

Southern Mountain Loop

Planning and Environmental Linkages (PEL) Study

Alternatives Report

July 2020 (FINAL)



Prepared for:

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Colorado Department of Transportation
Region 2

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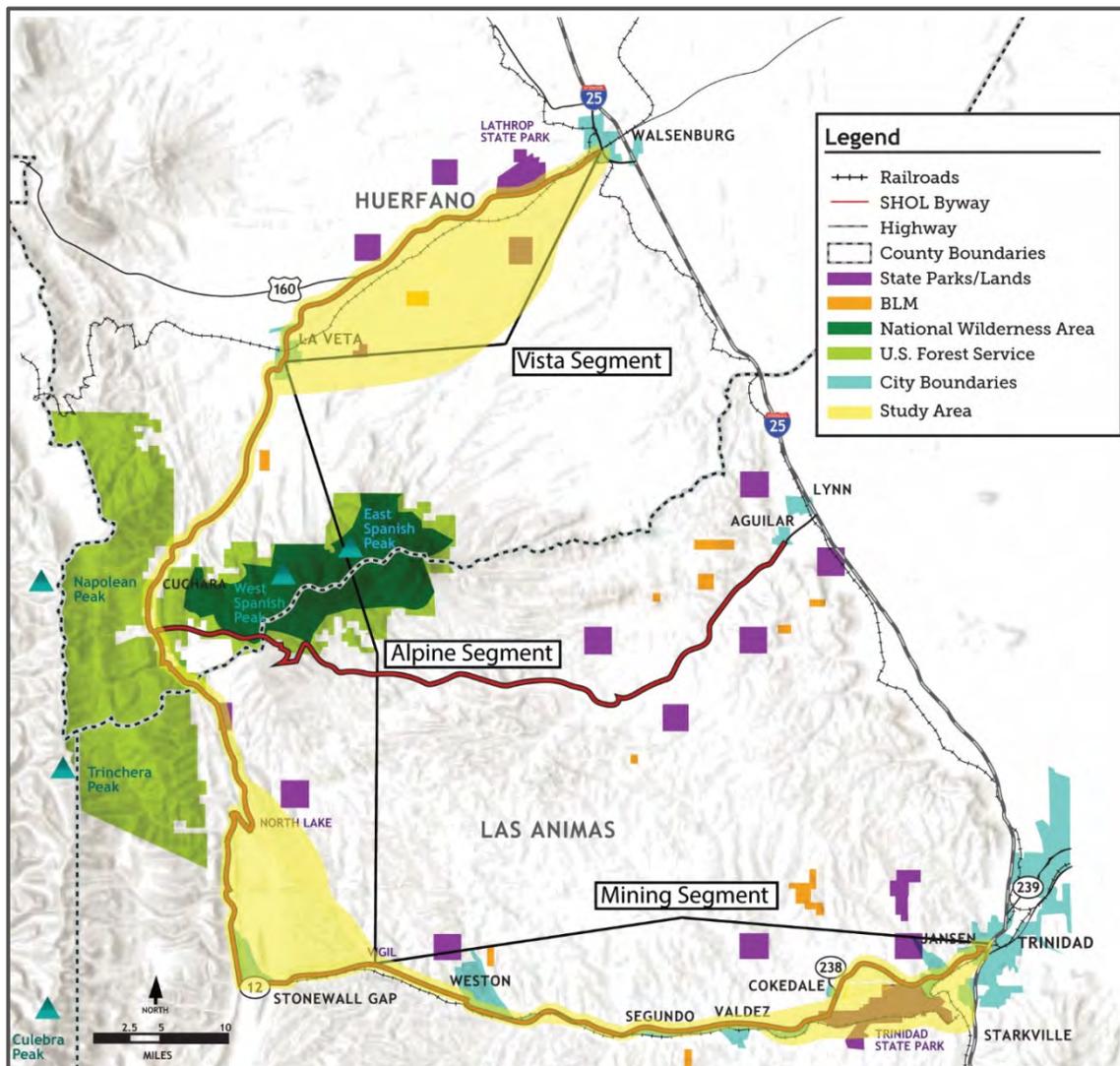
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Introduction

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

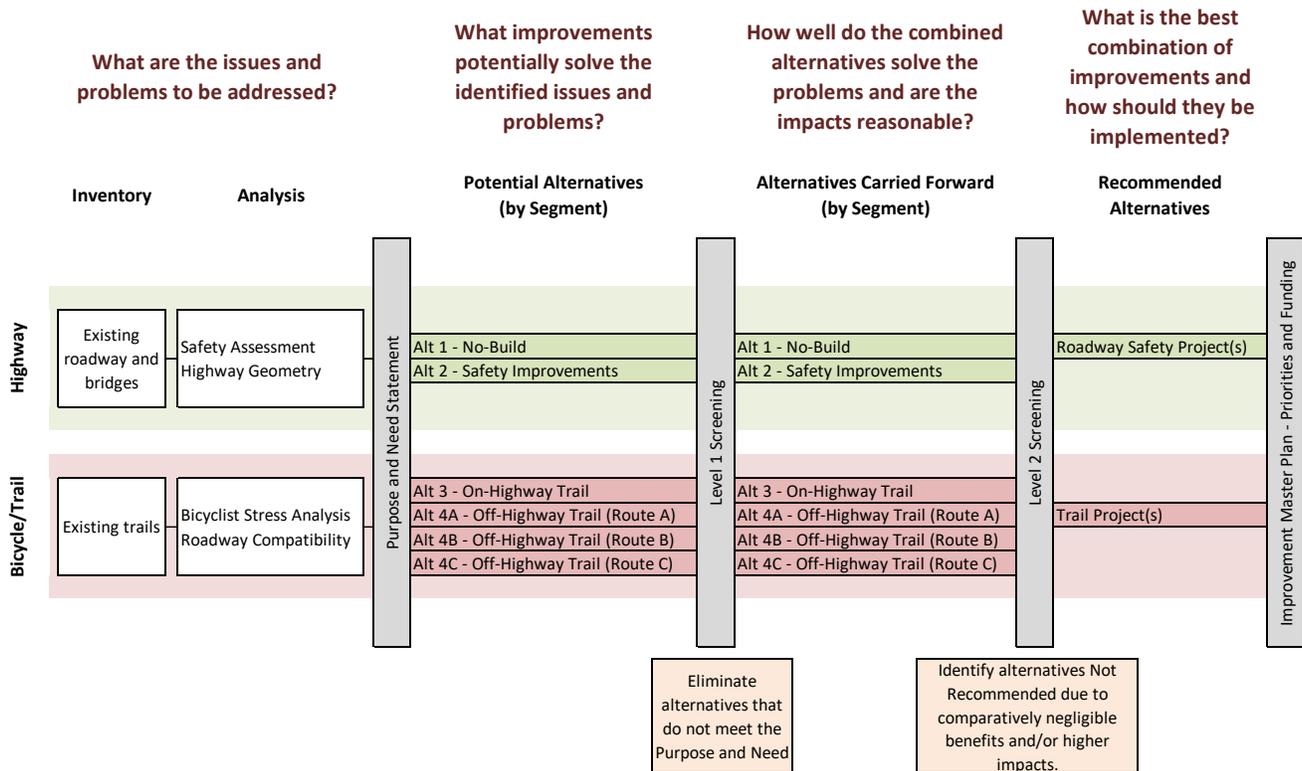
The alternative evaluation process entailed developing evaluation criteria based on the Purpose and Need, defining a reasonable range of improvement alternatives, and screening the alternatives through a two-tiered evaluation process. **Figure 2** illustrates the alternatives development and evaluation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

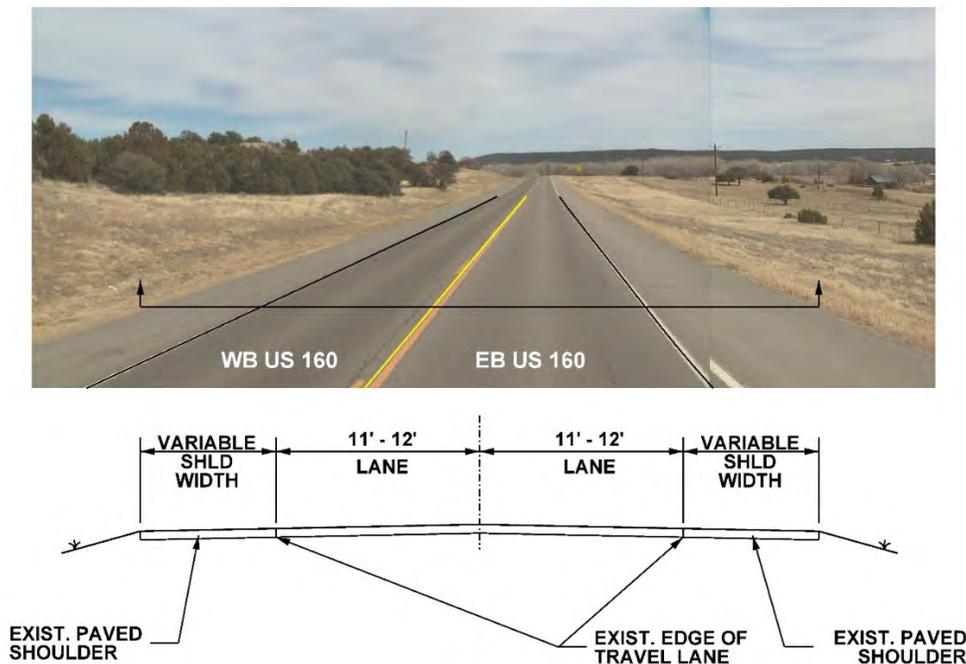


Figure 4: Alpine Segment - SH 12 Typical Section Location Near MP 32

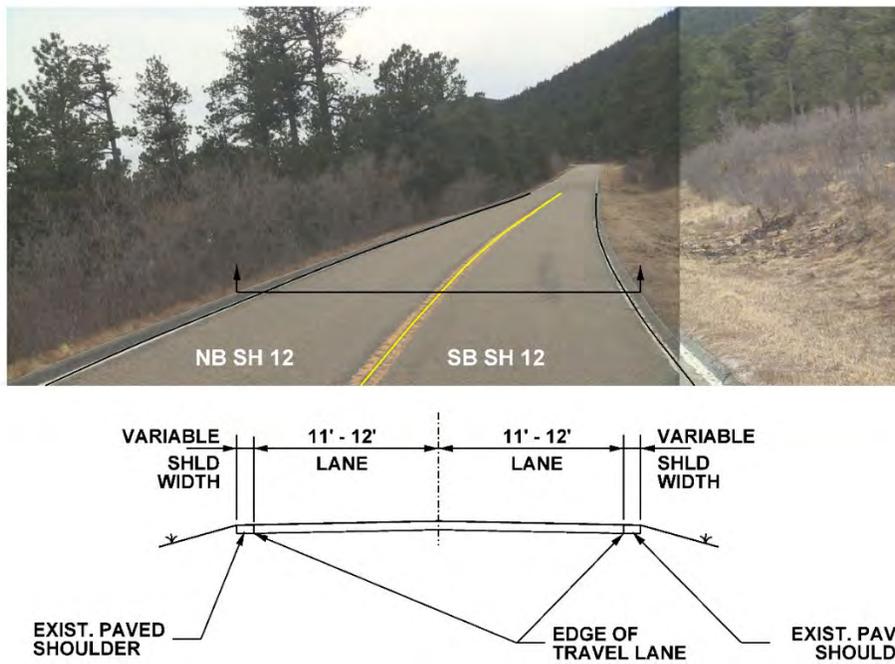


Figure 5: Mining Segment - SH 12 Typical Section Location Near MP 50

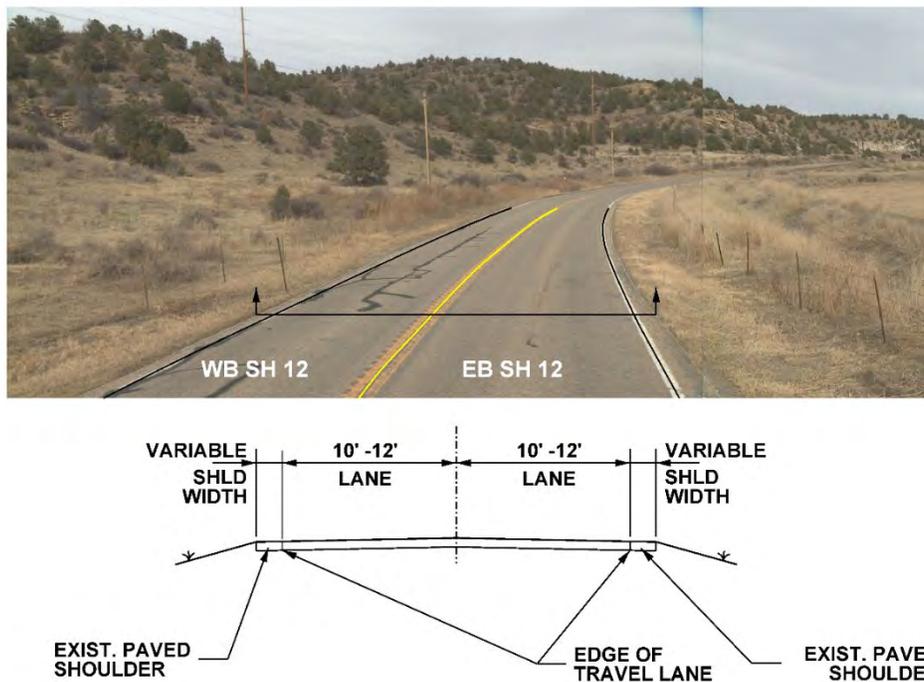


Table 2: Existing Roadway Shoulder Widths

<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

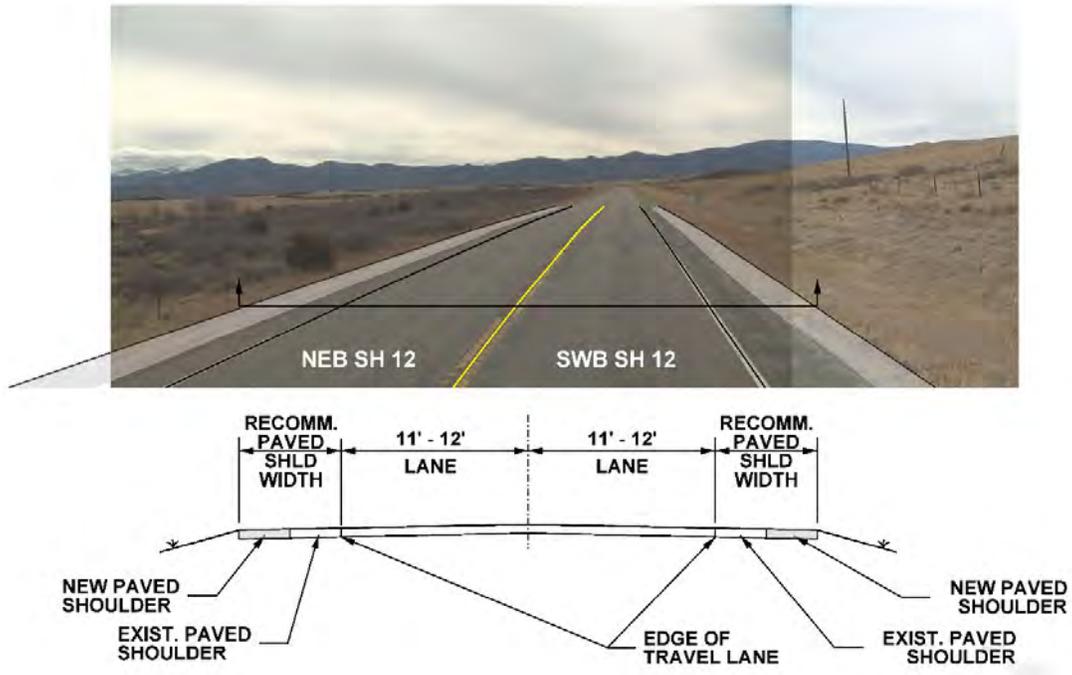
Under the Highway Safety Concept, only safety improvements to the Corridor would be considered. Providing a multi-use trail along the Corridor would not be included. This concept includes the following safety-related improvements:

- 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*

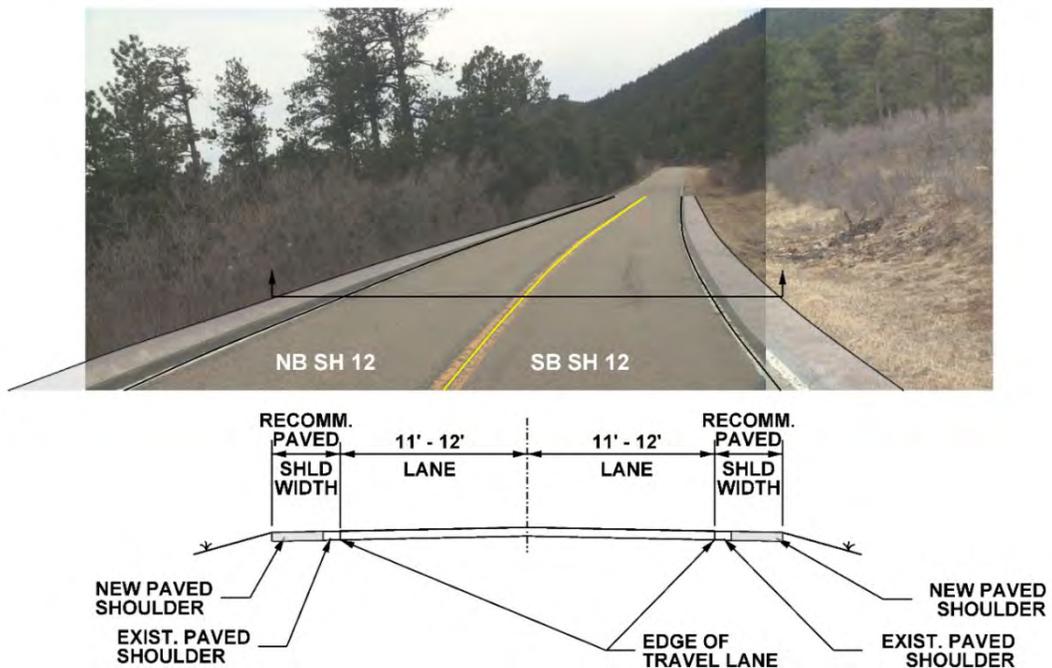


Figure 8: Mining Segment - SH 12 Safety Typical Section Location Near MP 50

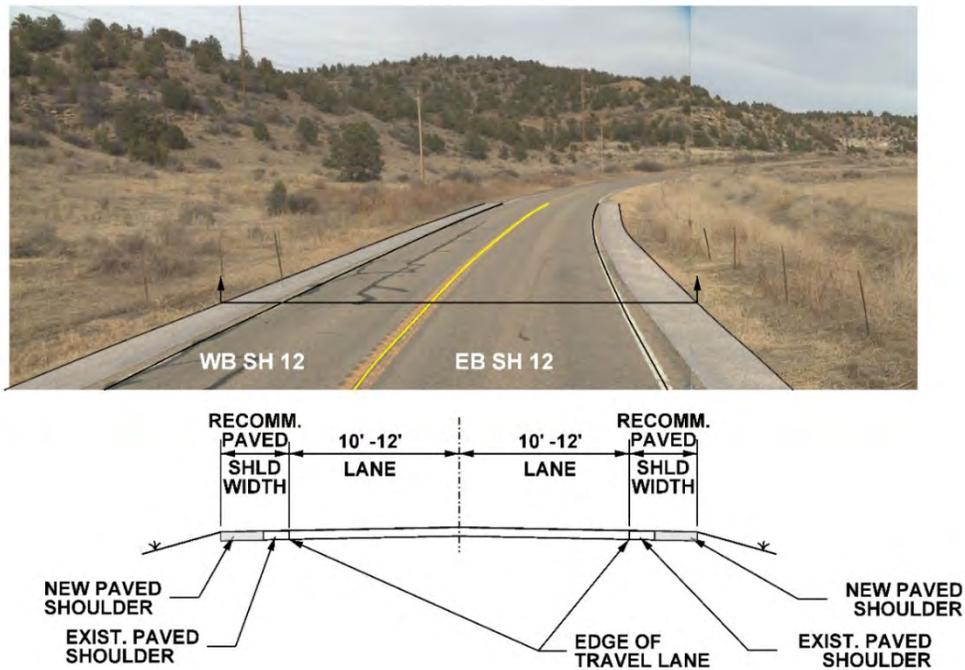


Table 3: Highway Safety Concept Roadway Shoulder Widths

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

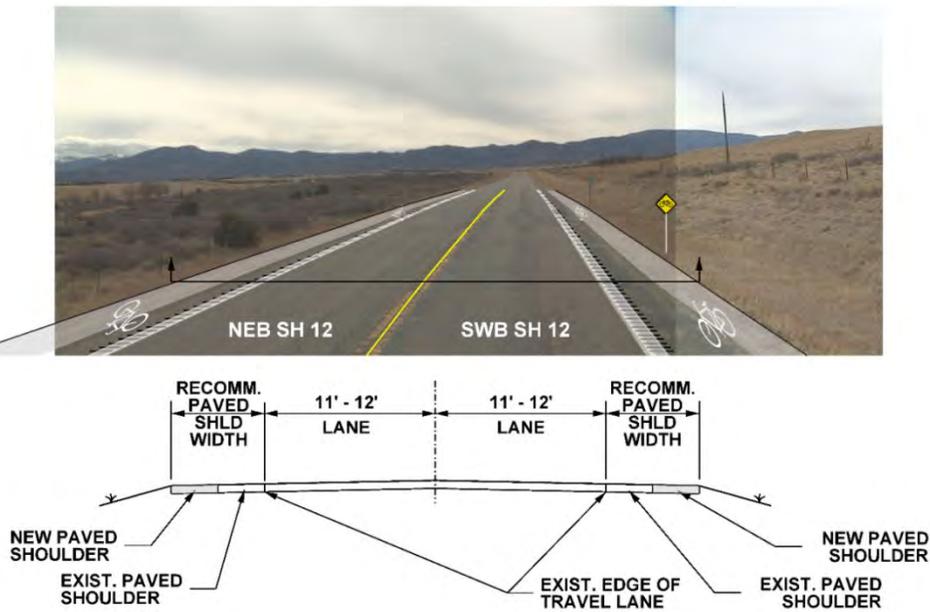


Figure 10: Alpine Segment - On-Highway Trail (Attached) Concept Typical Section Location Near MP 32

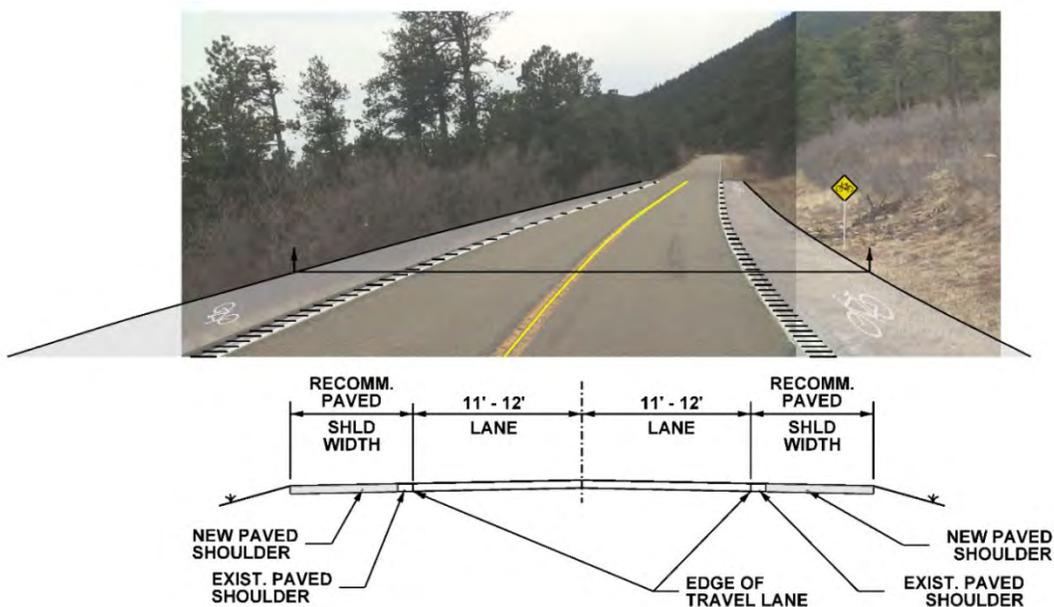


Figure 11: Mining Segment - On-Highway Trail (Attached) Concept Typical Section Location Near MP 50

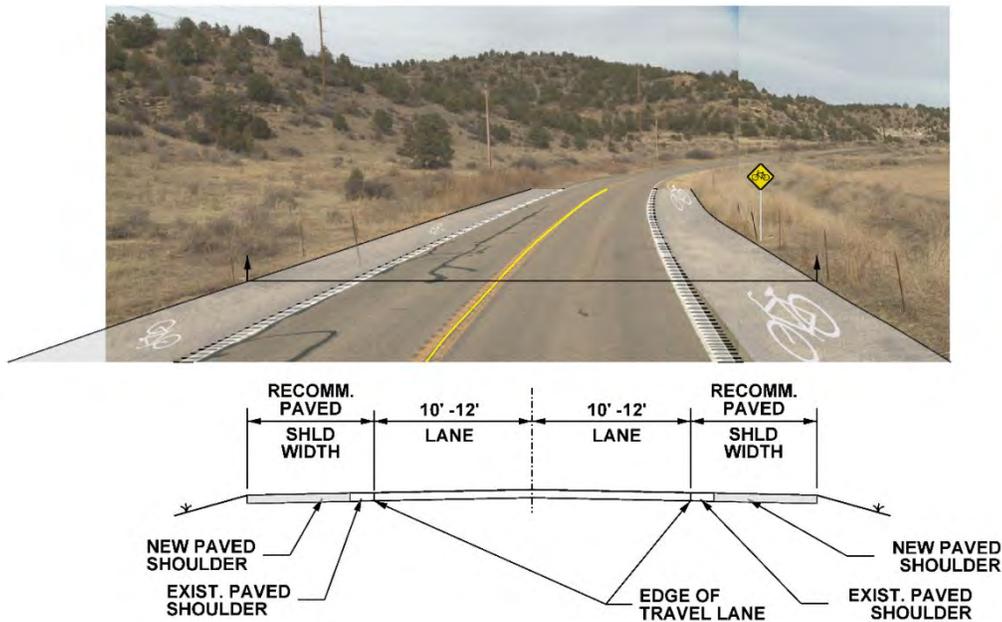


Table 5: On-Highway Trail (Attached) Concept Shoulder Widths

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'

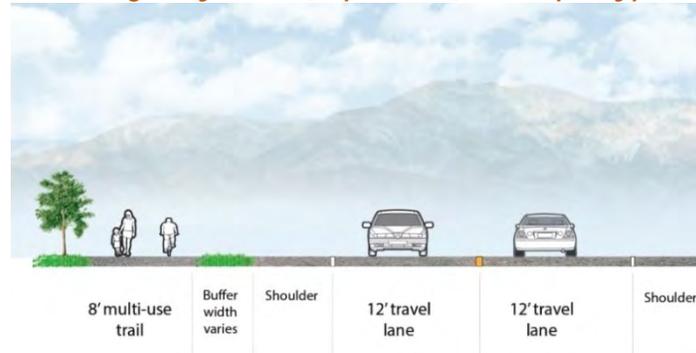
On-Highway Trail (Separated) Concept

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

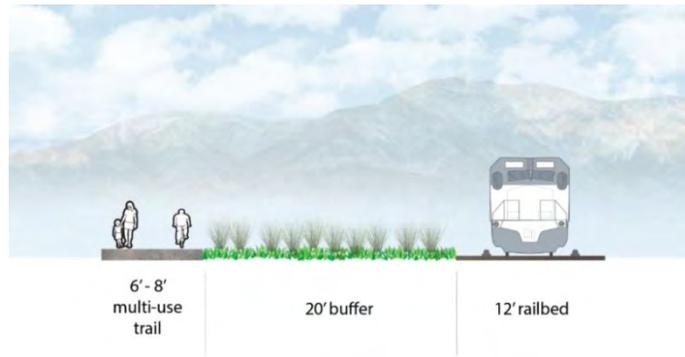


Figure 14: Off-Highway Trail (Rails-to-Trail) Concept Typical Section

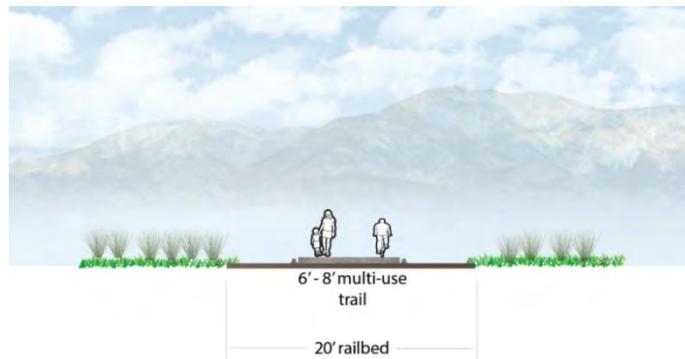


Figure 15: Off-Highway Trail (County Road) Concept Typical Section

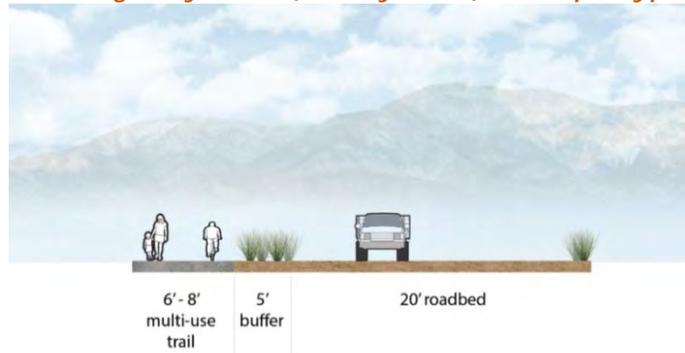


Figure 16: Off-Highway Trail (Utility Corridor) Concept Typical Section

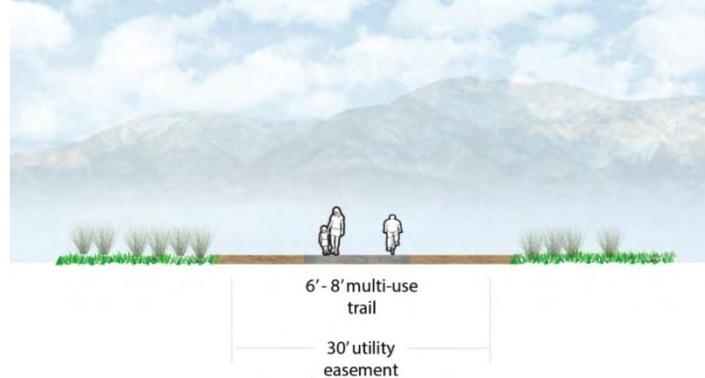
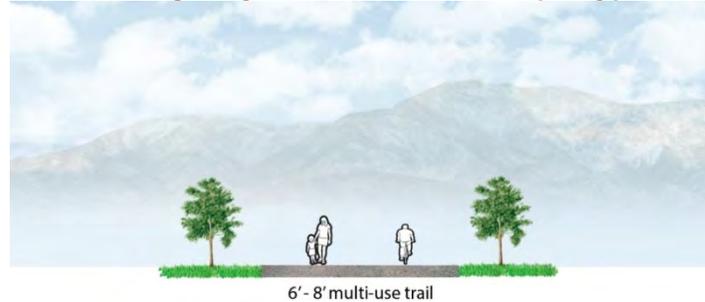


Figure 17: Off-Highway Trail (Route) Concept Typical Section



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

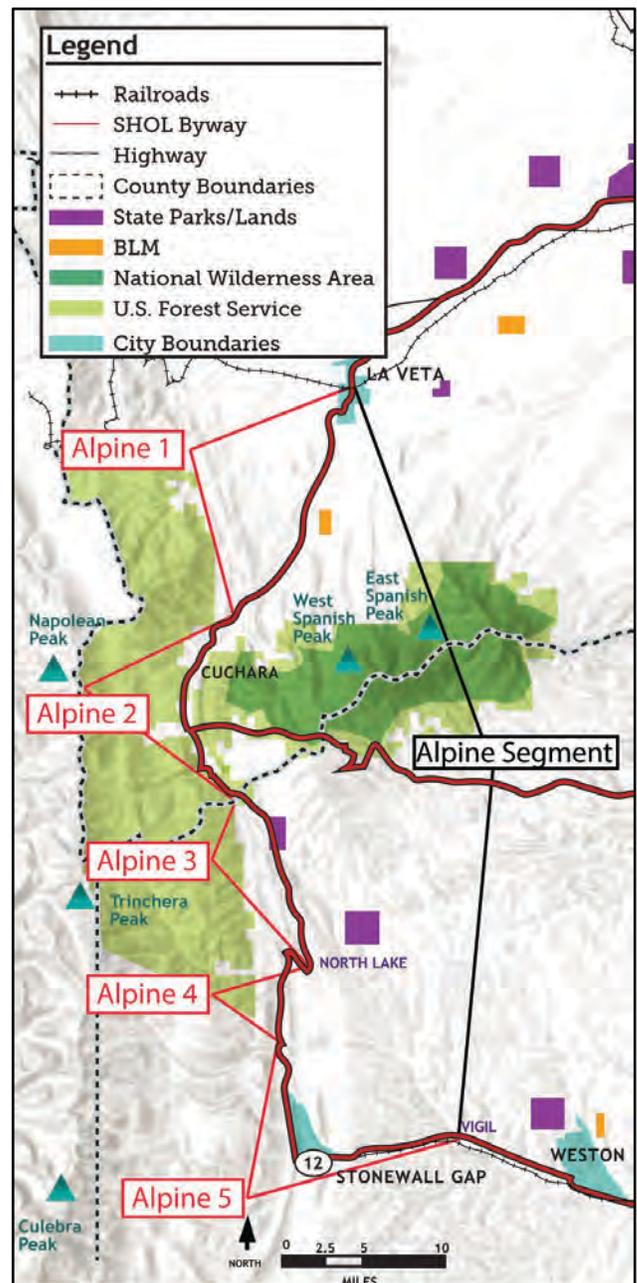


Table 10: Level 2 Alternatives

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

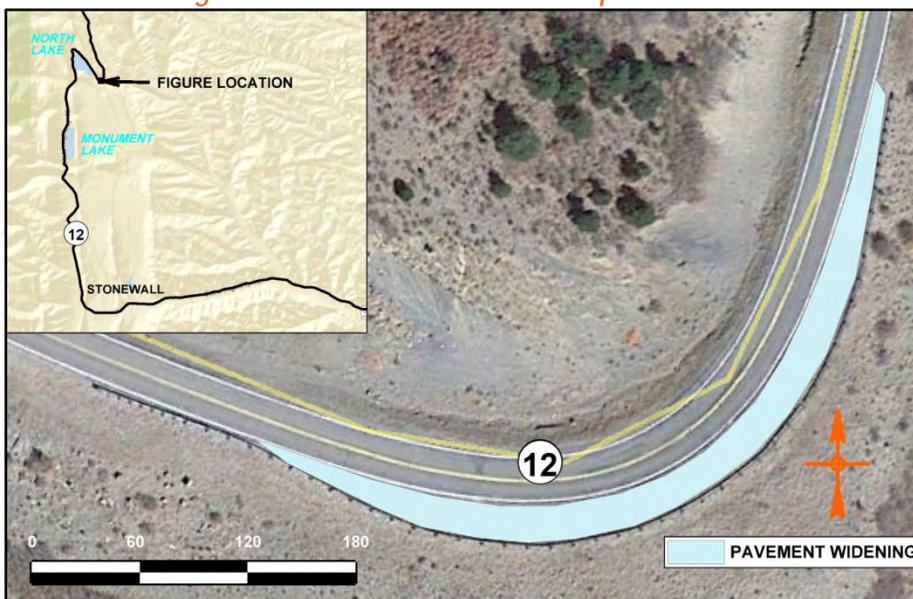


Figure 21: Cuchara Pedestrian Crossing Improvements



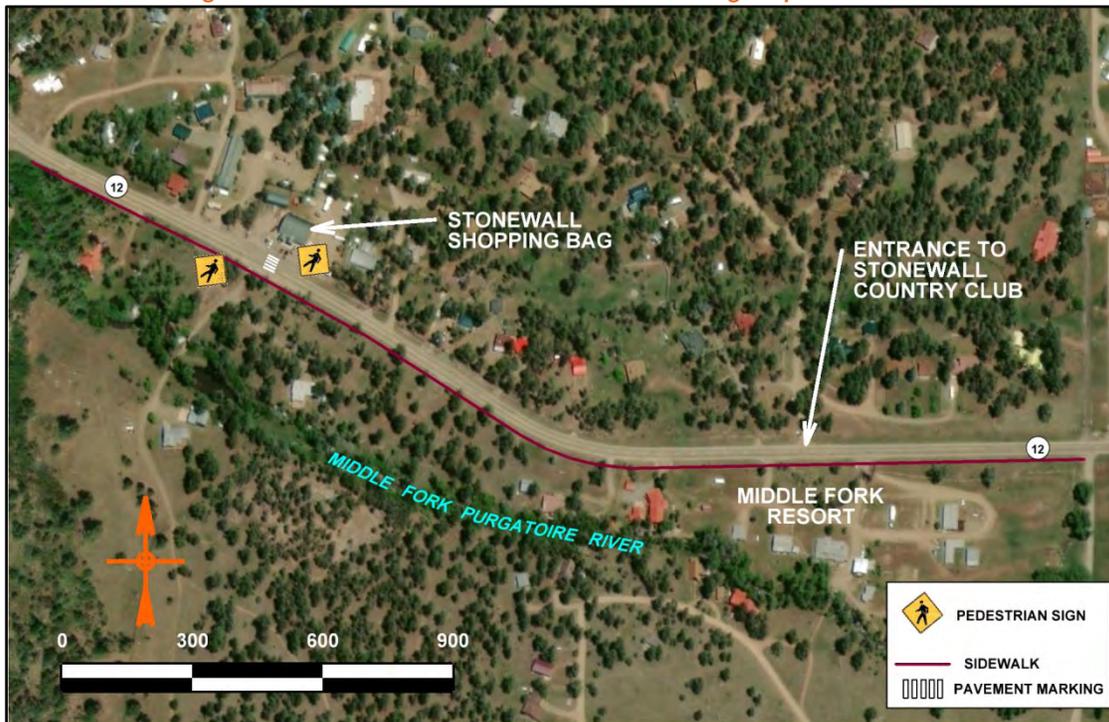
- North Lake Curve Improvements** - Weighted crash rates are elevated in the vicinity of the sharp curve located just southeast of North Lake. Four crashes, of which two were injury crashes, occurred at this location during the five-year study period. Three of the four crashes involved the guardrail 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



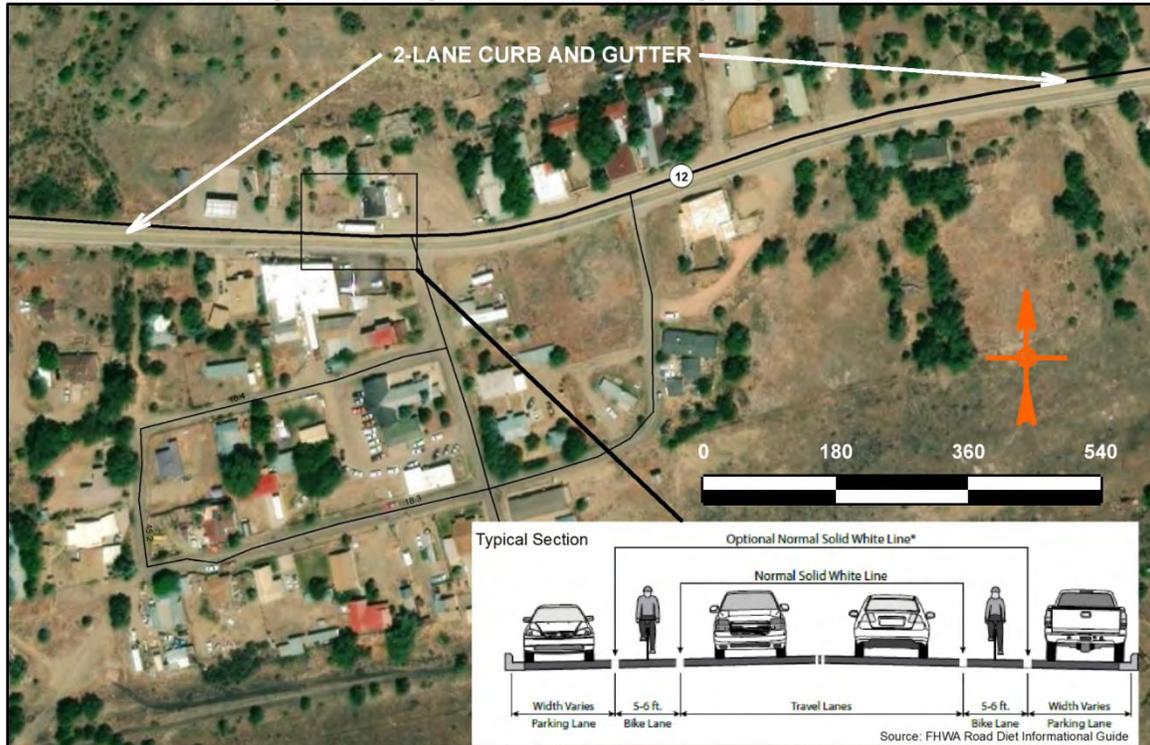
- Stonewall Pedestrian Crossing Improvements** - Local residents in Stonewall have expressed concerns with pedestrian safety, particularly regarding pedestrians walking along SH 12. No pedestrian vehicle crashes were reported in Stonewall within the five-year study period. As shown in **Figure 23**, 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

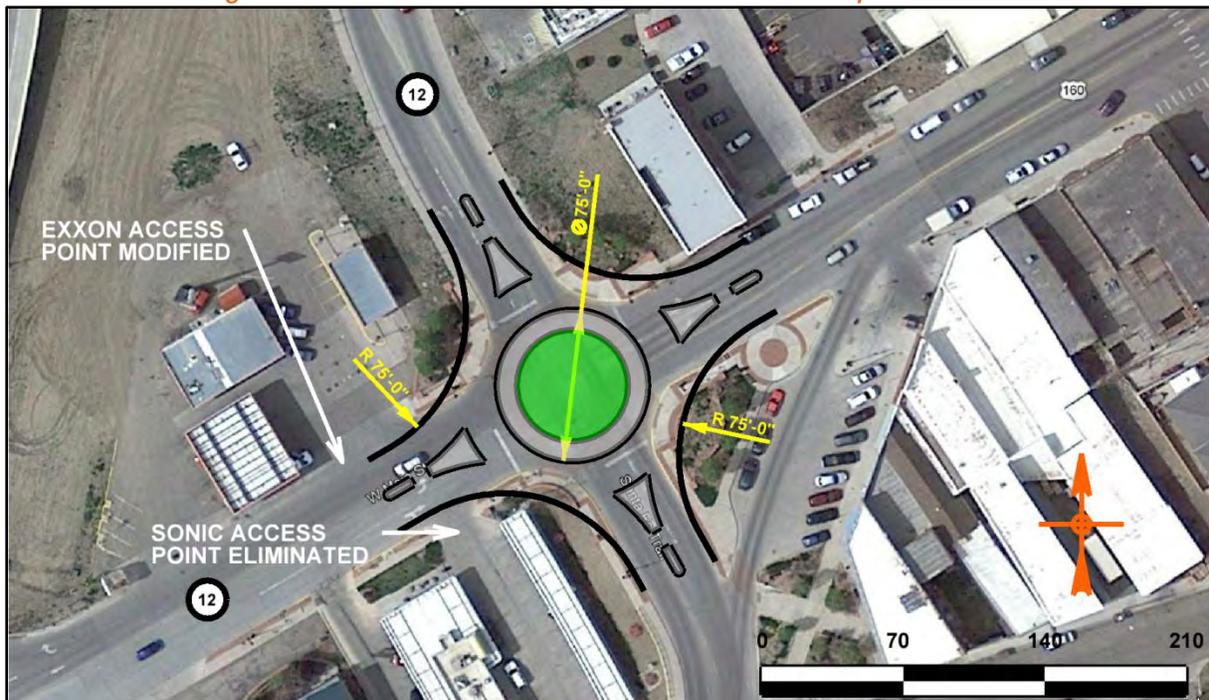


- Jansen Area Roadway Improvements** - Outside of Trinidad and Walsenburg, Jansen has the highest number of intersection-related crashes. At this location, as shown in [Figure 25](#), the improvements would include a new curb and gutter section. This would better define the access points, provide separation 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

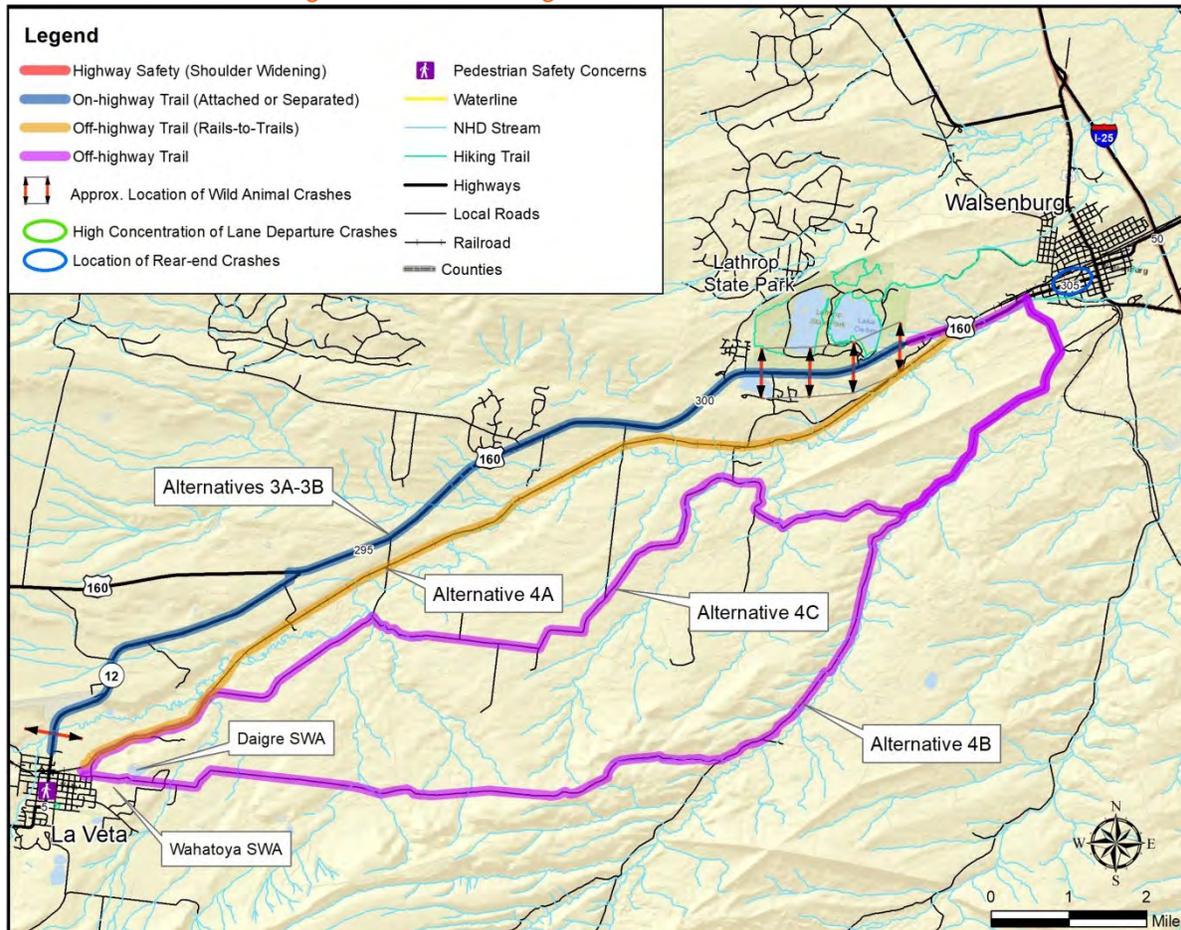
Local areas of more detailed study of the trail improvements included those areas with connections to existing trailheads, such as Lathrop State Park and Trinidad Lake State Park, and in the vicinity of existing communities (La Veta, Cuchara and Cuchara Mountain Resort). The Off-Highway Trail Alternatives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

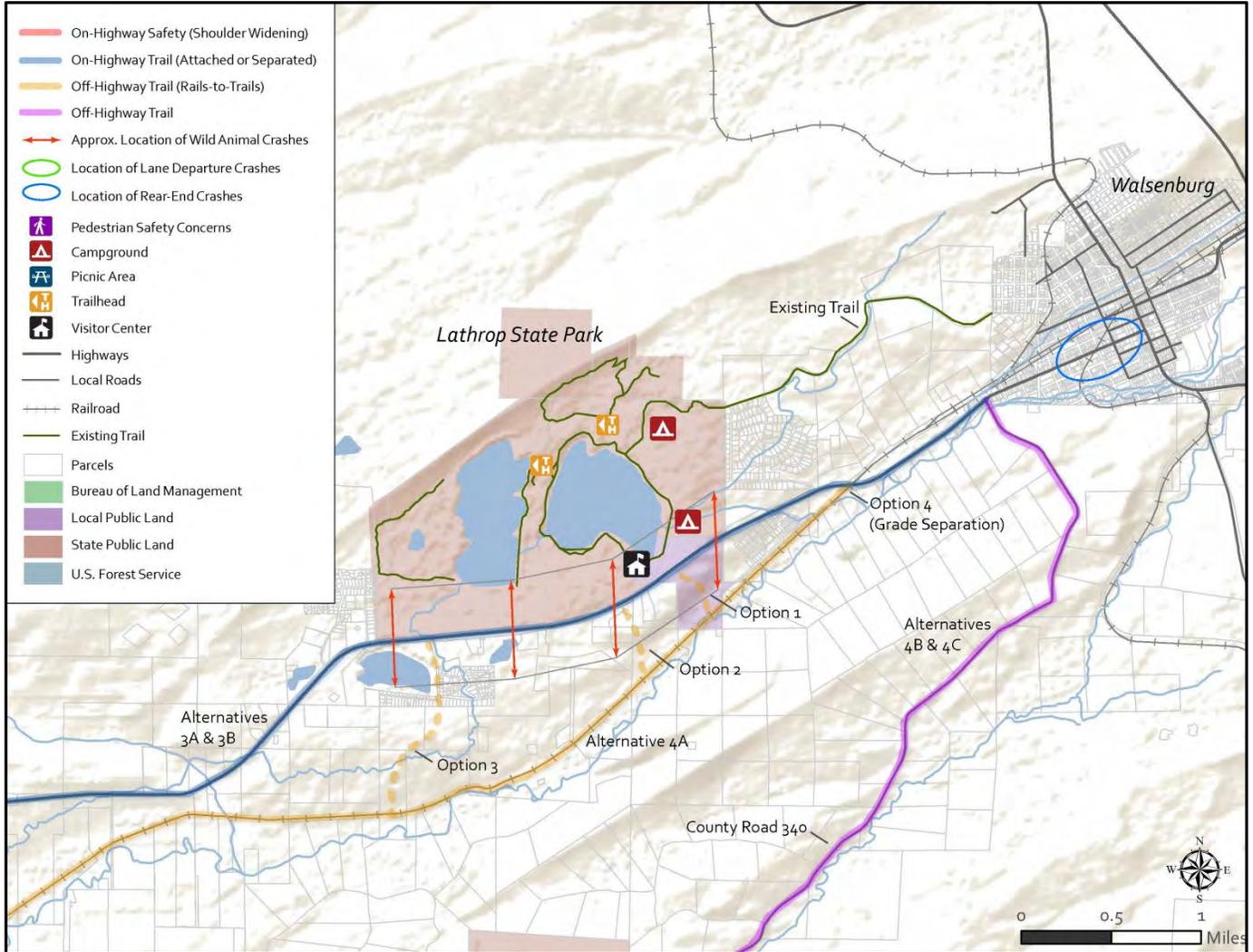
As shown, Alternatives 3A and 3B would be located along the park's frontage; Alternative 3A being a trail attached to US 160 and Alternative 3B being detached but close to the edge of the roadway within CDOT right-of-way to the extent possible. Each alternative would cross US 160 at the park entrance.

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



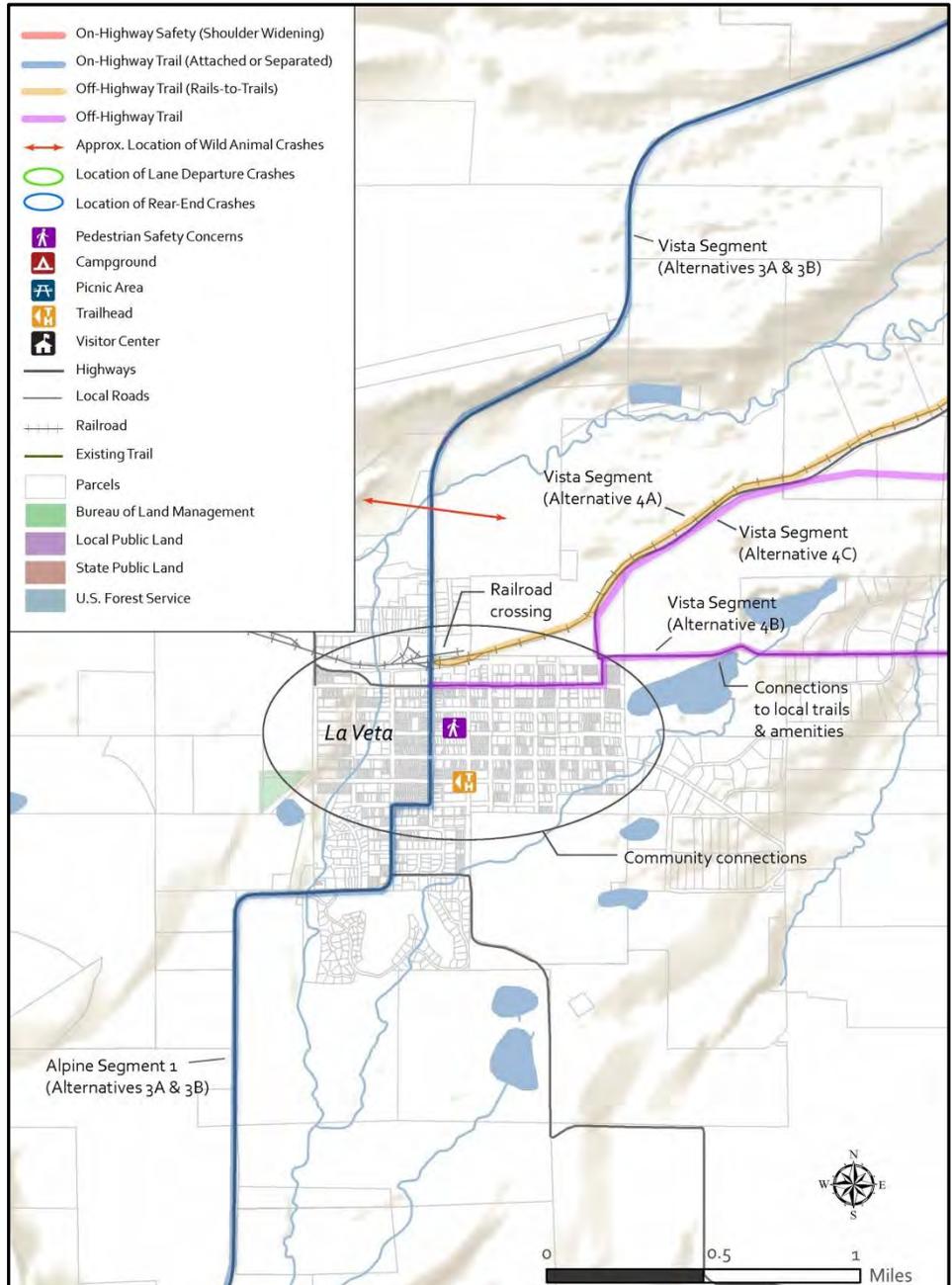
Regardless of the trail alternative, an important issue for connecting with the park is how the trail would safely cross US 160 from north to south. Due to the configuration of the existing highway, consisting of three or four travel lanes, and the relatively high posted speed limit (60 mph) near the 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.

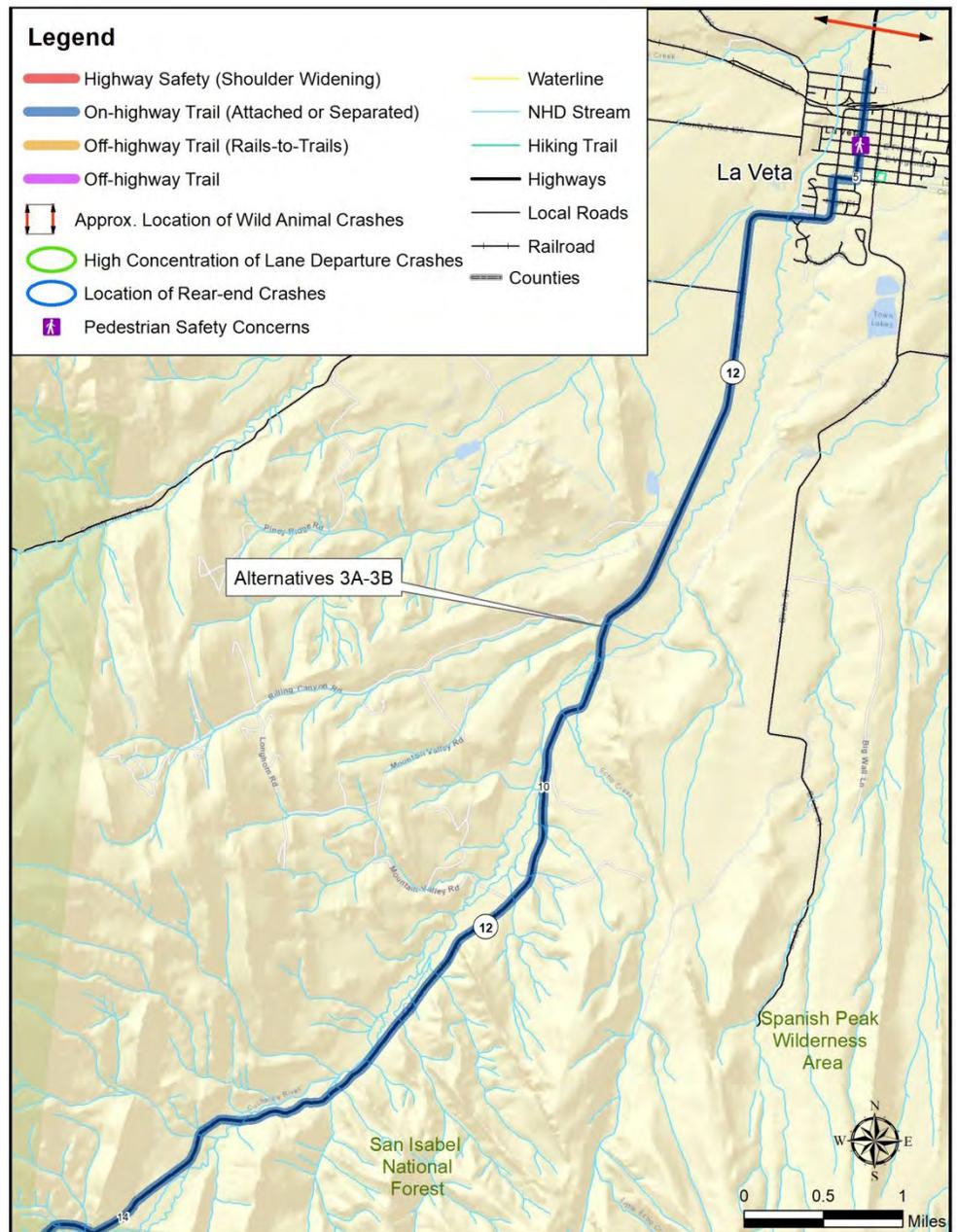
Figure 30: Alpine 1 Segment Level 2 Alternatives

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)

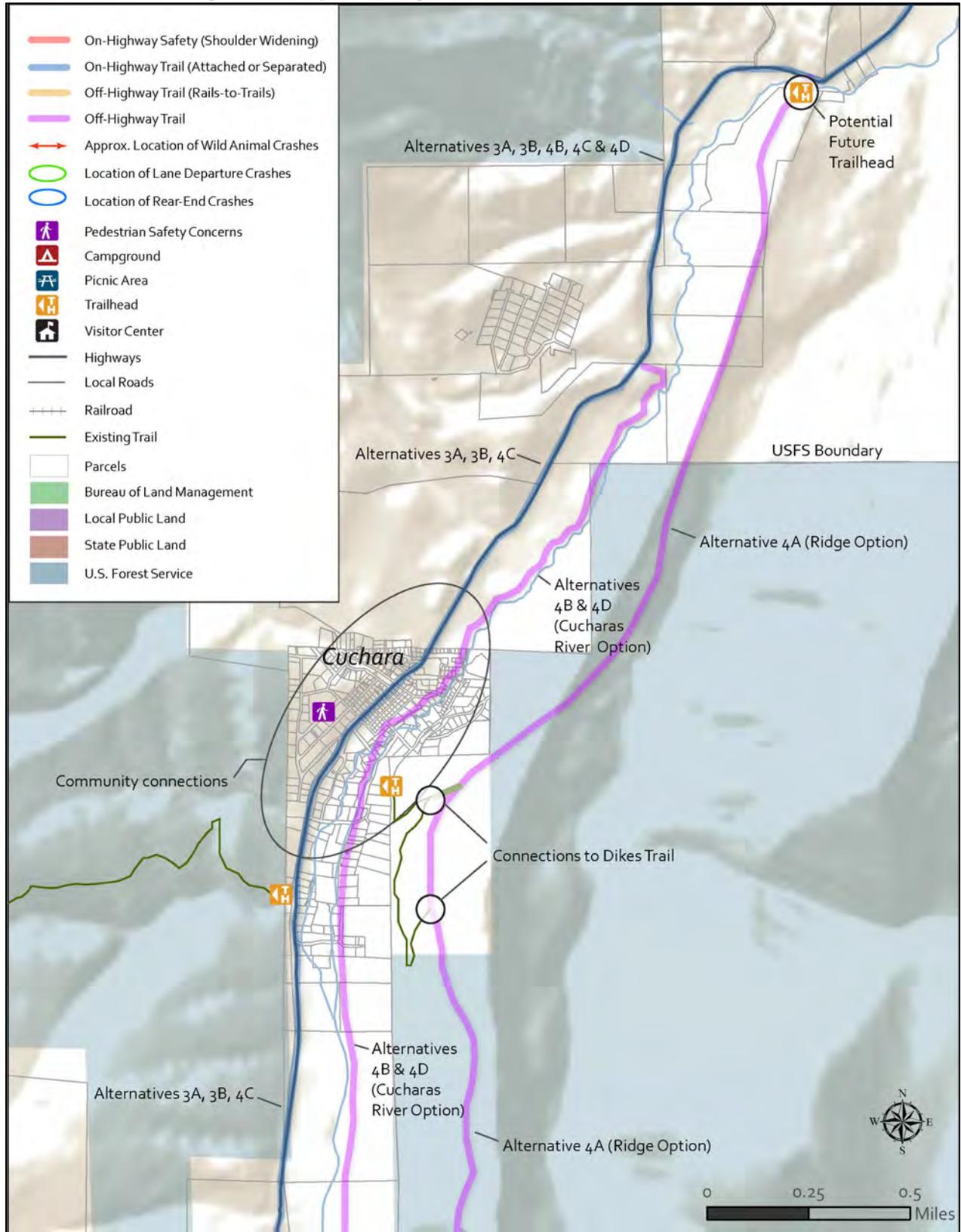
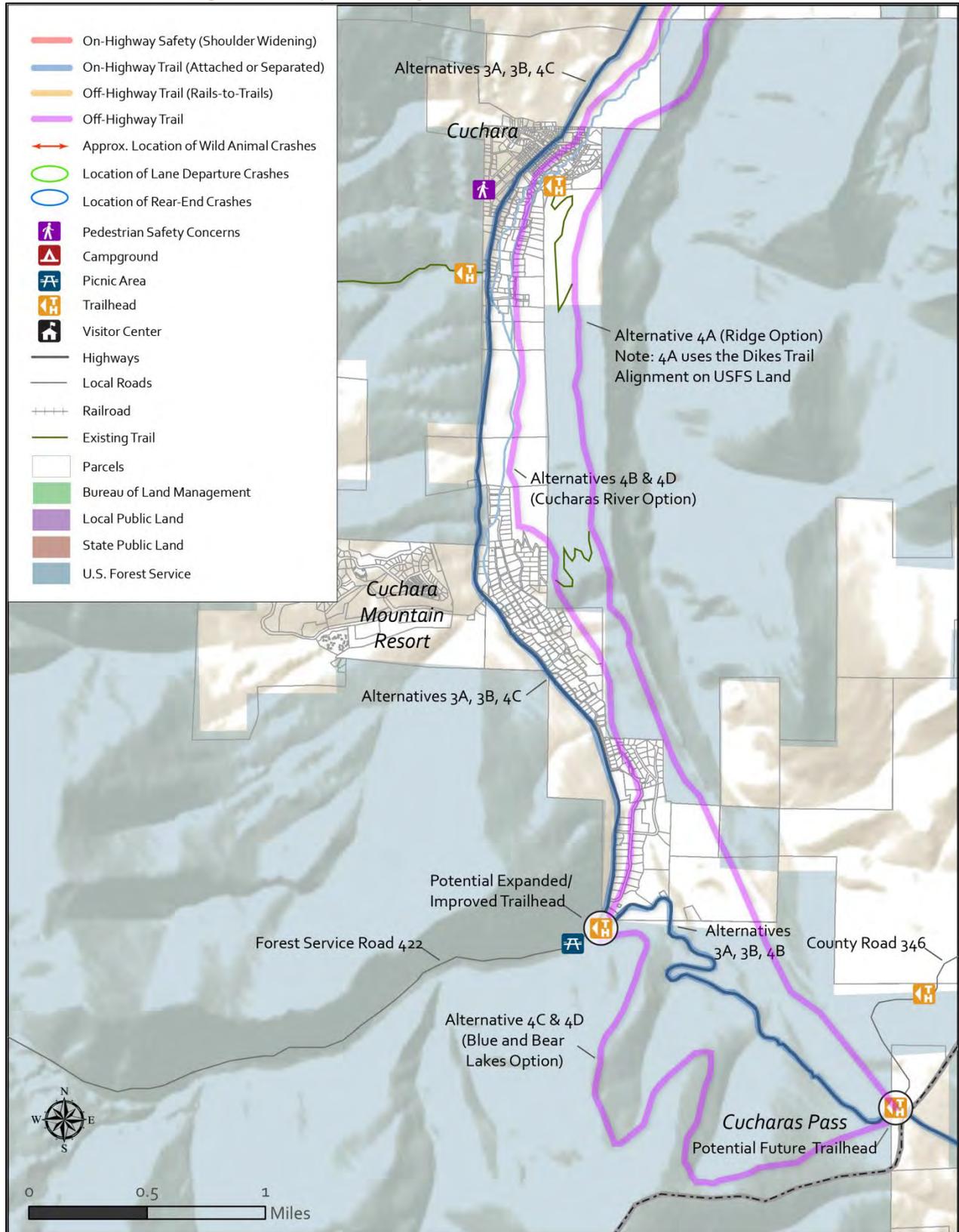


Figure 32: Alpine 2 Segment Level 2 Alternatives (2 of 2)



- **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.

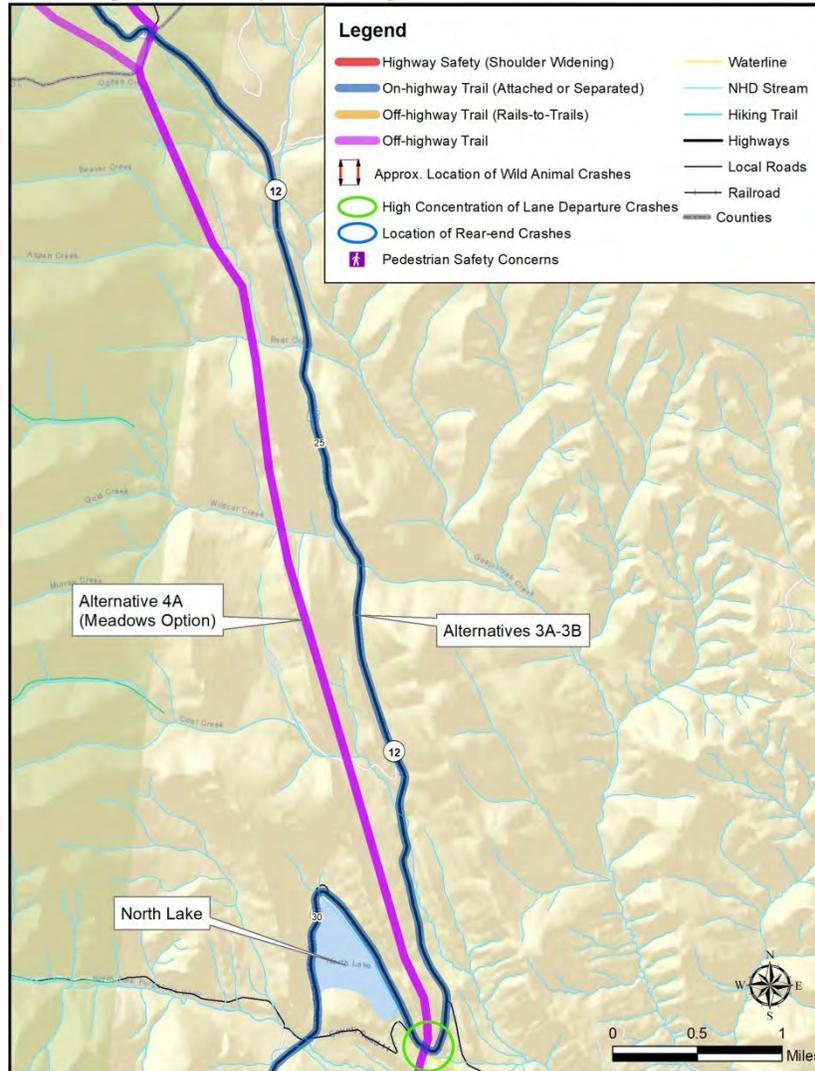
Alpine 3 Segment

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**):

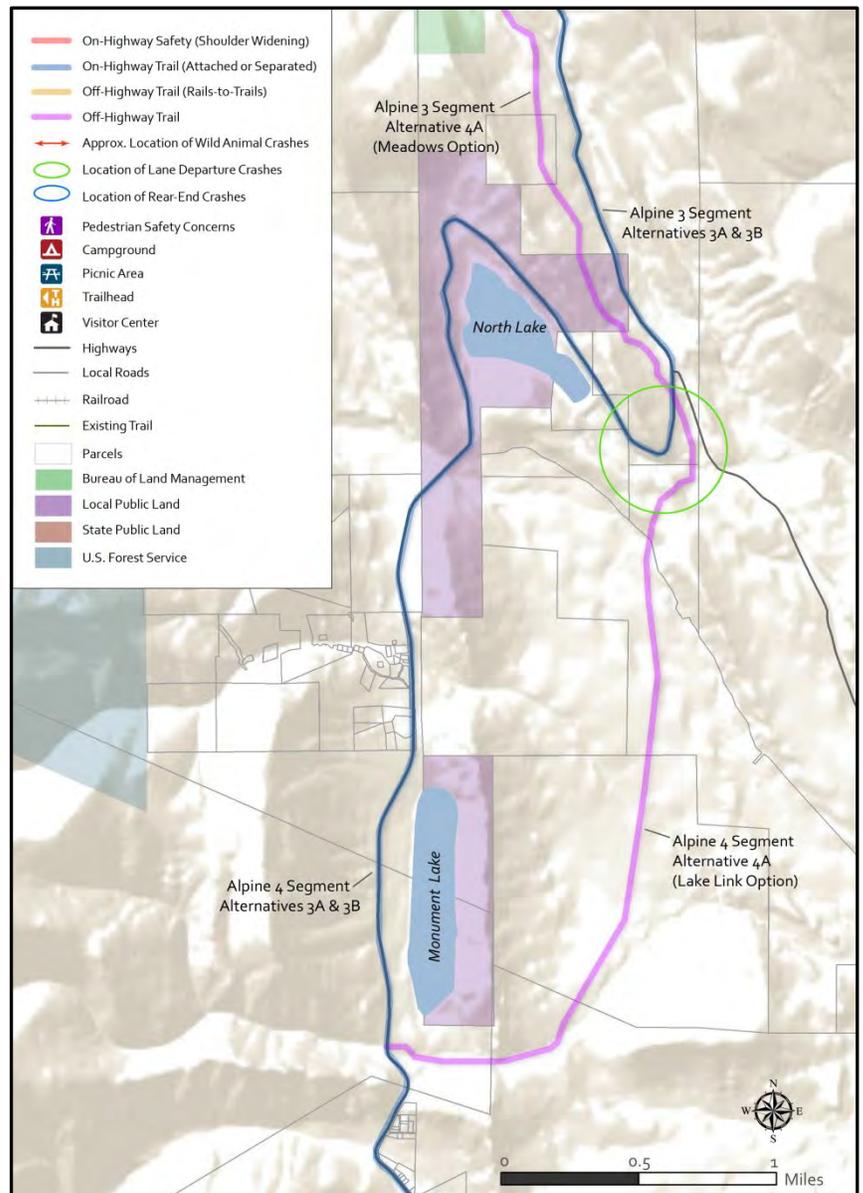
- Alternative 1 - No-Build
- Alternative 3A - On-Highway Trail (Attached)
- Alternative 3B - On-Highway Trail (Separated)
- Alternative 4A - Off-Highway Trail (Lake Link)

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



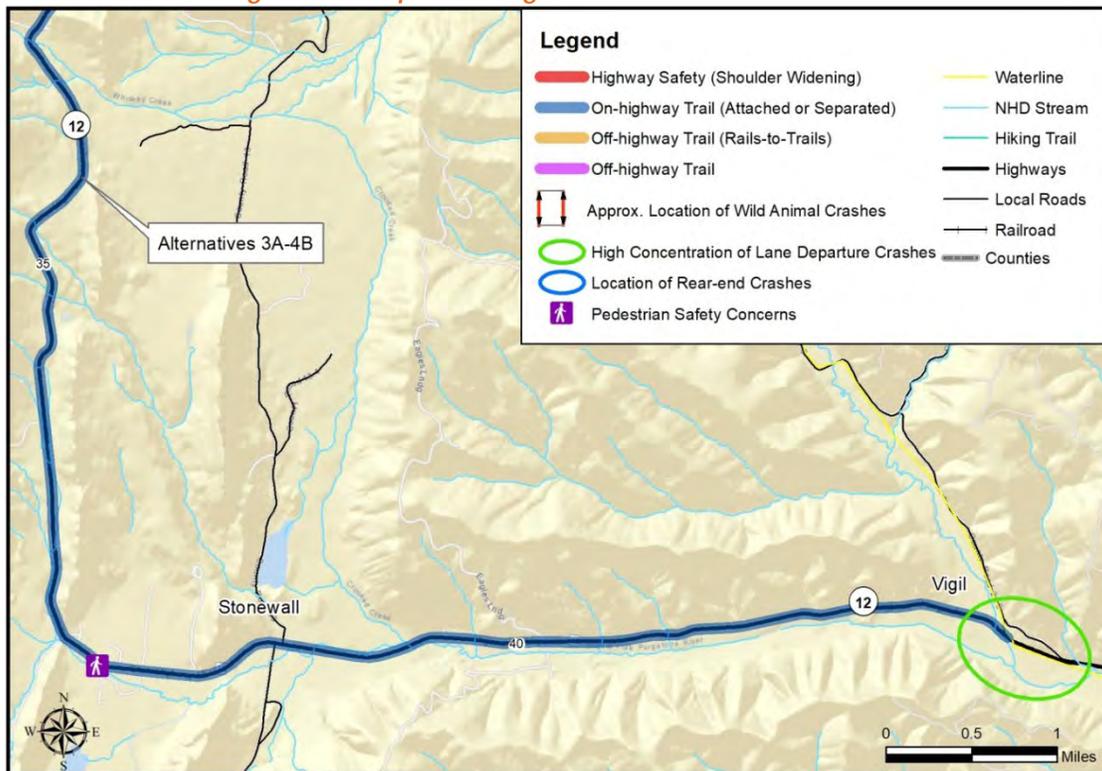
trail route would border its southern edge and provide good access to the Monument Lake Resort and Park, which provides Recreational Vehicle and tent sites, fishing, and picnicking. The trail reconnects with SH 12 just south of Monument Lake where it would continue toward Stonewall.

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

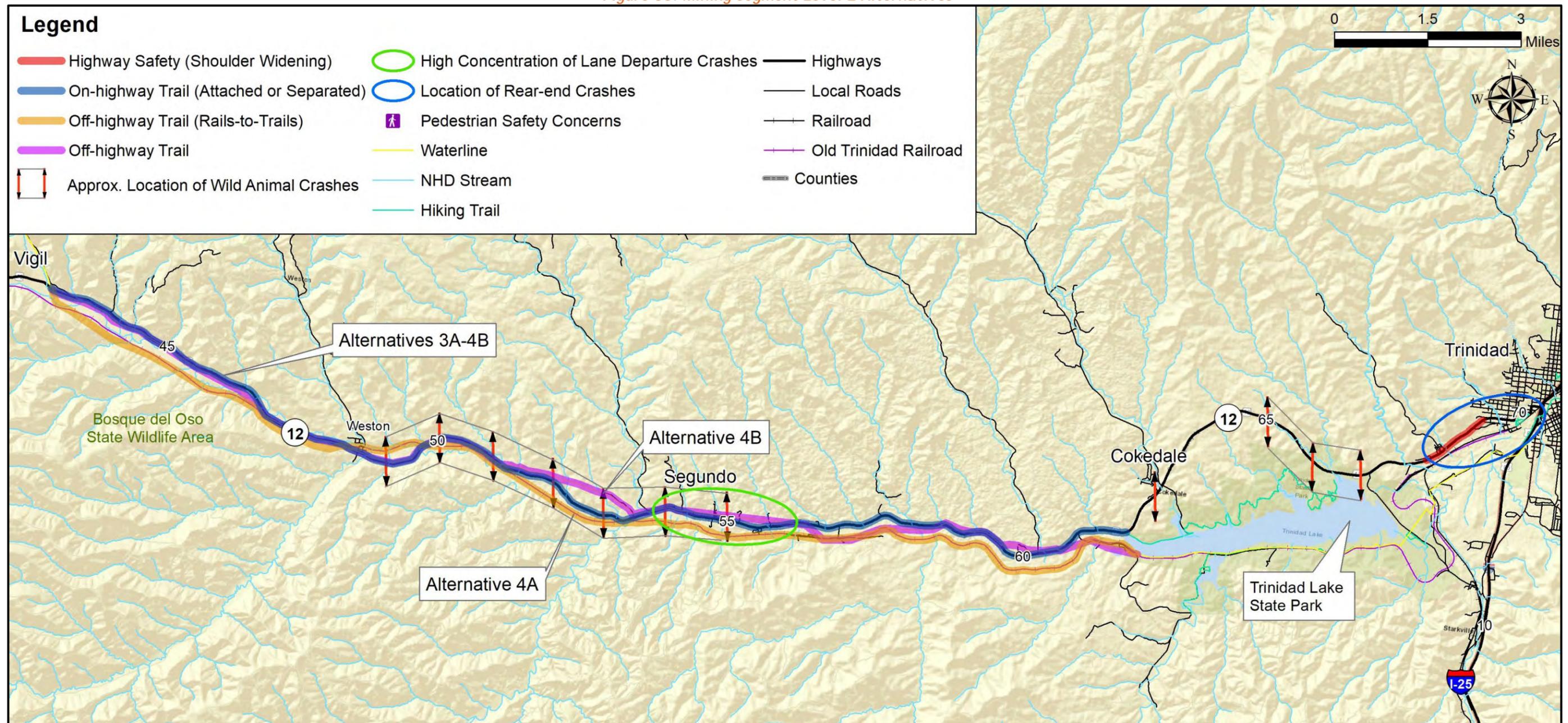


Mining Segment

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

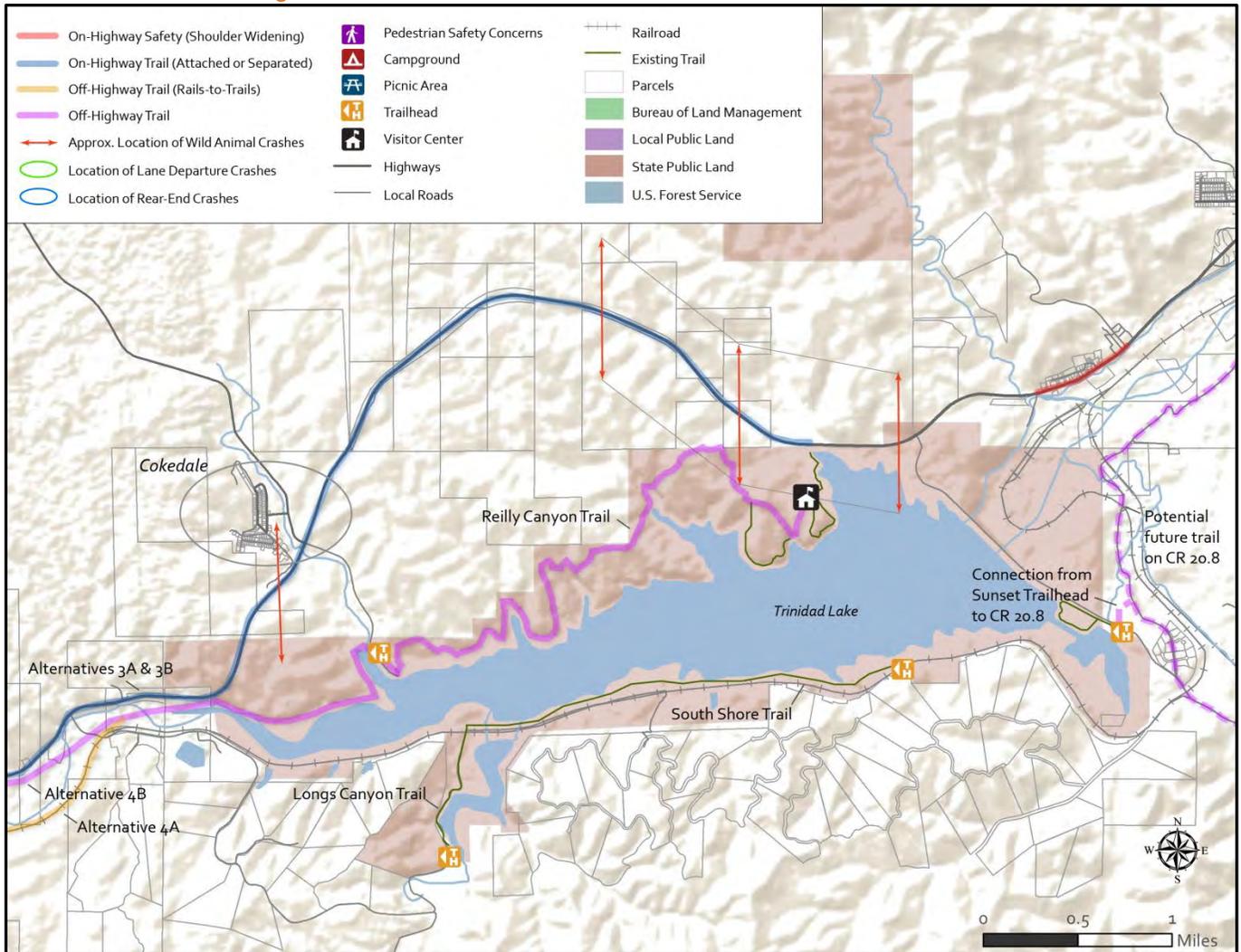


Additional trail route studies were performed for the connections to Trinidad Lake State Park.

- 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
			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

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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 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)
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

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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 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	

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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 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	

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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 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	

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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 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

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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.

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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

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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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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

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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 (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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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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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

