Town of Gypsum
EST. 1911

I-70 Eagle Airport Interchange Feasibility Final Report

October 2025

Revision 1 – November 2025

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Contents

Executive Summary

The I-70 Eagle Airport Interchange Feasibility Study evaluates transportation improvements in the towns of Gypsum and Eagle, Colorado, to provide a new connection between Interstate 70 (I-70) and Highway 6/Cooley Mesa Road in the vicinity of the Eagle County Regional Airport (EGE). Transportation planning by state, regional, and local planning agencies identified the need for the proposed connection in 1986 and in 2004 an Environmental Assessment (EA) was prepared after which the Federal Highway Administration (FHWA) signed a Finding of No Significant Impact (FONSI) in 2005. The signature of the FONSI authorized the Colorado Department of Transportation (CDOT) to advance the Preferred Alternative. The feasibility study was then reactivated in 2024 to reassess prior designs and develop a viable solution to meet current and future transportation needs in this area.

Figure 1 - Proposed Location of New Interchange and Access Road

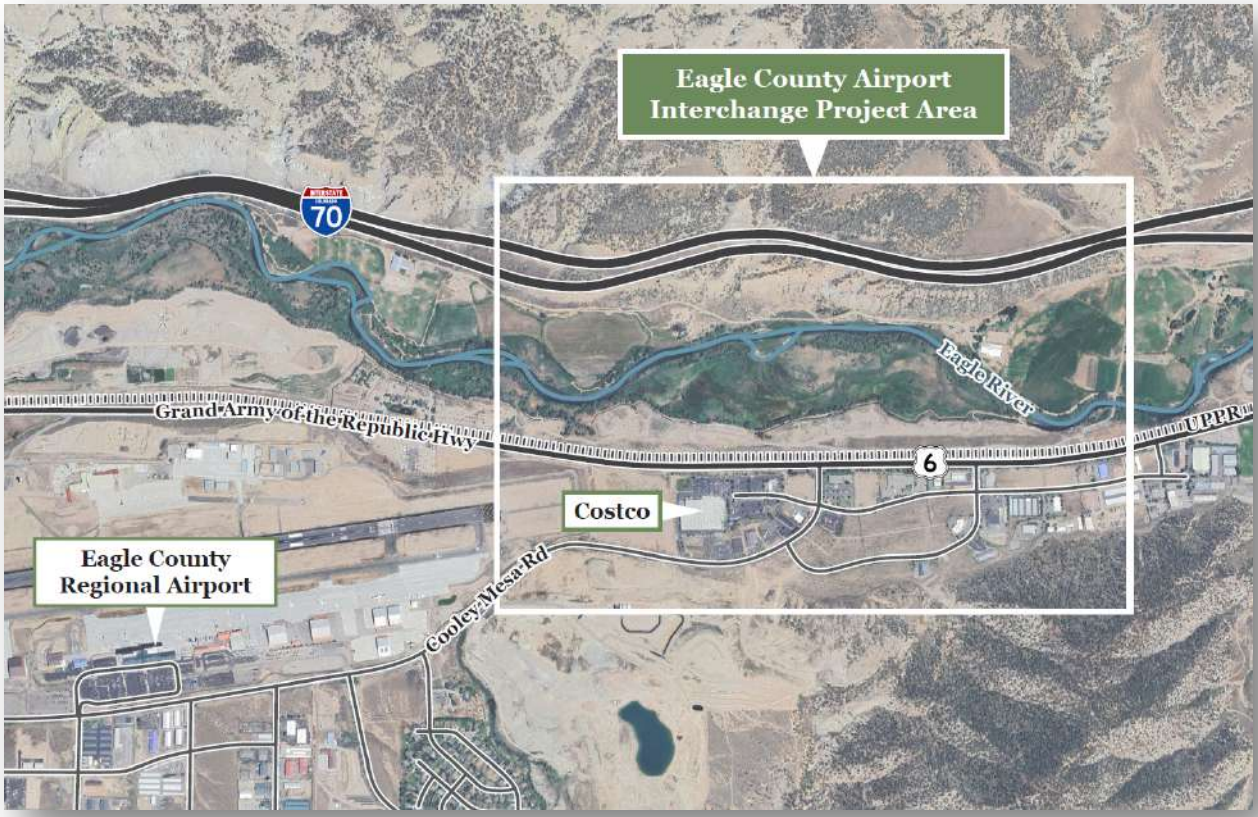
With rapid population growth, increased employment, increased airport and tourism traffic, and rising traffic congestion across the towns of Gypsum and Eagle, the existing I-70 interchanges at Gypsum (Exit 140) and Eagle (Exit 147) are no longer sufficient. Emergency closures on I-70 force rerouted traffic through local roads, compounding congestion and safety risks for residents, businesses, and guests.

The feasibility study focused on upgrading the I-70 interchange network and improving north-south mobility between Highway 6 and I-70. Key deficiencies identified include:

- Increasing congestion at existing interchanges and within the towns
- Out of direction travel and associated safety concerns
- Inadequate operational flexibility with existing interchanges 7 miles apart
- Safety and evacuation concerns during emergencies

The feasibility study re-evaluated 18 alignment alternatives and introduced a new variation (L/C Mod) and updated environmental, traffic, and regulatory data. Through a Context Sensitive Solutions (CSS) process involving public engagement and coordination with key agencies, including CDOT, FHWA, and the Union Pacific Railroad (UPRR), two alignment and three crossing alternatives were assessed in detail.

Figure 2 - Project Area



At the conclusion of this initial evaluation, the at-grade crossing alternative emerged as the recommended alternative for advancement in a National Environmental Policy Act study and final design. This option proposes an at-grade crossing of Highway 6 and the UPRR along an alignment within the existing CDOT right-of-way. This solution:

- Serves identified traffic growth
- Improves traffic operations at both existing interchanges
- Reduces traffic congestion within the towns of Gypsum and Eagle
- Enhances transit access and promotes a future mobility hub
- Balances cost-effectiveness with environmental preservation

- Provides a resilient route for emergency and regional access

Additionally, the feasibility study performed a high-level evaluation of multiple interchange alternatives for this new connection including a signalized diamond, roundabout diamond, half diverging diamond (DDI), and single-point urban interchange (SPUI) to optimize traffic operations.

This feasibility study provides a renewed, practical roadmap for improving mobility, safety, and connectivity in the corridor. It supports regional economic growth, protects environmental resources, and verifies long-term infrastructure resilience in one of Colorado's growing mountain regions.

Project Background Summary

The need for this new interchange was initially identified in 1986 by state, regional, and local planning agencies primarily to improve access to the regional airport. A concept study was completed in 1999 as part of a cooperative effort between Eagle County, CDOT, and the Towns of Gypsum and Eagle. In 2004, the FHWA and the CDOT initiated an EA to evaluate the feasibility of constructing a new interchange on I-70 at approximately Mile Point 143 and a connector road to the Eagle County Regional Airport. This effort was driven by ongoing residential and commercial development between the communities of Gypsum and Eagle, increased traffic congestion, and the growing importance of the airport as a regional transportation hub.

The study area included a proposed interchange on I-70 and a new roadway extending south across the Eagle River Valley to Cooley Mesa Road, providing direct access to the airport. Access to the airport is limited to indirect routes through Gypsum and Eagle via US Highway 6 and Valley Road, contributing to congestion and safety concerns during peak travel periods. Increased airport usage, particularly during the winter recreation and ski season, further underscored the need for improved connectivity and mobility.

The purpose of the EA was to improve access to the Eagle County Regional Airport, reduce traffic impacts on surrounding communities, and establish a direct intermodal connection from I-70. Fourteen preliminary alternatives were evaluated as part of a previous concept study, with additional alternatives developed through the EA process. Key considerations included minimizing environmental impacts, maintaining design standards, and ensuring compatibility with planned airport expansions.

The preferred alternative, known at the time as Alternative L, includes a full diamond interchange at I-70 Mile Point 142.8 and a four-lane bridge spanning the Eagle River, the Union Pacific Railroad, and Highway 6. This design was selected for its ability to improve traffic flow, reduce congestion near existing intersections, and minimize impacts on adjacent properties and natural resources. Value engineering efforts further refined the design to lower costs and reduce bridge height while maintaining mobility and safety.

After a FONSI was signed in 2005, the project progressed through 95% design. The connector road was designed as an independent utility with logical termini, providing a critical link between I-70 and the airport. The study laid the foundation for long-term transportation improvements and supports regional efforts to enhance multimodal connectivity, promote economic development, and address future growth in partnership with FHWA, CDOT, Eagle County, and the Town of Gypsum. Unfortunately, the project was not able to secure construction funding and documents were shelved in 2010.

Project Teams and Timeline of Meetings

The Context Sensitive Solutions (CSS) process for the I-70 Eagle Airport Interchange Feasibility Study followed the established six-step model developed for the I-70 Mountain Corridor as outlined in the I-70 Programmatic Environmental Impact Statement (PEIS). This model allows for I-70 transportation projects to be technically sound while being responsive to environmental, aesthetic, and community values. The process includes defining context, establishing core values, setting technical goals, developing and refining alternatives, and evaluating outcomes. As part of this approach, the project team actively engaged local, regional, and resource agency stakeholders through the Project Leadership Team (PLT), Technical Team (TT), and Issue Task Forces (ITFs). This inclusive process ensured that environmental, recreational, aesthetic, and community concerns were considered early in alternative development. Additionally, the feasibility study applied a resource-sensitive screening process to identify potential fatal flaws or red flags, helping to inform future phases and reduce risk prior to advancing into National Environmental Policy Act (NEPA) environmental review.

Table 1, below, outlines the milestones met and meetings held during the CSS process for this project.

Table 1 - CSS Stakeholder Meetings

CSS Milestone	Time Frame	Goal
PLT #1	Feb. 27, 2025	Intro and input
TT #1	March 31, 2025	Intro and input
ITFs #1	April 3, 2025	Intro and input
PLT #2	May 12, 2025	Evaluation criteria
PLT #3 TT#2	July 25, 2025	Review alternatives and screening
Eagle County Board of Commissioners/Gypsum Town Council Meetings	Aug. 26, 2025	Provide an update to inform political leadership and answer questions
Public Outreach Event	Early September	Share the preferred alternative from the feasibility study and answer questions
PLT Update	September/October	Review Feasibility Report. Email update on results and next steps
TT Update	October	Email update on results and next steps
ITF Update	October	Email update on results and next steps

Concept Summary

As part of the 1998 Concept Study, 14 preliminary alternatives were developed based on at-grade intersections with Highway 6. During the 2004 Environmental Assessment, new alternatives were developed to span over the UPRR and Highway 6, minimizing impacts on wetlands and riparian habitats while increasing safety and mobility by eliminating the at-grade crossing with the UPRR and Highway 6. These revisions increased the number of preliminary alternatives to 18.

Upon completion of screening, Alternative L was selected as preferred, and a FONSI was signed in 2005. Design progressed to the 95% level, and right-of-way was acquired. In approximately 2010, the project was put on hold as a source of construction funding was investigated but not found.

In 2024, the Town of Gypsum (Town) completed an update to the Master Traffic Study (MTS) and analyzed the potential benefits from constructing this new interchange. As a result, the Town initiated a feasibility study to reinvigorate the project and assess if the project, as originally designed, is still feasible, or if other alternatives should be evaluated.

The feasibility study began with investigating the original 18 alternatives and added one designated L/C Mod. This new alternative aimed to reduce the length of the bridge required to span the river and its riparian habitat. Additionally, the team met with UPRR to revisit the possibility of an at-grade crossing of the railroad and Highway 6 to reduce overall project costs.

Recommendation Summary

This feasibility study resulted in the following recommendations:

- Progress the recommended alternative of crossing Highway 6 and the UPRR tracks at grade along the alignment within the existing CDOT right-of-way
- Continue efforts to mitigate safety and cost risk for, and gain approval from, the UPRR for the at-grade crossing alternative
- Progress the evaluation and design of the recommended alternative through the NEPA re-evaluation process while coordinating with CDOT and FHWA

The feasibility study findings are summarized in this report.

Background

PREVIOUS PLANS

The project team reviewed and incorporated findings from previous studies of the project area to assess current conditions, gain a comprehensive understanding of the corridor, and ultimately assist in determining if this project is reasonable and feasible. Background information from previous plans aided the development of Critical Success Factors and Technical Goals of the project.

As part of this effort, a thorough review of past plans and studies was conducted to provide context for the challenges and potential solutions in the project area. This included evaluating previously recommended improvements and analyzing updated data from earlier efforts. The insights gathered during this review guided the project leadership team throughout the initiation of the CSS process, ITFs, TT meetings, option development, performance metrics, and screening.

The following is a summary of the studies reviewed for this project from previous engineering, environmental, and traffic documents:

1. I-70 / Eagle Airport Interchange Concept Study (January 1999)
2. Draft Preliminary Geotechnical Study Eagle Airport Interchange (March 8, 2004)
3. Eagle County Airport Interchange and Connector Road Environmental Assessment (August 2004)
4. Structure Selection Report Connector Bridge over the Eagle Valley – [F-09-AQ] (November 2004)
5. Eagle Airport Interchange Traffic Impact Analysis Update (August 2003)
6. Eagle County Airport Interchange and Connector Road (FONSI) (2005)
7. Final Geotechnical Investigation Report Eagle Airport Interchange (April 1, 2010)

8. Eagle County Airport Interchange and Connector Road Final Plans Review (March 2010)
9. Eagle County Airport Interchange and Connector Road PS&E SHELF Cost Estimate (March 2010)
10. Eagle County Safe Passages for Wildlife, Phase II Wildlife Connectivity Assessment (December 2018)
11. Town of Gypsum Master Traffic Study Update (April 2024)
12. Eagle County Regional Airport Existing Layout Plan (August 2024)

Previous Alignments from Eagle County Airport Interchange and Connector Road Environmental Assessment

The 2004 Eagle County Airport Interchange and Connector Road Environmental Assessment recognized 18 preliminary alternatives. This assessment considered 14 preliminary alternatives from the 1999 Concept Study and added new alternatives to minimize impacts to wetlands and riparian habitats, while increasing safety and mobility throughout the corridor. The 18 preliminary alignments outlined in Chapter 2 of the 2004 Eagle County Airport Interchange and Connector Road Environmental Assessment are displayed in Figures 3 and 4.

Figure 3 - Alternatives Evaluated During Level 1 Screening

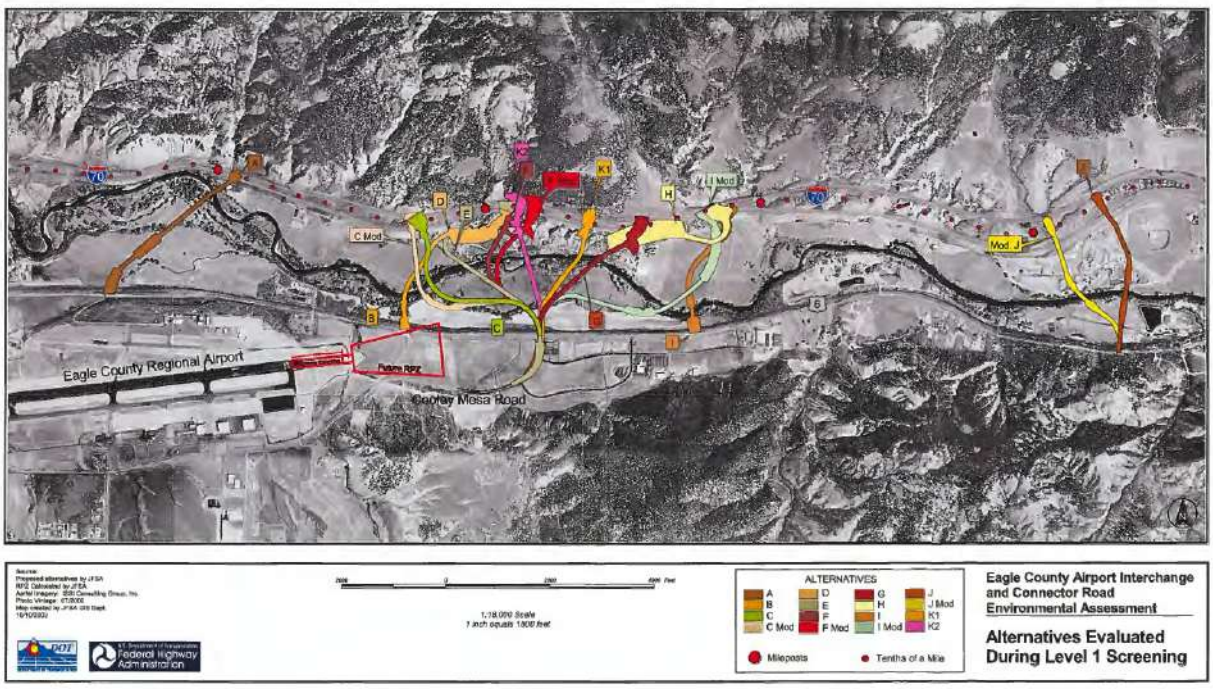
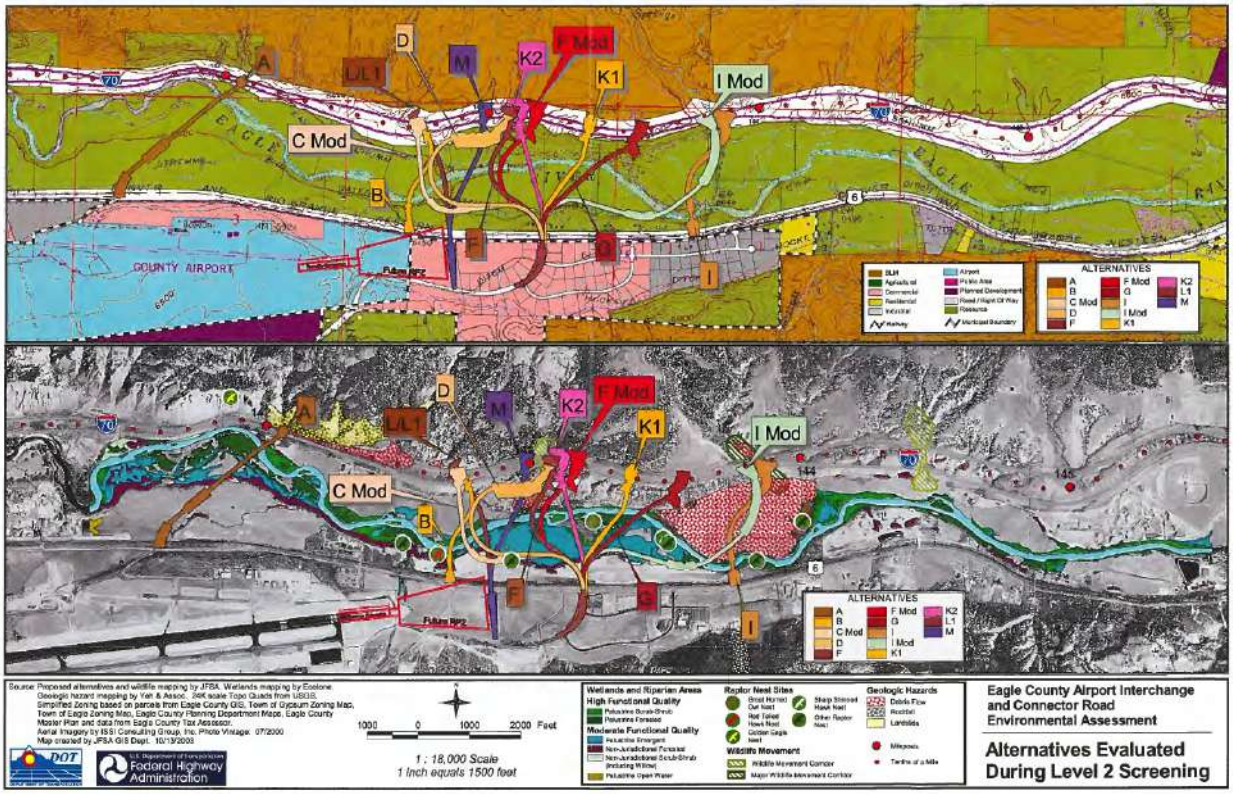


Figure 4 - Alternatives Evaluated During Level 2 Screening



This feasibility study began by investigating these 18 alternatives and added one more, labeled L/C Mod. L/C Mod begins with Alternative L at the south end and then transitions to Alternative C Mod prior to crossing the Eagle River so as to limit wetland impacts.

Define Desired Outcomes and Actions

TECHNICAL GOALS

The PLT helped to establish technical goals for the project. Feasible alternatives carried forward for future analysis must, at a minimum, be able to address the technical goals of the feasibility study. The technical goals identified for the project are to improve resilience and address safety and operational concerns.

Improve resilience

Emergency closures of the interstate, caused by crashes or natural disasters, often direct heavy traffic through nearby towns. Similarly, disasters in town may require evacuation through limited interchanges. These incidents can overload the local roadway network and impact emergency services response. Increasing traffic, especially on Highway 6, must access the interstate through just two interchanges spaced 7 miles apart. This limitation raises significant concerns for emergency services and evacuation.

Address safety and operational concerns

Between 2000 and 2023, the local and regional population has grown 143%. Growth of residential, industry, and guest traffic in the towns of Gypsum and Eagle has subsequently increased the traffic volumes routed through the towns to reach the interstate. These trips increase the likelihood of conflicts with pedestrians and local traffic. Additionally, the interchanges at these locations are approaching their service life capacities at an increased rate.

I-70 Eagle Airport Interchange Feasibility Study CSS Process

The feasibility study was developed using **CDOT's CSS Process**, a collaborative, inclusive, and values-driven planning framework used along the I-70 Mountain Corridor. CSS ensures transportation projects not only meet engineering and mobility needs, but also reflect the unique character, environmental setting, and community priorities of the project area.

This project followed the six-step CSS process, including the development of a Context Statement, Core Values, Critical Issues, and Evaluation Criteria, which collectively guided the project team and stakeholders in developing feasible, resource-sensitive alternatives.

CONTEXT STATEMENT

The Eagle River Valley (Valley) is an important economic center for the region. For decades, the Valley has been a cornerstone to the vitality of the intermountain region, balancing rural life, tourism, and commerce. However, due to significant population and commercial growth, the current roadway infrastructure no longer meets the needs of local residents, families, commuters, freight traffic, transit users, and guests. Emergency closures of the interstate, caused by crashes or natural disasters, often direct heavy traffic through nearby towns, overloading the local roadway network. Increasing traffic, especially on Highway 6, must enter the interstate through just two interchanges spaced 7 miles apart. This limitation raises major concerns about emergency access and evacuation.

The proposed I-70 Eagle Airport Interchange Project (Project) aims to fix these issues by improving access to the interstate between Gypsum and Eagle, Colorado, including the airport and High-Altitude Army National Guard Aviation Training Site. The new interchange would better serve the region's growing population and business needs while respecting the area's unique environment.

Adding this interchange would also improve the resiliency of the interstate system, allowing direct travel for commercial, residential, and guest traffic while facilitating better transit access. It would reduce unnecessary trips through local towns, making travel safer and more reliable. Additionally, reducing traffic demands on nearby interchanges would add value to the regional transportation network by

extending the lifespan of existing infrastructure and potentially lowering future costs, such as those needed on the adjacent interchanges and other local roads to meet growing community needs.

This project tackles significant problems such as traffic congestion, safety risks, and system resiliency by providing alternative routes during natural and human disruptions. Beyond immediate transportation benefits, the interchange will release suppressed regional economic growth, enhance multimodal connectivity, and improve the quality of life for residents, workers, and guests. By reducing congestion on Highway 6 and enhancing overall connectivity, the project will allow guests, recreational enthusiasts, and local workers to travel more safely and efficiently, supporting the region's vital tourism industry.

Core Values

- Safety
- System reliability/connectivity
- Local and regional community
- Value and implementability
- Natural environment

Critical Issues

- Safety
    - Safety of traveling public
    - Freight movement
    - Emergency response and evacuation
- System Reliability/Connectivity
    - Mobility
    - Operations
    - Benefits a regional network
    - Multimodal
    - Resilience
- Local and Regional Community
    - Growth
    - Sense of place
    - Economic vitality
    - Community development
- Value and Implementability
    - Maintainability
    - Initial and long-term return on investment
    - System-wide benefits
    - Constructability
- Natural Environment
    - Eagle River
    - Wildlife habitat/movements
    - Water quality

Evaluation Criteria

- Safety
    - Accommodates safety of local/ industry/guest traffic
    - Improves access during emergency events
    - Meets design standards
- System Reliability/Connectivity
    - Improves mobility and reliability for both local and regional traffic
    - Extends operational design life of the adjacent interchanges
    - Does not preclude opportunities for future transportation enhancements
- Local and Regional Community
    - Opportunity for community awareness and engagement
    - Improved access for visitors and guests, community, and industry
    - Supports planned growth
- Value and Implementability
    - Minimizes long-term operations and maintenance efforts and costs
    - An investment that is reasonable to construct and proves initial and long-term value
- Natural Environment
    - Protect natural features and river
    - Minimize visual contrast

Table 2 - CSS Process

Context Statement	Core Value	Critical Issue	Evaluation Criteria
The Eagle River Valley (Valley) is an important economic center for the region. For decades, the Valley has been a cornerstone to the vitality of the intermountain region, balancing rural life, tourism, and commerce. However, due to significant population and commercial growth, the current roadway infrastructure no longer meets the needs of local residents, families, commuters, freight traffic, transit users, and visitors. Emergency closures of the interstate, caused by crashes or natural disasters, often direct heavy traffic through nearby towns, overloading the local roadway network. Increasing traffic, especially on Highway 6, must enter the interstate through just two interchanges spaced 7 miles apart. This limitation raises major concerns about emergency access and evacuation. The proposed I-70 Eagle Airport Interchange Project aims to fix these issues by improving access to the interstate between Gypsum and Eagle, Colorado, including the airport and High-Altitude Army National Guard Aviation Training Site. The new interchange would better serve the region's growing population and business needs while respecting the area's unique environment. Adding this interchange would also improve the resiliency of the interstate system, allowing direct travel for commercial, residential, and guest traffic while facilitating better transit access. It would reduce unnecessary trips through local towns, making travel safer and more reliable. Additionally, reducing traffic demands on nearby interchanges would add value to the regional transportation network by extending the lifespan of existing infrastructure and potentially lowering future costs, such as those needed on the adjacent interchanges and other local roads to meet growing community needs.	**Safety**	Safety of traveling public	1. Accommodates safety of local/industry/guest traffic 2. Improves access during emergency events 3. Meets design standards
		Freight movement	
		Emergency response and evacuation	
	System Reliability/ Connectivity	Mobility	1. Improves mobility & reliability for both local and regional traffic 2. Extends operational design life of the adjacent interchanges 3. Does not preclude opportunities for future transportation enhancements
		Operations	
		Benefits a regional network	
		Multimodal	
		Resilience	
	Local and Regional Community	Growth	1. Opportunity for community awareness and engagement 2. Improved access for visitors and guests, community, and industry 3. Supports planned growth
		Sense of place	
		Economic vitality	
		Community development	
	Value and Implementability	Maintainability	1. Minimizes long-term operations and maintenance efforts and costs 2. An investment that is reasonable to construct and proves initial and long-term value
		Initial and long-term return on investment	
		System-wide benefits	
		Constructability	
	Natural Environment	Eagle River	1. Protect natural features and river 2. Minimize visual contrast
		Wildlife habitat/movements	
		Water quality	
		Visual context	

Existing Conditions

OPERATIONAL AND SAFETY CONDITIONS

The project team developed a traffic impact study (TIS) in support of this feasibility study. The TIS is attached as **Appendix C** and key information is summarized in this report.

Roadway Network

The existing roadway network in the feasibility study area includes I-70, Highway 6, Cooley Mesa Road, and Valley Road.

- I-70 is the only east-west interstate freeway serving Colorado. In the feasibility study area, it is a 4-lane facility operating at 75 mph with interchanges at Gypsum (Exit 140) and Eagle (Exit 147).
- Highway 6 is an east-west regional arterial that parallels I-70. In the feasibility study area, it is typically a 2-lane facility with turn lanes at key intersections. Some segments have been widened to four lanes to accommodate higher volumes associated with nearby development. Similarly, speed limits vary based on roadway context.
- Cooley Mesa Road is an east-west Town of Gypsum arterial that parallels Highway 6 to the south. It extends from Valley Road east to Highway 6 in the Airport Gateway area. It is typically a 2-lane facility with turn lanes at key intersections. The segment through the Airport Gateway Area has been widened to four lanes. Speed limits vary based on roadway context.
- Valley Road is a north-south 2-lane arterial that runs south from Highway 6 into the Gypsum Creek Valley. It connects Highway 6 to the westerly end of Cooley Mesa Road. Speed limits vary based on roadway context.

Traffic Volumes

Traffic data were collected from various sources including project-specific traffic counts, data from the Town's Master Traffic Study, and publicly available data from CDOT. These volumes were compiled to develop two different base year volume scenarios.

- The Average Season represents typical spring or fall conditions in Gypsum, including work, school, and shopping trips.
- The High Season represents the busiest travel conditions in the study area. It is a composite scenario that is intended to reflect the winter peak at the Eagle County Regional Airport and the summer recreational travel peak along the I-70 corridor.

The development of volumes for these two scenarios is shown in **Appendix C**. The process resulted in daily volumes at locations along I-70, Highway 6, Cooley Mesa Road, and Valley Road. Morning and evening peak hour volumes were also developed at nine intersections across the study area. Heavy vehicle percentages were also obtained.

Safety

The project team also obtained and compiled the most recent five years of available safety data for the study area. The existing safety conditions review found that there are no significant concerns in the study area. Only one fatality was observed in the dataset (located along I-70), and observed crash types were consistent with the roadway networks included in the evaluation. Further details are provided in **Appendix C.**

Environmental Context

During the review and refinement of alternatives, key environmental resources that have the potential to differentiate between them were examined. These resources, which are discussed in **Appendix D**, are: biological resources, cultural resources, Section 4(f)/non-historic resources, and Section 6(f) resources. These resources are sometimes referred to as "red flags" or "fatal flaws" as impacts to them may not be permitted if there is a feasible option to avoid impacting them or impacting them may result in substantially more study and effort to obtain clearance or permits for those impacts.

The resources were evaluated based on readily available data; no field reconnaissance was completed. An initial, high-level qualitative assessment of potential impacts is shown in Table 3; as it has informed the refinement of alternatives and identification of a recommended alternative to progress in the future NEPA study. Additionally, the anticipated next steps for addressing the resources in a future NEPA study and permitting impacts, if applicable, are also included below.

From this initial assessment, potential impacts to these resources are only a differentiator with regard to known historic resources. The at-grade crossing alternative is most likely to have the least potential for an adverse impact under Section 106 of the National Historic Preservation Act and Section 4(f) of the DOT Act. This is because the visual context of Highway 6 and the railroad, which are both officially eligible for listing on the National Register of Historic Places, is already highly diminished.

Table 3 – Environmental Resources

RESOURCE	PRESENT (YES/NO/MAY BE)	DIFFERNCE BY ALIGNMENT	NEXT STEPS
Waters of the US/Wetlands	Yes	Not a differentiator based on level of design completed during this project phase.	Delineation in accordance with U.S. Army Corps of Engineers protocols; impacts assessment with a design goal of limiting impacts below the threshold triggering an Individual Permit (IP); and permitting. Note: Nationwide and IP permits both require formal agency concurrence with regard to cultural resources.
Threatened/Endangered Species	Maybe	Unlikely to be a differentiator as all alignments span the sensitive habitat along the Eagle River.	Habitat surveys; impact assessment with a design goal to avoid adverse effects; and consultation with U.S. Fish and Wildlife Service.
Migratory Birds/Raptors	Yes	Not a differentiator unless an alignment removes tree(s) with a nest in it as the Colorado Parks and Wildlife requires a 0.5 mile buffer for survey and impact assessment. Impacts to trees and shrubs will be determined during final design.	Field surveys for nests and habitat; impact assessment; and documentation for CDOT approval.

RESOURCE	PRESENT (YES/NO/MAY BE)	DIFFERNCE BY ALIGNMENT	NEXT STEPS
Historic Resources	Yes	The at-grade crossing has the lowest risk as it does not introduce new visual elements at the railroad or Highway 6, both of which are officially historic. Potential impacts to the historic ditches would be the same for all alternatives and are anticipated to not be adverse; only the State Historic Preservation Office (SHPO) can make that determination, in coordination with CDOT.	Develop Area of Potential Affects (APE); survey for resources in the APE; draft eligibility/revisitation forms (if needed); draft eligibility and effects letter for SHPO consultation.
Archaeological Resources	Yes	None of the alignments are anticipated to impact known archaeological resources; however, previously unrecorded resources may be identified during the NEPA phase of this project	Resurvey the APE for archaeological resources per state regulations as last survey was 2002; reporting in compliance with state and federal regulations; SHPO consultation; if new resources are identified and adverse impacts to them cannot be avoided. An Individual Section 4(f) of the DOT Act assessment would be required in addition to demonstrated compliance with Section 106 of the National Historic Preservation Act.
Recreational Resources /Section 4(f)/Section 6(f)	No	Not a differentiator due to lack of presence.	Reconfirm and document in NEPA study.

PRELIMINARY PURPOSE AND NEED

The purpose and need for a connection between I-70 and the Eagle County Regional Airport has been evaluated and consistently confirmed for decades. In 1998, FHWA identified the airport as a major intermodal facility and approved a connection to I-70 as part of the National Highway System in support of the economy, defense, and mobility in the area. The Programmatic Environmental Impact Statement for the I-70 Mountain Corridor (2010), and subsequent Record of Decision (2011), identified the need for a new interchange on I-70 for EGE as a part of the No-Action Alternative, signaling that a new interchange would be an independent action, with its own purpose and need regardless of the Recommended Alternative from that study. In 1999, the Eagle County Board of Commissioners signed a resolution that a direct connection between I-70 and EGE was required. In 2003, a Traffic Impact Analysis Update was completed that evaluated interchange and connector road options as well as updating traffic volumes. This study determined the connector road would need to be a four-lane cross section to accommodate the projected traffic volumes for the year 2025. As documented in the EA (2004) and subsequent FONSI signed in 2005, which recommended a new connector road between Highway 6 and I-70 near the airport, "traffic is congested on the primary roadways serving the area…"

As a part of this feasibility study, an updated version of the project's purpose and need was drafted to incorporate changes since its development as part of the EA completed in 2004. The preliminary purpose and need, below, will provide a starting point for the next phase of the project.

Purpose

- Mobility: Address increasing travel demand, reduce out-of-direction travel, and decrease congestion in the towns of Gypsum and Eagle
- Safety: Improve emergency service access and evacuation routes; provide operational flexibility during interstate closures; separate commercial, residential, and guest traffic reducing conflicts
- Operations: extend serviceable life of existing transportation network; provide greater operational flexibility to address frequent closures of I-70

Need

Infrastructure to support:

- Local and regional population and employment growth of 143% between 2000 and 2023 (U.S. Census Bureau, 2025)
- Freight traffic including UPS, FEDEX, Amazon, light industrial businesses, commercial businesses, airport fuel deliveries. These businesses, along with materials suppliers, Tesla vehicle storage, fuel providers, and deliveries to commercial businesses near the airport, generate truck

traffic that has to access the area through one of the towns resulting in heavy freight movement on Highway 6 and local streets.

- Emergency closures of the interstate, caused by crashes or natural disasters, often direct heavy traffic through the nearby towns of Gypsum and Eagle, overloading the local roadway network.
- Wildfires and flooding have become more frequent, and the area to the south of Highway 6 is national forest land with no direct evacuation or emergency access. Highway 6 and the two, widely spaced I-70 interchanges are the only routes for evacuation and emergency service access. During August 2020, multiple incidents, including the Grizzly Creek Fire and highway closures, left I-70 over Vail Pass as the only open route in or out of Eagle County, demonstrating the area's limited and vulnerable access.
- The addition of a new I-70 interchange connecting to Highway 6/Cooley Mesa Road is expected to extend the serviceable life of the existing I-70 interchanges by reducing traffic contributing to deterioration. Traffic is projected to decrease by approximately 20% at the Gypsum Interchange (Exit 140) and approximately 30% at the Eagle Interchange (Exit 147).
- Drivers wanting to access the regional airport and the growing number of commercial businesses around the airport must use Highway 6 as there are no alternate routes. They must use Highway 6 to access I-70 through one of the two interchanges for these towns that are spaced seven miles apart, if their origin and/or destination is outside these towns resulting in out-of-the-direction travel.
- The local and state governments have identified Highway 6 between Gypsum and Eagle as a potential location for a multimodal transit hub to augment transportation options for residents, employees of businesses in the region, and guests. Construction of the transit hub would increase travel demand on Highway 6 and potentially the existing interchanges, depending on the routing of transit vehicles and drivers accessing it.
- Bustang and Outrider Bustang show Eagle as part of the statewide transit network; a direct connection between the study area and I-70 would support these services.
- Direct flights in and out of the regional airport have increased by 38% between 2020 and 2025 and are projected to continue to increase with national expansion including major destinations such as the international airports for Washington, D.C., Dallas/Fort Worth, San Francisco, and other major cities. During the winter tourism season, it is the second busiest airport in the state.

Project Input from the Issue Task Forces (ITFs)

ITFs were convened to address resource-specific considerations within the project area. This group brought together interdisciplinary stakeholders with expertise in wildlife, wetland and water quality, and

historic resources to identify existing conditions, data gaps, and red flags early in the planning process. Their recommendations helped to guide the PLT, TT and project staff throughout feasibility-level analysis.

Because of the overlap of expertise on this project, one ITF was formed for the I-70 Eagle Airport Interchange Feasibility Study which had experts in wildlife, aquatic resources, and historic resources. This group was critical in identifying sensitive environmental features, evaluating potential impacts from different interchange alternatives, and outlining early mitigation or enhancement opportunities. The input received helped to shape alternatives refinement and determine whether any alternatives presented fatal flaws or disproportionate impacts to regulated or sensitive resources.

ALIVE and SWEEP Process for the I-70 Eagle Airport Interchange Feasibility Study

In alignment with the CSS process and associated A Landscape-Level Inventory of Valued Ecosystems (ALIVE) and Stream and Wetland Ecological Enhancement Program (SWEEP) Memoranda of Understanding (MOUs), the ITF was convened to allow for sensitive resources to be considered during the feasibility study. Meeting notes and attendee lists are available in **Appendix A**.

ALIVE and SWEEP Combined Meeting #1: January 2025

The initial meeting introduced the project goals and feasibility study objectives. Participants reviewed available data, prior studies (including the *Eagle County Safe Passages for Wildlife* report), and discussed major resource considerations such as aquatic habitat continuity, riparian corridor health, wildlife movement, and Wildlife Vehicle Collison (WVC) hotspots. Stakeholders provided input on potential impacts from construction, bridge design, and road grading alternatives. Initial discussion on evaluation criteria and mitigation approaches also occurred. Comments from the ITFs included:

- Span bridge alternatives are preferable to fill alternatives from an ecological perspective, minimizing habitat fragmentation and maintaining geomorphic and hydrologic function.
- Effective fencing and fence end treatments are critical to reduce WVCs.
- Opportunities exist to enhance wildlife permeability and aquatic health through thoughtful design and mitigation.
- Impacts on ranching and agricultural operations should be minimized.

Emergency Management

Risk and Resilience

Emergency management and response are among the core technical goals of this feasibility study. To deepen the project team's understanding of the local context, community concerns, and site-specific challenges, focused discussions were held with the TT. Given the critical importance of emergency preparedness in this region, these conversations included a diverse group of stakeholders, including emergency responders, to ensure a multidisciplinary perspective.

Improving resiliency and addressing safety concerns have been identified as the top two goals of the project. These concerns are particularly relevant along mountain corridors, where safety is an ongoing issue due to challenging terrain, a seven-mile gap between interchanges, hazardous roadway conditions, growing congestion, increasing traffic volumes, and a consistently high volume of freight traffic.

Feedback from PLT and TT discussions underscored the urgency of these concerns, highlighting both current and anticipated challenges. A key issue is the potential for emergencies to close I-70, which forces traffic to be rerouted through local communities, creating dangerous overload conditions. Stakeholders also emphasized the need for congestion relief, improved traveler safety, and infrastructure that supports the effective movement of emergency responders, considering that elevated structures can limit access and pose additional safety risks.

Develop, Evaluate, and Refine Options

Following an initial assessment during Level 2 screening, three alternatives—L, F Mod, and K1—were identified for further evaluation based on their ability to meet the criteria outlined in the 2004 Eagle County Airport Interchange and Connector Road Environmental Assessment. Alternative L was selected to move forward into plan development and included in the Final Shelf Plans completed in April 2010. It has since remained a reference point in this evaluation.

During the feasibility study, Alternative L was assessed in three configurations to cross Highway 6 and the UPRR: as an overpass (as presented in the Final Shelf Plans), as an underpass, and as an at-grade option, all of which shared the same horizontal alignment. Additionally, a fourth alternative, L/C Mod, was developed by combining elements of alignment Alternative L and Alternative C Mod from the initial Level 2 screening. The intent of the L/C Mod alignment alternative was to reduce the length of bridge required to span the river. However, this hybrid alternative required right-of-way acquisition and did not meet the necessary feasibility criteria as well as the original alignment and will not be carried forward for further evaluation.

This study evaluated all four alternatives using the CSS criteria established by TT and ITFs. Feedback from these groups led to refinements of the alternatives, which are summarized in Table 4. Based on the results of this evaluation, Alternative — At-Grade was identified as the recommended alternative to proceed with into the NEPA and preliminary design phase.

Table 4 - Alternatives 2004 to 2025

Original Alternatives Naming Convention from EA 2004	Refined Alternatives Naming Convention Feasibility Study 2025	Description of Options	Evaluated in this Study 2025
Alternative L	Alternative – Overpass	45 MPH - Connector Road with 2,000 feet of bridge	Yes
Alternative L	Alternative – Underpass	45 MPH - Connector Road with 1,200 feet of bridge. Additional Railroad bridge for UPRR and roadway bridge for Highway 6.	Yes
Alternative L	Alternative – At-Grade	45 MPH - Connector Road with 800 feet of bridge. Signalized intersection at Highway 6.	Yes
Alternative L and Alternative C Mod	Alternative – L/C Mod Variation	45 MPH - Connector Road with 700 feet of bridge. Requires additional right-of-way purchase for the project.	Yes

Part of evaluating the alternatives in this feasibility study included Cooley Mesa Road, I-70, and Highway 6. Once again, the 2010 previous plans were used as a reference in the evaluation. Cooley Mesa Road alignments from the 2010 plans were verified and kept consistent. I-70 alignments were evaluated and improved with curve correction and smaller footprints. Highway 6 and UPRR impacts were evaluated at a conceptual level for the underpass and at-grade alternatives.

Additionally, four interchange design concepts were reviewed in accordance with CSS principles. These include a signalized diamond interchange, a roundabout diamond, a partial diverging diamond interchange (half DDI), and a signalized single-point urban interchange (SPUI). These concepts will undergo further analysis during the upcoming design phase of the project.

The full width typical sections for Connector Road, from the 2010 plans, were verified and carried forward in the evaluation of all the alternatives in this study. Connector Road and Connector Road Bridge details and typical sections are provided in Figure 5 and Figure 6. Future modifications and improvements will be evaluated during the project's environmental and design process.

Figure 5 - Connector Road

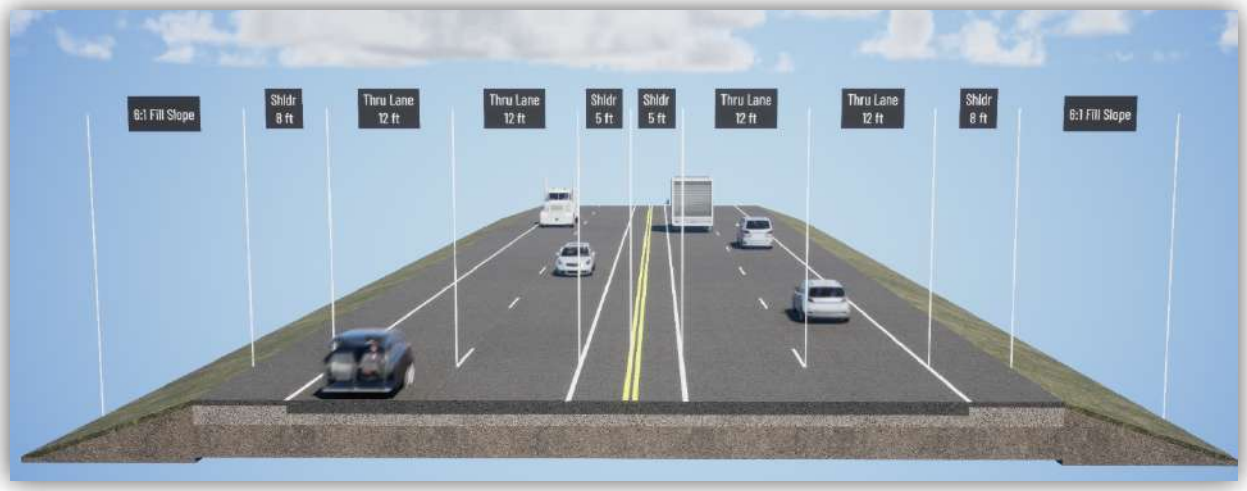
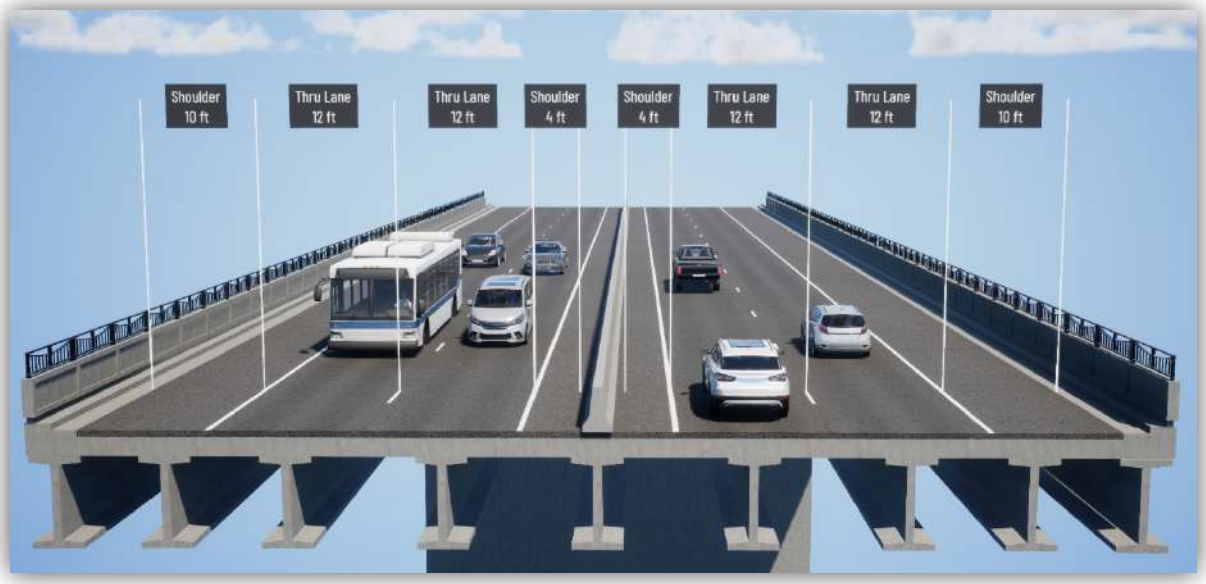


Figure 6 - Connector Road Bridge

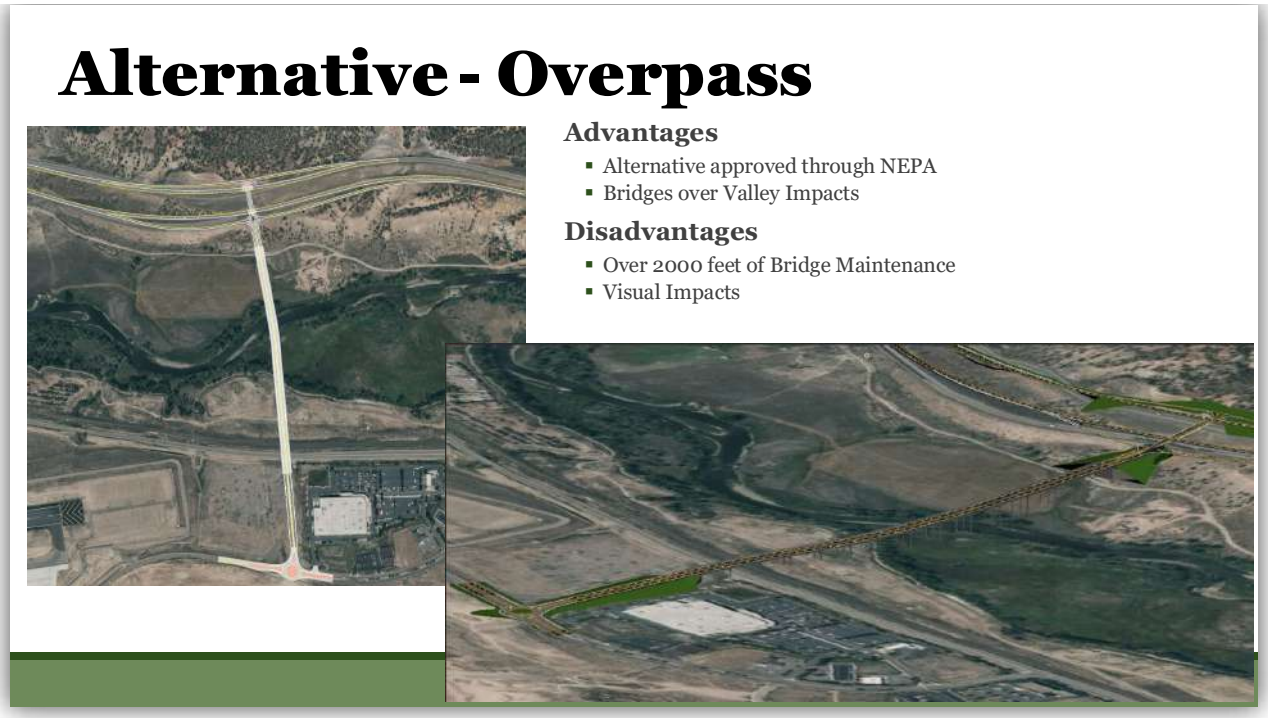


Refined Alignment Concepts

ALTERNATIVE – OVERPASS

Derived from the 2004 Environmental Assessment and integrated into the 2010 Final Shelf plans, this option sought to improve I-70's connectivity between Gypsum and Eagle. This study's evaluation focused on the alignment of the Connector Road, which features a bridge structure over Highway 6 and the UPRR, connecting to I-70. This design incorporates new I-70 bridges as part of an underpass interchange. Figure 7 illustrates the project's advantages and disadvantages.

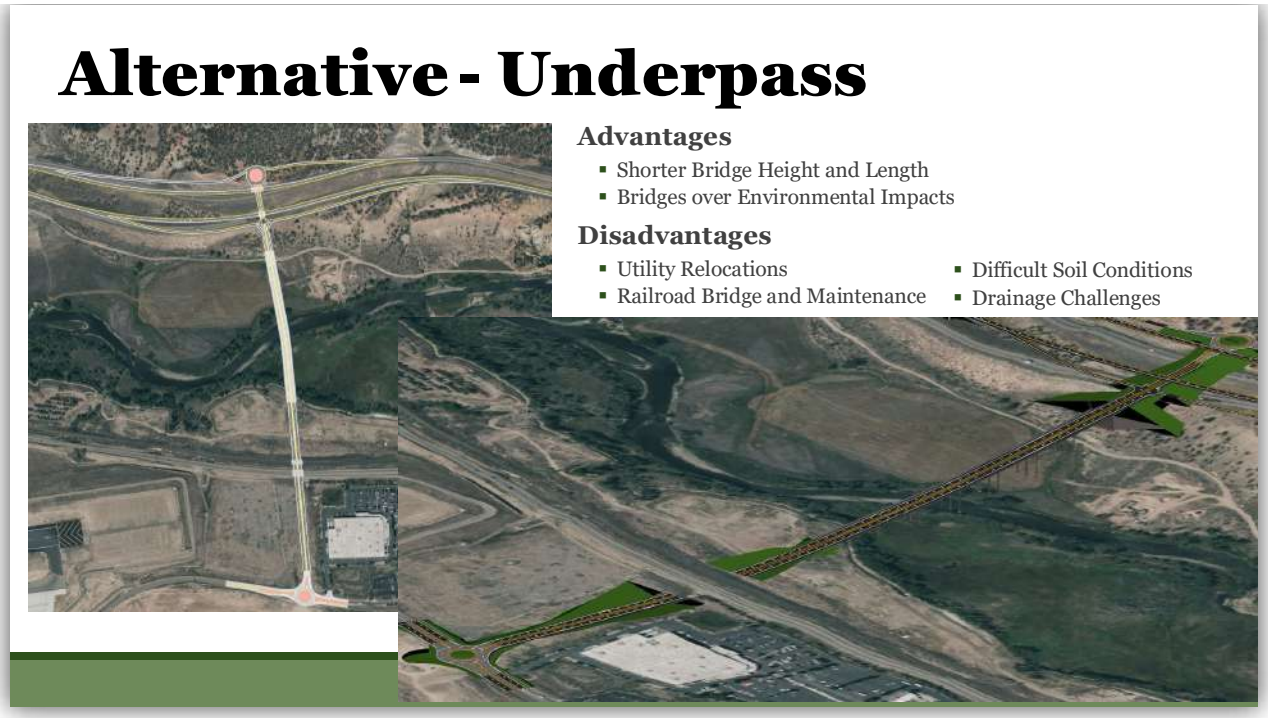
Figure 7 - Alternative — Overpass



ALTERNATIVE – UNDERPASS

This alternative has an identical horizontal alignment to Alternative – Overpass. Building on the foundation of the 2004 Environmental Assessment alignment, this option also aimed to optimize I-70 connectivity between Gypsum and Eagle. This study's assessment focused on the Connector Road's vertical alignment, which features an underpass beneath Highway 6 and the UPRR. This alternative includes individual dedicated bridge structures to carry Highway 6 and the UPRR overhead. The design also includes a bridge traversing the wetlands and Eagle River north of the UPRR, providing a connection to I-70, along with new I-70 bridges to facilitate an underpass interchange. Figure 8 details the associated benefits and drawbacks.

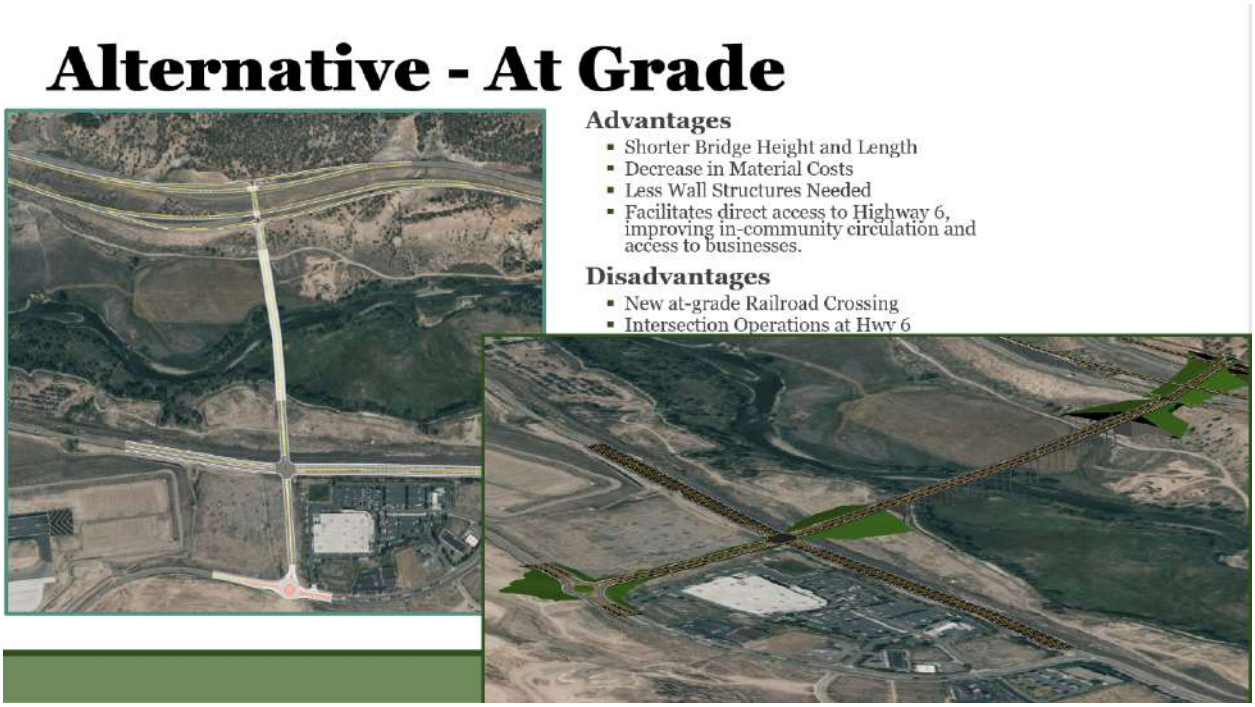
Figure 8 – Alternative – Underpass



ALTERNATIVE – AT-GRADE

This alternative also has an identical horizontal alignment to Alternative – Overpass. Based on the 2004 Environmental Assessment alignment, this option will also strengthen the I-70 connectivity between Gypsum and Eagle. This study's evaluation focused on the Connector Road's vertical alignment, which incorporates an at-grade, signalized intersection with Highway 6 and the UPRR. The design includes a bridge spanning the wetlands and Eagle River, located north of the UPRR, connecting to I-70, and new I-70 bridges to facilitate an underpass interchange. Figure 9 details the associated advantages and disadvantages.

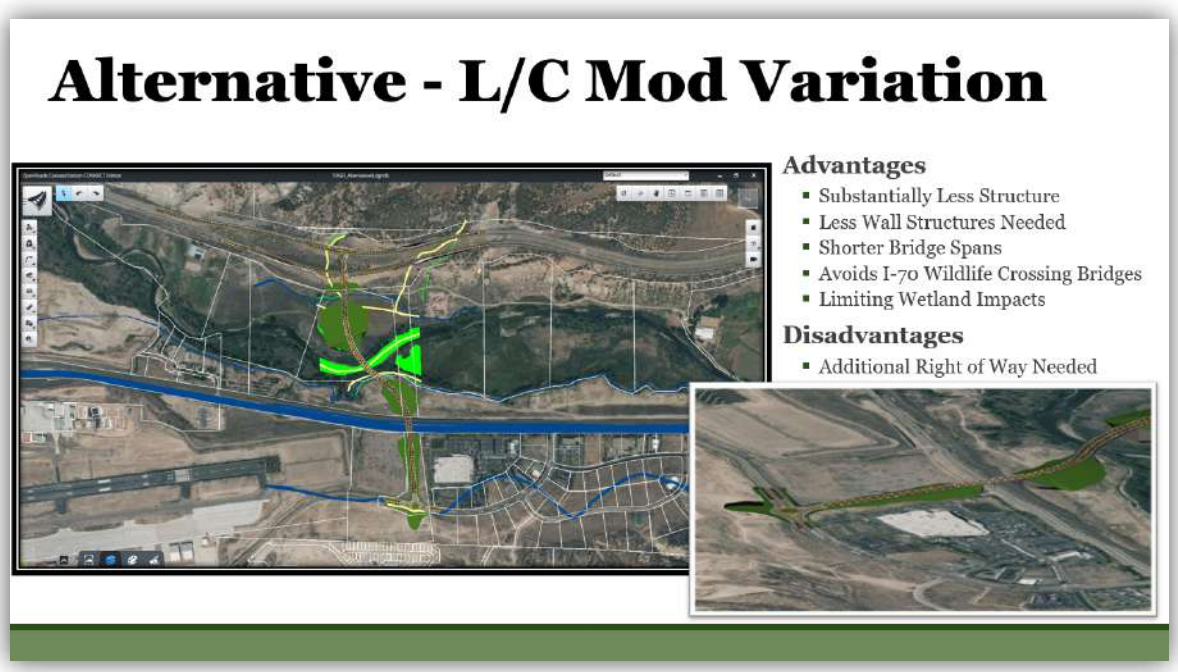
Figure 9 – Alternative – At-Grade



ALTERNATIVE – L/C MOD VARIATION

This alignment alternative integrates components from Alternatives L and C Mod from the 2004 Environmental Assessment and aims to optimize I-70 connectivity between Gypsum and Eagle. This alternative does not have the same horizontal alignment as the previous alternatives. It differs both horizontally and vertically. The assessment of this alternative focused on alignment of the Connector Road and the ability to incorporate a reduced total length of bridge. This revised design features a shorter bridge crossing the wetlands and Eagle River, establishing a connection to I-70 alongside new I-70 bridges that facilitate an underpass interchange. This alternative was eventually eliminated due to the need to acquire private right-of-way. Figure 10 provides a detailed overview of the associated advantages and disadvantages.

Figure 10 - Alternative – L/C Mod Variation



The evaluation of the refined alternatives included an assessment of the concept-level probable costs for the Overpass, Underpass, and At-Grade alternatives. Concept-level costs were also developed for the interchange with the roundabout/signal and half DDI options. The high-level costs were developed by estimating quantities for major items and percentages for other items. Additionally, estimates were developed using 2025 current dollar values and do not have an escalation or construction cost value for future construction. Details of the Opinion of Probable Costs can be found in **Appendix B**. Key factors considered in the analysis include:

Alternative – Overpass

1. Cooley Mesa Road widening to a 4-lane section with a roundabout intersection
2. Connector Road from Cooley Mesa Road with a bridge over Highway 6, UPRR, wetland/riparian habitat, and the Eagle River
3. Quantities included in costs end at the south end of the proposed interchange at I-70

Alternative – Underpass

1. Cooley Mesa Road widening to a 4-lane section with a roundabout intersection
2. Connector Road from Cooley Mesa Road to north of UPRR runs under Highway 6 and UPRR; Highway 6 and UPRR new bridges; Connector Road bridge over wetland/riparian habitat and the Eagle River
3. Quantities included in costs end at the south end of the proposed interchange at I-70

Alternative – At-Grade

1. Cooley Mesa Road widening to a 4-lane section with a roundabout intersection
2. Connector Road from Cooley Mesa Road to a signalized intersection at Highway 6 and UPRR; bridge over wetland/riparian habitat and the Eagle River.
3. Quantities included in costs end at the south end of the proposed interchange at I-70

Interchange Alternative – Half DDI

1. I-70 realignment with curve correction
2. Westbound off and on-ramps running into the DDI eastbound off and on-ramps connecting to a signalized intersection
3. I-70 westbound and eastbound bridges of roadway connection between the proposed ramp termini

Interchange Alternative – Roundabout/Signal

1. I-70 realignment with curve correction
2. Westbound off and on-ramps connecting to a roundabout intersection
3. Eastbound off and on-ramps connecting to a signalized intersection
4. I-70 westbound and eastbound bridges of roadway connection between the proposed ramp termini

Evaluation of Concepts

FUTURE CONDITIONS

Operational and Safety Conditions

The traffic impact study prepared in support of this Feasibility Study also evaluated future traffic conditions in the study area. Refer to **Appendix C**. Key future operational and safety outcomes from the TIS are described below.

Future Year Forecasts

Future year forecasts for year 2045 were developed based on data from the following sources:

- The CDOT StateFocus Travel Model
- Aggregated trip data from Replica, including anonymized cell phone and connected vehicle data
- Updated development data provided by the Town of Gypsum based on information initially included in the Town's Master Traffic Study
- Enplanement data from the Eagle County Regional Airport

These data were compiled across the study area using 23 traffic analysis zones consistent with CDOT's StateFocus Travel Model. Background and development-specific growth (including the airport) were added to each zone. Resulting trips were then assigned to the roadway network using origin-destination patterns from Replica and the StateFocus model.

Roadway Network

Two future roadway network scenarios were evaluated. The Base scenario assumed the existing roadway network, while the future Build scenario assumed the addition of the proposed Eagle Airport interchange and the Connector Road between the interchange and Cooley Mesa Road. The following assumptions were made for the Build scenario:

- The I-70 interchange would provide all four movements (to and from I-70 eastbound and to and from I-70 westbound), per FHWA guidance. The interchange type was not defined during the forecasting process.
- The Connector Road would be four lanes (two per direction), per the 2004 Eagle County Airport Interchange and Connector Road Environmental Assessment.

- The Connector Road would tie into Cooley Mesa Road just west of the existing Costco shopping center, using the right-of-way acquired based on the 2004 Eagle County Airport Interchange and Connector Road Environmental Assessment.
- Design evaluations completed for this Feasibility Study indicate that a Connector Road option with a connection to Highway 6 may be feasible. If this option is pursued, the Build scenario forecasts will have to be updated to reflect this new access point.

Traffic Volumes

The year 2045 forecasts were combined with the Base and Build roadway networks to develop forecasts for both options under both the Average Season and the High Season. These volumes are shown in **Appendix C**. The process resulted in daily volumes at locations along I-70, Highway 6, Cooley Mesa Road, and Valley Road. Morning and evening peak hour volumes were also developed at nine intersections (twelve intersections in the Build scenario) across the study area.

FUTURE CONDITIONS OPERATIONAL EVALUATIONS

Two future year operational evaluations were performed for the average season and high season scenarios, both for the year 2045.

Connector Roadway Cross Section

As noted above, the four-lane Connector Road cross section was assumed based on analyses completed for the 2004 Eagle County Airport Interchange and Connector Road Environmental Assessment. The updated forecasts were used to re-evaluate the Connector Road cross section and validate the 2004 results. Based on this process (shown in **Appendix C**), a four-lane cross section will provide reasonable operations (Level of Service (LOS) C or better). The forecasted volumes would not operate acceptably on a two-lane facility. This confirms that a four-lane connector is appropriate based on the year 2045 forecasts.

Interchange Type Assessment

The diamond interchange form was also assumed based on analyses completed for the 2004 Eagle County Airport Interchange and Connector Road Environmental Assessment. The updated forecasts were input into CAP-X to evaluate potential interchange types given changes in future volumes when compared to past efforts.

CAP-X is a recognized first step in an overall intersection control evaluation process. It uses a spreadsheet originally developed by FHWA to calculate volume to capacity ratios and rank options based on those values. Subsequent analyses will use more detailed analysis tools as the planned interchange and Connector Road move into more detailed evaluations. The tool provides options for both at-grade

intersections and freeway interchanges. The interchange portion of the tool was applied in the TIS and is described in detail in **Appendix C**. The following interchange types were evaluated:

- Diamond: Freeway ramps terminate in two intersections on the arterial. The ramp terminals may be controlled by a stop sign, yield sign, traffic signal, or roundabout.
- Partial Cloverleaf A and Partial Cloverleaf B: Left-turn movements between the arterial and the freeway are served with loop ramps. Eliminated due to topographic concerns.
- Displaced Left Turn (also known as a continuous flow intersection or CFI): Left-turning traffic is crossed over the opposing through lanes in advance of the ramp terminal.
- Contraflow Left: Left-turn movements on the cross street cross the median and opposing left-turn traffic via channelized lanes.
- Diverging Diamond: Traffic crosses over to the left side of the road at the first ramp terminal intersection before crossing back over at second ramp terminal.
- Single Point Interchange (signalized): Freeway ramps begin or end at a single signalized intersection on the arterial.
- Single Point Interchange (roundabout): Freeway ramps begin or end at a single roundabout intersection on the arterial.

The following interchange forms were ranked the best by the CAP-X tool:

- Diamond Interchange: A diamond interchange is a common and relatively compact design, and they are frequent along the I-70 corridor. Since a roadway connection north of the planned interchange is not expected, the westbound ramp terminal intersection would likely have a simplified configuration. It can be built with stop-control, roundabout control, or traffic signal control at the ramp terminals. Further traffic analysis would be needed to determine the ramp terminal intersection control type.
- Diverging Diamond Interchange (DDI): A diverging diamond is a relatively recent interchange design that shifts traffic to the left side of the roadway through a series of signalized crossover intersections at the ramp terminals. This configuration allows free-flow left turns to and from the ramps without separate left-turn phases. Another benefit of the diverging diamond form is that it reduces the potential for wrong-way ramp movements. Since there is no roadway to the north of the planned interchange, a modified or partial diverging diamond configuration could be considered.
- Signalized Single Point Interchange (SPI): A SPI focuses the left turn movements from the ramp terminals into a single signalized intersection, typically located above or below the freeway. Right

turn movements are channelized and separated from the main intersection. Because left-turn movements must curve through the center intersection, the bridge structure is typically larger than those required for other interchange types. The separated right-turn lanes can further increase the overall intersection footprint. Since the eastbound and westbound I-70 lanes at the potential interchange location are separated by 100 feet or more, this interchange type would require a larger interchange footprint and incur additional costs for longer structures. Hence, this option is not considered feasible when factoring in other metrics.

Based on the CAP-X results, the diamond interchange type has the potential to provide the best operations in the future year, with the diverging diamond also scoring well. Interchange alternatives should be evaluated further in subsequent project stages.

Future Conditions Safety Evaluation

The project team evaluated future safety conditions using the predictive methods outlined in FHWA's Highway Safety Manual and implemented in Highway Safety Software (HSS). The predictive safety analysis provides a comparison of expected crash frequencies under the future Base scenario and the future Build scenario within the study area. This process is outlined in **Appendix C**. The following conclusions were reached:

- The implementation of the Build scenario is projected to result in an increase in crash frequency of approximately 6% in the average season and 9% in the high season when compared to the Base scenario. This increase is anticipated as the interchange will add new ramps along I-70 and the Connector Road adds approximately one half mile of new roadway to the arterial network.
- The HSS software tool is limited to straightforward geometric conditions. The planned three-leg interchange is not well represented within the HSS model, and a more detailed analysis approach may be appropriate in the next project phase.
- The Town is currently developing a Safety Action Plan that aims to reduce serious injury and fatal crashes on Gypsum roads. Similarly, CDOT and FHWA guidance require that the safety impacts of proposed projects be addressed. Hence, it is expected that safety mitigation will be required as part of the planned interchange and connector roadway.

Operational and Safety Conclusions

The study team evaluated traffic conditions in the study area and reached the following conclusions:

- The new interchange redistributes traffic across the study area.
    - Traffic decreases by approximately 20% in the Gypsum interchange (Exit 140).
    - Traffic decreases by approximately 30% in the Eagle interchange (Exit 147).

    - The new interchange could extend the operational life of the existing interchanges by up to 15 years.

- The CAP-X analysis shows a diamond interchange form provides the lowest v/c ratio and that a diverging diamond interchange form also provides a low v/c ratio when compared to other options.
- No significant safety concerns were identified in the existing conditions safety evaluation.
- The predictive safety evaluation identified an increase in crashes associated with the construction of the new interchange and Connector Road. This is expected, as the interchange will add conflict points on I-70, and the Connector Road is a new arterial facility that will experience crashes.

It should be noted that the new I-70 Eagle Airport Interchange was identified as a need to maintain a LOS C along Eby Creek Road by the I-70 Eagle Interchange (Exit 147) Upgrade Feasibility Study dated February 18, 2009. Without this new I-70 Eagle Airport Interchange, a LOS F is projected at the existing I-70 Eagle Interchange location by 2035

Future analysis needs are identified in **Appendix C.**

Evaluation Matrix

Figure 11 - EA Alignment Compared to the LC Mod

ID	Criteria	Options Ranking (Fair / Better / Best)	
		Preferred Alterntive (2005) Alignment	L/C Mod Variation
Evaluation Criteria			
1	Accomodates safety of local/ industry/ tourist traffic	Not a differentiator	
2	Improves access during emergency events	Not a differentiator	
3	Meets design standards	Not a differentiator	
4	Improves mobility and reliability for both local and regional traffic	Not a differentiator	
5	Extends operational design life of the adjacent interchanges	Not a differentiator	
6	Does not preclude opportunities for future transportation enhancements	Not a differentiator	
7	Opportunity for community awareness and engagement	Not a differentiator	
8	Improved access for visitors and guests, community, and industry	Not a differentiator	
9	Supports planned growth	Not a differentiator	
10	Minimizes long-term O&M efforts and costs		Less bridge to maintain
11	An investment that is reasonable to construct and provides initial and long-term value		Landowner for needed ROW is opposed to project. ROW acquistion required for this option introduces high cost and risk to the project.
12	Protect natural features and river	Provides for a longer/wider opening over the river and riparian habitat and better for wildlife movements	Greater impact to eagle's nest
13	Minimize visual constrast	Not a differentiator	

Figure 12 - Overpass, Underpass, At-Grade

ID	Criteria	Options Ranking (Fair / Better / Best)		
		Overpass	Underpass	At Grade (assumes inactive rail line)
Evaluation Criteria				
1	Accommodates safety of local/ industry/ tourist traffic	Long bridges ice and restrict emergency access		At-grade with UPRR & signal is a conflict point (signal would be timed to prevent vehicles standing on tracks)
2	Improves access during emergency events	Not a differentiator		
3	Meets design standards	Not a differentiator		
4	Improves mobility and reliability for both local and regional traffic	free movement at RR and Hwy 6	free movement at RR and Hwy 6	movement from Hwy 6 to I-70 better
5	Extends operational design life of the adjacent interchanges	Not a differentiator		
6	Does not preclude opportunities for future transportation enhancements	Not a differentiator		
7	Opportunity for community awareness and engagement	Not a differentiator		
8	Improved access for visitors and guests, community, and industry	Not a differentiator		
9	Supports planned growth	Not a differentiator		
10	Minimizes long-term O&M efforts and costs	Bridge maintenance	Bridge and drainage maintenance	Maintainance of crossing at RR & traffic signal
11	An investment that is reasonable to construct and provides initial and long-term value			Lowest cost
12	Protect natural features and river	Not a differentiator		
13	Minimize visual constrast			

Figure 13 - Interchange Options

ID	Criteria	Options Ranking (Fair / Better / Best)			
		Signalized Diamond	Roundabout Diamond	Half DDI	Signalized SPUI
Evaluation Criteria					
1	Accomodates safety of local/ industry/ tourist traffic				
2	Improves access during emergency events				
3	Meets design standards	Not a differentiator			
4	Improves mobility and reliability for both local and regional traffic				no ramp through movement
5	Extends operational design life of the adjacent interchanges				
6	Does not preclude opportunities for future transportation enhancements				
7	Opportunity for community awareness and engagement	Not a differentiator			
8	Improved access for visitors and guests, community, and industry	Not a differentiator			
9	Supports planned growth	Not a differentiator			
10	Minimizes long-term O&M efforts and costs				
11	An investment that is reasonable to construct and provides initial and long-term value				
12	Protect natural features and river	Not a differentiator			
13	Minimize visual constrast	Not a differentiator			

Recommendations

The process of selecting and recommending an alternative for advancement is multifaceted, involving a thorough analysis of various critical elements. This document outlines many of these factors, including previous studies and paramount concerns such as safety and the integration of stakeholder feedback through the CSS framework. Financial viability, specific site characteristics, and adherence to the established project purpose and need are also integral to the decision-making process. **Ultimately, based on the findings derived from these factors, the recommendations put forth in this study advocate for advancing this new interchange using the Alternative – At-Grade option along an alignment within the CDOT right-of-way**. This recommendation is coupled with the identification of several feasible interchange alternatives, which were initially evaluated and are summarized in the dedicated traffic options section of this study and will be progressed further during the upcoming environmental phase of the project.

Critical elements identified to be carried forward into the NEPA and preliminary engineering phase are listed below:

- Progress discussions and submittals with the UPRR, including cost and safety risk mitigation measures, to verify acceptance of an at-grade crossing.
- Confer with CDOT and FHWA to agree on an approach for the 1601 and Interchange Access Justification Report (IAJR) processes.
- Identify criteria that may deviate from FHWA, CDOT, and/or Town design criteria that may change the project's direction.

Finalize Documentation and Evaluate Process

What Went Well

The CSS framework, including the Context Statement, Core Values, Technical Team Goals, and the 6-Step Process, was well-integrated into all aspects of the feasibility study.
Key strengths included:

- Early and consistent use of the identified Technical Goals to guide alternative development and evaluation.
- Strong coordination with resource agencies and stakeholders through Technical Team and the ALIVE and SWEEP ITFs.

- A shared understanding of the project's setting, constraints, and opportunities helped maintain focus and alignment throughout the process.
- Effective use of existing data and prior planning efforts (e.g., Eagle County Safe Passages Plan) to inform impact analysis.
- The feasibility study was completed on schedule, with clear documentation and effective stakeholder engagement.

Areas of Improvement

As the project moves through phases of development, there will be a need to have additional stakeholder involvement in the process, that could include the following:

- Greater participation from the tourism industry, including ski resorts, outdoor recreation businesses, and hospitality stakeholders.
- Input from agricultural and ranching interests may be added to stakeholders.
- Public engagement will be critical in NEPA to address concerns about environmental impacts, mitigation strategies, and community values.
- Moving forward, additional outreach and engagement strategies will be implemented to ensure the public and key user groups are well represented during formal environmental review and design phases.

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Appendix A – CSS Background Materials

Six-Step Decision-Making Process

Overview of I-70 Mountain Corridor Context Sensitive Solutions Process

CSS is a collaborative effort to bring stakeholder values to the table and incorporate feedback into the project development process. The Federal Highway Administration (FHWA) defines CSS as follows:

> *The CSS process is a collaborative, interdisciplinary, holistic approach to the development of transportation projects. It is both process and product. It involves all stakeholders, including community members, elected officials, interest groups, and affected local, state, and federal agencies. It puts project needs and both agency and community values on a level playing field and considers all trade-offs in decision making.*
>
> *The CSS process differs from traditional planning and design processes because it considers goals that extend beyond the transportation-specific problem. Goals related to community, livability, and sustainability are included, and stakeholders affected have greater engagement and participation. This results in greater consensus and a streamlined project delivery.*

The I-70 Collaborative Effort is a product of the I-70 Programmatic Environmental Impact Statement (PEIS),which is a type of Environmental Impact Statement (EIS) that evaluates the potential environmental effects of a broad federal action, and the CSS process is identified from the Record of Decision (ROD). The ROD dictates that all decisions on the I-70 Mountain Corridor, from E-470 to Glenwood Springs will use the 6-Step Process, will have a PLT, and the CSS Guidance will be used.

CSS principles dictate that:

- Involve all stakeholders, affected parties and disciplines throughout the process;
- Make decisions in a clear and transparent process;
- Look for better solutions through creativity (best practices);
- Respect the context—people, place, users;
- Build support to complete projects.

Figure 14 shows the I-70 Mountain Corridor life cycle phases. These include I-70 Mountain Corridor planning, project development, project design, project construction, and I-70 operations, maintenance, and monitoring. Feedback is incorporated between each life cycle phase. This Study is currently between phases 1 and 2, the planning phase and the Project Development phase.

Figure 14 - I-70 Mountain Corridor life cycle phases

CSS also follows the 6-Step Decision Making Process, shown in Figure 15.

1. Step 1, defining desired outcomes, consists of establishing the Context Statement, Core Values, and Critical Success Factors (evaluation criteria)
2. Step 2, endorsing the process, involved the PLT providing feedback and endorsing the Context Statement, Core Values, and Critical Success Factors.
3. Step 3, establishing criteria, occurred in a series of meetings to identify performance measures and Technical Goals. These were developed and endorsed by the PLT and TT.
4. In Step 4, developing options, the project team revisited the alignments first developed in previous studies. Refinements to these existing options and development of new options were vetted by the TT.
5. During Step 5, the four options carried forward were evaluated by using the performance measures that had been developed in Step 3. The matrices documenting this evaluation were discussed with the TT, PLT, Stream and Wetland Ecological Enhancement Program (SWEEP) and A Landscape Level Inventory of Valued Ecosystem Components (ALIVE) ITFs, described below, and refined as needed. These are included in Chapter 6 of this document. All evaluation matrices were finalized, and a recommendation was developed by the PLT.
6. During Step 6, final documentation was produced documenting each of the previous steps, including final recommendations for this study. The final recommendations were presented to the Project Leadership Team and the PLT was asked to evaluate the overall CSS process. The PLT was asked if the desired outcomes and actions were accomplished with stakeholders and if the study was completed according to schedule. There was agreement that these objectives had been met.

   The team also asked what could be improved upon for the next lifecycle. The PLT suggested broader community input and greater representation moving forward from the tourism industry, like the ski industry and outdoor recreation.

Figure 15 - 6-Step Decision-Making Process

Endorsement of Process

Step 2 requires "Endorsement of the Process" which includes confirmation of participants, roles, and responsibilities for each team. The process is endorsed by discussing, possibly modifying, and then finalizing with all teams the process for making decisions, the desired outcomes and actions to be taken.

Meeting minutes were developed for all meetings and distributed to the appropriate teams for review prior to the next meeting. At the next meeting the minutes were approved by the respective team which is then noted in each follow-up meeting minutes. These meeting minutes indicated PLT/TT endorsement of the process to be used for application of the Context Statement, Desired Outcomes and Core Values. After approval, this information was used to develop evaluation criteria.

Project Teams

I-70 Mountain CSS is built on a commitment to collaborative decision making. The key principles of collaborative decision making are Principle-based, Outcome-driven and multidisciplinary. Towards that end, there are several teams that will engage in the decision making, but who have different, yet sometimes overlapping roles and responsibilities. For this study, these teams included Project staff, the Project Leadership Team, a Technical Team, and Issue Task Forces with subject matter expertise. This structure supports a more robust definition of the issues and desired outcomes and leads to recommendations with broad support by the stakeholders.

Project Leadership Team

The PLT is a collaborative stakeholder team that leads the project and ensures that decision making is consistent with the CSS 6-Step Process.

The PLT is the leader of the project and included representatives from Town of Gypsum, Eagle County, EGE, CDOT, Core Transit, FHWA, Vail Valley Partnership, Colorado Motor Carrier Association, and East West.

FHWA, CDOT, Eagle County, Town of Vail, Town of Minturn, United States Forest Service (USFS), I-70 Coalition, and corridor leaders. Project staff has worked with CDOT to determine the composition of the PLT. Community leaders were identified with consideration given to local municipalities directly adjacent to the project.

Technical Team

TT is a multidisciplinary team that includes experts in all the Core Values. The Project Team worked with the PLT to identify and confirm participants for the TT. TT responsibilities included assuring that local context is defined and integrated into the project, supporting, and providing insight with respect to community and agency issues and regulations, assistance with developing, evaluating, selecting, and refining alternatives and options and coordinating and communicating with respective agencies.

Issue Task Forces

ITFs were convened to address site specific considerations and singular issues. These groups will include multidisciplinary stakeholders to work through issues and make recommendations for the PLT, TT, or Project staff.

Several ITFs will be convened to include teams of multidisciplinary stakeholders and experts in the Core Values surrounding SWEEP, and ALIVE.

SWEEP

Stream and Wetland Ecological Enhancement Program (SWEEP). The SWEEP program focuses on efforts to integrate water resource needs (such as water quality, fisheries, wetlands, and riparian areas) with design elements for construction activities and long-term maintenance and operations of the transportation system. The working group developed a Memorandum of Understanding (MOU) among the lead agencies and the United States Fish and Wildlife Service (USFWS), USFS, United States Bureau of Land Management (BLM), Colorado Division of Wildlife, Clear Creek County, Clear Creek Watershed Foundation, Upper Clear Creek Watershed Association, Eagle River Watershed Council, and Colorado Trout Unlimited. The MOU establishes the management framework to assure protection of water resources throughout the life cycle of projects in the I-70 Mountain Corridor.

ALIVE

A Landscape Level Inventory of Valued Ecosystem Components Committee (ALIVE). Wildlife is a critical component of a healthy environment. This group consists of wildlife professionals from federal and state agencies who identified wildlife habitat of high ecological integrity, wildlife habitat linkages, and barriers to wildlife crossings along the Corridor. They developed a landscape-based ecosystem approach for consideration of wildlife needs and conservation measures and identified measures to improve existing aquatic and terrestrial ecosystem connectivity across the I-70 Mountain Corridor between Denver and Glenwood Springs. In April 2008, CDOT, FHWA, USFWS, the United States Department of Agriculture Forest Service, BLM, and Colorado Department of Natural Resources Division of Wildlife signed a Memorandum of Understanding documenting their commitment to identify mitigation and conservation measures during future Tier 2 processes to increase the permeability of the I-70 Mountain Corridor to terrestrial and aquatic species.

I-70 PEIS and Memorandums of Understanding (MOUs)

Although the proposed interchange was a part of the No-Action Alternative in the I-70 PEIS ROD, the Town and stakeholders have been using, and plan to continue to follow, the CSS process and commitments during the future NEPA study.

Memorandums of Understanding

ALIVE MOU

The purpose of the ALIVE MOU, signed April 11, 2008, is to increase the permeability of the I-70 Mountain Corridor for wildlife and streamline interagency coordination. The intent is to improve wildlife passage and decrease wildlife-vehicle collisions in identified Linkage Interference Zones (LIZs). Additionally, the ALIVE MOU ensures agencies' cooperation in early and full implementation of corrective actions to solve permeability problems in identified LIZs.

SWEEP MOU

The SWEEP MOU drafted in 2008 and signed in 2011. Signatories included CDOT, USFS, UFWS, and others. The purpose of the MOU is to assist with compliance with federal, state, and local laws, streamline interagency coordination, when possible, enhance aquatic resource conditions, and improve wetland and stream conditions. The MOU's intent was to establish a framework for cooperation to develop mitigations, identify avoidance and minimization measures, identify people and data sources, identify issues, address cumulative impacts, prioritize aquatic resources, maintain collaboration, and more.

Chartering Agreement and Signatures

Feasibility Study for I-70 Eagle Airport Interchange (Study)

PROJECT LEADERSHIP TEAM CHARTERING AGREEMENT

Purpose

The purpose of the Project Leadership Team (PLT) is to lead, facilitate, and manage the completion of the Study.

Established Vision and Goals for the Study

Context Statement

The Eagle River Valley (Valley) is an important economic center for the region. For decades, the Valley has been a cornerstone to the vitality of the intermountain region, balancing rural life, tourism, and commerce. However, due to significant population and commercial growth, the current roadway infrastructure no longer meets the needs of local residents, families, commuters, freight traffic, transit users, and visitors. Emergency closures of the interstate, caused by crashes or natural disasters, often direct heavy traffic through nearby towns, overloading the local roadway network. Increasing traffic, especially on Highway 6, must enter the interstate through just two interchanges spaced 7 miles apart. This limitation raises major concerns about emergency access and evacuation.

The proposed I-70 Eagle Airport Interchange Project aims to fix these issues by improving access to the interstate between Eagle and Gypsum, Colorado, including the airport and High-Altitude Army National Guard Aviation Training Site. The new interchange would better serve the region's growing population and business needs while respecting the area's unique environment.

Adding this interchange would also improve the resiliency of the interstate system, allowing direct travel for commercial, residential, and tourist traffic while facilitating better transit access. It would reduce unnecessary trips through local towns, making travel safer and more reliable. Additionally, reducing traffic demands on nearby interchanges would add value to the regional transportation network by extending the lifespan of existing infrastructure and potentially lowering future costs, such as those needed on the adjacent interchanges and other local roads to meet growing community needs.

This project tackles significant problems such as traffic congestion, safety risks, and system resiliency by providing alternative routes during natural and human disruptions. Beyond immediate transportation benefits, the interchange will release suppressed regional economic growth, enhance multimodal

connectivity, and improve the quality of life for residents, workers, and visitors. By reducing congestion on Highway 6 and enhancing overall connectivity, the project will allow tourists, recreational enthusiasts, and local workers to travel more safely and efficiently, supporting the region's vital tourism industry.

Core Values

- Safety
  - Safety of traveling public
  - Freight Movement
  - Emergency response and evacuation
- System Reliability/ Connectivity
  - Mobility
  - Operations
  - Benefits a Regional Network
  - Multimodal
  - Resilience
- Local and Regional Community
  - Growth
  - Sense of place
  - Economic vitality
  - Community development
- Value and Implementability
  - Maintainability
  - Initial and Long-term Return On Investment
  - System-wide benefits
  - Constructability
- Natural Environment
  - Eagle River
  - Wildlife habitat/movements
  - Water quality

Membership and Attendance

The PLT is the leader of the Study and includes the Town of Gypsum, Federal Highway Administration (FHWA), Colorado Department of Transportation (CDOT), and corridor leaders. The following entities will have representation on the PLT:

First Name	Last Name	Organization	Title
Matt	Figgs	Town of Gypsum	mattf@townofgypsum.com
Jacob	Rivera	Town of Gypsum	jacob@townofgypsum.com
Jim	Hancock	Town of Gypsum	jim@townofgypsum.com
Jeremy	Rietmann	Town of Gypsum	jeremy@townofgypsum.com
Jeff	Shroll	Eagle County	jeff.shroll@eaglecounty.us
David	Reid	Eagle County Regional Airport (EGE)	david.reid@eaglecounty.us

Pete	Lombardi	CDOT	peter.lombardi@state.co.us
Dave	Cesark	CDOT	david.cesark@state.co.us
Tanya	Allen	Core Transit	tanya.allen@coretransit.org
Marisa	Sato	Town of Gypsum	sato.marisa@gmail.com
Tracy	Sakaguchi	Colorado Motor Carrier Association	tracy@cmca.com
Chris	Romer	Vail Valley Partnership	cromer@visitvailvalley.com
Troy	Halouska	CDOT	troy.halouska@state.co.us
Konrad	LaDow	FHWA	konrad.ladow@dot.gov

Members of the PLT agree to strive to attend all meetings in person or virtually. Any member unable to attend a meeting can still contribute to the PLT by providing agenda items for discussion and by reviewing appropriate materials to prepare for discussions in subsequent meetings.

Roles and Responsibilities

The PLT's primary roles are to:

- Lead and Manage the Study: Using the Scope of Work as a foundation, the PLT will discuss and establish Study goals and will identify the actions and decisions needed to reach those goals. The PLT will approve the Study Work Plan for the Study. The PLT will determine the teams that are needed to reach the Study goals and will identify the membership needed for each team.

  Along with the Study Staff and attendees at County-Wide Coordination Meetings, the PLT will assist in staffing the other teams (if any) needed for the Study.

- Champion CSS: The PLT will ensure that the I-70 Mountain Corridor Context Statement, the Core Values, and the 6-Step Process are integrated into the Study. The PLT will identify CSS checkpoints as events in the Study timeline. The PLT will have primary responsibility for developing a charter, ensuring that the desired outcomes, goals and actions, terms to be used, and decisions to be made are defined. The PLT will establish participants, their roles and responsibilities, and commitments and accountability for each team. Additionally, the PLT will endorse the process by discussing, possibly modifying, and then finalizing with all teams the desired outcomes and actions to be taken. Further, the PLT will clarify terms and expectations for use in the process.

- Enable and Facilitate Decision Making: The Study Work Plan for the Study will detail the interaction between teams, the Stakeholder Involvement Plan, and the Public Information Plan. The PLT will be responsible for making the decisions necessary to keep the Study on track with the Study Work Plan.

When policy issues arise that are broader than the Study team's scope, the PLT will identify and implement the steps needed to resolve the issue and make a decision. The PLT will be responsible for identifying who must be involved in making the decision, bringing the decision makers together, and proposing solutions or approaches that keep the Study moving forward.

The PLT will facilitate formal actions required by councils, boards, and/or commissions to keep the Study moving forward.

The PLT's responsibility is to:

- Efficiently and effectively complete the Study through an easily understood, publicly supported, and transparent process.
- Develop a charter to determine the actions needed to accomplish their responsibility.
- Identify critical issues that need to be addressed and provide guidance insights into what is of importance to stakeholders in the Study.
- Identify opportunities to reach agreement and reach the goals set forth for the team. The PLT will strive to focus on relevant issues.
- Approve the Study Work Plan and help develop a realistic schedule for completion of the Study.

Team Performance Assessment

The PLT identified key areas and performance measures to ensure the success of the team. These include:

Maintaining Momentum

- Stay on task and on schedule.
- Focus on established common ground.
- Don't revert to posturing or positioning.
- Keep stakeholder support for the established process.

Engaging Stakeholders

- Retain public and elected official backing for the PLT concept.
- Engage other stakeholders and constituents in the process.
- Ensure an inclusive and "no surprises" process.

Interacting as a Team

- Meet commitments, disseminating information and gaining feedback in a timely manner.
- Communicate.
- Grow and maintain trust between agencies and stakeholders.
- Follow a transparent process.
- Conduct selves with a high level of integrity.
- Respect differences in perspectives.
- Resolve differences in a productive manner.
- Understand regional issues and regulatory constraints.

Discussions and Deliberations

The PLT will use a consensus-building process. A consensus is an agreement built by identifying and exploring all parties' interests and developing an agreement that satisfies these interests to the greatest extent possible. A consensus is reached when all parties agree that their major interests have been taken into consideration and addressed in a satisfactory manner.

Consensus does not necessarily mean unanimity. Some parties may strongly endorse a particular recommendation while others may accept it as a workable agreement. Members can participate in the consensus without embracing each element of the agreement with the same fervor as other members or having each interest fully satisfied. The PLT will seek to balance community values, Study goals, and technical information during deliberations and discussions.

To enhance creativity during meetings, individuals are expected to explore a full range of ideas that may transcend or be inconsistent with previously held positions. The goal of the meetings is to have frank and open discussion of the topics and issues needed to lead the Study and enable decision making.

E-mail Communication

E-mail will be used for meeting scheduling and logistics, document review, meeting summaries, and agenda building. E-mail may be used for discussion and comment. Deliberation or agreement should be done verbally within the PLT meetings, when possible.

Schedule and Milestones

Members of the PLT commit to efficient, effective discussions. All members agree up front to strive to meet the schedule, goals, and action plans they establish at the first meeting. Additional teams identified by the PLT will meet as needed to address specific issues and provide recommendations to the PLT. Group discussion and deliberations may result in the intentional, formal adjustment of the schedule and milestones.

Meeting Summaries

PLT staff will draft a meeting summary following each meeting of the PLT highlighting action items and decisions. The meeting summary will be distributed to the PLT for review and approval. All meeting summaries will be considered drafts until adopted by the PLT.

Public Coordination

In order for the PLT to fulfill its purpose, work sessions must be focused and manageable. These work sessions will be open to the public; any participation of public observers will be at the discretion of the PLT Chair. Consistent with established Study goals, the PLT will identify the actions and decisions needed

to reach those goals, such as issue and/or technical teams or public information activities. PLT members will serve as conduits for communication between their stakeholders and the PLT.

Communication with Other Organizations, Individuals, and the Media

PLT members wish to maintain an environment that promotes open, frank, and constructive discussion. Members recognize that such an environment must be built on mutual respect and trust, and each commits to avoid actions that would damage that trust. In communicating about the group's work -- including communication with the press -- each member agrees to speak only for herself or himself, to avoid characterizing the personal position or comments of other participants, and to always be thoughtful of the impact that specific public statements may have on the group and its ability to complete its work. No one will speak for any group other than his or her own without the explicit consent of that group. Should anyone wish the PLT to release information to the press, the group will do so through a mutually agreeable statement drafted with the consensus of all of that group's members.

Constituent Communication

Members of the PLT who represent agencies or constituencies will inform their constituents on an ongoing basis about the issues under discussion and the progress being made in the consensus problem-solving meetings. They will represent the interests of their constituent group and bring their constituents' concerns and ideas to the deliberations. Materials developed for the PLT can be shared with their constituency; stakeholder comments on these materials should be relayed to the PLT.

Eagle Airport Interchange Feasibility Study
Crosswalk of Concurrence Points and Anticipated Feasibility Study Actions

	Stakeholder Concurrence Point	Feasibility Study Actions	Stakeholder Representation
1	Validate Reasons for Study and Desired Outcome	**Reason for Study:** • Evolution of this project has resulted in the need to reassess the Preferred Alternative for a direct connection between I-70 and the east of Gypsum. A Preferred Alternative was approved in an Environmental Assessment (EA) and subsequent Finding of No Significant Impact (FONSI) in 2004 and 2005, respectively. • The Town of Gypsum has initiated a Feasibility Study to review the current environmental context, previously examined alternatives, and potentially new alternative(s) with a goal of identifying one alternative, the recommended alternative, for analysis in a National Environmental Policy Act (NEPA) study. • The recommended alternative from this Feasibility Study will be advanced into a NEPA Reevaluation or a supplement EA. As of March 2025, the assumption is that the NEPA study would be a reevaluation given the time that has elapsed since the last major action, potential changes in design, potential changes in environmental context, and change in regulatory context for NEPA studies. However, the class of NEPA action will need to be reviewed with jurisdictional agencies once the project advances. **Desired Outcome:** • Complete a Feasibility Study that captures an initial Purpose and Need supported by stakeholders; examines alternative(s); identifies the location and magnitude of anticipated environmental impacts; identifies mitigation strategies; and lists out next steps for implementation. • Identification of one recommended alternative to advance smoothly into NEPA as funding becomes available.	PLT Members: ✓ Town of Gypsum ✓ Eagle County ✓ Town of Eagle ✓ Eagle County Regional Airport ✓ CDOT ✓ FHWA ✓ CMCA ✓ Core Transit ✓ Vail Valley Partnership
	Future Milestone Concurrence Points *(These Steps will be Vetted with the PLT)*		
2	Revisit and Reconfirm Purpose and Need; Goals and Objectives (*to be refined through CSS process)*	**Project Purpose:** The general purpose of the Eagle Airport Interchange Feasibility Study is to optimize safety, connectivity, and mobility between current and projected development east of the Town of Gypsum and I-70 to support multimodal and freight connectivity; provide an additional rescue and evacuation route; reduce congestion on regional and local roadways; support growing activity at the regional airport including the military flight training center; and support future, independent multi-modal transit projects in the region. **Project Need:** The general needs of the project are to: • Address existing and future travel demand in the area for improved multimodal mobility and safety, including freight, transit, and vehicular travel. • Improve system resiliency, specifically to provide an additional emergency access connection with the interstate. • Advance and refine the Purpose and Need from the previous NEPA study, updated to reflect current conditions. The PLT will support the project by reviewing and refining the purpose and need to reflect current conditions and needs.	✓ PLT Members
3	Rexamine Alternatives	**Reexamine Alternative(s) including Alignment** 1. Provide a high-level evaluation of conceptual alternatives for more detailed analysis. 2. Qualitatively analyze the benefits and potential fatal flaws (if any) of different alternatives. 3. Identify a recommended alternative for advancement into NEPA study.	✓ PLT Members
	Consider Environmental Impacts and Potential Mitigation	**Refresh Existing Environmental Conditions Related to Key Resources:** • Review a list of environmental resources; identify those present and those potentially impacted; discuss anticipated level of impact. **Environmental Impacts and Mitigation:** • Identify resources present and those that may be impacted by each of the alternatives under study. • Assess, qualitatively, location and magnitude of impact from each alternative under study in accordance with CDOT/FHWA protocols. • Propose mitigation strategies in accordance with CDOT/FHWA protocols. • Provide next steps for implementation of the recommended alternative including anticipated level of study, next steps for each resource' analyses, and permits/approvals that will likely need to be obtained.	✓ PLT Members
4	Finalize Feasibility Study	**Next Steps:** • Complete study for PLT review and advancement to the 1601 process, Interstate Access Review, NEPA study, and ultimately construction.	✓ PLT Members

Signatures:

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Jacob	Rivera	Town of Gypsum	
Jim	Hancock	Town of Gypsum	
Jeremy	Rietmann	Town of Gypsum	
Jeff	Shroll	Eagle County	
David	Reid	EGE	
Pete	Lombardi	CDOT	
Dave	Cesark	CDOT	
Tanya	Allen	Core Transit	
Marisa	Sato	Town of Gypsum	
Tracy	Sakaguchi	Colorado Motor Carrier Association	
Chris	Romer	Vail Valley Partnership	
Troy	Halouska	CDOT	
Konrad	LaDow	FHWA	

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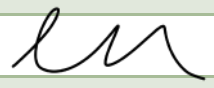
Dave	Cesark	CDOT	
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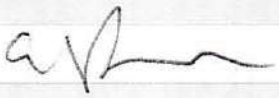
Chris	Romer	Vail Valley Partnership	
Troy	Halouska	CDOT	
Konrad	LaDow	FHWA	

From: Tracy Sakaguchi
To: Olson, Kira
Subject: RE: EAI - Chartering Agreement - Signatures Needed
Date: Monday, April 28, 2025 1:05:48 PM
Attachments: image002.png

Hi Kira,

Thank you for the reminder, please see below.

I, Tracy Sakaguchi, agree to add my digital signature Feasibility Study for I-70 Eagle Airport Interchange, Project Leadership Team Chartering Agreement (2025_0207_Town_Gypsum_PLT_Chartering Agreement_Signatures.4/28/2025

Tracy Sakaguchi
Dir. State and Local Issues
303-433-3375 ext. 103
Cell 720-315-3888

COLORADO MOTOR CARRIERS ASSOCIATION

Proud Supporter of SmartWay®

From: Olson, Kira <Kira.Olson@hdrinc.com>
Sent: Monday, April 28, 2025 9:55 AM
To: jim@townofgypsum.com; Jeff Shroll <jeff.shroll@eaglecounty.us>; Lombardi, Peter <peter.lombardi@state.co.us>; sato.marisa@gmail.com; Tracy Sakaguchi <tracy@cmca.com>
Cc: Heffron, Tammy C. <tammy.heffron@hdrinc.com>; Matt Figgs <mattf@townofgypsum.com>
Subject: RE: EAI - Chartering Agreement - Signatures Needed

Hi Folks,

Happy Monday. I am still trying to finalize all of the Chartering agreements signatures prior to our next May 12th meeting.

If you are having trouble adding your signature, you can also reply to this email with the following

From: Marisa Sato
To: Olson, Kira
Subject: Re: EAI - Chartering Agreement - Signatures Needed
Date: Monday, May 12, 2025 9:40:15 AM

I, Marisa Sato, agree to add my digital signature Feasibility Study for I-70 Eagle Airport Interchange, Project Leadership Team Chartering Agreement (2025_0207_Town_Gypsum_PLT_Chartering Agreement_Signatures.05/12/25

On Mon, May 12, 2025 at 9:32 AM Olson, Kira <Kira.Olson@hdrinc.com> wrote:

> Thanks for letting me know. Sorry for the headache. Do you want to just reply to the email with the "email signature" I've had 3 other PLT members sign that way. Just fill out the highlighted section below and send it back to me and I will save the email as a PDF of your digital signature. Thanks!
>
> ---
>
> I, [First name, Last name], agree to add my digital signature Feasibility Study for I-70 Eagle Airport Interchange, Project Leadership Team Chartering Agreement (2025_0207_Town_Gypsum_PLT_Chartering Agreement_Signatures. [DATE]
>
> **Kira Olson** (she/her)
>
> *Senior Communications Strategist*
>
> **HDR**
>
> 1670 Broadway
> Suite 3400
> **D** 303.323.9869 **M** 720.629.8926
> kira.olson@hdrinc.com
>
> hdrinc.com/follow-us

From: Jeff Shroll
To: Olson, Kira
Subject: Re: EAI - Chartering Agreement - Signatures Needed
Date: Thursday, May 8, 2025 3:21:06 PM

I, Jeff Shroll, agree to add my digital signature Feasibility Study for I-70 Eagle Airport Interchange, Project Leadership Team Chartering Agreement (2025_0207_Town_Gypsum_PLT_Chartering Agreement_Signatures. May 8, 2025.

Very Truly Yours,
Jeff Shroll
County Manager
Eagle County Government
970-328-8604
www.eaglecounty.us

Business Resources | 970-328-8750

Mental Health Resources | 844-493-8255

On Thu, May 8, 2025 at 10:59 AM Olson, Kira <Kira.Olson@hdrinc.com> wrote:

> Hello,
>
> Weekly friendly reminder to please send back your signed chartering agreement to me prior to the PLT on Monday. I know it may not seem like it is that important, but it really is vital to the project as we move forward to seek funding and continue through the phases of the project to know who at each agency/municipality was at the table at the beginning and signed onto the process. Let me know if you need any assistance. Again, you can also just email me back with the following and I will save that as your digital signature.
>
> ---
>
> I, [First name, Last name], agree to add my digital signature Feasibility Study for I-70 Eagle Airport Interchange, Project Leadership Team Chartering Agreement (2025_0207_Town_Gypsum_PLT_Chartering Agreement_Signatures. [DATE]

Appendix B – Opinion of Probable Costs

TOWN OF GYPSUM
10422902

MODIFIED *8/6/2025*
CREATED *6/25/2025*

CREATED BY: LGR
CHECKED BY: JAC

Opinion of Probable Costs

Eagle Airport Interchange - Summary

					QUANTITIES INCLUDE I70	QUANTITIES INCLUDE I70
ITEM NO.	**DESCRIPTION**	**ALTERNATIVE OVER**	**ALTERNATIVE UNDER**	**ALTERNATIVE AT-GRADE**	**INTERCHANGE HALF DDI**	**INTERCHANGE RAB**
203-00010	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)		$ 3,600,000.00		$ 12,000,000.00	$ 12,300,000.00
203-00060	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	$ 6,370,000.00		$ 3,770,000.00		
304-02000	AGGREGATE BASE COURSE (CLASS 2)	$ 810,000.00	$ 1,116,000.00	$ 2,745,000.00	$ 3,060,000.00	$ 3,150,000.00
304-06000	AGGREGATE BASE COURSE (CLASS 6)	$ 315,000.00	$ 434,000.00	$ 1,071,000.00	$ 1,190,000.00	$ 1,225,000.00
403-34801	HOT MIX ASPHALT	$ 840,000.00	$ 996,000.00	$ 2,160,000.00	$ 2,040,000.00	$ 2,100,000.00
606-00910	GUARDRAIL TYPE 9	$ 1,080,000.00	$ 900,000.00	$ 900,000.00	$ 2,160,000.00	$ 2,160,000.00
609-21010	CURB AND GUTTER TYPE 2 (SECTION I-B)	$ 56,000.00	$ 56,000.00	$ 56,000.00	$ 17,500.00	$ 28,000.00
609-21020	CURB AND GUTTER TYPE 2 (SECTION II-B)	$ 220,000.00	$ 200,000.00	$ 180,000.00	$ 24,000.00	$ 48,000.00
610-00024	MEDIAN COVER MATERIAL	$ 234,000.00	$ 234,000.00	$ 234,000.00	$ 45,000.00	$ 150,000.00
626-00000	MOBILIZATION	$ 7,800,000.00	$ 6,800,000.00	$ 5,400,000.00		
	MSE WALL	$ 240,000.00		$ 180,000.00	$ 1,620,000.00	$ 1,620,000.00
	CUT WALL		$ 1,032,000.00		$ 9,960,000.00	$ 15,600,000.00
	RR BRIDGE		$ 10,000,000.00			
	ROADWAY BRIDGE	$ 49,500,000.00	$ 33,000,000.00	$ 30,000,000.00	$ 4,950,000.00	$ 4,950,000.00
	REMOVALS	$ 2,400,000.00	$ 3,000,000.00	$ 2,900,000.00	$ 4,900,000.00	$ 4,800,000.00
	MOT	$ 1,400,000.00	$ 1,700,000.00	$ 1,900,000.00	$ 3,400,000.00	$ 3,500,000.00
	SIGNING & STRIPING	$ 1,100,000.00	$ 1,100,000.00	$ 1,600,000.00	$ 2,600,000.00	$ 3,100,000.00
	TRAFFIC SIGNALS			$ 1,000,000.00	$ 800,000.00	$ 700,000.00
	ITS	$ 2,200,000.00	$ 2,400,000.00	$ 1,900,000.00	$ 3,800,000.00	$ 3,700,000.00
	UPRR COORDINATION	$ 700,000.00	$ 1,100,000.00	$ 1,000,000.00		
	DRAINAGE & DRAINAGE STRUCTURES	$ 2,700,000.00	$ 4,100,000.00	$ 1,900,000.00	$ 3,000,000.00	$ 3,100,000.00
	UTILITIES	$ 2,100,000.00	$ 4,100,000.00	$ 1,500,000.00	$ 2,300,000.00	$ 2,200,000.00
	EROSION CONTROL	$ 1,400,000.00	$ 1,500,000.00	$ 1,000,000.00	$ 1,900,000.00	$ 2,200,000.00
	LANDSCAPING	$ 1,400,000.00	$ 1,400,000.00	$ 1,500,000.00	$ 800,000.00	$ 1,800,000.00
	PROJECT TOTAL (CURRENT)	***$ 82,900,000***	***$ 78,800,000***	***$ 62,900,000***	***$ 60,600,000***	***$ 68,500,000***
	WITH HALF DDI	***$ 143,500,000***	***$ 139,400,000***	***$ 123,500,000***		
	WITH RAB	***$ 151,400,000***	***$ 147,300,000***	***$ 131,400,000***		

PROJECT TOTAL (CURRENT HIGH)	***$ 95,400,000***	***$ 90,700,000***	***$ 72,500,000***	***$ 69,800,000***	***$ 78,800,000***
WITH HALF DDI	***$ 165,200,000***	***$ 160,500,000***	***$ 142,300,000***		
WITH RAB	***$ 174,200,000***	***$ 169,500,000***	***$ 151,300,000***		

TOWN OF GYPSUM
10422902

MODIFIED *8/6/2025*
CREATED *6/25/2025*

Opinion of Probable Costs

Eagle Airport Interchange - Alternative Overpass

CREATED BY: LGR
CHECKED BY: JAC

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	CURRENT COST	RANGE	HIGH COST
203-00060	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CY	98,000	$ 65	$ 6,370,000	$ 1,911,000	$ 7,325,500
304-02000	AGGREGATE BASE COURSE (CLASS 2)	TON	9,000	$ 90	$ 810,000	$ 243,000	$ 931,500
304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	4,500	$ 70	$ 315,000	$ 94,500	$ 362,250
403-34801	HOT MIX ASPHALT	TON	7,000	$ 120	$ 840,000	$ 252,000	$ 966,000
606-00910	GUARDRAIL TYPE 9	LF	6,000	$ 180	$ 1,080,000	$ 324,000	$ 1,242,000
609-21010	CURB AND GUTTER TYPE 2 (SECTION I-B)	LF	1,600	$ 35	$ 56,000	$ 16,800	$ 64,400
609-21020	CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	5,500	$ 40	$ 220,000	$ 66,000	$ 253,000
610-00024	MEDIAN COVER MATERIAL	SF	15,600	$ 15	$ 234,000	$ 70,200	$ 269,100
626-00000	MOBILIZATION	LS			$ 7,800,000	$ 2,340,000	$ 8,970,000
	MSE WALL	SF	4,000	$ 60	$ 240,000	$ 72,000	$ 276,000
	ROADWAY BRIDGE	SF	165,000	$ 300	$ 49,500,000	$ 14,850,000	$ 56,925,000
	SUBTOTAL ITEMS				***$ 67,465,000***		***$ 77,600,000***
	REMOVALS				$ 2,400,000	$ 720,000	$ 2,760,000
	MOT				$ 1,400,000	$ 420,000	$ 1,610,000
	SIGNING & STRIPING				$ 1,100,000	$ 330,000	$ 1,265,000
	TRAFFIC SIGNALS				$ -	$ -	$ -
	ITS				$ 2,200,000	$ 660,000	$ 2,530,000
	UPRR COORDINATION				$ 700,000	$ 210,000	$ 805,000
	DRAINAGE & DRAINAGE STRUCTURES				$ 2,700,000	$ 810,000	$ 3,105,000
	UTILITIES				$ 2,100,000	$ 630,000	$ 2,415,000
	EROSION CONTROL				$ 1,400,000	$ 420,000	$ 1,610,000
	LANDSCAPING				$ 1,400,000	$ 420,000	$ 1,610,000
	PROJECT TOTAL				***$ 82,900,000***		***$ 95,400,000***

Assumptions:
The costs above reflect today's (2025) current costs. Since project will not be constructed until XXXX, an inflationary rate of 6% per year for additional costs should be accounted for when the project is constructed. No shoofly considered.

Embankment Material was calculated using OpenRoads End area method (material around walls for structural excavation and backfill were not subtracted from this quantity)
A depth of 12 inches was used for the calculation of Aggregate Base Course (Class 2) at 133 LBS/CF
A depth of 6 inches was used for the calculation of Aggregate Base Course (Class 6) at 133 LBS/CF
A depth of 6.5 inches was used for the calculation of Hot Mix Asphalt full depth at 110 LBS/SY-INCH

TOWN OF GYPSUM
10422902

MODIFIED *8/6/2025*
CREATED *6/25/2025*

Opinion of Probable Costs

Eagle Airport Interchange - Alternative Underpass

CREATED BY: LGR
CHECKED BY: JAC

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	CURRENT COST	RANGE	HIGH COST
203-00010	UNCLASSIFIED EXCAVATION	CY	36,000	$ 100	$ 3,600,000	$ 1,080,000	$ 4,140,000
304-02000	AGGREGATE BASE COURSE (CLASS 2)	TON	12,400	$ 90	$ 1,116,000	$ 334,800	$ 1,283,400
304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	6,200	$ 70	$ 434,000	$ 130,200	$ 499,100
403-34801	HOT MIX ASPHALT	TON	8,300	$ 120	$ 996,000	$ 298,800	$ 1,145,400
606-00910	GUARDRAIL TYPE 9	LF	5,000	$ 180	$ 900,000	$ 270,000	$ 1,035,000
609-21010	CURB AND GUTTER TYPE 2 (SECTION I-B)	LF	1,600	$ 35	$ 56,000	$ 16,800	$ 64,400
609-21020	CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	5,000	$ 40	$ 200,000	$ 60,000	$ 230,000
610-00024	MEDIAN COVER MATERIAL	SF	15,600	$ 15	$ 234,000	$ 70,200	$ 269,100
626-00000	MOBILIZATION	LS			$ 6,800,000	$ 2,040,000	$ 7,820,000
	CUT WALL	SF	8,600	$ 120	$ 1,032,000	$ 309,600	$ 1,186,800
	RR BRIDGE	SF	10,000	$ 1,000	$ 10,000,000	$ 3,000,000	$ 11,500,000
	ROADWAY BRIDGE	SF	110,000	$ 300	$ 33,000,000	$ 9,900,000	$ 37,950,000
	SUBTOTAL ITEMS				***$ 58,400,000***		***$ 67,200,000***
	REMOVALS				$ 3,000,000	$ 900,000	$ 3,450,000
	MOT				$ 1,700,000	$ 510,000	$ 1,955,000
	SIGNING & STRIPING				$ 1,100,000	$ 330,000	$ 1,265,000
	TRAFFIC SIGNALS				$ -	$ -	$ -
	ITS				$ 2,400,000	$ 720,000	$ 2,760,000
	UPRR COORDINATION				$ 1,100,000	$ 330,000	$ 1,265,000
	DRAINAGE & DRAINAGE STRUCTURES				$ 4,100,000	$ 1,230,000	$ 4,715,000
	UTILITIES				$ 4,100,000	$ 1,230,000	$ 4,715,000
	EROSION CONTROL				$ 1,500,000	$ 450,000	$ 1,725,000
	LANDSCAPING				$ 1,400,000	$ 420,000.00	$ 1,610,000
	PROJECT TOTAL				***$ 78,800,000***		***$ 90,700,000***

Assumptions:

The costs above reflect today's (2025) current costs. Since project will not be constructed until XXXX, an inflationary rate of 6% per year for additional costs should be accounted for when the project is constructed. No shoofly considered.

Embankment Material was calculated using OpenRoads End area method (material around walls for structural excavation and backfill were not subtracted from this quantity)
A depth of 12 inches was used for the calculation of Aggregate Base Course (Class 2) at 133 LBS/CF
A depth of 6 inches was used for the calculation of Aggregate Base Course (Class 6) at 133 LBS/CF
A depth of 6.5 inches was used for the calculation of Hot Mix Asphalt full depth at 110 LBS/SY-INCH

TOWN OF GYPSUM
10422902

MODIFIED *8/6/2025*
CREATED *6/25/2025*

Opinion of Probable Costs

Eagle Airport Interchange - Alternative At-Grade

CREATED BY: LGR
CHECKED BY: JAC

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	CURRENT COST	RANGE	HIGH COST
203-00060	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CY	58,000	$ 65	$ 3,770,000	$ 1,131,000	$ 4,335,500
304-02000	AGGREGATE BASE COURSE (CLASS 2)	TON	30,500	$ 90	$ 2,745,000	$ 823,500	$ 3,156,750
304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	15,300	$ 70	$ 1,071,000	$ 321,300	$ 1,231,650
403-34801	HOT MIX ASPHALT	TON	18,000	$ 120	$ 2,160,000	$ 648,000	$ 2,484,000
606-00910	GUARDRAIL TYPE 9	LF	5,000	$ 180	$ 900,000	$ 270,000	$ 1,035,000
609-21010	CURB AND GUTTER TYPE 2 (SECTION I-B)	LF	1,600	$ 35	$ 56,000	$ 16,800	$ 64,400
609-21020	CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	4,500	$ 40	$ 180,000	$ 54,000	$ 207,000
610-00024	MEDIAN COVER MATERIAL	SF	15,600	$ 15	$ 234,000	$ 70,200	$ 269,100
626-00000	MOBILIZATION	LS			$ 5,400,000	$ 1,620,000	$ 6,210,000
	MSE WALL	SF	3,000	$ 60	$ 180,000	$ 54,000	$ 207,000
	ROADWAY BRIDGE	SF	100,000	$ 300	$ 30,000,000	$ 9,000,000	$ 34,500,000
	SUBTOTAL ITEMS				***$ 46,700,000***		***$ 53,800,000***
	REMOVALS				$ 2,900,000	$ 870,000	$ 3,335,000
	MOT				$ 1,900,000	$ 570,000	$ 2,185,000
	SIGNING & STRIPING				$ 1,600,000	$ 480,000	$ 1,840,000
	TRAFFIC SIGNALS				$ 1,000,000	$ 300,000	$ 1,150,000
	ITS				$ 1,900,000	$ 570,000	$ 2,185,000
	UPRR COORDINATION				$ 1,000,000	$ 300,000	$ 1,150,000
	DRAINAGE & DRAINAGE STRUCTURES				$ 1,900,000	$ 570,000	$ 2,185,000
	UTILITIES				$ 1,500,000	$ 450,000	$ 1,725,000
	EROSION CONTROL				$ 1,000,000	$ 300,000	$ 1,150,000
	LANDSCAPING				$ 1,500,000	$ 450,000.00	$ 1,725,000
	PROJECT TOTAL				***$ 62,900,000***		***$ 72,500,000***

Assumptions:
The costs above reflect today's (2025) current costs. Since project will not be constructed until XXXX, an inflationary rate of 6% per year for additional costs should be accounted for when the project is constructed. No shoofly considered.

Embankment Material was calculated using OpenRoads End area method (material around walls for structural excavation and backfill were not subtracted from this quantity)
A depth of 12 inches was used for the calculation of Aggregate Base Course (Class 2) at 133 LBS/CF
A depth of 6 inches was used for the calculation of Aggregate Base Course (Class 6) at 133 LBS/CF
A depth of 6.5 inches was used for the calculation of Hot Mix Asphalt full depth at 110 LBS/SY-INCH

TOWN OF GYPSUM
10422902

MODIFIED *8/6/2025*
CREATED *6/25/2025*

Opinion of Probable Costs

Eagle Airport Interchange - Half DDI

CREATED BY: LGR
CHECKED BY: JAC

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	CURRENT COST	RANGE	HIGH COST
203-00010	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	200,000	$ 60	$ 12,000,000	$ 3,600,000	$ 13,800,000
304-02000	AGGREGATE BASE COURSE (CLASS 2)	TON	34,000	$ 90	$ 3,060,000	$ 918,000	$ 3,519,000
304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	17,000	$ 70	$ 1,190,000	$ 357,000	$ 1,368,500
403-34801	HOT MIX ASPHALT	TON	17,000	$ 120	$ 2,040,000	$ 612,000	$ 2,346,000
606-00910	GUARDRAIL TYPE 9	LF	12,000	$ 180	$ 2,160,000	$ 648,000	$ 2,484,000
609-21010	CURB AND GUTTER TYPE 2 (SECTION I-B)	LF	500	$ 35	$ 17,500	$ 5,250	$ 20,125
609-21020	CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	600	$ 40	$ 24,000	$ 7,200	$ 27,600
610-00024	MEDIAN COVER MATERIAL	SF	3,000	$ 15	$ 45,000	$ 13,500	$ 51,750
	MSE WALL	SF	27,000	$ 60	$ 1,620,000	$ 486,000	$ 1,863,000
	CUT WALL	SF	83,000	$ 120	$ 9,960,000	$ 2,988,000	$ 11,454,000
	ROADWAY BRIDGE	SF	16,500	$ 300	$ 4,950,000	$ 1,485,000	$ 5,692,500
	SUBTOTAL ITEMS				***$ 37,100,000***		***$ 42,700,000***
	REMOVALS				$ 4,900,000	$ 1,470,000	$ 5,635,000
	MOT				$ 3,400,000	$ 1,020,000	$ 3,910,000
	SIGNING & STRIPING				$ 2,600,000	$ 780,000	$ 2,990,000
	TRAFFIC SIGNALS				$ 800,000	$ 240,000	$ 920,000
	ITS				$ 3,800,000	$ 1,140,000	$ 4,370,000
	DRAINAGE & DRAINAGE STRUCTURES				$ 3,000,000	$ 900,000	$ 3,450,000
	UTILITIES				$ 2,300,000	$ 690,000	$ 2,645,000
	EROSION CONTROL				$ 1,900,000	$ 570,000	$ 2,185,000
	LANDSCAPING				$ 800,000	$ 240,000.00	$ 920,000
	PROJECT TOTAL				***$ 60,600,000***		***$ 69,800,000***

Assumptions:

The costs above reflect today's (2025) current costs. Since project will not be constructed until XXXX, an inflationary rate of 6% per year for additional costs should be accounted for when the project is constructed.

Embankment Material was calculated using OpenRoads End area method (material around walls for structural excavation and backfill were not subtracted from this quantity)
A depth of 12 inches was used for the calculation of Aggregate Base Course (Class 2) at 133 LBS/CF
A depth of 6 inches was used for the calculation of Aggregate Base Course (Class 6) at 133 LBS/CF
A depth of 6.5 inches was used for the calculation of Hot Mix Asphalt full depth at 110 LBS/SY-INCH

TOWN OF GYPSUM
10422902

MODIFIED *8/6/2025*
CREATED *6/25/2025*

Opinion of Probable Costs

Eagle Airport Interchange - Roundabout

CREATED BY: LGR
CHECKED BY: JAC

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	CURRENT COST	RANGE	HIGH COST
203-00010	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	205,000	$ 60	$ 12,300,000	$ 3,690,000	$ 14,145,000
304-02000	AGGREGATE BASE COURSE (CLASS 2)	TON	35,000	$ 90	$ 3,150,000	$ 945,000	$ 3,622,500
304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	17,500	$ 70	$ 1,225,000	$ 367,500	$ 1,408,750
403-34801	HOT MIX ASPHALT	TON	17,500	$ 120	$ 2,100,000	$ 630,000	$ 2,415,000
606-00910	GUARDRAIL TYPE 9	LF	12,000	$ 180	$ 2,160,000	$ 648,000	$ 2,484,000
609-21010	CURB AND GUTTER TYPE 2 (SECTION I-B)	LF	800	$ 35	$ 28,000	$ 8,400	$ 32,200
609-21020	CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	1,200	$ 40	$ 48,000	$ 14,400	$ 55,200
610-00024	MEDIAN COVER MATERIAL	SF	10,000	$ 15	$ 150,000	$ 45,000	$ 172,500
	MSE WALL	SF	27,000	$ 60	$ 1,620,000	$ 486,000	$ 1,863,000
	CUT WALL	SF	130,000	$ 120	$ 15,600,000	$ 4,680,000	$ 17,940,000
	ROADWAY BRIDGE	SF	16,500	$ 300	$ 4,950,000	$ 1,485,000	$ 5,692,500
	SUBTOTAL ITEMS				***$ 43,400,000***		***$ 49,900,000***
	REMOVALS				$ 4,800,000	$ 1,440,000	$ 5,520,000
	MOT				$ 3,500,000	$ 1,050,000	$ 4,025,000
	SIGNING & STRIPING				$ 3,100,000	$ 930,000	$ 3,565,000
	TRAFFIC SIGNALS				$ 700,000	$ 210,000	$ 805,000
	ITS				$ 3,700,000	$ 1,110,000	$ 4,255,000
	DRAINAGE & DRAINAGE STRUCTURES				$ 3,100,000	$ 930,000	$ 3,565,000
	UTILITIES				$ 2,200,000	$ 660,000	$ 2,530,000
	EROSION CONTROL				$ 2,200,000	$ 660,000	$ 2,530,000
	LANDSCAPING				$ 1,800,000	$ 540,000.00	$ 2,070,000
	PROJECT TOTAL				***$ 68,500,000***		***$ 78,800,000***

Assumptions:
The costs above reflect today's (2025) current costs. Since project will not be constructed until XXXX, an inflationary rate of 6% per year for additional costs should be accounted for when the project is constructed.

Embankment Material was calculated using OpenRoads End area method (material around walls for structural excavation and backfill were not subtracted from this quantity)
A depth of 12 inches was used for the calculation of Aggregate Base Course (Class 2) at 133 LBS/CF
A depth of 6 inches was used for the calculation of Aggregate Base Course (Class 6) at 133 LBS/CF
A depth of 6.5 inches was used for the calculation of Hot Mix Asphalt full depth at 110 LBS/SY-INCH

Appendix C – Traffic

Traffic Impact Study

Prepared in support of the
Eagle Airport Interchange Feasibility Study

Prepared for:

Town of Gypsum
50 Lundgren Boulevard
PO Box 130
Gypsum, CO 81637

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connecting & enhancing communities

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I. INTRODUCTION

The Town of Gypsum (Town) and the Colorado Department of Transportation (CDOT) have identified the need for a new interchange along Interstate 70 (I-70) between Eagle and Gypsum in Eagle County, Colorado. **Figure 1** illustrates the study area. The need for a new interchange has existed for several decades. Previous efforts have identified a potential interchange near I-70 milepost 143 with an associated connector roadway to tie the interchange to the existing arterial roadway network to the south, as shown in **Figure 2**. This original Proposed Action was never realized.

Since these efforts, there have been numerous changes in the Eagle Valley, including new development, an economic downturn in the late 2000s, land use changes, and the COVID 19 pandemic in 2020. Through these changes, traffic growth has typically continued in the area. Hence, the Town has undertaken a Feasibility Study (Study) to determine if the planned interchange and connector roadway should now move forward.

I.A Context Statement

Since completion of the original design and National Environmental Policy Act (NEPA) process for the interchange, CDOT has completed the I-70 Programmatic Environmental Impact Statement (PEIS). Among other things, this effort laid out a context sensitive solutions (CSS) process to be used for projects affecting I-70 in the PEIS study area. A key component of that process is developing a project-specific context statement. The context statement developed for the Eagle Airport Interchange Study is shown below.

> *The Eagle River Valley (Valley) is an important economic center for the region. For decades, the Valley has been a cornerstone to the vitality of the intermountain region, balancing rural life, tourism, and commerce. However, due to significant population and commercial growth, the current roadway infrastructure no longer meets the needs of local residents, families, commuters, freight traffic, transit users, and visitors. Emergency closures of the interstate, caused by crashes or natural disasters, often direct heavy traffic through nearby towns, overloading the local roadway network. Increasing traffic, especially on Highway 6, must enter the interstate through just two interchanges spaced 7 miles apart. This limitation raises major concerns about emergency access and evacuation.*
>
> *The proposed I-70 Eagle Airport Interchange Project aims to fix these issues by improving access to the interstate between Eagle and Gypsum, Colorado, including the airport and High-Altitude Army National Guard Aviation Training Site. The new interchange would better serve the region's growing population and business needs while respecting the area's unique environment. Adding this interchange would also improve the resiliency of the interstate system, allowing direct travel for commercial, residential, and tourist traffic while facilitating better transit access. It would reduce unnecessary trips through local towns, making travel safer and more reliable. Additionally, reducing traffic demands on nearby interchanges would add value to the regional transportation network by extending the lifespan of existing infrastructure and potentially lowering future costs, such as those needed on the adjacent interchanges and other local roads to meet growing community needs.*
>
> *This project tackles significant problems such as traffic congestion, safety risks, and system resiliency by providing alternative routes during natural and human disruptions. Beyond immediate transportation benefits, the interchange will release suppressed regional economic growth, enhance multimodal connectivity, and improve the quality of life for residents, workers, and visitors. By reducing congestion on Highway 6 and enhancing overall connectivity, the project will allow tourists, recreational enthusiasts, and local workers to travel more safely and efficiently, supporting the region's vital tourism industry.*

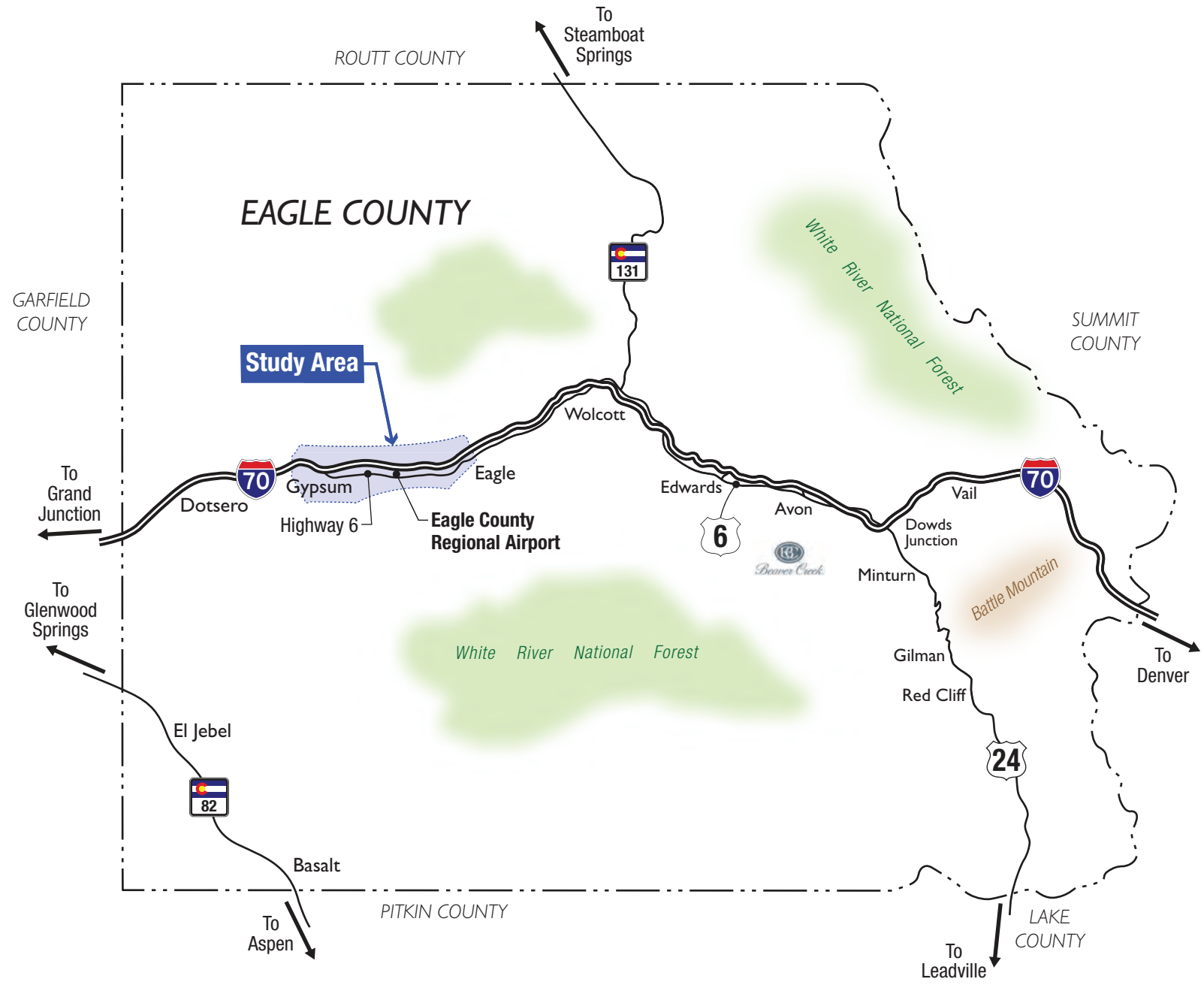
I.B Project History and Past Studies

The Eagle Airport Interchange was originally considered more than 25 years ago. At that time, the interchange underwent a full evaluation to determine interchange type and location, connector roadway characteristics, and connections into the arterial roadway network south of I-70. The traffic analysis for these efforts was documented in the following reports:

- **I-70 / Eagle Airport Interchange Concept Study (January 1999)**: This document (referred to as the *Concept Study*) considered three interchange and connector road options for the Proposed Action, referred to as Option C, Option I, and Option J. Option C and Option I provided reasonable traffic operations, while Option J resulted in poor operations at one location in the study's 2020 horizon year.
- **Eagle Airport Interchange Traffic Impact Analysis Update (August 2003)**: This document (referred to as the *TIA Update*) considered two new interchange and connector road options for the Proposed Action, referred to as Alternative Mod F / K1 and Alternative L. It also updated the future volumes to a 2025 forecast year. Both options provided reasonable traffic operations, and the document demonstrated that the connector roadway would require a four-lane cross-section.
- **Eagle County Airport Interchange and Connector Road Environmental Assessment (August 2004)**: This document (referred to as the *EA*) met NEPA requirements in place at the time of submittal, and a Finding of No Significant Impact (FONSI) was subsequently executed. The EA considered Alternative F-Modified, Alternative K1, and Alternative L. Alternative L was chosen as the preferred alternative. The traffic portion of the *EA* summarized the analyses in the *Concept Study* and the *TIA Update*.

Based on these evaluations and parallel design efforts, a final interchange design was prepared and approved, as shown in **Figure 2**. Subsequently, the right-of-way for the planned interchange was acquired. Funding shortfalls resulted in the planned interchange and connector roadway being shelved after right-of-way acquisition. Since that time, several key traffic or planning studies have been completed summarized as follows:

- **Town of Gypsum Master Traffic Study (January 2008)**: This document (referred to as the *MTS*) evaluated existing and future traffic operations across the town and presented scenarios both with and without the Eagle Airport Interchange. Although the Proposed Action was not explicitly studied, the "Alternative Network" option in the *MTS* was based on the preferred options identified in the *TIA Update*.
- **This Is Gypsum Master Plan (June 2017)**: This document (referred to as the *Master Plan*) presents the Town's vision for how the community would like to grow over time. For this study, it outlines areas of growth and identifies the Eagle Airport Interchange as supporting identified growth in the eastern areas of Gypsum.
- **Town of Gypsum Master Traffic Study Update (April 2024)**: This document (referred to as the *MTS Update*) followed the approach of the original *MTS* but considered updated existing conditions and new future forecasts. Like the original MTS, it presented scenarios both with and without the Eagle Airport Interchange based on the *TIA Update*. Since this study is recent, traffic information from this report has been used to supplement the Study where needed.



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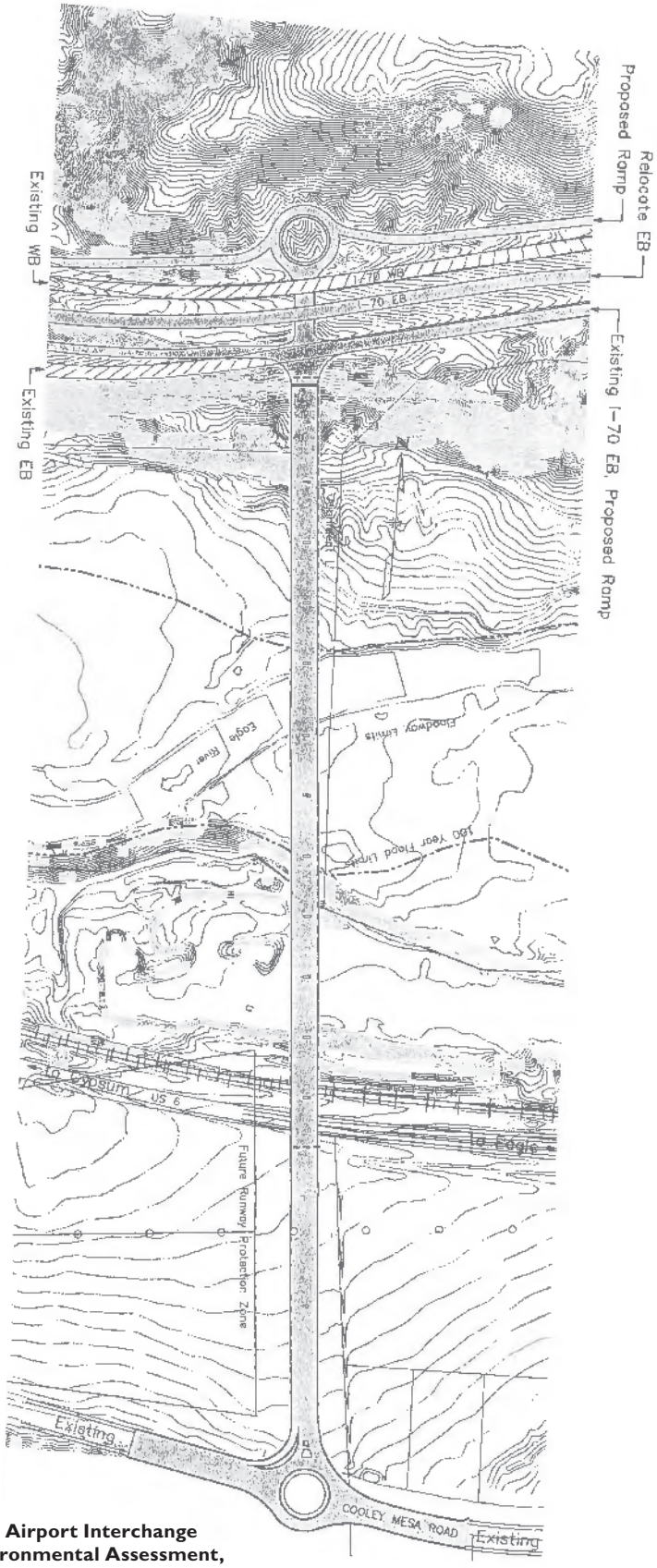
NOTE: Drawing Not to Scale

FIGURE 1

Study Area Location

Eagle Airport Interchange - Feasibility 124388-01 6/2/25



NOTE:
Taken from Eagle County Airport Interchange and Connector Road Environmental Assessment, Figure 2-7, page 2-23.

NORTH

FIGURE 2

Environmental Assessment
Preferred Alternative

Eagle Airport Interchange - Feasibility 124388-01 6/2/25

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I.C Methods and Assumptions

The study team worked with the Town of Gypsum to develop a Methods and Assumptions (M&A) document for the data collection and analyses conducted in this Study. It is attached as **Appendix A**. Key points in the M&A document include:

- Compilation of guiding documents and previous studies (including those identified in **Section I.B**).
- Definition of the study area and traffic count locations
- Designation of measures of effectiveness and software tools used to develop them

I.D Analysis Scenarios

The study area experiences seasonal traffic fluctuations, which is typical along Colorado's I-70 mountain corridor. In winter months, traffic increases because of skiing, snowboarding, and other winter sports, while in summer months, traffic increases as tourists access Colorado's National Parks, National Forests, and similar recreational destinations across western Colorado and eastern Utah. In addition to seasonal tourism traffic, local travel associated with work, school, and shopping occurs consistently throughout the year.

Previous studies, including the *Concept Study*, *TIA Update*, and *MTS Update,* evaluated multiple seasons to capture these variations. Similarly, this Study addresses these fluctuations with two distinct seasonal scenarios:

- **Average Season**: This scenario represents typical spring or fall conditions, reflecting typical weekday traffic patterns, including work, school, and shopping trips. This scenario is intended to represent day-to-day roadway operations in the study area.
- **High Season**: This scenario is intended to represent the busiest expected travel conditions in the study area. As indicated in the *TIA Update*, the Eagle County Regional Airport experiences peak enplanements during the winter recreation season. However, I-70 traffic peaks in the summer recreation months. Because the Eagle Interchange will connect the Airport to I-70, this conservative composite scenario ensures that the planned interchange and connector are evaluated under peak demand and can accommodate both seasons.

The Study considers an existing year (2025) and one future year (2045). Although the *MTS* and the *MTS Update* considered multiple future years, this is not required for the interchange process. This Study considers a base scenario (without the planned interchange and connector roadway) and a build scenario (with the interchange and connector roadway) in the 2045 analysis year.

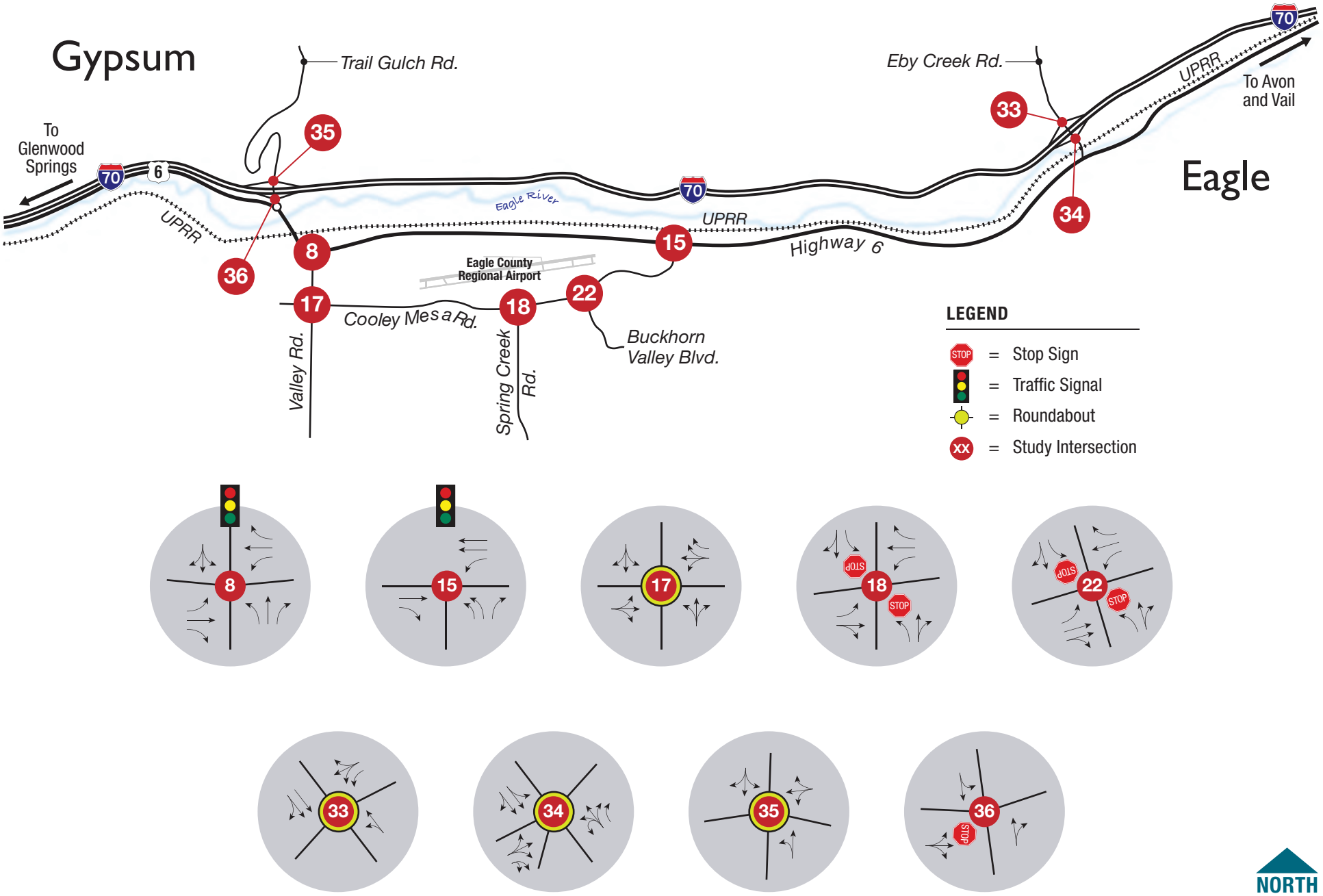
II. EXISTING CONDITIONS

A key focus of this Study is to update baseline traffic conditions in the study area. The traffic study area is similar to that used in the *TIA Update* and is shown in **Figure 3**.

II.A Roadway Network

The roadway network in the study area includes the following facilities:

- **Interstate 70**: This four-lane freeway serves regional east-west travel needs for communities along its length through Colorado. I-70 connects the Town to Glenwood Springs in the west and the resorts at Avon and Vail to the east. Existing interchanges provide freeway access at Trail Gulch Road in Gypsum and at Eby Creek Road in Eagle. The next closest interchanges are at Wolcott to the east and Dotsero to the west. The posted speed limit is 75 miles per hour (MPH) in the study area.
- **Highway 6**: This regional arterial road runs parallel to I-70 between Dotsero and Dowd Junction, including portions through Gypsum and Eagle. The segment east of the I-70 Frontage Road/Trail Gulch Road roundabout within the Town was a state highway when the *TIA Update* was completed, but it has been devolved from CDOT and is now a Town roadway. Highway 6 through Eagle (to the east) was also devolved from CDOT. The segment of Highway 6 west of the I-70 Frontage Road/Trail Gulch Road roundabout remains a state highway. Highway 6 is typically a two-lane facility with auxiliary turn lanes at major intersections and accesses. A short segment near Cooley Mesa Road has been widened to four lanes to accommodate higher volumes associated with the development in this area. Several roundabouts have been constructed on Highway 6, including Trail Gulch Road and Schoolside Street in Gypsum and Sylvan Lake Road and Eby Creek Road in Eagle. The posted speed limit is 35 MPH through the developed part of Gypsum, increasing to 55 MPH east of Jules Drive. The speed limit then drops back down to 45 MPH and then 35 MPH as Highway 6 enters Eagle.
- **Valley Road**: Also known as Gypsum Creek Road, this two-lane arterial extends south from Highway 6 along the Gypsum Creek Valley and provides access for residential developments and agricultural areas. The intersection of Highway 6/Valley Road is currently signalized, and the intersection of Cooley Mesa Road/Valley Road is currently a roundabout. A new roundabout is currently under construction at the Highway 6/Valley Road intersection that should be open to traffic by the end of 2025. The speed limit is posted 30 MPH between Highway 6 and Cooley Mesa Road; to the south, it varies between 35 and 40 MPH.
- **Cooley Mesa Road**: This arterial roadway provides access to the Eagle County Regional Airport, residential and industrial uses in the Spring Creek area, and commercial uses in the Airport Gateway area. The CORE Transit (formerly ECO Transit) facility and Eagle County Service Center are located along Cooley Mesa Road west of the airport. Cooley Mesa Road intersects Valley Road south of Highway 6 at a roundabout, extends eastward past the airport, and then curves northward to intersect Highway 6 at a traffic signal. The roadway is two lanes, except through the Airport Gateway area, where it has been constructed as a four-lane divided road. The posted speed limit is 25 MPH from Valley Road to the Town Shop, 45 MPH from the Town Shop to the Airport Gateway area, 35 MPH through the Airport Gateway area, and 25 MPH approaching Highway 6.



NOTE: Drawing Not to Scale

FIGURE 3
Study Area Roadway Network

Eagle Airport Interchange - Feasibility 124388-01 6/2/25

II.B Existing Traffic Volumes

The Study evaluates nine existing intersections, including the ramp terminals in the Gypsum Interchange (Exit 140) and the Eagle Interchange (Exit 147), plus key locations in the town. Locations in Eagle considered in the *TIA Update* were excluded from the Study since that report indicated that operations at these interactions improve significantly with the Proposed Action.

The Study includes the following intersections:

- Trail Gulch Road at I-70 WB Ramps (roundabout)
- Trail Gulch Road at I-70 EB Ramps (side street stop control)
- Highway 6 at Valley Road (signal)
- Highway 6 at Cooley Mesa Road (signal)
- Cooley Mesa Road at Valley Road (roundabout)
- Cooley Mesa Road at Spring Creek Road / Eldon Wilson Road (side street stop control)
- Cooley Mesa Road at Buckhorn Valley Road / Eldon Wilson Road (side street stop control)
- Eby Creek Road at I-70 EB Ramps (roundabout)
- Eby Creek Road at I-70 WB Ramps (roundabout)

Study Data Collection

Felsburg Holt & Ullevig used a vendor to collect traffic volumes for the Study on February 13, 2025, at the following locations:

- Trail Gulch Road at I-70 WB Ramps (roundabout)
- Trail Gulch Road at I-70 EB Ramps (side street stop control)
- Highway 6 at Valley Road (signal)
- Highway 6 at Cooley Mesa Road (signal)
- Cooley Mesa Road at Spring Creek Road / Eldon Wilson Road (side street stop control)
- Cooley Mesa Road at Buckhorn Valley Road / Eldon Wilson Road (side street stop control)
- Eby Creek Road at I-70 EB Ramps (roundabout)
- Eby Creek Road at I-70 WB Ramps (roundabout)

Volumes were collected and summarized by movement in 15-minute increments at each intersection. Uniform a.m. and p.m. peak hours were determined to be 7:30 a.m. to 8:30 a.m. and 5:00 p.m. to 6:00 p.m. **Appendix B** includes the raw count data.

Other Available Volume Data

Traffic volume data for the Study are also available from several previous efforts.

MTS Update

Since the *MTS Update* was completed recently, traffic information in this report has been used to supplement the Study where needed. Traffic count data from the *MTS Update* was used to supplement the Study count program and to help define average season volumes.

TIA Update

The *TIA Update* did not present base volumes, relying instead on counts shown in the *Concept Study*. These data are more than 25 years old and not applicable to the Study. However, the *TIA Update* provides year 2025 No Action forecasts, including both summer and winter scenarios. The summer volumes were generally 5 percent to 20 percent higher than the winter volumes in the I-70 interchanges. The summer volumes were generally up to 10 percent lower than the winter volumes along Highway 6 and Cooley Mesa Road.

CDOT Permanent Count Stations

CDOT collects continuous traffic counts at various locations across Colorado to monitor statewide trends in traffic patterns. The two sites closest to the study area are:

- Station #000105, along I-70 at milepost 116.4, just west of the No Name Rest Area (Exit 118)
- Station #000011, along I-70 at milepost 156.5, just east of the CO 131 / Wolcott Interchange (Exit 157)

Historic daily volume data are available from 1991 through 2024 (more than 30 years) from CDOT's Online Transportation Information System (OTIS). For this Study, the most recent 10 years of data (2015 through 2024) were considered for trend analyses to minimize the effects of the COVID pandemic.

The volumes are generally higher at milepost 157 (east of the study area), but the volume trends at both locations are similar. July is the highest volume month (about 125 percent of the annual average) for both stations, and January is the lowest volume month (about 80 percent of the annual average). In support of this Study, it was observed that May volumes are about 107 percent of the annual average, and February volumes are about 82 percent of the annual average.

Closer to the study area, CDOT takes short duration counts at three locations along I-70:

- Station #103020, along I-70 at milepost 134.1, just east of the Dotsero Interchange (Exit 133)
- Station #103021, along I-70 at milepost 139.5, just east of the Gypsum Interchange (Exit 140)
- Station #103022, along I-70 at milepost 146.6, just east of the Eagle Interchange (Exit 147)

These short-duration counts are conducted for two middle weekdays on a rotating basis across the state. The most recent data near Dotsero and near Eagle are from 2020, and the most recent data near the Gypsum Interchange are from 2021. As shown by the continuous count station data, 2020 information is not representative because of the pandemic. Since Year 2018 data were available for all three short-duration count stations, these data were used as a baseline for the Study volume development. Like the continuous count data, volumes tend to increase from the Dotsero area east to the Eagle Interchange area.

The data collected for this Study and for the *MTS Update* did not include daily volumes along Eby Creek Road in Eagle. CDOT has a short duration count station along Eby Creek Road (I-70 spur route 070F) just south of the Eagle Interchange (Station #103138). The most recent counts at this station were collected in 2020, but these data are not reasonable because of the pandemic. Before 2020, the most recent data are from June 2017, which is older than other CDOT data. Since there are no recent data from other studies with which to compare this volume, it has not been used further in this TIS. For reference, the counted two-way volume was approximately 19,400 vehicles per day in 2017.

Volume Comparisons

Because the Study considers both an average season and a high season, the Study traffic counts were compared with volumes from these sources to inform development of existing volumes for each scenario. This was done because:

- Study volumes were collected in February, which matches high season at the airport but low season along I-70.
- *MTS Update* volumes were collected in May, which matches the average season.
- *MTS Update* collected counts in Gypsum but did not include interchange counts.
- *Concept Study* was based on fall 1998 traffic data, which matches the average season.
- *TIA Update* did not update the base year volumes from the *Concept Study*. It included year 2025 projections for both summer and winter conditions.
- CDOT permanent count stations provide unifying data, correlating February data (high season at the airport) with May data (average season) with July data (high season on I-70). Since these data are daily as opposed to peak hour, it is not possible to directly compare these volumes to peak hour intersection volumes from other sources.

Table 1 summarizes how the *MTS Update* counts and the *TIA Update* forecasts compare to the collected traffic counts.

The following conclusions were drawn from these comparisons:

- Volume comparisons between the *MTS Update* and the 2025 counts indicate that the 2.0 percent annual growth, plus a seasonal adjustment factor, is reasonable to capture the differences between the two efforts.
- Year 2025 forecasts from the *TIA Update* were significantly higher than the 2025 counts. This is likely because of the 2008 through 2010 economic downturn noted in the *Master Plan* and the effects of the COVID-19 pandemic in 2020.
- A review of key volume comparisons between the *TIA Update* and the 2025 counts indicates that the most significant changes were related to morning traffic coming into the study area from the east and evening traffic leaving the study area toward the east.

Table 1. Existing Intersection Volume Comparisons

Location	2025 Study Counts compared to:	
	***MTS Update* Counts (2022)**	***TIA Update* Forecasts (2025)**
Trail Gulch Road at I-70 WB Ramps	Since the *MTS Update* did not include this interchange, no comparison was possible.	The forecasted volumes are about 3.8 times greater in the a.m. peak hour and about 2.7 times greater in the p.m. peak hour when compared to the 2025 counts.
Trail Gulch Road at I-70 EB Ramps	Since the *MTS Update* did not include this interchange, no comparison was possible.	The forecasted volumes are about 2.1 times greater in the a.m. peak hour and about 2.8 times greater in the p.m. peak hour when compared to the 2025 counts.
Highway 6 at Valley Road	The 2025 counts reflect a 2.3 percent annual growth rate in the a.m. peak hour and a 2.7 percent annual growth rate in the p.m. peak hour when compared to the *MTS Update*. This is consistent with the growth rate shown in the *MTS Update* plus seasonal changes.	The forecasted volumes are about 1.8 times greater in the a.m. peak hour and about 2.3 times greater in the p.m. peak hour when compared to the 2025 counts.
Highway 6 at Cooley Mesa Road	The 2025 counts reflect a -7.6 percent annual growth rate in the a.m. peak hour and a -1.1 percent annual growth rate in the p.m. peak hour when compared to the *MTS Update*. It is unclear why these volumes decreased.	The forecasted volumes are about 2.9 times greater in the a.m. peak hour and about 2.4 times greater in the p.m. peak hour when compared to the 2025 counts.
Cooley Mesa Road at Valley Road	Since the 2025 counts did not include this intersection, no comparison was possible.	Since the 2025 counts and the *TIA Update* did not include this intersection, no comparison was possible.
Cooley Mesa Road at Spring Creek Road / Eldon Wilson Road	The 2025 counts reflect a 2.5 percent annual growth rate in the a.m. peak hour and a 4.3 percent annual growth rate in the p.m. peak hour when compared to the *MTS Update*. This is consistent with the growth rate shown in the *MTS Update* plus seasonal changes.	Since the *TIA Update* did not include this intersection, no comparison was possible.
Cooley Mesa Road at Buckhorn Valley Road / Eldon Wilson Road	The 2025 counts reflect a -3.8 percent annual growth rate in the a.m. peak hour and a 7.3 percent annual growth rate in the p.m. peak hour when compared to the *MTS Update*. It is not clear why the a.m. volume decreased while the p.m. volume increased.	Since the *TIA Update* did not include this intersection, no comparison was possible.
Eby Creek Road at I-70 EB Ramps	Since the *MTS Update* did not include this interchange, no comparison was possible.	The forecasted volumes are about 2.6 times greater in the a.m. peak hour and about 1.4 times greater in the p.m. peak hour when compared to the 2025 counts.
Eby Creek Road at I-70 WB Ramps	Since the *MTS Update* did not include this interchange, no comparison was possible.	The forecasted volumes are about 1.8 times greater in the a.m. peak hour and about 2.2 times greater in the p.m. peak hour when compared to the 2025 counts.

EB = eastbound MTS = Master Traffic Study TIA = Traffic Impact Analysis WB = Westbound

Base Year Study Volumes – Intersections

Based on the previous volume comparisons, the following approach was used to develop peak hour base year (2025) high season and average season intersection volumes.

Both Seasons

- Year 2025 volumes were obtained from the February 2025 Study counts, except at the Cooley Mesa Road at Valley Road intersection, which was not counted in 2025.
- The Cooley Mesa Road at Valley Road intersection volumes were obtained from the May 2022 *MTS Update* counts. These counts were increased by an annual growth rate of 2 percent per year (per the *MTS Update*) to obtain 2025 volumes.

High Season

- February 2025 counts were assumed to reflect high season volumes along Highway 6 and Cooley Mesa Road (except for the Cooley Mesa Road at Valley Road intersection) and they were not changed.
  - The Cooley Mesa Road at Valley Road intersection volumes (May counts with growth applied) were multiplied by 1.04 to increase them from average season to high season volumes. The 1.04 factor was based on comparisons between the Study counts and the *MTS Update* counts.
- February 2025 counts were assumed to reflect a low condition at the interchanges based on CDOT data. These counts were multiplied by 1.23 to increase them from low season to high season volumes.

Average Season

- February 2025 counts were multiplied by 0.96 west of Glider Way and 0.93 east of Glider Way to reduce them to average season along Highway 6 and Cooley Mesa Road (except for the Cooley Mesa Road at Valley Road intersection). These factors were based on comparisons between the Study counts and the *MTS Update* counts.
  - The May 2022 Cooley Mesa Road at Valley Road intersection counts were not changed except for applying the growth rate to obtain 2025 volumes.
- February 2025 counts were assumed to reflect a low condition at the interchanges based on CDOT data. These counts were multiplied by 1.11 to increase them from low season to average season volumes.

For both scenarios, the interchange intersections were reviewed for balancing as appropriate. Balancing was not applied elsewhere as there are intermediate intersections between study area intersections. Since most of the counts have been mathematically adjusted to obtain the high season or average season volumes, the base year intersection volumes have been rounded to the nearest five vehicles. **Figure 4** shows the resulting base year average scenario intersection volumes, and **Figure 5** shows the base year high season intersection volumes.

Base Year Study Volumes – Daily (Link) Volumes

Based on the previous volume comparisons, the following approach was used to develop daily base year (2025) high season and average season link volumes:

Both Seasons

- I-70 freeway link volumes were based on the year 2018 short duration count station data obtained from CDOT OTIS. These volumes were increased by an annual growth rate of approximately 1.04 percent per year based on data obtained from the nearby permanent count stations for the 2018 through 2024 period to obtain year 2025 volumes.
- Arterial link volumes were obtained from the May 2022 *MTS Update* counts. These counts were increased by an annual growth rate of 2 percent per year (per the *MTS Update*) to obtain 2025 volumes.

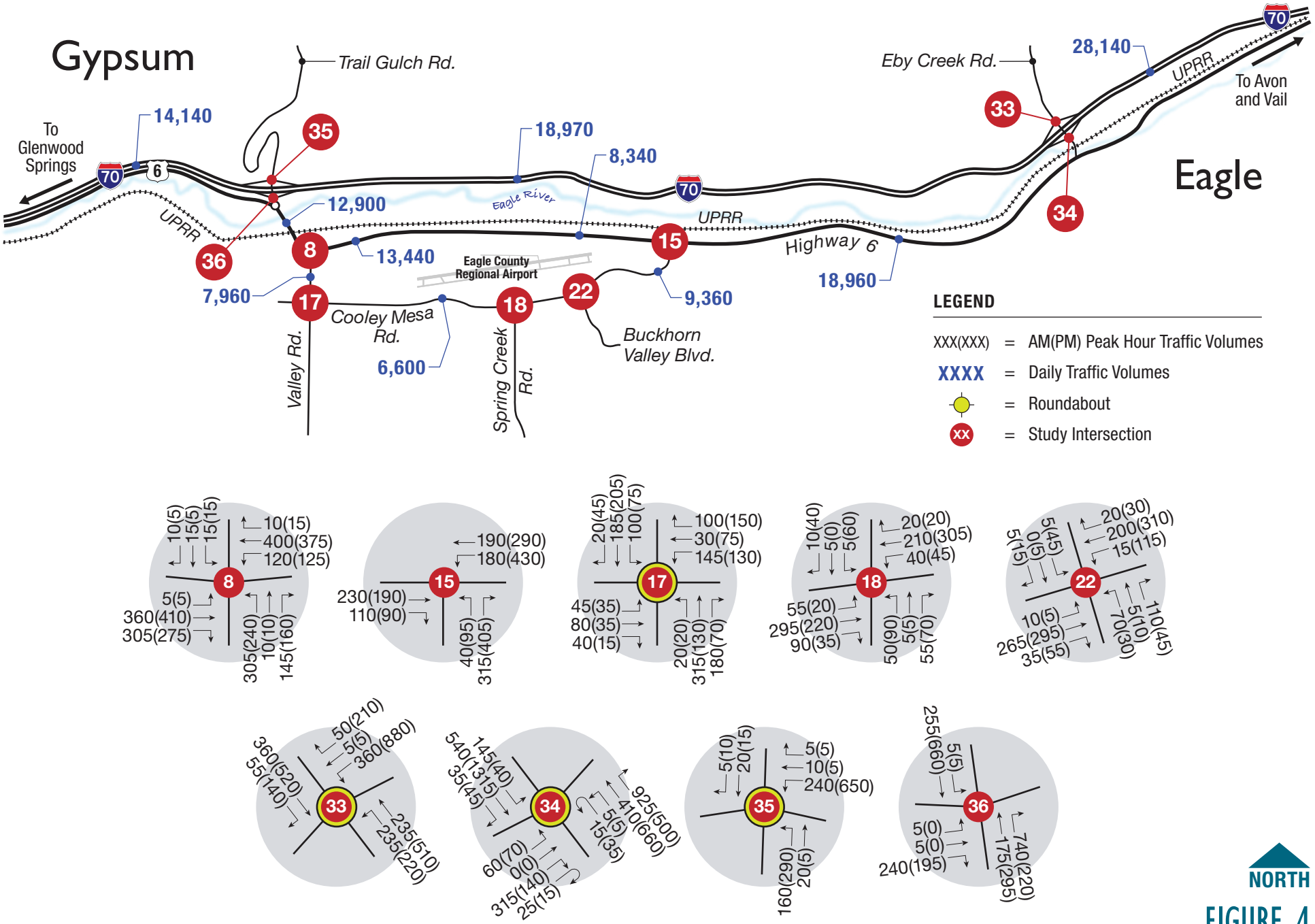
High Season

- CDOT freeway volumes were collected in different months of the year. Factors for each month were developed based on CDOT continuous count station data and were used to increase the factored 2025 counts to reflect the high season.
- *MTS Update* counts were collected in May. As noted previously, volumes west of the airport were increased by a factor of 1.04 to reflect the high season. Similarly, volumes east of the airport were increased by a factor of 1.07 to reflect the high season. These factors were based on comparisons between the Study intersection counts and the *MTS Update* intersection counts.

Average Season

- CDOT freeway volumes were collected in different months of the year. Factors for each month were developed based on CDOT continuous count station data and were used to adjust the factored 2025 counts to reflect the average season.
- *MTS Update* counts were collected in May, which is considered average season. Hence, the 2025 link volumes were not factored for the average season.

Since these counts have been mathematically adjusted to obtain the high season or average season volumes, the base year daily volumes have been rounded to the nearest 10 vehicles. **Figure 4** shows the resulting base year average scenario daily volumes, and **Figure 5** shows the base year high season daily volumes.



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NOTE: Drawing Not to Scale

FIGURE 4

Base Year Average Scenario Traffic Volumes

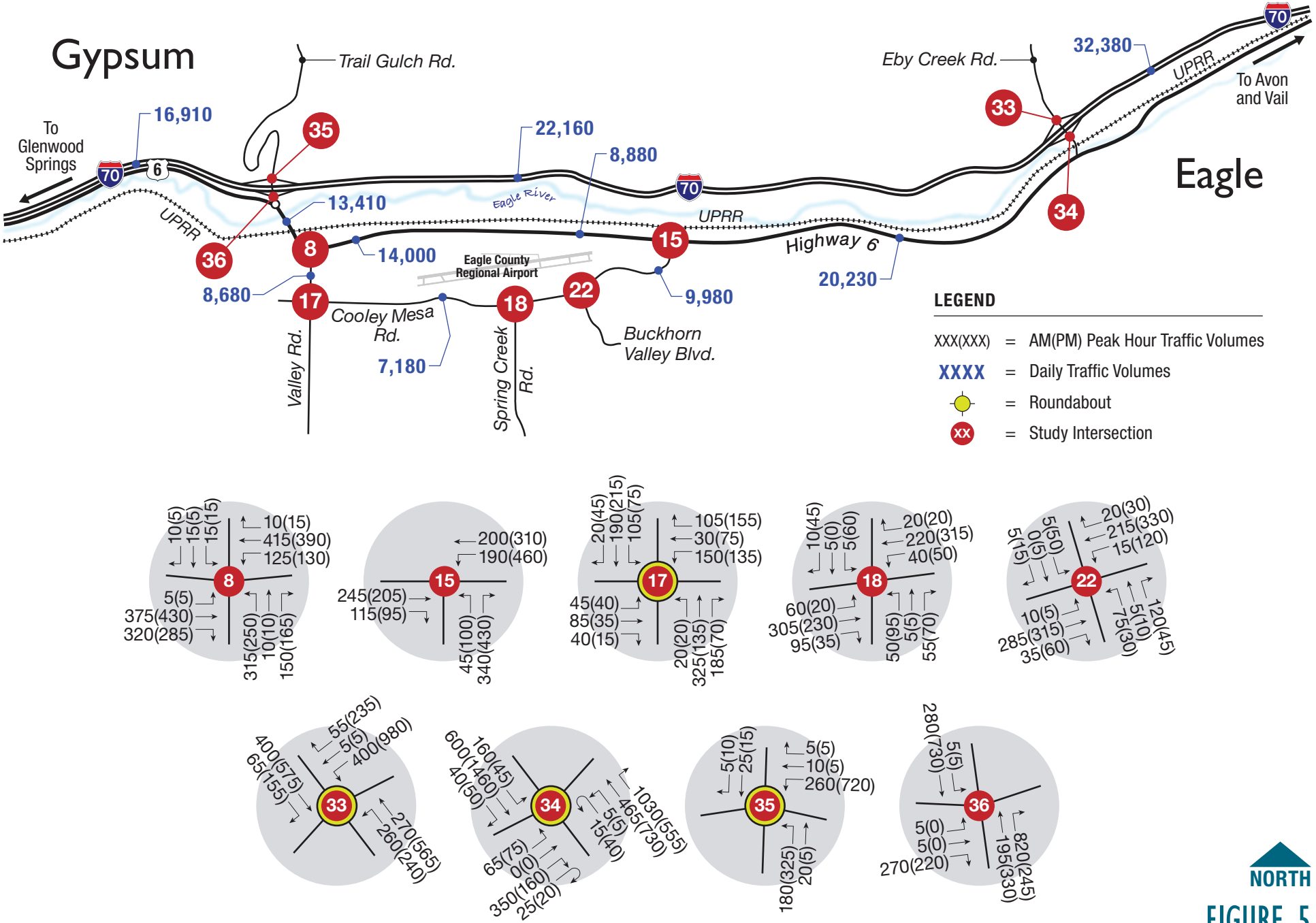

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FIGURE 5

Base Year High Scenario Traffic Volumes

Base Year Study Volumes – Heavy Vehicles

The Spring Creek light industrial area and the American Gypsum wallboard plant in Gypsum both generate higher truck traffic than traditional residential or commercial land uses. Hence, the Study incorporates the effects of truck trips in the analysis. Heavy vehicle percentage data have been extracted from traffic counts completed for the *MTS Update* (May data) and the 2025 Study (February data), as shown in **Table 2**. Similarly, heavy vehicle percentage data have been extracted from CDOT OTIS for 2025 (annualized data), as shown in **Table 3**.

Table 2. Existing Heavy Vehicle Percentages (Arterial Network)

Location	2022 MTS Update Counts (a.m. / p.m.)	2025 Study Counts (a.m. / p.m.)
Highway 6 at Valley Road	3.2% / 1.8%	0.7% / 0.1%
Highway 6 at Cooley Mesa Road	3.3% / 1.2%	1.1% / 0.3%
Cooley Mesa Road at Spring Creek Road	9.9% / 7.3%	0.7% / 0.5%
Cooley Mesa Road at Buckhorn Valley Road	7.5% / 5.0%	0.8% / 0.1%
Cooley Mesa Road at Valley Road	3.2% / 1.3%	n/a
I-70 WB at Eby Creek Road	n/a	0.7% / 0.3%
I-70 EB at Eby Creek Road	n/a	0.6% / 0.2%
I-70 WB at Trail Gulch Road	n/a	8.3% / 1.3%
I-70 EB at Trail Gulch Road	n/a	3.7% / 1.2%

EB = eastbound MTS = Master Traffic Study WB = westbound

Table 3. Existing Heavy Vehicle Percentages (I-70)

Location	CDOT OTIS Data (Daily)
Station 103020 (On I-70 east of Dotsero)	12.9%
Station 103021 (On I-70 east of Gypsum)	12.8%
Station 103022 (On I-70 east of Eagle)	10.5%

CDOT = Colorado Department of Transportation OTIS = Online Transportation Information System

The following observations were made:

- Overall, the arterial heavy vehicle percentage is lower in February than in May. This may reflect seasonal facilities in the study area such as construction material providers or outdoor services. These include a landscaping business and two aggregate / construction businesses along Highway 6 and several smaller seasonal businesses in the Spring Creek light industrial area.
- The Cooley Mesa Road area heavy vehicle percentage data from the *MTS Update* are about ten times greater than those from the 2025 Study counts. A higher heavy vehicle percentage along Cooley Mesa Road is expected because of the nearby Spring Creek industrial area.
- The Highway 6 area heavy vehicle percentage data from the *MTS Update* are about four times greater than those from the 2025 Study counts.

- The American Gypsum mine is located north of I-70 along Trail Gulch Road. The production facility is located south of I-70 along Highway 6 between the Eagle River and the Union Pacific Railroad. Truck trips between the mine and the plant affect the heavy vehicle percentage in the Gypsum Interchange (Exit 140). The planned interchange would not affect these trips.
- OTIS data for I-70 is available only daily. These data show higher heavy vehicle percentage data than the counts in the arterial network because of significant through truck trips on I-70. The data also show higher truck percentages on I-70 west of the study area. Because there are fewer overall trips on I-70, through trucks make up a larger percentage of total trips to the west.

Based on these data and observations, the heavy vehicle percentage recommendations shown in **Table 4** have been made for the Study analyses.

Table 4. Recommended Heavy Vehicle Percentages

Location	Average Season (a.m. / p.m.)	High Season (a.m. / p.m.)
Highway 6 Corridor (including Cooley Mesa Road intersection)	4% / 2%	2% / 2%
Cooley Mesa Road Corridor	8% / 6%	4% / 3%
Trail Gulch Road Interchange (Exit 140)	8% / 2%	8% / 2%
Proposed Eagle Airport Interchange	4% / 2%	4% / 2%
Eby Creek Road Interchange (Exit 147)	4% / 2%	2% / 2%

II.C Existing Safety Conditions

The study team collected available study area safety data from DiExSys' Vision Zero Suite for the five-year period between January 2019 and December 2023. The team evaluated these data to identify traffic safety concerns for the Study. The detailed analysis is presented in a memorandum attached to this traffic analysis report as **Appendix C**. The following represent key results:

- **I-70 Mainline:** On I-70, fixed object crashes were the most frequent, accounting for nearly half of total crashes, and were associated with a higher rate of severe outcomes, including the study area's only fatal crash. Notable crash clusters were identified near interchange merge and diverge areas.
- **I-70 Interchange Areas**: The ramps associated with the interchange areas at Exit 140 and Exit 147 exhibited relatively low crash frequency but showed localized patterns. Rear end and fixed object crashes were most common at Exit 140, while broadside and overturning crashes occurred more often at Exit 147.
- **Arterial Network**: On the arterial network, Highway 6 experienced the highest total crash volume (147 crashes), with significant concentrations at intersections and roundabouts. Rear end and broadside crashes were most prevalent, and injury crashes were disproportionately observed at the Trail Gulch Road and Highway 6 roundabout and the Eby Creek Road roundabouts. Cooley Mesa Road and Valley Road recorded lower crash frequencies but exhibited crash patterns at locations with fixed roadside objects.

Based on these data, the Existing Safety Conditions Memorandum did not identify mitigations.

III. FUTURE CONDITIONS

The future analysis year for this Study is 2045, selected to reflect a 20-year planning horizon from existing conditions (year 2025) and to align with the current CDOT statewide travel forecasts. The future analysis year for the interchange may shift to year 2050 if the Proposed Action advances into an interchange approval process and related environmental studies. This shift would align with CDOT's ongoing development of year 2050 travel demand forecasts and support long-range transportation planning efforts across the state.

The year 2045 forecasts presented in this Study include both a base scenario (without the planned interchange and connector roadway) and a build scenario (with the planned interchange and connector roadway), considering average season and high season conditions. While the methodology builds on the efforts completed for the *TIA Update*, it now incorporates the CDOT StateFocus Travel Demand Model and connected mobility data, which were not available during the *Concept Study* or the subsequent *TIA Update*.

III.A Travel Demand Estimation

The study team began the forecasting process by compiling available travel demand data for the study area, including model data from the CDOT StateFocus version 1.84 travel demand model. The team also extracted data from Replica, a vendor that compiles connected mobility datasets including connected vehicle data, location-based services data, and U.S. Census data. A third component considered in travel demand estimates is planned development data from the Town, summarized in the *MTS Update*. Each is described in more detail as follows:

- The most recent version of CDOT's StateFocus Model was adopted and made available for statewide planning purposes in 2022. The model has a base year of 2015 and a forecast horizon year of 2045. The model uses the same Focus platform as the Denver Regional Council of Government's travel demand model, which covers the largest population center in Colorado. It also incorporates information from the four other travel demand models in the state: North Front Range Metropolitan Planning Organization, Pikes Peak Area Council of Governments, Pueblo Council of Governments, and Grand Valley Metropolitan Planning Organization. To represent smaller population centers and rural areas across the state, including Eagle County, data were compiled from household travel surveys, traffic count data from CDOT OTIS, land use and demographic forecasts from the Colorado State Demography Office and local planning partners, data from the U.S. Census, and other local agency-provided infrastructure and development plans. The model includes key study area roadways in Eagle and Gypsum (such as Highway 6, Cooley Mesa Road, and I-70). The model contained 23 traffic analysis zones (TAZs) that cover the study area. By comparison, the *TIA Update* evaluated 20 study area zones and included the same key roadway network, indicating a similar level of geographic coverage between the two efforts.
- Replica uses anonymized information from mobile devices and connected vehicles to model trip patterns. It integrates land use and demographic data (such as population and employment), built environment data (including roadway and transit networks), and economic activity data to construct a comprehensive computer-generated model of travel behavior across the country. The model is calibrated to ground-truth data (such as traffic counts and transit ridership) to ensure statistical accuracy and representativeness. Travel demand data for year 2024 can be extracted using the same zone network used by the CDOT StateFocus Model, and the same key roadway network is also available in Replica.

- Planned development data for the Town were compiled and summarized in Chapter 3.1 of the *MTS Update*. These data capture land uses such as Brightwater, Winding Creek, Spring Creek, Siena Lake, and Eagle County Regional Airport. Although these data were not developed using the same TAZ structure as that used by the CDOT StateFocus Model and Replica, reasonable equivalencies were established based on development locations and the TAZ structure obtained from the CDOT StateFocus Model. Development access locations were also defined based on the CDOT StateFocus Model roadway network.
- Eagle County Regional Airport publishes enplanement data reflecting the monthly number of passenger boardings at the airport. These data are growing at a rate faster than surrounding development, and the airport has expansion plans to support this growth in enplanements. As described previously, the airport experiences peak enplanements during the winter recreation season. Growth in employment can be tied to a specific zone within the CDOT StateFocus Model, and growth can be applied to the high season data to help define interchange needs.

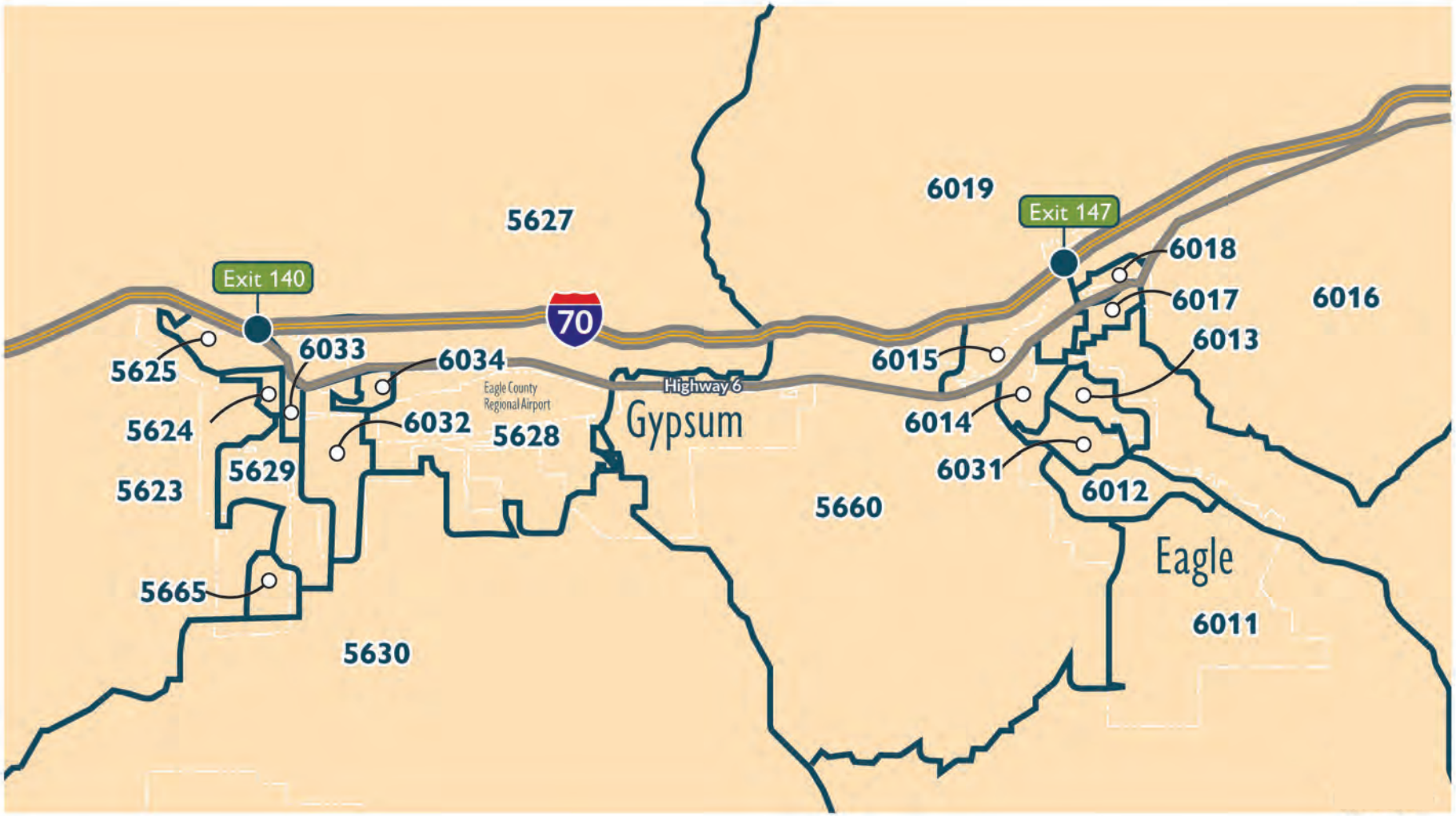
Data from these sources were compared, leading to the following conclusions:

- CDOT and Replica datasets share a common TAZ structure and both the Town and airport data could be integrated into this zone structure.
- Replica provides recent travel pattern data for the year 2024; however, it does not provide future forecast data.
- CDOT's existing conditions analysis year of 2015 does not reflect current travel behavior, particularly given the lasting impacts of the COVID-19 pandemic, which became fully apparent in 2020.
- CDOT's future conditions analysis year of 2045 offers a reasonable long-range horizon for this Study.
- The Town's planned development data from the *MTS Update* can be readily updated to reflect current expectations for year 2045.
- Monthly enplanement data from the Eagle County Regional Airport can be used to develop airport-specific seasonal forecasts for 2045.

Based on these comparisons, a combined dataset approach was selected to develop reasonable travel demand estimates for the year 2045. The following approach outlines the methodology used for this process.

Traffic Analysis Zone Structure

The TAZ structure used for the Study was obtained from the CDOT StateFocus Model. The model has more than 6,400 zones statewide, with nearly 2,800 zones in the Denver metropolitan area. The study team identified the 23 zones that constitute the study area, as shown in **Figure 6**. To ensure comprehensive coverage of regional travel, the remaining statewide zones were grouped into "east" and "west." This approach captures trips that travel along I-70 between areas east and west of the study area. The approach also allows for the inclusion of trips that either originate or terminate in the study area but travel outside the study area in either direction, as illustrated in **Figure 7**.



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NOTE: Drawing Not to Scale

FIGURE 6

Feasibility Study Area Traffic Analysis Zones

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NOTE: Drawing Not to Scale

FIGURE 7

Statewide Traffic Analysis Zones

Eagle Airport Interchange - Feasibility 124388-01 6/30/25

Background Growth Rate

The first step in the travel demand estimation process was to evaluate background growth, which would occur without the new developments in the Town, growth of the airport, or the new interchange. The CDOT StateFocus Model provided a consistent benchmark for this assessment, as it includes both existing (year 2015) and future (year 2045) data. The modeled growth rate across the 23 TAZs in the study area was 2.3 percent per year. The study team also reviewed other sources for comparison to the background growth rate from the CDOT StateFocus Model.

- As noted in **Section III.B**, CDOT OTIS data reflect a 1.04 percent per year growth rate at the two permanent count stations nearest the study area. This growth rate is below the travel demand model forecasts, possibly because of the effects of COVID.
- The *MTS Update* used a 2.0 percent per year background growth rate, consistent with the base *MTS*.
- The *Concept Study* did not use a defined growth rate but instead based growth on planned development across the study area.

Based on these data points, this Study used a 2.0 percent per year growth rate. It is consistent with past analyses, only slightly lower than the travel demand model growth rate for the study area, and well above historical growth rates along this portion of I-70.

Development-Specific Growth

The *MTS Update* considered 14 specific developments and developed specific trip generation for each of these developments as part of the forecasts. This effort was updated for this Study. The projects listed in **Table 5** were considered during development of the background forecasts. This table reflects changes in development intensity since the *MTS Update* as provided by Town staff.

The developments within each TAZ were combined and compared to forecasted background growth. The background growth rate encompassed the planned development with the following exceptions:

- The planned growth in commercial development for TAZ 5628 (including Tower Center, Eagle County Regional Airport, Spring Creek, and a portion of downtown) exceeded the travel demand model growth by about 90 percent.
- The planned growth in residential development for TAZ 5629 (including a portion of the one-acre residential, Cotton Ranch / Sky Legend, IK Bar workforce housing, and early learning center) exceeded the travel demand model growth by about 36 percent.
- The planned growth in residential development for TAZ 5660 (including Buckhorn Valley, Siena Lake, Airport Gateway, and Nottingham) exceeded the travel demand model growth by about 23 percent.

The growth deficit for these TAZs was applied to reflect the higher planned development intensity in these areas, resulting in an overall increase in growth in portions of the study area.

Table 5. Planned Development in Gypsum

Project Name	Development Plans		Location (TAZ)
	MTS Update Comparison	2045 Development Intensity	
Winding Creek Ranch	25% of development shown in the *MTS Update*	62 dwelling units	5630
Siena Valley Club (formerly Brightwater)	50% of development shown in the *MTS Update*	256 dwelling units, an 18-hole golf course, a 50-room hotel, and 16,000 square feet of retail space	5630
One-Acre Residential	25% of a revised development plan	12 dwelling units	5630
Remington Ranch	25% of development shown in the *MTS Update*	28 dwelling units	5630
Cotton Ranch / Sky Legend	100% of revised development shown in the *MTS Update*	41 dwelling units	5629
Tower Center	50% of a revised development plan	162 apartments, 40 town homes, 24 single-family, and 24 dwelling units in mixed use area	5628
Eagle County Regional Airport	90% of development shown in the *MTS Update*	18,000 square feet of office, 18,000 square feet of retail, and 18,000 square feet of light industrial space	5628
Spring Creek Area	90% of development shown in the *MTS Update*	13 dwelling units, 223,000 square feet of retail, and 455,000 square feet of light industrial space	5628
Buckhorn Valley	75% of development shown in the *MTS Update,* school removed.	359 dwelling units	5660
Siena Lake	50% of revised residential, 25% of revised commercial development plans	302 dwelling units, no hotel, 16,000 square feet of office, 16,000 square feet of retail, and 19,000 square feet of light industrial space	5660
Airport Gateway	75% of development shown in the *MTS Update*	532,000 square feet of retail and 43,000 square feet of light industrial space	5660
Downtown	30% of a revised development plan	98 dwelling units	5628, 6032, 6033, 6034
Holy Cross Electric	None	None	5660
Nottingham	10% of development shown in the *MTS Update*	11,000 square feet of retail and 16,000 square feet of light industrial space	5660
Accessory Dwelling Units	Added since *MTS Update;* completion before 2045	Not a discrete project; considered part of background growth	n/a
IK Bar Workforce Housing	Added since *MTS Update;* completion before 2045	120 dwelling units	5629
Gypsum Early Learning Center	Added since *MTS Update;* completion before 2045	40 apartments, 10 townhomes, and a 320-student school	5629

MTS = Master Traffic Study TAZ= Traffic Analysis Zone

Origin-Destination Patterns

The travel demand estimates described previously provide information about how trips are expected to grow over time, but they do not reveal where those trips are coming from or going to. To understand origin-destination (O-D) patterns, the study team used data from the CDOT StateFocus Model and Replica. These tools share the same zone structure, allowing the O-D patterns to be directly compared and correlated with travel demand estimates.

The year 2045 OD matrix, extracted from the CDOT StateFocus Model, provides trip distributions from each TAZ to all other TAZs in the study area, as well as the defined external zones to the east and west. The 2045 matrix was compared to the Replica O-D matrix and the year 2015 base OD matrix, and the results were found to be reasonable. **Appendix D** includes all three matrices for reference.

Trip Assignment

The study team used the Vistro software tool to automate the trip assignment process. The following steps were completed in Vistro to develop future year forecasts:

- Key roadways in the study area were coded into Vistro, including I-70 and the existing interchanges, Highway 6, Cooley Mesa Road, Valley Road, Trail Gulch Road, and Eby Creek Road. Intersections were defined where these roadways connect.
- TAZ centroids based on the zone structure shown in **Figure 6** and **Figure 7** were added into Vistro.
- Vistro's shortest path tool, which uses distance to identify the shortest routes between TAZs, was used to determine likely travel paths. This method was considered reasonable because most study area roadways are relatively uncongested and route choices are limited.
- Travel demand estimates and trip distribution percentages for each TAZ were imported into the Vistro model.
- Vistro then assigned trips to the shortest paths and computed traffic volumes based on the input demand estimates for the planned developments and the distribution data from the O-D matrix.

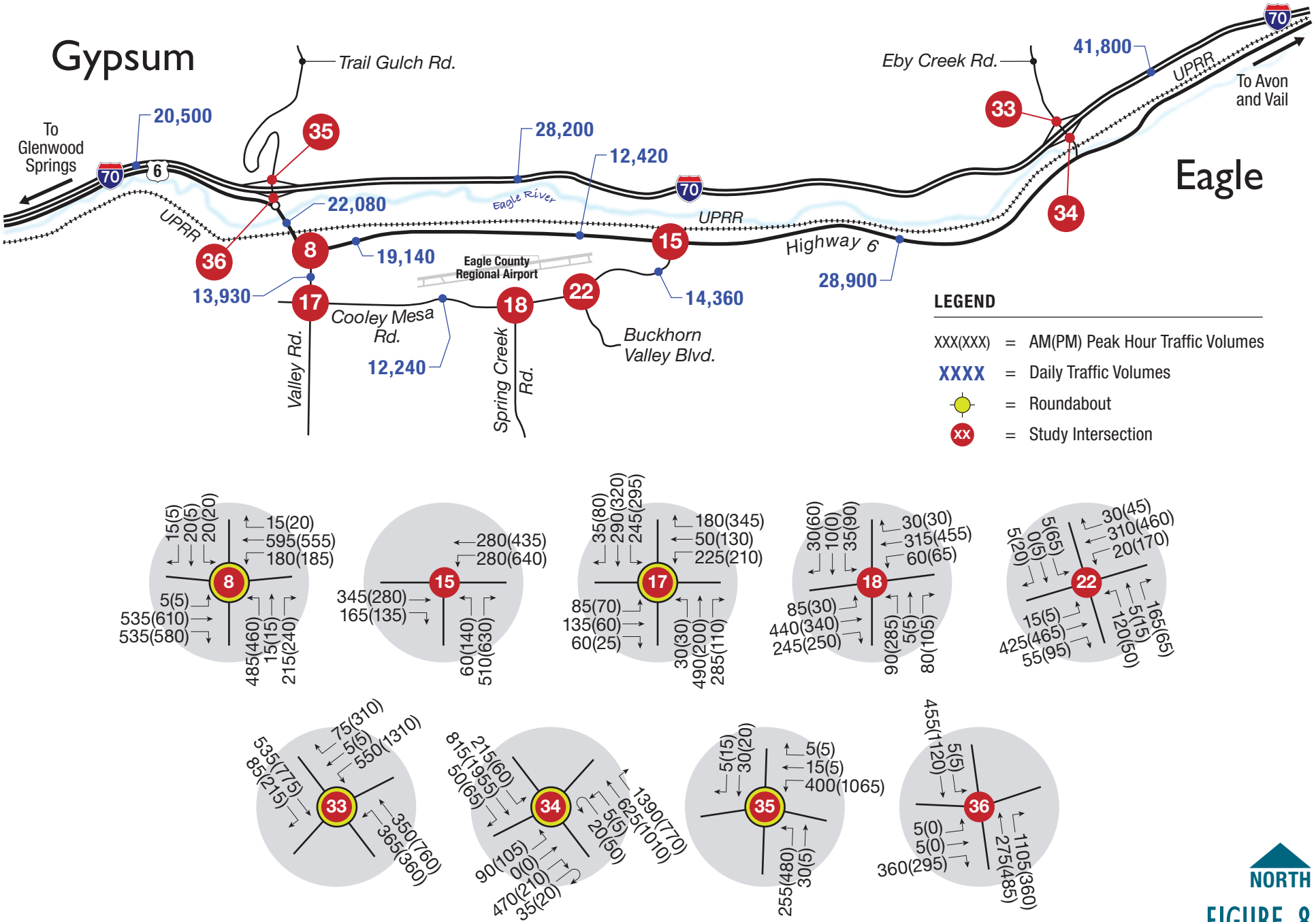
The results include both intersection turning movements and roadway link volumes. The study team reviewed Vistro outputs for reasonableness and made modifications where concerns were identified.

III.B Volume Forecasts

The year 2045 travel demand estimating process was applied for the base scenario (without the planned interchange and connector roadway) and for the build scenario (with the planned interchange and connector roadway). The forecasting process for both scenarios incorporated the travel demand estimation process outlined previously. The following subsections describe the details and resulting volumes for each scenario.

2045 Base Scenarios

The background growth rate and incremental volumes associated with the development-specific growth were combined with the existing volumes in Vistro to generate year 2045 volumes for the base scenario. **Figure 8** shows the resulting future year average season intersection and daily volumes, and **Figure 9** shows the future year high season intersection and daily volumes.



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NOTE: Drawing Not to Scale

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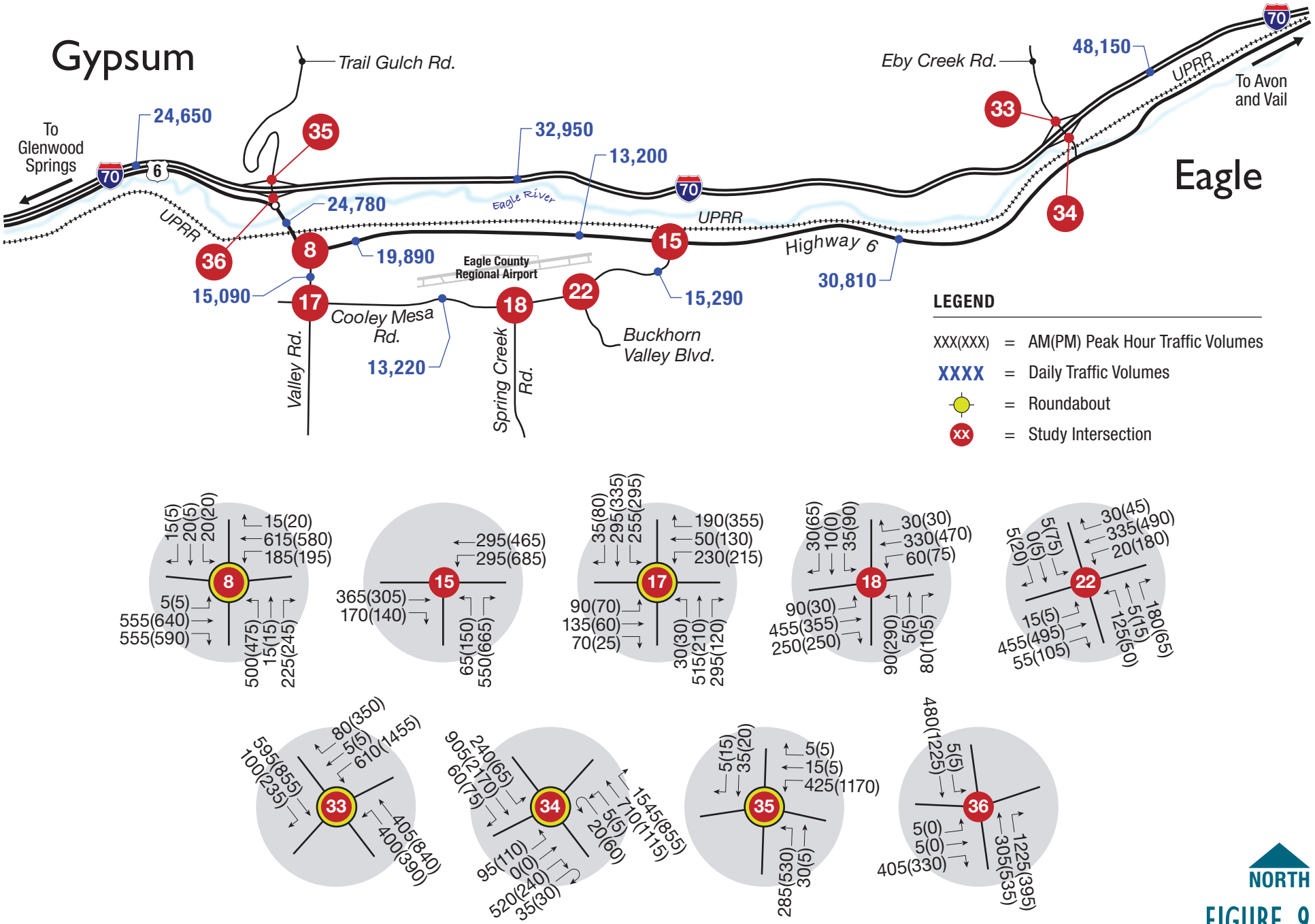
FIGURE 8

Future Year Background Average Scenario Traffic Volumes



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NOTE: Drawing Not to Scale

FIGURE 9

Future Year Background High Scenario Traffic Volumes

2045 Build Scenarios

To develop the traffic volumes for the build scenario, the study team started with the 2045 base scenario Vistro model. The planned new interchange and connector roadway were added to the network, and the shortest path assignment was re-run to reflect changes in routing for the planned development-related trips.

Trip distribution for the planned interchange was determined using a spreadsheet-based gravity model, which considered both population and employment data for the 23 TAZs in the study area. The gravity model estimates how trips are distributed between O-D pairs based on the principle that trips are more likely to occur between zones with higher levels of activity (i.e., more households or jobs) and shorter travel distances. The gravity model specifically evaluated which O-D pairs would be most likely to reroute through the new interchange, using distance comparisons to identify where the new connection offers a shorter, more direct, or desired path.

Using results from the gravity model, the study team applied a spreadsheet-based assignment method to assign trips to the new interchange and remove the reassigned trips from adjacent interchanges. Reassigned trips were then tracked through the network.

Figure 10 shows the resulting future year build average season intersection volumes and daily volumes, and **Figure 11** shows the future year build high season intersection volumes.

Observations

The study team reviewed the future year volume forecasts and made the following observations:

- The I-70 volumes east of the Eagle Interchange and west of the Gypsum Interchange are slightly different between the Base and Build scenarios. Since the trip patterns east and west of the study area are not forecasted to change because of the interchange, this is an unexpected result. The study team reviewed these changes and found that the differences result from various rounding and volume balancing efforts inherent to the forecasting process. Because the differences are less than 2 percent, no changes were made to the forecasts.
- The volumes along Highway 6 between Eagle and Gypsum were expected to decline significantly with the new interchange since trips from the airport could use the new interchange to reach I-70 instead of traveling through Eagle. However, the forecasted volumes change by less than 2 percent in both analysis seasons. The study team reviewed these changes and found the following:
  - Trips between western portions of Eagle (Sylvan Lake Road and Brush Creek Road areas) will continue to use Highway 6 to reach destinations in Gypsum. This results from significant out-of-direction travel for these trips to reach Eby Creek Road and Exit 147 when compared with going west along Highway 6 to Gypsum.
  - Trips from between western portions of Eagle that currently use the Eagle Interchange to or from I-70 to the west are now forecasted to use Highway 6 to reach I-70 via the proposed connector roadway and interchange. This pattern avoids out-of-direction travel to access westbound I-70 through Eagle.

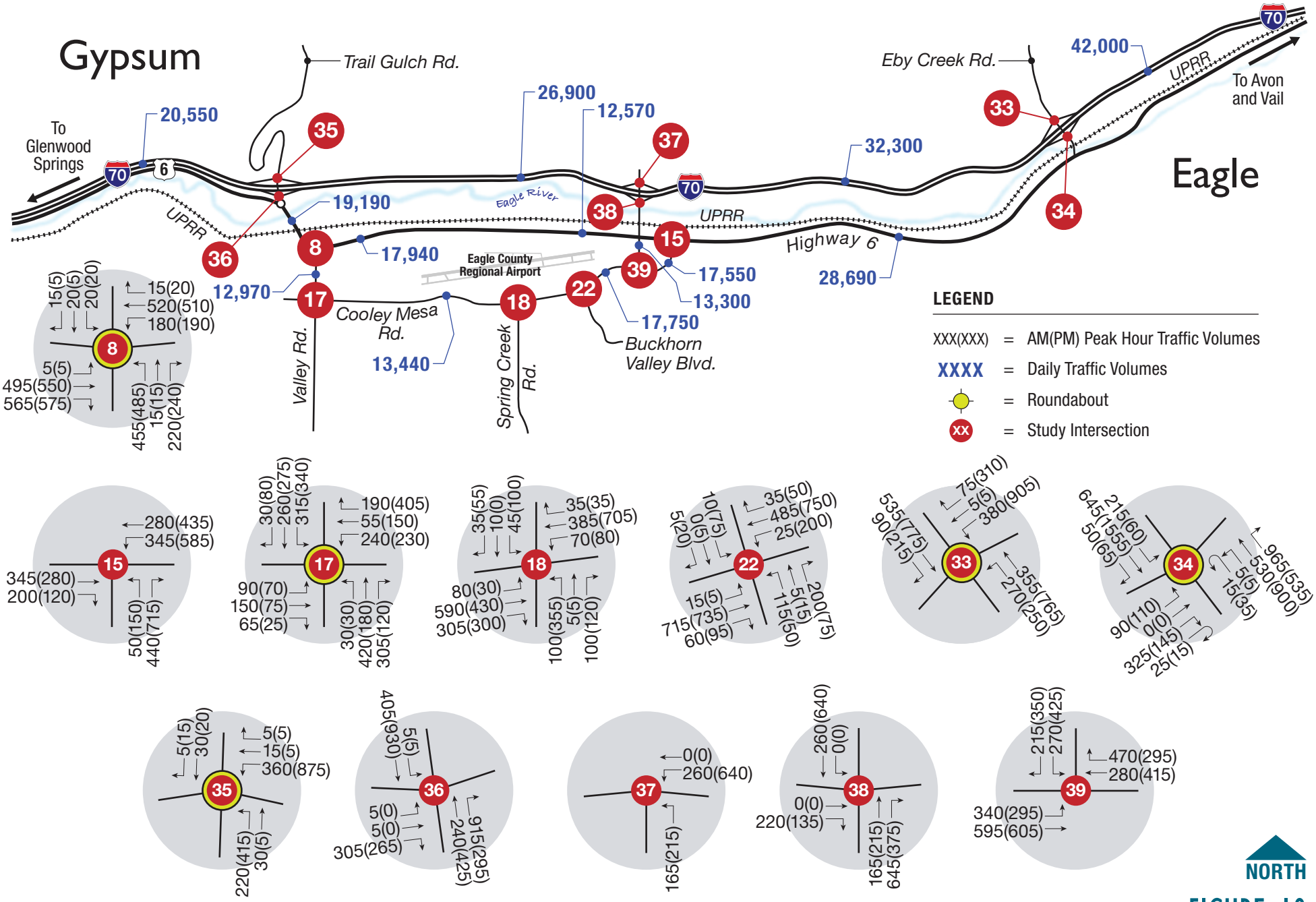

FIGURE 10

Future Year Build Average Scenario Traffic Volumes

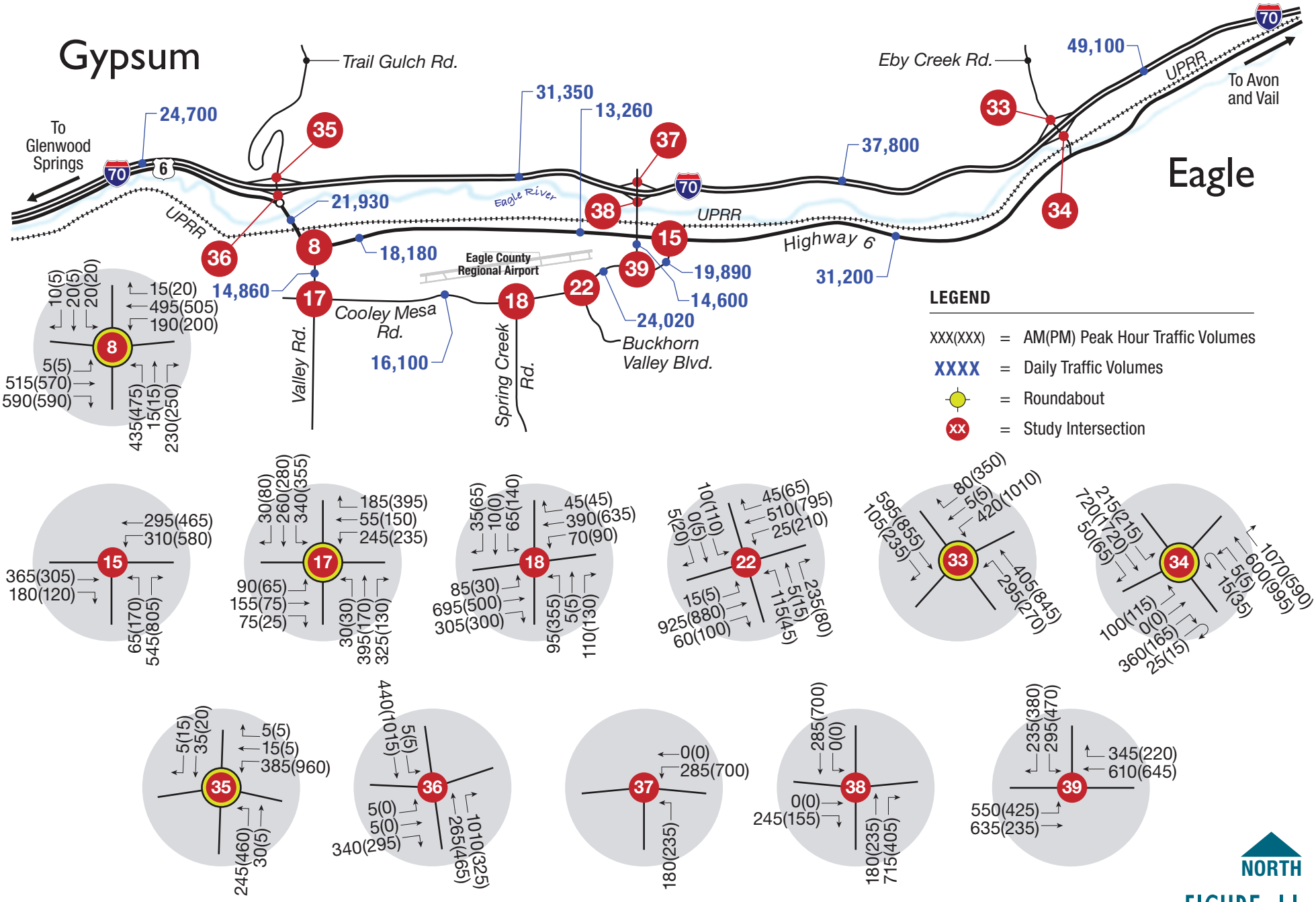

FIGURE 11

Future Year Build
High Scenario Traffic Volumes

III.C Connector Roadway Cross-Section

Based on the volume forecasts presented in **Section III.B**, the number of lanes needed to serve the planned connector roadway was evaluated. As with most arterial roadways, intersections along the corridor will largely dictate the capacity. Since the connector roadway planned for the Eagle Airport Interchange will include at least one significant bridge structure, providing an adequate number of lanes when the connector is built is a key planning goal.

The study team used methodologies in Section 7 of Chapter 16 in the Highway Capacity Manual (HCM) to complete this evaluation. The methodology requires four key inputs:

- **K-factor**: The K factor measures the relationship of peak hour volume to daily volume on a roadway. The study team used CDOT daily count data described in **Section II.B** to calculate a K-factor for this Study. The average CDOT K-factor was 0.078, which is below the typical HCM default value of 0.09. Therefore, a K-factor of 0.09 was selected for use in the Study to provide a conservative estimate of peak hour traffic.
- **D-factor**: The D-factor represents the distribution of peak hour traffic between opposing directions on a roadway. For this analysis, the 2045 forecasted volumes were used to calculate directional splits, resulting in D-factors ranging from 0.572 and 0.628. Based on this range, a D-factor of 0.60 was selected as a representative value for the Study.
- **Posted Speed**: The posted speed limit was assumed to be 45 MPH per the current alternative layouts developed for the Study.
- **Target LOS**: Level of Service (LOS) C was selected as the target LOS for the collector roadway. This threshold represents one grade higher than the LOS D target used in the *MTS*. Because of significant infrastructure planned for the connector roadway, this higher LOS target was used to ensure acceptable traffic operations beyond the Study's 2045 horizon year.

The previous inputs were assessed using Exhibit 16-16 in the HCM and volume thresholds were determined. The exhibit assumes 1500-foot signal spacing and 10 access points per mile. The connector roadway will not have access points, and the intersection spacing is approximately 3000 feet between I-70 and Cooley Mesa Road. It was assumed that these factors would add about 10 percent to the potential connector roadway capacity. The study team used the resulting volume thresholds (shown in **Table 6**) to define the connector roadway cross-section.

Table 6. Connector Roadway Cross-Section Volume Thresholds

Roadway Cross-section	HCM Volume Threshold (vehicles per day)	Escalated Volume Threshold (vehicles per day)
Two-Lane Facility	7100	7800
Four-Lane Facility	15,100	16,600
Six-Lane Facility	23,400	25,700

HCM = Highway Capacity Manual

The forecasted year 2045 average season daily volume for the connector roadway is 13,300 vehicles per day, and the forecasted year 2045 high season daily volume is 14,600 vehicles per day. Based on the information presented in **Table 6**, a four-lane facility could carry these volumes while retaining LOS C. Hence, a four-lane connector is recommended to achieve acceptable traffic operations.

During the parallel Study alternative development process, an option with an intersection along the connector roadway at Highway 6 is being considered. If this option moves forward, the connector roadway volume forecasts will need to be reevaluated. It is assumed that the revised forecasts would show increased connector roadway volumes with the new intersection. Based on evaluations in the *TIA Update*, it is assumed a four-lane cross-section would still be reasonable.

III.D CAP-X Analysis

The study team evaluated the planned interchange using CAP-X. Federal Highway Administration (FHWA) developed this sketch planning tool to do high-level comparisons among interchange and intersection types using critical lane volumes. Basic inputs including forecasted volumes and number of approach lanes are used to rank interchange and intersection types for the planned facility. CAP-X is a recognized first step in an overall intersection control evaluation process. Subsequent steps will be considered as the planned interchange and connector roadway moves into more detailed analyses.

Alternatives

CAP-X provides a default list of more than 30 intersection and interchange types for analysis. Because an interstate connection requires a grade-separated interchange, the CAP-X evaluation was limited to the eight interchange alternative types. The study team briefly reviewed each interchange type for applicability to the planned interchange, as shown in **Table 7**, and moved six of the eight interchange types into the CAP-X analysis.

Additional Inputs

The following additional inputs were used in the CAP-X analysis for this Study:

- **Number of Intersection Legs**: The CAP-X tool allows both three-approach and four-approach analysis scenarios. The planned interchange represents a three-leg scenario since there is no roadway connection to the north of I-70 and was coded accordingly in CAP-X.
- **Volumes**: The study team entered the future year build—average season and future year build—high season volumes presented in **Section III.B** into CAP-X for both a.m. and p.m. peak hours. Heavy vehicle percentages were also entered based on data presented in **Section II.B**.
- **Multimodal Conditions**: Because of the rural nature of the study area, this Study did not specifically evaluate multimodal operations. Hence, default multimodal inputs were used throughout the CAP-X analysis.
- **Critical Lane Volume Sum Limit**: The CAP-X tool presents defaults for urban and rural areas. Because the study area is developing and the airport is nearby, the critical lane volume sum limits were increased from the (low) rural default values by 50 passenger cars per lane per hour. This assumption reflects the fact that the area is generally rural but growing and that some airport patrons may be more used to urban driving conditions than study area residents.
- **Number of Lanes**: Previous analyses for the Proposed Action assumed two-lane eastbound and westbound ramp approaches to the connector roadway and four lanes on the connector roadway itself. Since current forecasts are lower than those in the earlier analysis, the study team assumed single lanes on all approaches in CAP-X, with the intent of confirming the previous geometric assumptions.
  - The results of several iterations in CAP-X indicated that the westbound off-ramp requires two left-turn lanes onto the southbound connector roadway. This is consistent with common engineering practice where double left-turn lanes are provided for volumes at or above 600 vehicles per hour.
  - A separate northbound right-turn lane onto the eastbound entrance ramp to I-70 was assumed because of the volume on this movement, which exceeds 700 vehicles per hour in some scenarios. Again, this is consistent with common engineering practice where exclusive right-turn lanes are provided for volumes at or above 300 vehicles per hour.

- The configuration connects well with the four-lane connector roadway. The two southbound through lanes leaving the interchange would connect directly into the southbound lanes on the four-lane connector roadway. In the northbound direction, one lane would continue through the interchange and one lane would become the northbound right-turn lane.

Table 7. Preliminary Interchange Type Assessment

CAP-X Alternative	Alternative Description[1]	Preliminary Assessment
Diamond	Freeway ramps terminate in two intersections on the arterial. The ramp terminals may be controlled by a stop sign, yield sign, traffic signal, or roundabout.	Preferred interchange type in previous studies, similar to existing adjacent interchanges. **Retain**.
Partial Cloverleaf A	Left-turn movements from the arterial to the freeway are served with loop ramps, resulting in higher capacity and enhanced safety as compared with a diamond interchange.	Loop ramps result in significant topographic concerns, particularly with split I-70 alignment and hillside to the north. **Eliminate**.
Partial Cloverleaf B	Turning movements from the freeway to the arterial are replaced with loop ramps, resulting in higher capacity and enhanced safety as compared with a diamond interchange.	Loop ramps result in significant topographic concerns, particularly with split I-70 alignment and hillside to the north. **Eliminate**.
Displaced Left Turn (also known as a continuous flow intersection or CFI)	Left-turning traffic is crossed over the opposing through lanes in advance of the ramp terminal. At the main intersection, through and left-turn movements can be made simultaneously during the same signal phase.	Uncommon, but not precluded. A few have been built in Colorado. **Retain**.
Contraflow Left	Left-turn movements on the cross-street cross the median and opposing left-turn traffic via channelized lanes. Left turns onto freeway ramps in both directions are made during the same signal phase.	Uncommon, but not precluded. None has been built in Colorado. **Retain**.
Diverging Diamond	Traffic crosses over to the left side of the road at the first ramp terminal intersection before crossing back over at the second ramp terminal. Crossover movements allow left turns to be made unopposed. Both crossover intersections are signalized.	Becoming more popular, including one on I-70 in Grand Junction and several on I-25 in Colorado. Benefits from low arterial through volumes. **Retain**.
Single Point (signalized)	Freeway ramps begin or end at a single signalized intersection on the arterial. Right-turn movements to and from freeway ramps use channelized turn lanes separate from the main intersection.	Common in urban settings in Colorado, but not along I-70 west of the Denver area. **Retain**.
Single Point (roundabout)	Freeway ramps begin or end at a single roundabout intersection on the arterial. Right-turn movements to and from freeway ramps use channelized turn lanes separate from the main intersection.	Uncommon, but not precluded. None has been built in Colorado. **Retain**.

[1] Adapted from National Academies of Sciences, Engineering, and Medicine. 2024. *Guide for Intersection Control Evaluation*. Washington, DC: The National Academies Press. https://doi.org/10.17226/27509.

Analysis Results

Based on the inputs described previously, the study team used the CAP-X tool to evaluate the six potential interchange options under both the average season and the high season scenarios. The results are presented in **Table 8** and **Table 9**, respectively. The tool provided volume to capacity (v/c) ratios based on the critical lane calculations included in the spreadsheet. Results were ranked for each alternative within each scenario, assuming that the lowest v/c ratio ranks the best. The individual rankings were averaged across the a.m. and p.m. peak hours for each scenario and the results were compiled in **Table 10**.

Table 8. CAP-X Results – 2045 Average Season

CAP-X Alternative	A.M. Rank (v/c ratio)	P.M. Rank (v/c ratio)
Diamond	3 (0.31)	1 (0.48)
Displaced Left Turn (CFI)	2 (0.30)	4 (0.52)
Contraflow Left	5 (0.64)	2 (0.49)
Diverging Diamond	2 (0.30)	3 (0.51)
Single Point (signalized)	4 (0.32)	1 (0.48)
Single Point (roundabout)	1 (0.22)	5 (0.56)

CFI = Continuous Flow Intersection v/c = volume to capacity

Table 9. CAP-X Results – 2045 High Season

CAP-X Alternative	A.M. Rank (v/c ratio)	P.M. Rank (v/c ratio)
Diamond	3 (0.34)	1 (0.53)
Displaced Left Turn (CFI)	2 (0.33)	4 (0.57)
Contraflow Left	5 (0.71)	2 (0.55)
Diverging Diamond	2 (0.33)	3 (0.56)
Single Point (signalized)	4 (0.35)	1 (0.53)
Single Point (roundabout)	1 (0.25)	5 (0.63)

CFI = Continuous Flow Intersection v/c = volume to capacity

Table 10. Compiled CAP-X Rankings

CAP-X Alternative	Average Season Rank	High Season Rank	Overall Score
Diamond	2	2	1
Displaced Left Turn (CFI)	3	3	T-3
Contraflow Left	3.5	3.5	4
Diverging Diamond	2.5	2.5	T-2
Single Point (signalized)	2.5	2.5	T-2
Single Point (roundabout)	3	3	T-3

CFI = Continuous Flow Intersection v/c = volume to capacity

As shown in **Table 10,** the diamond interchange form ranks the best. Both the diverging diamond and the signalized single point interchange tied for second best. Each option is described in more detail below.

- **Diamond Interchange**: A diamond interchange is a common and relatively compact design in the I-70 corridor. Since a roadway connection north of the planned interchange is not expected, the westbound ramp terminal intersection would likely have a simplified configuration. It can be built with stop-control, roundabout control, or traffic signal control at the ramp terminals. The Gypsum Interchange (Exit 140) has a recently constructed roundabout at the westbound ramp terminal and stop control at the eastbound ramp terminal. The Eagle Interchange (Exit 147) has roundabout control at both ramp terminals. If the diamond interchange form is advanced into the next phase of the project development process, further traffic analysis will be needed to determine the ramp terminal intersection control type.
- **Diverging Diamond Interchange**: A diverging diamond is a relatively modern interchange design that shifts traffic to the left side of the roadway through a series of signalized crossover intersections at the ramp terminals. This configuration allows free-flow left turns onto and off freeway ramps without the need for separate left-turn phases. Another benefit of the diverging diamond form is that it reduces the potential for wrong-way ramp entries when compared to a traditional diamond interchange. While there are no diverging diamond interchanges near the study area, there are several in Colorado, including I-70 Exit 26 (I-70B / U.S. 6 / U.S. 50) in Grand Junction, I-25 Exit 145 (Fillmore Street) in Colorado Springs, and U.S. 36 at CO 130 / McCaslin Boulevard in Louisville.
    - Since there is no roadway to the north of the planned interchange, a modified or partial diverging diamond configuration could be considered. In this case, no crossover intersection would be required on the north side of I-70. Although there are no partial diverging diamond interchanges in Colorado today, one is under construction to replace the existing I-25 Exit 100 (US 50B) interchange in Pueblo, Colorado.
- **Signalized Single Point Interchange**: A single point interchange focuses the left-turn movements from the ramp terminals into a single signalized intersection, typically located beneath or above the freeway. Right-turn movements to and from the freeway are typically channelized and separated from the main intersection. Because left-turn movements must curve through the center intersection, the bridge structure is typically larger than those required for other interchange types. Additionally, separated right-turn lanes can further increase the overall intersection footprint. Since the eastbound and westbound I-70 lanes at the planned interchange location are separated by 100 feet or more, this interchange type would require a larger interchange footprint and incur additional costs for longer structures. Hence, this option is not considered feasible when factoring in other metrics.

III.E Predicted Safety Conditions

The predicted safety assessment uses Highway Safety Software (HSS) to estimate predicted crash frequencies on the I-70 freeway and the arterial network within the study area. HSS uses the Predictive Method from the Highway Safety Manual (HSM, 2010), which incorporates national Safety Performance Functions and applies location-specific roadway characteristics and Crash Modification Factors to evaluate the potential safety impacts of different design alternatives. The predicted safety analysis compares expected crash frequencies under a future base scenario and a future build scenario within the study area. **Appendix E** includes HSS outputs.

2045 Base Scenario

The 2045 base scenario geometric conditions and volumes were coded into HSS and the model was run. **Table 11** presents base scenario predicted analysis results for I-70 and the arterial network.

- The analysis results indicate the predicted freeway crash frequency for the future base scenario is 43.24 predicted crashes in the average season and 50.76 predicted crashes in the high season.
- The analysis results indicate the predicted arterial crash frequency for the future base scenario is 92.05 predicted crashes in the average season and 98.72 predicted crashes in the high season.
- The analysis results indicate the predicted total crash frequency for the future base scenario is 135.24 predicted crashes in the average season and 149.48 predicted crashes in the high season.

Table 11. 2045 Base Scenario Predicted Crashes

Scenario	I-70	Arterials	Total
Average Season	43.24	92.05	135.24
High Season	50.76	98.72	149.48

2045 Build Scenario

The 2045 build scenario geometric conditions and volumes were coded into HSS and the model was run. This included the addition of a diamond interchange and the connector roadway. **Table 12** presents build scenario predicted analysis results for I-70 and for the arterial network.

- The analysis results indicate the predicted freeway crash frequency for the future build scenario is 48.24 predicted crashes in the average season and 56.65 predicted crashes in the high season.
- The analysis results indicate the predicted arterial crash frequency for the future build scenario is 95.25 predicted crashes in the average season and 107.00 predicted crashes in the high season.
- The analysis results indicate the predicted total crash frequency for the future build scenario is 143.49 predicted crashes in the average season and 163.65 predicted crashes in the high season.

Table 12. 2045 Build Scenario Predicted Crashes

Scenario	I-70	Arterials	Total
Average Season	48.24	95.25	143.49
High Season	56.65	107.00	163.65

Conclusions

Results indicate that implementation of the build scenario is projected to result in an increase in crash frequency, approximately 6 percent in the average season and 9 percent in the high season when compared to the background scenario. These increases are expected as the interchange will add conflict points on I-70 and the connector roadway will add approximately ½ mile of new roadway to the arterial network. The following observations were made:

- The HSS software tool is limited to straightforward geometric conditions. The planned three-leg interchange is not well represented within the HSS model. A more detailed analysis approach may be appropriate as concepts for the planned interchange are advanced. The Interactive Highway Safety Design Model tool is an FHWA-supported tool that is often used to evaluate non-traditional interchanges and may be appropriate for more detailed safety evaluations at this interchange.
- During the parallel Study alternative development process, various changes along I-70 were considered since they are necessary to connect the new interchange to the freeway. It is assumed that some of these changes will become part of the eventual conceptual interchange option. These changes may improve predicted safety conditions along I-70. Detailed evaluation of the safety benefits of these improvements will be considered as the conceptual interchange options are further developed. Potential changes include:
  - Increasing the radius of freeway curves within or adjacent to the proposed interchange
  - Adjusting the freeway superelevation within or adjacent to the proposed interchange
  - Reducing the profile grade along the freeway through the interchange
- The Town is currently developing a Safety Action Plan that aims to reduce serious injury and fatal crashes on Gypsum roads. Similarly, CDOT and FHWA guidance require that the safety impacts of proposed projects be addressed. Hence, it is expected that safety mitigation will be required as part of the planned interchange and connector roadway. These should be developed and evaluated in the next phase of the study effort.

IV. CONCLUSIONS

The study team has compiled existing traffic and safety conditions data, forecasted future conditions, and evaluated the operations and safety conditions related to the planned Eagle Airport Interchange. These efforts are summarized below.

IV.A Traffic and Safety Outcomes

The study team evaluated traffic conditions in the study area and reached the following conclusions:

- The new interchange redistributes traffic across the study area.
  - Traffic decreases by approximately 20 percent in the Gypsum Interchange (Exit 140).
  - Traffic decreases by approximately 30 percent in the Eagle Interchange (Exit 147).
- The CAP-X analysis shows that a diamond interchange form provides the lowest v/c ratio and that a diverging diamond interchange form also provides a low v/c ratio when compared to other options.
  - Although the v/c ratios for the signalized single point interchange form and the diverging diamond interchange form are similar, the single point interchange is expected to have a larger footprint and be more difficult to construct and maintain. Hence, the diverging diamond interchange is preferred over the signalized single point interchange.

The study team also evaluated safety conditions.

- No significant safety concerns were identified in the existing conditions safety evaluation.
- The predicted safety evaluation identified an increase in crashes associated with the construction of the new interchange and connector roadway. This is expected since the interchange will add conflict points on I-70 and the connector roadway is a new arterial facility that will experience crashes. The interchange concepts are expected to result in freeway modifications through the proposed interchange that could offset some of these crash increases.

Based on these outcomes, the new Eagle Airport Interchange is needed for these traffic reasons:

- Extend the operational life of adjacent interchanges
- Serve identified traffic growth, including
  - Increased enplanements at Eagle County Regional Airport
  - Increased truck traffic from Spring Creek Light Industrial area

IV.B Future Analysis Needs

The following future evaluations are expected based on the results noted previously:

- Conduct detailed operational analysis to obtain LOS, queuing, and other metrics necessary to compare options and support design progression.
  - This analysis should consider refinements related to providing a three-leg interchange instead of a standard four-leg interchange since topography precludes a connection north of I-70.
  - Since the Study does not project significant congestion in the study area, a microsimulation evaluation is probably not necessary to address spillback and other congestion effects. However, the three-leg interchange form may include elements for which deterministic tools are not well calibrated, requiring the use of a more sophisticated analysis approach.
- Develop safety mitigation to address the increase in crashes identified in the predicted analysis included in this Study.
  - Mitigation should include appropriate crash modification factors for the three-leg interchange. It may be necessary to conduct a more detailed safety evaluation given the complexities of this configuration.
- The study team considered the need for additional evaluations.
  - A potential cluster analysis was evaluated, as described in the Cluster Analysis Work Plan included in **Appendix F**. This memo concludes that a cluster analysis is not appropriate but indicates that further coordination with CDOT and FHWA is required as study efforts continue.
  - Development of detailed origin-destination matrices was also considered, as described in the Origin-Destination Matrix Work Plan included in **Appendix G**. This memo concludes that an updated version of the CDOT StateFocus Model or a localized subarea model should be used for future study forecasts.

Appendix A. Methods and Assumptions Document

METHODS AND ASSUMPTIONS DOCUMENT

Eagle Airport Interchange Feasibility Study

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connecting & enhancing communities

FHU Reference No. 124388-01

April 2025

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1. INTRODUCTION AND PROJECT DESCRIPTION

The Town of Gypsum (Town) and the Colorado Department of Transportation (CDOT) worked together in the early 2000s to evaluate a potential new interchange along I-70. The goal was to provide an additional I-70 connection for the communities of Eagle and Gypsum and provide a more direct route between the Eagle County Regional Airport and the interstate. Although the required studies were completed and a design was developed, the project did not receive full funding, and the interchange was not built. The 2017 *This Is Gypsum*[1] Master Plan mentions the proposed interchange but does not provide guidance regarding it. The 2024 *Master Traffic Study Update*[2] (the MTS) considered the interchange as a long-term option. The current feasibility study will mark the next step toward this new connection along I-70.

This Methods and Assumptions document outlines the tools, procedures, and conventions that will be used in this process. This Methods and Assumptions document will be circulated to Town staff for review and approval before significant traffic work is completed.

A. Location and Affected Facilities

Gypsum is a mountain community located generally south of I-70 between Glenwood Springs and Vail, Colorado. The Eagle River flows along the north side of the community, and Gypsum Creek flows from south to north into the Eagle River. The downtown core of Gypsum is located south of this confluence, and the Eagle County Regional Airport is located east of downtown. The Union Pacific Railroad provides freight rail service to industrial facilities just north of downtown, and tracks extend east along the south side of the Eagle River through Gypsum and Eagle.

The main roadway corridors in Gypsum include Highway 6 (a former US route along the Eagle River), Cooley Mesa Road (an east-west route parallel to and south of Highway 6), and Valley Road (a north-south route east of Gypsum Creek). All three facilities are typically one lane per direction with turn lanes at key intersections and access points. There are short two-lane per direction segments along Highway 6 and Cooley Mesa Road in the commercial areas east of the airport. Cooley Mesa Road serves as the main access for the airport, and Highway 6 provides access to the National Guard's High Altitude Aviation Training Site on the north side of the airport. Valley Road connects to Cottonwood Pass Road on the south side of Town. I-70 runs east-west along the north side of the Eagle River. It connects Gypsum and Eagle to key destinations including Grand Junction, Aspen (via State Highway 82), Glenwood Springs, Vail, Frisco, and Colorado's Front Range. Access to I-70 is provided by Trail Gulch Road (I-70 Exit 140) in Gypsum, which connects to Highway 6 just south of the interstate. To the east, Eby Creek Road connects Highway 6 to I-70 at Exit 147 in Eagle.

B. Need for the Study

The Eagle Airport Interchange Feasibility Study will update work completed in the early 2000s and reevaluate feasibility of the planned project. The purpose and need from the previous efforts will be revisited as part of the Feasibility Study. It will also review potential new alternatives and provide guidance for future CDOT and Federal Highway Administration (FHWA) approval processes.

[1] *This Is Gypsum Master Plan*, Norris Design for the Town of Gypsum, June 2017.
[2] *Gypsum Master Traffic Study Update*, Felsburg Holt & Ullevig for the Town of Gypsum, Revised April 2024.

C. Outreach - CSS Process

Since completion of the previous interchange studies, the I-70 Programmatic Environmental Impact Statement (PEIS) has been completed and approved. The PEIS outlines a Context Sensitive Solutions (CSS) approach to stakeholder engagement for projects in the PEIS study area. The feasibility study will follow the CSS approach for outreach and agency coordination.

D. Guidance Documents

The following documents will be referenced to provide traffic guidance for the feasibility study:

- Gypsum's *This Is Gypsum Master Plan* (June 2017)
- Gypsum's *Master Traffic Study Update* (Revised April 2024)
- CDOT's *Traffic Analysis and Forecasting Guidelines* (July 2018)
- FHWA's *Policy on Access to the Interstate System* (February 2025)

2. STUDY AREA AND DATA COLLECTION

A. Study Area

The proposed project study area considers I-70 between Gypsum and Eagle plus Highway 6, Cooley Mesa Road, Valley Road, and other connecting roadways in Gypsum and Eagle. Refer to **Figure 1**. These limits reflect CDOT and FHWA requirements along the interstate plus key connecting roadways in the arterial network.

B. Data Collection

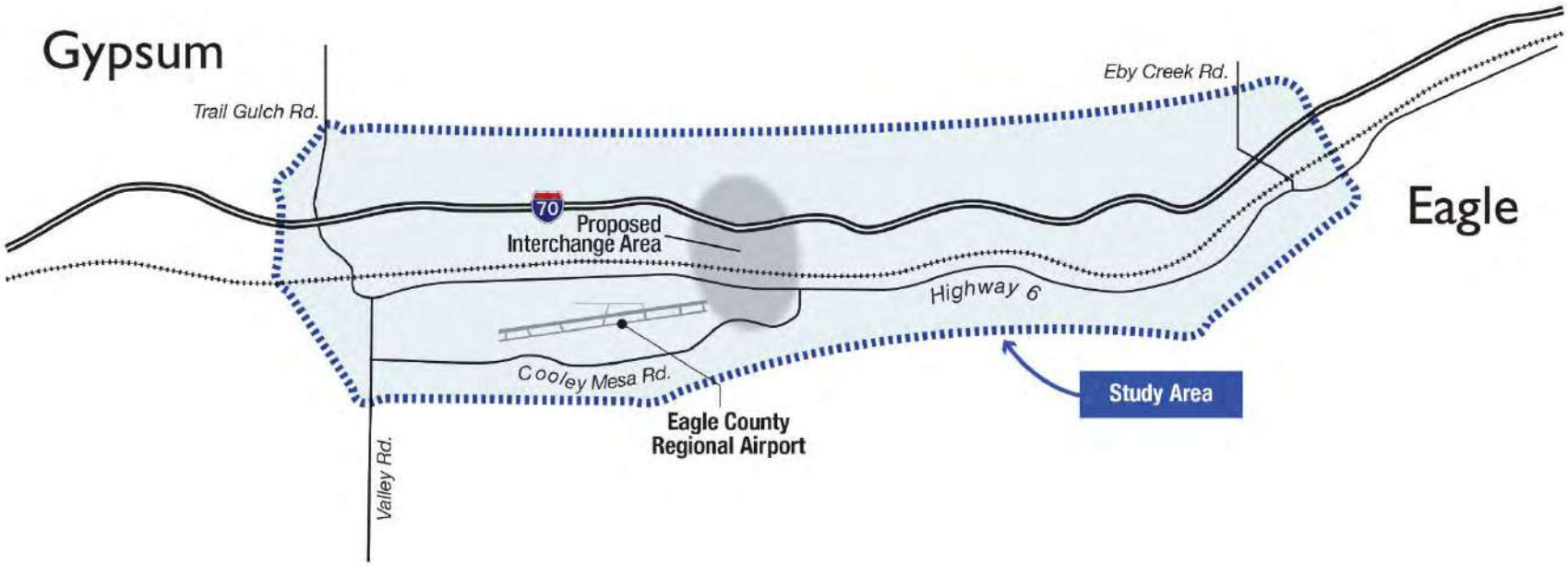
A variety of transportation-related data will be collected in the study area to support the project's transportation analyses.

Baseline Data

Available baseline data will be gathered from publicly available sources. These are expected to include:

- Base GIS mapping data from the Town of Gypsum and other agencies
- Existing daily and turning movement traffic volume data from CDOT's Online Transportation Information System (OTIS), Eagle County, the Town of Gypsum, and recent traffic studies. Recent studies include:
  - Gypsum Master Traffic Study Update (MTS)
  - Traffic impact studies for various developments, including Siena Lake and Town Center.
- Existing crash history data, as available from Vision Zero Suite (VZS)
- Travel demand forecasting data, including the current statewide travel demand model
- Available information about existing and proposed (future) development plans in the study area
- Plans and studies from the previous Eagle Airport interchange efforts
- Other publicly available relevant data, such as land use, design plans, aerial photography, utilities, and topographic survey data as needed

Figure 1. Traffic Analysis Study Area



Traffic Counts

To supplement the baseline data identified above, the project team will conduct traffic counts at key locations in the study area. Two-hour morning and afternoon peak period traffic counts with basic vehicle classification will be collected at the intersections listed below. The morning data will be collected between 7:00 AM and 9:00 AM, and the afternoon data will be collected between 4:00 PM and 6:00 PM. The data identified below will be collected on middle weekdays (i.e., Tuesday, Wednesday, or Thursday). The traffic count locations are listed below and are also shown on **Figure 1**.

- Trail Gulch Road at I-70 WB Ramps (roundabout)
- Trail Gulch Road at I-70 EB Ramps (side street stop control)
- Highway 6 at Valley Road (signal)
- Highway 6 at Cooley Mesa Road (signal)
- Cooley Mesa Road at Spring Creek Road / Eldon Wilson Road (side street stop control)
- Cooley Mesa Road at Buckhorn Valley Road / Eldon Wilson Road (side street stop control)
- Eby Creek Road at I-70 EB Ramps (roundabout)
- Eby Creek Road at I-70 WB Ramps (roundabout)

In addition to the count program identified above, the team will take advantage of significant available data in the study area collected for the MTS and by other agencies. Available data are listed below.

- Available Daily Directional Counts – Continuous daily (24-hour) traffic counts will be obtained from available sources. It is anticipated that data will be available at the following locations:
  - Highway 6 south of Trail Gulch Road (Gypsum MTS, May 2022)
  - Highway 6 south of Union Pacific Railroad overpass (Gypsum MTS, May 2022)
  - Highway 6 east of Valley Road (Gypsum MTS, May 2022)
  - Highway 6 west of Schoolside Street (Gypsum MTS, May 2022)
  - Highway 6 east of Schoolside Street (Gypsum MTS, May 2022)
  - Highway 6 east of Green Way (Gypsum MTS, May 2022)
  - Highway 6 east of Jules Drive (Gypsum MTS, May 2022)
  - Highway 6 east of Airport Road (Gypsum MTS, May 2022)
  - Highway 6 east of Daniels Boulevard / Nursery (Gypsum MTS, May 2022)
  - Highway 6 east of MacGregor Drive (Gypsum MTS, May 2022)
  - Highway 6 east of Earhart Drive (Gypsum MTS, May 2022)
  - Cooley Mesa Road east of Valley Road (Gypsum MTS, May 2022)
  - Cooley Mesa Road west of Spring Creek Road (Gypsum MTS, May 2022)
  - Cooley Mesa Road east of Airpark Drive (Gypsum MTS, May 2022)
  - Cooley Mesa Road south of Highway 6 (Gypsum MTS, May 2022)
  - Valley Road north of Cooley Mesa Road (Gypsum MTS, May 2022)
  - I-70 west of No Name / Exit 118 (CDOT continuous station 000105, approx. MP 118)
  - I-70 east of Gypsum / Exit 140 (CDOT short duration station 103021, approx. MP 140)
  - I-70 east of Eagle / Exit 147 (CDOT short duration station 103022, approx. MP 147)
  - I-70 east of SH 131 / Exit 157 (CDOT continuous station 000011, approx. MP 157)

- Available Peak Period Turning Movement Counts – Two-hour morning and afternoon peak period traffic counts are available from the MTS at the intersections listed below. The morning data reflect the 7:00 AM and 9:00 AM peak period, and the afternoon data reflect the 4:00 PM and 6:00 PM peak period.
  - River View Road at I-70 Frontage Road (side street stop control)
  - Highway 6 at I-70 Frontage Road / Trail Gulch Road (roundabout)
  - Highway 6 at River View Road (side street stop control)
  - Highway 6 at Trail Gulch Road (side street stop control)
  - Highway 6 at Railroad Avenue (side street stop control)
  - 2nd Street at Eagle Street (all-way stop control)
  - Highway 6 at Eagle Street (side street stop control)
  - Highway 6 at Valley Road (signal) (also counted in 2025)
  - Highway 6 at Oak Ridge Drive (signal)
  - Highway 6 at Schoolside Street (side street stop control, since converted to a roundabout)
  - Highway 6 at Green Way (side street stop control)
  - Highway 6 at Jules Drive (side street stop control)
  - Highway 6 at Sunny Avenue (side street stop control)
  - Highway 6 at Airport Road (side street stop control)
  - Highway 6 at Daniels Boulevard / Nursery (side street stop control)
  - Highway 6 at Cooley Mesa Road (signal) (also counted in 2025)
  - Highway 6 at Earhart Drive (side street stop control)
  - Cooley Mesa Road at Valley Road (roundabout)
  - Cooley Mesa Road at Jules Drive (side street stop control)
  - Cooley Mesa Road at Spring Creek Road / Eldon Wilson Road (side street stop control) (also counted in 2025)
  - Spring Creek Rd at Plane Street (side street stop control)
  - Spring Creek Rd at Spring Buck Road (side street stop control)
  - Cooley Mesa Road at Airpark Drive (side street stop control)
  - Cooley Mesa Road at Buckhorn Valley Blvd / Eldon Wilson Road (side street stop control) (also counted in 2025)
  - Cooley Mesa Road at Navajo Road (side street stop control)
  - Cooley Mesa Road at McGregor Drive (side street stop control)
  - Cooley Mesa Rd at Lindbergh Drive (side street stop control)
  - Valley Rd at Cotton Ranch Drive (side street stop control)
  - Valley Rd & Timberwolf (side street stop control)
  - Valley Rd at Grundel Way (side street stop control)
  - Valley Rd at Cottonwood Pass Road (side street stop control)
  - Cottonwood Pass Road at Grundel Way (side street stop control)

C. Existing Traffic Scenarios

The daily and peak period traffic counts will be reviewed to develop both an average season scenario and a high season scenario, per guidance provided in the CDOT Traffic Analysis and Forecasting Guidelines. The following two scenarios will be evaluated:

- The average season scenario will represent a typical day during spring and fall, with commuter traffic, school traffic, and retail traffic.
- The high season scenario will represent a combination of summer peak traffic along I-70 (average traffic plus summer recreation traffic) plus the airport peak in the local street network (average traffic plus airport skier traffic). This is an artificial scenario that will provide an opportunity to evaluate a conservative (high volume) condition.

Both average season and high season traffic counts will be compiled, reviewed for consistency across the study area, and balanced between intersections where appropriate to compile two existing conditions (2025) baselines for traffic analysis.

It should be noted that the MTS developed airport-specific high season volumes based on variations in enplanements over the calendar year. These high season airport volumes were added to the May 2022 counts to obtain baseline volumes for the existing conditions analysis in that project. This Feasibility Study will not use these adjusted baseline volumes but will instead evaluate high season and average season scenarios separately.

D. Existing Safety Data

The project team will download the latest available safety data for the study area from Vision Zero Suite (VZS). Currently, the most recent available 5-year period is between January 1, 2019 and December 31, 2023. This will include I-70 between Exit 140 and Exit 147 including both interchanges, Valley Road, Highway 6, and Cooley Mesa Road. The VZS data will be supplemented with the safety data collected for the MTS.

3. TRAFFIC FORECASTING

The project analyses will reflect a year 2045 planning horizon. This is a five-year extension from the MTS. The project will consider traffic associated with two future year scenarios – an average season condition scenario and a high season scenario. Details of the forecasting approach are outlined below.

The following data are available for the forecasting process:

- CDOT continuous count data for I-70 at locations identified in Section 2.B of this document.
- CDOT travel demand model data for representative links in the study area (2015 base year and 2045 forecast year).
- Traffic growth rates and development phasing identified in various traffic studies, including those referenced in the MTS.

The team has completed a preliminary review of this data and anticipates the use of a 2% annual growth rate to increase year 2040 volumes from the MTS to year 2045 conditions. The team will also compile a list of projects that were assumed to be only partially developed by 2040 as shown in Section 3.3 of the MTS. These developments will be assumed to be complete by 2045 and resulting traffic would be added to the grown traffic volumes.

This approach will be taken for both the average condition and the high season scenarios.

In parallel to the development-based forecasting process, the project team will review relevant data from the CDOT statewide travel demand model for the Town of Gypsum. While we do not believe the statewide model will provide the level of detail that can be achieved through the proposed feasibility study forecasting process, the statewide model may be used for more formal forecasts compiled during the planned IAR and 1601 process. Hence, consistency with the statewide travel demand model will be beneficial to the Eagle Airport Interchange Feasibility Study.

4. TRAFFIC OPERATIONS ANALYSIS METHODS AND TOOLS

Due to the nature of the feasibility study, the goal of the traffic operations analysis is to compare alternatives. Detailed operational analyses will be deferred to future studies. Hence, tools such as those used in the MTS (including Synchro and SIDRA) will not be a focus of the feasibility study. At the sketch planning level, CDOT's *Traffic Analysis and Forecasting Guidelines* recommend using the CAP-X Tool to evaluate interchange types.

A. CAP-X Background

The FHWA CAP-X Tool uses critical lane volume analysis to rank various interchange types. The output for each interchange type is a planning level volume to capacity (v/c) ratio. These v/c ratios are then used by the spreadsheet to rank the various options considered in the tool. Options with the lowest v/c ratios are preferred and can be considered in more detailed analyses. The tool was developed by FHWA many years ago, and the most recent version[3] was published in 2024.

The CAP-X Tool is designed to provide meaningful comparisons between scenarios at early stages in projects, when available data are limited. Hence, inputs consist of only the following elements:

- Identifying information (project name, location, horizon year, etc.) and global defaults.
- Traffic volume demands and heavy vehicle percentages, formatted as a 4-leg intersection (i.e. diamond and partial cloverleaf interchanges are represented as one intersection).
- Options to be considered. The tool allows for over 30 intersection and interchange types. The user can select at-grade or grade separated scenarios depending on project goals.
- Multimodal inputs are also allowed for projects where bicycle and pedestrian considerations would be helpful in evaluating scenarios.

B. CAP-X Inputs

The project team will use the following inputs for the CAP-X analysis:

- Identifying information (project name, location, horizon year, etc.).
- Global defaults will include:
  - No volume growth factor (use 2045 forecasts).
  - Adjustment Factors, Truck to PCE factor, and Critical Lane Volume Sum Limit defaults.
- Traffic volume forecasts (average season and high season) per Section 3 of this document.
- Heavy vehicle percentages per traffic counts described in Section 3 of this document.
- Consider all grade separated interchanges available in the CAP-X Tool.
  - Diamond Interchange
  - Partial Cloverleaf A and B
  - Displaced Left Turn Interchange
  - Contraflow Left Interchange
  - Diverging Diamond Interchange

[3] *NCHRP Research Report 1087 - Guide for Intersection Control Evaluation*, National Academy of Sciences, Washington DC, 2024.

  - Single Point Interchange
  - Single Point Interchange with Roundabout
- Default multimodal conditions.

C. *Supplemental Analyses*

The project scope is limited to CAP-X analyses. However, it may be necessary to conduct more in-depth deterministic analyses in specific instances to inform concept design or otherwise inform the feasibility study. In these limited circumstances, other deterministic tools may be applied.

The CDOT guidelines identify deterministic traffic analysis tools based on facility type (uninterrupted or interrupted flow) and traffic flow conditions (undersaturated or oversaturated). I-70 and the associated ramps are uninterrupted flow facilities, and the surface streets are interrupted flow facilities. The MTS Update identified unsaturated flow conditions at most locations. These past results provide a reasonable basis for assuming undersaturated conditions in this Methods and Assumptions document.

Given unsaturated flow conditions, operational analyses will be based on procedures documented in the *Highway Capacity Manual* (HCM) 7th Edition (Transportation Research Board, 2022). For uninterrupted flow facilities (I-70 and related ramps), specific freeway and ramp methodologies in the HCM will be applied, including basic freeway segments, merge and diverge areas, weaving areas, and ramp segments. The following chapters in the HCM will be referenced as appropriate during the operational analyses:

- Chapter 12 – Basic Freeway and Multi-Lane Highway Segments
- Chapter 13 – Freeway Weaving Segments
- Chapter 14 – Freeway Merge and Diverge Segments

For interrupted flow facilities (surface streets), specific intersection methodologies in the HCM will be applied, including ramp terminals, signalized intersections, unsignalized intersections, and roundabouts. The following chapters in the HCM will be referenced as appropriate during the operational analyses:

- Chapter 19 – Signalized Intersections
- Chapter 20 – Two-Way Stop Controlled Intersections
- Chapter 21 – All-Way Stop Controlled Intersections
- Chapter 22 – Roundabouts

The HCM analysis procedures require the use of certain parameters, summarized in **Table 1**. Application of the HCM procedures results in the determination of a level of service (LOS) for each facility type and traffic flow condition. If needed, the procedures outlined in the HCM will be implemented using several software tools:

- Freeways will be evaluated using Highway Capacity Software (HCS), version 2025 (McTrans Center).
- Signalized and unsignalized intersections will be evaluated using Synchro, version 11 (Cubic ITS, formerly Trafficware).
- Roundabouts will be evaluated using SIDRA Intersection, version 9 (Akcelik and Associates).

Level of Service (LOS) D will be used as the acceptable LOS threshold, consistent with Eagle County practice and the evaluations in the MTS.

Table 1. HCM Analysis Parameters

Traffic Parameter		Default Values
Percent heavy vehicles (trucks, buses, and RVs)		Determined from counts; validate with OTIS data.
Peak Hour Factor (phf)	Existing	Calculated from counts; use overall intersection. 0.80 minimum; 0.92 maximum.
	Future	Same as existing, but with 0.85 minimum. Set phf = 0.90 on new facilities.
Free-flow Speed (mph)		Posted Speed Limit (varies)
Terrain/Area Type		Level
Saturation Flow Rate (vehicles per hour per lane [vphpl])		1,800 vphpl
Queue Lengths		95th percentile

5. SAFETY

The project's safety evaluation will be conducted in two steps – documentation of historic safety conditions and a comparative analysis in future scenarios using the predictive method. The documented safety conditions in the existing scenario will be used to inform future year evaluations.

A. Existing Safety Conditions

Crash data will be collected from Vision Zero Suite by DiExSys for the most recently available 5-year period along I-70 and arterials in the study area. No crash reports will be obtained or reviewed.

The VZS crash history database will be analyzed to identify crash patterns, high crash locations, and safety trends within the study area. Locations showing elevated crash experience will be noted and reviewed to identify crash type and severity patterns. Measures of effectiveness will include high crash locations and over-represented crash types.

B. Future Safety Conditions

The project team will conduct a predictive safety analysis for study area roadways using Highway Safety Software (HSS), version 2025. The analysis will consider the 2045 No Action scenario and the Preferred Alternative. Future year options considered before selection of the preferred alternative will be evaluated based on existing safety concerns identified in Section 5.A, number of conflict points, and crash modification factors (CMFs) from the FHWA CMF Clearinghouse.

6. SELECTION OF MEASURES OF EFFECTIVENESS

The primary traffic measures of effectiveness (MOE) for this effort will include the following:

- Traffic operations for Interchange Alternatives will be evaluated based on the critical lane volume to capacity ratios from CAP-X.
- Supplemental traffic operations measures (if applied) will include:
  - Average delay per vehicle to determine LOS in accordance with the HCM.
  - Queue lengths in unsaturated conditions
- Existing conditions safety results will be documented using crash patterns and high crash locations. Future No Action and Preferred Alternative scenarios will use predicted crashes and crash rates as the MOE. Interim future safety analysis MOEs will include existing safety concerns, conflict points, and CMFs.

Appendix B. Existing Traffic Counts

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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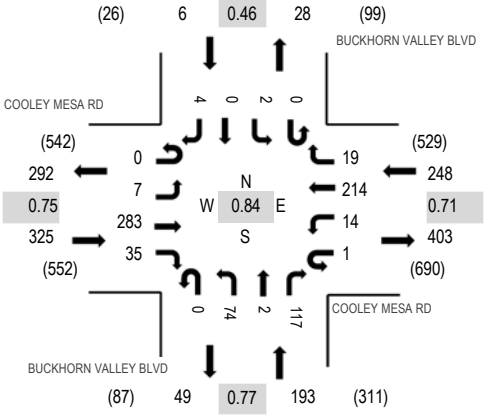
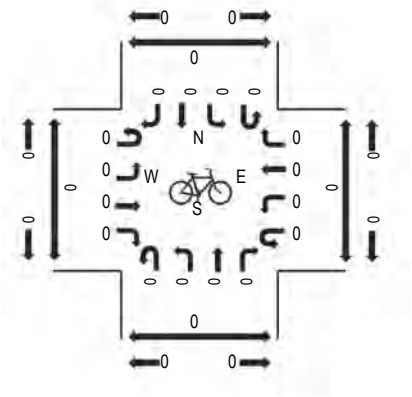
Location: 1 BUCKHORN VALLEY BLVD & COOLEY MESA RD AM
Date: Thursday, February 13, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

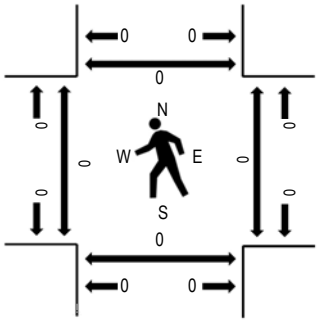
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	COOLEY MESA RD Eastbound				COOLEY MESA RD Westbound				BUCKHORN VALLEY BLVD Northbound				BUCKHORN VALLEY BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	43	2	0	2	50	7	0	7	0	20	0	1	0	0	132	669	0	0	0	0
7:15 AM	0	0	46	2	0	1	35	3	0	7	0	33	0	1	0	1	129	734	0	0	0	0
7:30 AM	0	1	65	4	0	4	40	2	0	21	0	42	0	0	0	0	179	772	0	0	0	0
7:45 AM	0	1	94	13	1	1	56	7	0	25	0	30	0	0	0	1	229	763	0	0	0	0
8:00 AM	0	2	77	12	0	6	56	6	0	9	1	26	0	1	0	1	197	749	0	0	0	0
8:15 AM	0	3	47	6	0	3	62	4	0	19	1	19	0	1	0	2	167		0	0	0	0
8:30 AM	0	3	53	8	0	1	55	15	0	14	1	15	0	1	0	4	170		0	0	0	0
8:45 AM	0	11	52	7	0	15	67	30	0	5	1	15	0	7	0	5	215		0	0	0	0
Count Total	0	21	477	54	1	33	421	74	0	107	4	200	0	12	0	14	1,418		0	0	0	0
Peak Hour	0	7	283	35	1	14	214	19	0	74	2	117	0	2	0	4	772		0	0	0	0

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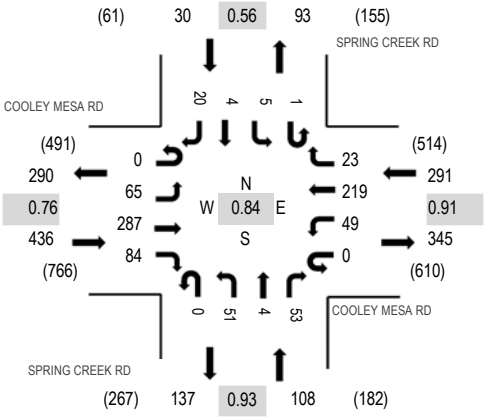
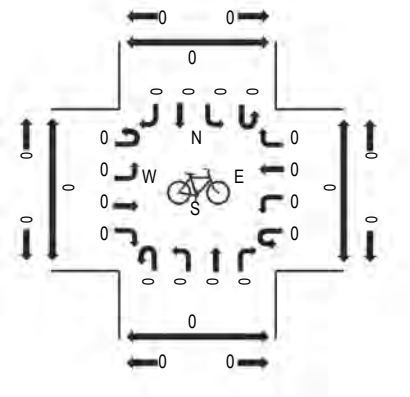
Location: 2 SPRING CREEK RD & COOLEY MESA RD AM
Date: Thursday, February 13, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

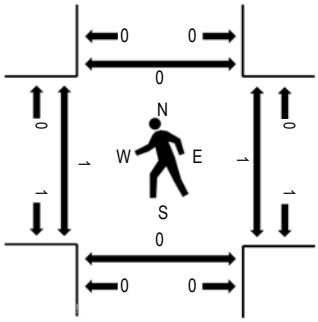
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	COOLEY MESA RD Eastbound				COOLEY MESA RD Westbound				SPRING CREEK RD Northbound				SPRING CREEK RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	4	49	21	0	12	24	9	0	8	0	9	0	3	0	2	141	713	0	0	0	0
7:15 AM	0	6	51	15	0	12	39	2	0	7	1	6	0	1	0	3	143	804	0	0	0	0
7:30 AM	0	6	65	21	0	8	45	1	0	12	2	9	0	1	0	1	171	851	0	0	0	0
7:45 AM	0	19	101	28	0	10	64	6	0	12	0	13	0	2	1	2	258	865	1	0	0	0
8:00 AM	0	13	93	27	0	9	51	4	0	13	2	14	0	0	1	5	232	810	0	0	0	0
8:15 AM	0	18	44	16	0	12	58	8	0	11	1	17	1	0	2	2	190		0	0	0	0
8:30 AM	0	15	49	13	0	18	46	5	0	15	1	9	0	3	0	11	185		0	1	0	0
8:45 AM	0	20	51	21	0	20	41	10	0	10	0	10	1	10	0	9	203		2	0	0	0
Count Total	0	101	503	162	0	101	368	45	0	88	7	87	2	20	4	35	1,523		3	1	0	0
Peak Hour	0	65	287	84	0	49	219	23	0	51	4	53	1	5	4	20	865		1	1	0	0

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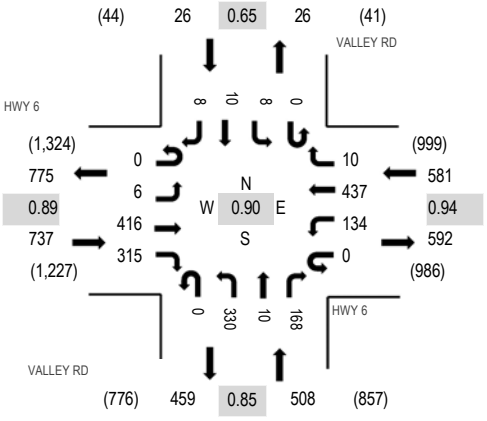
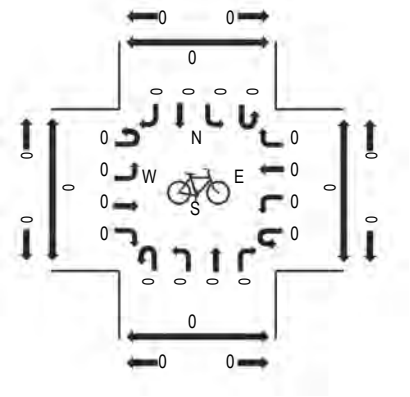
Location: 3 VALLEY RD & HWY 6 AM
Date: Thursday, February 13, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

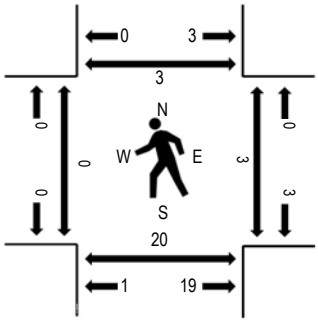
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 6 Eastbound				HWY 6 Westbound				VALLEY RD Northbound				VALLEY RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	54	37	0	20	71	3	0	53	0	24	0	1	0	1	265	1,452	0	0	1	0
7:15 AM	0	0	56	47	0	18	83	2	0	66	0	28	0	0	1	1	302	1,604	0	0	0	0
7:30 AM	0	1	80	72	0	23	93	2	0	60	0	28	0	4	5	1	369	1,741	0	0	0	1
7:45 AM	0	0	119	89	0	34	108	4	0	101	4	44	0	4	6	3	516	1,852	0	0	0	0
8:00 AM	0	0	80	79	0	28	98	2	0	85	3	37	0	1	2	2	417	1,675	0	1	2	1
8:15 AM	0	2	92	77	0	39	114	1	0	67	2	39	0	3	2	1	439		0	1	13	1
8:30 AM	0	4	125	70	0	33	117	3	0	77	1	48	0	0	0	2	480		0	1	5	1
8:45 AM	0	2	79	61	0	32	68	3	0	50	1	39	0	1	1	2	339		0	0	2	0
Count Total	0	10	685	532	0	227	752	20	0	559	11	287	0	14	17	13	3,127		0	3	23	4
Peak Hour	0	6	416	315	0	134	437	10	0	330	10	168	0	8	10	8	1,852		0	3	20	3

ALL TRAFFIC DATA SERVICES

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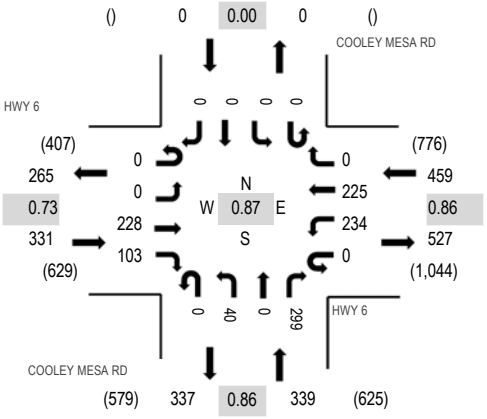
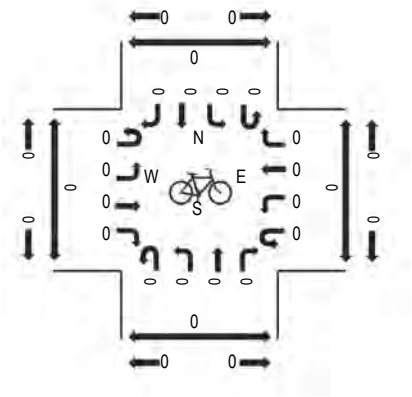
Location: 4 COOLEY MESA RD & HWY 6 AM
Date: Thursday, February 13, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

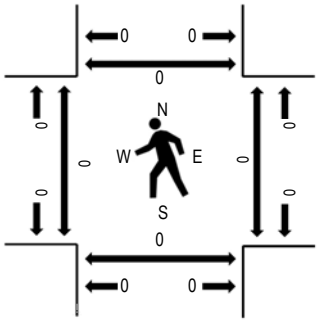
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 6 Eastbound				HWY 6 Westbound				COOLEY MESA RD Northbound				COOLEY MESA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	53	6	0	46	22	0	0	1	0	51	0	0	0	0	179	936	0	0	0	0
7:15 AM	0	0	48	2	0	30	20	0	0	5	0	72	0	0	0	0	177	1,030	0	0	0	0
7:30 AM	0	0	74	20	0	32	39	0	0	6	0	83	0	0	0	0	254	1,122	0	0	0	0
7:45 AM	0	0	79	43	0	57	37	0	0	11	0	99	0	0	0	0	326	1,129	0	0	0	0
8:00 AM	0	0	50	30	0	48	52	0	0	17	0	76	0	0	0	0	273	1,094	0	0	0	0
8:15 AM	0	0	41	21	0	51	70	0	0	7	0	79	0	0	0	0	269		0	0	0	0
8:30 AM	0	0	58	9	0	78	66	0	0	5	0	45	0	0	0	0	261		0	0	0	0
8:45 AM	0	0	74	21	0	85	43	0	0	6	0	62	0	0	0	0	291		0	0	0	0
Count Total	0	0	477	152	0	427	349	0	0	58	0	567	0	0	0	0	2,030		0	0	0	0
Peak Hour	0	0	228	103	0	234	225	0	0	40	0	299	0	0	0	0	1,129		0	0	0	0

ALL TRAFFIC DATA SERVICES
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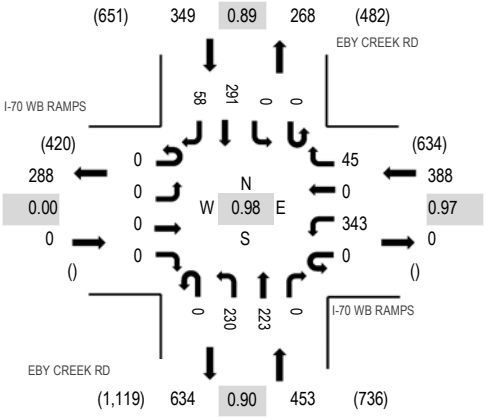
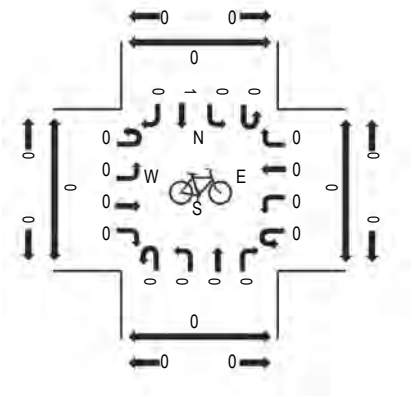
Location: 5 EBY CREEK RD & I-70 WB RAMPS AM
Date: Thursday, February 13, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

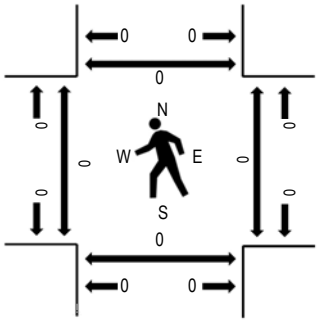
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	I-70 WB RAMPS Eastbound				I-70 WB RAMPS Westbound				EBY CREEK RD Northbound				EBY CREEK RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	26	0	3	0	17	28	0	0	0	46	8	128	870	0	0	0	0
7:15 AM	0	0	0	0	0	45	0	7	0	18	50	0	0	0	65	6	191	1,037	0	0	0	0
7:30 AM	0	0	0	0	0	65	2	5	0	29	49	0	0	0	95	9	254	1,151	0	0	0	0
7:45 AM	0	0	0	0	0	88	0	11	0	49	50	0	0	0	88	11	297	1,190	0	0	0	0
8:00 AM	0	0	0	0	0	86	0	13	0	59	57	0	0	0	67	13	295	1,151	0	0	0	0
8:15 AM	0	0	0	0	0	78	0	12	0	72	54	0	0	0	73	16	305		0	0	0	0
8:30 AM	0	0	0	0	0	91	0	9	0	50	62	0	0	0	63	18	293		0	0	0	0
8:45 AM	0	0	0	0	0	81	0	12	0	32	60	0	0	0	62	11	258		0	0	0	0
Count Total	0	0	0	0	0	560	2	72	0	326	410	0	0	0	559	92	2,021		0	0	0	0
Peak Hour	0	0	0	0	0	343	0	45	0	230	223	0	0	0	291	58	1,190		0	0	0	0

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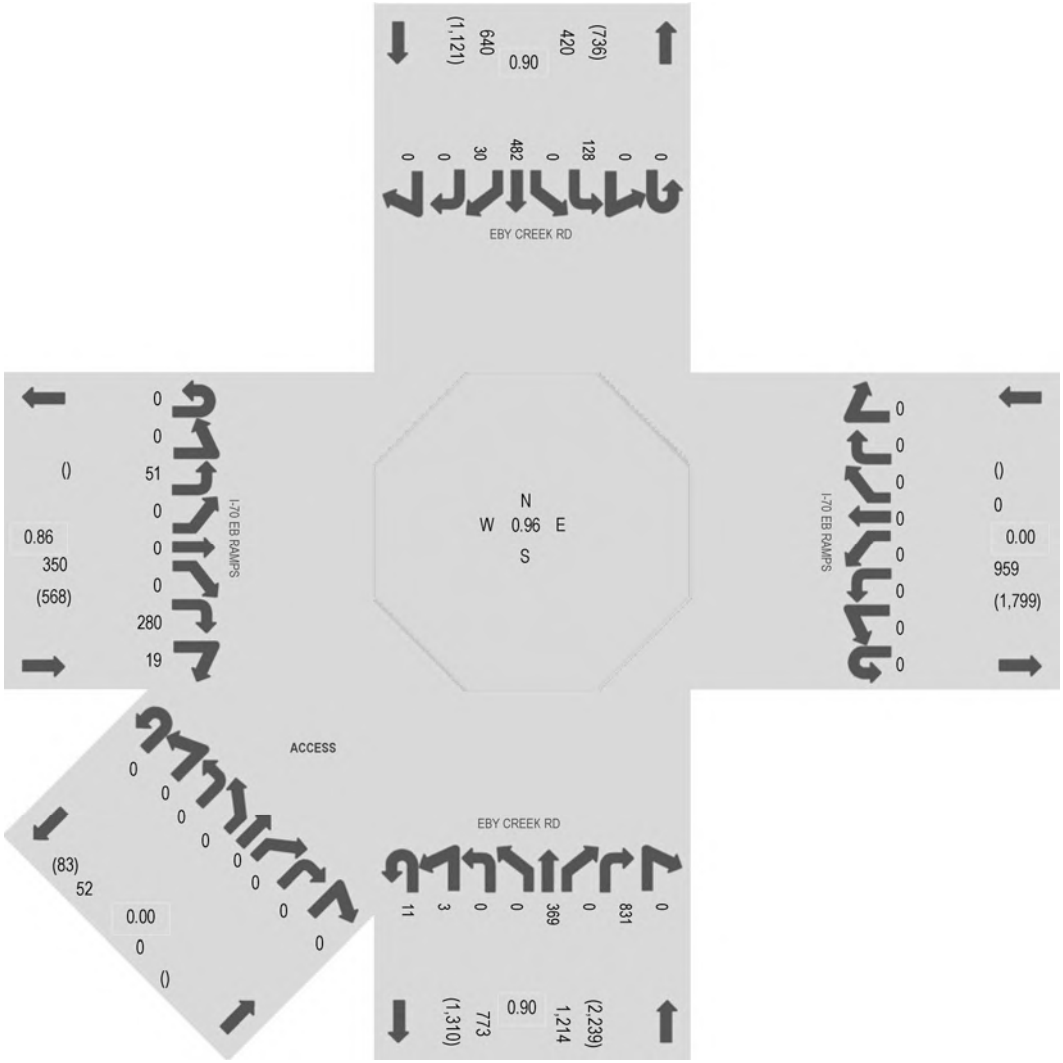
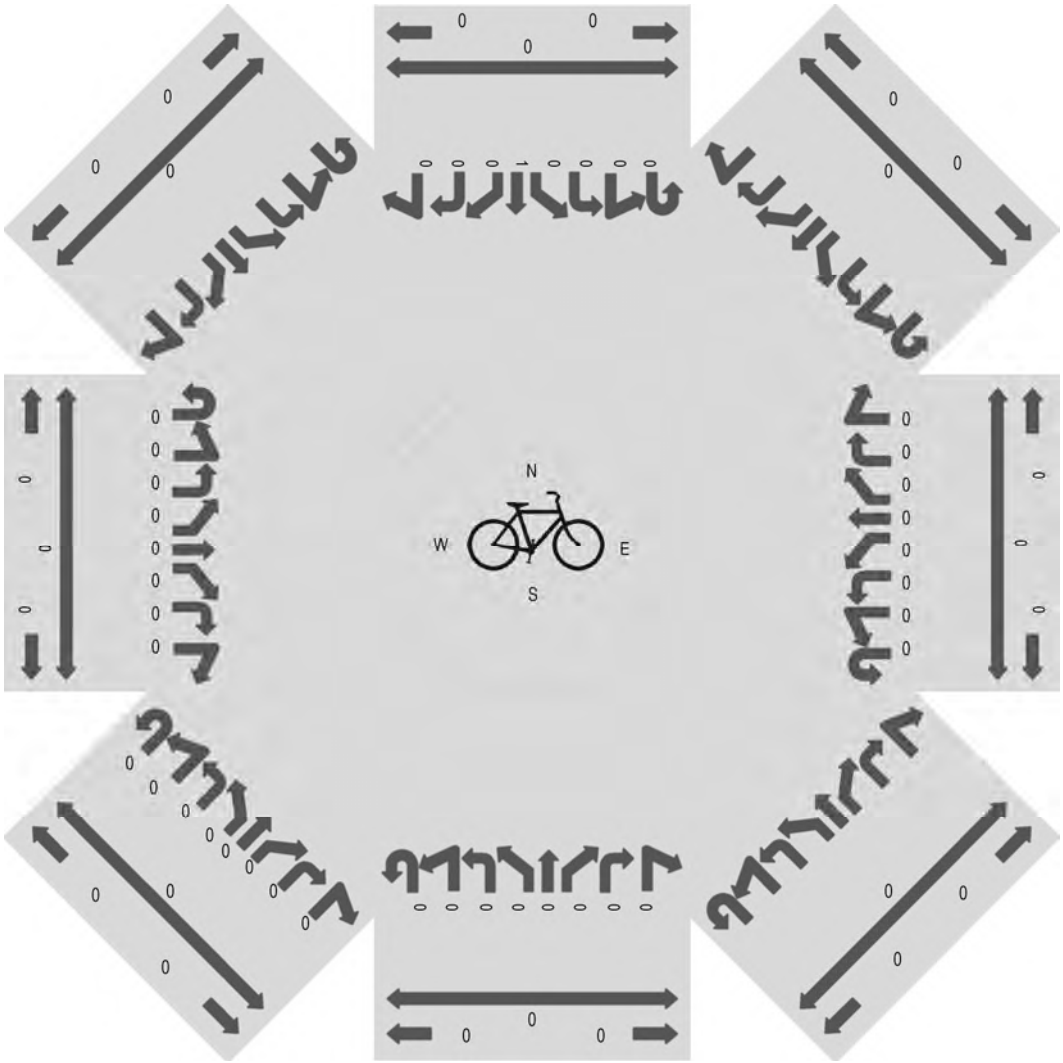
Location: 6 EBY CREEK RD & I-70 EB RAMPS AM
Date: Thursday, February 13, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles

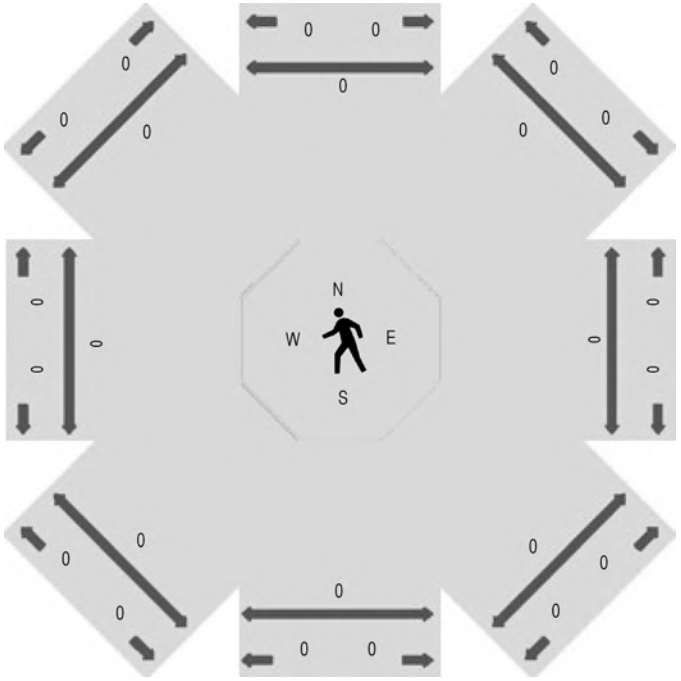


Note: Total study counts contained in parentheses.

Peak Hour - Bicycles



Peak Hour - Pedestrians



Traffic Counts - Motorized Vehicles

Interval Start Time	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
7:00 AM	0	0	0	0	0	0	0	0									1	1	0	0	38	0	145	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0									1	0	0	0	55	0	185	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0									1	2	0	0	65	0	256	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0									3	0	0	0	86	0	204	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0									4	0	0	0	104	0	188	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0									3	1	0	0	114	0	183	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0									6	1	0	0	104	0	232	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0									2	0	0	0	72	0	182	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0									21	5	0	0	638	0	1,575	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0									11	3	0	0	369	0	831	0	0	0	0	0	0	0	0	0

Interval Start Time	Eastbound								Southeastbound								Southbound								Southwestbound								Total	Rolling Hour
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR		
7:00 AM	0	0	7	0	0	0	32	5									0	0	20	0	54	1	0	0									304	1,841
7:15 AM	0	0	15	0	0	0	42	3									0	0	31	0	70	6	0	0									408	2,074
7:30 AM	0	0	14	0	0	0	53	4									0	0	52	0	104	5	0	0									556	2,204
7:45 AM	0	0	10	0	0	0	88	4									0	0	32	0	135	11	0	0									573	2,202
8:00 AM	0	0	13	0	0	0	76	5									0	0	20	0	120	7	0	0									537	2,087
8:15 AM	0	0	14	0	0	0	63	6									0	0	24	0	123	7	0	0									538	
8:30 AM	0	0	7	0	0	0	45	2									0	0	27	0	123	7	0	0									554	
8:45 AM	0	0	18	0	0	0	40	2									0	0	18	0	121	3	0	0									458	
Count Total	0	0	98	0	0	0	439	31									0	0	224	0	850	47	0	0									3,928	
Peak Hour	0	0	51	0	0	0	280	19									0	0	128	0	482	30	0	0									2,204	

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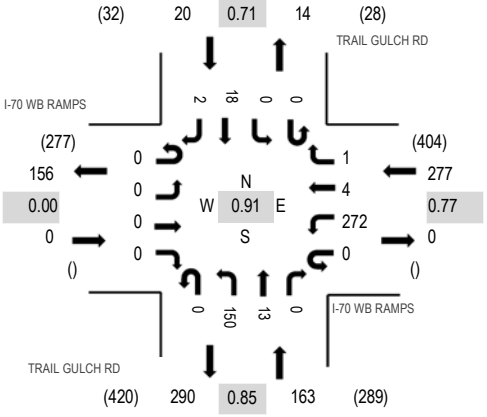
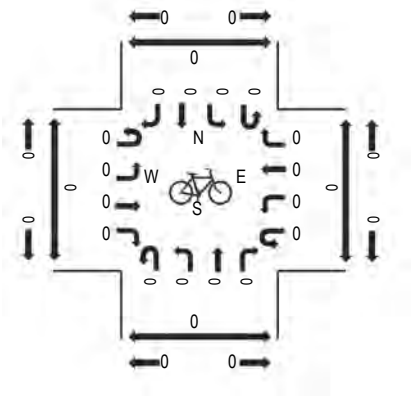
Location: 7 TRAIL GULCH RD & I-70 WB RAMPS AM
Date: Thursday, February 13, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

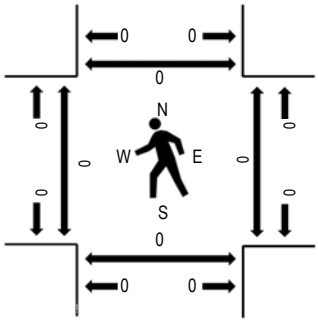
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	I-70 WB RAMPS Eastbound				I-70 WB RAMPS Westbound				TRAIL GULCH RD Northbound				TRAIL GULCH RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	25	0	0	0	24	3	0	0	0	4	0	56	273	0	0	0	0
7:15 AM	0	0	0	0	0	16	2	0	0	35	2	0	0	0	3	1	59	331	0	0	0	0
7:30 AM	0	0	0	0	0	27	3	2	0	23	3	0	0	0	2	0	60	393	0	0	0	0
7:45 AM	0	0	0	0	0	54	0	0	0	35	4	0	0	0	5	0	98	460	0	0	0	0
8:00 AM	0	0	0	0	0	57	1	1	0	45	3	0	0	0	5	2	114	452	0	0	0	0
8:15 AM	0	0	0	0	0	72	2	0	0	38	4	0	0	0	5	0	121		0	0	0	0
8:30 AM	0	0	0	0	0	89	1	0	0	32	2	0	0	0	3	0	127		0	0	0	0
8:45 AM	0	0	0	0	0	51	1	0	0	32	4	0	0	0	2	0	90		0	0	0	0
Count Total	0	0	0	0	0	391	10	3	0	264	25	0	0	0	29	3	725		0	0	0	0
Peak Hour	0	0	0	0	0	272	4	1	0	150	13	0	0	0	18	2	460		0	0	0	0

ALL TRAFFIC DATA SERVICES
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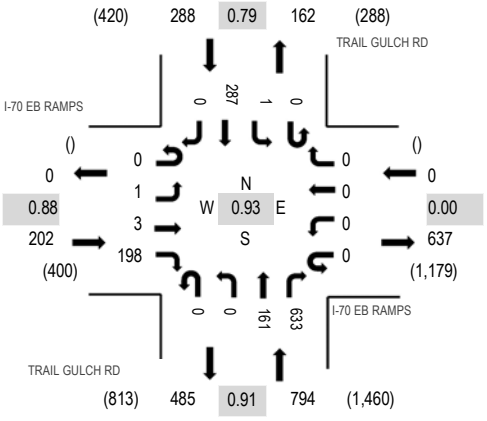
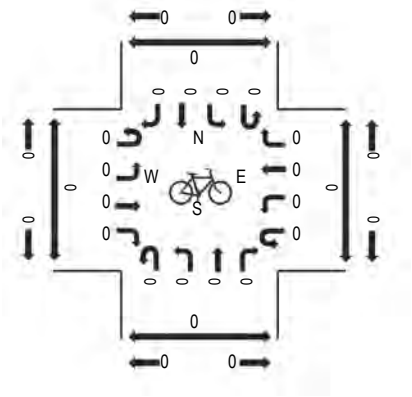
Location: 8 TRAIL GULCH RD & I-70 EB RAMPS AM
Date: Thursday, February 13, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

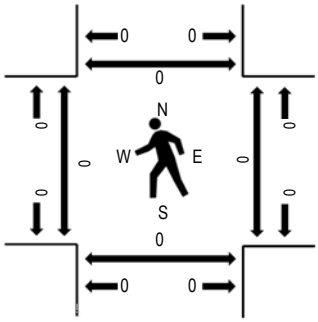
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	I-70 EB RAMPS Eastbound				I-70 EB RAMPS Westbound				TRAIL GULCH RD Northbound				TRAIL GULCH RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	44	0	0	0	0	0	0	25	116	0	0	29	0	214	1,112	0	0	0	0
7:15 AM	0	0	1	48	0	0	0	0	0	0	38	161	0	0	18	0	266	1,210	0	0	0	0
7:30 AM	0	0	0	62	0	0	0	0	0	0	26	170	0	0	30	0	288	1,262	0	0	0	0
7:45 AM	0	0	1	59	0	0	0	0	0	0	40	186	0	1	57	0	344	1,284	0	0	0	0
8:00 AM	0	1	0	43	0	0	0	0	0	0	45	160	0	0	63	0	312	1,168	0	0	0	0
8:15 AM	0	0	0	52	0	0	0	0	0	0	43	147	0	0	76	0	318		0	0	0	0
8:30 AM	0	0	2	44	0	0	0	0	0	0	33	140	0	0	91	0	310		0	0	0	0
8:45 AM	0	0	0	43	0	0	0	0	0	0	37	93	0	1	54	0	228		0	0	0	0
Count Total	0	1	4	395	0	0	0	0	0	0	287	1,173	0	2	418	0	2,280		0	0	0	0
Peak Hour	0	1	3	198	0	0	0	0	0	0	161	633	0	1	287	0	1,284		0	0	0	0

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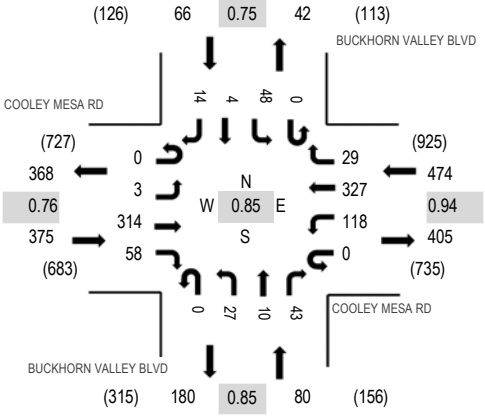
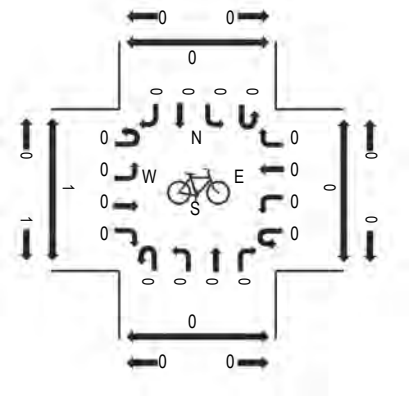
Location: 1 BUCKHORN VALLEY BLVD & COOLEY MESA RD PM
Date: Thursday, February 13, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

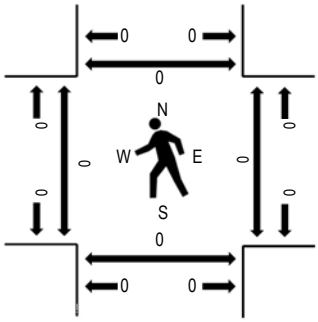
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	COOLEY MESA RD Eastbound				COOLEY MESA RD Westbound				BUCKHORN VALLEY BLVD Northbound				BUCKHORN VALLEY BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	2	86	13	0	31	74	17	0	9	2	7	0	14	1	7	263	895	0	0	0	1
4:15 PM	0	1	68	8	0	16	75	20	0	6	0	8	0	6	2	5	215	924	0	0	0	1
4:30 PM	0	3	54	8	0	19	78	10	0	12	1	12	0	11	0	2	210	966	0	0	0	0
4:45 PM	0	1	48	16	0	19	80	12	0	8	2	9	0	7	2	3	207	981	0	0	0	1
5:00 PM	0	0	105	18	0	22	90	14	0	6	4	11	0	16	1	5	292	995	0	0	0	0
5:15 PM	0	0	84	16	0	31	84	4	0	7	3	10	0	14	1	3	257		0	0	0	0
5:30 PM	0	3	59	14	0	29	80	4	0	7	3	12	0	8	2	4	225		0	0	0	0
5:45 PM	0	0	66	10	0	36	73	7	0	7	0	10	0	10	0	2	221		0	0	0	0
Count Total	0	10	570	103	0	203	634	88	0	62	15	79	0	86	9	31	1,890		0	0	0	3
Peak Hour	0	3	314	58	0	118	327	29	0	27	10	43	0	48	4	14	995		0	0	0	0

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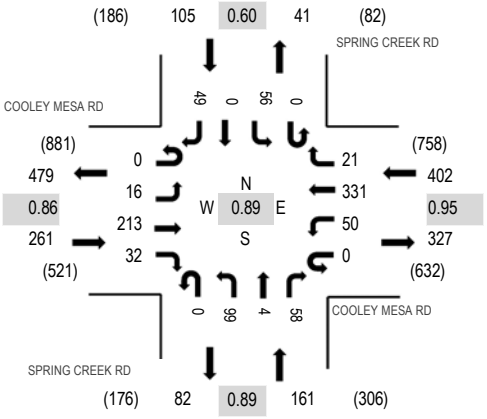
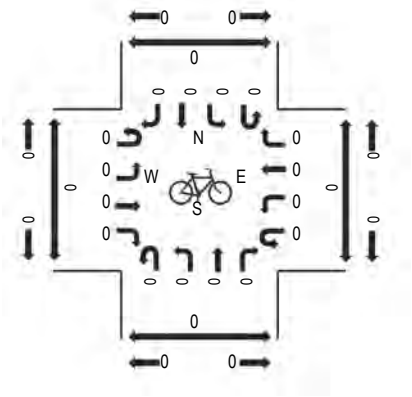
Location: 2 SPRING CREEK RD & COOLEY MESA RD PM
Date: Thursday, February 13, 2025
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

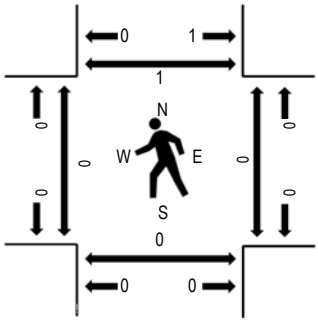
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	COOLEY MESA RD Eastbound				COOLEY MESA RD Westbound				SPRING CREEK RD Northbound				SPRING CREEK RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	4	53	18	0	11	77	3	0	11	2	17	0	25	0	13	234	850	0	0	0	1
4:15 PM	0	10	43	12	0	13	75	2	0	20	2	14	0	8	0	10	209	877	0	0	0	1
4:30 PM	0	3	37	9	0	15	89	2	0	22	0	11	0	6	0	14	208	929	0	0	0	0
4:45 PM	0	5	43	4	0	15	71	8	0	27	2	13	0	7	0	4	199	924	0	0	0	1
5:00 PM	0	5	66	10	0	7	90	6	0	26	2	19	0	20	0	10	261	921	0	0	0	0
5:15 PM	0	3	67	9	0	13	81	5	0	24	0	15	0	23	0	21	261		0	0	0	0
5:30 PM	0	2	47	6	0	16	76	2	0	26	1	12	0	10	0	5	203		0	0	0	1
5:45 PM	0	9	48	8	0	10	67	4	0	17	0	23	0	5	0	5	196		0	0	0	0
Count Total	0	41	404	76	0	100	626	32	0	173	9	124	0	104	0	82	1,771		0	0	0	4
Peak Hour	0	16	213	32	0	50	331	21	0	99	4	58	0	56	0	49	929		0	0	0	1

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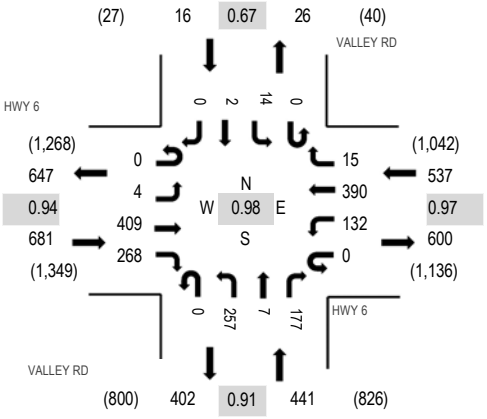
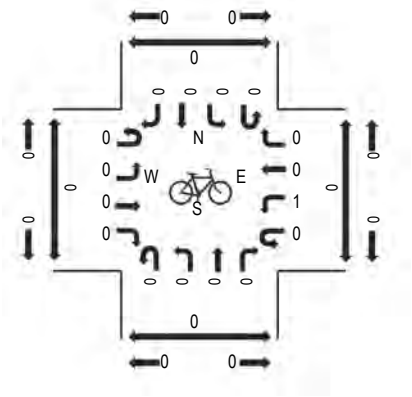
Location: 3 VALLEY RD & HWY 6 PM
Date: Thursday, February 13, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

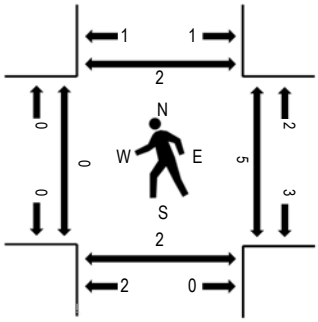
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 6 Eastbound				HWY 6 Westbound				VALLEY RD Northbound				VALLEY RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	98	69	0	32	93	0	0	64	2	53	0	1	2	0	415	1,572	0	4	3	3
4:15 PM	0	0	79	67	0	24	96	3	0	64	1	31	0	1	1	1	368	1,578	0	0	1	1
4:30 PM	0	2	100	63	0	32	96	1	0	56	0	33	0	1	0	0	384	1,639	0	3	3	1
4:45 PM	0	2	93	62	0	33	100	4	0	64	0	41	0	5	1	0	405	1,675	0	0	0	0
5:00 PM	0	1	96	71	0	33	91	2	0	70	1	50	0	5	1	0	421	1,672	0	2	1	0
5:15 PM	0	1	111	71	0	36	100	3	0	54	2	49	0	2	0	0	429		0	1	0	0
5:30 PM	0	0	109	64	0	30	99	6	0	69	4	37	0	2	0	0	420		0	2	1	2
5:45 PM	0	1	110	78	0	30	97	1	0	53	2	26	0	3	0	1	402		0	1	0	0
Count Total	0	8	796	545	0	250	772	20	0	494	12	320	0	20	5	2	3,244		0	13	9	7
Peak Hour	0	4	409	268	0	132	390	15	0	257	7	177	0	14	2	0	1,675		0	5	2	2

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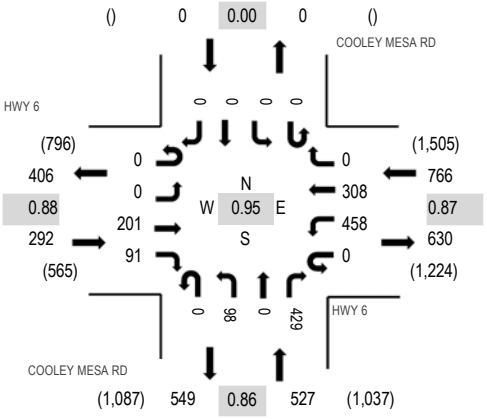
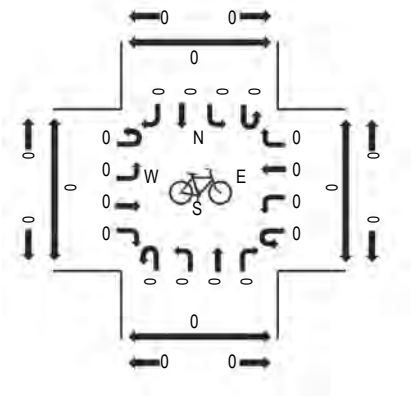
Location: 4 COOLEY MESA RD & HWY 6 PM
Date: Thursday, February 13, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

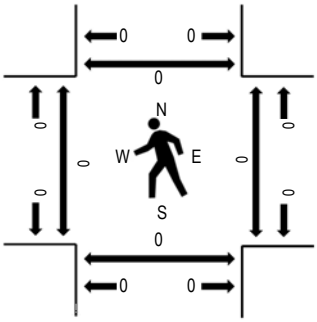
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 6 Eastbound				HWY 6 Westbound				COOLEY MESA RD Northbound				COOLEY MESA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	54	21	0	121	58	0	0	31	0	125	0	0	0	0	410	1,522	0	0	0	0
4:15 PM	0	0	49	26	0	109	77	0	0	20	0	108	0	0	0	0	389	1,522	0	0	0	0
4:30 PM	0	0	33	16	0	110	89	0	0	29	0	88	0	0	0	0	365	1,552	0	0	0	0
4:45 PM	0	0	52	22	0	113	62	0	0	24	0	85	0	0	0	0	358	1,571	0	0	0	0
5:00 PM	0	0	47	25	0	116	69	0	0	24	0	129	0	0	0	0	410	1,585	0	0	0	0
5:15 PM	0	0	57	26	0	135	90	0	0	17	0	94	0	0	0	0	419		0	0	0	0
5:30 PM	0	0	44	20	0	105	81	0	0	34	0	100	0	0	0	0	384		0	0	0	0
5:45 PM	0	0	53	20	0	102	68	0	0	23	0	106	0	0	0	0	372		0	0	0	0
Count Total	0	0	389	176	0	911	594	0	0	202	0	835	0	0	0	0	3,107		0	0	0	0
Peak Hour	0	0	201	91	0	458	308	0	0	98	0	429	0	0	0	0	1,585		0	0	0	0

ALL TRAFFIC DATA SERVICES
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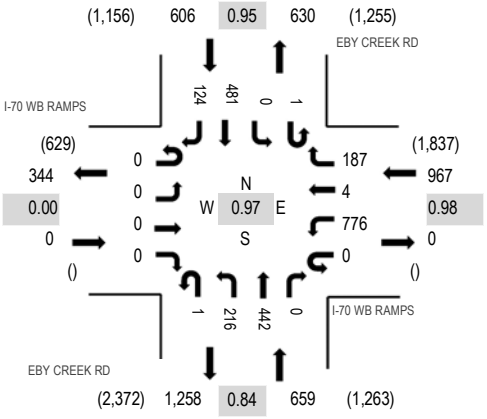
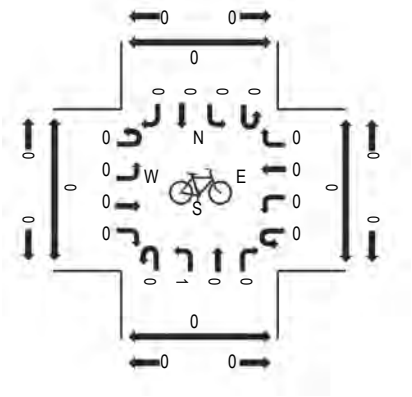
Location: 5 EBY CREEK RD & I-70 WB RAMPS PM
Date: Thursday, February 13, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

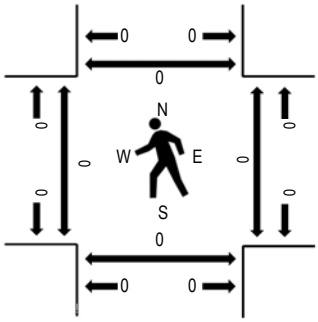
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	I-70 WB RAMPS Eastbound				I-70 WB RAMPS Westbound				EBY CREEK RD Northbound				EBY CREEK RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	138	2	49	0	50	106	0	0	0	90	17	452	2,042	0	0	0	0
4:15 PM	0	0	0	0	0	158	4	51	0	33	126	0	0	0	113	30	515	2,164	0	0	0	0
4:30 PM	0	0	0	0	0	172	2	46	0	50	97	0	0	0	128	29	524	2,226	0	0	0	0
4:45 PM	0	0	0	0	0	192	3	44	0	59	92	0	1	0	128	32	551	2,232	0	0	0	0
5:00 PM	0	0	0	0	0	192	1	46	0	58	141	0	0	0	114	22	574	2,214	0	0	0	0
5:15 PM	0	0	0	0	0	194	0	55	1	64	107	0	0	0	120	36	577		0	0	0	0
5:30 PM	0	0	0	0	0	198	0	42	0	35	102	0	0	0	119	34	530		0	0	0	0
5:45 PM	0	0	0	0	0	203	0	45	0	37	105	0	0	0	112	31	533		0	0	0	0
Count Total	0	0	0	0	0	1,447	12	378	1	386	876	0	1	0	924	231	4,256		0	0	0	0
Peak Hour	0	0	0	0	0	776	4	187	1	216	442	0	1	0	481	124	2,232		0	0	0	0

ALL TRAFFIC DATA SERVICES
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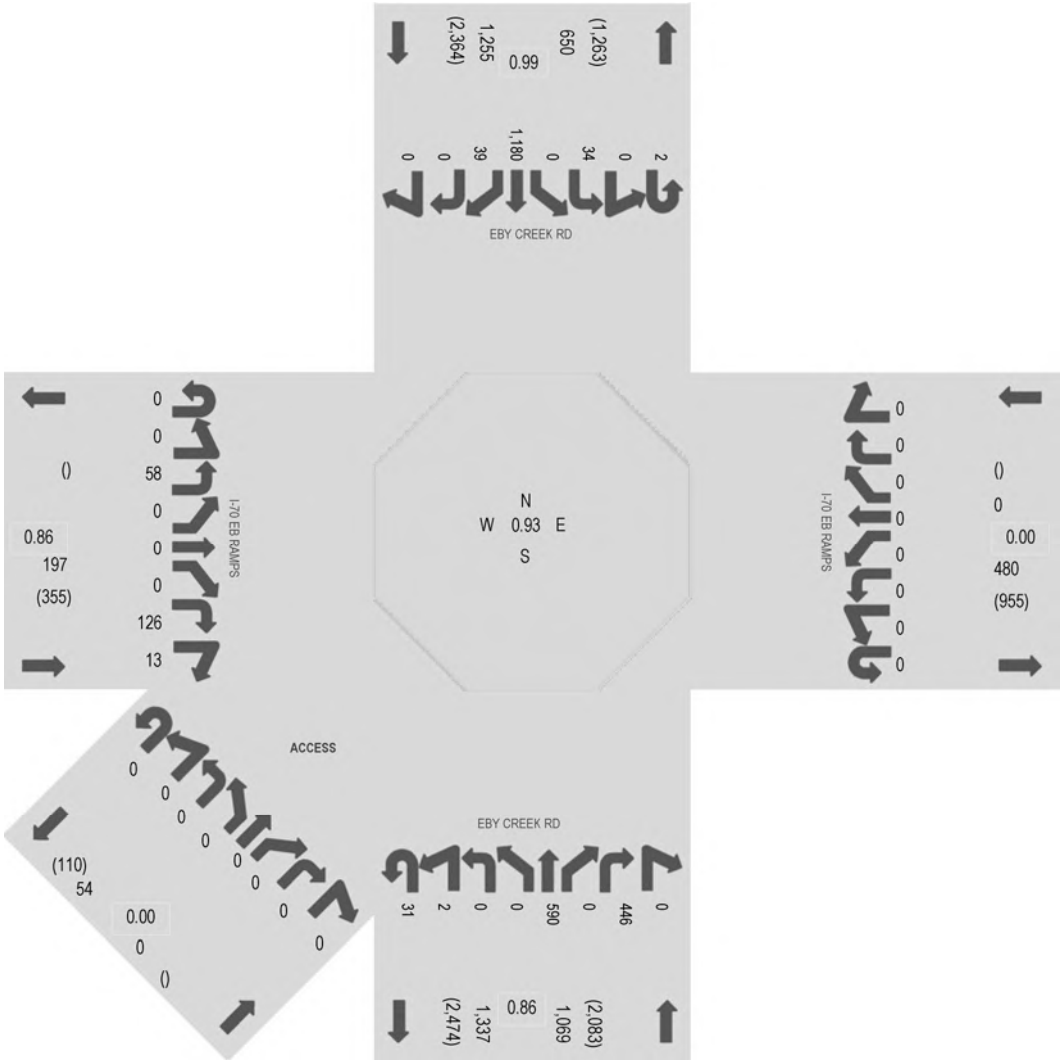
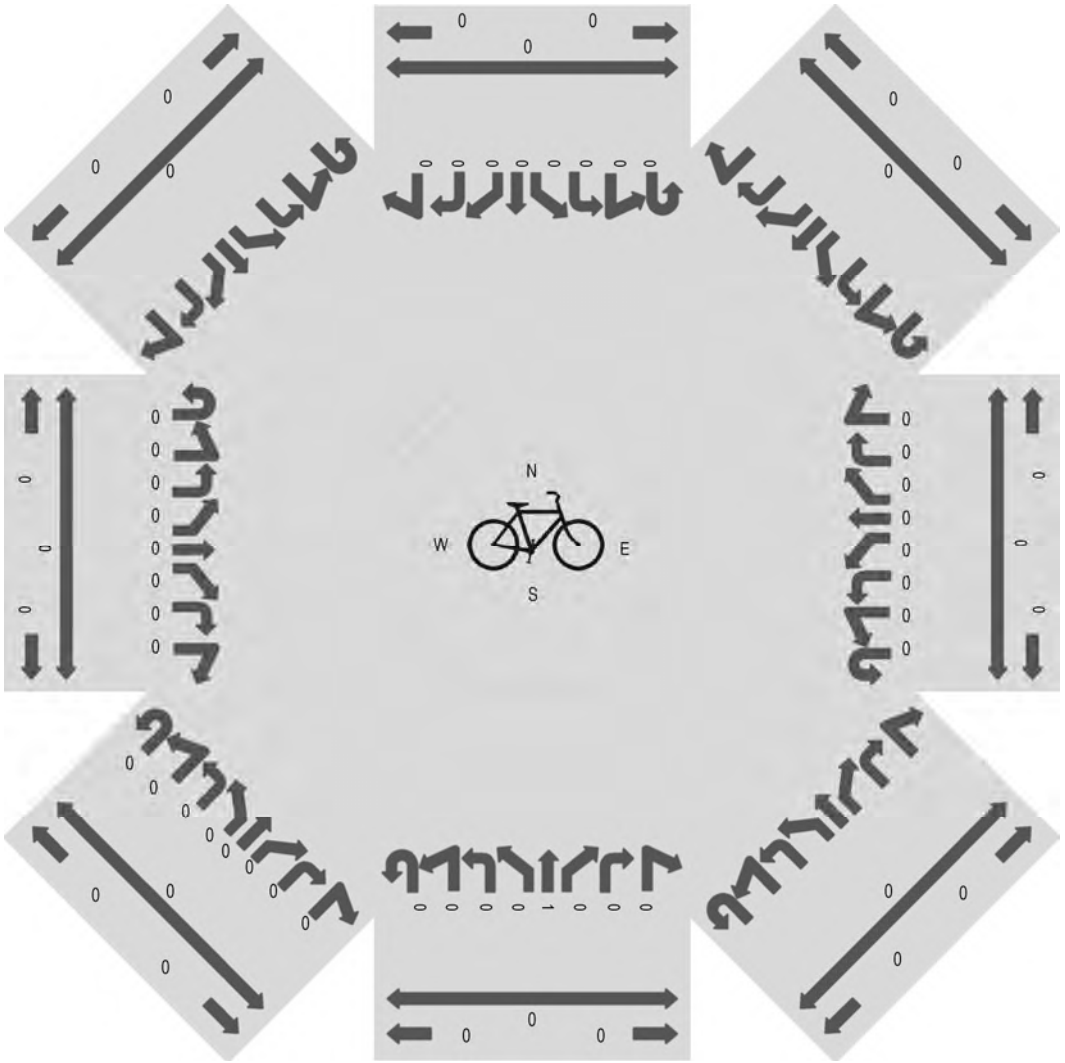
Location: 6 EBY CREEK RD & I-70 EB RAMPS PM
Date: Thursday, February 13, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles

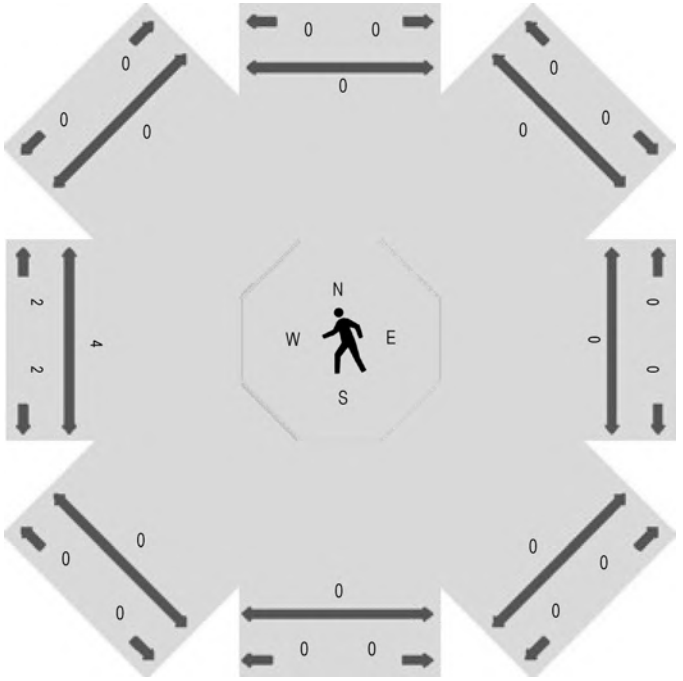


Note: Total study counts contained in parentheses.

Peak Hour - Bicycles



Peak Hour - Pedestrians



Traffic Counts - Motorized Vehicles

Interval Start Time	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
4:00 PM	0	0	0	0	0	0	0	0									7	1	0	0	146	0	123	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0									10	1	0	0	144	0	112	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0									3	0	0	0	138	0	97	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0									5	1	0	0	139	0	87	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0									13	1	0	0	189	0	109	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0									13	1	0	0	162	0	114	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0									4	0	0	0	115	0	126	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0									1	0	0	0	124	0	97	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0									56	5	0	0	1,157	0	865	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0									31	2	0	0	590	0	446	0	0	0	0	0	0	0	0	0

Interval Start Time	Eastbound								Southeastbound								Southbound								Southwestbound								Total	Rolling Hour
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR		
4:00 PM	0	0	13	0	0	0	18	5									0	0	14	0	206	6	0	0									539	2,281
4:15 PM	0	0	11	0	0	0	28	6									1	0	13	0	245	9	0	0									580	2,417
4:30 PM	0	0	11	0	0	0	24	2									0	0	20	0	278	7	0	0									580	2,484
4:45 PM	0	0	10	0	0	0	22	8									0	0	9	0	291	10	0	0									582	2,516
5:00 PM	0	0	16	0	0	0	29	2									0	0	11	0	295	10	0	0									675	2,521
5:15 PM	0	0	11	0	0	0	27	6									1	0	9	0	289	14	0	0									647	
5:30 PM	0	0	17	0	0	0	28	4									1	0	7	0	299	11	0	0									612	
5:45 PM	0	0	14	0	0	0	42	1									0	0	7	0	297	4	0	0									587	
Count Total	0	0	103	0	0	0	218	34									3	0	90	0	2,200	71	0	0									4,802	
Peak Hour	0	0	58	0	0	0	126	13									2	0	34	0	1,180	39	0	0									2,521	

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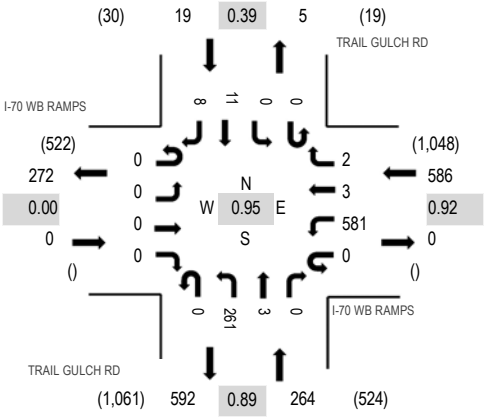
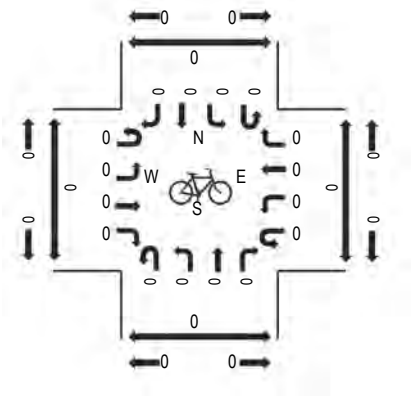
Location: 7 TRAIL GULCH RD & I-70 WB RAMPS PM
Date: Thursday, February 13, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

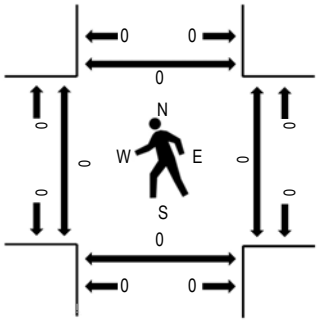
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	I-70 WB RAMPS Eastbound				I-70 WB RAMPS Westbound				TRAIL GULCH RD Northbound				TRAIL GULCH RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	103	2	0	0	71	2	0	0	0	3	0	181	733	0	0	0	0
4:15 PM	0	0	0	0	0	96	0	0	0	60	5	0	0	0	4	0	165	781	0	0	0	0
4:30 PM	0	0	0	0	0	132	0	0	1	60	3	0	0	0	1	1	198	835	0	0	0	0
4:45 PM	0	0	0	0	0	127	0	2	0	56	2	0	0	0	2	0	189	842	0	0	0	0
5:00 PM	0	0	0	0	0	149	0	1	0	65	0	0	0	0	8	6	229	869	0	0	0	0
5:15 PM	0	0	0	0	0	158	2	0	0	56	1	0	0	0	1	1	219		0	0	0	0
5:30 PM	0	0	0	0	0	135	0	1	0	67	1	0	0	0	0	1	205		0	0	0	0
5:45 PM	0	0	0	0	0	139	1	0	0	73	1	0	0	0	2	0	216		0	0	0	0
Count Total	0	0	0	0	0	1,039	5	4	1	508	15	0	0	0	21	9	1,602		0	0	0	0
Peak Hour	0	0	0	0	0	581	3	2	0	261	3	0	0	0	11	8	869		0	0	0	0

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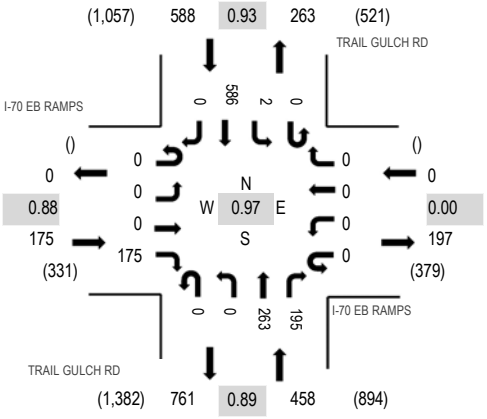
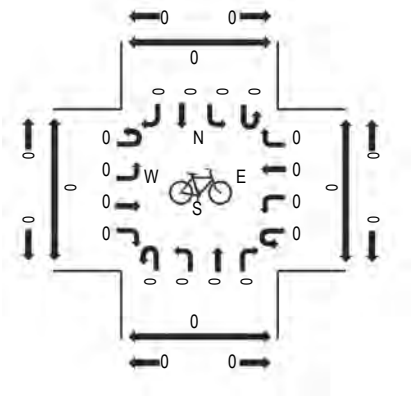
Location: 8 TRAIL GULCH RD & I-70 EB RAMPS PM
Date: Thursday, February 13, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

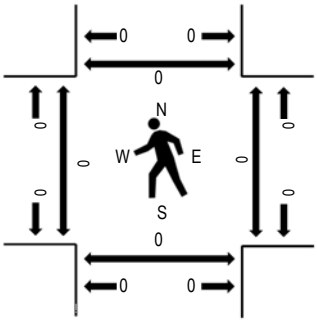
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	I-70 EB RAMPS Eastbound				I-70 EB RAMPS Westbound				TRAIL GULCH RD Northbound				TRAIL GULCH RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	34	0	0	0	0	0	0	70	46	0	0	103	0	253	1,061	0	0	0	0
4:15 PM	0	0	1	31	0	0	0	0	0	0	65	43	0	0	103	0	243	1,117	0	0	0	0
4:30 PM	0	1	1	39	0	0	0	0	0	0	65	42	0	0	130	0	278	1,171	0	0	0	0
4:45 PM	0	1	0	48	0	0	0	0	0	0	56	49	0	0	133	0	287	1,193	0	0	0	0
5:00 PM	0	0	0	41	0	0	0	0	0	0	65	47	0	2	154	0	309	1,221	0	0	0	0
5:15 PM	0	0	0	38	0	0	0	0	0	0	56	45	0	0	158	0	297		0	0	0	0
5:30 PM	0	0	0	46	0	0	0	0	0	0	70	47	0	0	137	0	300		0	0	0	0
5:45 PM	0	0	0	50	0	0	0	0	0	0	72	56	0	0	137	0	315		0	0	0	0
Count Total	0	2	2	327	0	0	0	0	0	0	519	375	0	2	1,055	0	2,282		0	0	0	0
Peak Hour	0	0	0	175	0	0	0	0	0	0	263	195	0	2	586	0	1,221		0	0	0	0

Appendix C. Existing Safety Conditions Memo

FELSBURG HOLT & ULLEVIG
connecting & enhancing communities

MEMORANDUM

TO: Matt Figgs, Project Manager, Town of Gypsum

FROM: Paul Brown, PE, PTOE, Traffic Analysis Lead, FHU

DATE: May 14, 2025

SUBJECT: Eagle Airport Interchange – Existing Safety Conditions (FHU Project Number 124388-01)

This report provides an assessment of the existing safety conditions in the Eagle Airport Interchange study area. The proposed interchange would connect I-70 at approximately milepost 143 with Cooley Mesa Road just east of the Eagle County Regional Airport. The purpose of this evaluation is to document historical crash patterns, identify safety deficiencies, and inform future infrastructure planning related to the proposed Eagle Airport Interchange.

The project team used data obtained from the Colorado statewide crash databases from the DiExSys Vision Zero Suite software to document and review the existing safety conditions in the study area. A five-year period from January 1, 2019, through December 31, 2023 was selected to perform the analysis.

The assessment includes the I-70 interstate mainline segments, ramp areas, ramp terminal intersections, and key town roadways, including portions of Highway 6, Cooley Mesa Road, and Valley Road. Analytical focus areas include crash frequency, severity, type, and spatial distribution.

Study Area Location and Conditions

This assessment evaluates the following locations within the study area, as depicted on **Figure 1**:

- **I-70 Interstate**:
  - I-70 mainline from Exit 140 at Trail Gulch Road to Exit 147 at Eby Creek Road. The limits of I-70 were extended one mile west of the Exit 140 influence area and one mile east of the Exit 147 influence area. These limits capture safety conditions entering and exiting the analysis area.
- **I-70 Interchange Areas**: The following interchanges were evaluated, which include the ramp segments, ramp terminal intersections, and cross streets.
  - Exit 140, I-70 at Trail Gulch Road
  - Exit 147, I-70 at Eby Creek Road
- **Town of Gypsum and Town of Eagle Arterial Network**: The following Town roadways were evaluated, which include both roadway segments and intersections.
  - Highway 6 between Exit 140 and Exit 147
  - Cooley Mesa Road between Valley Road and Highway 6
  - Valley Road between Highway 6 and Cooley Mesa Road

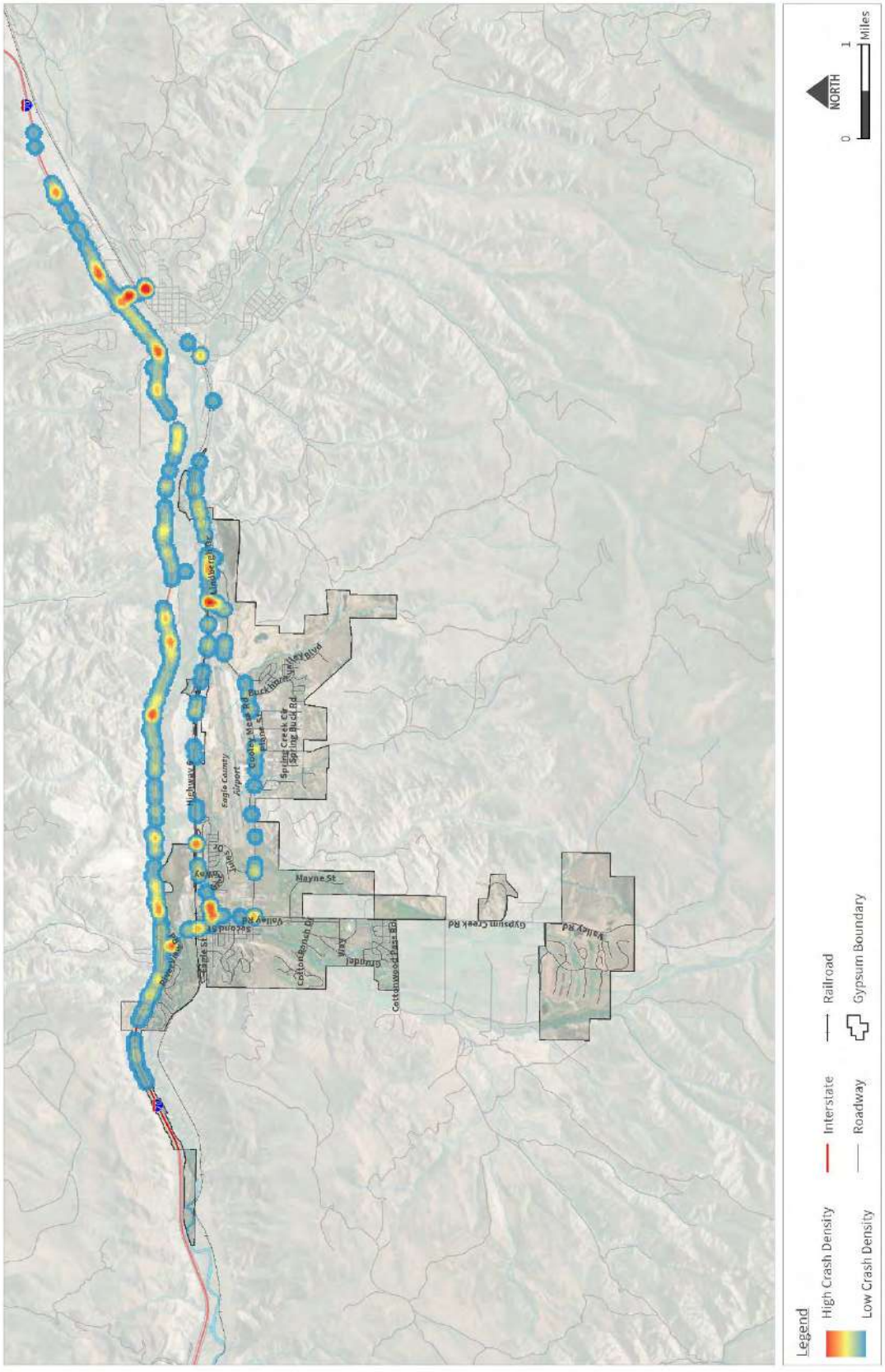


Figure 1. Crash Density Map

I-70 Interstate

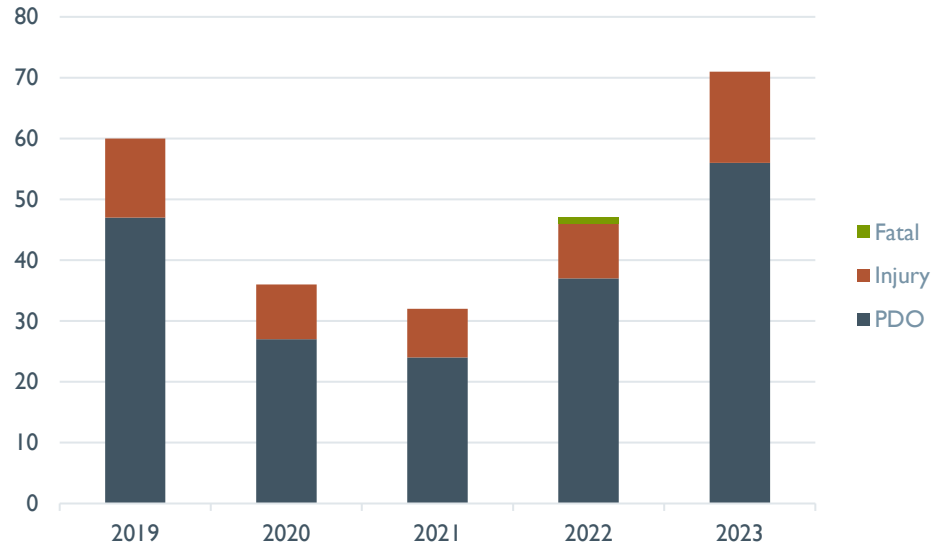
During the 5-year study period, a total of 246 crashes were reported along the I-70 corridor within the defined study limits. Of these, 191 crashes were classified as Property Damage Only (PDO), 54 crashes resulted in injuries, and 1 crash was classified as fatal.

Annual crash frequency peaks in 2019 and 2023, with a notable reduction observed in 2020 through 2022. Crash history beginning in 2020 was notably impacted by the widespread impacts to travel patterns and subsequently crash frequency stemming from the COVID-19 pandemic. Crash frequency in 2023 exceeds pre-pandemic levels. The annual crash history is summarized in **Table 1** and illustrated in **Figure 2**.

Table 1. Annual Crash History – I-70 Interstate

Year	PDO	Injury	Fatal	Total
2019	47	13	0	**60**
2020	27	9	0	**36**
2021	24	8	0	**32**
2022	37	9	1	**47**
2023	56	15	0	**71**
Total	**191**	**54**	**1**	**246**
Annual Average	***38.2***	***10.8***	***0.2***	***49.2***

Figure 2. Annual Crash History - I-70 Interstate



Crash Location

The crash history is generally consistent along I-70 within the defined limits. The following crash clusters were identified along the I-70 corridor:

- **West of Exit 140**
  - 23 crashes were recorded, including 18 PDO and five (5) injury crashes.
- **Between Exit 140 and Exit 147**
  - 181 crashes were recorded, including 139 PDO and 42 injury crashes, and one (1) fatal crash.
    - Approximately MP 142 to MP 143: 25 crashes were recorded, including 17 PDO crashes and eight (8) injury crashes.
    - Approximately MP 143 to MP 144: 16 crashes were identified, consisting of 12 PDO crashes and four (4) injury crashes.
    - Approximately MP 145 to MP 146: 20 crashes were recorded in this section, including 17 PDO crashes and three (3) injury crashes. The one (1) fatal crash was located on westbound I-70 in this section.
- **East of Exit 147:**
  - 42 crashes were recorded, including 34 PDO and seven (7) injury crashes.

Crash Type

The predominant crash type occurring on the interstate is fixed object, accounting for 106 crashes out of a total of 246 crashes, and 29 of which were severe. This crash type is followed in frequency by wild animal (47 crashes) and sideswipe same direction (45 crashes). Crash type by severity is summarized in **Table 2**.

Table 2. Crash Type - I-70 Interstate

Crash Type	PDO	Injury	Fatal	Total
Fixed Object	77	28	1	106
Wild Animal	44	3	0	47
Sideswipe Same Direction	39	6	0	45
Rear End	15	6	0	21
Overturning	5	8	0	13
Other Non-Collision	6	2	0	8
Parked Motor Vehicle	4	1	0	5
Sideswipe Opposite Direction	1	0	0	1
Total	**191**	**54**	**1**	**246**

Given the frequency of fixed object crashes, they were evaluated further to identify the specific types of fixed objects involved in crashes. The most frequently involved fixed objects include guard rail (25 total crashes, 8 severe crashes) and embankment or ditch (23 total crashes, 8 severe crashes). The fatal crash type was classified as fixed object/guard rail. Fixed object types involved in fixed object crashes are summarized in **Table 3**.

Table 3. Crash Type – Fixed Object - I-70 Interstate

Fixed Objects	PDO	Injury	Fatal	Total
Guard Rail	17	7	1	25
Embankment or Ditch	15	8	0	23
Fence or Fence Part	11	3	0	14
Other Object	10	1	0	11
Vehicle Cargo or Debris	8	0	0	8
Large Boulder	3	4	0	7
Traffic Sign or Post or Overhead Sign Structure	4	2	0	6
Delineator Post	4	1	0	5
Concrete Barrier	3	0	0	3
Trees or Shrubs	2	1	0	3
Barricade	0	1	0	1
Total	**77**	**28**	**1**	**106**

I-70 Interchange Areas

Exit 140: I-70/Trail Gulch Rd

Crash data were evaluated for the I-70/Trail Gulch Road Interchange, encompassing the on- and off-ramp segments, ramp terminal intersections, and the Trail Gulch Road cross street. Note: The defined limits end south of the eastbound ramp terminal intersection and does not overlap with the adjacent Trail Gulch Road segment.

During the 5-year study period, a total of six (6) crashes were recorded within the Exit 140 interchange area. Of these, five (5) were classified as PDO, and one (1) resulted in reported injuries. No fatal crashes were reported. **Table 4** summarizes the annual crash history at the Exit 140 interchange area.

Note: A single-lane roundabout was constructed at the westbound ramp terminal intersection between July and October 2024. This roundabout construction postdates the crash data collection period and does not affect this crash analysis.

Table 4. Annual Crash History – Exit 140 Interchange

Year	PDO	Injury	Fatal	Total
2019	1	0	0	**1**
2020	0	0	0	**0**
2021	0	0	0	**0**
2022	2	0	0	**2**
2023	2	1	0	**3**
Total	**5**	**1**	**0**	**6**
Annual Average	***1.0***	***0.2***	***0.0***	***1.2***

Crash Location

The majority of crashes within the Exit 140 interchange area were concentrated along the ramp segments, with one (1) crash occurring on the eastbound off-ramp and four (4) crashes on the westbound off-ramp. Of the westbound off-ramp crashes, one (1) resulted in injuries. One (1) crash was documented at the eastbound ramp terminal intersection. **Table 5** summarizes the crash location by severity.

Table 5. Crash Location – Exit 140 Interchange

Location	PDO	Injury	Fatal	Total
Intersection	1	0	0	**1**
Ramp	4	1	0	**5**
Total	**5**	**1**	**0**	**6**

Crash Type

The most prevalent crash type at the Exit 140 interchange area is rear end, accounting for four (4) of the six (6) total recorded crashes, with one (1) of these being as an injury crash. This is followed by fixed object and sideswipe – same direction crash types. Crash type by severity is summarized in **Table 6.**

Table 6. Crash Type – Exit 140 Interchange

Crash Type	PDO	Injury	Fatal	Total
Rear End	3	1	0	**4**
Fixed Object	1	0	0	**1**
Sideswipe Same Direction	1	0	0	**1**
Total	**5**	**1**	**0**	**6**

Exit 147: I-70/Eby Creek Rd

Crash data were analyzed for the I-70/Eby Creek Road Interchange, including the on- and off-ramp segments, ramp terminal intersections, and the Eby Creek Road cross street. Note: The defined limits end south of the eastbound ramp terminal intersection and does not overlap with the adjacent Eby Creek Road segment.

During the 5-year study period, a total of eight (8) crashes were recorded within the Exit 147 interchange area. All eight (8) crashes were categorized as PDO, with no reported injury or fatal crashes. **Table 7** summarizes the annual crash history at the Exit 147 interchange area.

Table 7. Annual Crash History – Exit 147 Interchange

Year	PDO	Injury	Fatal	Total
2019	4	0	0	**4**
2020	1	0	0	**1**
2021	2	0	0	**2**
2022	1	0	0	**1**
2023	0	0	0	**0**
Total	**8**	**0**	**0**	**8**
Annual Average	***1.6***	***0.0***	***0.0***	***1.6***

Crash Location

Of the eight (8) total crashes recorded within the Exit 147 interchange area four (4) crashes occurred at Ramp segments. Specifically, two (2) crashes were recorded at the eastbound on-ramp, one (1) crash at the westbound on-ramp, and one (1) crash at the westbound off-ramp. The remaining four (4) crashes were reported at Roundabout intersections, all occurring at the eastbound ramp terminal intersection. **Table 8** summarizes crash location by severity.

Table 8. Crash Location – Exit 147 Interchange

Location	PDO	Injury	Fatal	Total
Roundabout	4	0	0	**4**
Ramp	4	0	0	**4**
Total	**8**	**0**	**0**	**8**

Crash Type

The most frequent crash types within the Exit 147 interchange area are broadside (3 crashes), fixed object (2 crashes), and overturning (2 crashes). Crash type by severity is summarized in **Table 9**.

Table 9. Crash Location – Exit 147 Interchange

Crash Type	PDO	Injury	Fatal	Total
Broadside	3	0	0	**3**
Fixed Object	2	0	0	**2**
Overturning	2	0	0	**2**
Rear End	1	0	0	**1**
Total	**8**	**0**	**0**	**8**

Town Of Gypsum and Town of Eagle Arterial Network

Highway 6

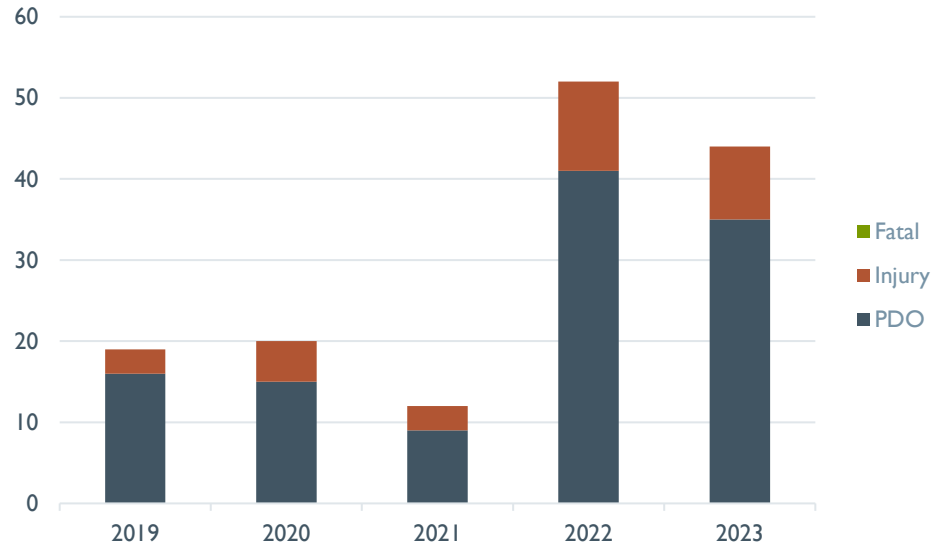
Crash data were analyzed for the Highway 6 corridor, encompassing both roadway segments and intersections within the defined limits. Note: The defined limits include Trail Gulch Road beginning south of the I-70 Exit 140 interchange (i.e. the eastbound ramp terminal intersection), Trail Gulch Road then transitions to Highway 6 and the defined limits extend to the Highway 6 intersection with Eby Creek Road. The defined limits also include the segment of Eby Creek Road south of the I-70 Exit 147 interchange (i.e. the eastbound ramp terminal intersection).

Over the 5-year study period, a total of 147 crashes were reported along this segment. Of these, 116 were classified as PDO, and 31 resulted injuries. No fatal crashes were reported. The annual crash history is summarized in **Table 10** and illustrated in **Figure 3**.

Table 10. Annual Crash History – Highway 6

Year	PDO	Injury	Fatal	Total
2019	16	3	0	**19**
2020	15	5	0	**20**
2021	9	3	0	**12**
2022	41	11	0	**52**
2023	35	9	0	**44**
Total	**116**	**31**	**0**	**147**
Annual Average	***23.2***	***6.2***	***0.0***	***29.4***

Figure 3. Annual Crash History – Highway 6



Crash Location

The distribution of crashes along the Highway 6 corridor indicates that the majority occurred at Intersections (51 total crashes, including 11 injury crashes), roundabouts (44 total crashes, including 7 injury crashes), and non-intersection locations (43 total crashes, including 10 injury crashes).

Further spatial analysis of the Highway 6 corridor was conducted by dividing the corridor into three sections:

- **Section 1: Trail Gulch Road to Valley Road**
  Crash activity in this section is concentrated at the Highway 6/Trail Gulch Road roundabout and the Highway 6/Valley Road intersection. More than half of the crashes in this section resulted in injuries.
- **Section 2: Valley Road to Cooley Mesa Road**
  Crashes within this segment are predominantly classified as PDO and are dispersed throughout the section, with a concentration of crashes at the Oak Ridge Drive intersection and the Highway 6/Cooley Mesa Road intersection.
- **Section 3: Cooley Mesa Road to Eby Creek Road**
  Similar to Section 2, crashes in this section are primarily PDO. However, a notable crash cluster is present at the Eby Creek Road roundabouts.

Table 11 summarizes crash location by severity.

Table 11. Crash Location – Highway 6

Location	PDO	Injury	Fatal	Total
Intersection/Intersection Related	40	11	0	**51**
Roundabout	37	7	0	**44**
Non-Intersection	33	10	0	**43**
At Driveway Access	6	3	0	**9**
Total	**116**	**31**	**0**	**147**

Crash Type

The most frequent crash type along the Highway 6 corridor is rear end, accounting for 38 of the 147 total crashes, followed by wild animal crashes, which accounted for 30 total crashes. Of the rear end crashes, 11 resulted in reported injuries, while wild animal crashes did not involve any injuries. Other notable crash types include broadside (24 total crashes, 7 injury crashes) and fixed object (21 total crashes, 7 injury crashes). Crash type by severity is summarized in **Table 12**.

Table 12. Crash Type – Highway 6

Crash Type	PDO	Injury	Fatal	Total
Rear End	27	11	0	**38**
Wild Animal	30	0	0	**30**
Broadside	17	7	0	**24**
Fixed Object	14	7	0	**21**
Sideswipe Same Direction	20	1	0	**21**
Approach Turn	3	0	0	**3**
Overtaking Turn	2	1	0	**3**
Overturning	2	1	0	**3**
Bicycle or Pedal Cycle	0	2	0	**2**
Head On	0	1	0	**1**
Sideswipe Opposite Direction	1	0	0	**1**
Total	**116**	**31**	**0**	**147**

Cooley Mesa Road

Crash data were analyzed for Cooley Mesa Road, including both roadway segments and intersections within the defined limits. Note: The defined limits begin east of the Cooley Mesa Road/Valley Road intersection and end south of the Highway 6/Cooley Mesa Road intersection.

During the 5-year study period, 28 crashes were recorded on this segment, of which 24 resulted in PDO and four (4) resulted in injuries. No fatal crashes were reported. The annual crash history is summarized in **Table 13**.

Table 13. Annual Crash History – Cooley Mesa Road

Year	PDO	Injury	Fatal	Total
2019	0	0	0	**0**
2020	0	0	0	**0**
2021	0	0	0	**0**
2022	17	2	0	**19**
2023	7	2	0	**9**
Total	**24**	**4**	**0**	**28**
Annual Average	***4.8***	***0.8***	***0.0***	***5.6***

Crash Location

The majority of crashes along the Cooley Mesa Road corridor occurred at non-intersection locations (13 total crashes, including 1 injury crash) and at intersections (13 total crashes, including 3 injury crashes).

Further spatial analysis of the Cooley Mesa Road corridor was conducted by dividing the roadway into two distinct sections:

- **Section 1: Valley Road to Spring Creek Road**
  All crashes within this section were classified as PDO, occurring at both intersections and non-intersection locations.
- **Section 2: Spring Creek Road to Highway 6**
  The crashes in this section are similarly dispersed, but include injury crashes occurring primarily at intersections.

Table 14 summarizes crash location by severity.

Table 14. Crash Location – Cooley Mesa Road

Location	PDO	Injury	Fatal	Total
Non-Intersection	12	1	0	**13**
Intersection/Intersection Related	10	3	0	**13**
At Driveway Access	2	0	0	**2**
Total	**24**	**4**	**0**	**28**

Crash Type

The most frequent crash types along Cooley Mesa Road are broadside (7 total crashes, including 2 injury crashes), wild animal (7 total crashes, with no reported injuries), and fixed object (6 total crashes, including 1 injury crash). Crash type by severity is summarized in **Table 15**.

Table 15. Crash Type – Cooley Mesa Road

Crash Type	PDO	Injury	Fatal	Total
Broadside	5	2	0	**7**
Wild Animal	7	0	0	**7**
Fixed Object	5	1	0	**6**
Rear End	4	0	0	**4**
Approach Turn	1	0	0	**1**
Overturning	1	0	0	**1**
Sideswipe Opposite Direction	0	1	0	**1**
Sideswipe Same Direction	1	0	0	**1**
Total	**24**	**4**	**0**	**28**

Valley Road

Crash data were analyzed for Valley Road, including both roadway segments and intersections within the defined limits. Note: The defined limits begin south of the Highway 6/Valley Road intersection and end at the Cooley Mesa Road/Valley Road intersection.

During the 5-year study period, 9 crashes were recorded on this segment, of which seven (7) resulted in PDO and two (2) resulted in injuries. No fatal crashes were reported. The annual crash history is summarized in **Table 16**.

Table 16. Annual Crash History – Valley Road

Year	PDO	Injury	Fatal	Total
2019	0	0	0	**0**
2020	2	0	0	**2**
2021	0	0	0	**0**
2022	3	2	0	**5**
2023	2	0	0	**2**
Total	**7**	**2**	**0**	**9**
Annual Average	***1.4***	***0.4***	***0.0***	***1.8***

Crash Location

The majority of crashes along the Valley Road corridor occurred at the roundabout (5 total crashes, including 1 injury crash) and at non-intersection locations (2 total crashes, including 1 injury crash). **Table 17** summarizes crash location by severity.

Table 17. Crash Location – Cooley Mesa Road

Location	PDO	Injury	Fatal	Total
Roundabout	4	1	0	**5**
Non-Intersection	1	1	0	**2**
At Driveway Access	1	0	0	**1**
Intersection	1	0	0	**1**
Total	**7**	**2**	**0**	**9**

Crash Type

The most frequent crash types along Valley Road are fixed object (5 total crashes, including 1 injury crash), broadside (2 total crashes, with no reported injuries), and rear end (2 total crashes, including 1 injury crash). Crash type by severity is summarized in **Table 18**.

Table 18. Crash Type – Valley Road

Crash Type	PDO	Injury	Fatal	Total
Fixed Object	4	1	0	**5**
Broadside	2	0	0	**2**
Rear End	1	1	0	**2**
Total	**7**	**2**	**0**	**9**

Conclusion

The safety analysis identified crash trends and high-crash locations throughout the Eagle Airport Interchange study area.

I-70 Interstate

On I-70, fixed object crashes were the most frequent, accounting for nearly half of total crashes, and were associated with a higher rate of severe outcomes, including the study area's only fatal crash. Notable crash clusters were identified near interchange merge and diverge points.

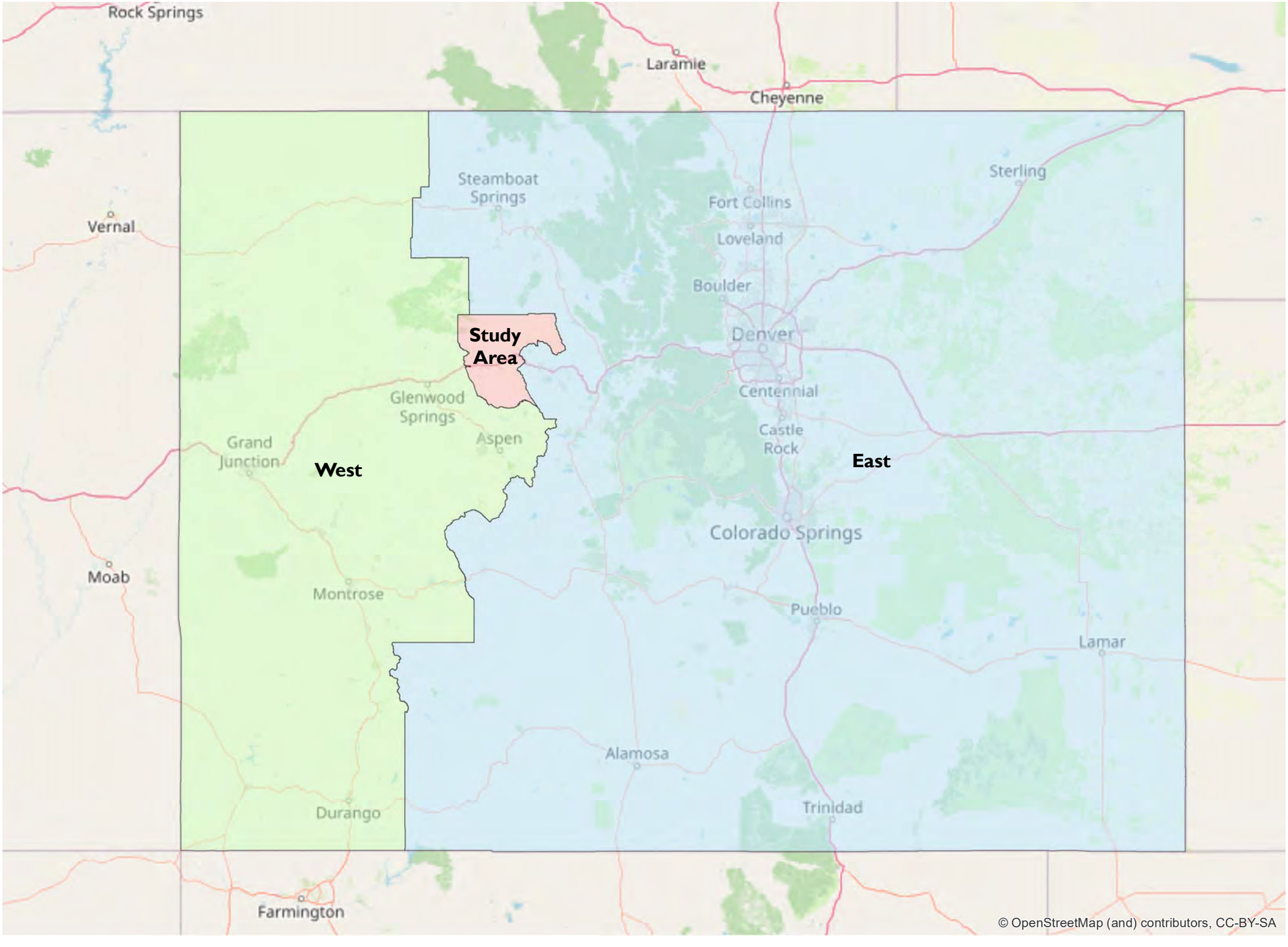
I-70 Interchange Areas

Interchange areas at Exit 140 and Exit 147 exhibited relatively low crash frequency but showed localized patterns. Rear end and fixed object crashes were most common at Exit 140, while broadside and overturning crashes occurred more often at Exit 147.

Town of Gypsum and Town of Eagle Arterial Network

On the arterial network, Highway 6 experienced the highest total crash volume (147 crashes), with significant concentrations at intersections and roundabouts. Rear end and broadside crashes were most prevalent, and injury crashes were disproportionately observed at the Trail Gulch Road roundabout and Eby Creek Road roundabouts. Cooley Mesa Road and Valley Road recorded lower crash frequencies but exhibited patterns at locations with fixed roadside objects.

Appendix D. Origin-Destination Matrices


Rock Springs
Laramie
Cheyenne
Steamboat Springs
Sterling
Vernal
Fort Collins
Loveland
Boulder
Study Area
Denver
Glenwood Springs
Centennial
Aspen
Grand Junction
Castle Rock
West
East
Colorado Springs
Moab
Montrose
Pueblo
Lamar
Alamosa
Durango
Trinidad
Farmington
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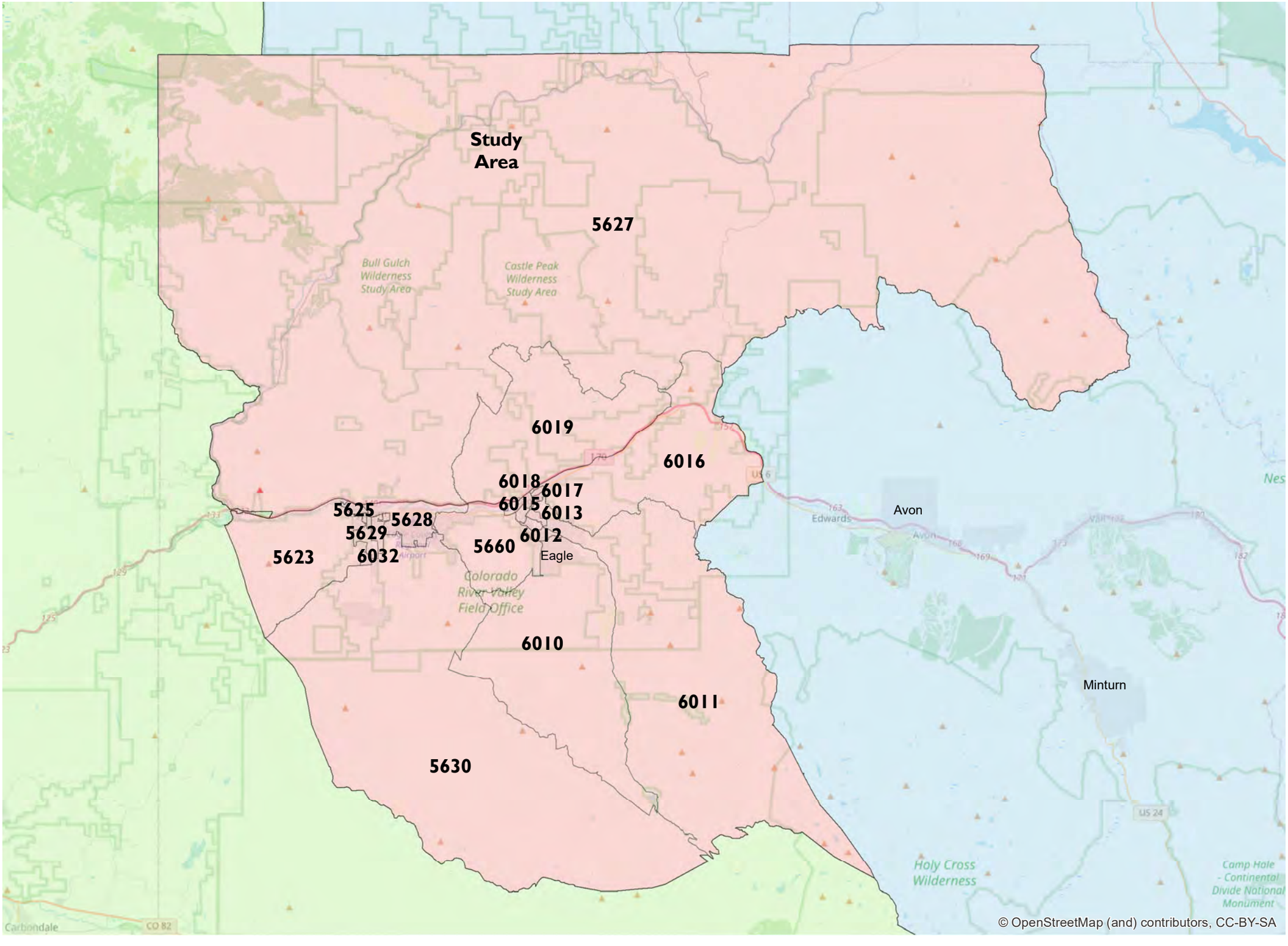
Study Area
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6011
5630
Eagle
Avon
Minturn
Bull Gulch Wilderness Study Area
Castle Peak Wilderness Study Area
Colorado River Valley Field Office
Holy Cross Wilderness
Camp Hale - Continental Divide National Monument
Carbondale
CO 82
US 24
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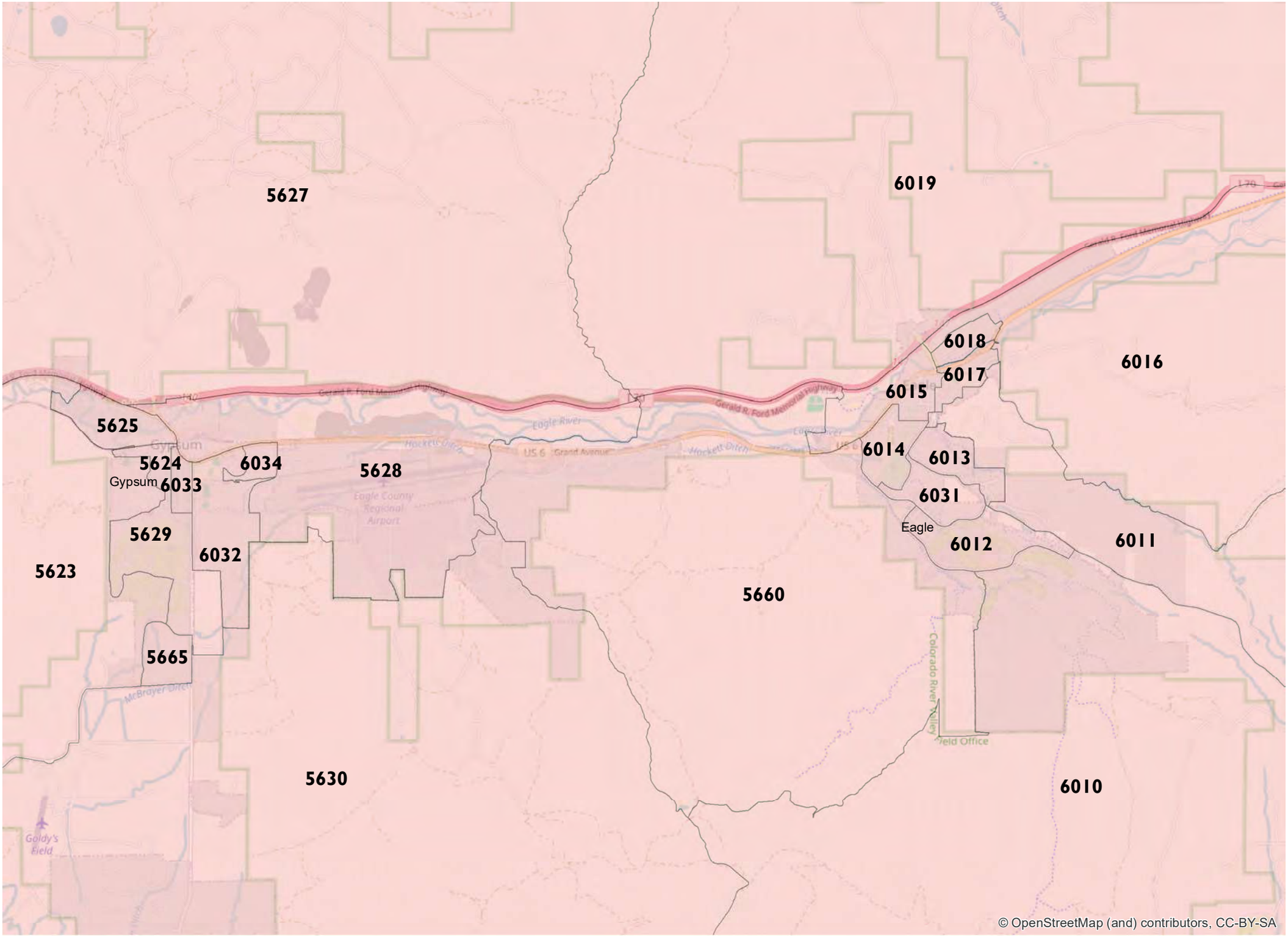
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Origin-Destination Matrix

Replica (2024)

	5623	5624	5625	5627	5628	5629	5630	5660	5665	6010	6011	6012	6013	6014	6015	6016	6017	6018	6019	6031	6032	6033	6034	West	East
5623	70	292	50	3	163	99	80	147	75	26	0	34	0	52	70	65	3	28	56	13	45	60	52	146	377
5624	264	550	499	66	352	259	100	176	225	49	2	57	17	73	105	91	5	23	81	25	210	236	270	264	471
5625	41	506	98	7	187	58	44	72	45	24	4	43	9	27	85	83	9	38	48	11	37	57	28	128	299
5627	9	63	13	85	90	2	6	50	0	9	26	9	1	14	67	106	75	63	192	4	16	13	7	310	255
5628	172	331	151	56	841	188	212	353	154	82	50	125	33	73	165	175	81	75	190	47	249	252	243	581	1,125
5629	104	258	56	5	206	267	98	195	102	38	13	45	12	26	68	73	7	20	54	18	103	78	92	204	333
5630	71	82	27	15	229	96	237	212	90	55	23	58	35	47	82	72	40	44	78	23	62	102	35	211	307
5660	138	185	70	43	323	184	176	769	211	190	46	250	194	227	422	231	43	124	279	138	136	158	143	416	1,113
5665	58	226	23	9	122	110	73	260	195	33	7	33	9	18	57	84	8	18	29	9	56	38	36	135	264
6010	26	46	20	10	82	34	62	157	31	264	27	132	64	95	173	72	12	93	57	82	21	32	12	54	407
6011	1	4	4	19	41	18	28	55	3	58	39	37	27	29	90	70	38	80	75	20	16	12	14	72	427
6012	28	59	33	10	93	36	81	238	35	101	27	361	64	126	229	137	22	142	139	102	63	54	11	81	509
6013	9	16	12	4	34	11	42	175	0	68	31	63	186	96	406	172	51	216	141	61	12	15	11	86	696
6014	53	82	28	13	89	31	58	169	29	105	32	107	84	237	273	110	35	119	131	98	44	61	36	94	600
6015	88	115	89	59	176	98	69	311	122	178	99	234	370	251	877	270	152	212	394	212	86	100	60	300	873
6016	69	102	59	88	170	76	104	216	101	116	53	143	168	115	263	448	107	195	338	97	71	70	40	383	1,005
6017	6	13	11	45	51	8	27	52	3	21	28	28	42	35	178	121	91	96	85	17	11	13	5	98	345
6018	34	30	36	60	49	30	41	124	31	92	61	140	207	119	200	199	86	250	221	105	30	24	20	252	411
6019	49	66	52	174	118	52	74	236	28	54	68	130	130	135	371	308	116	216	720	115	26	34	46	258	938
6031	13	31	13	9	48	18	33	127	15	62	19	81	51	94	238	96	21	114	103	109	25	19	17	69	464
6032	50	200	37	16	227	113	53	142	56	27	22	62	19	31	81	59	14	23	46	17	140	105	96	173	294
6033	45	238	53	11	236	75	107	140	34	29	8	60	22	45	80	67	11	23	57	12	120	176	73	168	325
6034	54	256	35	8	193	74	49	118	47	12	24	16	8	33	56	61	20	26	47	20	84	76	245	149	536
West	147	266	123	326	857	201	193	488	103	42	85	64	82	92	286	530	111	253	242	75	149	157	151	1,820,021	30,087
East	445	477	365	315	1,075	348	317	1,217	222	351	415	493	751	644	803	780	274	354	693	444	268	295	542	29,812	21,570,962

Origin-Destination Matrix

CDOT Travel Demand Model (2015)

	5623	5624	5625	5627	5628	5629	5630	5660	5665	6010	6011	6012	6013	6014	6015	6016	6017	6018	6019	6031	6032	6033	6034	West	East
5623	138	27	26	3	39	43	12	26	71	3	3	4	6	9	33	24	3	7	6	7	70	25	17	287	64
5624	29	89	79	2	79	109	19	26	48	4	6	7	5	5	22	15	6	7	14	5	148	109	54	108	55
5625	21	77	166	4	118	64	9	61	57	2	9	8	12	15	48	36	8	14	14	12	134	87	59	165	97
5627	5	3	3	166	10	1	1	14	6	1	0	2	2	6	17	87	4	2	5	2	7	2	4	72	375
5628	39	94	102	13	461	83	18	120	78	10	18	35	26	43	105	34	34	23	31	34	166	126	216	237	314
5629	44	99	70	2	80	139	19	28	125	6	7	8	3	16	20	22	18	20	9	7	180	108	61	191	61
5630	16	9	12	1	21	14	186	21	34	2	2	3	2	10	14	19	8	6	3	2	44	14	6	149	63
5660	36	24	48	15	138	31	26	281	30	47	51	115	102	138	261	86	87	64	69	118	65	32	46	187	170
5665	80	43	57	6	70	131	39	38	219	3	1	2	0	6	29	25	11	8	10	7	169	72	47	148	57
6010	2	4	2	1	16	6	1	51	4	171	38	37	28	40	45	51	42	18	22	24	8	4	3	63	104
6011	2	2	6	0	17	8	1	52	2	30	153	26	20	32	41	53	25	18	12	34	11	2	2	104	107
6012	2	8	8	1	38	9	5	118	5	49	30	239	91	101	182	62	66	46	42	95	29	7	9	70	115
6013	7	4	13	2	24	3	2	105	3	35	14	88	136	141	259	91	124	55	43	147	24	11	7	62	126
6014	9	7	14	7	57	11	9	139	7	34	33	104	138	224	362	68	131	85	68	156	37	10	20	80	135
6015	26	33	53	14	92	33	16	256	34	55	50	190	264	354	1,141	145	255	254	164	201	62	28	45	185	328
6016	20	13	38	96	41	30	17	83	25	41	52	69	99	93	140	1,620	100	76	93	55	37	22	16	274	1,593
6017	3	5	17	6	30	14	4	86	8	33	29	76	127	134	245	96	184	106	100	83	31	17	9	50	120
6018	8	11	15	5	19	10	3	66	8	24	15	41	63	87	255	56	125	158	69	55	23	8	11	60	125
6019	8	18	16	6	27	6	5	79	6	25	13	37	43	56	165	94	89	67	264	53	28	10	8	112	212
6031	7	6	16	5	24	6	3	119	5	33	30	112	137	155	220	57	93	50	37	127	24	6	6	43	94
6032	78	138	138	6	176	189	52	53	181	8	16	25	26	32	65	44	34	23	28	26	425	191	116	191	78
6033	20	119	95	6	108	95	17	31	79	4	4	2	8	11	26	27	16	11	8	9	199	135	86	87	53
6034	19	57	56	1	206	66	9	44	49	2	3	12	5	13	39	22	8	6	9	16	116	90	108	98	56
West	269	88	160	65	235	171	138	171	147	49	91	61	63	77	191	280	54	52	99	37	199	89	92	1,087,319	11,110
East	62	67	86	370	316	69	53	193	56	104	102	126	128	150	342	1,633	128	132	234	104	93	69	63	11,119	13,449,654

Origin-Destination Matrix

CDOT Travel Demand Model (2045)

	5623	5624	5625	5627	5628	5629	5630	5660	5665	6010	6011	6012	6013	6014	6015	6016	6017	6018	6019	6031	6032	6033	6034	West	East
5623	416	32	48	42	109	95	69	66	162	11	12	11	9	22	61	79	19	21	35	10	131	48	30	626	341
5624	39	107	86	4	142	109	49	51	53	9	9	10	12	23	38	36	14	8	20	12	149	135	66	204	319
5625	60	83	198	13	194	91	42	69	54	12	12	15	14	27	56	78	18	17	38	15	145	119	63	265	399
5627	39	10	16	1,071	50	13	12	38	12	5	11	17	8	22	61	347	13	16	73	10	34	17	20	255	1,689
5628	101	147	178	42	1,768	186	124	398	135	52	72	69	49	112	236	156	64	68	123	72	435	206	299	734	643
5629	91	103	86	9	159	203	104	89	171	10	11	19	14	25	46	50	11	24	38	13	285	118	50	311	364
5630	67	40	36	12	121	89	1,003	100	146	17	43	13	12	34	67	59	15	16	24	17	141	61	34	616	337
5660	59	53	75	37	409	87	91	966	87	205	194	243	180	277	510	266	203	132	206	222	159	62	76	608	926
5665	168	48	55	18	130	154	164	73	331	10	12	16	13	17	52	44	22	16	22	12	206	107	46	300	369
6010	8	6	13	8	63	14	19	189	8	812	179	132	73	102	173	144	75	48	81	97	59	13	12	276	475
6011	13	8	12	8	82	17	45	188	13	168	1,135	114	61	107	181	146	87	47	75	69	64	19	11	424	506
6012	12	8	10	12	68	14	17	242	8	159	109	321	124	124	250	116	112	57	75	150	41	18	8	161	465
6013	14	11	12	11	56	12	11	205	8	84	84	107	162	185	290	132	134	71	90	156	43	15	12	160	506
6014	29	21	30	25	121	29	24	270	25	105	113	131	203	293	420	167	154	115	118	179	68	27	23	254	660
6015	58	42	63	54	224	61	60	515	67	170	183	231	267	443	1,220	303	303	290	372	242	109	55	54	569	1,379
6016	73	38	62	386	178	46	62	269	47	146	141	113	133	180	330	3,670	230	150	248	121	76	43	43	908	4,518
6017	15	14	21	18	62	14	15	204	19	91	90	114	140	154	287	215	247	108	192	125	49	27	12	160	498
6018	18	22	22	22	64	14	20	137	14	54	57	65	74	98	298	123	125	175	171	68	29	17	17	195	478
6019	34	24	28	66	123	32	25	202	19	79	85	74	83	120	368	262	193	146	874	100	51	21	22	346	619
6031	7	12	14	10	70	9	14	232	8	97	86	154	170	185	228	111	108	86	97	173	40	16	17	143	450
6032	126	152	157	36	409	268	156	136	213	59	66	51	52	63	90	97	56	36	45	36	626	270	143	578	640
6033	57	121	119	15	211	126	77	70	107	9	16	15	13	22	40	54	26	14	33	18	256	197	87	227	348
6034	30	51	81	23	313	50	36	84	48	13	15	11	12	24	45	55	11	11	15	11	126	84	99	187	328
West	626	206	264	221	757	286	571	626	295	253	394	163	159	244	534	898	164	195	313	158	554	223	192	1,896,854	23,694
East	343	316	425	1,720	872	370	318	922	376	434	456	469	530	694	1,414	4,638	521	480	637	454	671	377	324	23,722	21,470,756

Appendix E. Predictive Safety Model Outputs

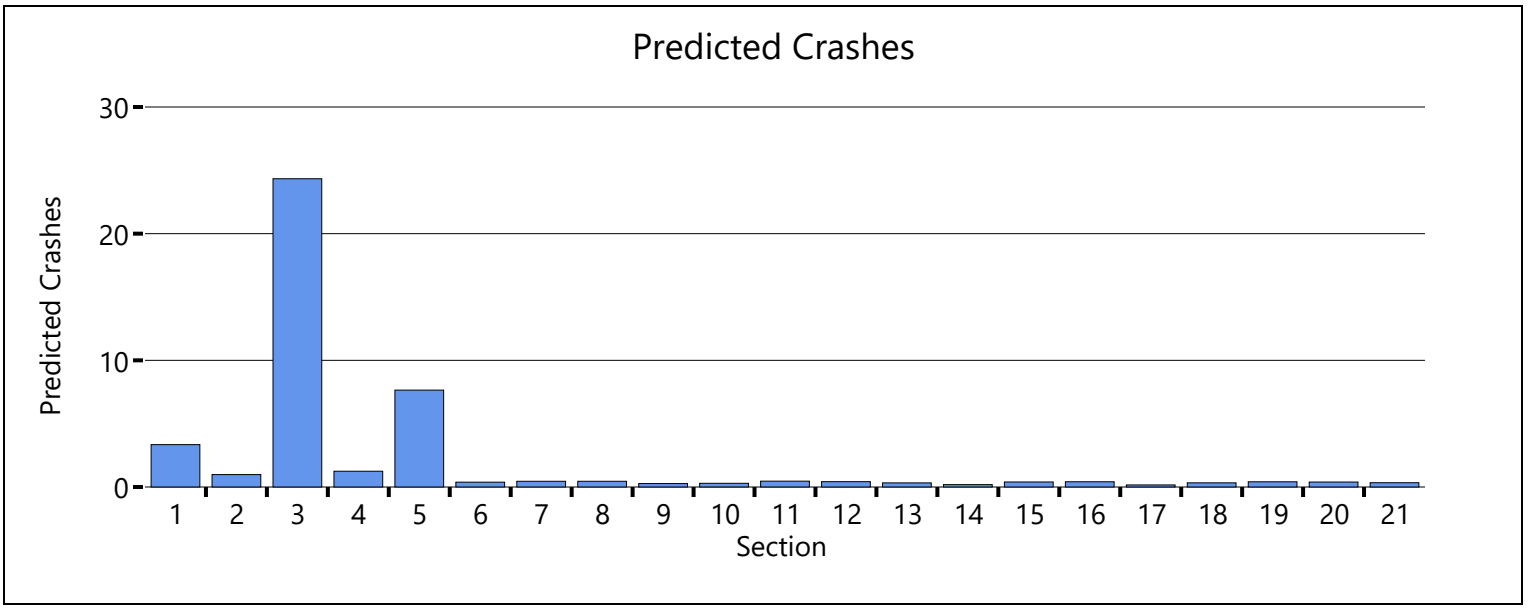
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	28-May-25
Jurisdiction		Analysis Year	2045
Project Description	I-70 Mainline - 2045 Base - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Freeway	Segment	Freeway Segment	1.150	20520	-	3.345	1.152	2.193
2	Freeway	Segment	Freeway Segment	0.520	13310	-	0.979	0.334	0.645
3	Freeway	Segment	Freeway Segment	6.230	28190	-	24.336	8.883	15.453
4	Freeway	Segment	Freeway Segment	0.470	18360	-	1.246	0.432	0.814
5	Freeway	Segment	Freeway Segment	1.240	41820	-	7.648	2.589	5.059
6	Freeway	Intersection	Speed Change Lanes	0.170	20520	-	0.382	0.113	0.269
7	Freeway	Intersection	Speed Change Lanes	0.250	28190	-	0.451	0.036	0.415
8	Freeway	Intersection	Speed Change Lanes	0.150	28190	-	0.452	0.132	0.320
9	Freeway	Intersection	Speed Change Lanes	0.170	20520	-	0.271	0.070	0.201
10	Freeway	Intersection	Speed Change Lanes	0.100	28190	-	0.292	0.088	0.204
11	Freeway	Intersection	Speed Change Lanes	0.120	41820	-	0.461	0.117	0.344
12	Freeway	Intersection	Speed Change Lanes	0.100	41820	-	0.421	0.126	0.295
13	Freeway	Intersection	Speed Change Lanes	0.140	28190	-	0.325	0.084	0.241
14	Ramp	Segment	Ramp Segment	0.230	3330	-	0.188	0.087	0.101
15	Ramp	Segment	Ramp Segment	0.290	7400	-	0.397	0.149	0.248
16	Ramp	Segment	Ramp Segment	0.280	7480	-	0.413	0.189	0.224
17	Ramp	Segment	Ramp Segment	0.250	3880	-	0.162	0.058	0.104
18	Ramp	Segment	Ramp Segment	0.220	4650	-	0.328	0.176	0.152
19	Ramp	Segment	Ramp Segment	0.210	12180	-	0.411	0.150	0.261
20	Ramp	Segment	Ramp Segment	0.190	11280	-	0.392	0.184	0.208
21	Ramp	Segment	Ramp Segment	0.290	5180	-	0.338	0.140	0.198
Total	-	-	-	11.570	-	-	43.238	15.289	27.949



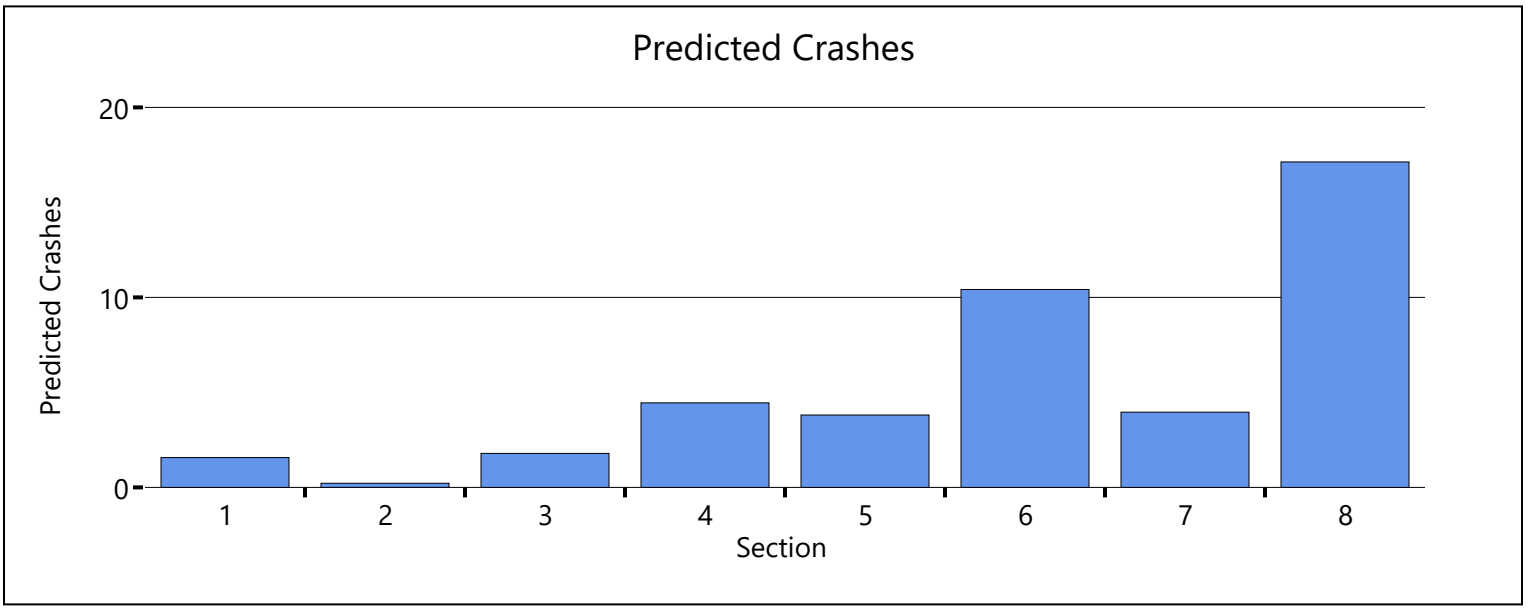
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	26-May-25
Jurisdiction		Analysis Year	2045
Project Description	Highway 6 - 2045 Base - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Roundabout (R)	-	-	1.569	1.569	0.285	1.284
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.085	11560	0.207	0.218	0.067	0.152
3	Urban	Intersection	Three-leg, Minor-Stop (3ST)	-	-	1.726	1.790	0.628	1.162
4	Urban	Segment	Two-Lane Undivided Segment (2U)	0.560	22080	4.078	4.449	1.261	3.188
5	Urban	Intersection	Four-leg, Signal (4SG)	-	-	7.169	3.810	1.278	2.532
6	Urban	Segment	Two-Lane Undivided Segment (2U)	3.330	12580	10.310	10.415	2.923	7.492
7	Urban	Intersection	Three-leg, Signal (3SG)	-	-	3.367	3.959	1.223	2.735
8	Urban	Segment	Two-Lane Undivided Segment (2U)	3.600	17000	16.975	17.128	4.802	12.326
Total	-	-	-	7.575	-	-	43.339	12.468	30.872



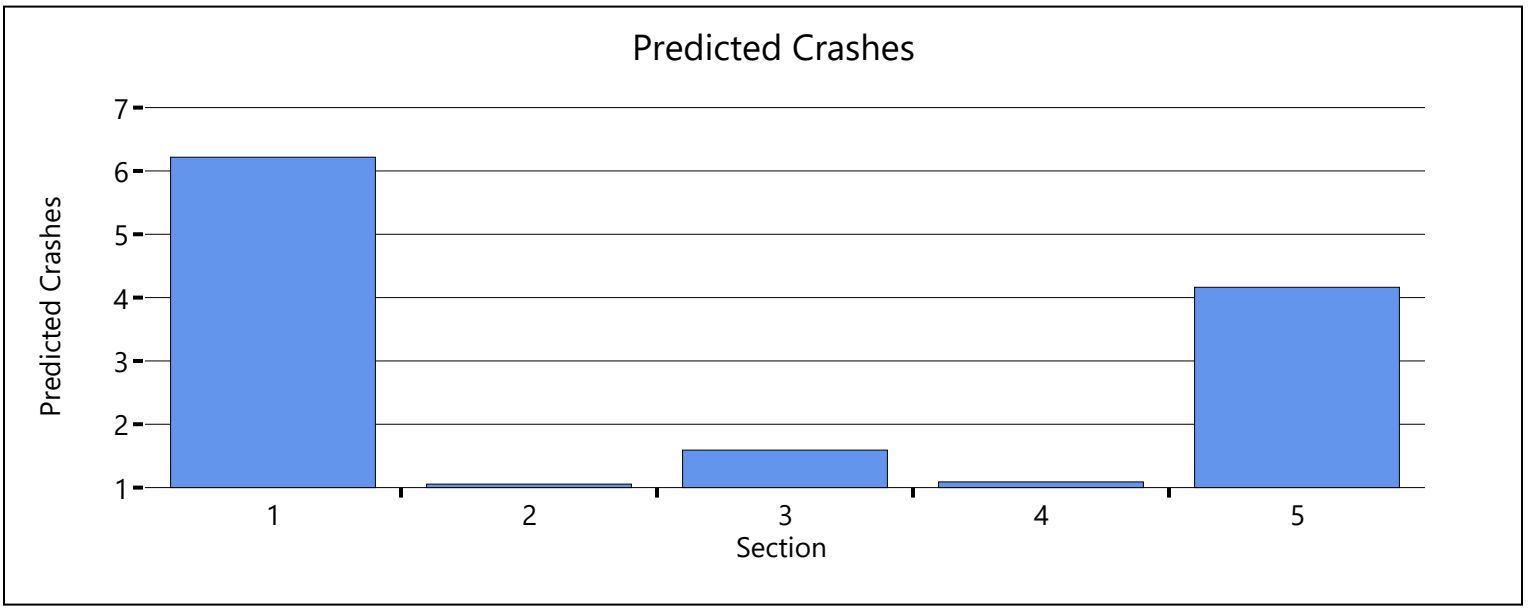
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Cooley Mesa Road - 2045 Base - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Segment	Two-Lane Undivided Segment (2U)	1.760	12240	5.243	6.217	1.745	4.472
2	Urban	Intersection	Four-leg, Minor-Stop (4ST)	-	-	2.522	1.055	0.415	0.640
3	Urban	Segment	Two-Lane Undivided Segment (2U)	0.560	10180	1.398	1.592	0.454	1.138
4	Urban	Intersection	Four-leg, Minor-Stop (4ST)	-	-	1.146	1.090	0.280	0.810
5	Urban	Segment	Two-Lane Undivided Segment (2U)	1.200	11960	4.121	4.163	1.201	2.962
Total	-	-	-	3.520	-	-	14.117	4.095	10.022



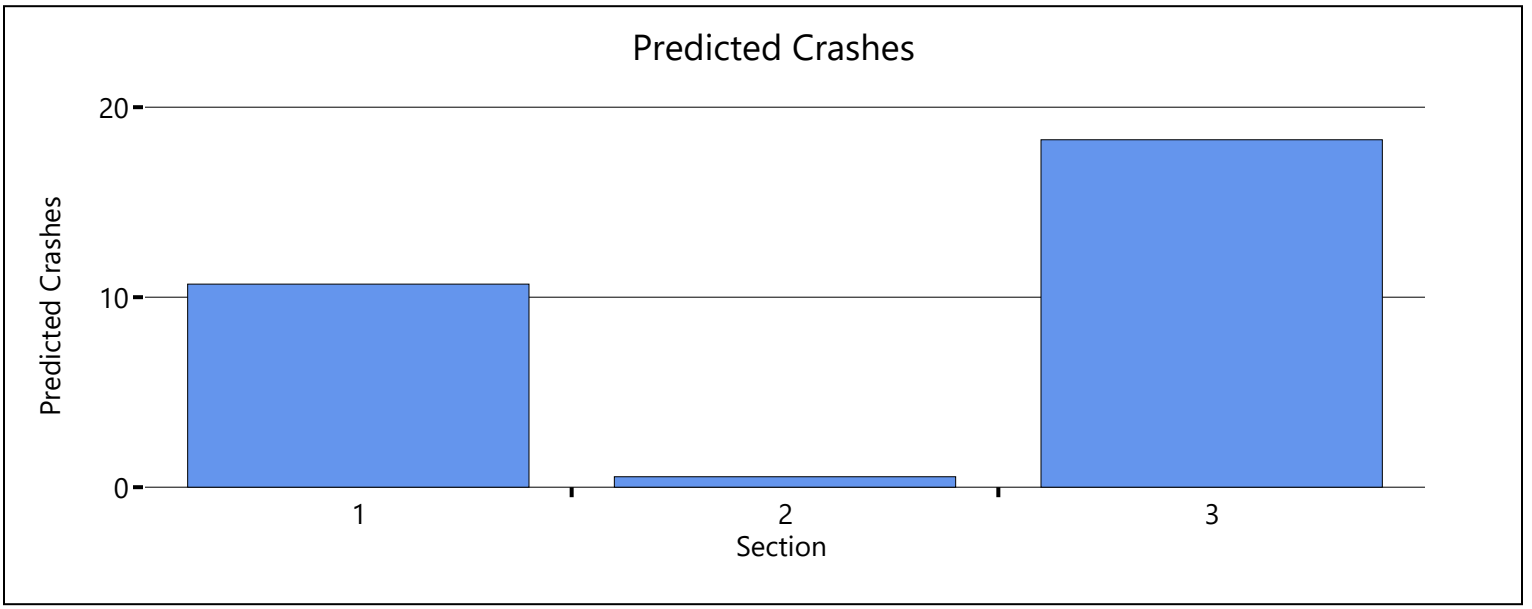
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Eby Creek Road - 2045 Base - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Roundabout (R)	-	-	11.613	10.688	1.960	8.728
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.067	24990	0.484	0.551	0.151	0.400
3	Urban	Intersection	Roundabout (R)	-	-	17.103	18.286	3.384	14.902
Total	-	-	-	0.067	-	-	29.525	5.495	24.030



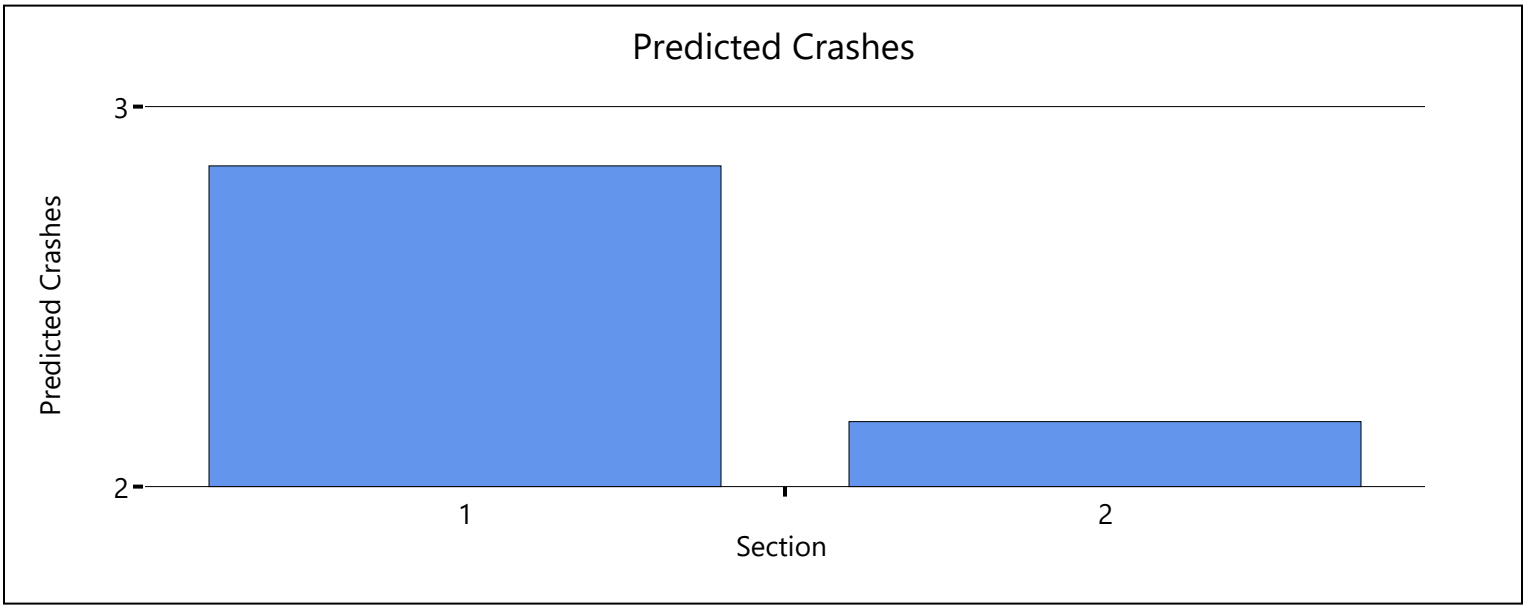
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Valley Road - 2045 Base - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Segment	Two-Lane Undivided Segment (2U)	0.435	13930	2.229	2.844	0.925	1.919
2	Urban	Intersection	Roundabout (R)	-	-	2.334	2.171	0.498	1.672
Total	-	-	-	0.435	-	-	5.014	1.423	3.591



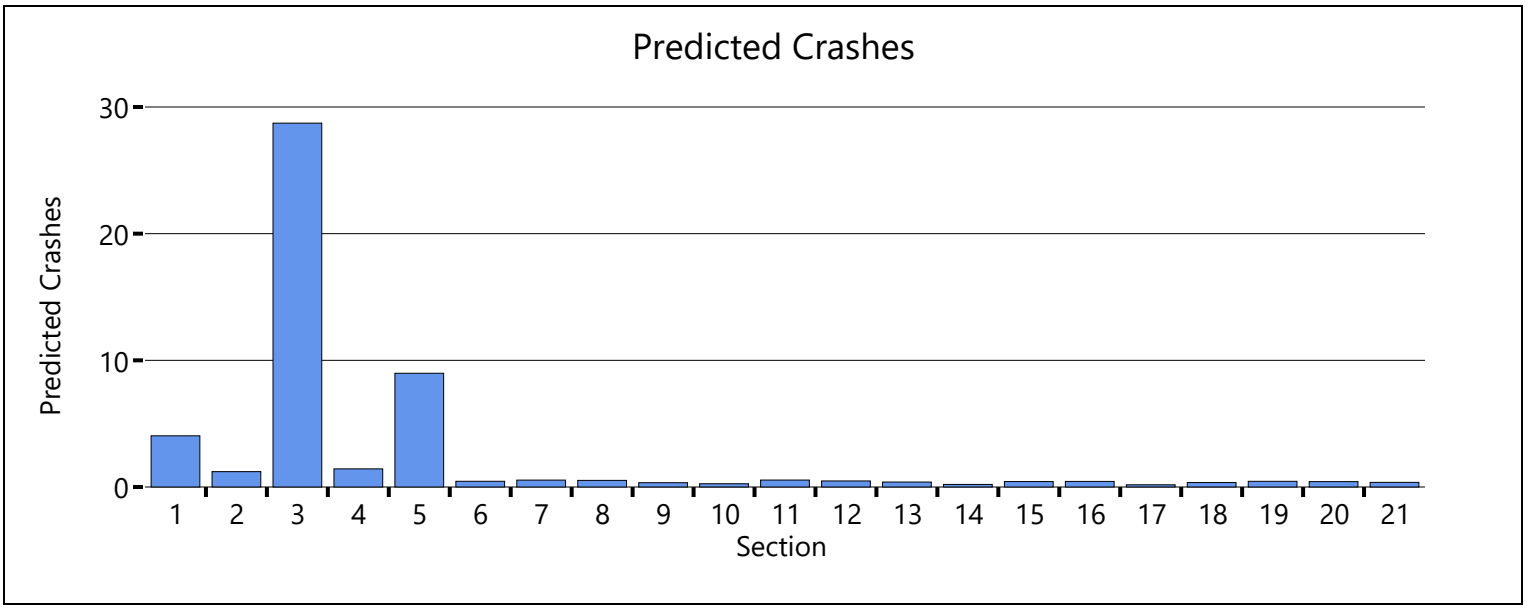
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	28-May-25
Jurisdiction		Analysis Year	2045
Project Description	I-70 Mainline - 2045 Base - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Freeway	Segment	Freeway Segment	1.150	24630	-	4.041	1.352	2.689
2	Freeway	Segment	Freeway Segment	0.520	16620	-	1.212	0.401	0.811
3	Freeway	Segment	Freeway Segment	6.230	32930	-	28.726	10.169	18.557
4	Freeway	Segment	Freeway Segment	0.470	21100	-	1.431	0.486	0.945
5	Freeway	Segment	Freeway Segment	1.240	48160	-	8.979	2.946	6.033
6	Freeway	Intersection	Speed Change Lanes	0.170	24630	-	0.452	0.133	0.319
7	Freeway	Intersection	Speed Change Lanes	0.250	32930	-	0.545	0.043	0.502
8	Freeway	Intersection	Speed Change Lanes	0.150	32930	-	0.522	0.153	0.369
9	Freeway	Intersection	Speed Change Lanes	0.170	24630	-	0.339	0.087	0.252
10	Freeway	Intersection	Speed Change Lanes	0.100	24630	-	0.258	0.078	0.180
11	Freeway	Intersection	Speed Change Lanes	0.120	48160	-	0.548	0.139	0.409
12	Freeway	Intersection	Speed Change Lanes	0.100	48160	-	0.477	0.142	0.335
13	Freeway	Intersection	Speed Change Lanes	0.140	32930	-	0.391	0.100	0.291
14	Ramp	Segment	Ramp Segment	0.230	3730	-	0.204	0.095	0.109
15	Ramp	Segment	Ramp Segment	0.290	8180	-	0.431	0.161	0.270
16	Ramp	Segment	Ramp Segment	0.280	8130	-	0.440	0.202	0.238
17	Ramp	Segment	Ramp Segment	0.250	4280	-	0.174	0.062	0.112
18	Ramp	Segment	Ramp Segment	0.220	5150	-	0.353	0.189	0.164
19	Ramp	Segment	Ramp Segment	0.210	13530	-	0.449	0.162	0.287
20	Ramp	Segment	Ramp Segment	0.190	12530	-	0.425	0.198	0.227
21	Ramp	Segment	Ramp Segment	0.290	5680	-	0.364	0.150	0.214
Total	-	-	-	11.570	-	-	50.761	17.448	33.313



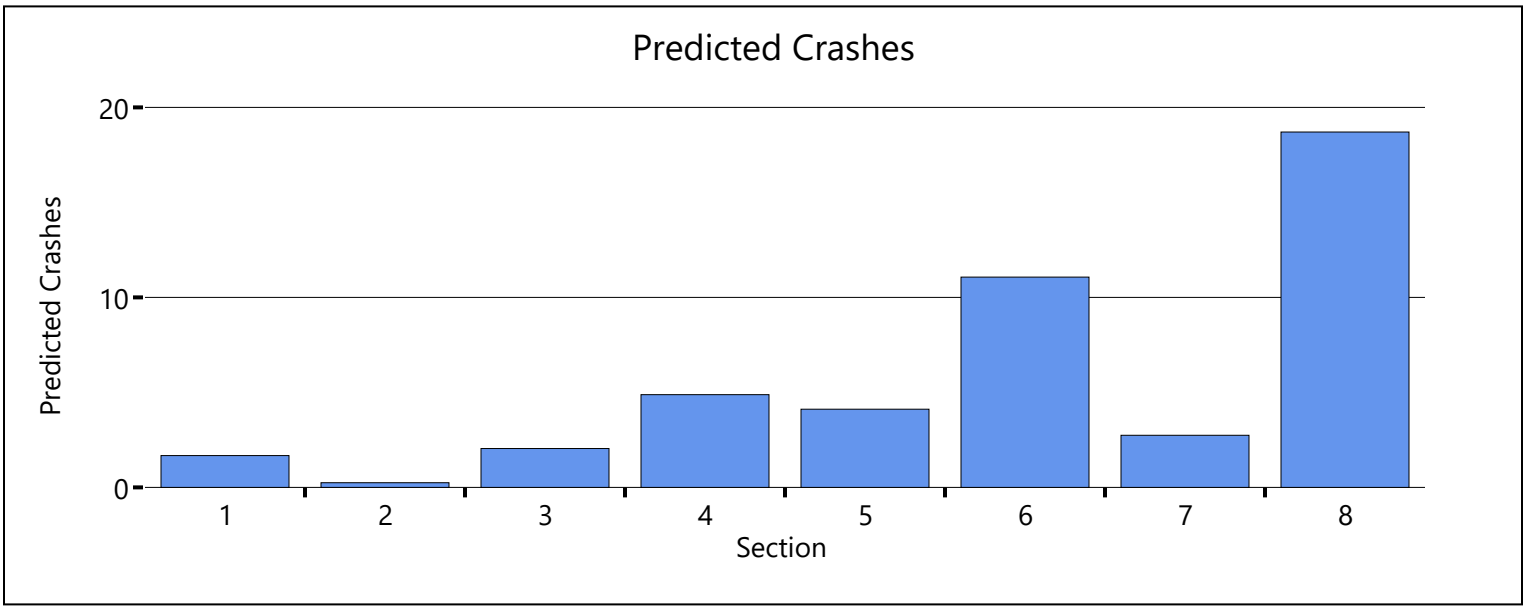
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	26-May-25
Jurisdiction		Analysis Year	2045
Project Description	Highway 6 - 2045 Base - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Roundabout (R)	-	-	1.675	1.675	0.309	1.366
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.085	12650	0.234	0.246	0.075	0.171
3	Urban	Intersection	Three-leg, Minor-Stop (3ST)	-	-	1.973	2.046	0.708	1.338
4	Urban	Segment	Two-Lane Undivided Segment (2U)	0.560	23600	4.474	4.881	1.384	3.498
5	Urban	Intersection	Four-leg, Signal (4SG)	-	-	7.744	4.116	1.389	2.727
6	Urban	Segment	Two-Lane Undivided Segment (2U)	3.330	13180	10.956	11.068	3.103	7.965
7	Urban	Intersection	Three-leg, Signal (3SG)	-	-	3.685	2.743	0.904	1.839
8	Urban	Segment	Two-Lane Undivided Segment (2U)	3.600	18130	18.538	18.704	5.241	13.463
Total	-	-	-	7.575	-	-	45.480	13.113	32.366



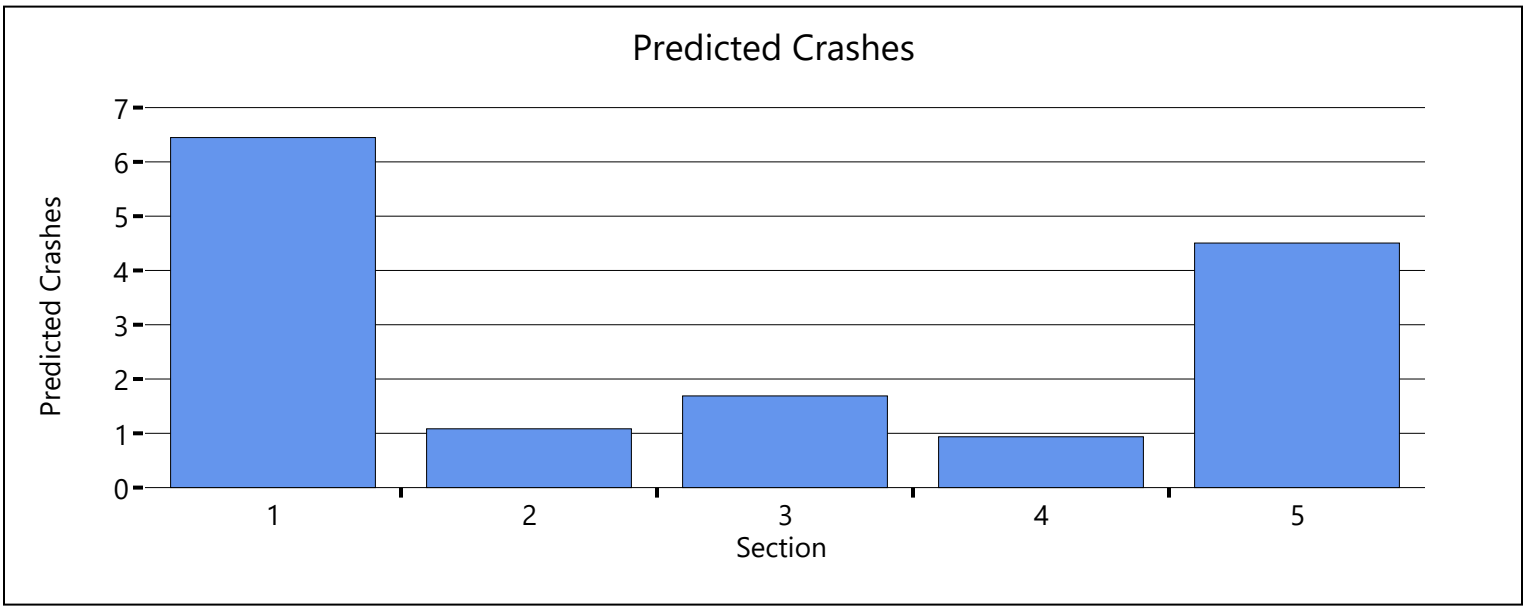
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Cooley Mesa Road - 2045 Base - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Segment	Two-Lane Undivided Segment (2U)	1.760	12590	5.438	6.448	1.809	4.640
2	Urban	Intersection	Four-leg, Minor-Stop (4ST)	-	-	2.583	1.083	0.428	0.655
3	Urban	Segment	Two-Lane Undivided Segment (2U)	0.560	10680	1.484	1.689	0.481	1.209
4	Urban	Intersection	Four-leg, Minor-Stop (4ST)	-	-	2.447	0.936	0.367	0.569
5	Urban	Segment	Two-Lane Undivided Segment (2U)	1.200	12740	4.459	4.505	1.297	3.207
Total	-	-	-	3.520	-	-	14.661	4.382	10.280



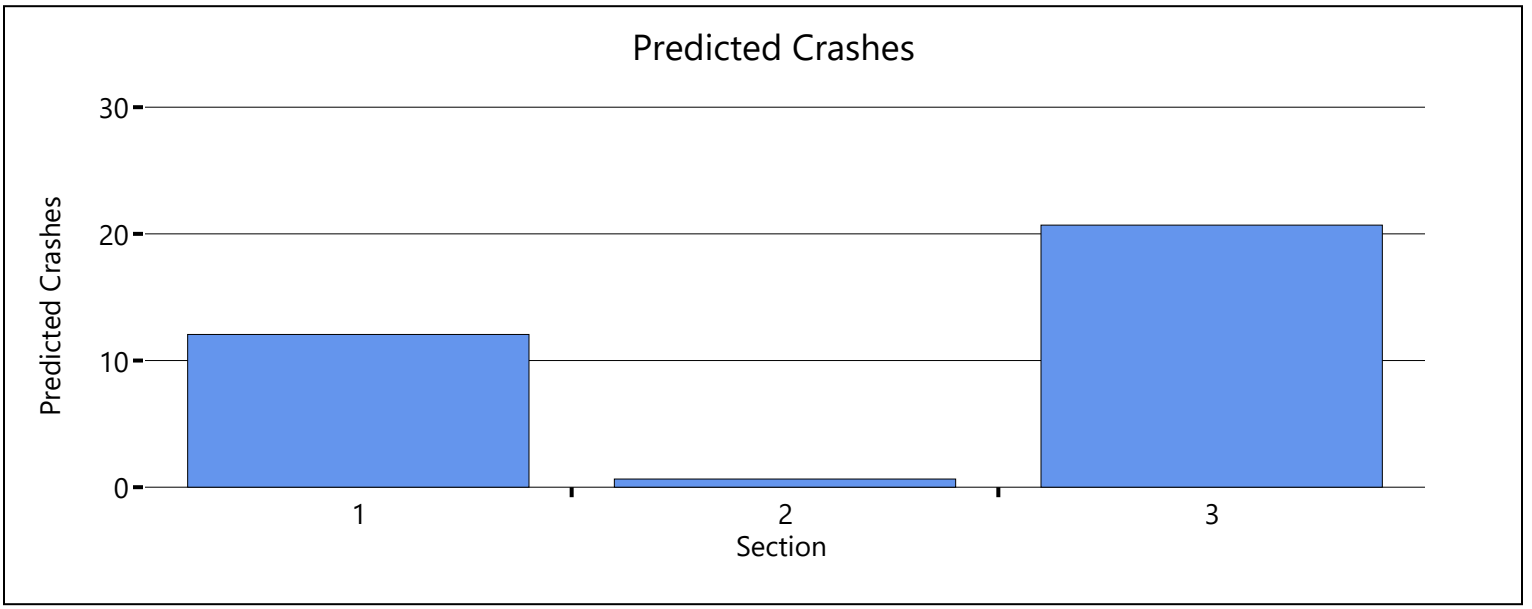
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Eby Creek Road - 2045 Base - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Roundabout (R)	-	-	13.101	12.058	2.238	9.819
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.067	27740	0.566	0.644	0.177	0.467
3	Urban	Intersection	Roundabout (R)	-	-	19.351	20.691	3.877	16.814
Total	-	-	-	0.067	-	-	33.394	6.293	27.101



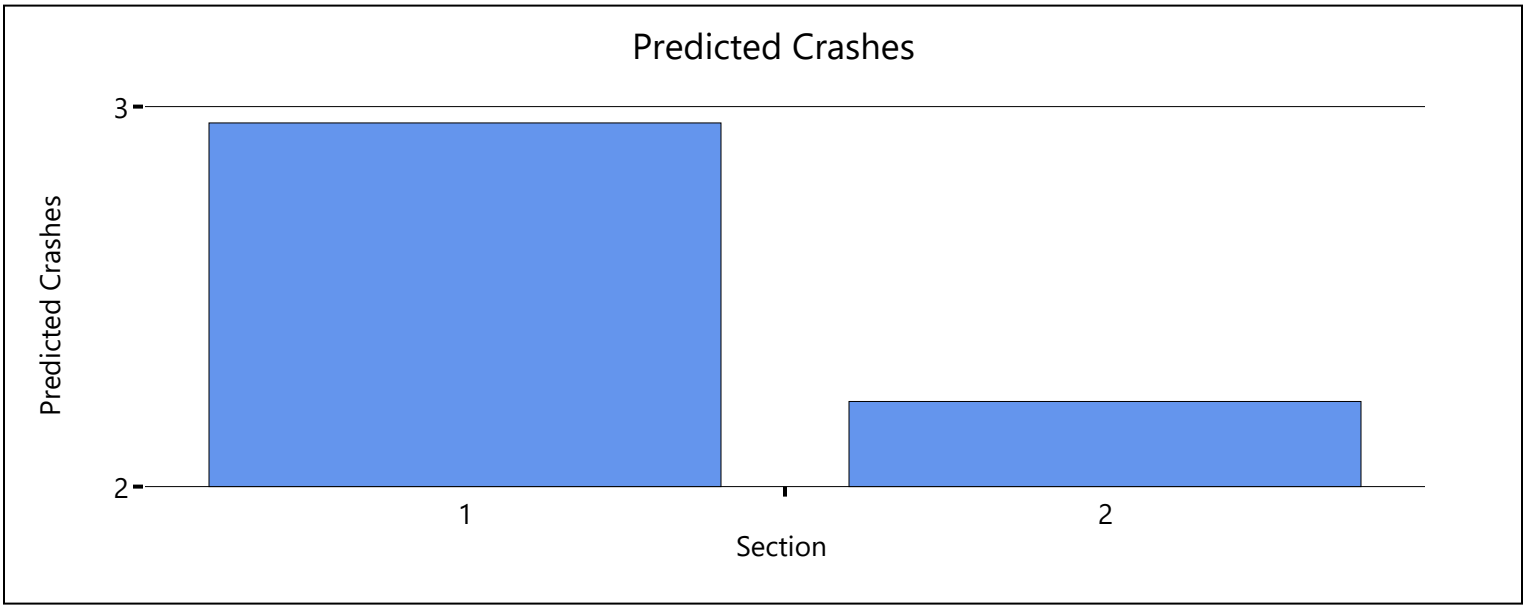
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Valley Road - 2045 Base - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Segment	Two-Lane Undivided Segment (2U)	0.435	14380	2.317	2.957	0.961	1.996
2	Urban	Intersection	Roundabout (R)	-	-	2.391	2.224	0.513	1.711
Total	-	-	-	0.435	-	-	5.181	1.474	3.706



Highway Safety Software Facility Report

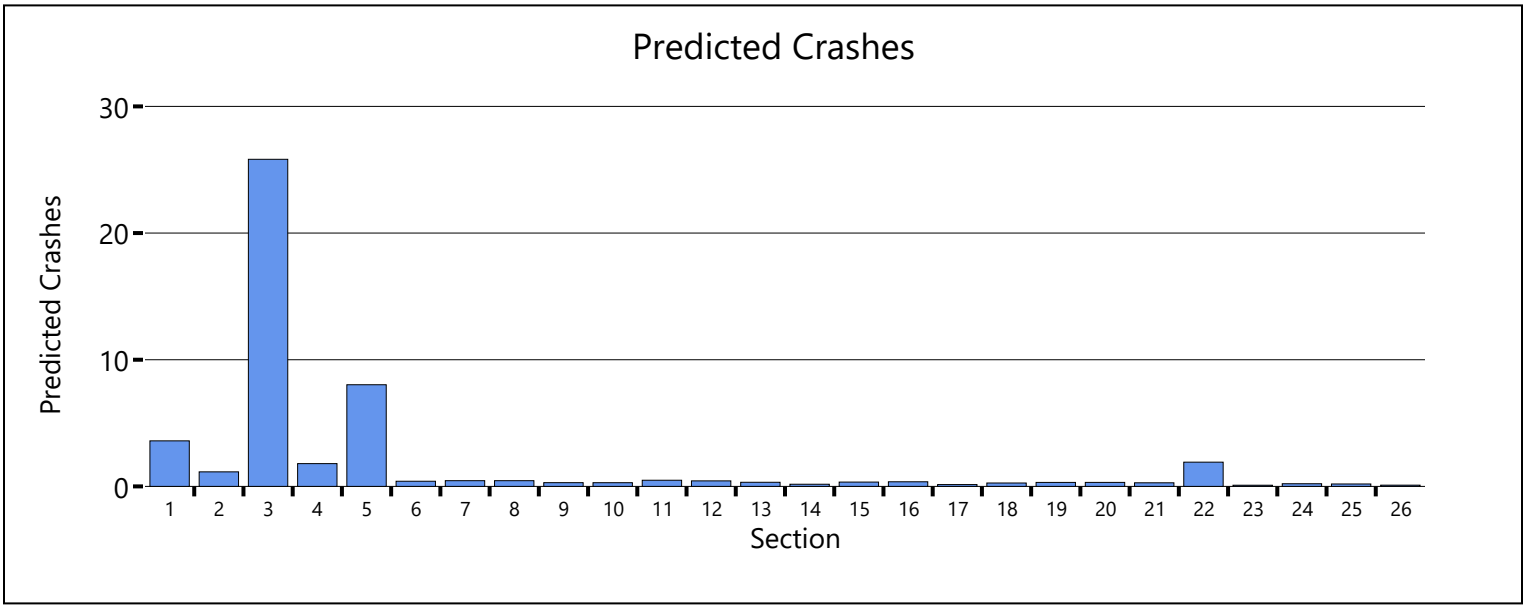
Project Information

Analyst	FHU	Date	28-May-25
Jurisdiction		Analysis Year	2045
Project Description	I-70 Mainline - 2045 Build - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Freeway	Segment	Freeway Segment	1.150	22010	-	3.595	1.225	2.370
2	Freeway	Segment	Freeway Segment	0.520	15730	-	1.148	0.383	0.765
3	Freeway	Segment	Freeway Segment	5.330	34110	-	25.824	9.314	16.510
4	Freeway	Segment	Freeway Segment	0.470	26380	-	1.799	0.590	1.209
5	Freeway	Segment	Freeway Segment	1.240	43660	-	8.026	2.692	5.334
6	Freeway	Intersection	Speed Change Lanes	0.170	22010	-	0.407	0.120	0.287
7	Freeway	Intersection	Speed Change Lanes	0.250	28190	-	0.451	0.036	0.415
8	Freeway	Intersection	Speed Change Lanes	0.150	28190	-	0.452	0.132	0.320
9	Freeway	Intersection	Speed Change Lanes	0.170	22010	-	0.296	0.077	0.219
10	Freeway	Intersection	Speed Change Lanes	0.100	28190	-	0.292	0.088	0.204
11	Freeway	Intersection	Speed Change Lanes	0.120	43660	-	0.486	0.124	0.362
12	Freeway	Intersection	Speed Change Lanes	0.100	43660	-	0.436	0.130	0.306
13	Freeway	Intersection	Speed Change Lanes	0.140	28190	-	0.325	0.084	0.241
14	Ramp	Segment	Ramp Segment	0.230	2900	-	0.170	0.079	0.091
15	Ramp	Segment	Ramp Segment	0.290	6130	-	0.341	0.131	0.210
16	Ramp	Segment	Ramp Segment	0.280	6330	-	0.364	0.167	0.197
17	Ramp	Segment	Ramp Segment	0.250	3380	-	0.144	0.052	0.092
18	Ramp	Segment	Ramp Segment	0.220	3550	-	0.268	0.144	0.124
19	Ramp	Segment	Ramp Segment	0.210	8880	-	0.314	0.118	0.196
20	Ramp	Segment	Ramp Segment	0.190	8400	-	0.316	0.149	0.167
21	Ramp	Segment	Ramp Segment	0.290	4180	-	0.285	0.120	0.165
22	Freeway	Segment	Freeway Segment	0.500	24510	-	1.913	0.871	1.042
23	Ramp	Segment	Ramp Segment	0.200	1780	-	0.093	0.041	0.052
24	Ramp	Segment	Ramp Segment	0.200	5100	-	0.210	0.088	0.122

25	Ramp	Segment	Ramp Segment	0.200	4500	-	0.191	0.081	0.110
26	Ramp	Segment	Ramp Segment	0.200	1900	-	0.098	0.044	0.054
Total	-	-	-	11.970	-	-	48.244	17.080	31.164



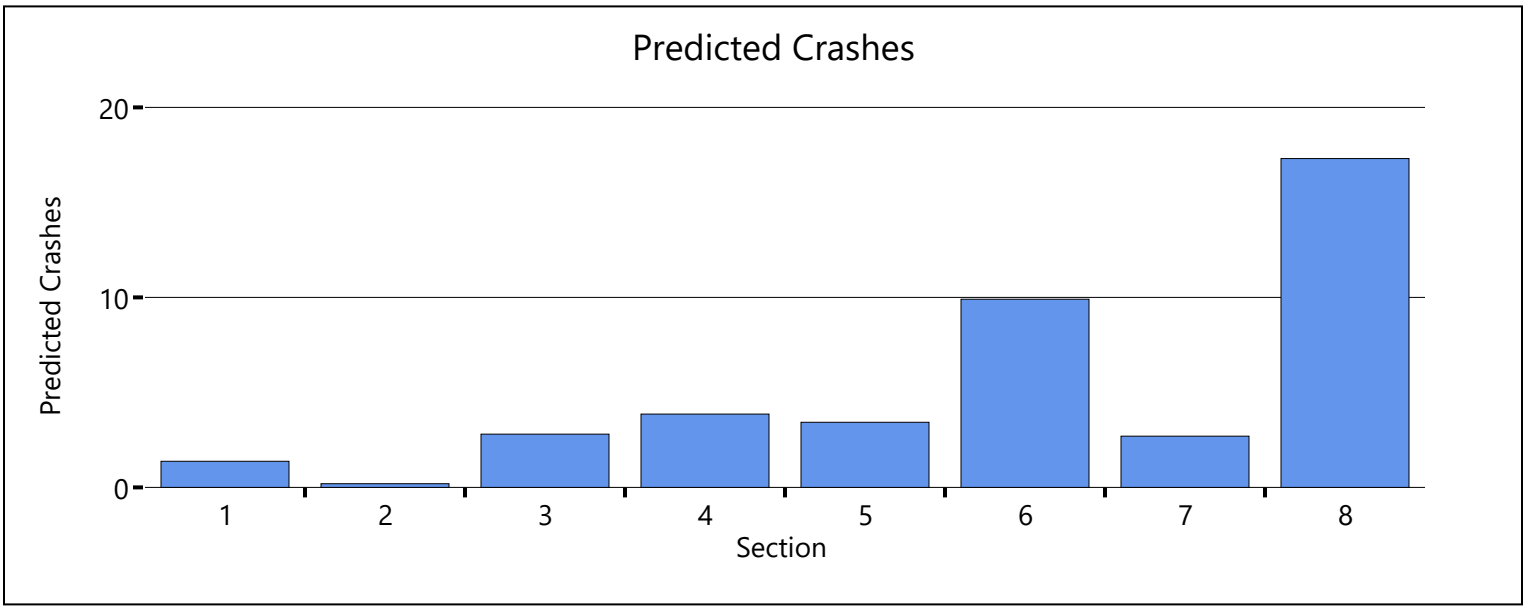
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	26-May-25
Jurisdiction		Analysis Year	2045
Project Description	Highway 6 - 2045 Build - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Roundabout (R)	-	-	1.375	1.375	0.242	1.132
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.100	9620	0.192	0.194	0.054	0.140
3	Urban	Intersection	Three-leg, Minor-Stop (3ST)	-	-	2.703	2.803	0.996	1.807
4	Urban	Segment	Two-Lane Undivided Segment (2U)	0.560	19910	3.537	3.859	1.095	2.764
5	Urban	Intersection	Four-leg, Signal (4SG)	-	-	6.447	3.427	1.139	2.288
6	Urban	Segment	Two-Lane Undivided Segment (2U)	3.330	12100	9.805	9.904	2.783	7.122
7	Urban	Intersection	Three-leg, Signal (3SG)	-	-	3.624	2.697	0.883	1.814
8	Urban	Segment	Two-Lane Undivided Segment (2U)	3.600	17130	17.152	17.307	4.851	12.455
Total	-	-	-	7.590	-	-	41.565	12.042	29.523



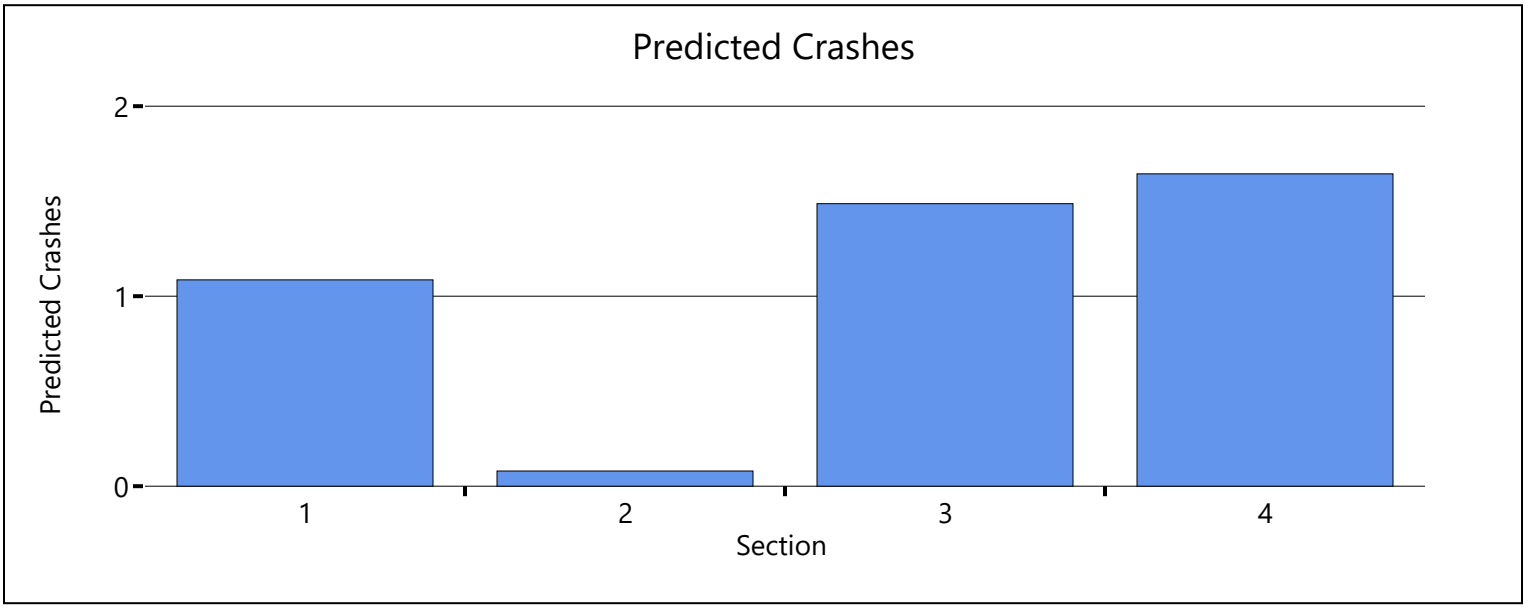
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Connector Roadway - 2045 Build - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Three-leg, Minor-Stop (3ST)	-	-	1.047	1.086	0.375	0.711
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.070	5910	0.075	0.080	0.025	0.054
3	Urban	Intersection	Three-leg, All-way Stop (3aST)	-	-	1.761	1.487	0.424	1.063
4	Urban	Segment	Two-Lane Undivided Segment (2U)	0.600	12140	1.560	1.644	0.502	1.142
Total	-	-	-	0.670	-	-	4.297	1.326	2.971



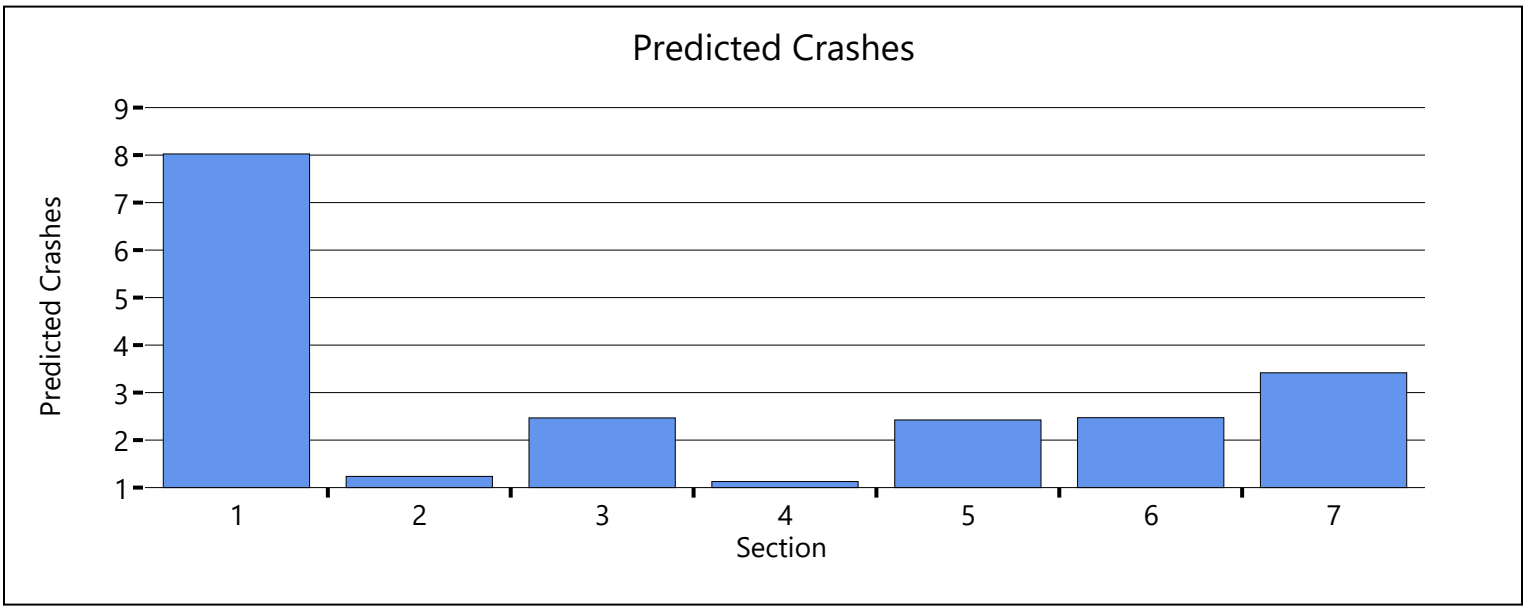
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Cooley Mesa Road- 2045 Build - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Segment	Two-Lane Undivided Segment (2U)	1.760	14860	6.767	8.024	2.244	5.780
2	Urban	Intersection	Four-leg, Minor-Stop (4ST)	-	-	2.953	1.236	0.496	0.740
3	Urban	Segment	Two-Lane Undivided Segment (2U)	0.560	14360	2.167	2.467	0.696	1.771
4	Urban	Intersection	Four-leg, Minor-Stop (4ST)	-	-	2.950	1.128	0.453	0.675
5	Urban	Segment	Two-Lane Undivided Segment (2U)	0.600	16130	2.300	2.424	0.738	1.686
6	Urban	Intersection	Three-leg, Signal (3SG)	-	-	3.218	2.472	0.825	1.647
7	Urban	Segment	Two-Lane Undivided Segment (2U)	0.600	14900	3.383	3.417	1.009	2.408
Total	-	-	-	3.520	-	-	21.168	6.461	14.708



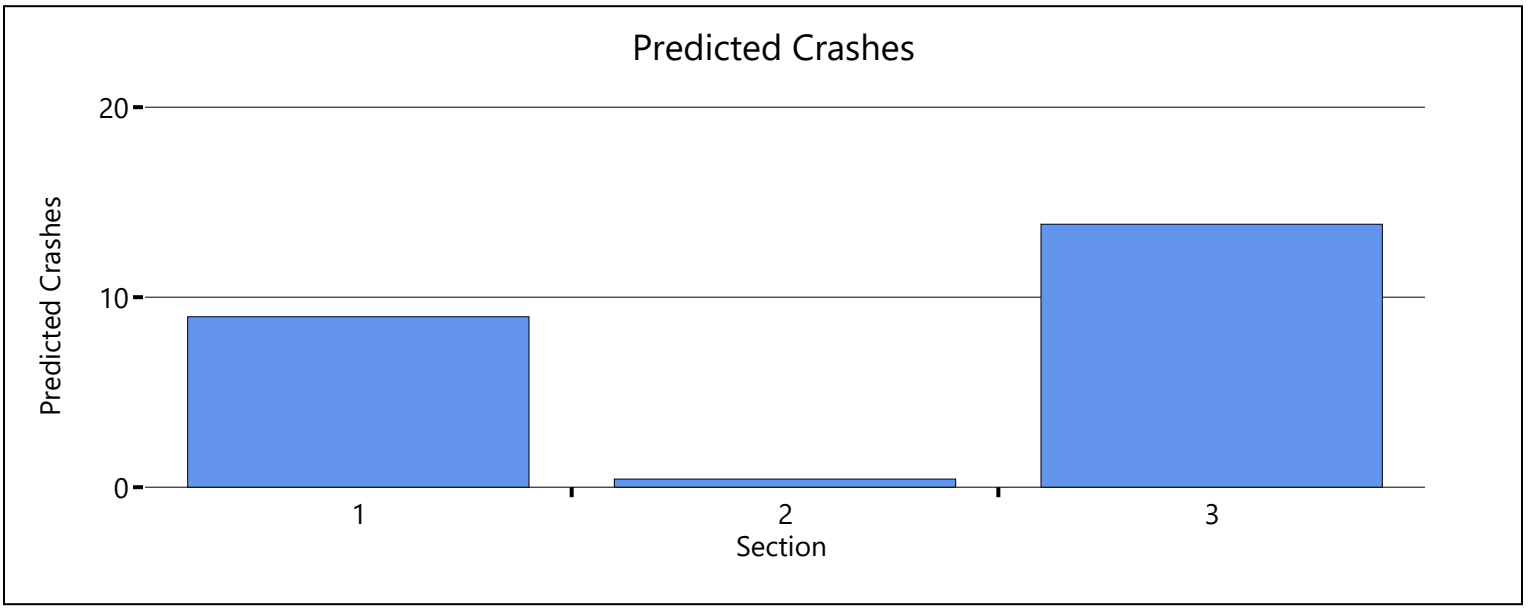
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Eby Creek Road - 2045 Build - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Roundabout (R)	-	-	9.757	8.970	1.616	7.354
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.067	21020	0.375	0.427	0.117	0.310
3	Urban	Intersection	Roundabout (R)	-	-	12.972	13.840	2.491	11.349
Total	-	-	-	0.067	-	-	23.237	4.224	19.013



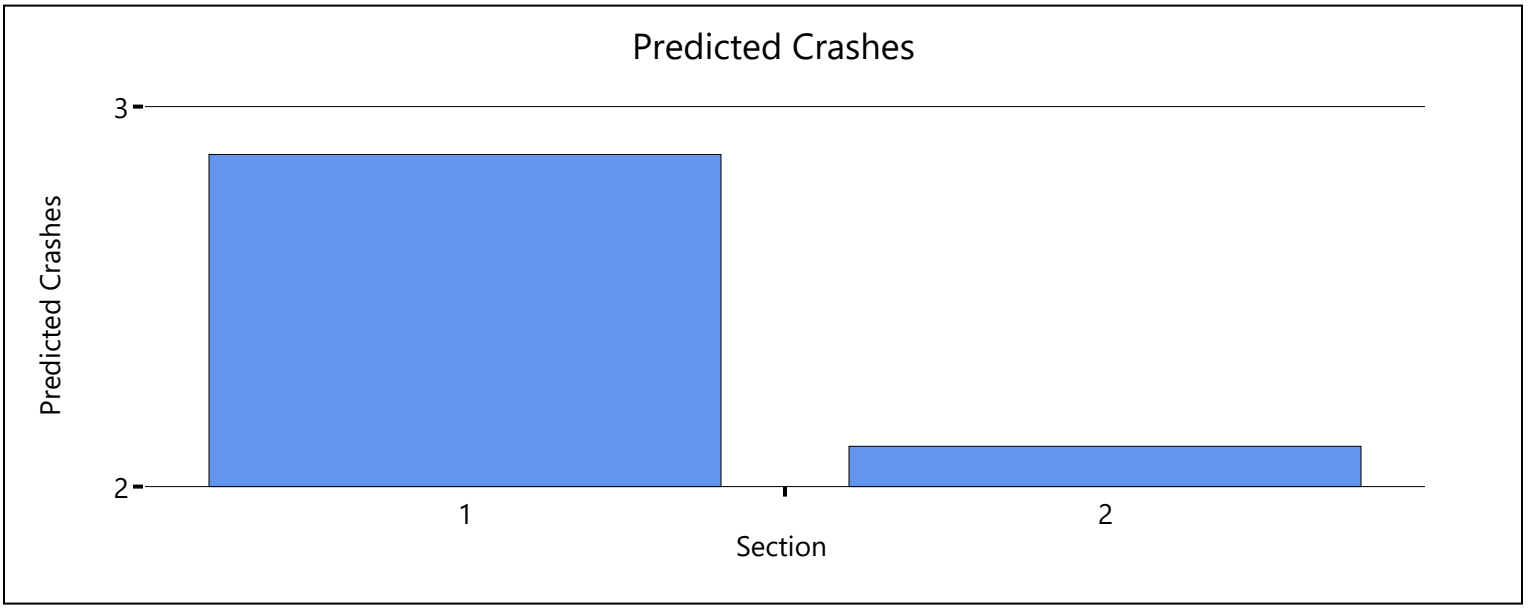
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Valley Road - 2045 Build - Average Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Segment	Two-Lane Undivided Segment (2U)	0.435	14050	2.252	2.874	0.935	1.939
2	Urban	Intersection	Roundabout (R)	-	-	2.264	2.106	0.480	1.626
Total	-	-	-	0.435	-	-	4.980	1.415	3.565



Highway Safety Software Facility Report

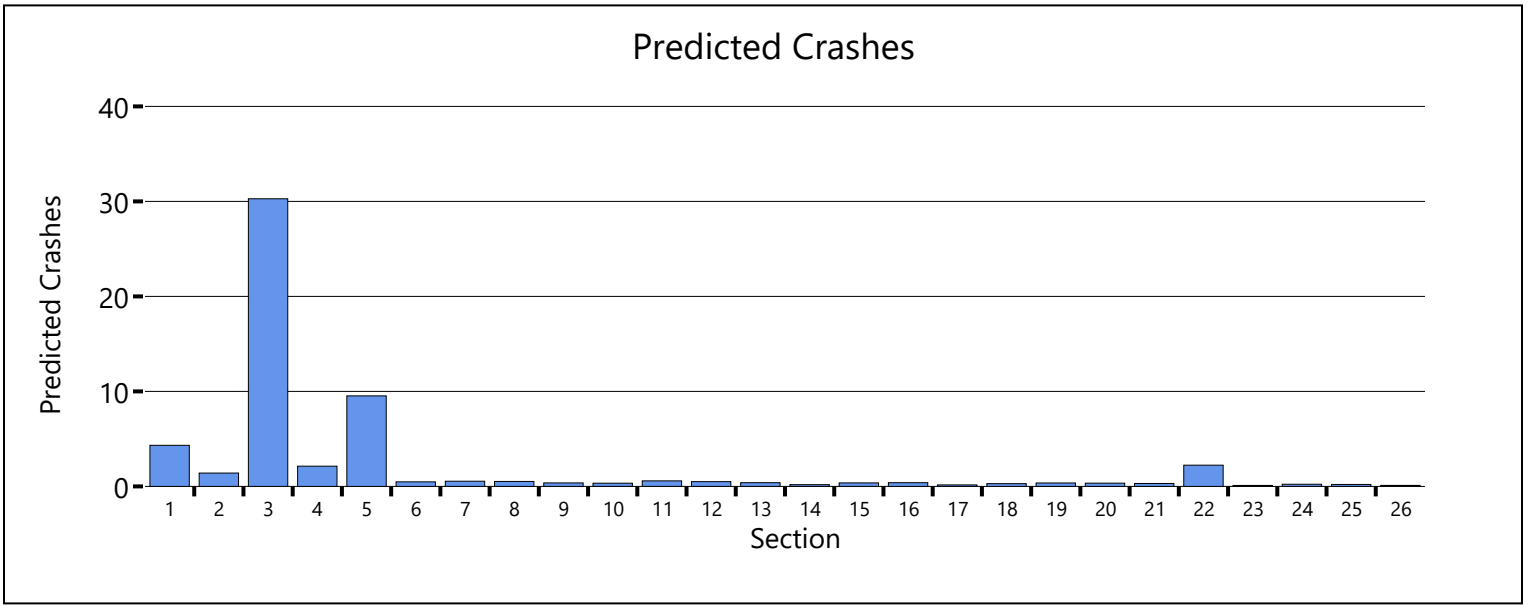
Project Information

Analyst	FHU	Date	28-May-25
Jurisdiction		Analysis Year	2045
Project Description	I-70 Mainlaine - 2045 Build - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Freeway	Segment	Freeway Segment	1.150	26260	-	4.325	1.432	2.893
2	Freeway	Segment	Freeway Segment	0.520	19300	-	1.404	0.455	0.949
3	Freeway	Segment	Freeway Segment	5.330	39380	-	30.275	10.582	19.693
4	Freeway	Segment	Freeway Segment	0.470	30900	-	2.128	0.680	1.448
5	Freeway	Segment	Freeway Segment	1.240	50700	-	9.529	3.090	6.439
6	Freeway	Intersection	Speed Change Lanes	0.170	26260	-	0.478	0.140	0.338
7	Freeway	Intersection	Speed Change Lanes	0.250	32930	-	0.545	0.043	0.502
8	Freeway	Intersection	Speed Change Lanes	0.150	32930	-	0.522	0.153	0.369
9	Freeway	Intersection	Speed Change Lanes	0.170	26260	-	0.366	0.094	0.272
10	Freeway	Intersection	Speed Change Lanes	0.100	32930	-	0.336	0.101	0.235
11	Freeway	Intersection	Speed Change Lanes	0.120	50700	-	0.582	0.147	0.435
12	Freeway	Intersection	Speed Change Lanes	0.100	50700	-	0.501	0.149	0.352
13	Freeway	Intersection	Speed Change Lanes	0.140	32930	-	0.391	0.100	0.291
14	Ramp	Segment	Ramp Segment	0.230	3230	-	0.184	0.085	0.099
15	Ramp	Segment	Ramp Segment	0.290	6750	-	0.369	0.141	0.228
16	Ramp	Segment	Ramp Segment	0.280	6880	-	0.390	0.179	0.211
17	Ramp	Segment	Ramp Segment	0.250	3730	-	0.155	0.055	0.100
18	Ramp	Segment	Ramp Segment	0.220	3900	-	0.290	0.156	0.134
19	Ramp	Segment	Ramp Segment	0.210	10450	-	0.360	0.133	0.227
20	Ramp	Segment	Ramp Segment	0.190	9350	-	0.341	0.160	0.181
21	Ramp	Segment	Ramp Segment	0.290	4580	-	0.308	0.129	0.179
22	Freeway	Segment	Freeway Segment	0.500	28850	-	2.233	0.989	1.244
23	Ramp	Segment	Ramp Segment	0.200	2000	-	0.101	0.045	0.056
24	Ramp	Segment	Ramp Segment	0.200	5600	-	0.227	0.095	0.132

25	Ramp	Segment	Ramp Segment	0.200	4930	-	0.205	0.086	0.119
26	Ramp	Segment	Ramp Segment	0.200	2080	-	0.105	0.047	0.058
Total	-	-	-	11.970	-	-	56.650	19.466	37.184



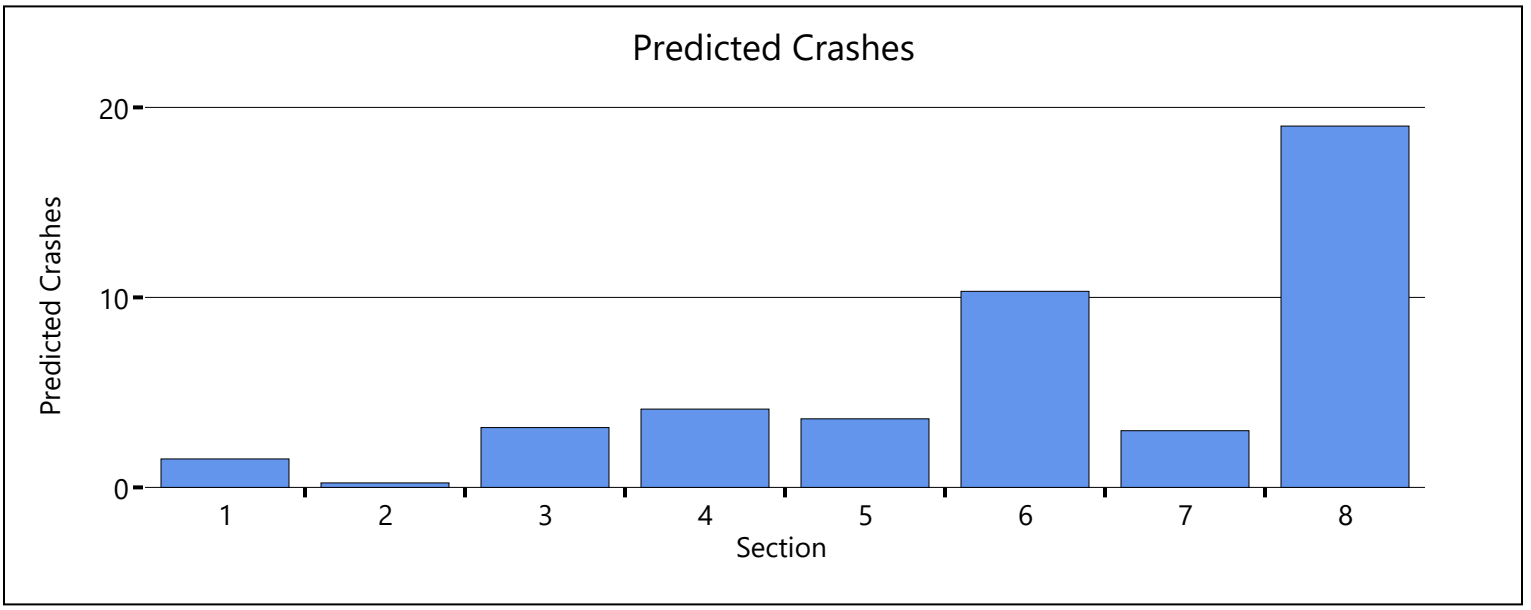
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	26-May-25
Jurisdiction		Analysis Year	2045
Project Description	Highway 6 - 2045 Build - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Roundabout (R)	-	-	1.498	1.498	0.269	1.228
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.100	10850	0.224	0.236	0.072	0.164
3	Urban	Intersection	Three-leg, Minor-Stop (3ST)	-	-	3.036	3.149	1.098	2.051
4	Urban	Segment	Two-Lane Undivided Segment (2U)	0.560	20890	3.778	4.121	1.169	2.953
5	Urban	Intersection	Four-leg, Signal (4SG)	-	-	6.790	3.609	1.204	2.405
6	Urban	Segment	Two-Lane Undivided Segment (2U)	3.330	12490	10.215	10.319	2.897	7.422
7	Urban	Intersection	Three-leg, Signal (3SG)	-	-	4.009	2.984	0.965	2.019
8	Urban	Segment	Two-Lane Undivided Segment (2U)	3.600	18350	18.848	19.018	5.329	13.689
Total	-	-	-	7.590	-	-	44.934	13.003	31.931



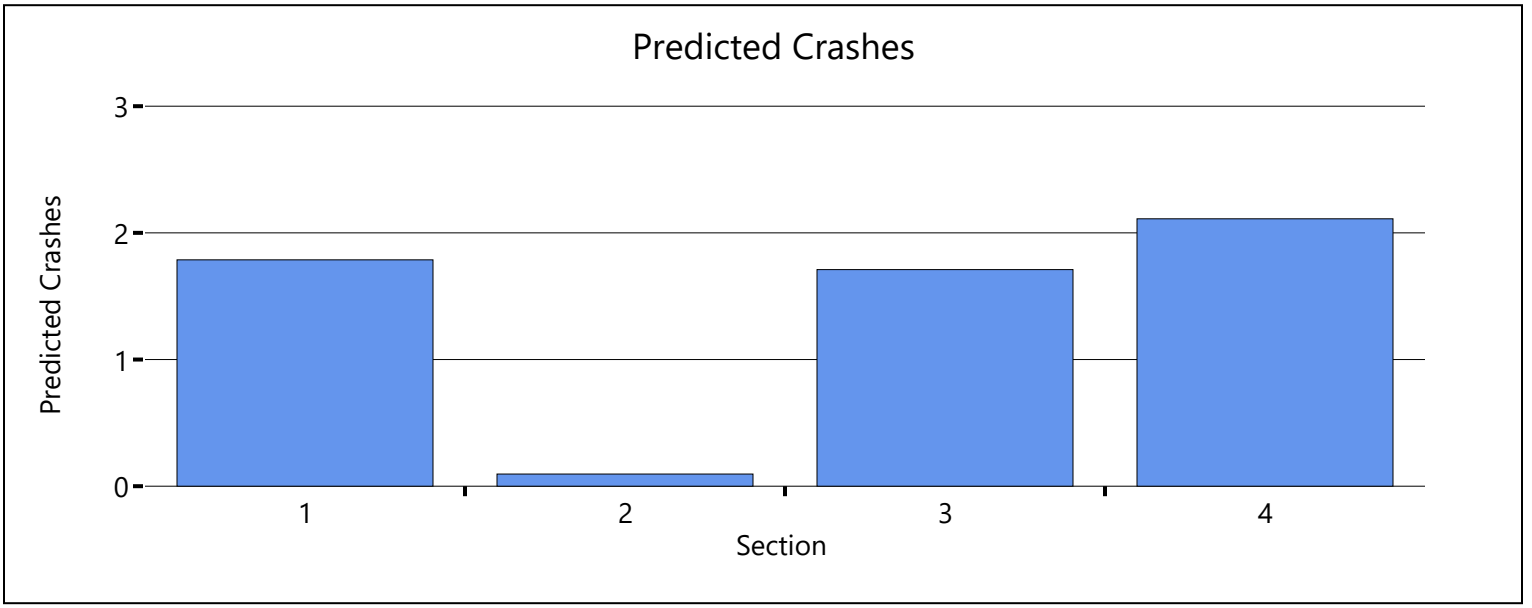
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Connector Roadway - 2045 Build - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Three-leg, Minor-Stop (3ST)	-	-	1.723	1.787	0.571	1.216
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.070	7000	0.091	0.096	0.030	0.066
3	Urban	Intersection	Three-leg, All-way Stop (3aST)	-	-	2.027	1.710	0.482	1.228
4	Urban	Segment	Two-Lane Undivided Segment (2U)	0.600	14600	2.003	2.111	0.643	1.468
Total	-	-	-	0.670	-	-	5.704	1.726	3.978



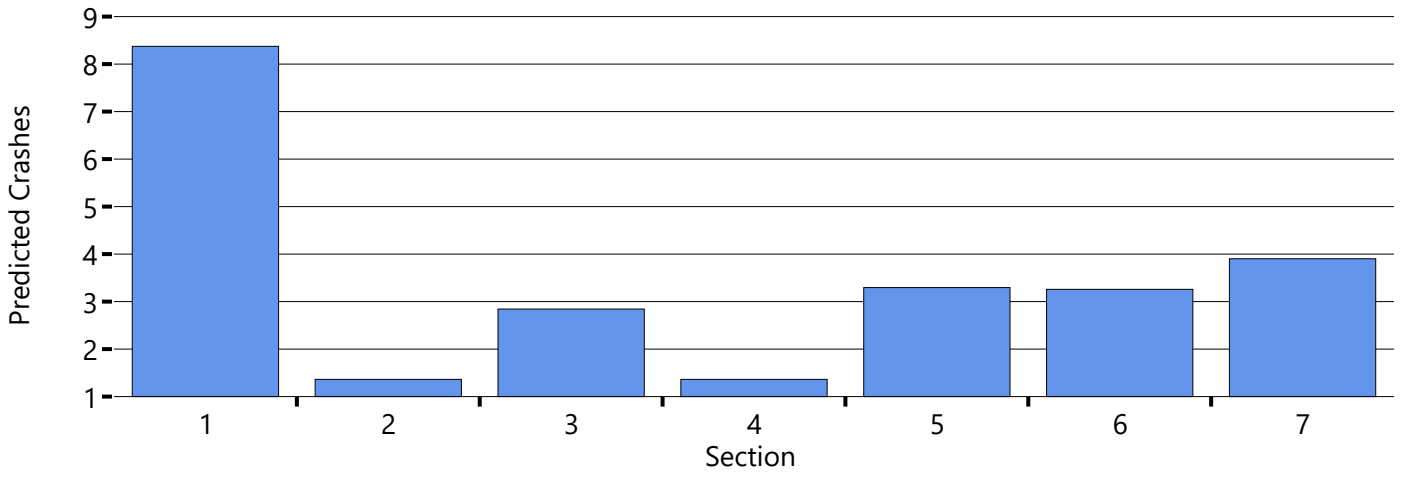
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Cooley Mesa - 2045 Build - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Segment	Two-Lane Undivided Segment (2U)	1.760	15340	7.062	8.374	2.341	6.033
2	Urban	Intersection	Four-leg, Minor-Stop (4ST)	-	-	3.250	1.363	0.554	0.809
3	Urban	Segment	Two-Lane Undivided Segment (2U)	0.560	15980	2.497	2.843	0.801	2.042
4	Urban	Intersection	Four-leg, Minor-Stop (4ST)	-	-	3.564	1.363	0.560	0.803
5	Urban	Segment	Two-Lane Undivided Segment (2U)	0.600	20010	3.127	3.295	1.004	2.291
6	Urban	Intersection	Three-leg, Signal (3SG)	-	-	4.241	3.258	1.054	2.204
7	Urban	Segment	Two-Lane Undivided Segment (2U)	0.600	16580	3.863	3.902	1.150	2.752
Total	-	-	-	3.520	-	-	24.398	7.463	16.935



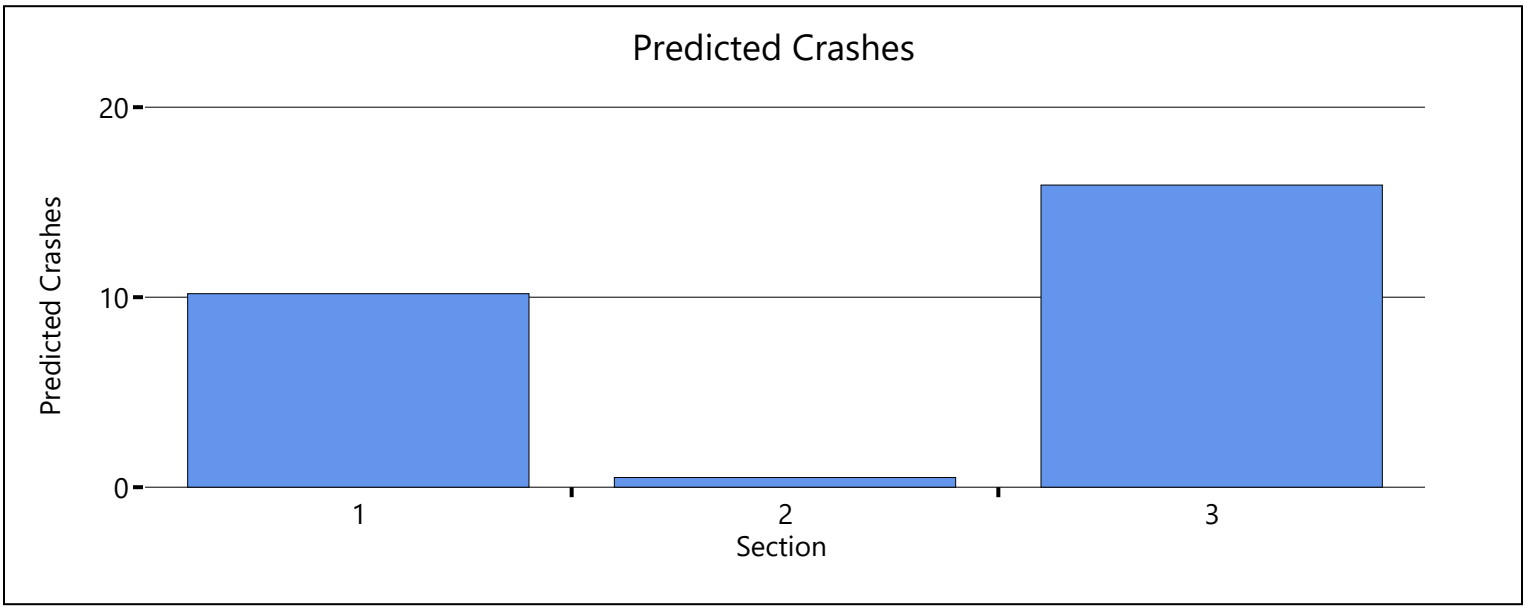
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Eby Creek Road - 2045 Build - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Intersection	Roundabout (R)	-	-	11.082	10.185	1.859	8.325
2	Urban	Segment	Two-Lane Undivided Segment (2U)	0.067	23730	0.448	0.510	0.140	0.370
3	Urban	Intersection	Roundabout (R)	-	-	14.925	15.902	2.904	12.998
Total	-	-	-	0.067	-	-	26.597	4.903	21.694



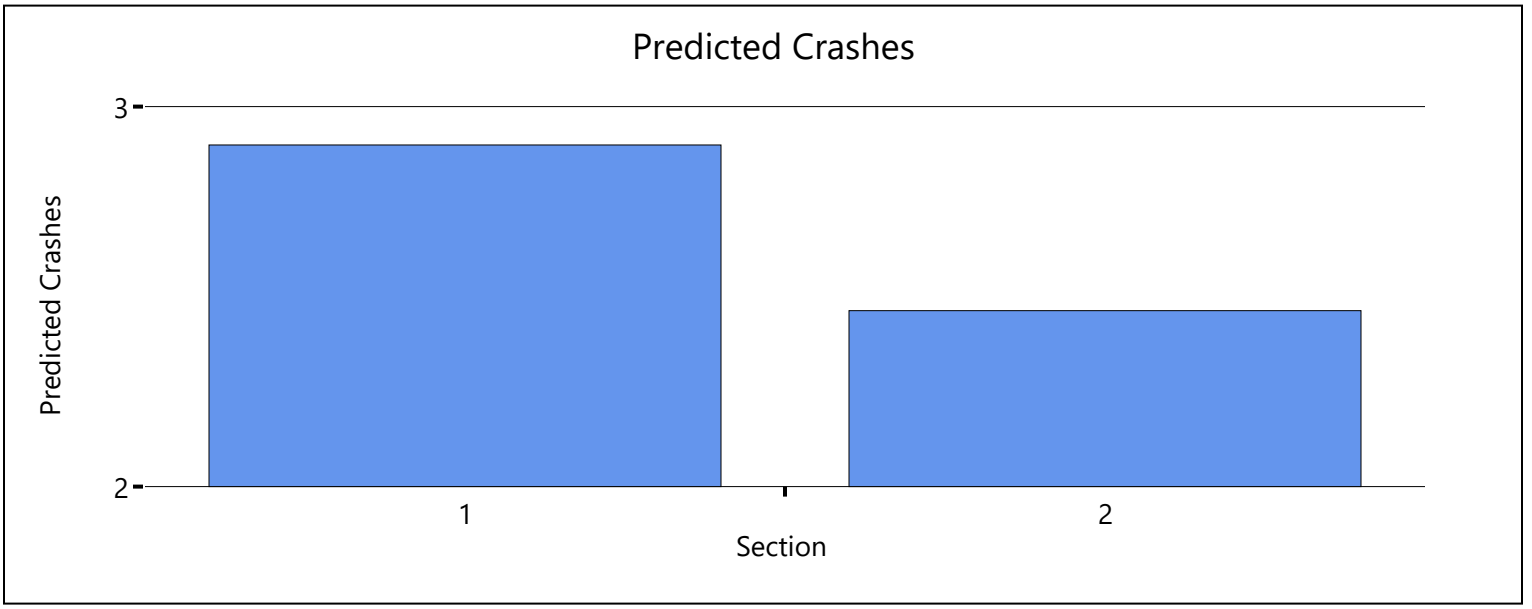
Highway Safety Software Facility Report

Project Information

Analyst	FHU	Date	27-May-25
Jurisdiction		Analysis Year	2045
Project Description	Valley Road - 2045 Build - High Season		

Facility Summary

ID	Facility Type	Section Type	Model Type	Length (mi)	AADT (veh/ day)	Nspf	Predicted (Total)	Predicted (FI)	Predicted (PDO)
1	Urban	Segment	Two-Lane Undivided Segment (2U)	0.435	14150	2.272	2.899	0.943	1.956
2	Urban	Intersection	Roundabout (R)	-	-	2.571	2.463	0.574	1.889
Total	-	-	-	0.435	-	-	5.362	1.517	3.845



Appendix F. Cluster Analysis Memo

FELSBURG HOLT & ULLEVIG
connecting & enhancing communities

MEMORANDUM

TO: Matt Figgs, Project Manager, Town of Gypsum

FROM: Paul Brown, PE, PTOE, Traffic Analysis Lead, FHU

DATE: April 3, 2025

SUBJECT: Eagle Airport Interchange – Feasibility Study (FHU Project Number 124388-01)
Cluster Analysis Work Plan

The Town of Gypsum is conducting a Feasibility Study (Study) to restart the Eagle Airport Interchange effort. The proposed interchange would connect I-70 at approximately milepost 143 with Cooley Mesa Road just east of the Eagle County Regional Airport. The project moved through planning and design about 15 years ago but was never constructed. Because so much time has elapsed since the previous efforts, the current Study is needed to update past evaluations and confirm the plan for the interchange.

The Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT) have also issued new or updated guidance regarding interchange studies since previous efforts were completed.

- FHWA's most recent *Interstate Access Policy* was issued in 2017[1], and a new rule has been drafted but is not yet approved. Both require a written Interstate Access Request (IAR) that includes traffic operations and safety analyses. FHWA has published guidance for these analyses in several documents outlined on their Traffic Analysis Tools webpage[2].
- Colorado's state-level equivalent to the Federal IAR is codified in CDOT's *Policy Directive 1601*[3] issued in 2021. Policy Directive 1601 requires a System Level Study that includes traffic operations and safety analyses. CDOT published the latest version of their *Traffic Analysis and Forecasting Guidelines*[4] in 2023 to guide traffic analyses included in the 1601 process.

This Study is expected to recommend moving forward with an Eagle Airport Interchange IAR and System Level Study that meet current agency requirements. If that occurs, the Town will need to provide an appropriate level of supporting traffic analysis. Traffic analysis guidance from both FHWA and CDOT indicates that microsimulation analyses can provide distinct project benefits, but microsimulation is a data-intensive process. Current FHWA and CDOT guidance requires that microsimulation analyses consider varying travel conditions or "clusters" that reflect distinct traffic flows and related operating conditions. The clusters may reflect seasonal variations, recurring incidents, or local variations in traffic flows. Project-specific outcomes of a cluster analysis depend on travel conditions such as volumes, incidents, weather, and congestion. The actual clusters to be studied are defined by evaluating local data. Although the need for microsimulation will be determined during initial phases of the IAR and 1601 processes, the Town has asked FHU to outline the data and inputs needed for a possible Eagle Airport Interchange cluster analysis.

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[1] https://www.fhwa.dot.gov/design/interstate/170522.cfm, accessed on February 14, 2025.
[2] https://ops.fhwa.dot.gov/trafficanalysistools/index.htm, accessed on February 14, 2025.
[3] https://www.codot.gov/programs/planning/projects/policy-directive-1601-interchange-approval-process, accessed on February 14, 2025.
[4] https://www.codot.gov/safety/traffic-safety/assets/traffic_analysis_forecasting_guidelines/traffic_analysis_forecasting_guidelines, accessed on February 14, 2025.

Cluster Analysis Outline

A cluster analysis captures variations in travel pattens and operating conditions across a study area. These data are then evaluated using statistical analysis tools to identify representative clusters. As noted in CDOT's *Traffic Analysis and Forecasting Guidelines*, the "cluster analysis helps to partition data into groups or clusters to minimize the variance within each cluster (so that days within each cluster are similar) and maximize the variance between clusters (so that days in different clusters are dissimilar)."[5] Inputs to the cluster analysis typically include the following data:

- **Traffic volumes**: Vehicle counts (with classification), bicycle counts, and pedestrian counts, collected in 15-minute increments.
- **Traffic speeds**: Vehicular speeds, including congested periods where speeds drop to near zero.
- **Weather data**: Temperature, precipitation (type and amount), and road surface conditions, collected at least hourly.
- **Incident data**: Type of incident, number of lanes affected/closed, start and end times.

Both FHWA and CDOT recommend evaluating at least a year of data to ensure that the cluster analysis can adequately capture differing conditions. Collecting data for additional time (beyond one year) can help address equipment failures and other anomalies. Recent Colorado projects have collected up to 18 months of data.

Once data are compiled, they are entered into a statistical model that partitions data using clustering algorithms. Each clustering algorithm uses different statistical approaches to assign each data point to a cluster. Various analytical tools are available to measure the effectiveness of the statistical algorithms and are applied to identify how well each clustering algorithm works with the unique project dataset. Once an appropriate algorithm is identified, the data clusters from that algorithm are used to define project-specific scenarios for the microsimulation analysis. Based on these efforts, cluster-specific volume and travel time data are used for microsimulation calibration. Consistent with the FHWA Toolbox, the model calibration process includes the following steps:

1. **Identify Representative Day**: Assemble and evaluate data collected as part of the data collection program in a cluster analysis to identify key travel condition variables for calibration.
2. **Prepare the Variation Envelopes**: Select time-dynamic envelopes to reflect the variation in observed field data as calibration performance measures based on the variability identified in the dominant clusters. Variation envelopes serve as the calibration targets for the microsimulation calibration.
3. **Calibrate the Model within Acceptable Criteria:** Iteratively adjust the model parameters until calibration performance measures are acceptably close to the target variation envelope.

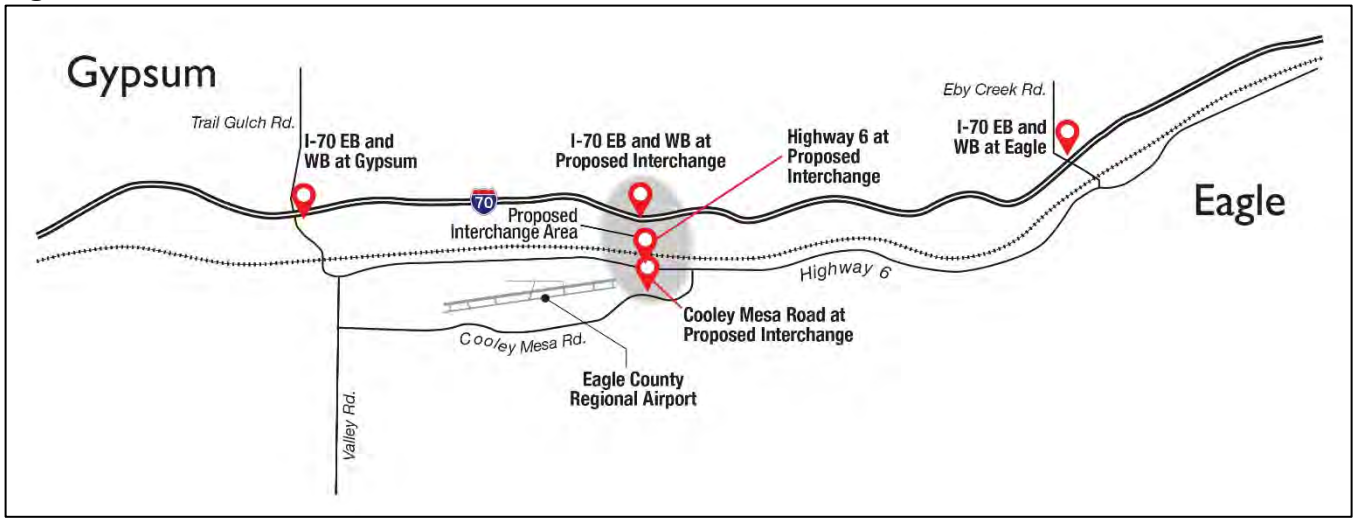
Project-Specific Cluster Analysis Data Collection Plan

FHU has reviewed the Eagle Airport interchange study area, applicable CDOT and FHWA guidance, and data collected for the 2024 Gypsum Master Traffic Study Update. Given these inputs and leveraging previous cluster analysis experience, FHU has developed a proposed data collection plan to inform the development of the microsimulation model, including the cluster analysis for calibration. The recommended plan should include:

[5] Ibid, Section 7.1.1, page 73.

- **Traffic volumes**: Collect one year of data in 15-minute increments at the following locations (refer to **Figure 1**):
  - Vehicle counts (with classification data) at three locations along I-70:
    - I-70 under the existing Trail Gulch Road overpass at Exit 140 (Gypsum)
    - I-70 at approximately milepost 143, near the proposed Eagle Airport Interchange
    - I-70 under the existing Eby Creek Road overpass at Exit 147 (Eagle)
  - Vehicle counts (with classification, bicycle, and pedestrian data) at two arterial locations:
    - Highway 6 at the Eagle Airport Interchange Connector alignment, about one-third mile west of Cooley Mesa Road
    - Cooley Mesa Road at the Eagle Airport Interchange connector alignment, about one-half mile west of Highway 6
  - Traffic Volume Notes:
    - Collecting data under the Trail Gulch Road and Eby Creek Road overpasses will allow the analysis team to compile data for both I-70 mainline and two of the four ramps in each interchange with only one count station per interchange.
    - CDOT does not have a permanent count station in the study area. Short-duration counts are available but are not adequate for conducting a cluster analysis. The nearest permanent count station is at milepost 118, near the No Name interchange in Glenwood Canyon.
    - Since there are no permanent count stations in or near the study area, a vendor that can install semi-permanent count equipment could collect data at the sites above.

Figure 1: Traffic Count Locations



- **Traffic speeds**: Collect vehicular speeds at each of the five traffic count locations listed above. Note that a vendor could also collect speed data.
- **Weather data**: Collect hourly temperature, precipitation, and road surface conditions for I-70, Highway 6, and Cooley Mesa Road.
  - CDOT has a road weather information station at milepost 131 (Bair Ranch), but it would not be representative of the Gypsum area as it is in Glenwood Canyon.
  - The Eagle County Airport collects weather data in support of airport operations, although it is unknown if runway pavement conditions are monitored. If pavement conditions are not monitored, the airport data may be of limited value.
  - A temporary road weather information station installation may be required to obtain these data.

- **Incident data**: Collect type of incident, number of lanes affected, and start/end times.
  - Severe incidents typically generate a documented response, including emergency responder arrival and clearance times. However, minor incidents may not be recorded in this manner. Privacy concerns prelude obtaining third-party records, such as towing logs.
  - Crash datasets provide information on reported crashes, including location and time of occurrence. However, they do not provide information regarding how long a particular crash affects traffic flow, and secondary crashes are often not linked to the primary event. Further, crash data can lag for several months after the actual crash occurs.
  - Construction also affects traffic flow. Agency logs should allow compilation of CDOT construction efforts, and roadway access permits should be available for contractors that work along I-70 in the study area. Similar agency logs should be available from Town staff in Gypsum and Eagle. For example, Gypsum's Right-of-Way Excavation Permit ordinance would allow staff to monitor projects affecting traffic along Highway 6 and Cooley Mesa Road near the proposed interchange.
  - CDOT maintains two cameras in the Eagle Airport Interchange study area – one at milepost 139.55 in the Gypsum interchange and one at milepost 145.80, about a mile west of the Eagle interchange. However, video feeds from these cameras are not stored and image coverage is limited.
  - CDOT also maintains one dynamic message sign in the Eagle Airport Interchange study area, co-located with the camera at milepost 145.80. CDOT may display incident information on this sign and others nearby. However, these data are typically limited to severe incidents, and message timing may not match incident timing.
  - Given the available information and data shortfalls identified above, FHU recommends the following approach for obtaining incident data during the cluster analysis data collection period:
    - Collect available crash data from the Eagle County Sheriff's Office and/or CDOT, acknowledging the data lag. Collect available incident response logs from the Eagle County Sheriff's Office and Colorado State Patrol to partially fill in missing data.
    - Collect construction permit data from CDOT and Gypsum / Eagle Town logs.
    - Collect dynamic message sign message logs from CDOT's Traffic Management Center.
    - Collect INRIX data from CDOT to supplement available information.
    - Compile these data to develop an incident log for the cluster analysis study period. Efforts should include combining overlapping data to provide more robust snapshots of incidents reported by multiple sources.

Timing

A crucial component of the cluster analysis is timing. As described above, at least a year of data is required to capture seasonal variations in weather and traffic flows. Starting the cluster analysis data collection at the beginning of the IAR and 1601 process could delay the microsimulation effort for at least a year, delaying the overall traffic analyses. Hence, the Town should begin the data collection process at least a year before the anticipated start of the IAR and 1601 efforts. With this timeline, at least a year of data will be on hand when the traffic analysis begins. Even if the FHWA and CDOT do not require microsimulation as part of their processes, the traffic volume, speed, and crash data will support the IAR and 1601 efforts.

Summary

FHU has reviewed past traffic analyses and current FHWA and CDOT traffic analysis requirements for the Eagle Airport Interchange. Although a microsimulation analysis may not be required, it may be scoped as part of the upcoming IAR and 1601 processes. To prepare for this eventuality, the Town should consider collecting supporting data for a cluster analysis continuously over the next 12-18 months:

- Establish semi-permanent count and speed data collection stations at five locations
- Identify and implement a weather data collection plan. If Eagle County Airport is collecting adequate data, this effort may simply require a data sharing agreement. Otherwise, at least one new road weather information station may be required.
- Collect incident data from several sources, including Gypsum and Eagle roadwork permits, local and CDOT crash data, and several other CDOT datasets.

If the Town collects these data, they should be able to complete a reasonable cluster analysis in support of a possible microsimulation analysis for the planned Eagle Airport Interchange IAR and 1601 processes.

FHU has reviewed the recommendations in this memorandum with Town staff. Based upon current traffic observations, the Town does not anticipate that a cluster analysis would benefit the project's advancement. They believe that current traffic flows do not exhibit clusters that would change the recommended interchange outcome, and that typical AM & PM peak hours are representative of design hour conditions. The Town instead proposes utilizing a big data software analysis to identify the peak traffic season and collecting traffic data during that season. They believe that this approach would provide an adequate representation of future traffic conditions to justify the need for and design of a new interchange. Future conversations with CDOT and FHWA will be held to formalize this approach.

Appendix G. Origin-Destination Matrix Memo

MEMORANDUM

TO: Matt Figgs, Project Manager, Town of Gypsum

FROM: Paul Brown, PE, PTOE, Traffic Analysis Lead, FHU

DATE: April 18, 2025

SUBJECT: Eagle Airport Interchange – Feasibility Study (FHU Project Number 124388-01)
Origin-Destination Matrix Work Plan

The Town of Gypsum is performing a Feasibility Study (Study) to restart the Eagle Airport Interchange effort. The proposed interchange would connect I-70 at approximately milepost 143 with Cooley Mesa Road just east of the Eagle County Regional Airport. The project moved through planning and design about 15 years ago but was never constructed. Because so much time has elapsed since the previous efforts, the current Study is needed to update past evaluations and confirm the plan for the interchange.

The Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT) have also issued new or updated guidance regarding interchange studies since previous efforts were completed.

- FHWA's most recent Interstate Access Policy was issued in 2017[1], and a new rule has been drafted but is not yet approved. Both require a written Interstate Access Request (IAR) that includes traffic operations and safety analyses. FHWA has published guidance for these analyses in several documents outlined on their Traffic Analysis Tools webpage[2].
- Colorado's state-level equivalent to the Federal IAR is codified in CDOT's Policy Directive 1601[3] issued in 2021. This policy requires a System Level Study that includes traffic operations and safety analyses. CDOT published the latest version of their *Traffic Analysis and Forecasting Guidelines*[4] in 2023 to guide traffic analyses included in the 1601 process.

The Study is expected to recommend moving forward with an Eagle Airport Interchange IAR and 1601 that meet current agency requirements. If that occurs, the Town will need to provide an appropriate level of supporting traffic analysis. Traffic analysis guidance from both FHWA and CDOT indicates that microsimulation analyses can provide distinct project benefits, but microsimulation is a data-intensive process. Current FHWA and CDOT guidance requires that microsimulation analyses consider origin-destination patterns that may change with the proposed interchange. For example, skier trips originating at the Eagle County Regional Airport destined to Beaver Creek or Vail ski areas may use the existing Eagle interchange (Exit 147) today. These trips may redistribute to the proposed interchange in the future, lowering volumes at Exit 147. Similar patterns may exist between Exit 140 and destinations in the Roaring Fork Valley. Hence, an estimate of changes in travel patterns is essential to support purpose and need for the Eagle Airport Interchange effort. Although the need for microsimulation will be determined during initial phases of the IAR

[1] https://www.fhwa.dot.gov/design/interstate/170522.cfm, accessed on February 14, 2025.
[2] https://ops.fhwa.dot.gov/trafficanalysistools/index.htm, accessed on February 14, 2025.
[3] https://www.codot.gov/programs/planning/projects/policy-directive-1601-interchange-approval-process, accessed on February 14, 2025.
[4] https://www.codot.gov/safety/traffic-safety/assets/traffic_analysis_forecasting_guidelines/traffic_analysis_forecasting_guidelines, accessed on February 14, 2025.

and 1601 process, the Town has asked Felsburg Holt & Ullevig (FHU) to outline the data and inputs needed for a possible Eagle Airport Interchange origin-destination analysis.

Common Origin-Destination Tools

Origin-destination data can be obtained from various sources as outlined below.

License Plate Matching

A license plate match survey is performed by setting up license plate readers (cameras) at key locations in the roadway network and collecting license plate data (plate number and time stamp) at each location. The license plate data are then entered into a database program that matches license plates from each site to the same license plate at other stations. The matched plates can be used to identify trip patterns for each vehicle. This approach has several pros and cons:

- Pros:
  - Process is easy to set up in the field.
  - Process is easy to understand.
  - There is little opportunity for human error since the license plate reader is automated.
- Cons:
  - Because trip purposes cannot be observed, license plate matching provides information only about observed trip patterns.
  - Significant cost is required to set up sufficient cameras for reasonable data coverage. More cameras require more post-processing, which can be time-consuming.
  - Since not all vehicles travel through at least two stations, not all trip patterns are captured.
  - Camera reading errors can affect the dataset. Although license plate recognition software is robust (as shown by license plate tolling), obscured plates and temporary tags can affect the sample size.
  - Some citizens object to this approach based on privacy concerns.

Location Based Services Data

Location based services (LBS) data tools are a 21st century extension of license plate matching. LBS data vendors such as Streetlight and Replica collect GPS data from cellular devices and onboard vehicle navigation systems (data probes). These data are anonymously compiled using proprietary data algorithms to define individual trip patterns for a subset of roadway users. Statistical models are used to aggregate the compiled data to define overall trip patterns across the roadway network. LBS data can provide observed origin and destination trip patterns and also help to understand travel behavior, travel speeds, and trip distribution. This approach has several pros and cons:

- Pros:
  - Vendors continuously collect and aggregate trip pattern data. Current data are readily available.
  - Data are quick to access. Once purchased, the data are usually available through the vendor's website on demand.
  - The process is easy to understand.
  - Project-related privacy concerns are limited as the data are collected by a third-party provider.
- Cons:
  - Because trip purposes cannot be observed, LBS data sources provide information only about observed trip patterns.
  - Different vendors have varying price structures. Depending on the level of data accuracy and area of coverage, data can be expensive. Some vendors require subscription purchases.
  - Data reliability often suffers in less densely populated areas due to insufficient probe data.

Intercept Surveys

Intercept surveys consist of establishing roadside survey stations and asking motorists that pass through the stations about their origin, destination, and trip purpose. A questionnaire is developed in advance, and each motorist is asked the same questions. Once field work is completed, responses are aggregated in a database and overall travel data are summarized. This approach has several pros and cons:

- Pros:
  - A properly designed questionnaire can gather significant travel information in a relatively short roadside interview, including trip purpose.
  - The process is easy to understand.
- Cons:
  - Roadside surveys are labor intensive and expose workers to traffic hazards. Adequate traffic control is crucial for worker safety.
  - Because surveys must be designed to collect a statistically significant sample size, this may be difficult in areas with lower volumes.
  - Data compilation and aggregation can be time-consuming depending on the survey design and skill of roadside staff.
  - Some motorists may refuse the survey, affecting safety and sampling rate.
  - Even for those that agree to participate, not all respondents may answer all the questions due to privacy concerns.

Mail-back or Online Surveys

Mail-back and online surveys consist of distributing surveys to a target audience and asking them to return the completed questionnaires. Historically, this was done with paper forms and mailing lists through the US Postal Service, but today online surveys are more common. Questionnaires ask recipients about their travel origins, destinations, and trip purposes. Once surveys are distributed, recipients fill them out by a defined cutoff date, and completed surveys are aggregated. Paper surveys are scanned or keypunched, while online surveys generate data files automatically. Travel data are then summarized using database tools. This approach has several pros and cons:

- Pros:
  - A properly designed questionnaire can gather significant travel information, including trip purpose.
  - Mailing lists for area residents can be easily developed through available municipal records, community groups, the US Postal Service, and similar contact lists.
  - For online surveys, the respondent performs initial data entry.
  - The process is easy to understand.
- Cons:
  - Data collection depends on actions from the respondents. Paper surveys require that forms are completed and returned. Online surveys can get overlooked among other requests for digital feedback. Hence, adequate return rates can be difficult to achieve.
  - Airport travelers may be difficult to capture (particularly digitally), resulting in survey bias.
  - Data compilation for paper forms can be time-consuming.

Travel Demand Models

Travel demand models are developed for transportation planning agencies to provide future traffic forecasts. These models characterize the transportation network using a series of links (roadways) and zones (land areas) that represent the model's geographic extents. Trips are assigned to links based on underlying socioeconomic data, which may include Census data, origin-destination surveys for existing travel patterns, land use forecasts, and traffic count data. After the model has been calibrated using available data and future forecasts have been validated, it is possible to query the model to find the origins and destinations of trips associated with a particular zone or roadway link. This approach has several pros and cons:

- Pros:
  - Models can provide both existing and future year origin-destination data.
  - Future networks can be modified to show how traffic pattens are forecasted to change based on roadway network modifications.
  - In areas with available travel demand models, it is relatively easy to extract origin-destination data.
- Cons:
  - Travel demand model development is data-intensive and time-consuming. This is a concern in areas that do not already have models.
  - In areas with travel demand models, the available model may not have appropriate detail to meet project-specific needs.
  - Models can be difficult to understand and explain to the public.

Project-Specific Origin-Destination Matrix Development Plan

FHU has reviewed the Eagle Airport Interchange study area, applicable FHWA and CDOT guidance, and data collected for the 2024 Gypsum Master Traffic Study Update. Based on the pros and cons listed previously, FHU has prepared a matrix showing project-specific benefits and drawbacks for each potential origin-destination tool. Refer to **Table 1**.

Given these inputs and leveraging previous origin-destination analysis experience, FHU recommends having a calibrated travel demand model for the planned IAR and 1601 efforts. The model should include adequate detail to capture travel patten changes associated with the proposed interchange. As shown in **Table 1**, a travel demand model can provide existing and future origin-destination data. Future interchange scenarios can be modeled to obtain future origin-destination patterns. We have developed a proposed approach for the development of a robust travel demand model to support the potential need for a microsimulation model.

- CDOT Statewide Model (StateFocus) Status Update: In accordance with the Context Sensitive Solutions process being undertaken for the Study, complete the following steps:
  - Arrange a meeting with CDOT travel demand forecasting staff to discuss the following items:
    - Insufficient zone structure in the interchange study area.
    - Ability to incorporate the proposed interchange into a build scenario in the current model.
  - Use this meeting to determine if the current CDOT travel demand model can meet project needs.
- If the current CDOT model can meet project needs, obtain the model and use it during the IAR and 1601 process as appropriate.
- If the current CDOT model cannot meet project needs, begin developing a subarea model. Due to the required schedule for this process, the effort should begin before the IAR/1601 starts so that the subarea model is available for use during the IAR and 1601 process.

Table 1. Project-Specific Origin-Destination Tool Pros and Cons

O-D Tool	Approach	Benefits for Eagle Airport Interchange	Drawbacks for Eagle Airport Interchange
License Plate Matching	Record and match license plates at 20 locations[5].	Provides robust existing origin-destination and travel time data.	Does not provide forecasts of travel pattern changes; requires fieldwork; costly.
LBS Data	Purchase origin-destination data for Eagle/Gypsum area.	No fieldwork; data are already aggregated as part of purchase.	Does not provide forecasts of travel pattern changes; potential for limited coverage in Gypsum.
Intercept Survey	Conduct intercept surveys at four locations[6].	Questionnaire can obtain information about future travel desires.	Limited future travel pattern data; significant fieldwork; labor-intensive.
Mail-Back Survey	Mail physical surveys to area residents using available mailing lists; hand out surveys at airport.	Questionnaire can obtain information about future travel desires; limited fieldwork.	Postage may be costly; data compilation is labor intensive; may be difficult to obtain adequate sample size (particularly airport trips).
Online Survey	Distribute emails and hand out postcards at the airport with links to online survey.	Questionnaire can obtain information about future travel desires; limited fieldwork; respondents do majority of data entry.	May be difficult to obtain adequate sample size (particularly airport trips), which could increase cost to obtain sufficient data.
Travel Demand Model – Existing Model	Obtain and apply CDOT's existing statewide travel demand model, which includes Gypsum.	Available accepted CDOT model that can be obtained at no cost; provides both existing and future origin-destination patterns.	Existing Travel Analysis Zone structure is insufficient for this Study[7] and would not provide adequate origin-destination data.
Travel Demand Model – New Subarea Model	Develop a new subarea model, including model calibration and validation.	Does not require fieldwork; provides both existing and future origin-destination patterns.	Developing and calibrating the subarea model would be time-consuming and costly.

[5] Each ramp in Gypsum interchange (four sites), Highway 6 north of Railroad Ave, Valley Road near Lundgren Blvd, Valley Road south of Cooley Mesa Rd, Highway 6 west of Jules Dr, Cooley Mesa Rd west of Jules Dr, Highway 6 at Interchange connector alignment, Cooley Mesa Rd Interchange connector alignment, I-70 eastbound and westbound at milepost 143 (two sites), Highway 6 at Gypsum / Eagle town boundary, Highway 6 west of Brooks Ln / W 5th St, Eby Creek Rd north of Highway 6, and each ramp in Eagle interchange (four sites).
[6] I-70 Entrance Ramps in Gypsum Interchange (two sites), I-70 Entrance ramps in Eagle Interchange (two sites).
[7] For example, zone 5628 (3.9 square miles) includes the airport, American Gypsum, a portion of Buckhorn Valley (residential), the Spring Creek light industrial area, and a portion of Town Center (residential). Hence, origins and destinations related to the airport could not be extracted directly. Further, the Travel Analysis Zone structure does not match current Census tract and blocks boundaries, which precludes updates based on recent Census data. It should be noted that the CDOT model does include estimated forecasts for visitors using the Eagle County Regional Airport.

Summary

FHU has reviewed past traffic analyses and current FHWA and CDOT traffic analysis requirements for the Eagle Airport Interchange. Although a microsimulation analysis may not be required, it may be scoped as part of the upcoming IAR and 1601 processes. To prepare for this eventuality, the Town should evaluate travel demand options with CDOT as early as possible within gate framework of the Study. If a subarea model is needed, the Town should complete the following efforts:

- Engage a consultant with travel demand forecasting expertise and familiarity with the CDOT model.
- Work with the selected consultant to develop the subarea model, including calibration and validation, and review the model with the Town for concurrence.
- Use the calibrated subarea model during the IAR and 1601 efforts.

If the Town completes these steps, they should have access to a reliable travel demand model or comparable tool that can provide origin-destination data for the planned Eagle Airport Interchange IAR and 1601 processes.

Appendix D – Environmental

Town of Gypsum
EST. 1911

Environmental Resources

September 2025

Prepared by

Pinyon Environmental. Inc.

Environmental Resources

September 2025

Prepared by

Pinyon Environmental, Inc.

Biological Resources

REGULATORY REVIEW

This review was conducted to determine if alternatives under evaluation in this feasibility study would impact known biological resources within or directly surrounding the study area in accordance with the following federal and state regulations or policies:

- **Section 404 of the Clean Water Act:** Regulates discharge of dredge or fill material into waters of the U.S. (WOTUS), which includes wetlands and non-wetland waters. Impacts to these features would require permitting through the U.S. Army Corps of Engineers (USACE).
- **Colorado House Bill 24-1379:** Regulates discharge of dredge or fill material into state waters, which includes wetlands and non-wetland waters. Impacts to these features, if not already permitted through Section 404 of the Clean Water Act, would require permitting through the Colorado Department of Public Health and Environment Water Quality Control Division.
- **U.S. Endangered Species Act (ESA):** Protects federally listed plant and animal species with the goal of ensuring their long-term survival. The U.S. Fish and Wildlife Service (USFWS) administers these requirements.
- **Colorado Non-game, Endangered, and Threatened Wildlife and Rare Plant Conservation Act:** Protects state-listed and state special concern species with the goal of ensuring their long-term survival. Colorado Parks and Wildlife (CPW) administers these requirements.
- **Bald and Golden Eagle Protection Act (BGEPA):** Protects bald (Haliaeetus leucocephalus) and golden (Aquila chrysaetos) eagles. The USFWS administers these requirements.
- **Migratory Bird Treaty Act (MBTA):** Protects birds, their active nests, and their eggs (except rock doves [Columbia livia], European starlings [Sturnus vulgaris], and some other non-native birds). The USFWS administers these requirements.

METHODOLOGY

A preliminary desktop investigation of biological resources in and near the study area was completed using readily available public information including the following:

- Aerial imagery and street-view photography (Google Earth Pro 2025)
- USFWS National Wetlands Inventory (NWI) Mapper (USFWS 2025b)
- USGS National Hydrography Dataset (U.S. Geological Survey {USGS} 2023)

- USFWS Information for Planning and Consultation (IPaC) System (USFWS 2025a)
- Colorado Natural Heritage Program (CNHP) Colorado Conservation Data Explorer (CODEX) List (Colorado Natural Heritage Program 2025a)
- CPW Threatened and Endangered List (CPW 2025a)
- CPW Species Activity Mapping data (CPW 2025b)

AFFECTED ENVIRONMENT

The study area includes roadways along I-70, Cooley Mesa Road, and Highway 6, as well as the Union Pacific Railroad and a portion of the Eagle River Valley. Habitats in the study area include pinyon-juniper woodland north of I-70, agricultural fields between the interstate and the Eagle River, the riparian corridor of the Eagle River, and some disturbed areas vegetated with grasses, forbs, and shrubs typical of transportation right of ways and developed areas.

Potential and Known Wetlands and Waters of the United States

The Eagle River, a known WOTUS, occurs within the study area, and is classified as a perennial Riverine (R3UBH) feature on the USFWS NWI and USGS NHD (USFWS 2025b; USGS 2023). Potential wetlands are mapped along the banks of the river consisting of palustrine emergent (PEM1C) and palustrine scrub-shrub (PSS1C) (USFWS 2025b). The Eagle River flows to the west through the study area and discharges into the Colorado River approximately 12 miles to the west, in Dotsero (USGS 2023). Several unnamed drainageways are present including five that bisect I-70 and drain into the Valley.

Three ditches—Casper Schumm Ditch; Stremme and Gates Ditch; and CKP Ditch—also occur within the study area (USGS 2023). The Casper Schumm Ditch and Stremme and Gates Ditch are both fed by diverted water upstream from the Eagle River, east of the study area. The Casper Schumm Ditch ultimately discharges back into the Eagle River downstream of the study area while the Stremme and Gates Ditch appear to terminate in uplands west of the study area. The CKP Ditch is fed by diverted water from Brush Creek, east of the study area, and ultimately terminates in uplands west of the study area (U.S. Geological Survey 2023).

Federally Threatened, Endangered, and Proposed Species

There are 11 federally listed threatened, endangered, and proposed species with the potential to occur in the study area (USFWS 2025a). The Canada lynx (*Lynx canadensis*; federally threatened) and Mexican spotted owl (*Strix occidentalis lucida*; federally threatened) are not likely to occur in the study area due to a lack of suitable habitat within the study area. While potential habitat for the yellow-billed cuckoo (*Coccyzus americanus*; threatened) occurs along the Eagle River in the study area, yellow-billed cuckoos are not known to occur in Eagle County (CPW 2020).

The remaining species, the gray wolf (*Canis lupus*; endangered, non-essential experimental population), monarch butterfly (*Danaus plexippus*; proposed threatened), Suckley's cuckoo bumble bee (*Bombus suckleyi*; proposed endangered), and Ute ladies'-tresses orchid (*Spiranthes diluvialis*; federally threatened), have the potential to be affected by a project in this location. Additionally, the bonytail (*Gila elegans*; federally endangered), Colorado pikeminnow (*Ptychocheilus lucius*; federally endangered), humpback chub (*Gila cypha*; federally threatened), and razorback sucker (*Xyrauchen texanus*; federally endangered) may be affected if the project includes water depletions to the Upper Colorado River Basin (USFWS 2025a).

No critical habitats for federally listed projects are designated within the study area (USFWS 2025a).

State-listed and State Special Concern Species

There are four state-listed and state special concern species with the potential to occur in the study area. The northern river otter (*Lontra canadensis*; state threatened [ST]), Townsend's big-eared bat (*Corynorhinus townsendii*; state special concern species [SC]), northern leopard frog (*Lithobates pipiens*; SC), and bald eagle (SC). Potentially suitable habitat for all four species occurs within the study area; these species have the potential to be affected by a project in the study area.

A mapped river otter concentration area is located less than two miles west of the study area along the Eagle River (CPW 2025).

The bald eagle is additionally protected by the MBTA and BGEPA. Additional information regarding the bald eagle is discussed in the Migratory Birds and Raptors section below.

Migratory Birds and Raptors

Migratory birds and raptors are protected by the MBTA. Potential nesting, roosting, and foraging habitat for migratory birds and raptors occurs in trees, shrubs, grasses, and human-made structures within and adjacent to the study area.

Bald and golden eagles are further protected by the BGEPA and have the potential to occur in the study area for foraging, roosting, and nesting. Both species have been observed within the project limits (Cornell Lab of Ornithology 2025). Three bald eagle nests (one destroyed and two active as of December 2024) are located near the Eagle River within 0.5-miles of the study area. Additional bald eagle nests, roosts, and communal roosts are mapped along the Eagle River outside of the 0.5-mile buffer. The study area overlaps mapped golden eagle breeding range and bald eagle summer forage, winter range, winter forage, and winter concentration (CPW 2025b).

NEXT STEPS FOR FUTURE NEPA STUDY AND PERMITTING

Wetlands and Waters of the United States

The Eagle River and ditches should be delineated in accordance with the "National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams" (USACE 2025). Wetlands in the study area should be delineated in accordance with the 1987 USACE "Wetland Delineation Manual" and the 2010 "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)" (Environmental Laboratory 1987; USACE 2010).

Once impacts and jurisdictional status are known, likely during a future NEPA study, the appropriate level and type of permitting that will be required will be confirmed. Impacts to WOTUS will require a Section 404 permit under the CWA and may be a nationwide permit or individual permit, depending on the size of the impact. Impacts to State Waters will require completion of the state permitting process, which has not been formalized, under House Bill 24-1379. Both federal and state permits require demonstrated compliance with either the National or State Register of Historic Places and the Endangered Species Act. Nationwide permits typically take substantially less time than individual permits and the supporting materials showing compliance with other federal or state regulations will be documented in a NEPA study that would precede permitting. CDOT will require impacts to any wetlands, regardless of jurisdiction, at a one-to-one ratio.

Federally Threatened, Endangered, and Proposed Species; State-Listed and Special Concern Species

A qualified biologist should conduct a habitat assessment for federally threatened, endangered, and proposed species as well as state-listed and special concern species with the potential to occur in or be affected by a project in the study area. If the project has the potential to affect any of these species, consultation with the USFWS will be required. Consultation could range from a concurrence request that there is no adverse effect to specie(s) to a detailed Biological Assessment that would be reviewed at the state and federal level and require a formal Biological Opinion from the USFWS.

Additional conservation measures may be required for the bald eagle. These are described in further detail in the Migratory Birds and Raptors section below.

Migratory Birds

A qualified biologist should conduct pre-construction migratory bird nest surveys within the project limits and a 0.5-mile buffer to survey for migratory bird and raptor nests that may be impacted by project activities. Special attention should be paid to mapped bald eagle nests within 0.5-miles of the study area.

These surveys may include, but are not limited to, surveys in trees, clear-and-grub surveys for ground nests, and structure surveys. If active nests (i.e., nests with eggs or young) are identified during these surveys, minimization or mitigation measures would be required, potentially including coordination or consultation with CPW and/or the USFWS. The CPW typically prohibits construction within 0.5 miles of an active eagle next between December 31 – July 31 or when the babies fledge. For raptors, construction is usually not allowed between within 0.33 miles of an active nest meaning the contractor will need to complete surveys and monitor whether there is an active nest and construction needs to be halted.

Cultural Resources

REGULATORY REVIEW

The purpose of this review is to analyze environmental constraints regarding cultural resources within the proposed Study area in accordance with the following federal and state regulations or policies:

- **National Historic Preservation Act (NHPA) (36 CFR 800):** Passed in 1966, it contains a set of regulations commonly referred to as "Section 106". Section 106 [36 CFR Part 800] is a procedural law that requires federal agencies to consider effects of undertakings on historic properties, including archaeological resources. Historic properties are defined as prehistoric or historic districts, sites, buildings, structures, or objects that are eligible for or listed in the National Register of Historic Places (NRHP). Also included are artifacts, records, and remains (surface or subsurface) that are related to and located within historic properties and any properties of traditional religious and cultural importance to Tribes. Historic properties are evaluated for NRHP eligibility based on criteria identified by the National Park Service and must retain sufficient integrity to convey historic significance.

  Federal agencies must involve interested Tribes in the planning process for federal undertakings. Consultation with a Tribe recognizes the government-to-government relationship between the U.S. government and sovereign tribal groups. Federal agencies must be sensitive to the fact that cultural properties of religious and cultural significance to one or more Tribe may be located on ancestral, aboriginal, or ceded lands beyond modern reservation boundaries. Consulting Tribes are offered the opportunity to identify concerns about cultural resources and comment on how a project might affect them. If it is found that a project would affect cultural resources that are eligible for inclusion on the NRHP and are of religious or cultural significance to one or more consulting Tribes, their role in the consultation process may also include participation in resolving how best to avoid, minimize, or mitigate those effects.

- **Section 4(f) of the DOT Act (23 CFR 774):** Passed in 1966, this act contains a regulation referred to as "Section 4(f)" [23 CFR Part 774]. Section 4(f) requires agencies under the authority of the DOT to avoid the use of Section 4(f) resources, including historic sites listed on or eligible

for the NRHP as well as certain designated land uses. Section 4(f) is a substantive law, and the use of a Section 4(f) resource is only permitted if no feasible and prudent alternative to the use can be identified. Please refer to the Section 4(f)/Non-historic and Section 6(f) Resources section of this report for more discussion on Section 4(f) as it relates to non-historic- resources.

- **Colorado Register of Historic Places Act (24 Colorado Revised Statue {CRS}) 80.1):** This act was passed in 1975 with the intent to preserve the cultural and historic places in the state for the "education and enjoyment of the residents of this state, present and future." The Colorado Register of Historic Places Act primarily creates the State Register of Historic Places (SRHP), like the NRHP, and a framework for nominating sites to the state register. All properties listed in the NRHP are automatically included in the Colorado state register. The register of historic places act also includes a stipulation for review of proposed actions by state agencies.

- **Historical, Prehistorical, and Archaeological Resources Act of 1973 (CRS 24-80-401 to 410):** This Colorado legislation established the office of the state archaeologist, currently housed within the office of archaeology and historic preservation (OAHP). The legislation requires that archaeological work within the state, including investigation, excavation, gathering, or removal of historical, prehistorical, and archaeological resources be conducted under permits issued by the OAHP. The legislation makes it a misdemeanor to knowingly appropriate, excavate, injure, or destroy historical, prehistorical, or archaeological resource on land owned by the state or any county, city and county, city, town, district, or other political subdivision of the state without a valid permit.

- **Unmarked Human Graves, 1990 (CRS 24-80-1301-1305):** This legislation includes policies for the discovery of human remains, including a specification that the coroner and sheriff, police chief or land managing official shall be immediately contacted upon the discovery and that the coroner shall conduct an on-site inquiry within 48 hours of the notification. Additional steps for the discovery of human remains are contained within 24-80-1302.

METHODOLOGY

Cultural resource evaluations typically use an age threshold of 50 years when identifying potentially historic resources. Infrastructure projects often use 45 years as the year-built threshold to account for planning studies that are often completed several years before construction. Additionally, the 45-year build threshold accommodates extended reviews, as necessary, while minimizing the need to re-evaluate project effects to individual resources; this Feasibility Study used a 45-year threshold. In some instances, resources evaluated to have exceptional importance that are less than 45 years old may be considered eligible to the NRHP.

A study area was developed to identify cultural resources that may be impacted by the Project. The study area generally consists of the proposed Project alignment between I-70 in the north and Cooley Mesa

Road in the south. The study area was buffered by 0.5-mile (File Search Area) to identify previously recorded archaeological resources within or intersecting the Project Area. Previously recorded cultural (both historic and archaeological) resources were identified through a file search of Compass database maintained by OAHP. The Compass file search requested through OAHP was submitted on January 27, 2025, and results were received on February 25, 2025. In addition, Pinyon conducted a desktop analysis to assess the study area for newly identified resources utilizing historical aerial imagery, Bureau of Land Management (BLM) General Land Office plat maps, and USGS topographic maps. Specific to historic resources, Pinyon Environmental, Inc. (Pinyon) conducted a desktop analysis to assess the study area for newly identified, potentially historic resources utilizing historical aerial imagery, the CDOT Online Transportation Information System (OTIS) and Historic Sites Viewer, USGS topographic maps, and the Eagle County Assessor's Office database.

A review of historic and archaeological resources was undertaken by Daniel W. Gilbert, M.A., historian with Pinyon and Joel Tyberg, M.A., R.P.A., Principal Investigator with Pinyon. Mr. Gilbert exceeds the requirements of the Secretary of the Interior's (SOI) Professional Qualifications Standards in the area of History, Architectural History, and Historical Archaeology; Mr. Tyberg exceeds the SOI Professional Qualifications Standards in the area of Archaeology as defined in 36 CFR § 61. Please note, this desktop analysis does not constitute official compliance under Section 106 of the NHPA of 1966, as amended (per 36 CFR § 800) nor under the Colorado SRHP consistent with CRS § 24-80.1 and 8 Colorado Code of Regulations (CCR) § 1504-5; it is the responsibility of the federal and state agencies involved in the project to meet the requirements of these regulations.

AFFECTED ENVIRONMENT

Archaeological Resources

The OAHP File Search revealed that 12 previous surveys for archaeological resources have been conducted within or intersecting the File Search Area (Table 1); the 6 that are within study area are listed below in Table 1.

Table 1: Previously Conducted Archaeological Surveys within Study area

SURVEY ID	SURVEY NAME	DATE
EA.FA.R1	A Cultural Resource Inventory of the Proposed Runway Expansion for the Eagle County Airport, Eagle County, Colorado	2003
EA.LM.R101	Proposed Eagle County Regional Airport Interchange: Intensive Cultural Resource Inventory, Eagle County, Colorado	2002
MC.CH.R96	A Cultural Resource Survey of Interstates 25, 70, 225, and 270, U.S. Highways 34 and 160, and State Highways 13 and 470 for the Proposed Adesta Communications Fiber Optic System, Colorado (C SW00-102)	2008
MC.CSU.R3	Preliminary Archaeological Reconnaissance of the Wolcott-Malta Electric Transmission Line (BLM-GSRA #670)	2008
MC.IC.R1	Historic Report for the Sage to Leadville and Malta to Canon City Segments of the Former Denver & Rio Grande Western Railroad (Tennessee Pass Route), Fremont, Chaffee, Lake, and Eagle Counties	2008
MC.LM.R413	A Cultural Resource Management Survey Within the Eagle Planning Unit, Colorado Part I (S# 444)	2003

As a result of previously conducted surveys, 33 archaeological resources have been recorded within the File Search Area. Of these, five resources are within or intersecting the study area; these are listed in Table 2.

Table 2: Previously Recorded Archaeological Resources within Study area

RESOURCE ID	RESOURCE NAME	NRHP ELIGIBILITY	DATE OF LAST EVALUATION
5EA.1810	Unnamed Resource	Not Eligible – Isolated Find	2001
5EA.1811	Unnamed Resource	Not Eligible – Isolated Find	2001
5EA.1812	Unnamed Resource	Not Eligible – Isolated Find	2001
5EA.1598	Unnamed Resource	Officially Not Eligible	2000
5EA.1802	Unnamed Resource	Officially Not Eligible	2002

Historic Resources

As a result of the file search, 11 previously evaluated, historic resources were identified within the File Search Area. Of these, four resources are within or intersecting the proposed study area (Table 3). One newly identified, potentially historic resource—an unrecorded segment of the Casper-Schumm Ditch (5EA.1801)—was identified intersecting the study area (Table 4).

Table 3: Previously Recorded Historic Resources within Study area

RESOURCE ID	RESOURCE NAME	ASSESSMENT	LAST ASSESSMENT DATE
5EA.1051	Stremme and Gates Ditch	Officially Eligible	2001
5EA.1052.4	CKP Ditch – Segment	Assumed Eligible – Officially Supporting	2016
5EA.1595.6	Denver & Rio Grande Railroad	Officially Eligible	2006
5EA.2587.6	Highway 6 – Segment	Officially Eligible – Supporting	2016

Table 4: Newly Identified, Potentially Historic Resources within Project Area

RESOURCE NAME	ADDRESS	DATE OF CONSTRUCTION
Casper-Schumm Ditch	N/A	1882

NEXT STEPS FOR FUTURE NEPA STUDY

The desktop review revealed the presence of five previously recorded archaeological resources within, adjacent to, or intersecting the study area for the proposed Project. The desktop review also revealed the presence of four previously evaluated, historic resources and one newly identified, potentially historic resource within, adjacent to, or intersecting the study area for the proposed Project. Visual impacts to Officially Eligible resources—including Stremme and Gates Ditch (5EA.1051), CKP Ditch (5EA.1052), the Denver & Rio Grande Railroad (5EA.1595.6), and Highway 6 (5EA.2587.6)—may require detailed Section 106 effects analysis with enhanced renderings and detailed design sheets to demonstrate visual impacts to historic properties. Review and potential regulatory compliance with state or federal statutes is dependent on the nexus triggered by the Project. Potential state and federal nexus include, but are not limited to, access permits through CDOT or FHWA to access a state highway or interstate, Project funding through CDOT or FHWA, and Section 404 permitting through USACE. The level of documentation is dependent on applicable state and federal regulations including, but not limited to, Section 106 of the NHPA, as amended (per 36 CFR § 800) and the SRHP consistent with CRS § 24-80.1 and 8 CCR § 1504-5. The following provides general guidance for documenting cultural resources during future phases of the Project:

Resources determined Officially Eligible or those which are contributing to an NRHP District may require re-evaluation using OAHP Form 1405: Cultural Resource Re-Visitation Form if more than five years have passed since they were last evaluated for NRHP eligibility.

Resources with field determinations of eligibility have not received official concurrence from the Colorado SHPO and may require evaluation using OAHP Form 1403: Architectural Inventory Form or OAHP Form 1400/1418: Management Data/Linear Component Form.

- Resources determined Officially Not Eligible may require re-evaluation for NRHP or SRHP eligibility due to changing historical context or if more than 10 years have passed since the previous determination of eligibility.
- Newly identified, potentially historic resources may require evaluation for NRHP eligibility using OAHP Form 1403: Architectural Inventory Form or OAHP Form 1400/1418: Management Data Form/Linear Component Form.
- Newly identified archaeological resources identified during the Class III cultural resources inventory may require evaluation for NRHP eligibility using the applicable OAHP site forms.

Limitations

This review of cultural resources was completed by Pinyon to assist in identifying environmental constraints for the proposed Project. The conclusions and recommendations offered in this memo are based on data obtained from a limited desktop survey and reconnaissance survey of select resources within a prescribed study area as described in the text. Additionally, OAHP Compass File Search data is only considered current for one year following receipt of the results of a file search. An additional file search may need to be completed as the project progresses, and a regulatory nexus is identified. This document is for informational purposes only and is not sufficient to constitute compliance with state/federal law, including but not limited to Section 106 of the NHPA, as amended (per 36 CFR § 800) and the Colorado SRHP (per CRS § 24-80.1 and 8 CCR § 1504-5). Furthermore, disclosure of the precise locations of archaeological resources to the public may be in violation of both federal and state laws. Applicable United States laws include but may not be limited to Section 304 of the NHPA (16 USC § 70w-3) and the Archaeological Resources Protection Act (16 USC § 470hh).

Section 6(f) Resources; Section 4(f)/Non-Historic Resources

REGULATORY REVIEW

The following regulations are in place to protect parks, trails, and other publicly owned recreational resources that are open to the public. Additionally, Section 4(f) applies to wildlife refuges.

- **Section 6(f) of the Land and Water Conservation Act:** Section 6(f) of this Act, which was enacted in 1965, prohibits the conversion of property acquired or developed with grants from this fund to a non-recreational purpose without the approval by the National Park Service. Monies from the fund are intended to provide for the acquisition of land and water resources for conservation and recreation, with a focus on protecting natural areas, water resources, and cultural heritage, and providing recreation opportunities.

- **Section 4(f) of the U.S. DOT Act of 1966:** Affords special protection to publicly owned parks; recreational resources; wildlife and waterfowl refuges; and publicly or privately-owned historic sites, which is addressed in the cultural resources section above. This DOT regulation allows for incorporation of a Section 4(f) property into a transportation use only if there is no feasible and prudent alternative to doing so. This discussion applies to both Section 4(f)/non-historic resources (wildlife refuges and recreation facilities) as well as Section 4(f)/historic resources (which are addressed above). Use of a Section 4(f) property occurs when:

    - land is permanently incorporated into a transportation facility;
    - there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose; or
    - there is a constructive use (the project's impacts are so severe that the protected activities, features, or attributes of an adjacent property are substantially impaired).

METHODOLOGY

Pinyon reviewed a 100-foot buffer of the study area for the presence of open spaces, parks, trails, and other publicly accessible recreational facilities, including Section 6(f) resources. The search included review of the following publicly available data:

- Aerial imagery and ground-based photography (Google Earth Pro 2025)
- Eagle County ECO Trails (Eagle County 2025)
- CPW's Colorado Trail Explorer (COTREX) online mapper (CPW 2025c)
- OTIS database (CDOT 2025)
- Town of Gypsum recreation website (Town of Gypsum 2025)

SECTION 6(f) RESOURCES; SECTION 4(f)/NON-HISTORIC RESOURCES' AFFECTED ENVIRONMENT

There are no Section 6(f) resources present in the study area.

The Eagle Valley Trail is present; it is a Section 4(f) resource. In the study area, the route parallels the Union Pacific railroad tracks and Highway 6, and crosses Highway 6 at Cooley Mesa Road at the traffic signal. It continues on along Cooley Mesa Road past the Eagle County Regional Airport to Valley Road in central Gypsum. The trail extends east and west of the study area. Additionally, there is BLM property to the north of I-70 where the new interchange would be constructed.

NEXT STEPS FOR FUTURE NEPA STUDY

During a future NEPA study, data sources should be revisited to determine if there are any new or currently unknown parks, trails, recreational facilities, and/or wildlife refuges present in the study area. The Eagle Valley Trail (Trail) may be a constraint during construction as impacts to it will need to be mitigated. Should a closure be required during construction, a detour will need to be provided. The detour and nature of the impact will need to consulted on with the Official with Jurisdiction (OWJ). Should the project result in improved access or enhanced connectivity to/from the Trail, the permanent impacts may be considered an overall enhancement; however, this determination will need to be made in coordination with the OWJ. The current and future uses of the BLM land will need to be clarified to determine if it qualifies as a Section 4(f) resource. Should the trail or access and use of the BLM land (should it be a Section 4(f) resource) be impacted temporarily during construction of the proposed connection, a detour should be provided. Should permanent impacts be anticipated, the OWJ will need to be consulted with to determine if the impact is de minimis, falls under a programmatic agreement, is exempt, or is adverse. Eagle County is the OWJ for the trail while BLM is the OWJ for its land. Adverse impacts can take over a year to gain approval from federal agencies while de minimis and exemption determinations can be addressed during the timeframe for a typical NEPA study and do not require approval by the Department of Interior. To obtain approval to advance a project that results in an adverse effect, the project applicant must demonstrate that there is no other feasible and prudent alternative to the impact.

References

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