% | 46,310.68 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 566,019.45 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 7,095,826 | [J] |

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 1

LIMITS: US 160 - MP 294.2 to MP 302.1 & SH 12 - MP 0.0 to MP 4.6

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 3A - ON-HIGHWAY TRAIL (ATTACHED)

| ITEMS | | | | | | |
|--|---|------|--------------------|----------|----------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Add. Shldr Widen. Beyond Safety Improvements for Bicycles | | | | | | |
| US 160 to La Veta Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 9 | \$99,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 0 | \$0.00 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 0 | \$0.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 4,480 | \$62,720.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 4,480 | \$103,040.00 | |
| 207-00205 | Topsoil | CY | \$12.00 | 3,489 | \$41,868.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 0 | \$0.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 0 | \$0.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 6 | \$16,800.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 3,140 | \$8,164.00 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 2,937 | \$126,291.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 3,635 | \$341,690.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 2,754 | \$9,639.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 314 | \$879.20 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 0 | \$0.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 0 | \$0.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 0 | \$0.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 0 | \$0.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 359 | \$39,490.00 | |
| Separated Trail | | | | | | |
| Lathrop State Park to SH 12 Segment | | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 41,413 | \$3,105,975.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 100 | \$200,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 299 | \$897,000.00 | |
| | Signalization (Ped Crossing at Lathrop State Park) | EA | \$120,000.00 | 2 | \$240,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$5,292,556 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 5,292,556.20 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 264,627.81 | [B] |
| | CONTINGENCIES | % | (15-30% of (A+B)) | 30.0% | 1,667,155.20 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25% of (A+B+C)) | 5.0% | 361,216.96 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 7,585,556 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5% of E) | 12.5% | 948,194.52 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5% of E) | 13.5% | 1,024,050.08 | [G] |
| | RIGHT-OF-WAY | % | (0-30% of E) | 2.8% | 212,395.57 | [H] |
| | DESIGN ENGINEERING | % | (11% of E) | 11.0% | 834,411.18 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 10,604,608 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 Minimal R/W impact anticipated along US 160; below average R/W impact anticipated along SH 12
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 1

LIMITS: US 160 - MP 294.2 to MP 302.1 & SH 12 - MP 0.0 to MP 4.6

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|----------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Lathrop State Park to La Veta Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 65,509 | \$4,913,175.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 100 | \$200,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 491 | \$1,473,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$6,586,175 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 6,586,175.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 329,308.75 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 2,074,645.13 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 5.0% | 449,506.44 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 9,439,635 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 1,179,954.41 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 1,274,350.77 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 3.6% | 339,826.87 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 1,038,359.89 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 13,272,127 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 Minimal R/W impact anticipated along US 160; average R/W impact anticipated along SH 12
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 2

LIMITS: SH 12 - MP 4.6 to MP 5.8

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3A - ON-HIGHWAY TRAIL (ATTACHED)

| ITEMS | | | | | | |
|--|---|-------------|--------------------|---------------|------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Add. Shldr Widen. Beyond Safety Improvements for Bicycles | | | | | | |
| La Veta Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 0 | \$0.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 0 | \$0.00 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 0 | \$0.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 0 | \$0.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 0 | \$0.00 | |
| 207-00205 | Topsoil | CY | \$12.00 | 0 | \$0.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 0 | \$0.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 0 | \$0.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 0 | \$0.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 0 | \$0.00 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 0 | \$0.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 0 | \$0.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 0 | \$0.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 0 | \$0.00 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 0 | \$0.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 0 | \$0.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 0 | \$0.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 0 | \$0.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 0 | \$0.00 | |
| Signage & Striping | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 12 | \$300.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 4 | \$2,000.00 | |
| 627-00008 | Modified Epoxy Pavement Marking | GAL | \$61.00 | 94 | \$5,734.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$8,034 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 8,034.00 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 7.0% | 562.38 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 2,578.91 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 25.0% | 2,793.82 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 13,969 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | UNIT | ITEM | % | COST | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 1,746.14 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 1,885.83 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 0.0% | - | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 1,536.60 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 19,138 | [J] |

Notes:
 Assumed 6" depth for existing asphalt pavement and asphalt widening.
 Assumed an application rate of 147 lbs/cf for asphalt pavement and asphalt widening quantities.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.
 Assumed 90 sf/gal for epoxy pavement markings.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 3

LIMITS: SH 12 - La Veta (MP 5.8) to USFS Boundary (MP 14.0)

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3A - ON-HIGHWAY TRAIL (ATTACHED)

| ITEMS | | | | | | |
|--|---|-------------|--------------------|---------------|------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Add. Shldr Widen. Beyond Safety Improvements for Bicycles | | | | | | |
| SIU 3 Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 0 | \$0.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 0 | \$0.00 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 0 | \$0.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 0 | \$0.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 0 | \$0.00 | |
| 207-00205 | Topsoil | CY | \$12.00 | 0 | \$0.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 0 | \$0.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 0 | \$0.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 0 | \$0.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 0 | \$0.00 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 0 | \$0.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 0 | \$0.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 0 | \$0.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 0 | \$0.00 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 0 | \$0.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 0 | \$0.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 0 | \$0.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 0 | \$0.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 0 | \$0.00 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 48 | \$1,200.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 16 | \$8,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$9,200 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 9,200.00 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 460.00 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 2,898.00 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 1,883.70 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 14,442 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | UNIT | ITEM | % | COST | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 1,805.21 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 1,949.63 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 11.0% | 1,588.59 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 1,588.59 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 21,374 | [J] |

Notes:
 Assumed 6" depth for existing asphalt pavement and asphalt widening.
 Assumed an application rate of 147 lbs/cf for asphalt pavement and asphalt widening quantities.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 3

LIMITS: SH 12 - MP 5.8 to MP 14.0

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|-----|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | La Veta to USFS Boundary Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 43,220 | \$3,241,500.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 80 | \$160,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 76 | \$228,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$3,629,500 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 3,629,500.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 181,475.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 1,143,292.50 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 5.0% | 247,713.38 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 5,201,981 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 650,247.61 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 702,267.42 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 6.3% | 327,724.80 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 572,217.90 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 7,454,439 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 4

LIMITS: SH 12 - USFS Boundary (MP 14.0) to Cucharas Pass (MP 22.3)

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3A - ON-HIGHWAY TRAIL (ATTACHED)

| ITEMS | | | | | | |
|---|--|------|---------------------------|--------------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Alpine 2 Segment | | | | | | |
| | Add. Shldr Widen. Beyond Safety Improvements for Bicycles | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 13 | \$143,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 0 | \$0.00 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 0 | \$0.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 9,140 | \$127,960.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 9,140 | \$210,220.00 | |
| 207-00205 | Topsoil | CY | \$12.00 | 5,357 | \$64,284.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 0 | \$0.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 0 | \$0.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 10 | \$28,000.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 4,821 | \$12,534.60 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 4,509 | \$193,887.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 5,580 | \$524,520.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 4,228 | \$14,798.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 482 | \$1,349.60 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 0 | \$0.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 0 | \$0.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 0 | \$0.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 16 | \$32,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 0 | \$0.00 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 24 | \$600.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 8 | \$4,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,357,153 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | | 1,357,153.20 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 67,857.66 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 427,503.26 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 277,877.12 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 2,130,391 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 266,298.90 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 287,602.82 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 6.3% | 134,214.65 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 234,343.04 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 3,052,851 | [J] |

Notes:
 Assumed 6" depth for existing asphalt pavement and asphalt widening.
 Assumed an application rate of 147 lbs/cf for asphalt pavement and asphalt widening quantities.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

LIMITS: SH 12 - MP 14.0 to MP 22.3

Corridor Segment: SIU 4

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|--|------|--------------------|----------|---------------------|-----|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | USFS Boundary to Cucharas Pass Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 43,824 | \$3,286,800.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 80 | \$160,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 0 | \$0.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$3,446,800 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 3,446,800.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 172,340.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 1,085,742.00 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 5.0% | 235,244.10 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 4,940,126 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 617,515.76 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 666,917.02 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 6.3% | 311,227.94 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 543,413.87 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 7,079,201 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 4

LIMITS: SH 12 - MP 14.0 to MP 22.3

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
 UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 4A - OFF-HIGHWAY TRAIL (CUCHARA RIDGE)

| ITEMS | | | | | | |
|---|--|--------------------|------------|------------------|---------------------|-----|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | USFS Boundary to Cucharas Pass Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$90.00 | 43,824 | \$3,944,160.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 40 | \$80,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 0 | \$0.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$4,024,160 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | UNIT | % RANGE | % USED | COST | | |
| BID ITEM COSTS | | PROJECT DEPENDENT | - | 4,024,160.00 | | [A] |
| MOBILIZATION | % | (4-7% OF A) | 5.0% | 201,208.00 | | [B] |
| CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 1,267,610.40 | | [C] |
| CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 0.0% | 0.00 | | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | [A+B+C+D] | \$ 5,492,978 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | UNIT | ITEM | % | COST | | |
| CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 686,622.30 | | [F] |
| CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 741,552.08 | | [G] |
| RIGHT-OF-WAY | % | (0-30%) of E | 4.7% | 258,169.98 | | [H] |
| DESIGN ENGINEERING | % | (11%) of E | 11.0% | 604,227.62 | | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 7,783,550 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs. The unit cost has been increased to account for the relatively difficult terrain.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 5

LIMITS: SH 12 - Cucharas Pass (MP 22.3) to North Lake (MP 28.0)

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3A - ON-HIGHWAY TRAIL (ATTACHED)

| ITEMS | | | | | | |
|--|---|-------------|--------------------|---------------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Add. Shldr Widen. Beyond Safety Improvements for Bicycles | | | | | | |
| Alpine 3 Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 11 | \$121,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 0 | \$0.00 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 0 | \$0.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 7,379 | \$103,306.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 7,379 | \$169,717.00 | |
| 207-00205 | Topsoil | CY | \$12.00 | 4,325 | \$51,900.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 0 | \$0.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 0 | \$0.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 8 | \$22,400.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 3,893 | \$10,121.80 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 3,640 | \$156,520.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 4,504 | \$423,376.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 3,412 | \$11,942.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 389 | \$1,089.20 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 0 | \$0.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 0 | \$0.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 0 | \$0.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 24 | \$48,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 0 | \$0.00 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 18 | \$450.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 6 | \$3,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,122,822 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | UNIT | % RANGE | % USED | COST | |
| | | | PROJECT DEPENDENT | - | 1,122,822.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 56,141.10 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 353,688.93 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 229,897.80 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 1,762,550 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 220,318.73 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 237,944.23 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 4.7% | 82,839.84 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 193,880.48 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 2,497,533 | [J] |

Notes:
 Assumed 6" depth for existing asphalt pavement and asphalt widening.
 Assumed an application rate of 147 lbs/cf for asphalt pavement and asphalt widening quantities.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 5

LIMITS: SH 12 - MP 22.3 to MP 28.0

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 4A - OFF-HIGHWAY TRAIL (MEADOWS)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|-----|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Meadows Trail | | | | | |
| | Cucharas Pass to North Lake Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 31,680 | \$2,376,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 180 | \$360,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 0 | \$0.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$2,736,000 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 2,736,000.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 136,800.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 861,840.00 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 0.0% | 0.00 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 3,734,640 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 466,830.00 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 504,176.40 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 6.3% | 235,282.32 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 410,810.40 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 5,351,739 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 6

LIMITS: SH 12 - MP 28.0 to MP 33.1

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|-----|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | North Lake to Monument Park Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 26,928 | \$2,019,600.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 60 | \$120,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 0 | \$0.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$2,139,600 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 2,139,600.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 106,980.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 673,974.00 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 5.0% | 146,027.70 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 3,066,582 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 383,322.71 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 413,988.53 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 4.7% | 144,129.34 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 337,323.99 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 4,345,346 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 6

LIMITS: SH 12 - MP 28.0 to MP 33.1

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction
 UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 4A - OFF-HIGHWAY TRAIL (LAKES LINK)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|-----|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | North Lake to Monument Park Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 14,520 | \$1,089,000.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 60 | \$120,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 0 | \$0.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,209,000 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 1,209,000.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 60,450.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 380,835.00 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 0.0% | 0.00 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 1,650,285 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 206,285.63 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 222,788.48 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 11.0% | 181,531.35 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 181,531.35 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 2,442,422 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 7

LIMITS: SH 12 - Monument Lake (MP 33.1) to Stonewall (MP 37.3)

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 3A - ON-HIGHWAY TRAIL (ATTACHED)

| ITEMS | | | | | | |
|---|---|-------------|--------------------|---------------|---------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Add. Shldr Widen. Beyond Safety Improvements for Bicycles Monument Lake to Stonewall Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 16 | \$176,000.00 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 0 | \$0.00 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 0 | \$0.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 8,451 | \$118,314.00 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 8,451 | \$194,373.00 | |
| 207-00205 | Topsoil | CY | \$12.00 | 4,022 | \$48,264.00 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 0 | \$0.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 0 | \$0.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 7 | \$19,600.00 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 3,620 | \$9,412.00 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 5,417 | \$232,931.00 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 6,704 | \$630,176.00 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 5,079 | \$17,776.50 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 362 | \$1,013.60 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 0 | \$0.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 0 | \$0.00 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 0 | \$0.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 22 | \$44,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 1,225 | \$134,750.00 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 60 | \$1,500.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 20 | \$10,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,638,110 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| BID ITEM COSTS | | UNIT | % RANGE | % USED | COST | |
| BID ITEM COSTS | | | PROJECT DEPENDENT | - | 1,638,110.10 | [A] |
| MOBILIZATION | | % | (4-7% OF A) | 5.0% | 81,905.51 | [B] |
| CONTINGENCIES | | % | (15-30%) of (A+B) | 30.0% | 516,004.68 | [C] |
| CONSTRUCTION TRAFFIC CONTROL | | % | (5-25%) of (A+B+C) | 15.0% | 335,403.04 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 2,571,423 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| CONSTRUCTION ENGINEERING | | UNIT | ITEM | % | COST | |
| CONSTRUCTION ENGINEERING | | % | (12.5%) of E | 12.5% | 321,427.92 | [F] |
| CONSTRUCTION INDIRECTS | | % | (13.5%) of E | 13.5% | 347,142.15 | [G] |
| RIGHT-OF-WAY | | % | (0-30%) of E | 5.5% | 141,428.28 | [H] |
| DESIGN ENGINEERING | | % | (11%) of E | 11.0% | 282,856.57 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 3,664,278 | [J] |

Notes:
 Assumed 6" depth for existing asphalt pavement and asphalt widening.
 Assumed an application rate of 147 lbs/cf for asphalt pavement and asphalt widening quantities.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 7

LIMITS: SH 12 - MP 33.1 to MP 37.3

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---------------------------------------|------|--------------------|----------|---------------------|-----|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Monument Park to Stonewall Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 22,140 | \$1,660,500.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 40 | \$80,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 36 | \$108,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$1,848,500 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 1,848,500.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 92,425.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 582,277.50 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 5.0% | 126,160.13 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 2,649,363 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 331,170.33 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 357,663.95 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 5.5% | 145,714.94 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 291,429.89 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 3,775,342 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 8

LIMITS: SH 12 - Stonewall (MP 37.3) to Trinidad Lake SP (MP 61.4)

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE. ESTIMATE IS BASED ON CDOT 2018 AVERAGE BID PRICES .

ALTERNATIVE 3A - ON-HIGHWAY TRAIL (ATTACHED)

| ITEMS | | | | | | |
|---|---|------|---------------------------|--------------|----------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Add. Shldr Widen. Beyond Safety Improvements for Bicycles Stonewall to Trinidad Lake Segment | | | | | | |
| 201-00000 | Clearing and Grubbing | ACRE | \$11,000.00 | 68 | \$749,486.05 | |
| 202-01130 | Removal of Guardrail Type 3 | LF | \$4.40 | 0 | \$0.88 | |
| 202-01300 | Removal of End Anchorage | EACH | \$310.00 | 0 | \$0.00 | |
| 203-00010 | Unclassified Excavation (Complete In Place) | CY | \$14.00 | 34,756 | \$486,586.39 | |
| 203-00060 | Embankment Material (Complete In Place) | CY | \$23.00 | 34,011 | \$782,264.39 | |
| 207-00205 | Topsoil | CY | \$12.00 | 22,989 | \$275,862.72 | |
| 208-00008 | Erosion Log Type 2 (12 Inch) | LF | \$6.00 | 0 | \$0.00 | |
| 208-001XX | Removal and Disposal of Sediment (Labor and Equip) | HOUR | \$170.00 | 0 | \$0.00 | |
| 212-00032 | Soil Conditioning | ACRE | \$2,800.00 | 47 | \$131,442.73 | |
| 216-00201 | Soil Retention Blanket (Straw-Coconut)(Biodegradable Class I) | SY | \$2.60 | 22,721 | \$59,074.60 | |
| 304-06000 | Aggregate Base Course (Class 6) | TON | \$43.00 | 23,182 | \$996,813.71 | |
| 403-34751 | Hot Mix Asphalt (Grading SX) (75) (PG 64-28) | TON | \$94.00 | 28,687 | \$2,696,612.91 | |
| 411-10255 | Emulsified Asphalt (Slow-Setting) | GAL | \$3.50 | 21,733 | \$76,065.00 | |
| 506-01020 | Geogrid Reinforcement | SY | \$2.80 | 2,272 | \$6,361.60 | |
| 603-10240 | 24 Inch Corrugated Steel Pipe | LF | \$101.00 | 0 | \$0.00 | |
| 606-00302 | Guardrail Type 3 (31 Inch Midwest Guardrail System) | LF | \$29.00 | 0 | \$5.80 | |
| 606-01321 | End Anchor Type 3B (31 Inch Midwest Guardrail System) | EACH | \$1,500.00 | 0 | \$0.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 369 | \$738,000.00 | |
| | Major Structures (Bridges) | SF | \$110.00 | 14,145 | \$1,555,998.40 | |
| Signage | | | | | | |
| 614-00012 | Sign Panel (Class II) | SF | \$25.00 | 54 | \$1,350.00 | |
| 614-01573 | Steel Sign Support (2 Inch Round)(Post and Socket) | EACH | \$500.00 | 18 | \$9,000.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$8,564,925 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | | 8,564,925.19 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 428,246.26 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 2,697,951.44 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 15.0% | 1,753,668.43 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 13,444,791 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | #### | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | #### | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 11.0% | #### | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | #### | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 19,898,291 | [J] |

Notes:
 Assumed 6" depth for existing asphalt pavement and asphalt widening.
 Assumed an application rate of 147 lbs/cf for asphalt pavement and asphalt widening quantities.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

Corridor Segment: SIU 8

LIMITS: SH 12 - MP 37.3 to MP 61.4

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

THIS ESTIMATE REPRESENTS OUR JUDGMENT AS PROFESSIONALS FAMILIAR WITH THE CONSTRUCTION INDUSTRY. WE CANNOT AND DO NOT GUARANTEE THAT BIDS WILL NOT VARY FROM THIS ESTIMATE.

ALTERNATIVE 3B - ON-HIGHWAY TRAIL (SEPARATED)

| ITEMS | | | | | | |
|---|---|------|--------------------|----------|----------------------|-----|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| | Separated Trail | | | | | |
| | Stonewall to Trinidad Lake State Park Segment | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 126,344 | \$9,475,800.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 740 | \$1,480,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 904 | \$2,712,000.00 | |
| | | | | | | |
| | | | | | | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$13,667,800 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 13,667,800.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 683,390.00 | [B] |
| | CONTINGENCIES | % | (15-30%) of (A+B) | 30.0% | 4,305,357.00 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25%) of (A+B+C) | 5.0% | 932,827.35 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 19,589,374 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5%) of E | 12.5% | 2,448,671.79 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5%) of E | 13.5% | 2,644,565.54 | [G] |
| | RIGHT-OF-WAY | % | (0-30%) of E | 11.0% | 2,154,831.18 | [H] |
| | DESIGN ENGINEERING | % | (11%) of E | 11.0% | 2,154,831.18 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 28,992,274 | [J] |

Notes:
 Assumed 4" depth for new asphalt trail.
 Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.
 R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019
 Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Detailed Project Cost Estimate

PROJECT: SML PEL Trail Improvements

LIMITS: SH 12 - MP 37.3 to MP 61.4

Corridor Segment: SIU 8

SPEC YEAR: 2018 CDOT Standard Specifications for Road and Bridge Construction

UNITS: English

Hg Consult Inc

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ALTERNATIVE 4A - OFF-HIGHWAY TRAIL (RAILS-TO-TRAILS)

| ITEMS | | | | | | |
|--|---------------------------------------|------|--------------------|----------|----------------------|------------|
| ITEM NUMBER | ITEM DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST | |
| Separated Trail | | | | | | |
| Stonewall to Vigil Segment | | | | | | |
| | 8 ft Asphalt Trail | LF | \$75.00 | 29,918 | \$2,243,850.00 | |
| | Minor Structures (Culverts) | LF | \$2,000.00 | 160 | \$320,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$3,000.00 | 178 | \$534,000.00 | |
| Rails-to-Trails | | | | | | |
| Vigil to Trinidad Lake State Park Segment | | | | | | |
| | 8 ft Asphalt Trail | LF | \$60.00 | 96,427 | \$5,785,620.00 | |
| | Minor Structures (Culverts) | LF | \$500.00 | 580 | \$290,000.00 | |
| | Major Structures (Pedestrian Bridges) | LF | \$1,500.00 | 725 | \$1,087,500.00 | |
| SUBTOTAL OF BID ITEM COSTS | | | | | \$7,163,120 | [A] |
| ADDED PERCENTAGE ITEMS | | | | | | |
| | BID ITEM COSTS | | PROJECT DEPENDENT | - | 7,163,120.00 | [A] |
| | MOBILIZATION | % | (4-7% OF A) | 5.0% | 358,156.00 | [B] |
| | CONTINGENCIES | % | (15-30% of (A+B)) | 30.0% | 2,256,382.80 | [C] |
| | CONSTRUCTION TRAFFIC CONTROL | % | (5-25% of (A+B+C)) | 0.0% | 0.00 | [D] |
| TOTAL OF CONSTRUCTION BID ITEM COSTS | | | | | \$ 9,777,659 | [E] |
| ENGINEERING AND RIGHT-OF-WAY COSTS | | | | | | |
| | CONSTRUCTION ENGINEERING | % | (12.5% of E) | 12.5% | 1,222,207.35 | [F] |
| | CONSTRUCTION INDIRECTS | % | (13.5% of E) | 13.5% | 1,319,983.94 | [G] |
| | RIGHT-OF-WAY | % | (0-30% of E) | 6.3% | 615,992.50 | [H] |
| | DESIGN ENGINEERING | % | (11% of E) | 11.0% | 1,075,542.47 | [I] |
| TOTAL PROJECT COST (E+F+G+H+I) | | | | | \$ 14,011,385 | [J] |

Notes:

Assumed 4" depth for new asphalt trail.

Unit Cost of 8 ft Asphalt Trail includes earthwork and erosion control costs.

For the Rails-to-Trails segment, the Unit Cost for 8 ft Asphalt Trail has been reduced due to trail bed already being substantially built.

For the Rails-to-Trails segment, assumed many of the existing culverts can be left in place and reused with a 75% reduction in cost.

For the Rails-to-Trails segment, assumed many existing RR bridges can be retrofitted at 1/2 the cost of a new bridge.

R/W % based on CDOT's Project Cost Planner Tool, Version 4.03, 10-15-2019. It is unclear whether R/W will be donated, purchased, or some combination.

Increased contingencies by 10% to account for utility relocation or adjustments that may be needed.

Appendix G - Funding Sources





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



COLORADO
Department of
Transportation



Funding Sources

Project Funding Sources

Identifying and securing future funding is essential to realizing the projects identified in the Southern Mountain Loop PEL Study. Table 1 identifies potential funding sources from federal agencies, state agencies and private foundation sources to support the construction and long-term maintenance of the Southern Mountain Loop trail. Based on current information, the table provides an initial determination of the potential eligibility for specific funding sources for the highway safety, trail alternatives and byway amenity improvements. When funding is actually pursued, continued viability of the funding source and eligibility requirements will need to be verified by the lead agency or applicant(s). A brief description is provided for each funding source with a link to additional on-line resources below Table 1.

Table 1: Funding Sources by Concept / Alternative

| <i>Funding Sources</i> | <i>Agency</i> | <i>A. Highway Safety</i> | <i>B. On-Highway Attached / Separated Trail</i> | <i>C. Off-Highway Trail</i> | <i>D. Byway Amenities</i> |
|--|---------------|----------------------------------|---|-------------------------------------|-----------------------------------|
| FEDERAL AGENCIES | | | | | |
| BUILD Grant | USDOT | ✓ | ✓ | ✓ | |
| Highway Safety Improvement Program | CDOT | ✓ | ✓ | | |
| Recreational Trails Program | FHWA | | ✓ | ✓ | |
| Rivers, Trails & Conservation Assistance Program | CPW | | ✓ | ✓ | ✓ |
| Transportation Alternatives | CDOT | ✓ | ✓ | ✓ | ✓ |
| Federal Lands Transportation Program | USDOT | ✓ | ✓ | ✓ | ✓ |
| Federal Lands Access Program | CDOT | ✓ | ✓ | ✓ | ✓ |
| Land and Water Conservation Fund | CPW | | ✓ | ✓ | |
| Outdoor Recreational Legacy Partnership | CPW | | ✓ | ✓ | |
| Community Development Block Grant Program | DOLA | ✓ | ✓ | | |
| Urban and Community Forestry | TSFS | | ✓ | ✓ | |

| <i>Funding Sources</i> | <i>Agency</i> | <i>A. Highway Safety</i> | <i>B. On-Highway Attached / Separated Trail</i> | <i>C. Off-Highway Trail</i> | <i>D. Byway Amenities</i> |
|---|---------------|----------------------------------|---|-------------------------------------|-----------------------------------|
| Recreation Economy for Rural Communities | EPA | | ✓ | ✓ | |
| Environmental Education Grants Program | EPA | | | | ✓ |
| Railway-Highway Crossings | CDOT | ✓ | ✓ | ✓ | |
| Safe Routes to School | CDOT | ✓ | ✓ | ✓ | |
| Rural Business Development Grants | USDA | ✓ | ✓ | ✓ | ✓ |
| COLORADO STATE AGENCIES | | | | | |
| Connect Initiative | GOCO | | ✓ | ✓ | ✓ |
| The Rural Technical Assistance Program | OED | ✓ | ✓ | ✓ | ✓ |
| Non-Motorized Trails Grant | CPW | | ✓ | ✓ | ✓ |
| Conservation Trust Fund | DOLA | | ✓ | ✓ | |
| Statewide Multimodal Options Funds | CDOT | ✓ | ✓ | ✓ | |
| Can Do Colorado Community Challenge | CDOT | ✓ | ✓ | | ✓ |
| Colorado Energy office | CEO | | | | ✓ |
| FOUNDATIONS, CORPORATIONS, AND ASSOCIATIONS | | | | | |
| The Bar NI Ranch Community Service Fund | | ✓ | ✓ | ✓ | ✓ |
| Boettcher Foundation | | ✓ | ✓ | ✓ | ✓ |
| El Pomar Foundation | | ✓ | ✓ | ✓ | ✓ |
| Gates Family Foundation | | ✓ | ✓ | ✓ | ✓ |
| Doppelt Family Trail Development Fund | | | ✓ | ✓ | ✓ |
| Activating Places and Spaces Together | | ✓ | | | |
| The National Forest Foundation Matching Awards Program | | | | ✓ | |
| National Wilderness Stewardship Alliance Trail Stewardship Fund | | | | ✓ | |
| The National Fish and Wildlife Foundation Acres for America Grant Program | | | ✓ | ✓ | ✓ |
| Walmart Foundation Local Community Grant | | ✓ | ✓ | ✓ | ✓ |

| <i>Funding Sources</i> | <i>Agency</i> | <i>A. Highway Safety</i> | <i>B. On-Highway Attached / Separated Trail</i> | <i>C. Off-Highway Trail</i> | <i>D. Byway Amenities</i> |
|---|---------------|----------------------------------|---|-------------------------------------|-----------------------------------|
| The International Mountain Bicycling Association Trail Accelerator Grants | | | | ✓ | |
| People for Bikes Community Grant | | ✓ | ✓ | ✓ | |
| AETNA Cultivating Health Community Grant | | ✓ | ✓ | ✓ | |

Federal Funding Sources

Better Utilization Investments to Leverage Development (BUILD) Discretionary Grant

The BUILD grant, formerly known as Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants Program, allows sponsors at the state and local levels to obtain funding for multi-modal, multi-jurisdictional projects that are more difficult to support through traditional Department of Transportation (DOT) funding programs.

Recreational trails are an eligible project category among other active transportation and recreation categories. Projects are evaluated based on merit criteria that include safety, economic competitiveness, quality of life, environmental sustainability, state of good repair, innovation, and partnership. Grants applications are accepted annually in May. (A, B, C)

Funds are programmed by the U.S. Department of Transportation.

<https://www.transportation.gov/BUILDgrants>

Highway Safety Improvement Program (HSIP)

The HSIP provides \$2.4 billion nationally for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways, and walkways. Infrastructure and non-infrastructure projects are eligible for HSIP funds. Pedestrian and bicycle safety improvements, enforcement activities, traffic calming projects, and crossing treatments for active transportation users in school zones are all examples of eligible projects. In order to be eligible for the HSIP, all states must have developed a Strategic Highway Safety Plan (SHSP) that identifies projects or strategies to reduce identified safety problems, and evaluate this SHSP on a regular basis. All HSIP projects must be consistent with the state's Strategic Highway Safety Plan (SHSP) of achieving zero deaths on Colorado roads. Funds are awarded on an annual basis from the Federal Highway Administration and the Colorado Department of Transportation. (A, B)

Funds are programmed by the Colorado Department of Transportation.

<https://www.codot.gov/library/traffic/hsip>

Recreational Trails Program (RTP)

The RTP provides funds to the States to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. The RTP is an assistance program of the Department of Transportation's Federal Highway Administration. Federal transportation funds can be used for any purposes that benefit recreation including hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles. These funds are available for both paved and unpaved trails, but may not be used to improve roads for general passenger vehicle use or to provide shoulders or sidewalks along roads. Eligible projects must support the goals of the State Comprehensive Outdoor Recreation Plan and the Strategic Plan of the State Trails Program. (B, C)

Funds are programmed by Colorado Parks and Wildlife

https://www.fhwa.dot.gov/environment/recreational_trails/

Rivers, Trails, and Conservation Assistance Program (RTCA)

The RTCA program is a National Park Service (NPS) program providing technical assistance to state and local agencies, tribes, nonprofit organizations, and citizen groups via direct NPS staff involvement to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there is no implementation funding available. Projects are prioritized for assistance based on criteria including conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. This program may benefit trail development in the region indirectly through technical assistance, particularly for community organizations, but should not be considered a future capital funding source. (B, C, D)

Funds are programmed by the National Park Service.

<https://www.nps.gov/orgs/rtca/index.htm>

Transportation Alternatives (TA)

The Fixing America's Surface Transportation (FAST) Act recently replaced the former Transportation Alternatives Program (TAP) with set-aside funds under the Surface Transportation Block Grant Program (STBG). For administrative purposes, the Federal Highway Administration (FHWA) refers to these funds as TA Set-Aside. Projects eligible for TA Set-Aside funds include on-and off-road active transportation facilities, improvements to non-driver access to transit, recreational trails, and safe routes to school. State DOTs and MPOs are not eligible entities as defined under 23 U.S.C. 133(h)(4)(B) and therefore are not eligible project sponsors for TAP funds. However, State DOTs and MPOs may partner with an eligible entity project sponsor to carry out a project. (A, B, C, D)

Funds are programmed by the Colorado Department of Transportation.

<https://www.codot.gov/programs/planning/documents/grants/tap/TAP-guidelines.pdf>

Federal Lands Transportation Program (FLTP)

FLTP was established to improve the transportation infrastructure owned and maintained by federal land management agencies. This program supports access within federal lands for which state and local governments are not responsible, including national forests, national recreation areas and national parks. It also specifically includes a provision for the use of federal funds for pedestrian and bicycle projects within these federal lands. A central theme of the FLTP is performance management; grantees should make sure to address baseline conditions and identify how the proposed project(s) will promote a state of good repair, reduction of bridge deficiencies, improvement of safety, and resources and asset management goals. (A, B, C, D)

Funds are programmed by the National Park Service, Fish and Wildlife Service, and the Forest Service.

<https://highways.dot.gov/federal-lands/programs/transportation>

Federal Lands Access Program (FLAP)

FLAP funds improvement to transportation facilities that provide access to federal lands. These funds supplement state and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators. Administered by the state, funds are allocated based on the area's road mileage, number of bridges, land area, and visitation. Projects are selected by a Programming Decision Committee established in each state. (A, B, C, D)

Funds are programmed by the National Park Service, Fish and Wildlife Service, and the Forest Service.

<https://highways.dot.gov/federal-lands/programs-access>

Land and Water Conservation Fund (LWCF) Stateside Program

The LWCF was enacted to create parks and open spaces; protect wilderness, wetlands, and refuges; preserve wildlife habitat; and enhance recreational opportunities. The program consists of two funding components: 1) a federal program that funds the purchase of land and water areas for conservation and recreation purposes and 2) a state managed matching grant program that provides funds to states for planning, developing and acquiring land and water areas for state and local parks and recreation facilities. The Colorado Parks and Wildlife Commission allocates the annual Colorado state-side LWCF apportionment to trail projects that come before the State Recreational Trails Committee as trail grant applications. Applications must relate to the planning and acquisition of outdoor recreation areas and facilities, including trails, as well as right-of-way acquisition and construction. Any projects located in future parks could benefit from planning and land acquisition funding through the LWCF. (B, C)

Funds are programmed by Colorado Parks and Wildlife.

<https://cpw.state.co.us/aboutus/Pages/TrailsLWCF.aspx>

Outdoor Recreation Legacy Partnership (ORLP)

Established by Congress in 2014 and administered through the National Park Service, ORLP Program is funded through the LWCF State and Local Assistance Program. The purpose of the program is to provide grants to acquire and/or develop public lands for outdoor recreation purposes that are located in or are directly accessible to neighborhoods or communities that have an economically disadvantaged population and are underserved in terms of parks and recreation resources. The program provides grants consistent with the purposes of the LWCF, but with the further specific goals of funding projects that are 1) located within or serve jurisdictions of 50,000 people or more and designated as “Urbanized Areas” by the Census Bureau from the 2010 Census, or 2) located in or are directly accessible to neighborhoods or communities that are underserved in terms of parks and recreation resources and where there are significant populations of people who are economically disadvantaged. (B, C)

Funds are programmed by Colorado Parks and Wildlife.

<https://cpw.state.co.us/aboutus/Pages/trails.aspx>

Community Development Block Grant Program (CDBG)

The Department of Local Affairs (DOLA) administers the CDBG program for non-entitlement municipalities and counties to carry out community development activities. Eligible uses of funds include acquisition, design and engineering, construction, reconstruction, rehabilitation or installation of public improvements or public facilities. Examples of successful projects include improving sewer and water systems, enhancing commercial streetscape, and developing community centers, food banks, shelters, health clinics etc. The funds must be used for activities that either benefit low- and moderate-income persons, or prevent or eliminate slums or blight. Entities eligible to apply for grants are limited to units of local governments, including counties, though these entities may apply on behalf of non-profits. (A, B)

Funds are programmed by the Colorado Department of Local Affairs.

<https://cdola.colorado.gov/community-development-block-grant-cdbg>

Urban and Community Forestry

The UCF program supports forest health for all U.S. National Forest Service lands while also creating jobs, contributing to vibrant regional wood economies, enhancing community resilience, and preserving the unique sense of place in cities and towns of all sizes. This program provides technical, financial research and education services to local governments and supports fact-based, data-driven best practices in communities. Developing and maintaining trails and greenways are a key part of the program. Funds are administered by the forestry agencies in each state. (B, C)

Funds are programmed by the Colorado State Forest Service.

<https://www.fs.usda.gov/managing-land/urban-forests/ucf>

Recreation Economy for Rural Communities

The Environmental Protection Agency's Recreation Economy for Rural Communities program is a planning assistance program to help communities develop strategies and an action plan to revitalize their downtowns through outdoor recreation. Outdoor recreation activities have become increasingly popular across the United States and tend to aid with the conservation of natural lands and forests. This program enables communities to strategically invest in outdoor recreational opportunities that create jobs, foster environmentally friendly community development, revitalize downtowns, and offer new opportunities for people to connect with the natural world. Eligible projects include:

- Ensuring local residents, including young people, have connections and opportunities related to nearby outdoor assets to foster community pride, good stewardship, and local economic benefits.
- Developing or expanding trail networks to attract overnight visitors and new businesses and foster use by local residents.
- Developing in-town amenities, such as broadband service; housing; or shops, restaurants, or breweries, to serve residents and attract new visitors and residents with an interest in nearby outdoor assets.
- Marketing Main Street as a gateway to nearby natural lands to capture and amplify outdoor recreation dollars.
- Developing a community consensus on the management of outdoor assets to reduce potential conflicts and ensure sustainable use of resources. (B, C)

Funds are programmed by the Environmental Protection Agency.

<https://www.epa.gov/smartgrowth/recreation-economy-rural-communities-2019-application>

Environmental Education Grants Program

The Environmental Protection Agency's Environmental Education Grants Program provides financial support for projects that design, demonstrate, or disseminate environmental education practices, methods, or techniques. Eligible to local education agencies, state education or environmental agencies, colleges or universities, and non-profit organizations, this program supports environmental education projects that promote environmental awareness and stewardship and help provide people with the skills to take responsible actions to protect the environment. Grants are awarded on an annual basis. (D)

Funds are programmed by the Environmental Protection Agency.

<https://www.epa.gov/education/grants>

Railway-Highway Crossings Program

The FHWA's Railway-Highway Crossings program provides funds for the elimination or reduction of hazards at railway-highway crossings. Funds are eligible for projects at all public railway crossings including roadways, bike trails, and pedestrian paths, and can be used for the installation of signs, protective devices at crossings, and grade separated crossings. Fifty percent of the funds must be used for the installation of protective devices at crossings, but the remainder of the funds can be used for any hazard elimination projects. (A, B, C)

Funds are programmed by the Colorado Department of Transportation.

<https://safety.fhwa.dot.gov/hsip/xings/>

Safe Routes to School (SRTS)

The SRTS program provides a source of funding for education, enforcement, evaluations, and infrastructure improvements (e.g., sidewalks, bike parking, etc.) that encourage elementary and middle school students to walk or bike to school. The Colorado Department of Transportation (CDOT) administers these programs using Federal Surface Transportation Block Grant Set-Aside funds and HSIP Program funds. Eligible entities include local governments, regional transportation authorities, transit authorities, natural resource or public land agencies, and school districts. Funds are available for SRTS programs that benefit elementary and middle school children in Kindergarten through 8th grade. Eligible projects must be within a 2-mile radius of the identified schools. (A, B, C)

Funds are programmed by the Colorado Department of Transportation

https://www.codot.gov/inf_fy19srts_instructionsandguidelines.pdf

Rural Business Development Grants (RBDG)

RBDG is a competitive grant designed to support targeted technical assistance, training and other activities leading to the development or expansion of small and emerging private businesses in rural areas that have fewer than 50 employees and less than \$1 million in gross revenues. Programmatic activities are separated into enterprise or opportunity-type grant activities.

1) Enterprise type grant funds must be used on projects to benefit small and emerging businesses in rural areas as specified in the grant application. Grants of \$10,000 up to \$500,000 for rural projects may include:

- Acquisition or development of land, easements, or rights of way; construction, conversion, renovation of buildings, access to streets and roads, parking areas, utilities
- Rural transportation improvement
- Community economic development
- Feasibility studies and business plans

- Long-term business strategic planning

2) Opportunity type grant funds are for communities with populations with fewer than 10,000 and fund feasibility studies, technical assistance for economic development, planning, and training. (A)

Funds are programmed by the U.S. Department of Agriculture.

<https://www.rd.usda.gov/programs-services/rural-business-development-grants>

Colorado State Agencies

Colorado Connect Initiative

GOCO's Connect Initiative is a five-year strategy aimed at increasing access to outdoor experiences through the construction of non-motorized trails of local, regional, and statewide significance. This program aims to increase access to the outdoors in Colorado communities by filling trail gaps, building new trails, and providing better walkable and bikeable access for youth and families. Applicants may request up to \$2 million for trail construction projects. Eligible grantees include municipalities, counties, and Title 32 special park and recreation districts that receive Conservation Trust Fund monies from the Department of Local Affairs. Projects must be primarily for trail construction; however, land acquisitions may be considered with staff approval. There is no requirement for surface type. Projects that present an exciting opportunity to leverage partnerships and outside funding, connect important trail segments, and are shovel-ready may score more competitively. (B, C, D)

Funds are programmed by Great Outdoors Colorado.

<https://goco.org/grants/apply/connect-initiative-grants>

The Rural Technical Assistance Program (RTAP)

RTAP helps rural communities create economic development strategies by providing free technical assistance and consulting services. Previously known as Colorado Blueprint 2.0, RTAP was created after conversations with thousands of people in communities across the state. Despite its name change, the program's goal is still the same: to create and retain jobs in rural areas of the state. Communities can apply for any of the seven of the program's initiatives, including: certified small business community; community placemaking; coworking 101; Colorado rural academy for tourism studio 201; creativity lab of Colorado; film festival; and grow your outdoor recreation industry. Eligible communities must be able to describe how their region is rural or distressed and show that the project will have an exceptional or transformative impact on the community with a clear measure of success. (A, B, C, D)

Funds are programmed by the Colorado Office of Economic Development and International Trade.

<https://choosecolorado.com/programs-initiatives/rural-technical-assistance-program/>

Non-Motorized Trails Grant

Colorado Parks and Wildlife (CPW) funds several types of trail grants including large recreational trail grants, small recreational trail grants, trails planning, and trail support grants. This program is a partnership among Colorado Parks and Wildlife; Great Outdoors Colorado; the Colorado Lottery; the federal Recreational Trails Program; and the Land and Water Conservation Fund. To be eligible for the Non-Motorized Trails Grant, projects must include new trail or trailhead construction; maintenance, re-route, or reconstruction of existing trails; enhancements or upgrades to existing trailheads; trail and trailhead system planning; building and enhancing support organizations; or acquiring land or easements. Projects are required to have at least a 30% match, and all properties on which the funded projects take place must be under control of the grantee. (B, C)

Funds are programmed by Colorado Parks and Wildlife.

<https://cpw.state.co.us/aboutus/Pages/TrailsGrantsNM.aspx>

Conservation Trust Fund (CTF)

Colorado's Department of Local Affairs distributes Conservation Trust Funding to local governments, including counties, cities, towns, and Title 32 special districts that provide park and recreation services in their plans. These funds are the portion of Colorado Lottery proceeds constitutionally mandated to be distributed directly to local governments, based on population, for acquiring and maintaining parks, open space, and recreational facilities. CTF funds are distributed on a quarterly basis and can be used for numerous conservation and recreational uses, including developing parks and open space and preserving floodplains, greenbelts, and scenic areas for any scientific, historic, scenic, or recreational use. (B, C)

Funds are programmed by the Colorado Department of Local Affairs.

<https://cdola.colorado.gov/conservation-trust-fund-ctf>

Colorado Multimodal Options Fund

The Colorado Multimodal Options Fund (MMOF) seeks to fund multimodal transportation projects and operations throughout the state because, in addition to the general benefits that it provides to all Coloradans, a complete and integrated multimodal transportation system:

- (a) Benefits seniors by making aging in place more feasible for them;
- (b) Benefits residents of rural areas by providing them with flexible public transportation services;
- (c) Provides enhanced mobility for persons with disabilities; and
- (d) Provides safe routes to schools for children.

Eligible projects are selected to receive local Multimodal Options Funds (MMOF) by the Regional Planning Commissions (RPC) of the 15 Transportation Planning Regions (TPRs). (A, B, C)

Funds are programmed by the Colorado Department of Transportation

<https://www.codot.gov/programs/planning/grants/mmof-local>

Can Do Colorado Community Challenge

The Can Do Community Challenge, an extension of the Can Do Colorado campaign that is spotlighting innovative businesses finding ways to keep going through the COVID-19 response, is asking local communities and their resident businesses to find new opportunities to restart commerce in ways that are safe and sustainable. Departments and organizations throughout state government are offering a wide array of resources, including at least \$5 million in grant funding and expert technical assistance to help reopen the economy safely while making progress towards important health and community vitality goals. The Colorado Department of Transportation (CDOT) is launching two small grant programs to help support this initiative including the *Revitalizing Main Streets* and *Safe and Flexible Communities* program. (A, B, D)

Funds are programmed by the Colorado Department of Transportation.

<https://www.codot.gov/programs/community-challenge/about>

Colorado Energy Office

The vision for the Colorado Electric Vehicle Plan 2020 is the large-scale transition of Colorado's transportation system to zero emission vehicles, with a long-term goal of 100% of light-duty vehicles going electric and 100% of medium- and heavy-duty vehicles being zero emission. To develop an EV infrastructure goal, the Colorado Energy Office has undertaken a cost sharing plan to install charging stations across the state. (D)

Funds are programmed by the Colorado Department of Transportation.

<https://energyoffice.colorado.gov/>

Foundations, Corporations, and Associations

The Bar NI Ranch Community Service Fund

Bar NI Community Service Foundation is a private foundation formed in 2004 to provide support to local communities and organizations located in the Purgatoire Valley in southern Colorado. Twice per year the organization entertains proposals that address the environment/conservation, education, youth development and civic/public benefits. (A, B, C, D)

Funds are programmed by Cabot-Wellington, LLC (the Bar NI Ranch).

<https://cabotwellington.com/philanthropy/bar-n-i-community-service-fund/>

Boettcher Foundation

The Boettcher Foundation champions excellence and invests in high-potential organizations that are developing new ideas that can drive Colorado forward. They support organizations and initiatives that strive to innovate, impact and improve the quality of life for Coloradans. They prioritize capital building or community infrastructure projects for Colorado through “a lens of rural depth.” Letters of Inquiry can be submitted any time of the year. (A, B, C, D)

Funds are programmed by the Boettcher Foundation.

www.boettcherfoundation.org

El Pomar Foundation

A private general purpose foundation, El Pomar accepts applications from 501(c)3 organizations serving the state of Colorado in the areas of arts and culture, civic and community initiatives, education, health, and human services. Emphasis is assisting those most affected by economic conditions. Capital support requests must be less than \$100,000. (A, B, C, D)

Funds are programmed by the El Pomar Foundation.

<http://www.elpomar.org/>

Gates Family Foundation

The Gates Family Foundation invests in capital projects across Colorado that include building purchase, construction, expansion, renovation, and/or land acquisition. They prioritize projects in rural communities that face greater challenges in accessing funds for capital projects, and support projects that reinforce the foundation’s strategic priorities of K-12 public education, natural resources and community development. (A, B, C, D)

Funds are programmed by the Gates Family Foundation.

www.gatesfamilyfoundation.org

Doppelt Family Trail Development Fund

Launched in 2015 by the Rails-to-Trails Conservancy (RTC), the Doppelt Family Trail Development Fund supports organizations and local governments that are implementing projects to build and improve multi-use trails. RTC awards approximately \$85,000 per year to several qualifying projects through a competitive process. While applications for projects on rail-trails and rails-with-trails will be given preference, rail-trail designation is not a requirement. However, the trail must serve or plan to serve multiple user types, such as bicycling, walking, and hiking, and be considered a trail, greenway, multi-use trail, or shared use path. In addition, the program must advance trail development, help establish corridor connections, or improve current conditions on the trail. Grant applications are accepted annually in January. (B, C, D)

Funds are programmed by the Rails-to-Trails Conservancy.

<https://www.railstotrails.org/our-work/grants/doppelt/>

Activating Places and Spaces Together

This funding opportunity, administered by the Colorado Health Foundation, supports locally-defined, place-specific efforts to get people outdoors and actively engaged in their neighborhoods together. The goal of the funding opportunity is to help activate existing infrastructure in public places that contributes to a community's overall health through residential usage and positive experiences. Grant funds support the costs associated with project planning and implementation, and provides technical assistance for community engagement, communications, and marketing, for up to one year. Eligible projects must reflect the Foundation's cornerstones of serving low income Coloradan residents who have historically had less power or privilege and doing everything with the intent of creating health equity. (A)

Funds are programmed by the Colorado Health Foundation.

<https://www.coloradohealth.org/funding-opportunities/funding-opportunity-activating-places-and-spaces-together>

The National Forest Foundation (NFF) Matching Awards Program

The NFF Matching Awards Program (MAP) provides funding for results-oriented on-the-ground projects that enhance forest health and outdoor experiences on National Forests and Grasslands. MAP supports the implementation of conservation and restoration projects that have an immediate, quantifiable impact and provide a lasting impact on the lands, waters, and wildlife of the National Forest System through the alteration of the physical environment. Eligible projects include:

- Improving or maintaining recreation resource connectivity including trail maintenance, bridge and crossing construction or repair, and installation of trail drainage structures
- Engaging youth, volunteers, or diverse, underserved or under-engaged populations in hands-on stewardship activities
- Employing youth and/or veterans crews to implement on-the-ground conservation, stewardship or restoration work.

Projects should generate tangible conservation outcomes or enhance high quality recreational experiences for the users of the National Forest System. Funds cannot be used for buying facilities including, and similar to: campgrounds, parking lots, restrooms, visitor centers, and major signage. (C)

Funds are programmed by the National Forest Foundation.

<https://www.nationalforests.org/grant-programs/map>

National Wilderness Stewardship Alliance Trail Stewardship Fund

The Trail Stewardship Fund is administered by the National Wilderness Stewardship Alliance, but is also a partnership between the National Wilderness Stewardship Alliance and the U.S. Forest Service, American Hiking Society, American Trails, Back Country Horsemen of America, International Mountain Bicycling Association, National Off-Highway Vehicle Conservation Council, and the American Motorcyclist Association. This program funds trail and stewardship organizations for trail maintenance on the trails within the U.S. National Forest. This program is intended to encourage and support volunteer and stewardship trail maintenance accomplishments and ideally will engage volunteers over the course of a field season over a broad area of District or Forest. This program directly supports the implementation of the National Trails Strategy, which has a goal of doubling volunteer trail work in the next decade. (C)

Funds are programmed by the National Wilderness Stewardship Alliance.

http://www.wildernessalliance.org/trail_funding

The National Fish and Wildlife Foundation Acres for America Grant Program

The Acres for America grant program is a joint public-private partnership between the National Fish and Wildlife Foundation and Walmart. This program works to conserve fish and wildlife habitat, protect public lands, provide access to outdoor recreation, and ensure the future of local economies that depend on outdoor recreation, forestry, or ranching. Eligible grantees include non-profit 501c organizations, state government agencies, local governments, municipal governments, Indian tribes, and education institutions. (B, C, D)

Funds are programmed by the National Fish and Wildlife Foundation.

<https://www.nfwf.org/programs/acres-america>

Walmart's Local Community Grant

The Walmart Foundation supports work directly related to Walmart's philanthropic strategies to build healthier, more resilient systems. This approach is rooted in Walmart's mission to create opportunity so people can live better. A big aspect of this program is to systematically address many of the biggest economic, environmental, and social challenges in the world today. To do this, the Walmart Foundation funds projects that create economic opportunity, enhance sustainability in supply chains, and strengthen community. Grants range from \$250 to \$5,000. The 2020 grant cycle begins on Feb 1, 2020 and the deadline is December 31, 2020. Applications may be submitted at any time during the funding cycle. (A, B, C, D)

Funds are programmed by the Walmart Foundation.

<https://walmart.org/how-we-give/local-community-grants>

International Mountain Bicycling Association (IMBA) Trail Accelerator Grant

IMBA provides Trail Accelerator Grants to help grow the quantity and quality of mountain bike trail communities. These grants provide a jump-start to communities that have the interest and political support to develop trail systems, but need assistance to get projects up and running. A Trail Accelerator grant offers awardees professional trail planning and consultation services to launch their trail development efforts, which can often leverage additional investment from local, regional, and national partners. (C)

Funds are programmed by the International Mountain Bicycling Association.

<https://www.imba.com/trails-for-all/trail-accelerator-grants>

People for Bikes Community Grant

The PeopleForBikes Community Grant Program supports bicycle infrastructure projects and targeted advocacy initiatives that make it easier and safer for people of all ages and abilities to ride. This program accepts grant applications from non-profit organizations that focus on bicycling, active transportation, or community development; city or county agencies or departments; and state or federal agencies working locally. Requests must support a specific project or program (i.e. grant funds cannot be used for general operating costs), such as:

- Bike paths, lanes, trails, and bridges
- Mountain bike facilities
- Bike parks and pump tracks
- BMX facilities
- End-of-trip facilities such as bike racks, bike parking, bike repair stations and bike storage

PeopleForBikes funds up to \$10,000 for engineering and design work, construction costs including materials, labor, and equipment rental, and reasonable volunteer support costs. This program does not require a specific percentage match, but does look at leverage and funding partnerships very carefully. (A, B, C)

Funds are programmed by People for Bikes.

<https://peopleforbikes.org/grant-guidelines/>

Cultivating Healthy Communities (CHC) Grant Program

The CHC grant program is geared specifically towards nonprofit organizations that work with underserved, low-income, and minority populations in the contiguous United States. CHC seeks to catalyze measurable improvements in community health outcomes by funding projects that address the social determinants of health and participants' physical, mental, and social well-being. Eligible projects must work to accomplish the following goals:

- Improve the walkability, bikeability, and use of public spaces in a community
- Increase collaboration between local law enforcement and community members to proactively address immediate public safety issues
- Decrease exposure to air and water contaminants
- Increase healthy behaviors, such as exercise and eating healthy goods
- Increase access to healthy foods through the development of new or enhanced retail options (A, B, C)

Funds are programmed by AETNA.

<https://www.aetna-foundation.org/grants-partnerships/grants/cultivating-healthy-communities-rfp.html>

County and Local Funding Sources

The two counties and several local communities that the project corridor encompasses fund transportation-related improvements (including maintenance) in a variety of ways. County and local budgets are typically developed and adopted each year and usually include line items costs (funding requests) for a variety of transportation projects. These projects and associated costs are usually identified in a jurisdiction's Capital Improvement Program (CIP) portion of the annual budget. Following completion of the PEL, the counties and local communities within the SML corridor could opt to dedicate a portion of their annual CIP revenue or other revenue (i.e., from the General Fund) to implement recommended improvements. (A, B, C)

Appendix H - Trail Management





Southern Mountain Loop Highway 12 Planning and Environmental Linkages (PEL) Study



COLORADO
Department of
Transportation



Trail Management

Southern Mountain Loop Trail Management

Management will be an important consideration for future trail improvements on the Southern Mountain Loop (SML). What management entity is potentially established and how it will function can help address critical, guiding questions such as:

- Who or what ultimately owns the trail?
- How will the trail be branded and promoted throughout Colorado and nationwide?
- How will construction of the trail be funded and who will maintain and manage it over time?
- How will segments or specific projects be prioritized over time?

Formalizing an appropriate management structure can help cohesively address these types of questions and foster the critical partnerships across jurisdictions, agencies, and landowners that will be essential for trail construction, maintenance and management.

Following completion of the PEL Study, it's recommended that the existing Project Steering Committee reconvene to discuss the management issue and options. An open discussion on the availability of resources and partnerships already in place within the corridor will help guide a decision on whether a formal management structure is desired and if so, what the most feasible option is.

Typical Trail Management Structures

The following management structures are commonly used for trails across the United States and can be considered for the SML trail. While aspects of funding for trail operations and maintenance are briefly described, capital funding options are more thoroughly described in a separate summary.

Single Governmental Organization

This structure is used for trails managed by a single agency. This entity could be either a federal, state, or local agency, and would have different requirements and level of authority depending on its classification. Because the SML trail would transect multiple jurisdictions and there will be significant complexity and costs associated with future trail planning,

construction, and maintenance, management by a singular local agency (e.g., La Veta, Trinidad, Weston, Huerfano or Las Animas County) is not considered to be the best option.

However, if the management entity is sufficiently resourced, ownership by a singular governmental agency (e.g., the State of Colorado) is an option warranting further exploration. A state agency in many respects may be well-prepared to implement and maintain a multi-jurisdictional trail. While the state's risk and investment would be higher under this model, the staffing, experience, and financial resources available in a state agency increase the potential for implementation, consistent and ongoing investment, and predictable construction, operations and maintenance. Cooperation and partnerships with local jurisdictions and nonprofits could reduce some of the risk and ongoing maintenance taken on by the state, as well as help with advocacy and fundraising.

For example, CDOT or Colorado Parks & Wildlife are two state agencies that could singularly 'own' the trail. In fact, under the On-Highway Trail (Attached) Alternative it is assumed that the trail would be entirely within CDOT right-of-way and would therefore be exclusively or primarily owned and managed by CDOT; however, partnerships with and support from local governments could be established. Furthermore, funding for the trail under the single government (state agency) model could go through the state budget approval process. Creation of a SML Trail Fund, for example, within the State Treasury would provide a specific funding source to adequately manage trail planning and operations and help pay for initial construction. This fund could be generated from a number of different revenue sources and models. Similarly, for trail segments within its right-of-way, CDOT could establish an allocation within its annual budget to help pay for trail construction, operation, and maintenance. This would be subject to approval by the CDOT Transportation Commission.

Given the merits associated with singular (state) agency ownership and opportunities for support from other state agencies as well as regional and local governments, this management option should be given additional consideration.

Nonprofit Organization & Local Partnerships

This option includes shared ownership and management responsibilities between a nonprofit organization and local jurisdictions. The nonprofit may be an existing organization that is passionate about the SML trail, or one that is newly created. The nonprofit organization would provide the centralized structure in terms of trail planning, coordination, and implementation and local jurisdictions (counties and cities) along the byway could provide right-of-way through easements and oversee trail construction, operations, and maintenance.

A nonprofit organization could solicit funding from a comparatively wider pool of sources than a singular state agency, including grants, private and philanthropic donations, memberships, and focused capital campaigns. Many non-profits hire staff or form committees dedicated to a particular funding stream such as memberships or major donors (e.g., gifts above \$500,000). In addition, a non-profit would generally be nimbler than a state agency in terms of staffing, program development, advocacy, and communications. For example, whereas a non-profit

could plan, promote, and lead a fundraising campaign focused on a singular segment of the SML Trail or a package of the byway improvements, a state agency lacks the authority to lead a fundraiser.

A nonprofit does not, however, generally have the decision-making authority of an elected body (i.e., a county commission) or a private landowner in regard to land use and transportation. In addition, because it would not have the taxing authority of a municipal body, establishment of a stable and dedicated funding source would require an investment through an endowment, trust, or financial partnership(s) with city, county, or state governments. Under this concept, a maintenance endowment or trust fund would be established whereby a philanthropic or other financial source contributes a large sum which generates income over time to pay for trail maintenance. For a project the size of the SML Trail, which covers an 80-mile corridor, this concept could be an option for a portion of the route or all of it.

Finally, unless the nonprofit has the expertise required to operate and maintain a trail, or the capacity to assume the risk associated with owning the right-of-way, ownership, operations, and maintenance would be left to the local jurisdictions.

Given the flexibility associated with this structure and the strong potential for the creation of new partnerships or the expansion of existing partnerships, it's an option warranting additional exploration.

Cooperative Agreement

A cooperative agreement would allow local agencies (e.g., La Veta or Cuchara) to manage segments of the trail within their respective jurisdictions, while another (central) entity oversees project planning, programming, and overall coordination. A central trail manager could be a single agency or commission, and would share cooperative agreements with local entities for overseeing trail operations and maintenance. Because the central trail manager would need to establish and maintain cooperative agreements with multiple local entities, agencies, and landowners on the corridor, this model could create uncertainty or inconsistency throughout the corridor and may not be favorable as the optimal management structure for the SML trail.

Part of Cooperative Agreement could be provisions specifying levels of expected financial contribution for the entities operating under the agreement. These levels would likely vary among the communities on the corridor and could be based on several different determinants including but not limited to population, percent of trail in jurisdiction, or average annual taxation revenue over the last five years. While cooperating entities would have flexibility on how best to generate their contribution, each year presumably, any new tax, increase of an existing tax, or use of public funds would likely be subject to voter approval.

Joint Powers Authority (JPA)

A JPA is an entity that allows its member agencies to jointly exercise common powers. This structure would allow for one entity (the Authority) to oversee a trail that passes through multiple jurisdictions. The JPA would own the trail corridor, manage planning and implementation for the trail, and eventually operations and maintenance. The JPA is typically funded by member agency funds, and can pursue donations and grants as well as issue bonds. The JPA could also accept funds from federal, state, and local sources, and collect revenue and other fees from the trail. Partnering with a nonprofit could provide further support through donations and volunteers. While establishing an Authority would involve initial administrative and overhead costs, a JPA is considered to be a strong potential management structure for the SML trail and should be given additional consideration.

A JPA's capacity to issue bonds, for example, could be an important financial option. While initial approval of voters within the JPA's sphere of influence (e.g., Huerfano and Las Animas counties) may not be required before bond issuance, member agencies would typically be required to pass an ordinance which voters can, in fact, object and overturn through referendum. If any opposition isn't successful however, the JPA can sell bonds and use proceeds for trail improvements.

Commission

A Commission is overseen by a governing board made up of participating agencies and municipalities. The Commission typically funds its operating expenses through membership contributions that could in the case of the SML trail, be based on population or acreage or percent of trail within respective jurisdictions. Due to the anticipated costs of trail construction and maintenance over time relative to the revenue of local governments and agencies on the corridor, this management structure is not recommended for the SML trail.

Intergovernmental Agreement

An intergovernmental agreement (IGA) is any agreement that involves or is made between two or more governments in cooperation to solve problems of mutual concern. Intergovernmental agreements can be made between or among a broad range of governmental or quasi-governmental entities. For example, this could be two entities of a similar type (two state agencies) or a variety of different entities (state agency, a local government, and a quasi-governmental entity). Governments use IGAs for cooperative planning, development review, resource sharing, joint planning commissions, building inspection services, and more.¹

Given the variety of ways that an IGA could be structured and the flexibility of partnership types (e.g., U.S. Forest Service and local governments), it's an option worth further examination.

¹ Colorado Department of Local Affairs, <https://cdola.colorado.gov/intergovernmental-agreements-igas>

Case Studies

The following provides additional detail and case studies of the four management structures that should be considered further for the SML, as well as several pros and cons of each.

State Ownership

Case Study: Columbia Plateau State Park Trail/Washington State Parks

Location: Eastern Washington State

Vision and Mission: N/A

Key Details: 130-mile trail, managed as part of the state park system. Portions of the trail follow the former Spokane, Portland, and Seattle Railroad, as well as pass through the Turnbull National Wildlife Refuge.

Link to Website:

<https://parks.state.wa.us/490/Columbia-Plateau-Trail>

Nonprofit Organization + Local Partnerships

Case Study: Colorado Trail Foundation

Location: Colorado, Denver to Durango

Mission: The mission of The Colorado Trail Foundation is to provide and maintain, through voluntary and public involvement, and in cooperation with the U.S. Forest Service and federal Bureau of Land Management, a linear, non-motorized, sustainable, recreation trail between Denver and Durango.

Key Details: USDA Forest Service serves as CTF's main public partner. This partnership was created through a Memorandum of Understanding. The CTF is responsible for trail development, maintenance, and continued improvement of the trail corridor, while the USDA Forest Service is ultimately the decision maker for analysis, construction, restoration, and maintenance in

STATE OWNERSHIP

PROS

- Existing structure would be most efficient option for the railbanking process
- Existing staff and resources require less upfront investment
- Using existing structure would enable quicker trail implementation
- State would have oversight in the management, operations and maintenance of the trail
- Less local politics involved in trail implementation and maintenance

CONS

- Existing state agency may be subject to specific design criteria or labor/funding restrictions that can result in less flexibility than other structures when implementing the trail

NON-PROFIT & LOCAL PARTNERSHIPS

PROS

- Limits State liability in trail development + maintenance
- Provides multiple avenues to receive funding
- More flexibility with programming

CONS

- Trail implementation would take longer to complete and would be more incremental
- Potential for inconsistent funding
- Could result in inconsistent trail development along the corridor

accordance with their regulations. CTF is primarily funded by private sources, such as the Gates Foundation, REI, family foundations, Colorado businesses, and individual donors. Its fundraising success is a result of the CTF's trail branding, creative donor cultivation, Adopt-a-Trail Program, and numerous grant applications.

Link to Website: <https://coloradotrail.org/>

Joint Powers Authority (JPA)

Case Study: San Dieguito River Valley Regional Open Space Park Joint Powers Authority

Location: San Diego County, California

Mission: To preserve and restore land within the Focused Planning Area of the San Dieguito River Park as a regional open space greenway and park system that protects the natural waterways and the natural and cultural resources and sensitive lands and provides compatible recreational opportunities, including water related uses, that do not damage sensitive lands.

To provide a continuous and coordinated system of preserved lands with a connecting corridor of walking, equestrian, and bicycle trails, encompassing the San Dieguito River Valley from the ocean to the river's source."

JOINT POWERS AUTHORITY

PROS

- Limits State liability in trail development + maintenance by utilizing local agencies through a JPA
- Provides multiple sources of funding

CONS

- JPA requires consensus among multiple agencies which can be time consuming and difficult to achieve

Key Details: The San Dieguito River Park includes more than 65 miles of trails within the San Dieguito River Valley in San Diego County, CA, including a Coast to Crest Trail that extends from the coast to the mountains. To date, about 48 miles of the planned 71 miles of the Coast to Crest Trail have been completed. The San Dieguito River Park is managed by the San Dieguito River Valley Regional Open Space Park Joint Powers Authority, which was formed in 1989 by the County of San Diego and the Cities of Del Mar, Escondido, Poway, San Diego, and Solana Beach. Its powers include acquisition, planning, design, improvements, operations, and maintenance for the San Dieguito River Park.

Link to Website: <http://www.sdrp.org/wordpress/about/>

Intergovernmental Agreement

Case Study: Rio Grande Trail (Rails-to-Trails)

Location: Glenwood Springs to Aspen, CO

Vision and Mission: N/A

Key Details: This facility offers 42-mile continuous miles of multi-use trail through the Roaring Fork Valley that is fully separated from motorized traffic except at intersections. In 1997 the right of way corridor was purchased with a combination of funding by local governments, Great Outdoors Colorado, Pitkin County Open Space and Trails, and the Colorado Department of Transportation. This presented an opportunity to explore both transportation and recreation solutions to Highway 82 congestion and trail connectivity challenges in the Roaring Fork Valley. In 2001, RFTA was formed and thus a dedicated funding source for transit and trails was created. RFTA now manages and maintains the trail corridor, in conjunction with Pitkin County Open Space and the City of Aspen, in their respective jurisdictions.

Link to Website: <https://www.rfta.com/trail-information/>

INTERGOVERNMENTAL AGREEMENT

PROS

- Can foster partnership and investment across multiple governments
- Provides more flexibility by allowing for agreements between municipal governments and quasi-governmental entities.
- Distributes potential risk and financial burden across multiple entities

CONS

- Potential loss of local control
- Perception that benefits are disproportionately skewed to a select number of entities under agreement.
- Dispute resolution may be more complicated due to involvement of multiple entities.