Appendix A
I-70 Mountain Corridor PEIS Context Sensitive Solutions
August 2010

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Appendix A. I-70 Mountain Corridor PEIS Context Sensitive Solutions

A.1 Introduction to Context Sensitive Solutions

A.1.1 What is Context Sensitive Solutions?

The Federal Highway Administration defines Context Sensitive Solutions (CSS) as:

> *Context Sensitive Solutions is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist. CSS principles include the employment of early, continuous and meaningful involvement of the public and all stakeholders throughout the project development process.*

It is recognized that government agencies cannot cede statutory or regulatory responsibilities.

The principles of CSS apply to any transportation project aiming to bring the full range of stakeholder values to the table and actively incorporate them into the design process and final results.

Context sensitive solutions begin early and continue throughout the entire project development process – from project concepts through alternative studies and into construction, and beyond into maintenance and monitoring improvements. Context sensitive solutions mean maintaining commitments to communities.

The following excerpt is from the National Cooperative Highway Research Program 480: A Guide to Best Practices for Achieving Context Sensitive Solutions:

> *A consensus of the research and practitioners … confirms that there are four essential aspects to achieving a successful CSS project. These include effective decision-making and implementation, outcomes that reflect community values and are sensitive to environmental resources, and ultimately, projects solutions that are safe and financially feasible.*

Context sensitive solutions recognizes that highway and transit projects are not just the responsibility or concern of engineers and constructors. For that matter, they are not only the responsibility of the Department of Transportation or transportation agency. Rather, CSS calls for the interdisciplinary collaboration of technical professionals, local community interest groups, landowners, facility users, and the general public—including any and all stakeholders who live and work near the road, and those who will use it. It is through this process and this team approach that the owning agency gains an understanding and appreciation of community values and strives to incorporate or address these values in the evolution of its projects.

Context sensitive solutions apply essentially anywhere and everywhere because every project has a context as defined by terrain and topography, communities, users, and surrounding land use.

A.1.2 Why do Context Sensitive Solutions on the I-70 Mountain Corridor?

CSS provides guidance on future studies, designs, and construction projects to ensure that planners, designers, and constructors incorporate stakeholder values into their decisions on the I-70 Mountain Corridor.

After years of mistrust and disagreements among Corridor stakeholders, the Colorado Department of Transportation at the request of the Corridor citizens agreed to develop the CSS guidance for the I-70 Mountain Corridor. This agreement marked the creation of a unique set of guidance, built from common goals in a true collaboration of the stakeholders.

This guidance is the "how" to build the I-70 Mountain Corridor. Starting with agreement of what to protect and developing guidance for future planners, designers, and contractors on how to protect what matters most, this guidance set the precedence, the direction, and the inspiration for the Corridor.

The Context Sensitive Solutions project brought together a multidisciplinary, multi-interest stakeholder group to discuss, debate, and capture what they respect and will work to preserve in the Corridor.

The Context Statement and the Core Values provide direction to achieve improvements that exceed expectations by incorporating goals for agencies, communities, and users. The Context Statement and the Core Values represent a vision and goals for the Corridor.

Processes have been developed for use on future studies, designs, and construction projects to ensure that planners, designers, and constructors incorporate these values into their decisions.

To provide further depth and support to studies, designs, and construction projects on the Corridor, strategies consistent with the Context Statement and Core Values have been included for engineering, aesthetics, mitigation, and construction. These strategies are proposed or suggested as methods consistent with the Context Statement and the Core Values.

The Corridor stakeholders, the authors of this material, want the best and newest ideas – consistent with our vision and goals – to be used on the Corridor. To ensure flexibility to address and/or incorporate innovations, new techniques, advanced technologies, and emerging trends, an Amendment Process has been designed for revising and updating the Context Statement, the Core Values, and proposed guidance throughout the website.

A.1.3 The Commitment to Context Sensitive Solutions on the I-70 Mountain Corridor

The Colorado Department of Transportation has made the commitment to use the principles of CSS on all projects on the I-70 Mountain Corridor. To reach this end, the CSS website has been developed, (i70mtncorridorcss.com).

As described on the CSS website, the commitment has been made by the Colorado Department of Transportation and Federal Highway Administration to include a project leadership team on all of the projects on the Corridor. The formation of the project leadership team is done in collaboration with the county local to the project.

This commitment further includes direction for all Corridor projects to use the Decision Process and to be guided by the Context Statement and Core Values.

A.1.4 Amending the I-70 Mountain Corridor Context Sensitive Solutions Guidance

The overarching Core Value of Sustainability demands that the I-70 Mountain Corridor CSS Guidance have balance —today and for future generations. The Amendment Process allows for the best and newest ideas, consistent with our vision and goals, to be used on the Corridor. To ensure flexibility to address and/or incorporate innovations, new techniques, advanced technologies, and emerging trends, this Amendment Process has been designed to revise and update the Context Statement, the Core Values, and the proposed strategies.

The Amendment Process respects the CSS principles outlined in the 6-Step Process and ensures a collaborative and open approach to maintaining dynamic Guidance on the I-70 Mountain Corridor. To initiate the Amendment Process, contact the Colorado Department of Transportation's I-70 Mountain Corridor or Region 1 leadership.

A.1.5 How We Got Here: The History of Context Sensitive Solutions on the I-70 Mountain Corridor

In October 2005, the Colorado Department of Transportation's chief engineer made the first step in leading Colorado Department of Transportation toward the full adoption of Context Sensitive Solutions with the issuance of "Policy Memo 26, Context Sensitive Solutions Vision for Colorado Department of Transportation." The memo defined CSS and offered a vision for its implementation.

In the spring of 2008, a Programmatic Agreement was signed in which Colorado Department of Transportation committed to initiating the development of design guidelines and historic context(s) for the I-70 Mountain Corridor. The agreement, which was developed over several years, stated that Colorado Department of Transportation would complete this work prior to any Tier 2 undertakings. The guidelines would be consistent with the principles of CSS and Colorado Department of Transportation's Policy Memo 26 and, along with the historic context, would guide the development of Tier 2 undertakings on the Corridor.

Colorado Department of Transportation initiated the I-70 Mountain Corridor CSS project to provide effective guidelines for all future planning, design, and construction projects along the 144-mile Corridor. Colorado Department of Transportation's goal was to have the Corridor become the nation's standard for collaboration, partnerships, transportation innovation, and environmental sustainability.

The principles of CSS are detailed in the National Cooperative Highway Research Program Report 480, titled *A Guide to Best Practices for Achieving Context Sensitive Solutions (2002)*. Further guidance is captured in the NCHRP manual titled *Performance Measurement in Context Sensitive Design* (2004).

The I-70 Mountain Corridor Programmatic Environmental Impact Statement was ongoing as the CSS project was being advanced. One element of the CSS project has been coordination with the I-70 Mountain Corridor PEIS.

In the fall of 2006, proposals for the CSS project were requested from consultants with CSS experience. This effort was led by the selection committee with representatives from Colorado Department of Transportation, the Federal Highway Administration, the I-70 Coalition, and Clear Creek County.

As a part of the CSS Guidance development, the project staff and the project leadership team came together to define the goals and desired outcomes from the project. These discussions were the foundation for the teams, working groups, public meetings, and workshops described below.

The Corridor Team

During the development of the CSS Guidance for the Corridor, the project team worked with seven counties; 27 towns; two National Forests; one ski corporation; six ski resorts; and thousands of residents, business owners, truckers, and commuters to develop the CSS design guidelines—the ground rules for building the planned improvements. The inclusive group of stakeholders became the CSS Corridor Team.

The first Corridor Team Meeting was held October 26, 2007. The stakeholders came together to discuss, debate, and agree on what they respected and wanted to preserve in the Corridor. The Context Statement and Core Values were drafted. The group also discussed how the CSS Corridor Team and the Collaborative Effort would interact and support each other's work.

Additional Corridor team meetings were held in December 2007, March 2008, October 2008, and September 2009.

Public Open Houses

In November 2007, the I-70 Mountain Corridor CSS project team held public meetings in three locations along the Corridor to introduce the project, which will provide guidance for all future transportation studies, designs, and construction projects conducted along the I-70 Mountain Corridor. The public meetings included a short presentation, a small group discussion session, and informational displays explaining the process and schedule for the I-70 Mountain Corridor CSS effort.

The Collaborative Effort

The Context Sensitive Solutions project team worked with the Collaborative Effort, which was an element of the PEIS. The Collaborative Effort was designed to facilitate the Corridor stakeholders in discussions about the recommended alternatives for the I-70 Mountain Corridor. The Collaborative Effort Team included representatives of local governments; highway users; and transit, environmental, business and recreation interests; as well as state and federal agencies. Working with independent facilitators from the Keystone Center, the Collaborative Effort completed their work in the spring of 2008 by coming to agreement on a recommended alternative to be used in the I-70 Final Programmatic Environmental Impact Statement.

The Project Leadership Team

A Context Sensitive Solutions project leadership team was formed at the onset of the CSS project. The project leadership team's mission was to move world-class solutions forward by designing a principle-driven process that involved everyone, produced decisions, and resulted in projects that would stand the test of time.

A project leadership team will be formed for every project on the I-70 Mountain Corridor. The project leadership team will be scaled to fit the size and type of each project and their role will be to lead projects,

champion CSS on projects, and enable decision-making. Project leadership team will always include public stakeholders and are one avenue for public input.

Working Groups

Several working groups were formed to tackle some of the detailed issues along the Corridor:

CSS Process Working Group

The CSS Process Working Group developed decision steps and methods for Tier 2 design project and construction projects processes. The group developed the methods to be used in the future for considering new ideas, practices, and technologies. A 6-Step Process and five Life Cycle Phases for use on all subsequent Corridor projects were adopted and the roles and responsibilities of future project teams were vetted.

Chain Station Working Group

The Chain Station Working Group used the CSS Decision-Making Process in the planning of chain stations. More than fifty stakeholders—including community members, jurisdictions, and agencies—were involved in the chain station decision process.

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 will develop a Memorandum of Understanding establishing the management framework to assure the protection of water resources throughout the life cycle of projects in the I-70 Mountain Corridor.

A Landscape Level Inventory of Valued Ecosystems (ALIVE)

The ALIVE Working Group provided an opportunity to address issues related to improving wildlife movement and reducing habitat fragmentation in the Corridor. An inventory of Linkage Interference Zones (LIZ) where evidence suggests that the highway's barrier effect impedes important wildlife migration or movement routes or zones of dispersal has been developed and prioritized. A Memorandum of Understanding between Colorado Department of Transportation, Federal Highway Administration, Colorado Division of Natural Resources –Division of Wildlife, United States Fish and Wildlife Service, United States Department of Agriculture Forest Service, and the Bureau of Land Management established a program of cooperation. Its purpose is the early and full implementation of corrective actions to solve permeability problems in identified LIZs, and to streamline the Section 7 consultation process under the Endangered Species Act for the I-70 Mountain Corridor Tier 2 processes.

Sustainability Working Group

The Sustainability Working Group was formed to discuss more specifically what sustainability means in the Corridor, to provide definition to criteria and measures of success in relation to sustainability of the Core Values, and to develop potential strategies for sustainability in the Corridor.

Historic Context Working Group

The Historic Context Working Group developed a multi-property document form for the I-70 Mountain Corridor. This document will be used in all future National Environmental Policy Act documents as part of the Section 106 process. It will ensure that the preservation of historic resources in the communities along the I-70 highway is taken into consideration when planning and constructing future projects.

Aesthetics Working Groups

The Aesthetic Working Groups were formed to assist the Corridor and consultant teams in preparing the Aesthetic Guidance. These working groups were formed around four geographic Design Segments that collectively include the entire I-70 Mountain Corridor.

The four Design Segments include:

- Front Range Foothills
- Mountain Mineral Belt
- Crest of the Rockies
- Western Slope Canyons and Valleys

Design and aesthetic objectives and strategies were developed for each segment to guide the design of future improvements.

Idaho Springs Visioning Workshop

Idaho Springs sits in one of the narrowest canyons in the Corridor and transportation improvements—both highway and transit—have the potential to severely impact the town. The Idaho Springs Visioning Workshop brought together Idaho Springs' citizens and business owners for a day and a half to discuss and determine what must be protected and enhanced as transportation improvements are developed through the town.

A.2 The Evolution of the CSS Guidance

As originally conceived and described, the CSS Guidance would:

- Direct all Tier 2 processes in the Corridor
- Ensure that CSS principles were employed
- Direct an open, comprehensive, and fair public process for each project
- Reflect the unique context of the Corridor and direct future designs
- Support the identification and protection of historic resources through the Historic Context

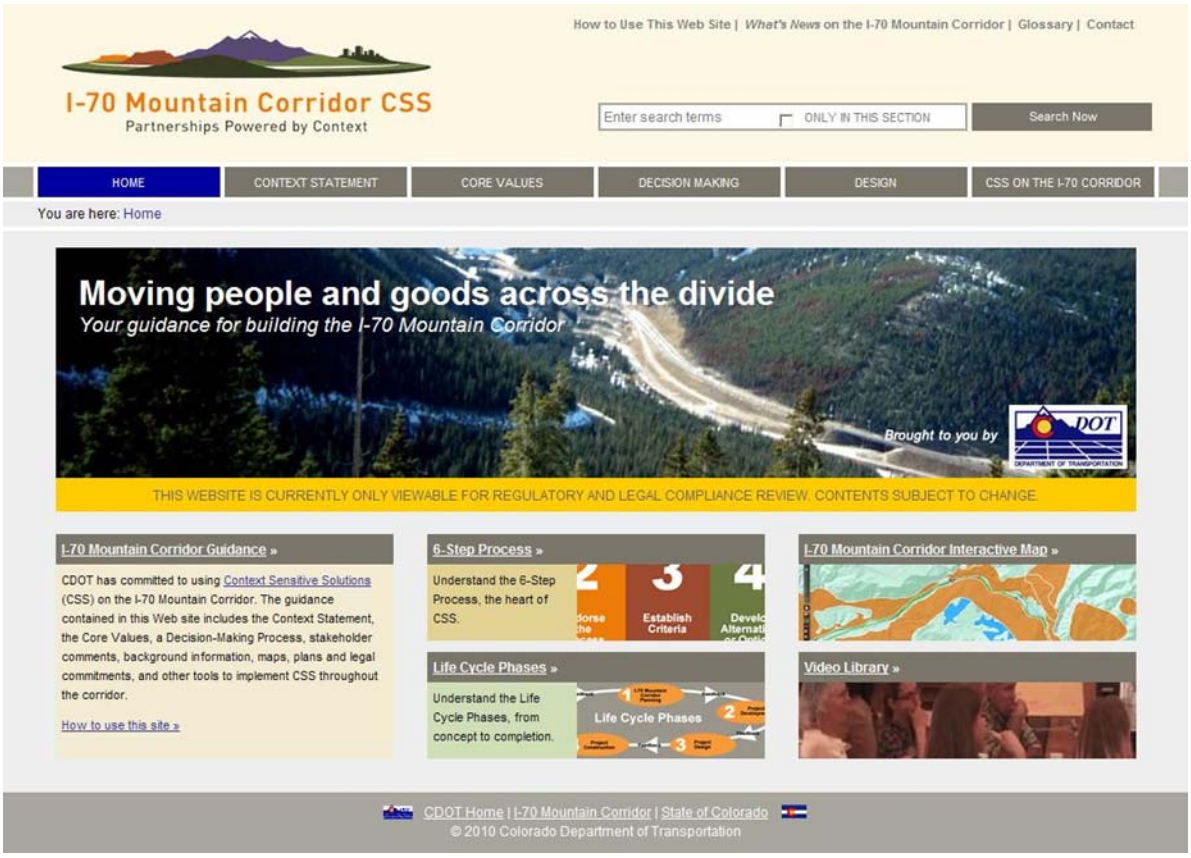
The CSS Guidance has been delivered in an interactive website that delivers the above objectives and further:

- Presents the Corridor Context Statement and Core Values
- Delineates the decision-making process to be used on projects
- Defines the design criteria
- Organizes Corridor environmental data on maps
- Indexes the PEIS data by mile marker
- Provides tools, templates, photos, exercises, and ideas for project managers
- Makes available all Corridor agreements
- Captures years of stakeholders comments and concerns
- Links to other relevant materials

A.2.1 The Elements of the CSS Guidance

The CSS Guidance website (shown in **Exhibit 1)** provides information, guidance, and tools to implement CSS on the Corridor. It supports project managers and project leadership teams in guiding a project through the CSS decision-making process.

Exhibit 1. I-70 Mountain Corridor CSS Landing Page



The website goes further and provides background through resource maps, connections to the resource data developed for the PEIS, lists of stakeholders and stakeholder comments, relevant Corridor agreements.

Included in this document are detailed descriptions of the:

- Context Statement
- Core Values
- Decision Process

A.3 The Context Statement and Core Values

The I-70 Mountain Corridor Context Statement, in concert with the Core Values, represents a vision and goals for the I-70 Mountain Corridor.

A.3.1 What is a Context Statement?

A context statement seeks to capture in words the special qualities and attributes that define a place as unique. A context statement should capture in words that which was true 50 years ago and that which must be considered during the development of improvements in order to sustain truth in those same words for fifty years to come.

A.3.2 The I-70 Mountain Corridor Context Statement

The I-70 Mountain Corridor Context Statement

The I-70 Mountain Corridor is a magnificent, scenic place. Human elements are woven through breathtaking natural features.

The integration of these diverse elements has occurred over the course of time.

This corridor is a recreational destination for the world, a route for interstate and local commerce, and a unique place to live.

It is our commitment to seek balance and provide for twenty-first-century uses.

We will continue to foster and nurture new ideas to address the challenges we face.

We respect the importance of individual communities, the natural environment, and the need for safe and efficient travel.

Well-thought-out choices create a sustainable legacy.

A.3.3 The I-70 Mountain Corridor Core Values

What is a Core Value?

A Core Value describes something of importance to stakeholders—something they respect and will work to protect and preserve.

Core Values must be honored and understood. Decisions and choices made along the I-70 Mountain Corridor should be influenced by and support the Core Values.

The I-70 Mountain Corridor Core Values

Sustainability is an overarching value that creates solutions for today that do not diminish resources for future generations. Ideal solutions generate long-term benefits to economic strength, scenic integrity, community vitality, environmental health, and ecosystems.

Methods for **decision making** must be fair, open, equitable, and inclusive. Collaboration moves decision making beyond individual and agency interests. New ideas will always be considered with respect and an open mind.

Enhancing **safety** for all is paramount in all decisions.

A **healthy environment** requires taking responsibility to preserve, restore, and enhance natural resources and ecosystems.

Humankind's past has contributed to the sense of place. The broad **historic context** is foundational to the corridor's character and must be a part of every conversation.

We must respect the individuality of **communities** in a manner that promotes their viability. The character of the corridor is realized in the differences and commonalities of its communities.

Mobility and Accessibility must address local, regional, and national travel by providing reliability, efficiency, and inter-connectivity between systems and communities.

Aesthetics will be inspired by the surroundings, protect scenic integrity, and incorporate the context of place. Timeless design continues the corridor's legacy.

A.3.4 The Core Values Defined

Sustainability

Sustainability *is an overarching value that creates solutions for today that do not diminish resources for future generations. Ideal solutions generate long-term benefits to economic strength, scenic integrity, community vitality, environmental health, and ecosystems.*

Sustainability Principles:

These principles further define sustainability and the role it plays in implementing all of the Core Values. Specific strategies to reach some principles have been included. Achieving these principles requires partnerships and commitments by all Corridor stakeholders.

- Maintain the regional conversation through expanded collaboration with responsible agencies and stakeholder partnerships.
- Improve regional planning to promote responsible managed growth and development.
- Utilize holistic planning to minimize redesign and reconstruction of major elements.
- Encourage responsible individual transportation choices.
- Improve safety.
- Preserve, protect, and improve public lands, the natural environment, and outdoor recreation opportunities in the I-70 Mountain Corridor for future generations to enjoy.
- Minimize fossil fuel consumption.
- Pursue renewable energy-based transportation alternatives to respond to the potential of peak oil.
- Improve energy efficiency in transportation, homes, and businesses.
- Reduce greenhouse gas emissions.
- Respond to current state and national climate action plans.
- Respond and adapt to broader global trends and future technologies.
- Improve the conservation of all resources.
- Preserve and protect the historic and cultural resources of communities.
- Provide quality access to and from resources and communities.
- Respect the role natural resources played in building communities and continue this legacy for future generations.
- Sustain and improve Corridor economic health.
- Support viable and vital communities through the responsible use of the available resources and quality access.
- Enhance mobility by integrating modes of transportation that accommodate multiple user needs.
- Develop new and improve existing multimodal transportation alternatives.
- Improve efficiency of freight movement.
- Provide accessibility that meets the needs and expectations of users, residents, and responsible agencies.
- Encourage timeless designs that provide lasting value, are financially responsible, and are accountable to future generations.
- Preserve visual and scenic integrity.
- Protect view sheds.

Safety

*Enhancing **safety** for all is paramount in all decisions.*

Eliminating fatalities and reducing injuries and property damage are measures of enhanced safety. All users must be considered and protected: wildlife, first responders, Corridor workers, trail users, automobiles, and commercial carriers. All types of safety must be considered: vehicle collisions, weather, rockfalls, construction, and wildlife crossings.

The I-70 Mountain Corridor is a unique section of interstate that passes through mountainous terrain. The Corridor cuts through rock formations that are prone to rock slides. Weather conditions in the Corridor also play a role in safety. In the winter, frequent snowstorms impact driving conditions and traveler safety. Additionally, the current I-70 Mountain Corridor design includes steep vertical grades and/or sharp horizontal curves. The speed limit varies throughout the Corridor.

As alternatives to improve the I-70 Mountain Corridor are developed, improving the safety of the Corridor should be paramount; and design should address the unique conditions of the Corridor. The Evaluation Guidance details how I-70 Mountain Corridor alternatives will be evaluated. The Alternative Evaluation Guidance documents how safety criteria will be used to determine how well an alternative is able to enhance the safety of the I-70 Mountain Corridor. Criteria are provided for use at each level of alternative analysis.

During the I-70 Mountain Corridor Context Sensitive Solution Workshops, the stakeholders developed a list of critical issues to be considered during all future work on the Corridor. The stakeholders further provided a list of safety strategies that should be considered when developing and refining alternatives.

Healthy Environment

*A **healthy environment** requires taking responsibility to preserve, restore, and enhance natural resources and ecosystems.*

To maintain a healthy environment, it is paramount to know the environment, the terrain, and the ecosystems; how they interact; and what makes these natural systems healthy. Philosophically, a healthy environment should sustain itself. Human intervention in maintenance should be minimal, and mitigation should restore natural systems to a level that is self-sustaining.

The I-70 Mountain Corridor passes through three national forests and some of Colorado's most pristine mountain environment. The Corridor is home to many animals, including elk, mule deer, big horn sheep, and threatened and endangered species such as the lynx. These animals live along the Corridor and many migrate across the I-70 highway. The Corridor crosses over and provides access to a number of streams, lakes, and riparian habitat areas. The unique balance between preserving, restoring, and enhancing the

natural resources and ecosystem must be measured as alternatives to improve the I-70 Mountain Corridor are considered.

The following key resource areas should be considered when developing and analyzing I-70 Mountain Corridor alternatives to determine whether alternatives are compatible with a healthy environment:

- Biological Resources
- Climate and Air Quality
- Hazardous Materials
- Wetlands and Water Resources
- Wildlife

During the I-70 Mountain Corridor Context Sensitive Solution Workshops, the stakeholders developed a list of critical issues to be considered during all future work on the Corridor. The stakeholders further provided a list of healthy environment strategies that should be considered when developing and refining alternatives.

Historic Context

*Humankind's past has contributed to the sense of place. The broad **historic context** is foundational to the Corridor's character and must be a part of every conversation.*

The historic context of this Corridor centers on human interaction with the environment and its resources: trapping, hunting, fishing, mining, hiking, and skiing. People have economically benefited from these resources over time. An interest in these past activities continues to bring economic benefit and a strong sense of place. New interests in the resources of this Corridor may develop. To honor this Core Value, projects must contribute to a positive historic context, even as they create history.

The following principles further define the historic context and provide specific ways to identify and reach the Core Value.

Historic Context Principles

- Connect to the historic setting and harmonize with the cultural landscape.
- Draw upon historic context for design input that shapes project solutions.
- Use the I-70 Mountain Corridor Historic Context as the definitive historic framework resource for future projects in the Corridor.
- Support heritage tourism and historic preservation.

Communities

We must respect the individuality of **communities** in a manner that promotes their viability. The character of the Corridor is realized in the difference and commonalities of its communities.

Communities are the pulse of the Corridor and they must be respected and supported in their efforts to remain viable and vital. Understanding what is truly important in a local area can be found only by engaging with the community – understanding their definition of what is unique and what makes them a "community." Plans and designs must support and integrate local area efforts.

The following principles further define communities and provide specific ways to identify and reach the Core Value.

Community Design Principles

- Celebrate, enhance, and protect the individual identities of the Corridor communities.
- Improve the quality of life for current and future residents.
- Integrate alternatives with community plans.
- Engage communities in the decision-making process.
- Support economic diversity and sustainability.
- Provide mobility choices.
- Provide community vitality through access and connectivity.
- Strive to balance local community interests with regional interests.
- Support Corridor-wide planning.
- Maximize community benefits from transportation improvements.

The natural environment has shaped the development pattern of the communities along the I-70 Mountain Corridor. Community economics and quality of life are based on the wealth of resources found in the Rocky Mountains. Responsible use of and access to these resources are necessary to sustain communities and are the basis for all community design principles. Understanding how community resources are influenced by the I-70 highway improvements is necessary in each step of the 6-Step Process. Community resources found in the I-70 Mountain Corridor are discussed in the I-70 PEIS. Additional data from the PEIS can be found on the Interactive Map.

Mobility and Accessibility

Mobility and accessibility *must address local, regional, and national travel by providing reliability, efficiency, and the interconnectivity between systems and communities.*

Mobility and accessibility on the Corridor are served by promoting and providing options that best fit a variety of travel and access needs. Remain open to and consider new approaches and technology that advance mobility and accessibility.

The I-70 Mountain Corridor is an important part of our national interstate system and a vital route for the travelers and truckers who cross our nation. It provides access for Coloradoans statewide who wish to access the Rocky Mountains and the national forests, ski areas, and recreation areas in the Corridor. The I-70 Mountain Corridor provides critical links to and between the communities along the Corridor. An unprecedented number of vehicles travel through the Eisenhower/Johnson Memorial Tunnels, and the Corridor is frequently congested. Because many travelers and communities depend on I-70 Mountain Corridor, mobility and accessibility must be considered with any improvements in the I-70 Mountain Corridor.

The Evaluation Guidance details how I-70 Mountain Corridor alternatives will be evaluated. The Alternative Evaluation Guidance documents how mobility and accessibility criteria will be used to determine how well an alternative is able to address local, regional, and national travel while providing a reliable and efficient transportation system that is interconnected with communities. Criteria are provided for use at each level of alternative analysis.

During the I-70 Mountain Corridor Context Sensitive Solution Workshops, the stakeholders developed a list of critical issues to be considered during all future work on the Corridor. The stakeholders further provided a list of mobility and accessibility strategies that should be considered when developing and refining alternatives.

Aesthetics

***Aesthetics** will be inspired by the surroundings, protect scenic integrity, and incorporate the context of place. Timeless design continues the Corridor's legacy.*

Aesthetics will be inspired by the surroundings, protect scenic integrity, and incorporate the context of place. Timeless design continues the Corridor's legacy.

The following principles further define aesthetics and provide specific ways to identify and reach the Core Value.

Aesthetic Principles:

- Connect to the setting; harmonize with the surroundings; and be a light touch on the land, subservient to the landscape.
- Reflect the I-70 highway as a major regional and national transportation Corridor.
- Celebrate crossing the Rocky Mountains with a high-country travel experience.
- Respect urban, rural, and natural settings.
- Draw upon and regenerate the context of place.
- Aesthetic design treatments shall:
  - Support safety and mobility.
  - Support communities and regional destinations by providing direct and subliminal messaging for gateways, connections, access, and identification.
  - Maintain a sense of the greater whole.

- Respect the current time and place.
- Integrate with functional elements.
- Borrow materials from the landscape.
- Showcase key views while buffering inconsistent views.
- Include maintenance considerations and responsibilities.

A.4 The Decision-Making Process

A.4.1 Overview

The I-70 Mountain Corridor Decision-Making Process is consistent with the following Colorado Department of Transportation manuals: The *National Environmental Policy Act Manual*, the *Planning and Environmental Linkages Program*, and the *Life Cycle Phases for Project Management*.

The Colorado Department of Transportation National Environmental Policy Act Manual includes guidance on incorporating CSS into the process. In Section 3.3, the manual states that "CSS represents an evolution in the philosophical approach to transportation and supports the social, economic, and environmental context of the facility... It should be reflected in the way the National Environmental Policy Act process is implemented."

I-70 Mountain Corridor Context Sensitive Solutions is built on a commitment to collaborative decision-making. The key principles of collaborative decision-making are:

- Principle-based
- Outcome-driven
- Multidisciplinary

To achieve a truly collaborative process, the I-70 Mountain Corridor Context Sensitive Solutions Team developed a 6-Step Process that can be used for all projects at any phase of the project life cycle. This process is based on the three principles above and uses the constructs of Decision Science to guide effective, collaborative decision-making.

Principle-Based

The Corridor Team developed the Context Statement and Core Values for the I-70 Mountain Corridor. These form the principles on which the 6-Step Process is based. These provide a touchstone for every decision that is made in the Corridor to ensure its consistency with stakeholder principles.

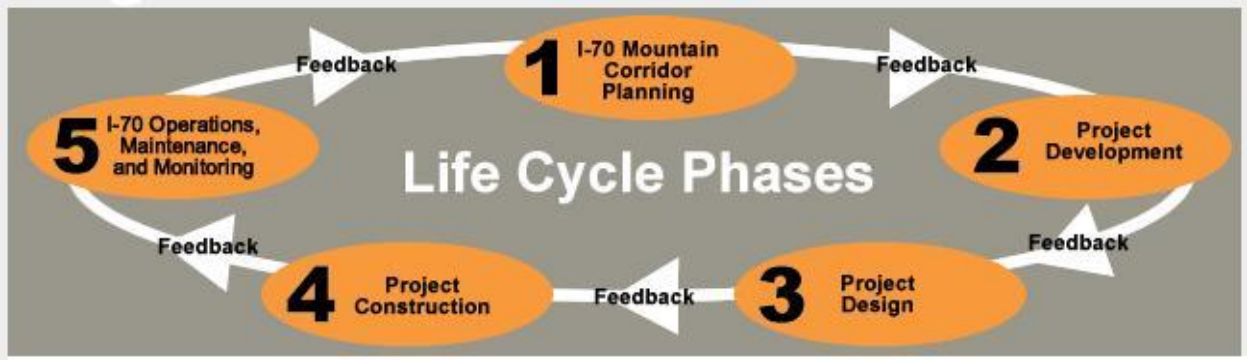
Outcome-Driven

The Life Cycle Phases and 6-Step Process provide clearly defined, repeatable decision-making steps. Early and continuous involvement of stakeholders in a fair and transparent process is a critical component of CSS and promotes the development of recommendations with strong support. Work in each of the phases will be carried out using the 6-Step Process for decision-making. Each phase has its own set of requirements and expectations, and the products developed at each phase provide inputs to the subsequent phases.

Multidisciplinary

The project leadership team, Technical Team, and Issue Task Forces are structured to provide multidisciplinary-involvement on each project. This structure supports a more robust definition of the issues and desired outcomes and leads to recommendations with broad support by the stakeholders.

A.5 Life Cycle Phases



The Colorado Department of Transportation defines the life cycles of the I-70 Mountain Corridor in five phases:

Phase 1: I-70 Mountain Corridor Planning, using the 6-Step Process, integrates with statewide planning efforts and develops plans for Corridor-wide resources.

Phase 2: Project Development, using the 6-Step Process, brings improvement concepts, environmental documents, and mitigation strategies to completion. Examples include Tier 2 documents and feasibility studies.

Phase 3: Project Design, using the 6-Step Process, develops construction plans for a project.

Phase 4: Project Construction, using the 6-Step Process, safely builds a functional transportation facility.

Phase 5: I-70 Mountain Corridor Operations, Maintenance, and Monitoring, using the 6-Step Process, will inspect, monitor, assess, manage, and maintain completed facilities.

These five phases are consistent with the process that the Colorado Department of Transportation uses throughout the state to plan, design, construct, maintain, and operate its facilities. Work in each of the phases can be carried out using the 6-Step Process for decision-making. Each phase has its own set of requirements and expectations, and the products developed at each phase provide inputs to the subsequent phases.

A.5.1 Life Cycle Phase 1: I-70 Mountain Corridor Planning

Using the 6-Step Process, I-70 Mountain Corridor Planning integrates with statewide planning efforts and develops plans for Corridor-wide resources.

I-70 Mountain Corridor Planning integrates with statewide planning efforts, champions regional planning, and promotes consistency among planning efforts. The Corridor Planning phase includes broad traffic and planning studies, such as the PEIS, that set the course for the Project Development phase.

Section 3.2 of the Colorado Department of Transportation NEPA Manual refers to Planning and Environmental Linkages as “an approach to transportation decision-making that considers environmental, community, and economic goals early in the planning stage and carries them through project development, design, and construction.” The I-70 Mountain Corridor Context Sensitive Solutions 6-Step Process is consistent with the Planning and Environmental Linkages approach. The 6-Step Process considers Core Values that address environmental, community, and economic goals. Each of the activities shown in the Planning and Environmental Linkages Corridor Planning Process Flow Chart are included in the CSS 6-Step Process, and reinforce the importance of clear and consistent decision-making processes.

Planning studies include a public and agency outreach component that engages stakeholders in the planning process. The Colorado Department of Transportation will continue to involve public and agency stakeholders throughout the Life Cycle Phases for projects on the I-70 Mountain Corridor.

Types of projects in Phase 1 include the PEIS, the Section 106 Programmatic Agreement, the Landscape Level Inventory of Valued Ecosystem Components Memorandum of Understanding, the Stream and Wetland Ecosystem Enhancement Program Memorandum of Understanding, the Historic Context Report, the Aesthetic Plan, and other Corridor-wide planning studies.

A.5.2 Life Cycle Phase 2: Project Development

Life Cycle Phase 2 – Project Development – brings improvement concepts, environmental documents, and mitigation strategies to completion.

Project Development brings improvement concepts, environmental documents, and mitigation strategies to completion. Following the 6-Step Process, Project Development identifies a project leadership team, reviews the initial project scope and inputs from previous Corridor Planning efforts, and clarifies project outcomes. The project leadership team and project staff ensure that the subsequent steps of the 6-Step Process are followed and that each step is documented. These and other teams are defined in **Section 7, Collaboration and Communication**.

The requirement of the Colorado Department of Transportation to include public and agency outreach in NEPA documents is consistent with CSS and the 6-Step Process. The Colorado Department of Transportation National Environmental Policy Act Manual includes guidance on incorporating CSS into the National Environmental Policy Act Process. Colorado Department of Transportation has made a commitment to include community representation on selection committees and project leadership teams for all projects, including site-specific Environmental Impact Statements and Environmental Assessments. The CSS approach encourages partnerships with local, regional, and state entities.

During Project Development, the project staff develops a Project Work Plan, Project Schedule, Stakeholder Involvement Plan, and Context Map checklist for review and approval by the project leadership team.

Types of projects included in Phase 2 include Tier 2 processes (Environmental Impact Statement, Environmental Assessment, Categorical Exclusions), subsequent National Environmental Policy Act Decision Documents, environmental clearances, and feasibility studies. Documents generated in this phase often include conceptual design.

A.5.3 Life Cycle Phase 3: Project Design

Life Cycle Phase 3, Project Design, develops construction plans for a project.

Project Design develops construction plans for a project. In this phase, the project staff ensures that the final design is consistent with the conceptual design and commitments made during the Project Development phase. The project staff continues to coordinate with the public, as well as with the agencies having jurisdiction in the project limits. This coordination occurs through project teams, public outreach, and one-on- one meetings with property owners to address issues such as access and design refinements. Project Design may include value engineering for more complex projects and may initiate right-of-way acquisition if right-of-way is required for Project Construction. Project Design will review environmental mitigation/sustainability commitments and ensure that they are included in the construction design/specifications/bid package. Construction phasing is considered during Project Design, particularly for larger projects that may not be fully funded.

Deliverables include project design plans, construction plans, specifications, and cost estimates. The project staff will complete environmental permits/certifications such as 404 permits and Senate Bill 40 certifications during this phase.

A.5.4 Life Cycle Phase 4: Project Construction

Life Cycle Phase 4, Project Construction, safely builds a functional transportation facility

Project Construction safely builds a functional transportation facility. In this phase, the Colorado Department of Transportation bids the project, selects the contractor, and manages construction. Project Construction ensures completion of environmental conditions/permits. The project staff coordinates with local, regional, and state governments and interest groups during the Project Construction Phase.

The Project Work Plan must include commitments to provide public information about construction activities, detours, and delays. Any construction modifications will be developed following the 6-Step Process as shown in the Sample Tasks and Documentation Matrix.

Deliverables include completion of the physical improvements, work acceptance, as-built drawings, and project closure documents.

A.5.5 Life Cycle Phase 5: I-70 Mountain Corridor Operations, Maintenance, and Monitoring

Life Cycle Phase 5 – I-70 Mountain Corridor Operations, Maintenance, and Monitoring – will inspect, monitor, assess, manage, and maintain completed facilities.

I-70 Mountain Corridor Operations, Maintenance, and Monitoring includes inspection, monitoring, assessment, management, and maintenance of completed facilities. Deliverables from this phase provide feedback to Phase 1: I-70 Mountain Corridor Planning and Phase 2: Project Development for consideration on future projects. The Colorado Department of Transportation maintains a Maintenance Management System inventory list of roadway features along state roadways. This list includes items such as surface type, ditch length, and culvert count to assist in the development of maintenance projects. If a maintenance activity is part of an ongoing program or plan, the 6-Step Process must be used to update or revise any existing plans and/or programs as outlined in the Sample Tasks and Documentation Matrix. Traveler information and traffic management are important aspects of this phase and should be addressed in plans or programs.

Stakeholders in the I-70 Mountain Corridor identified sustainability as an overarching value. Tracking the success of sustainability efforts is a major function of this life cycle phase. Sustainability Success Tracking efforts are detailed in the sustainability Core Value.

Deliverables include monitoring feedback, site-specific maintenance best management practices, and program documents such as traffic incident management plans, mowing and paving programs, and safety inspection reports.

A.6 Overview of the 6-Step Process

The 6-Step Process used for all projects on the I-70 Mountain Corridor was developed to ensure collaboration. It is consistent with Decision Science principles and can be followed for all decisions from Corridor-wide planning to construction change orders.

The 6-Step Process is used for projects on the I-70 Mountain Corridor to ensure collaboration. It is consistent with Decision Science principles and can be followed on all projects from Corridor-wide planning to construction change orders. Established plans, such as emergency plans, do not require that implementation decisions use the 6-Step Process.

The 6 Steps are:

Step 1: Define Desired Outcomes and Actions. Using the CSS Guidance and other relevant materials, this step establishes the project goals and actions. It also defines the terms to be used and decisions to be made.

Step 2: Endorse the Process. This step establishes participants, roles, and responsibilities for each team. The process is endorsed by discussing, possibly modifying, and then finalizing with all teams the desired outcomes and actions to be taken.

Step 3: Establish Criteria. This step establishes criteria, which provides the basis for making decisions consistent with the desired outcomes and project goals. The criteria measure support for the Core Values for the I-70 Mountain Corridor.

Step 4: Develop Alternatives or Options. The project staff works with the project leadership team, stakeholders, and the public to identify alternatives or options relevant to the desired outcomes, project-specific vision, and goals.

Step 5: Evaluate, Select, and Refine Alternative or Option. The process of analyzing and evaluating alternatives applies the criteria to the alternatives or options in a way that facilitates decision-making. This may be a one-step or multi-step process depending on the complexity of the alternatives and the decision.

Step 6: Finalize Documentation and Evaluate Process. Documentation should be continuous throughout the process. Final documentation will include each of the previous steps, final recommendations, and the process evaluation.

These steps are intended to provide a clear and repeatable process that is fair and understandable. The order of the steps is as important as the activities within each step.

A.6.1 Step 1: Define Desired Outcomes and Actions

Step 1 establishes the project goals and actions. It also defines the teams to be used and decisions to be made. Using the CSS Guidance and other relevant materials, this step establishes the project goals and actions. It also defines the teams to be used and decisions to be made. Relevant material may include the Statewide Transportation Improvement Program, previously developed plans or commitments, environmental documents, and current program documents. These provide the initial input into establishing the goals for the project. If the project is in the Project Design phase, for example, the desired outcomes should reflect those documented in the Project Development phase and the CSS Guidance.

During Step 1 in Life Cycle Phase 1: I-70 Mountain Corridor Planning, a project leadership team is established and should be carried through all subsequent phases of a project. By using the 6-Step Process framework, the project leadership team will develop the specific process to be used during decision making, including teams, team roles and responsibilities, and interactions during the project.

Sample tasks and documentation matrices have been developed for each of the Life Cycle Phases to guide the 6-Step Process in each phase.

A.6.2 Step 2: Endorse the Process

Step 2 establishes participants, roles, and responsibilities for each team. The process is endorsed by discussing, possibly modifying, and then finalizing with all teams the desired outcomes and actions to be taken. Endorsing the process includes clarifying teams and expectations for use in the process, developing a schedule, and confirming the project-specific decision process.

During Step 2 of a project in the Project Development phase, for example, the project leadership team and the project staff may form a Technical Team to support the project. The project leadership team leads the effort to gain endorsement of the process.

A.6.3 Step 3: Establish Criteria

Step 3 establishes criteria, which provides the basis for making decisions consistent with desired outcomes and project goals. The criteria support the Core Values and previously developed agreements and commitments, as well as design standards and other state and federal requirements.

The project staff will review the Context Statement, Core Values, Issues by Core Value, and CSS Evaluation Guidance for every project or study to identify criteria and guidance relevant to the decisions that will be made on the project. The project staff will work with the project leadership team, county representatives, and the public to establish project-specific vision, goals, and criteria. This activity is initiated with Scoping on National Environmental Policy Act projects. On smaller, less complex projects, the development of a project vision and project-specific goals and criteria can be accomplished in focused working sessions with the project leadership team, project staff, county representatives, and the public.

The purpose of establishing criteria is to support a structured decision-making process and ensure that decisions made and alternatives selected support the desired outcomes and actions, as well as the Core Values. In order to establish a fair process that reflects the stated outcomes and project goals, it is important to determine the criteria prior to developing potential alternatives.

Step 3 tracks how concerns and issues are used in the formation of criteria, allowing stakeholders and affected parties to see how their interests will be considered and permitting them to monitor the outcome in a meaningful way.

It is important to represent the needs of all stakeholders in the criteria – including local, state, and federal priorities and requirements, as well as previous comments and concerns identified through earlier efforts in the Corridor. Criteria should reflect the range of stakeholder interests, including community, interest group, and local needs and priorities. It is critical that the full range of interests and requirements be incorporated into criteria to support an evaluation process that meets requirements and interests in a clear and transparent manner.

Applicable legal and policy requirements must also be incorporated into the criteria to ensure their inclusion in alternative evaluation and selection. Such requirements may include American Association of State Highway and Transportation Officials and Colorado Department of Transportation design standards and National Environmental Policy Act criteria.

A good criterion is measurable and relevant to the project decision, and it distinguishes between alternatives or options.

A.6.4 Step 4: Develop Alternatives or Options

In Step 4, the project staff works with the project leadership team, stakeholders, and the public to identify alternatives or options relevant to the desired outcomes, project-specific vision, and goals. This work includes the review of commitments previously made for improvements, options outlined in the CSS Guidance, and brainstorming options to meet the desired outcome, vision, and goals for the project.

Engaging the public and other interested parties in this step provides an opportunity to identify and consider a wide range of alternatives and ideas in a structured approach. Ideas introduced at this step can be evaluated and documented in a way that all interested parties can track and understand. This minimizes new ideas brought forward in later steps and creates a streamlined and transparent process. Strategies developed in past Corridor efforts have been captured in Strategies by Core Value and will supplement the brainstorming effort.

Alternatives or options may include complete alternatives that address the desired outcomes and project goals. They may also be smaller parts of a solution that can be combined into a package of options to form an alternative or elements of an alternative. The important aspect of the brainstorming exercise is to allow all ideas to be captured. They will all be considered and documented in Step 5: Evaluate, Select, and Refine Alternative or Option.

A.6.5 Step 5: Evaluate, Select, and Refine Alternative or Option

Step 5 evaluates, selects, and refines an alternative or option. The process of analyzing and evaluating alternatives applies evaluation criteria to alternatives or options in a way that facilitates decision-making. This may be a one-step or multi-step process, depending on the complexity of the alternatives and the decision. The evaluation process may include refining alternatives to develop the final alternative or option. A critical element in this step is the evaluation of all ideas using all previously established criteria.

Effective use of criteria in the evaluation and selection of alternatives applies the criteria at appropriate levels of the decision-making process. If the decision or the criteria are complex, the process may be iterative, applying a series of criteria at differing levels of detail. For example, a three-level process may use broad criteria to screen out unrealistic or unfeasible alternatives and apply more detailed evaluation criteria in subsequent evaluation steps. This helps to streamline the evaluation by focusing data collection and analysis on viable alternatives. Multi-level evaluation also provides an opportunity to refine options or alternatives to meet the desired goals or outcomes more effectively with a greater understanding of the alternative's strengths and weaknesses in each criterion.

The project staff must clearly document how evaluation criteria are applied to all ideas to provide an easily accessible record of how each idea generated through brainstorming was evaluated and possibly modified.

A.6.6 Step 6: Finalize Documentation and Evaluate Process

Step 6 finalizes documentation and evaluates the process. Continuous documentation should take place throughout the 6-Step Process. Step 6 compiles, summarizes, and references the documentation from the previous steps. It also debriefs and evaluates the process, compiling lessons learned and best practices. Final documentation will include the outcome from each of the previous steps, final recommendations, and the process evaluation. Documentation will provide strategies, exercises, and successes for use in future studies.

A.7 Collaboration and Communication

Collaboration and Communication explains project teams and partnerships necessary for project completion.

A.7.1 Ongoing Collaboration and Communication

The Colorado Department of Transportation will partner with county agencies and stakeholders to convene County-Wide Coordination Meetings. These include county, city, and town representatives who will meet on an agreed-upon schedule in order to discuss upcoming projects, ongoing projects, and maintenance activities. Federal and state agencies and special interest groups may also be involved in these meetings.

Additionally, Colorado Department of Transportation will organize public meetings that will be open to all stakeholders when their input is needed or when information is available for discussion.

A.7.2 Project Collaboration and Communication

Every project in the I-70 Mountain Corridor will form a project leadership team to lead the project. The project leadership team is a collaborative stakeholder team that focuses on the decision-making process and moving the process forward.

The project staff is a multidisciplinary team that includes experts in planning, design, public process, and communication. This team focuses on the day-to-day work of the project.

Optional Project Teams

Technical Teams are multidisciplinary teams that include experts in each of the Core Values. Projects with multiple issues and stakeholders may require Technical Teams. The project staff may act as the

Technical Team for smaller projects or projects that address a single issue, such as rock fall mitigation or pavement overlays.

Issue Task Forces are multidisciplinary teams that include stakeholders and experts in the Core Values surrounding a single issue. When a single or focused issue arises during a project, the project may require an Issue Task Force. The Issue Task Force will report its recommendations to the project leadership team or the project staff, after which the Issue Task Force will be dissolved. The project staff may be the Issue Task Force for a project addressing a single issue, such as updating a traffic incident management plan.

A.7.3 Project Leadership Team

Every project in the I-70 Mountain Corridor will form a project leadership team to lead the project. The project leadership team is a collaborative stakeholder team that focuses on the decision-making process and moving the process forward.

Roles and Responsibilities

Lead the Project: The project leadership team will identify all relevant materials for the project – such as the CSS Guidance, Programmatic Environmental Impact Statement, other environmental documents, and local plans. The project leadership team will discuss and establish project outcomes and will identify the actions and decisions needed to reach those outcomes. Furthermore, the project leadership team may develop a request for proposals using those outcomes, actions, and decisions.

The project leadership team will also determine the teams needed to reach the project outcomes and will identify the members needed for each team. If consultants are used on the project, the Colorado Department of Transportation project manager and community leaders will join the consultant selection team.

Along with the project staff and attendees at County-Wide Coordination Meetings, the project leadership team will assist in staffing the other teams needed for the project.

Champion CSS: The project leadership team will ensure that the CSS Guidance, the Context Statement, the Core Values, and the 6-Step Process are integrated into the project. The project leadership team will identify CSS checkpoints as events in the project timeline upon completion of a formal review for consistency with CSS.

The project leadership team will have primary responsibility for ensuring that Step 1: Define Desired Outcomes and Actions and Step 2: Endorsing the Process are accomplished with all project stakeholders.

The project leadership team will review and endorse required CSS elements such as Project Work Plans and associated Project Schedule, the Project Manager checklist, Context Map Reviews, the Stakeholder Involvement Plan, and the Public Information Plan.

Enable Decision-Making: The project leadership team will approve the project-specific decision-making process for its project. This process will detail the interaction between teams, the Stakeholder Involvement Plan, and the Project Communication Plan. The project leadership team will be responsible for keeping the project on track with each of these plans.

When policy issues arise that cannot be resolved within the project teams, the project leadership team will identify and implement the steps needed to resolve the issue and make a decision. The project leadership team is not empowered to make policy decisions. Instead, it is responsible for identifying who must be involved in making the decision, bringing the decision-makers together, and facilitating solutions or approaches to keep the project moving forward.

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

Membership

The project leadership team is the leader of the project and consists of the FHWA, Colorado Department of Transportation, and Corridor leaders. The following entities will have representation on the project leadership team:

- Federal Highway Administration (1 – 2)
- Colorado Department of Transportation program engineer (1)
- Colorado Department of Transportation project manager (1)
- Community leaders (1 – 2)
- Colorado Department of Transportation environmental lead (1)
- Open seat based on individual project needs (1)
- Contractor project manager, added during the construction phase of a project (1)
- Consultant project manager as facilitator
- Consultant staff for technical expertise as needed

If a consultant is engaged for the project, the consultant project manager will facilitate this team.

Forming the Project Leadership Team

The project leadership team should include representatives from each of the entities listed above. Every effort should be made to keep the members of the project leadership team consistent throughout all phases of the project. Each of the agencies and affected communities should be contacted early in the project initiation and asked to identify its representative(s) for the project leadership team. Outreach to county officials and local municipalities should occur prior to finalizing a scope or advertising for consultant services to ensure the involvement of community leaders in developing the request for proposal and selecting the consultant or contractor.

Members of the project leadership team should make every effort to attend all meetings in person rather than appoint alternate members and should be able to adequately represent their agency's interests on the project leadership team.

Meetings

The project leadership team will meet regularly, perhaps monthly, through active times of the project. The project leadership team will remain intact through all the phases of the project. Periods of low activity may occur, particularly between Life Cycle Phases.

Every effort will be made to keep the members of the project leadership team consistent throughout all phases of the project.

A.7.4 Project Staff

The project staff is a multidisciplinary team that includes experts in planning, design, public process, and communication. This team focuses on the day-to-day work of the project.

Roles and Responsibilities

- Implement Context Sensitive Solutions.
- Develop the project-specific decision-making process, which will detail the interaction between teams, the Project Work Plan, the Stakeholder Involvement Plan, and the Public Information Plan.
- Set goals for the project, identify the actions and decisions needed to reach those goals, and support the County-Wide Coordination Meetings used in staffing the Technical Team.
- Lay out alternatives and options.
- Analyze alternatives and options.
- Plan and hold team meetings identified in the Project Work Plan.
- Plan and hold all public meetings identified in the Stakeholder Involvement Plan.
- Document the project.

The project staff will have primary responsibility for accomplishing Step 3: Establish Criteria; Step 4: Develop Alternatives or Options; Step 5: Evaluate, Select, and Refine Alternative or Option; and Step 6: Finalize Documentation and Evaluate Process.

Membership

The project staff will include the Colorado Department of Transportation staff and consultant staff needed to reach the project goals. The project leadership team will guide the project staff.

The project managers and the project staff will have the following skills:

- Understanding of the I-70 Mountain Corridor Context Sensitive Solutions Guidance.
- Understanding of the Context Statement and Core Values.
- Previous use of Context Sensitive Solutions on a transportation project.
- Previous use of structured decision processes.

Meetings

The project staff will meet frequently, perhaps weekly.

A.7.5 Technical Team

The Technical Team will be a multidisciplinary team that includes experts in all of the Core Values.

Roles and Responsibilities

The roles and responsibilities of the Technical Team include:

- Assuring that local context is defined and integrated into the project.
- Recommending and guiding methodologies involving data collection, criteria, and analysis.
- Preparing and reviewing technical project reports.
- Supporting and providing insight with respect to community and agency issues and regulations.
- Assisting in developing criteria.
- Assisting in developing alternatives and options.

- Assisting in evaluating, selecting, and refining alternatives and options.
- Coordinating and communicating with respective agencies.

Documents provided for review will identify what input is needed, how the input will affect the project, and the timeframe requested for response.

Membership

The Technical Team will be comprised of experts in the Core Values relevant to the project goals. These may include, but are not limited to, technical staff such as planners, engineers, maintenance personnel, historians, emergency providers, and environmental specialists.

Technical Team membership will be comprised of representatives from:

- Cities and towns within the project limits.
- Counties encompassed by the project limits.
- Non-governmental organizations relevant to the project goals.
- Federal and state agencies with responsibilities relevant to the project.

The project manager will be responsible for organizing and facilitating the Technical Team.

Meeting Topics/Format

The Technical Team's meeting topics will generally parallel the project-specific decision-making process. This process will detail the interaction between teams, the public participation plan, and the project communication plan.

The meeting format will be structured for open conversations and information sharing.

A.7.6 Issue Task Force

Issue Task Forces are multidisciplinary teams that include stakeholders and experts in the Core Values surrounding a single issue.

Roles and Responsibilities

The roles and responsibilities of an Issue Task Force will include working through the elements of the identified issue in order to reach a recommendation to be taken forward to the project leadership team, the Technical Team, or the project staff.

The project leadership team, the Technical Team, or the project staff may form an Issue Task Force as needed to reach the project goals. An Issue Task Force will have focused topics and will work from a plan that outlines the actions needed to make a recommendation within a given timeframe.

The Issue Task Force will be responsible for documenting the process and making recommendations.

Membership

The Issue Task Force will be comprised of stakeholders and experts in the Core Values relevant to the identified issue.

Meeting Format

Meetings will be structured for open conversations and information sharing. When appropriate, the Issue Task Force will distribute materials for review prior to the meeting for discussion at the meeting.

Examples of Issue Task Force Topics

- Develop the mitigation needed for an impacted city park.
- Develop the way-finding signage plan for a stretch of the I-70 highway with reconfigured interchanges.
- Update a traffic incident management plan.

A.8 Conclusion

A.8.1 Why CSS for the I-70 Mountain Corridor?

The I-70 Mountain Corridor is unique in the world. It is the gateway to the Colorado Rockies, one hundred forty- four miles of mountains and valleys, towns and scenic views, places to stop and linger, destinations and activities, places to live, history to experience, a world of snow, wildlife and people. If you ski, hike, camp, fish, hunt, gamble, mountain bike, love history, or just like clean air then the I-70 Mountain Corridor is a place you will want to visit.

Sounds like travel advertising, but this is the I-70 Mountain Corridor. And it deserves unique and world class planning, design and construction. That was the thinking of all of the stakeholders as they embarked on the development of the CSS Guidance.

During the development of the CSS Guidance, trust has been rebuilt among the corridor stakeholders. The Colorado Department of Transportation has shown they are listening and adapting their approach in the corridor. Agencies and communities are talking about shared solutions. Using the CSS Guidance will streamline all of these future plans and designs.

The corridor stakeholders, the authors of this material, want the best and newest ideas -- consistent with the Corridor vision and goals—to be used on the corridor.

A.8.2 The CSS Guidance is the Implementation Strategy for the Corridor

The I-70 Mountain CSS Guidance is the how-to-get-it-done-right instructions on the Corridor for all future Tier 2 processes, all design projects, and all future construction.

The Colorado Department of Transportation initiated the I-70 Mountain Corridor CSS project to provide effective guidelines for future planning, design, and construction projects. The goal was to have the corridor become the nation’s standard for collaboration, partnerships, transportation innovation, and environmental sustainability.

The guidance website, a one-of-a-kind collection of the work completed-to-date on the Corridor, includes technical work, analysis, mapping of resources, and thousands of stakeholder comments, concerns and strategies. Captured on this website are the dreams and goals of stakeholders from agencies to users.

A.8.3 Partnerships: The Hidden Treasure of the CSS Process

CSS recognizes that transportation projects are not only the responsibility or concern of engineers and constructors – or, for that matter, only the responsibility of the Colorado Department of Transportation. CSS calls for the collaboration of technical professionals, local community interests groups, landowners, facility users, the public, and, essentially, any and all stakeholders who live and work near or use the facility.

It is through the CSS team approach that an understanding is gained of the stakeholder values for the project. With this understanding, stakeholders strive to incorporate these values into the project solutions. This approach begins conversations among the agencies and groups that have plans and responsibilities

for resources within the area of a project. This discovery leads to solutions that meet both the common and unique goals for a multitude of stakeholders. Partnerships are forged through recognizing everyone's goals, developing solutions that support all goals, and joining together to implement the solutions.

The I-70 Mountain Corridor CSS Guidance is an efficient and effective use of public resources, by realizing the goals for all of the responsible agencies with a multiplied benefit to the Corridor.

Appendix B
I-70 Mountain Corridor Section 106 Programmatic Agreement

2008

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Programmatic Agreement
among
Federal Highway Administration
United States Department of Agriculture, Forest Service,
Rocky Mountain Region
Department of the Interior, Bureau of Land Management,
Glenwood Springs Field Office
Advisory Council on Historic Preservation
Colorado State Historic Preservation Officer
and
Colorado Department of Transportation
regarding implementation of
The Interstate 70 Mountain Corridor Project

WHEREAS, Federal Highway Administration (FHWA), in cooperation with Colorado Department of Transportation (CDOT), has determined that improvements on Interstate 70 (I-70) between Glenwood Springs, Colorado, and the intersection of C-470 are necessary to meet the purposes and needs described in Appendix A; and

WHEREAS, FHWA has prepared the *I-70 Mountain Corridor Draft Programmatic Environmental Impact Statement & Section 4(f) Evaluation* (PEIS) to determine what mode or modes of transportation will meet the purpose and need for the I-70 Mountain Corridor and to identify the general alternative alignment, and has examined the relative effects of the proposed alternatives on known historic properties within the corridor in general terms, as described in Appendix B of this Agreement, and

WHEREAS, FHWA will prepare site-specific Tier 2 National Environmental Policy Act (NEPA) documentation presenting environmental analyses and more detailed design information for individual components of the selected alternative (the Tier 2 undertakings); and

WHEREAS, FHWA has determined that a phased process for compliance with Section 106 of the National Historic Preservation Act is appropriate for the I-70 Mountain Corridor Project, such that completion of the identification of historic properties, determinations of specific effects on historic properties, and consultation concerning measures to avoid, minimize, or mitigate any adverse effects will be carried out as part of planning for and prior to the approval of specific Tier 2 undertakings; and

WHEREAS, FHWA has determined that the I-70 Mountain Corridor Tier 2 undertakings may affect properties included in or eligible for inclusion in the National Register of Historic Places (NRHP), including the Georgetown-Silver Plume National Historic Landmark (NHL), and has consulted with the Advisory Council on Historic Preservation (ACHP) and the Colorado State Historic Preservation Officer (SHPO) to develop this Programmatic Agreement pursuant to Section 800.14(b)(3) of the regulation (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)); and

WHEREAS, any projects carried out by CDOT within the I-70 Mountain Corridor during the term of this Agreement that were not analyzed within the PEIS will be subject to separate consultations and compliance actions as specified in 36 CFR Part 800; and

WHEREAS, the United States Department of Agriculture, Forest Service, Rocky Mountain Region (USFS) has determined that the I-70 Mountain Corridor Tier 2 undertakings may affect historic properties on public lands administered by the Arapaho and Roosevelt National Forests and the White River National Forest and intends to use this Programmatic Agreement to comply with the regulation (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)); and

WHEREAS, the United States Department of the Interior, Bureau of Land Management (BLM) has determined that the I-70 Mountain Corridor Tier 2 undertakings may affect historic properties on public lands administered by the Glenwood Springs Field Office and intends to use this Programmatic Agreement to comply with the regulation (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)); and

WHEREAS, development and execution of this Agreement by SHPO indicates participation in the Section 106 process followed during NEPA Tier 1 and does not indicate a preference for a specific alternative; and

WHEREAS, the entities identified in Appendix C were informed about the I-70 Mountain Corridor Project and invited to participate in consultations; and

WHEREAS, Clear Creek County, Eagle County, City of Glenwood Springs, City of Idaho Springs, Town of Georgetown, Town of Silver Plume, and Georgetown Silver Plume Historic District Public Lands Commission participated in consultations leading to the development of this document and have been invited to concur in this Agreement; and

WHEREAS, National Trust for Historic Preservation Mountain/Plains Office, Colorado Preservation Inc., Historic Georgetown Inc., Historical Society of Idaho Springs, Mill Creek Valley Historical Society, and Colorado Historical Society have participated in consultations leading to the development of this document and have been invited to concur in this Agreement; and

WHEREAS, execution of this Agreement as a concurring party indicates participation as a Section 106 consulting party and acknowledgment that the party's views were taken into consideration; and

WHEREAS, execution of this Agreement as a concurring party does not necessarily indicate approval of the outcome of the Tier 1 NEPA analysis for the I-70 Mountain Corridor Project; and

WHEREAS, Denver Landmark Preservation Commission, Town of Breckenridge, Jefferson County Historical Commission, Jefferson County Historical Society, Summit County, and Summit County Historic Preservation Commission were invited to participate as consulting parties; and

WHEREAS, FHWA has notified the Secretary of the Interior of the potential for effects to the Georgetown-Silver Plume NHL, pursuant to 36 CFR 800.10, and National Park Service, Intermountain Region (NPS) has participated in consultations and has been invited to concur in this Agreement; and

WHEREAS, the Cheyenne and Arapaho Tribes of Oklahoma, Kiowa Tribe of Oklahoma, Northern Arapaho Tribe, Northern Cheyenne Tribe, Rosebud Sioux Tribe, Southern Ute Indian

Tribe, Standing Rock Sioux Tribe, Ute Mountain Ute Tribe, Ute Tribe of the Uintah and Ouray Agency, and White Mesa Ute Tribe participated in consultations to develop and were invited to execute a separate programmatic agreement addressing the treatment of properties of religious and cultural significance to the signatory tribes, which appears as Appendix D and is incorporated by reference into this Agreement;

NOW, THEREFORE, FHWA, USFS, BLM, ACHP, CDOT, and SHPO agree that each of the I-70 Mountain Corridor Tier 2 undertakings shall be administered in accordance with the following principles and stipulations to satisfy FHWA's, USFS's, and BLM's Section 106 responsibilities for these undertakings.

Principles

FHWA and CDOT shall adhere to the following principles in complying with Section 106 of the National Historic Preservation Act for the Tier 2 undertakings:

1. FHWA and CDOT commit to plan, design, and implement the Tier 2 undertakings in accordance with the principles of Context Sensitive Solutions (CSS) as described in Appendix E.
2. Although many decisions about the I-70 Mountain Corridor Project, including selection of the mode alternative, were made during the Tier 1 process, substantial opportunities will be available during Tier 2 analyses for consulting party input concerning design and construction options and variances.
3. Consistent with CDOT's Environmental Stewardship Guide and with 36 CFR 800.5(a)(1), FHWA and CDOT will take into account direct, indirect, and cumulative effects on historic properties and will consider measures to improve existing conditions affecting historic properties.
4. FHWA and CDOT will seek, discuss, and consider the views of the consulting parties, and where feasible, will seek agreement with them (36 CFR 800.16[f]) when making decisions under the stipulations of this Agreement.
5. As a matter of public policy, reasonableness of cost must be considered when selecting measures to avoid, minimize, or mitigate adverse effects (FHWA policy is that the proposed mitigation measures must represent "a reasonable public expenditure" after considering the impacts of the action and the benefits of the proposed mitigation measures) to historic properties, but cost should not be the only determining factor in mitigation decisions.

Stipulations

FHWA shall ensure that the following measures are carried out:

I. Consultation and Consulting Parties

A. Delegation of Consultation Authority

1. FHWA authorizes CDOT to conduct consultation with the Colorado SHPO and other consulting parties on its behalf, including identification of consulting parties, determining the level of identification, NRHP eligibility determinations, and determinations of effect.
2. FHWA will remain ultimately responsible for all findings and determinations and retains responsibility for complying with all federal requirements pertaining to direct

government-to-government consultation with Indian tribes and requests to ACHP and NPS for participation in cases of adverse effect on NHLs.

3. Except as provided below, FHWA will take the lead in consultation with Indian tribes, in implementation of the dispute resolution clause of this Agreement, and in resolving adverse effects in accordance with 36 CFR 800.6.

B. Consultation with SHPO

As part of initial scoping for individual Tier 2 undertakings, CDOT shall initiate consultation with SHPO as provided in 36 CFR 800.3(c)(1).

C. Consultation with ACHP

FHWA shall notify the ACHP about Tier 2 undertakings when there is a finding of adverse effect and will invite the ACHP's involvement in consultation where the undertaking will adversely affect a NHL.

Such notifications shall include the documentation specified in 36 CFR 800.11(e). ACHP will apply the criteria set forth in Appendix A of 36 CFR Part 800 to determine whether it will participate in consultation to resolve adverse effects.

In addition, FHWA and the consulting parties may seek advice, guidance, and assistance from ACHP on the application of this Programmatic Agreement to Tier 2 undertakings, including the resolution of disagreements, whether or not ACHP is formally involved in the review of the undertaking.

D. Participation by Other Federal Agencies

FHWA shall notify NPS of any Tier 2 undertakings that may affect the Georgetown-Silver Plume NHL and invite their participation in consultations about that undertaking.

For Public Lands that are administered by USFS, FHWA shall consult the appropriate Forest. FHWA shall ensure that complete historic property inventory reports are sent to the appropriate Forest Heritage Staff for review and comments. The Forest shall ensure that the reports are reviewed for adequacy and comments on eligibility of sites and the project's effect are returned to the FHWA within 15 business days.

For Public Lands that are administered by BLM, FHWA shall consult with the appropriate BLM Field Office. FHWA shall ensure that complete historic property inventory reports are sent to the appropriate BLM Cultural Resource Staff for review and comments. The BLM Field Office shall ensure that the reports are reviewed for adequacy and that comments on eligibility and on the project's effect on historic properties are returned to the FHWA within 30 calendar days.

E. Native American Consultation

FHWA shall consult with the tribes that are signatories to the Tribal Programmatic Agreement (Appendix D) according to the provisions of that agreement.

For tribes that are not signatories to the Tribal Programmatic Agreement, FHWA shall consult according to the requirements of 36 CFR Part 800 when properties of religious and cultural significance to such tribes may be affected by a Tier 2 undertaking.

F. Local Governments

CDOT shall consult with local governments about all Tier 2 undertakings that may affect historic properties within their jurisdiction.

Such consultation shall begin early in the scoping process for each individual Tier 2 undertaking and will follow the approach of CSS as outlined in Appendix E.

Where properties within the Georgetown-Silver Plume NHL may be affected by a Tier 2 undertaking, CDOT will consult with all local governments with jurisdiction within the landmark.

G. Historic Preservation Organizations

1. CDOT shall consult with local historic preservation organizations that are consulting parties about all Tier 2 undertakings within their respective areas of interest, as established by each organization in consultation with CDOT.
2. CDOT shall consult with statewide and national historic preservation organizations that are consulting parties about all Tier 2 undertakings within the I-70 Mountain Corridor unless these organizations request a narrower scope of consultation.
3. Such consultation will begin early in the scoping process for each individual Tier 2 undertaking and will follow the approach of CSS as outlined in Appendix E.

H. Additional Consulting Parties

1. Additional local governments and other parties with a demonstrated interest in one or more Tier 2 undertakings or a concern about the effects of the undertaking(s) on historic properties may submit a written request to become a consulting party to FHWA at any time during the term of this Agreement.
2. At FHWA's discretion, such parties may be invited to concur in the Agreement and to participate as consulting parties for subsequent undertakings.

II. The Consultation Process

A. Early Action Projects

Certain projects with independent utility that are covered by the Tier 1 PEIS may need to be carried out before the stipulations of this Agreement can be put in place.

These projects are:

The Twin Tunnels lighting project

Empire Junction to Downieville eastbound acceleration lane

The West Vail Pass auxiliary lanes

Should any additional projects with independent utility analyzed in the Tier 1 PEIS be added to this list of Early Action projects, consultation will be completed as specified in this stipulation.

Some small Tier 2 undertakings may be funded early in Tier 2 before the design guidelines, historic context, and other provisions of this Agreement can be put in place. If this should occur, CDOT shall notify the consulting parties of this circumstance and follow the provisions of this "Early Action" stipulation. This approach will be limited to undertakings that are Categorical Exclusions under NEPA and receive funding prior to the completion of the design guidelines and historic context.

Projects covered by this stipulation will be subject to standard consultation under 36 CFR Part 800, including involvement of consulting parties, identification and evaluation of historic properties, determination of effect, and resolution of any adverse effects.

CDOT shall follow the principles of CSS as described in the Chief Engineer's policy memo # 26 of October 31, 2005 (Appendix F), for these projects.

If any of the Pre-project Consultation products described in Stipulation II.B. have been completed prior to the initiation of a project covered by this Early Actions stipulation, those products will be used to guide consultation, development, and implementation of the undertaking.

B. Pre-project Consultations

1. In order to facilitate planning and streamline development of Tier 2 undertakings, CDOT shall, in consultation with the consulting parties, NPS, and other stakeholders, develop design guidelines and a historic context or contexts for the I-70 Mountain Corridor.
2. These design guidelines and context(s) shall be developed as early as funding for Tier 2 undertakings permits but no later than the initiation of the first Tier 2 undertaking that requires preparation of an Environmental Assessment or Environmental Impact Statement.
3. CDOT will also consult with the consulting parties, NPS, and other corridor stakeholders about broader implementation issues such as appropriate mechanisms (e.g., working groups) for the development of the design guidelines and historic contexts, about planning for historical interpretation within the corridor, and about possible historical and heritage designations, as well as other heritage tourism-related issues.
4. These initiatives are intended to guide the development of Tier 2 undertakings.

C. Consultations about Identification of Historic Properties

1. For each Tier 2 undertaking, CDOT and FHWA shall review existing information about historic properties within the project area of potential effects (APE) and, in consultation with the consulting parties, determine what additional efforts to identify historic properties are needed to adequately evaluate the effects of the undertaking on historic properties.
2. Historic properties identified as a result of Stipulation II.C.1 will be recorded using Colorado Cultural Resource Inventory Forms following the standards in the Colorado Cultural Resource Survey Manual.

D. Consultations about Eligibility of Historic Properties

1. Based on the criteria of eligibility to the NRHP in 36 CFR 60.4 and guidance to be developed in the historic context described in Stipulations II.B.3 and IV.A.1, CDOT shall complete determinations of eligibility for all properties identified under Stipulation IV and request concurrence from SHPO on these determinations.
2. CDOT shall bear in mind that the passage of time, changing perceptions of significance, or incomplete prior evaluations may require the agency to re-evaluate properties previously determined eligible or ineligible.

3. If CDOT and SHPO are unable to reach a consensus about the eligibility of a property that will be directly affected by a Tier 2 undertaking, FHWA will seek a determination of eligibility from the Keeper of the National Register of Historic Places, as provided in 36 CFR 800.4(c)(2).
4. If CDOT and SHPO are unable to reach a consensus about the eligibility of a property that will *not* be directly affected, CDOT and SHPO may agree to treat the property *as if* it were eligible *for the purposes of evaluating effects* or CDOT may seek a determination from the Keeper of the National Register.

E. Consultations about Determinations of Effect

1. For each Tier 2 undertaking, CDOT shall provide the appropriate consulting parties with information about the NRHP listed properties within the APE, any properties found through consensus determinations to be eligible, and any properties being treated as eligible for the purposes of the undertaking.
2. CDOT shall then invite the consulting parties to provide their views on the nature of effects from the undertaking on the characteristics of those properties that qualify them for listing in the NRHP, and shall consider those views in making a determination of effect for the undertaking.
3. If CDOT finds that an undertaking will have no effect on historic properties or no adverse effect on historic properties, the agency shall notify the consulting parties of this finding and provide them with the documentation specified in 36 CFR 800.11(d) or (e), respectively.
4. If no parties object to such findings within 30 days, CDOT will proceed with the undertaking. If any party objects, CDOT shall follow the dispute resolution stipulation of this Agreement to resolve the objection.
5. If documents prepared for NEPA compliance meet the requirements for documentation under 36 CFR 800.11, CDOT and FHWA may submit these documents to the consulting parties in support of findings of effect on historic properties. All NEPA documents for Tier 2 undertakings that will be used in this way should include a separate, clearly identifiable section summarizing the effects of the undertaking on historic properties.

F. Consultation about Resolution of Adverse Effect

1. If CDOT finds that a Tier 2 undertaking will have an adverse effect on historic properties, the agency shall notify ACHP following the procedures specified in 36 CFR 800.6(1) and consult further with the consulting parties about measures to avoid, minimize, or mitigate those adverse effects.
2. When the process of resolving adverse effects has been completed for a Tier 2 undertaking, CDOT shall prepare a supplement to this Agreement, which specifies the measures it will take to avoid, minimize, or mitigate adverse effects. This supplement takes the place of a Memorandum of Agreement for the Tier 2 undertaking.
3. FHWA shall circulate this supplement to the Programmatic Agreement signatories and invited signatories for signature, including ACHP if they have participated in consultations for the undertaking. When fully executed, the supplement will become part of this Agreement.
4. FHWA shall file the executed supplement with ACHP.

5. CDOT shall distribute copies of the fully executed supplement to all Programmatic Agreement signatories and concurring parties.

6. If the signatories to this Programmatic Agreement find themselves unable to reach a satisfactory resolution of adverse effects for a Tier 2 undertaking and one or more signatories terminates consultation, FHWA shall either follow the procedures provided in ACHP's regulation at 36 CFR 800.6(c) to execute a Memorandum of Agreement or comply with the procedures in 36 CFR 800.7.

III. Area of Potential Effects

A. The APE for each Tier 2 undertaking will be the exterior boundary of the area within which any current and proposed transportation facilities and associated land disturbance can be seen.

B. If CDOT proposes to define the APE in some other way for a particular undertaking or kind of effect, the agency shall consult with SHPO and the appropriate consulting parties before making this decision.

IV. Level of Effort to Identify and Evaluate Historic Properties

A. Historic Context Development

1. To facilitate planning and streamline development of Tier 2 undertakings, CDOT shall, in consultation with SHPO and the other consulting parties, develop a historic context or contexts for the I-70 Mountain Corridor. One such context might address the development of mining and the attendant town building from Idaho Springs to Bakerville; other contexts might be appropriate for other segments of the corridor.

2. Historic contexts are information about historical trends and properties grouped by an important theme and a particular period of time. These documents link historic properties to important historical trends.

3. The historic context(s) should include an assessment of existing site records and eligibility determinations.

4. The context or contexts will be used to evaluate the National Register eligibility of historic properties and provide information for interpretive materials.

B. Identification of Historic Buildings and Engineering Features

As early as possible (contingent on the timing and extent of available funding which CDOT shall seek), but no later than the identification phase of the first non-Categorical Exclusion Tier 2 undertaking that will affect each of these areas, CDOT shall also complete the following identification efforts in consultation with the consulting parties:

a. Survey and evaluate historic buildings and features in the Dumont-Downieville-Lawson (DDL) area (between mileposts 233 to 235.5) to a level adequate to evaluate the effects of any Tier 2 undertakings on historic properties eligible to the National Register

b. Evaluate the appropriateness of the current boundaries of the Georgetown-Silver Plume NHL for use in determining the effect of Tier 2 undertakings on historic properties. This may include identification of currently unrecorded historic mining and railroad features, which will be evaluated at a level adequate to assess the effects of any Tier 2 undertakings on the NHL.

For Tier 2 undertakings that lie outside the boundaries of DDL and the NHL, CDOT shall consult with FHWA, SHPO, and the appropriate consulting parties and land-managing agencies about any additional efforts needed to identify historic structures and features not already identified during Tier 1 that may be affected by the undertaking.

Historic properties identified as a result of the provisions of this stipulation will be recorded using Colorado Cultural Resource Inventory Forms following the standards in the Colorado Cultural Resource Survey Manual.

In addition to meeting the Secretary of the Interior's Standards for Professional Qualifications, consultants selected by CDOT to develop the historic context called for in Stipulations II.B.3 and IV.A.1 and to do fieldwork to identify and make recommendations about the eligibility of historic mining landscapes and features should have demonstrated:

a. Knowledge of Colorado mining history and familiarity with technical aspects of 19th century mining, milling, and transportation features
b. Experience in identifying and recording historic mining features and structures
c. Previous experience with National Register evaluations for mining-related properties

C. Historical Archaeology

In areas identified in the historic context (Stipulations II.B.3 and VI.A.1) as likely to contain subsurface historical remains, CDOT shall implement the following strategy to evaluate the potential for intact NRHP eligible historical archaeological deposits within areas slated for ground disturbance.

Use historical documents to reconstruct past land use up to the date of construction of I-70

Use "as-builts" and other documentation (e.g., historic maps and topographic maps, Sanborn maps, etc.) to evaluate the degree of previous disturbance

If such deposits are determined to be likely to exist, CDOT shall consult with SHPO to develop and then shall implement testing strategies to locate such deposits and evaluate their eligibility.

D. Precontact Archaeology

CDOT shall ensure that any temporary use areas, temporary and permanent easements, and other areas of ground disturbance associated with any Tier 2 undertaking that lie outside the current right-of-way are surveyed for archaeological sites if they have not been previously inventoried and are not already disturbed.

The provisions of the tribal consultation programmatic agreement (Appendix D) shall govern CDOT's activities in identifying and evaluating precontact archaeological sites.

In Glenwood Springs, ground disturbance near the hot springs has the potential to encounter precontact archaeological deposits. CDOT shall consult with SHPO and the City of Glenwood Springs about an appropriate investigative strategy during project planning for any Tier 2 undertaking in that area.

CDOT shall ensure that any precontact archaeological materials exposed during Tier 2 construction projects within the I-70 Mountain Corridor will be subject to the

provisions of CDOT Standard Specification 107.23, "Archaeological and Paleontological Discoveries."

E. Interstate 70

Under the terms of the national Exemption Regarding Historic Preservation Review Process for the Interstate Highway System (70 FR 11928-11931, March 10, 2005), FHWA need not consider the effects of its I-70 Mountain Corridor Tier 2 undertakings on elements of the Interstate System except in the case of the following individual properties, which have been designated as exceptions to the exemption:

Glenwood Canyon (mileposts 116 to 132)

Eisenhower-Johnson Memorial Tunnels (milepost 213.65)

Vail Pass (milepost 180 to 195.2)

Genesee Park Bridge (milepost 253.53)

Twin Tunnels (milepost 242.16)

V. Determining the Effect of Tier 2 Undertakings on Historic Properties

CDOT shall ensure that direct, indirect, and cumulative aspects of the following categories of effect are taken into account for Tier 2 undertakings, where appropriate.

A. Physical Destruction or Damage

Avoidance of physical takes of historic structures and features and precontact archaeological sites shall be given full consideration in all cases.

The potential for effects on historic properties as a result of transportation facility construction, construction-related vibration, and blasting shall be assessed where appropriate. The general potential for and nature of such effects shall be considered early in planning; specific details of such assessments may need to be delayed until after the construction contractor has been selected.

B. Visual Effects

1. Visual effects considered will be related to the qualities of significance of the historic properties being affected. At the scoping stage of each Tier 2 undertaking, CDOT will meet with the appropriate consulting parties to discuss visual impact criteria appropriate to evaluating both new and cumulative visual effects of the undertaking on historic properties. Cumulative visual effects include those that result from the incremental consequences of an undertaking when those effects are added to the visual effects of past CDOT undertakings.

2. Depending on the selected mode of transportation and specifics of the design issues for the particular undertaking, some or all of the following points may need to be considered in these consultations:

   Minimization and mitigation of visual impacts will take into consideration the qualities of the historic properties, particularly the requirements of Section 110(f) of the National Historic Preservation Act concerning NHLs.

   Visible air pollution and light pollution will be considered as possible adverse effects on historic properties.

Both viewscape (the area within which a particular point is visible) and viewshed (the area visible from a particular point—including the transportation facility itself) will be considered.

Visual impacts on the mining-related cultural landscape, such as scars from road cuts, will be taken into account.

Some mitigation measures and project design features, such as noise walls and retaining walls, have the potential for visual impact and will be considered as part of design review.

Shadow effects on historic properties as a result of construction or mitigation measures will be avoided to the maximum possible extent.

C. Noise Effects

1. Minimization and mitigation of noise impacts will take into consideration the qualities of significance of the historic properties, including the requirements of Section 110(f) of the National Historic Preservation Act concerning NHLs.
2. At the scoping stage of each Tier 2 undertaking, CDOT will meet with the appropriate consulting parties to discuss mechanisms for evaluating new and cumulative noise effects of the undertaking. Cumulative noise effects include those that result from the incremental consequences of an undertaking when those effects are added to the noise effects of past CDOT undertakings.
3. Depending on the selected mode of transportation and specifics of the design issues for the particular undertaking, some or all of the following points may need to be discussed in these consultations:
    a. FHWA and FTA standard noise guidelines may not be sufficient to evaluate the effects on historic properties for the purposes of Section 106 of the National Historic Preservation Act. For the purposes of Section 106 only, if standard noise guidelines prove to be insufficient, CDOT will give serious consideration to adopting other means for evaluating effects on the integrity of historic properties.
    b. Evaluation of effects from noise will take into account the current high levels of noise in the corridor, including average noise levels, pitch of sounds, and peak and intermittent events.
    c. Noise impacts on a variety of heritage tourism activities that provide essential financial support for the continued preservation of historic properties will also be considered.

D. Economic Impacts

1. At the scoping stage of each Tier 2 undertaking, CDOT will meet with the appropriate consulting parties to discuss potential economic impacts of the undertaking on historic properties and strategies for minimizing these effects. These effects will generally have to do with potential disruption of heritage tourism.
2. As part of NEPA analysis for each Tier 2 undertaking, CDOT shall seek assistance from the consulting parties and other stakeholders to identify specific time periods and events during which traffic restrictions and closures would be most and least harmful.
3. Depending on the selected mode of transportation and specifics of the design for the particular undertaking, some or all of the following points may need to be discussed during these consultations:

a. Ways to minimize restrictions on access and other construction impacts
b. Ways to minimize the effects of changing access patterns on the economic viability of historic properties and the historic landscape
c. Currently no changes are anticipated in connectivity among the historic communities or in access to trails, fishing locations, and other heritage tourism resources, but if any changes arise, CDOT will consult with local governments and consulting parties to minimize the effects.

VI. Resolution of Adverse Effects

A. I-70 Mountain Corridor Projectwide Mitigation Measures

1. FHWA and CDOT commit to plan, design, and implement the Tier 2 undertakings in accordance with the principles of Context-Sensitive Solutions (CSS) as described in Appendix E.
2. Before approval of any individual Tier 2 undertaking (other than the early actions and other special situations described in Stipulation II.A), CDOT shall, in cooperation with the consulting parties and incorporating the advice obtained as a result of Stipulation II.B, develop design guidelines and an interpretation plan.
3. The design guidelines will establish design elements that are compatible with the historic character of the I-70 Mountain Corridor and will contribute to the sense of place. These design elements may then be incorporated into features such as bridges, median barriers, signage, landscaping, fencing, noise barriers, and gateways to historic communities. Other features of the project, such as access to river rafting locations and bikeways, may also incorporate these design elements.
4. The purpose of the design guidelines is to facilitate development of context sensitive transportation facilities and to create and brand a heritage corridor within the I-70 Mountain Corridor project area. The term "heritage corridor" is used here to describe efforts to convey to the traveling public the historic character and significance of the area through which I-70 passes by using unified design and interpretation.
5. The content of the interpretation plan will be based on the historic context(s) provided for in Stipulations II.B.3 and IV.A.1 and will be developed in consultation with the individual communities.
6. Possible interpretation efforts might include, but are not limited to:
   a. Roadside exhibits
   b. Solar-powered, short-range transmitters broadcasting brief historical vignettes to car radios or cell phones
   c. A book or documentary on the highway and its impacts, both negative and positive, possibly recapturing information about the "lost" properties
   d. Gateway development for historic communities
   e. Interpretation of exposed roadside features (tunnels truncated by the original construction, etc.)
   f. Educational materials for regional schools

B. Resolution of Adverse Effects of Individual Tier 2 Undertakings

At the scoping stage of each Tier 2 undertaking, CDOT shall meet with the appropriate consulting parties to discuss appropriate mechanisms for avoiding, minimizing, and mitigating adverse effects of the specific undertaking.

These discussions shall include direct, indirect, and cumulative effects.

Depending on the selected mode of transportation and on the specific design issues for the particular undertaking, some or all of the following points may be considered in these consultations, as well as newly proposed measures appropriate to the mode and design:

Measures to minimize/mitigate physical destruction and damage

- Allow variances from CDOT's design standards (which are based on guidance from the American Association of State Highway and Transportation Officials) within narrowly defined limits—lane widths, shoulder widths, and alignment shifts, both vertical and horizontal.
- Precontact archaeological sites that cannot be protected in place will be treated according to the provisions of the tribal consultation programmatic agreement (Appendix D).
- Historical archaeological deposits found through testing in the construction areas that cannot be preserved in place will be subject to data recovery carried out in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, coupled with guidelines established by the Colorado Office of Archaeology and Historic Preservation.
- Modern explosive techniques that minimize ground and air blasts will be used; monitoring of blasting and other major vibration-causing activities may be required in areas where historic buildings and structures are at risk.

Measures to minimize/mitigate noise effects

- Use sound-absorbing noise walls and vegetative buffers.
- Work with enforcement agencies to improve compliance with the requirement for engine brake mufflers.
- Use arcaded structures like those used in Europe to dampen noise impacts while preserving views of historic towns.
- Reconsider noise minimizing measures that are not currently feasible (e.g., "quiet" pavement) as the technology changes in the future.
- Carry out post-construction monitoring to evaluate the effectiveness of noise minimizing measures adopted for previous Tier 2 undertakings.

Measures to minimize/mitigate visual effects

- Use a variety of landscaping approaches—rocks as well as plants—that are appropriate to the historic character and mountainous setting.
- Use stacked rock walls or other more attractive materials instead of standard chain link fencing where appropriate within the limits of historic communities.

Measures to minimize/mitigate economic impacts on historic properties/heritage tourism

i. CDOT shall ensure that construction contractors are aware of periods of least and greatest impact on heritage tourism from traffic restrictions and closures and include the contractors in meetings with the potentially affected historic communities to discuss scheduling decisions.

ii. As each construction phase potentially affecting historic communities is conducted, CDOT will work with the communities to select community liaisons who will represent the interests of the community and provide assistance and feedback to the traffic control team concerning construction scheduling and mitigation strategies.

iii. As part of rebuilding/redesigning interchanges, assist the historic communities to develop gateways that will draw visitors.

iv. Time and design the construction between Georgetown and Silver Plume such that any needed temporary closure of the Lebanon Mine Tunnel on the loop railway is of limited duration.

v. Consider visitor safety enhancements for the Lebanon Mine Tunnel.

vi. Design promotional measures to inform the traveling public about the continued availability of and access to historic properties during construction.

vii. Adopt Intelligent Traffic Systems, which use communications and information technology to control traffic, inform drivers, and reduce congestion.

viii. CDOT will work with the owners of historic properties whose access has been impaired by the original construction of I-70 to explore ways of restoring access to those properties.

C. Support for Historic Preservation Efforts in Local Communities

1. The Georgetown-Silver Plume NHL and the City of Idaho Springs have experienced and continue to experience impacts to the historic character of these communities from the presence of I-70.

2. As part of the measures to resolve adverse effects of Tier 2 undertakings on these communities, CDOT will assist the communities with their efforts to preserve their historic character by carrying out the following measures:

CDOT will assist the Town of Georgetown in its historic preservation efforts by working with the town, local preservation organizations, and SHPO to correct information in COMPASS (the Colorado On-line Cultural Resource Database) about the NRHP eligibility of contributing structures within the Georgetown portion of the NHL.

CDOT will assist the Town of Silver Plume in its historic preservation efforts by collecting sufficient information to determine which structures and features within the Silver Plume portion of the NHL are contributing and noncontributing to the significance of the landmark.

CDOT will assist the City of Idaho Springs in its historic preservation efforts by assessing the potential for one or more historic residential districts within the

town, developing an appropriate context or contexts for an NRHP district nomination or nominations, and collecting preliminary information on potentially contributing and noncontributing structures for the district or districts.

CDOT will include the measures described in Stipulation VI.C.2 in the Programmatic Agreement supplement for the first non-Categorical Exclusion Tier 2 undertaking within the jurisdiction of each of these communities.

VII. Coordination with Other Agreements and Plans

CDOT shall ensure that decisions made under the provisions of this Agreement are coordinated appropriately with the following agreements and planning efforts:

Mine Waste MOU with Colorado Department of Public Health and Environment, FHWA, US Environmental Protection Agency, and CDOT

ALIVE (A Landscape level Inventory of Valued Ecosystem components) MOU among FHWA; US Fish and Wildlife Service; BLM; USFS; Colorado Department of Natural Resources, Division of Wildlife; and CDOT

Clear Creek County Greenway Plan (including Whitewater Park)

Clear Creek County Master Plan

Idaho Springs Master Plan

Idaho Springs Preservation Plan for Joint Assets

Georgetown Comprehensive Plan

Georgetown Gateway Master Plan

Management Plan for the Georgetown Silver Plume Loop Railroad

Georgetown Silver Plume Historic District Public Lands Commission Management Plan

Bakerville Neighborhood Plan

C. For all I-70 Mountain Corridor Tier 2 undertakings only, this Agreement supersedes the Colorado Minor Projects and Historic Bridges Programmatic Agreements among FHWA, CDOT, SHPO, and ACHP, as well as the Memorandum of Agreement concerning Section 106 procedures between CDOT and SHPO.

VIII. Public Participation

Early in the planning process for each Tier 2 undertaking, CDOT shall inform the non-consulting party local governments and the general public of the project and of opportunities for participation in the compliance process for Section 106 of the National Historic Preservation Act.

CDOT shall seek and consider the views of the public in a manner that reflects the nature and complexity of the undertaking, its potential to affect historic properties, and the likely interest of the public in that undertaking.

IX. Historic Preservation Standards and Professional Qualifications

FHWA shall ensure that activities carried out under the terms of this Agreement follow the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation and Professional Qualifications for Archeologists/Historians (48FR190:44716-44742).

X. Ownership and Curation of Collected Materials

All artifacts, specimens, and samples collected from public lands are the property of the United States Government. After completion of the analyses, FHWA shall ensure that all such materials are deposited with a curation facility that meets the criteria in 36 CFR 79.9.

XI. Confidentiality and Disclosure

Information about the location, character, or ownership of a historic property that is acquired in the course of implementing this Agreement may be kept confidential by the Federal agencies or SHPO provided that the requirements of Section 304 of the National Historic Preservation Act and of 36 CFR 800.11(c) are met.

USFS records dealing with historic, prehistoric, paleontological, and Native American religious site localities are exempt from disclosure pursuant to 5 USC 522(b)(5).

XII. USFS Disclaimer

Non-Fund Obligating Document. This Agreement is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This Agreement does not provide such authority. Specifically, this Agreement does not establish authority for non-competitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

Participation in Similar Activities. This instrument in no way restricts the USFS from participating in similar activities with other public or private agencies, organizations, and individuals.

XIII. Dispute Resolution

Should any party to this Agreement object in writing to FHWA or CDOT regarding any action carried out or proposed with respect to any Tier 2 undertaking or to the implementation of this Agreement, the agency shall consult with the objecting party to resolve the objection.

If after initiating such consultation FHWA or CDOT determines that the objection cannot be resolved through consultation, FHWA shall forward all documentation relevant to the objection to ACHP, including the agency's proposed response to the objection.

Within 30 days after receipt of all pertinent documentation, ACHP shall exercise one of the following options:

1. Advise the agency that ACHP concurs in the agency's proposed response to the objection, whereupon the agency will respond to the objection accordingly;
2. Provide the agency with recommendations, which the agency shall take into account in reaching a final decision regarding its response to the objection; or

3. Notify the agency that the objection will be referred for comment pursuant to 36 CFR 800.7(a)(4), and proceed to refer the objection and comment. The agency shall take the resulting comment into account in accordance with 36 CFR 800.7(c)(4).

XIV. Amendment and Termination

Any signatory to this Agreement may request that it be amended, whereupon the parties will consult to reach a consensus on the proposed amendment. Where no consensus can be reached, the Agreement will not be amended.

Once the Final Programmatic EIS for the I-70 Mountain Corridor has been released and the preferred alternative has been identified, the parties to this Agreement will meet or consult electronically to determine whether any amendments to this Agreement should be proposed in response to any provisions within the PEIS.

In the event that Congress amends Section 106 of the National Historic Preservation Act or in the case of substantial changes to 36 CFR 800, the parties to this Agreement will meet to consider whether it would be appropriate to amend the Agreement.

Any signatory to this Agreement may terminate it by providing thirty (30) days notice to the other parties, provided that the signatories and concurring parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination.

In the event of termination, FHWA shall comply with 36 CFR Part 800 for all remaining Tier 2 undertakings of the I-70 Mountain Corridor Project.

XV. Participation by Additional Federal Agencies

Any additional federal agency that funds or authorizes a Tier 2 component of the I-70 Mountain Corridor Project during the life of this Agreement may choose to meet its Section 106 obligations for that undertaking under the process provided in this Agreement by executing the Additional Signatory Form (Appendix G) and notifying FHWA, ACHP, and SHPO of its intention to do so. Notification to FHWA, ACHP, and SHPO should include an explanation of the nature of the agency's participation in or assistance to the I-70 Mountain Corridor Project.

Execution and implementation of this Agreement and of all supplements to this Agreement evidence that FHWA, USFS, and BLM have taken into account the effects of the I-70 Mountain Corridor undertakings on historic properties and afforded the Advisory Council on Historic Preservation an opportunity to comment on those effects.

Signatories:

Advisory Council on Historic Preservation

By: _____ Date: 4/3/08

For John M. Fowler, Executive Director

Colorado Department of Transportation

By: _____ Date: 2/12/08

Russell George, Executive Director

Colorado State Historic Preservation Officer

By: _____ Date: 2/21/08

Georgianna Contiguglia, SHPO

Federal Highway Administration

By: _____ Date: 2/14/08

Douglas Bennett, Acting Colorado Division Administrator

DOI Bureau of Land Management, Glenwood Springs Field Office

By: _____ Date: 3/10/08

Jamie Connell, Field Office Manager

USDA Forest Service, Arapaho & Roosevelt National Forests and Pawnee National Grassland

By: _____ Date: 3-18-08

Glenn P. Casamassa, Forest Supervisor

Concurring:

Clear Creek County

By: _____ Date: _____

Eagle County

By: _____ Date: _____

City of Glenwood Springs

By: _____ Date: _____

City of Idaho Springs

By: _____ Date: _____

Town of Georgetown

By: _____ Date: _____

Town of Silver Plume

By: _____ Date: _____

Georgetown Silver Plume Historic District Public Lands Commission

By: _____ Date: _____

National Park Service, Intermountain Region

By: _____ Date: _____

National Trust for Historic Preservation Mountain Plains Office

By: _____ Date: _____

Colorado Preservation, Inc.

By: _____ Date: _____

Colorado Historical Society

By: _____ Date: _____

Historic Georgetown, Inc.

By: _____ Date: _____

Historical Society of Idaho Springs

By: _____ Date: _____

Mill Creek Valley Historical Society

By: _____ Date: _____

Concurring:

Town of Georgetown

By: _____ Date: 5/13/08

Concurring:

Historical Society of Idaho Springs

By: Robert T. Bowland Date: June 10, 2008

Concurring:

Colorado Preservation, Inc.

By: Mary Miller-Kemp Date: 6-12-08

Colorado Historical Society

By: _____ Date: _____

Historic Georgetown, Inc.

By: _____ Date: _____

Historical Society of Idaho Springs

By: _____ Date: _____

Mill Creek Valley Historical Society

By: Larrice M. Sell President Date: June 17 2008

Concurring:

Clear Creek County

By: _____ Date: 6-18-08

Concurring:

Town of Silver Plume

By: _____ Date: 6/30/08

Concurring:

Historic Georgetown, Inc.

By: Sharon Rossino, Executive Director Date: 7/1/08

Concurring:

Colorado ~~Historical~~ Society

By: Edward C Nichols Date: July 7, 2008
President

Concurring:

City of Idaho Springs

By: Cynthia Olson Date: 07/08/08

Concurring:

Georgetown Silver Plume Historic District Public Lands Commission

By: Matthew D. Shaw, Chairman Date: Sept. 22, 2008

List of Appendices

A. Purpose and Need for the Mountain Corridor Project

B. Section 106 Summary and Evaluation of Relative Effects on Historic Properties

C. Parties Informed about the Mountain Corridor Project and Invited to Participate in Section 106 Consultations

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Appendix A.
Purpose and Need for the Mountain Corridor Project[1]

Purpose and Need Summary

(from *I-70 Mountain Corridor Tier 1 Draft PEIS, December 2004, Executive Summary*)

Interstate 70 is the only east-west interstate crossing Colorado and is the only continuous east-west highway in the study area. The Corridor serves as the lifeblood of east-west travel in Colorado, providing for the movement of people, goods, and services across the state. It is a major corridor for access to many of Colorado's recreation and tourism destinations. In addition, it is a link in the national interstate highway system, the principal purposes of which are to connect major metropolitan areas and industrial centers by direct routes, and to provide a dependable highway network to serve in national emergencies.

Existing transportation congestion along I-70 is degrading the accessibility of mountain travel for Colorado residents, tourists, and businesses. Congestion is impeding freight-related services and affecting the connectivity of intra- and interstate travel. Tight curves, steep grades, and outmoded interchanges and other safety issues present in various locations along the Corridor contribute to a degradation of mobility. Travel demand in the Corridor is projected to increase over the next 25 years and beyond. Congestion along I-70 is believed to be impeding economic growth in the Corridor communities, which is highly reliant on weekend tourism.

The need to relieve this congestion is especially acute for extended weekend travelers seeking access between the Denver metropolitan area and US 40 (to Grand County), as well as through the Eisenhower-Johnson Memorial Tunnels (EJMT) to the Western Slope. The need primarily results from the number of travelers bound for Corridor destinations from the Denver metropolitan area and from out of state. Motor carriers, which provide freight services necessary to serve mountain residents, businesses, and visitors, as well as interstate commerce, also add to the I-70 traffic.

Weekday commuting traffic into and within the western portions of the Corridor is also becoming congested, particularly in previously more rural Eagle County. In contrast, the portion through Jefferson County is within the greater metropolitan Denver area, where congestion is an acknowledged circumstance.

The underlying **need** represents the transportation challenges of the Corridor:

- Increased capacity
- Improved accessibility and mobility
- Decreased congestion

The overall **purpose** of the proposed action will be to determine the future capacity, mode choice(s), and general location(s) for the future travel demand of the I-70 Mountain Corridor, in a manner that addresses the underlying need, while providing for and accommodating:

- Environmental sensitivity
- Respect for community values
- Improvements to Corridor safety conditions, such as tight curves and lane drops
- Ability to implement – technical feasibility and affordability in terms of capital costs, maintenance and operational costs, user costs, and environmental mitigation costs

These purposes will be considered in the identification of a preferred alternative.

[1] FHWA and CDOT are examining all multimodal alternatives not only for their ability to accommodate the 2025 planning horizon but also for their potential to meet the 50-year vision travel demand. The 50-year vision travel demand represents approximately 45 percent higher volume than the travel demand for 2025, on both the east and west sides of the Continental Divide. The results of this additional examination will be included in the Final PEIS.

Appendix B.
Section 106 Summary and Evaluation of Relative Effects on Historic Properties (updated 03-23-07)

B.1 Introduction

Reference:
Draft PEIS
Revised Reconnaissance Survey (available on the project website at **www.i70mtncorridor.com/documents/recon_report_final.pdf**). The Revised Reconnaissance Survey updates the Reconnaissance Survey included in the Draft PEIS, Appendix N.

The Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT) circulated a ***Draft Programmatic Environmental Impact Statement*** (PEIS) for the I-70 Mountain Corridor in December 2004. This Section 106 Summary and Evaluation of Relative Effects on Historic Properties supports the Draft PEIS, providing a review of Section 106 consultation activities associated with the I-70 Mountain Corridor. This document brings together in one place all of the sections of the Draft PEIS that address Section 106 compliance issues, thereby clarifying the merger of the National Environmental Policy Act (NEPA) and Section 106 process. This section includes information for Section 106 consultation with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officer (SHPO), and consulting parties. This information is being used for Section 106 consultation purposes, as well as documentation for the NEPA process. Pursuant to Section 110 of the National Historic Preservation Act, and 36 CFR 800.10, due to the special requirements for protecting National Historic Landmarks (NHL), the Georgetown-Silver Plume NHL is identified in each discussion that follows. Additional support information is available in the January 2005 Revised Reconnaissance Survey of the I-70 Mountain Corridor Between Glenwood Springs and C-470 in Colorado (Revised Reconnaissance Survey).

Reference:
Additional information is found in the Draft PEIS Chapter 3, Section 3.15.1, Regulations, Coordination and Approach.

The phased nature of the tiered PEIS process requires an approach specifically tailored for the implementation of Section 106 and is the subject of consultations among the federal agencies and consulting parties involved in the project.

As noted during the Section 106 consulting party meetings on August 18, 2004, and September 22, 2004, and in correspondence with the consulting parties, CDOT and FHWA examined, as part of Tier 1 for the I-70 Mountain Corridor PEIS, the relative effects that the various alternatives being evaluated would have on currently known historic properties and properties that may be eligible for the National Register of Historic Places (NRHP). This approach was developed in consultation with the SHPO and the ACHP.

The purpose of the Tier 1 PEIS is to take a broad view of the transportation issues and to identify a mode(s) of transportation and the general location of improvements; the design specifics are yet to be determined. Therefore, it is not possible to evaluate specific effects on specific historic properties at this stage in the NEPA process. For this reason, the evaluation of effects at Tier 1 consists of an analysis of relative visual, noise, physical, land use, and cumulative effects of the different alternatives on known and potential historic properties within the project's area of potential effect (APE) based on current data. This evaluation of relative effects is then used as part of the evaluation of alternatives under Tier 1. Identification of specific historic properties that might be affected by individual Tier 2 actions would be completed in the areas affected by those actions, and the specific effects of each action on historic properties would be evaluated at that time.

Because specific effects on specific historic properties cannot be determined at this stage in the NEPA process, the outcome of Section 106 for Tier 1 is the Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the Colorado State Historic Preservation Officer, the Colorado Department of Transportation, the US Forest Service (USFS), and the US Bureau of Land Management (BLM) regarding implementation of the Interstate 70 Mountain Corridor Project (referred to in this document as the PA) establishing the process through which FHWA and CDOT would take into account the effects of Tier 2 undertakings on historic properties. This PA was developed in consultation with the Section 106 consulting parties.

Reference:
The Programmatic Agreement (PA) is the main text of this document.

The I-70 Mountain Corridor traverses five counties and includes more than 1,400 known historic properties and historic places that are potentially eligible for listing in the NRHP. A significant portion of these properties is in Clear Creek County, and many are encompassed by the Georgetown-Silver Plume NHL and the town of Idaho Springs (including the Idaho Springs Commercial Historic District). Additional historic areas include the Lawson-Downieville-Dumont area, the Fall River area west of Idaho Springs, and the Hot Springs Historic District in Glenwood Springs (Garfield County). Individual historic properties are also found throughout the five counties traversed by the I-70 Mountain Corridor.

Reference:
Additional information is found in Appendix N of the Draft PEIS and is updated in the Revised Reconnaissance Survey.

B.2 Project Purpose and Need Statement and Summary of Proposed Alternatives

Current travel demand is exceeding capacity in portions of the I-70 Mountain Corridor, causing congestion, which is projected to increase over the next 25 years and beyond. Tight curves, steep grades, and closely spaced interchanges in many locations along this Corridor further decrease mobility and safety for Corridor travelers.

Reference:
Draft PEIS – Executive Summary and Chapter 1, Purpose of and Need for Action

The underlying **need** represents the transportation challenges of the Corridor—to ***increase capacity, improve accessibility and mobility,*** and ***decrease congestion.*** The measure of meeting the underlying need is based on the **2025 Baseline travel demand,** a modeled projection of what the travel conditions would be like if all of the demand for travel on a peak day in 2025 were to be satisfied on the existing highway network without any future changes to the capacity of I-70. Alternatives would meet the underlying need by addressing capacity deficiencies, providing I-70 users with transportation mode choice(s), reducing hours of congestion, and improving travel time from the 2025 Baseline travel demand conditions, particularly during periods of peak use in the Corridor.

The Preferred Alternative would address the underlying need while providing for and accommodating the following purposes:

- Environmental sensitivity
- Respect for community values
- Improvements to Corridor safety conditions, such as tight curves and lane drops
- Ability to implement—technical feasibility and affordability in terms of capital costs, maintenance and operational costs, user costs, and environmental mitigation costs.

The Draft PEIS included an analysis of a range of alternatives. As a result of this analysis, the alternatives were grouped as to whether they are preferred or not preferred as shown below. The Draft PEIS included an analysis of the environmental impacts of these alternatives. This analysis included an evaluation of effects on historic properties and other properties that may be potentially eligible for listing in the NRHP.

Reference:

Draft PEIS –

- Executive Summary
- Chapter 2, Description and Comparison of Alternatives

Preferred Group of Alternatives	Other (Not Preferred) Group of Alternatives
Transit Alternatives	**Minimal Action Alternative**
Dual-Mode Bus in Guideway	Minimal Action (as a stand-alone alternative)
Diesel Bus in Guideway	**Transit Alternatives**
Highway Alternatives	Rail with IMC
Six-Lane Highway 55 mph	AGS
Six-Lane Highway 65 mph	**Combination Alternatives (Build Simultaneously)**
Reversible/HOV/HOT Lanes	Six-Lane Highway with Rail and IMC
Preservation Alternatives	Six-Lane Highway with AGS
Build Six-Lane Highway and Preserve for Rail with IMC	Six-Lane Highway with Dual-Mode Bus in Guideway
Build Six-Lane Highway and Preserve for AGS	Six-Lane Highway with Diesel Bus in Guideway
Build Six-Lane Highway and Preserve for Dual-Mode Bus in Guideway	**Preservation Alternatives**
Build Six-Lane Highway and Preserve for Diesel Bus in Guideway	Build Rail with IMC and Preserve for Highway
	Build AGS and Preserve for Highway
	Build Dual-Mode Bus in Guideway and Preserve for Highway
	Build Diesel Bus in Guideway and Preserve for Highway

B.3 Determination of the Area of Potential Effect

Reference:

- Draft PEIS, Chapter 3, Section 3.15.2, Affected Environment
- Revised Reconnaissance Survey

As defined in 36 CFR 800.16 (d), "area of potential effect" is the "geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effect is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." In many instances, the APE is not simply the project's physical boundaries, or right-of-way. The methods of determining the APE, identifying historic properties, and assessing effects for purposes of the I-70 PEIS are described below.

The APE for Tier 1 was defined in consultation with the Colorado SHPO and other consulting parties. The APE includes areas of direct impact and areas from which I-70 could be seen. The APE runs along the Corridor and extends between the project termini at Glenwood Springs (milepost 116) and C-470 (milepost 260). The width of the APE varies along the Corridor. Between the Glenwood Springs interchange (milepost 116) and approximately 9 miles east of the Garfield/Eagle County line (milepost 139.5), the width of the existing right-of-way is the APE. Except for the interchange itself, minimal changes to the existing I-70 are expected to occur in this location. In other areas, the APE extends up to 3 miles along either side of the interstate, following ridgelines and encompassing the I-70 viewshed (area from which I-70 can be seen).

B.4 Identification of Historic Properties

Types of Historic Properties Within the Area of Potential Effect

The I-70 Mountain Corridor contains numerous National Register-listed historic districts and additional areas that may be potential historic districts. The Corridor also includes numerous individual historic properties, listed and eligible for listing in the NRHP, and some are listed on the Colorado State Register of Historic Places (SRHP). Many sites need additional information before their National Register eligibility can be determined.

Reference:

NRHP criteria are summarized in –

- Draft PEIS, Section 3.15
- Revised Reconnaissance Survey

Process for Identifying Historic Properties within the Area of Potential Effect

Given the phased nature of this undertaking, FHWA and CDOT conducted a phased identification of historic properties within the APE, pursuant to 36 CFR 800.4(b)(2). The evaluation of effects at Tier 1 consists of an analysis of relative physical, noise, visual, land use, and cumulative effects of the different alternatives on known and potential historic properties within the project's APE, based on current data.

The original historic property Reconnaissance Survey (August 2004) included a records and file search conducted at the Colorado Office of Archaeology and Historic Preservation (OAHP), a windshield survey along I-70, and collection of property information from local interested parties, such as historical societies and commissions. The windshield survey (an informal drive-by survey that does not require property access) was conducted along the Corridor to identify properties that may not have been previously recorded. Input by local interested parties has also been used to identify previously unrecorded properties.

Reference:

See Appendix N of the Draft PEIS for complete text of original survey.

Historic property data, initially gathered within a 2-mile-wide study corridor along I-70, were obtained from a file search conducted at the OAHP in 2000. Subsequently, a file search was conducted for historic sites in specific areas within the viewshed of I-70 that are wider than the 2-mile corridor. In fall 2003, the OAHP file search was updated for a 3-mile corridor along either side of I-70.

In addition to the records searches and field surveys described above, some of the consulting parties and local interested parties provided additional information on properties not included in the PEIS and original Reconnaissance Survey (August 2004). This additional information is included in the Revised Reconnaissance Survey.

Reference:

See Revised Reconnaissance Survey at **www.i70mtncorridor.com/documents/recon_report_final.pdf**

Historic and Archaeological Resources

The file search of the OAHP records found 1,477 previously recorded historic properties within 3 miles on either side of I-70 (October 2003). Three existing historic districts are found in the Corridor: Georgetown-Silver Plume NHL (5CC.3), Idaho Springs Commercial District (5CC.201), and Hot Springs Historic District (5GF.1050). No traditional cultural properties of concern to Native Americans have been identified to date. The full file search list is provided in the Revised Reconnaissance Survey. Twenty-nine additional properties were identified based on the windshield survey and information from local interested parties. The 29 properties included 26 individual properties, plus a potential Commercial Historic District in Glenwood Springs, a Silver Mining Heritage Area, and the Lawson-Downieville-Dumont area (a property that includes 38 individual potential historic sites).

Reference:

- Draft PEIS, Section 3.15.2.2
- Revised Reconnaissance Survey

Five portions of I-70 have been identified as NRHP eligible and are exceptions to the recently approved exemption.

National Historic Landmarks

Reference:
See Revised Reconnaissance Survey

Georgetown-Silver Plume NHL (5CC.3). The Georgetown-Silver Plume NHL represents one of the most scenic and historic of all of Colorado's mining districts. Gold was first discovered along Clear Creek in 1859 and resulted in Georgetown's first boom. Prospectors moved into the area, establishing satellite villages such as Silver Plume. The area also became the center of the silver craze of 1867. The district was listed on the NRHP as a NHL on November 13, 1966, under all four National Register criteria:

- It is significant under NRHP Criterion A for its associations with the early mining history of Colorado.
- Some of the elements within the NHL District are also considered significant for associations with persons of note (Criterion B).
- There are architectural values in the Landmark (Criterion C).
- Information contained in other features of the Landmark is important to history (Criterion D).

The Georgetown-Silver Plume NHL includes many contributing and noncontributing properties. To date, 384 individual properties have been recorded within the district boundaries. Most of these, however, have not been formally evaluated regarding their individual eligibility or contributing status within the NHL.

The Georgetown-Silver Plume NHL includes the entire commercial and residential areas of both the Georgetown and Silver Plume communities, as well as the Georgetown Loop Railroad grade located between the two communities. The Victorian homes and buildings represent the peak of the silver mining industry from 1885 to 1905. The Georgetown Loop Railroad was an engineering marvel of the late Nineteenth Century when it was built. After the line was abandoned and the tracks removed before World War II, it sat derelict until the 1970s when the historic rail line was rebuilt as a tourist attraction.

Historic Districts

Hot Springs Historic District (5GF.1050). The hot springs bathhouse, natatorium, and Yampa Spring were developed between the late 1880s and early 1890s on what was at that time an island in the Colorado River, by the Glenwood Hot Springs Company, a combination of local, East Coast, and English investors, led by prominent mining engineer and Glenwood developer, Walter Devereux. With the completion of the Hotel Colorado (5GF.767) to the north of the natatorium in 1893, the resort was visited by many of the business and social elite of Colorado. The historic district also includes the Glenwood Springs Train Station (Denver and Rio Grande Railroad Station, 5GF.1050.3).

Idaho Springs Commercial District (5CC.201). The currently defined Idaho Springs district is located north of I-70. The district contains various late-Nineteenth Century commercial buildings focused on Main Street. Today many of the businesses are service and tourist oriented and rely on both local and visitor traffic. Most of the 36 recorded properties within the Idaho Springs Commercial District have not been evaluated for their NRHP status.

B.5 Analysis of Relative Effects on Historic Properties

Reference:

- The Draft PEIS used the terms **potential damage** or **alteration, potential noise effects,** and **potential visual effects** for historic properties in Section 3.15.3, Environmental Consequences.
- Land use impacts were discussed in Chapter 3, Section 3.10, Land Use.
- Cumulative impacts were addressed in Chapter 4.

As noted above, the purpose of the Tier 1 PEIS is to take a broad view of the transportation issues and to identify a mode(s) of transportation and the general location of improvements; the design specifics are yet to be determined. Therefore, it is not possible to evaluate specific effects on specific properties at this stage in the Section 106 process. For this reason, the evaluation of effects at Tier 1 consists of an analysis of the relative direct (physical destruction or damage) and indirect (noise, visual, land use changes, and cumulative) effects of the different alternatives on known and potential historic properties within the APE based on current data. Methods used for evaluating potential direct and indirect effects on historic properties (except land use changes) were presented and discussed with the Colorado SHPO and other consulting parties at a meeting on September 22, 2004. The following methods were used for this effects evaluation:

- For possible direct effects from alternative footprints and construction disturbance zones, an area 500 feet from the outer edges of each side of the existing pavement of I-70 was examined. For the purposes of this study, a 15-foot zone outside the alternative footprint was assumed for the area that would likely be disturbed by construction activities.
- For potential noise effects, FHWA's standard noise abatement criteria were applied to determine if there would be significant increases based on human noise perceptions. When increases in noise are perceived by the human ear, they may diminish the characteristics that qualify these historic properties for inclusion in the National Register, depending on the nature and function of the properties.
- The analysis of visual effects on historic properties is based on a broad landscape and viewshed approach. This viewshed extends to the boundaries of the APE, which is generally 3 miles from the current corridor. Changes to the visual setting, as with perceptible increases in noise, may diminish the characteristics that qualify these historic properties for inclusion in the National Register.
- The analysis of land use and growth effects is based on the potential for induced growth due to accessibility and availability of infrastructure to support growth. It should be noted that large portions of the I-70 Mountain Corridor (64 to 75 percent of the Corridor counties) are federal land, not available for development. In addition, geographic land use constraints in the mountainous terrain further restrict development potential on remaining privately held properties.
- Cumulative effects analysis examines effects that may diminish the historic setting and sense of place based on past actions, present activities, and future induced growth and direct effects on historic properties and/or communities, as well as noise and visual effects.

Under 36 CFR 800.5, assessment of effects is divided into two findings: adverse effect and no adverse effect. A third finding is possible: that of no historic properties affected. Per 36 CFR 800.5, impact definitions are for adverse effects. For the Tier 1 PEIS, identification of potential effects has been made for both direct and indirect effects as described in the following sections. Only the potential for effect is identified at Tier 1. Because this analysis is for relative effects based on mode choice(s) and general alternative location(s), specific effects on specific properties or districts are not identified. This activity will occur for Tier 2 undertakings with direction provided in the PA.

Direct Effects

36 CFR 800.5(a)(2)(i) refers to physical destruction of or damage to all or part of the property.
36 CFR 800.5(a)(2)(ii) refers to alteration of a property.

36 CFR 800.5(a)(2)(iii) refers to removal of the property from its historic location.
36 CFR 800.5(a)(2)(iv) refers to a change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance.

Assessments of these relative effects are based on the overlay of the footprint and construction disturbance zone onto maps of known and potential historic properties.

Potential Direct Effects (Destruction or Alteration)

Fifteen known historic properties may be subject to direct effects as a result of an overlay of alternative footprints or construction effects on maps of known and potential historic properties. Note that, for mines, the direct effects are only on mining-related waste. These properties are:

Reference:
For additional information on these specific properties, see:
- Draft PEIS Section 3.15.3.1
- Revised Reconnaissance Survey

- Hot Springs Historic District (5GF.1050)
- Hot Springs Lodge and Pool (Glenwood Hot Springs Bathhouse, Natatorium, Yampa Spring, 5GF.1050.2) in the Hot Springs Historic District
- Glenwood Springs Viaduct F-07-A (5GF.2717)
- Georgetown-Silver Plume NHL (5CC.3)
- Dunderberg Mine (5CC.3.107) eligible as a contributing element to Georgetown-Silver Plume NHL
- Mendota Mine (5CC.3.217) with associated Burleigh Tunnel and Mine (5CC.3.108) eligible as a contributing element to Georgetown-Silver Plume NHL
- Toll House or Mine Manager's House (Julius G. Pohle House, 5CC.13) property and structures in Georgetown-Silver Plume NHL
- Big Five Mines (5CC.328)
- Darragh Placer (5CC.985)
- Multicomponent site (5CC.389)
- Two Barns in Lawson (identified in Reconnaissance Survey; have not been evaluated in terms of National Register eligibility)
- Loveland Ski Area Lease (identified in Reconnaissance Survey; has not been evaluated for eligibility at this time)
- Eisenhower-Johnson Memorial Tunnels
- Vail Pass Highway Segment
- Twin Tunnels

The comparison of direct effects by alternative reveals only minor differences:

- All alternatives would include components of the Minimal Action alternative and are expected to have an effect on the Hot Springs Historic District (5GF.1050), specifically the Hot Springs Lodge and Pool (5GF.1050.2). The Minimal Action alternative would include improvements to the Glenwood Springs interchange 116 and upgrades to all existing ramps, including widening and lengthening, and signalization of the intersections on SH 82 at the bottom of the I-70 ramps. The Minimal Action alternative could have the potential to affect access to and parking at the Hot Springs Lodge and Pool.
- The Minimal Action alternative would include minor improvements to intersections and roads that provide for the movement of vehicles from I-70 interchange 116 to and from SH 82. Although it is possible that there would be an effect on the Glenwood Springs Viaduct F-07-A (5GF.2717), none is identified at this time. No modifications have been identified for the viaduct as a part of these improvements. This Minimal Action component would be included in all of the alternatives.

- All alternatives may directly affect the Georgetown-Silver Plume NHL (5CC.3). Specifically, the following three properties within the NHL may be affected: the Toll House (5CC.13), the Dunderberg Mine (5CC.3.107), and the Mendota Mine (5CC.3.217) with associated Burleigh Tunnel and Mine (5CC.3.108).
    - The NRHP listed Toll House or Mine Manager's House (Julius G. Pohle House, 5CC.13) is within the I-70 right-of-way. Due to the constraining topography and rockfall hazards along Georgetown Hill, each alternative would involve widening to the south side of I-70 along the eastbound lane, which is adjacent to the Toll House (5CC.13).
    - The Mendota and associated Burleigh Mine tailings would be affected by construction activities for all alternatives, including the Minimal Action alternative.
    - Surface area of the Dunderberg Mine tailings has previously been disturbed by construction of I-70 and reclamation of tailings piles. These tailings may be further affected by the footprint and construction activities of all alternatives.
- Portions of the Big Five Mines (5CC.328) sites are already overlain by the interstate. Small additional encroachments may occur as a result of all alternative and construction activities.
- The two barns located in Lawson (not yet evaluated for National Register eligibility) would be affected by the Reversible HOV/HOT Lanes alternative and all four of the Combination alternatives. Effects would only be construction related.
- The Darragh Placer tailings may be affected by construction activities for all alternatives, including the Minimal Action alternative. For the Rail with IMC and AGS alternatives, the project footprint itself may also affect the tailings.
- The Multicomponent Site (5CC.389) may be directly affected by any highway modifications or disturbance within the I-70 right-of-way associated with alternative footprints or construction.
- The potentially eligible Loveland Ski Area may be directly affected by all alternatives, except the Minimal Action alternative.
- The eligible I-70 Eisenhower-Johnson Memorial Tunnels would be directly affected by all alternatives, except the Minimal Action alternative, due to their proximity to a proposed third bore.
- Although the eligible Vail Pass Highway Segment and related structures would remain, they could be affected by all alternatives, except the Minimal Action alternative, due to modifications to the highway and structures.
- The Twin Tunnels would be directly affected by all alternatives, except the Minimal Action alternative, due to the need for an additional bore.

Indirect Effects

36 CFR 800.5(a)(2)(v) refers to the introduction of visual or audible elements that diminish the integrity of the property's significant historic features. **36 CFR 800.5 (a)(1)** refers to the adverse effects that may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

Reference:
Draft PEIS –
- Section 3.15.3.2 and 3.15.3.3
- Section 3.10, Land Use

Noise Analysis – Audible Elements

Under Section 106, when audible elements are introduced, they are evaluated in regard to whether they diminish the integrity of a property's significant historic features. While FHWA noise guidelines and criteria were used for Tier 1 analyses, Section 106 regulations are also taken into account in the discussion that follows.

Reference:
Draft PEIS Section 3.15.3.2

Under Tier 1, noise analyses were not conducted for individual properties identified during the Reconnaissance Survey. Rather, existing noise levels were measured for four historic communities: Silver Plume; Georgetown; Lawson, Downieville, Dumont; and Idaho Springs. No noise analysis was conducted for Glenwood Springs due to the Minimal Action activities proposed for that area. Guidance for analyzing effects on historic properties due to noise for Tier 2 is included in the PA.

Except for one alternative, the Combination Six-Lane Highway with Rail and IMC alternative, all alternatives would have minimal noise increases on Silver Plume and Georgetown (including the NHL District) and for the Lawson-Downieville-Dumont area. Minimal noise increases are defined as increases of between 1 and 3 dB(A), which are generally not perceptible to the human ear. Given that the historic properties within these locations are either residential or commercial, these minimal increases should not diminish those characteristics that qualify these properties for inclusion in the National Register.

The Combination Six-Lane Highway with Rail and IMC alternative may potentially result in a 4 B(A) increase in noise for the Georgetown-Silver Plume NHL. This noise increase would be audible to the human ear and would have the potential to affect the NHL.

The topography and setting for the Idaho Springs area promotes a different situation. Perceived noise effects would range from barely audible (1 to 2 dB(A) increases) to twice as loud as existing conditions (10 dB(A) increases). No perceptible noise increases would be associated with the Minimal Action, Rail with IMC, and AGS alternatives. The remaining alternatives would have the potential to affect historic properties in Idaho Springs. Combination alternatives are expected to result in a 4 to 10 dB(A) increase in noise through the Idaho Springs area.

Visual Elements – Visual Intrusion

Reference:
Draft PEIS Section 3.15.3.3

The first step in completing a visual resource inventory was the development of distinct Scenery Analysis Units (SAUs) across the I-70 Corridor as defined by distinct landform character, vegetative appearance, and community values or place identity. Under Section 106, visual elements that are introduced are evaluated with regard to whether they diminish the integrity of the property's significant historic features. At the Tier 1 level, analysis is not property-specific—rather, it addresses the setting in which a historic property exists. Visual effects are identified by the level of intrusion (low to high) and a contrast range (weak to very strong). Identification of visual intrusion and contrast under Tier 1 suggests a potential for effect. Guidance for evaluating visual effects on historic properties in Tier 2 is included in the PA.

Each alternative considered in the Draft PEIS would include various components that could affect the visual setting along the Corridor. Some components would be more likely to attract attention than others. Elements common to all project alternatives would include cut-and-fill slopes and retaining walls in select locations where terrain changes would be necessary to accommodate the alignment within the mountainous terrain. Vertical elements, such as elevated structures and retaining walls, would tend to attract more attention from views that are inferior (below) or normal (even) to the alternative. Horizontal elements, such as additional pavement and median treatment, would attract attention from views that are superior (above) to the alternative; however, they would not attract attention from views that are inferior (below) or normal (even) to the alternative. Appendix L of the Draft PEIS documented the degree of visual contrast associated with terrain changes and the addition of structural elements.

The Draft PEIS grouped representative historic properties by community. The same communities were included as described for the noise impact analysis discussed above. All action alternatives are anticipated to result in potential visual effects on historic districts and sites ranging from low to high depending on the level of visual contrast anticipated within the setting and the proximity in

which it is viewed. The AGS alternative, which would be a completely elevated system, is anticipated to result in changes that would attract attention and dominate the setting (strong contrast). The AGS and Combination Six-Lane Highway with AGS Preservation alternatives would provide the strongest visual intrusion into all four historic communities: Silver Plume, Georgetown, Lawson-Downieville-Dumont, and Idaho Springs. Changes associated with the Highway alternatives would range from very strong to weak contrast. Areas of large-scale retaining walls and major cut-and-fill slopes would result in changes that attract attention (strong contrast). Areas of elevated structures (Idaho Springs and Floyd Hill) would attract attention and dominate the setting (very strong contrast). The Minimal Action alternative is anticipated to result in the least visual effects.

As with noise, Idaho Springs' topography and setting would result in a strong visual intrusion for all alternatives, except the Minimal Action alternative. All other alternatives would create a moderate level of visual intrusion and contrast for Silver Plume, Georgetown, and Lawson-Downieville-Dumont. Therefore, these alternatives would have the potential to affect the historic properties in these communities, including the Georgetown-Silver Plume NHL.

Land Use Analysis – Induced Growth

Reference:
Draft PEIS Chapter 3, Section 3.10, Land Use

Indirect effects associated with growth and development will be influenced by geographic land use constraints in the mountainous terrain of the Corridor. Additionally, Clear Creek County, the location of many historic properties, has limited available land for development (much of which is not easily accessible and lacks infrastructure). Within the NHL, both the Georgetown comprehensive land use plan and the Silver Plume Planning Commission historic preservation plan include preservation elements. The Clear Creek County 2030 Master Plan (2004) includes the Clear Creek Valley (Twin Tunnels to Empire) as a significant area and includes the following protection notation:

> *Protect environmental, cultural, and historic sensitive areas, and designate future land uses consistent with the preservation of these areas.*

In Glenwood Springs, in the vicinity of the Hot Springs Historic District, there are also minimal growth opportunities. There will be limited potential for land use change and growth opportunities for any privately owned properties in the I-70 Corridor.

Outside Clear Creek County in the Corridor, the No Action and Minimal Action alternatives would have the potential to suppress growth due to congestion and increased travel times. The Transit, Highway, and Combination alternatives would have the potential to induce peak seasonal traffic, to differing degrees, due to increased access and decreased travel times. Unlike the Highway alternatives, Transit alternatives would require local transit feeder systems for travel to off-Corridor locations. The potential for inducement of growth, therefore, would be different between Highway and Transit alternatives. Whereas growth associated with Highway alternatives is anticipated to occur within both rural and urban locations following current trends, growth associated with Transit alternatives is anticipated to be more focused on urban locations. Analysis of the effects of induced growth on potential historic properties or areas focused on areas that were adjacent to I-70. These areas are located in Clear Creek County and Glenwood Springs. Specific growth-induced effects on historic properties outside Clear Creek County and Glenwood Springs would be addressed during Tier 2 analysis. At this time, no effects have been identified.

Cumulative Effects

Reference:
Draft PEIS Chapter 4, Cumulative Impacts

36 CFR 800.5(a)(1) refers to the adverse effects that may include reasonably foreseeable effects caused by the undertaking that may be cumulative.

Tier 1 analysis includes an examination of cumulative effects on historic communities, focusing on direct physical effects and visual and noise effects.

The initial construction of I-70 resulted in property encroachment and the loss of structures. The extent of lost structures and developed lands was documented only for communities in Clear Creek County. A total of approximately 35 acres of developed lands was lost from the original construction of I-70 within the county (based on 1956 and 1957 photography). The following losses were identified for Clear Creek County communities:

- Idaho Springs: approximately 8 acres lost within 161 acres of developed land
- Dumont: approximately 4 acres lost within 45 acres of developed land
- Downieville: approximately 6 acres lost within 16 acres
- Lawson: approximately 2 acres lost within 23 acres
- Georgetown: approximately 3 acres lost within 65 acres
- Silver Plume: approximately 12 acres lost within 65 acres
- Historic structures lost to I-70: approximately 80
- Loss of forest due to the I-70 construction: approximately 175 acres

Additional losses within these historic communities and further alteration to their visual historic setting could result in cumulative effects on the Georgetown-Silver Plume NHL; the Lawson-Downieville-Dumont historic area; and the Idaho Springs historic area.

Ambient noise in Clear Creek County has been increasing over the decades. Mining ushered in noise from steam trains, mills, blasting, and other mining-related activities. Construction of US 6 and ultimately I-70 and associated traffic have created an ambient noise in this portion of the Corridor ranging from 60 to 70 dB(A) as a result of increases in traffic volumes, speeds, and trucks. The result for all Clear Creek County historic communities (including the Georgetown-Silver Plume NHL and the Idaho Springs Commercial District) is that even with a minimal noise increase of between 1 and 3 dB(A), there may be a cumulative effect on historic properties associated with all of the project alternatives.

B.6 Preliminary Findings of Relative Effects

FHWA finds that there will be a potential for effects on NRHP-eligible and listed properties as a result of all of the action alternatives. The following discussions summarize the nature of these potential effects.

Reference:
The Draft PEIS did not use Section 106 terminology but addressed impacts and cited the appropriate references to 36 CFR 800 of the National Historic Preservation Act.

Fifteen known historic properties may be subject to direct effect or damage or alteration associated with alternative footprints or construction effects (see Table 1). Note that some of the historic mine properties are part of Superfund cleanup activities. The Mine-Related Materials Memorandum of Understanding provides the steps that will be followed to characterize and clean up historic mine and mill site wastes. Disturbance of these materials will be avoided and minimized to the extent possible. The Minimal Action alternative would have the least direct effects (8 properties), while the Rail with IMC and AGS alternatives would have the most direct effects (13 properties). The remaining alternatives may potentially affect the same number of historic properties (12 properties).

These same known historic properties are also subject to construction effects (see Table 1). The Minimal Action alternative would have the least construction effects (10 properties). The Rail with IMC, AGS, Dual-Mode and Diesel

Reference:
Draft PEIS, Chapter 3, Section 3.15.3.1 and Table 3.15-3

Bus in Guideway, and Six-Lane Highway alternatives would affect 14 properties. The remaining alternatives (Reversible/HOV/HOT Lanes alternative and all of the Combination Highway/Transit alternatives would affect all 15 known historic properties.

Reference:
Draft PEIS Chapter 3, Section 3.15.3.2

Auditory effects that may diminish the National Register characteristics of historic properties within the APE have been identified. Based on the noise analysis used for Tier 1 relative effects, the Combination Six-Lane Highway with Rail and IMC alternative would have the most potential for affecting historic properties in Clear Creek County. The Idaho Springs Commercial Historic District and other Idaho Springs historic properties may be affected by the Bus in Guideway, Highway, and Combination alternatives. Minimal Action, Rail with IMC, and AGS alternatives would have no noise effects on historic properties.

Reference:
Draft PEIS Chapter 3, Section 3.15.3.3

Visual effects that may diminish the National Register characteristics of historic properties have been identified within the APE. The AGS alternative, which would be a completely elevated system, and the Combination Six-Lane Highway with AGS Preservation alternative may result in the highest level of visual intrusion and contrast within the areas of Georgetown, Silver Plume, Lawson-Downieville-Dumont, and Idaho Springs. Except for the Minimal Action alternative, all remaining alternatives would create a moderate level of visual intrusion and contrast for Silver Plume, Georgetown, and Lawson-Downieville-Dumont. Idaho Springs Commercial Historic District and other Idaho Springs historic properties would have the potential to be affected by the highest level of intrusion and contrast with all alternatives. Therefore, all alternatives would have the potential to affect the historic properties in these communities.

Reference:
Draft PEIS Chapter 3, Section 3.10, Land Use

The undertaking is not expected to induce development or growth that would result in a change in the setting or character or use of historic properties in Clear Creek County or Glenwood Springs in Garfield County. Analysis of the effects of induced growth on potential historic properties or areas focused on areas that were adjacent to I-70. These areas are located in Clear Creek County and Glenwood Springs. Growth effects associated with historic properties in these other locations will be addressed in Tier 2.

Reference:
Draft PEIS Chapter 4, Cumulative Impacts

Cumulative effects on historic properties in Clear Creek County may result from all of the action alternatives.

Georgetown – Silver Plume NHL

Reference:
This information was found throughout the Draft PEIS, Chapter 3, Section 3.15.

Pursuant to Section 110 of the National Historic Preservation Act, and 36 CFR 800.10, there are special requirements for protecting NHLs. Therefore, this document includes an additional section discussing relative effects on the Georgetown-Silver Plume NHL.

The following direct effects have been identified for the Georgetown-Silver Plume NHL:

- **Toll House or Mine Manager's House (Julius G. Pohle House, 5CC.13).** This property is within the I-70 right-of-way and would be potentially affected by all alternatives. Due to the constraining topography and rockfall hazards along Georgetown Hill, each alternative would involve widening to the south side of I-70 along the eastbound lane, which is adjacent to the Toll House (5CC.13).
- **Mendota Mine (5CC.3.217) and associated Burleigh Tunnel and Mine (5CC.3.108), eligible as a contributing element to the NHL.** For all alternatives, mine tailings that overlap the I-70 right-of-way may be disturbed by construction activities only.

- **Dunderberg Mine (5CC.3.107) eligible as a contributing element to the NHL.** Mine tailings that overlap the I-70 right-of-way may be disturbed by project footprints and construction activities for all alternatives.

No additional right-of-way intrusion into the NHL has been identified. Note that due to the close proximity of the two mines, the effects on the Burleigh Tunnel and Mine (5CC.3.108), just east of the Mendota Mine, were included in the discussion for the Mendota Mine in the Draft PEIS.

Indirect effects on the NHL include moderate to high-level visual intrusions and moderate to very strong visual contrast associated with all alternatives, except the Minimal Action alternative. As a result, all of the alternatives, except the Minimal Action alternative, would have the potential to affect the NHL. In addition, all alternatives may have noise- and visual-related cumulative effects on the NHL.

B.7 Conclusion

Reference:
The Programmatic Agreement referenced is the main text of this document.

All of the project alternatives would have the potential to affect historic properties in the I-70 Mountain Corridor. As noted above, specific effects on historic properties cannot be determined at this stage in the NEPA process. Therefore, the outcome of Section 106 for Tier 1 is a Programmatic Agreement (PA). The PA stipulates how adverse effects resulting from individual Tier 2 undertakings may be avoided, minimized, or mitigated. The PA also includes stipulations for identifying and evaluating additional National Register properties within the APEs associated with these future individual undertakings.

Table B-1. Summary of Relative Effects for I-70 Mountain Corridor

	Transit Alternatives										Highway Alternatives						Combination Highway/Transit Alternatives							
	1		2		3		4		5		6		7		8		9		10		11		12	
	Minimal Action		Rail with IMC		AGS		Dual-Mode Bus in Guideway		Diesel Bus in Guideway		6-Lane Highway 55 mph		6-Lane Highway 65 mph		Reversible/HOV/HOT Lanes		6-Lane Highway with Rail and IMC		6-Lane Highway with AGS		6-Lane Highway with Dual-Mode Bus in Guideway		6-Lane Highway with Diesel Bus in Guideway	
Potential Damage or Alteration (number of sites directly affected by each alternative)																								
	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction	Footprint	Construction
Georgetown-Silver Plume NHL (Toll House & mine tailings)	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4
Lawson-Downieville-Dumont (2 barns only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	1
Idaho Springs (mine tailings only)	1	2	2	2	2	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Hot Springs Historic District, Pool/Lodge, and Glenwood Springs Viaduct	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Loveland Ski Area	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Multicomponent Site	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Eisenhower-Johnson Memorial Tunnels	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vail Pass Highway Segment	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Twin Tunnels	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Properties Affected through Damage or Alteration	8	10	13	14	13	14	12	14	12	14	12	14	12	14	12	15	12	15	12	15	12	15	12	15
Potential Effect Due to Noise Impacts[1]																								
Georgetown-Silver Plume NHL	No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		Potential Effect (4 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)	
Lawson-Downieville-Dumont	No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		Potential Effect (4 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)	
Idaho Springs	No Effect (1-3 dBA)		No Effect (1-3 dBA)		No Effect (1-3 dBA)		Potential Effect (1-7 dBA)		Potential Effect (2-7 dBA)		Potential Effect (3-7 dBA)		Potential Effect (3-7 dBA)		Potential Effect (3-7 dBA)		Potential Effect (4-10 dBA)		Potential Effect (4-10 dBA)		Potential Effect (4-10 dBA)		Potential Effect (4-10 dBA)	
Potential Effect Due to Visual Intrusion[2]																								
Potential Visual Intrusion to Georgetown-Silver Plume NHL	No Effect		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast	
Potential Visual Intrusion to Lawson-Downieville-Dumont	No Effect		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Moderate Level Intrusion and Contrast	
Potential Visual Intrusion to Idaho Springs	Potential Effect - Moderate Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast		Potential Effect - Highest Level Intrusion and Contrast	
Potential Effects Due to Induced Growth[3]																								
Clear Creek County: Georgetown-Silver Plume NHL, Lawson-Downieville-Dumont, Idaho Springs	No Effect		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time	
Hot Springs Historic District, Pool/Lodge, and Glenwood Springs Viaduct	No Effect		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time		No Known Effect at This Time	
Potential Effects Due to Cumulative Impacts[4]																								
Georgetown-Silver Plume NHL	Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects	
Lawson-Downieville-Dumont	Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects	
Idaho Springs	Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects		Potential Noise and Visual Effects	

[1]Potential Noise effects on Glenwood Springs historic properties were not estimated due to the minimal improvements proposed. Noise effects were not estimated for other individual historic properties in the Corridor, including the Loveland Ski Area and Multicomponent Site.

[2] Potential Visual effects on Glenwood Springs were identified as low due to the minimal improvements proposed. Visual analysis was conducted for the entire Corridor and additional information is available in Chapter 3, Section 3.13 of the Draft PEIS, Visual Analysis. Impacts on the Loveland Ski Area have not been evaluated at this time.

[3] Potential induced growth impacts on other historic properties have not been examined at Tier 1.

[4] No cumulative impacts have been identified for historic properties outside Clear Creek County.

Footprint: Impacts associated with the footprint would be considered permanent because the given resource would be covered by the transportation facility (such as additional traffic lanes, rail, or guideways).
Construction: Impacts associated with construction disturbance would be considered temporary because this area could later be reclaimed.

Legend:
- Potential Effects due to Noise Impacts
- Potential Effects due to Highest Visual Intrusion
- Potential Noise and Visual Effects due to Cumulative Impacts

Appendix C.
Parties Informed about the Mountain Corridor Project and Invited to Participate in Section 106 Consultations

Agency Team

Federal Highway Administration (FHWA)
Colorado Department of Transportation (CDOT)
Advisory Council on Historic Preservation (ACHP)
State Historic Preservation Officer (SHPO)

National Park Service (NPS)
Bureau of Land Management (BLM)
United States Forest Service (USFS)
United States Army Corps of Engineers (USCOE)

SRI Foundation
J.F. Sato and Associates

Consulting Parties and Those Invited to Be Consulting Parties

Clear Creek County
Eagle County
City of Glenwood Springs
City of Idaho Springs
Town of Georgetown
Town of Silver Plume
Georgetown Silver Plume Historic District Public Lands Commission

National Trust for Historic Preservation Mountain Plains Office
Colorado Preservation Inc.
Historic Georgetown Inc.
Historical Society of Idaho Springs
Mill Creek Valley Historical Society
Colorado Historical Society

Denver Landmark Preservation Commission
Town of Breckenridge
Jefferson County Historical Commission
Jefferson County Historical Society
Summit County
Summit County Historic Preservation Commission

Consulting Parties Included by Reference

Cheyenne and Arapaho Tribes of Oklahoma
Kiowa Tribe of Oklahoma
Northern Arapaho Tribe
Northern Cheyenne Tribe
Rosebud Sioux Tribe
Southern Ute Indian Tribe
Standing Rock Sioux Tribe
Ute Mountain Ute Tribe
Ute Tribe of the Uintah and Ouray Agency
White Mesa Ute Tribe

Appendix D
Programmatic Agreement for Tribal Consultation for the Mountain Corridor Project

PROGRAMMATIC AGREEMENT

Between

FEDERAL HIGHWAY ADMINISTRATION
COLORADO DEPARTMENT OF TRANSPORTATION
UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE, ROCKY MOUNTAIN REGION
UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT
COLORADO STATE HISTORIC PRESERVATION OFFICE

And the Federally Recognized Tribes

CHEYENNE AND ARAPAHO TRIBES OF OKLAHOMA
KIOWA TRIBE OF OKLAHOMA
NORTHERN ARAPAHO TRIBE
NORTHERN CHEYENNE TRIBE
ROSEBUD SIOUX TRIBE
SOUTHERN UTE INDIAN TRIBE
STANDING ROCK SIOUX TRIBE
UTE MOUNTAIN UTE TRIBE
UTE TRIBE OF THE UINTAH AND OURAY AGENCY
WHITE MESA UTE TRIBE

Regarding the

SECTION 106 TRIBAL CONSULTATION PROCESS FOR THE INTERSTATE 70 MOUNTAIN CORRIDOR PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

Whereas 36 CFR Part 800.16, Protection of Historic Properties, provides definitions and procedures for consultation between federal agencies and Native American tribes for federal undertakings; and

Whereas the Federal Highway Administration (FHWA), as lead federal agency, is responsible for compliance with the provisions of the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations; and

Whereas FHWA Colorado Division and the Colorado Department of Transportation (CDOT), in cooperation with the United States Department of Agriculture Forest Service (USFS) and the United States Department of the Interior Bureau of Land Management (BLM), are engaged in long-term planning for transportation improvements to the Interstate 70 Mountain Corridor between Denver and Glenwood Springs, Colorado, a distance of approximately 140 miles, to be documented in the Record of Decision (ROD) for the Programmatic Environmental Impact Statement (PEIS); and

Whereas FHWA and CDOT have determined that proposed transportation improvements described in the PEIS and ROD constitute an undertaking that may have an effect upon historic properties included in or eligible for listing in the National Register of Historic Places, and/or upon localities of cultural or religious significance to Native Americans; and

Whereas FHWA and CDOT have established a government-to-government relationship with the above-listed tribes for the purpose of facilitating Section 106 consultation within the Area of Potential Effect (APE) identified in the PEIS and ROD; and

Whereas the consulting tribes and principal agencies have agreed that a Programmatic Agreement (PA) is appropriate and necessary in order to outline specific protocol for tribal consultation within the I-70 Mountain Corridor for all subsequent transportation improvement projects specifically discussed in the PEIS and ROD; now

Therefore FHWA, CDOT, USFS, BLM, State Historic Preservation Officer (SHPO) and the federally recognized signatory Tribes do hereby agree to the following stipulations to satisfy Section 106 responsibilities for all aspects of Native American consultation for future undertakings within the Interstate 70 Mountain Corridor APE:

1. Agreement Period. This agreement becomes effective upon the signature of the Federal and State agencies and any Signatory Tribes, but its provisions will not affect any party until and unless that party signs the PA. The PA shall remain in effect until all transportation improvements within the Mountain Corridor Area of Potential Effect, as discussed in the PEIS, have been successfully completed. The PA will be included as part of the PEIS and the ROD.

2. Consultation. In correspondence dated February 12, 2001, FHWA delegated to CDOT the coordination and facilitation of all Section 106 tribal consultation for federal-aid transportation projects undertaken by CDOT (per 36 CFR Part 800.2(a)). CDOT will provide FHWA with all documentation necessary to fulfill NEPA and Section 106 requirements, as well as those outlined in Executive Order 13007, *Indian Sacred Sites*, as part of its environmental process. Unless otherwise stipulated in this agreement, tribal consultation for lands under the direct administration of USFS, BLM or any other federal land managing agency will be addressed individually by each agency, at its discretion, using internal policies, guidelines and procedures.

CDOT will provide general information to tribal governments for various stages of project development within the PEIS corridor that do not involve localities of cultural and religious significance to a tribe.

Consultation is ongoing between the agencies and the signatory Tribes, and serves to facilitate interaction between the principal parties to ensure that tribal concerns are appropriately and effectively addressed as the consultation process moves forward.

3. Point of Contact.

a. On behalf of FHWA, the Manager of the Cultural Resource Section in the CDOT Environmental Programs Branch will serve as the primary point of contact for all aspects of the tribal consultation process.
b. The FHWA point of contact for correspondence shall be the Colorado Division Environmental Program Manager, located in Lakewood, Colorado. An organizational chart showing pertinent contact information for FHWA and CDOT is included as Attachment 1.
a. All parties to this agreement will be notified in writing should changes to this arrangement take effect.

4. Project Specific Consultation. For each transportation undertaking within the Interstate 70 Mountain Corridor as discussed in the PEIS and ROD, CDOT shall consult with the signatory Tribes as early as practicable in the project planning, design and environmental document development process by notifying the Tribes in writing of the following:

a. The exact location of the undertaking.
b. The nature and extent of the proposed project (i.e., highway widening, new interchange construction) and its proposed impact on the environment.
c. Results obtained from the Section 106 cultural resources inventory, including descriptions of, and National Register eligibility determinations for, sites affiliated with Native American occupation or use.
d. The potential of the project to impact National Register-eligible sites and/or those localities of cultural or religious significance to any of the signatory Tribes.
e. As early in the project planning and development process as possible, the signatory Tribes shall, at their discretion, notify CDOT and FHWA of the presence of specific sites or areas deemed by them as Traditional Cultural Properties (TCPs) and/or Sacred Sites. Such sites will be identified according to Executive Order 13007, *Indian Sacred Sites*, as well as individual Tribes' traditions, processes and procedures, and evaluated for significance by the agencies according to National Register Technical Bulletin 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, and other means, as appropriate.
f. Tribal access to any areas within the APE identified as having cultural or religious significance will be agreed upon as mitigation of adverse effects and specifically addressed in project-specific NEPA documents.
g. To the extent allowed by law, CDOT shall ensure that sensitive information provided by the Tribes will be protected and will not be released in a public forum without the express written consent of the pertinent Tribe(s). Each signatory Tribe also commits to keep the locations of identified sensitive sites or places confidential, even if such places are not considered of importance by that Tribe.

5. Timing. Any signatory Tribe with an interest in a specific undertaking shall provide CDOT with written notification to that effect within sixty (60) days of receipt of CDOT's request for review and comment. Failure of a signatory Tribe to respond within the 60-day period will not prevent the Tribe from entering consultation at a later point. However, if the Tribe enters the consultation process after the initial 60-day period CDOT and FHWA shall continue the consultation without being required to reconsider previous determinations of findings, unless significant new information is introduced.

6. Treatment. CDOT shall provide the signatory Tribes an opportunity to comment on CDOT's treatment plan for any sites with cultural and religious significance to the Tribes, as follows:

a. Wherever feasible, the historic property will be avoided by the proposed transportation activity and preserved in place.
b. Where avoidance is not a feasible alternative and this determination has been documented accordingly, treatment shall be carried out in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, coupled with guidelines established by the Colorado Office of Archaeology and Historic Preservation.
c. For historic properties of cultural and religious significance to signatory tribes located on lands administered by USFS or BLM, Section 106 consultation will be facilitated by the pertinent agency unless otherwise stipulated. All treatment provisions specific to the agency will be followed, as appropriate.

In the event that one or more signatory Tribes objects to the treatment plan within sixty (60) days of receipt of the proposed treatment plan, CDOT shall review the documentation provided by the Tribe to support its objection and make a reasoned response to the Tribe. If the Tribe(s) continues to object,

CDOT shall provide FHWA with a copy of the documentation along with copies of the results of consultation with all parties. FHWA shall review this documentation and:

d. Consult with the Tribe(s) to resolve the objection, or pursue consultation with CDOT, the State Historic Preservation Officer, and, if appropriate, the Advisory Council on Historic Preservation toward the same end; and
e. Notify all consulting parties of the outcome of negotiations.

7. Construction Monitoring and Emergency Discoveries. The lead federal agency (FHWA) shall establish a construction monitoring program for I-70 Mountain Corridor construction projects specifically and only for previously identified areas of cultural and religious significance to the signatory Tribes. The monitoring program will proceed according to the following process:

a. If a Tribal monitor is assigned, that individual will coordinate with the lead agency in assessing the required level of effort. CDOT will coordinate the tribal monitor, including appropriate payments thereto, according to the CDOT compensation policy established for these types of services.
b. Prior to commencement of a monitoring program, the signatory Tribes shall detail in writing the nature of artifacts or objects of cultural and religious significance. Any discoveries of such artifacts or objects made by the monitor shall be reported immediately to the CDOT Engineer and the CDOT Staff Archaeologist/Cultural Resource Manager. Section 107.23 of CDOT's *Standard Specifications for Road and Bridge Construction* (Attachment 2), which outlines CDOT's policies for emergency discoveries during construction, are incorporated into this agreement by reference. These procedures are consistent with the process outlined for emergency situations under 36 CFR 800.12.
c. Construction shall cease in the area of the find until the nature and significance of the discovery has been ascertained by all parties, and appropriate consultation involving the monitoring Tribe(s), CDOT, FHWA, the State Historic Preservation Officer (SHPO), and any other pertinent entities or agencies is completed.
d. Construction will not resume in the area of the discovery until the lead federal agency, in consultation with the signatory Tribes, is satisfied that the find will be avoided or adverse effects mitigated.
e. At the conclusion of this process, the CDOT Cultural Resource Manager/Staff Archaeologist will provide the Engineer with authorization to resume construction.

8. Native American Graves. In the event that Native American burials are anticipated or inadvertently discovered during controlled archaeological excavations or any phase of construction within the I-70 Mountain Corridor APE, CDOT shall seek to avoid direct and indirect impacts to the site(s) as the primary mitigation alternative. Treatment of sites containing human remains, funerary objects, sacred objects or objects of cultural patrimony shall proceed according to applicable law, as follows:

a. Such discovery on lands owned and administered by the State of Colorado (assuming federal transportation funds are involved in the undertaking), USFS, BLM or any other federal agency, in addition to temporary easements acquired by CDOT for construction purposes, shall be subject to the provisions of the Colorado Historical, Prehistorical, and Archaeological Resources Act (CRS 24-80-40) and the Native American Graves Protection and Repatriation Act (NAGPRA; 43 CFR 10), as appropriate, and any agency-specific rules and procedures for handling such matters. In the case of federal lands (excluding dedicated CDOT highway right-of-way not located on lands under federal jurisdiction), CDOT and FHWA will defer all tribal consultation and decisions in this regard to the appropriate agency.

b. The consulting signatory Tribe(s) shall respond to CDOT or the appropriate federal agency in writing within four (4) working days of notification of the discovery regarding the specific nature and extent of their interest in further consultation.

If it is determined that avoidance of a burial site on lands administered by the State of Colorado is not a feasible alternative, CDOT shall:

c. Develop and implement a treatment plan in accord with Article 6 above, following the permitting, excavation and non-destructive analysis procedures stipulated by the Colorado Office of Archaeology and Historic Preservation.
d. Coordinate a mutually agreeable plan with the consulting signatory Tribe(s) for Native American monitoring of the disinterment and the performance of ceremonies, rituals or other observances desired by the consulting Tribes before, during and/or after the excavation.

During the excavation of any Native American graves, CDOT shall take measures to ensure:

e. The respectful, dignified treatment of burials at all times during the disinterment and analysis process.
f. Security for the site and the grave(s) to prevent vandalism when archaeologists and/or Native American representatives are not present.
g. That no photographs are taken of human remains or open graves other than photo-documentation needed for recordation of the excavation.
h. That media exposure to the burial site is minimized, including but not limited to keeping the site location confidential.
i. Off-site security for exhumed burials and funerary objects during and after excavation.

At the completion of the excavations, analysis, and reporting required by the treatment plan and the State of Colorado Archaeological Permit, in accordance with 43 CFR 10, the regulations implementing NAGPRA, CDOT and FHWA shall:

j. Complete an inventory, as per 43 CFR 10.9.
k. Complete a Repatriation Agreement in consultation with the culturally affiliated signatory Tribes.
l. Transfer custody of the objects to the agreed upon, proper recipient.
m. Where feasible and agreed upon by the lead federal agency and the culturally affiliated signatory Tribes, make arrangements for a parcel of land to be used for reburial of the remains in perpetuity by the signatory Tribes.

9. Amendment and Termination. Any party to this consultation agreement may request that it be amended, whereupon the parties shall consult to consider such amendment. Any party to this agreement may terminate its participation by providing sixty (60) days' written notice to the other parties, provided that the parties will consult during the period prior to the termination to seek agreement on amendments or other actions that would avoid termination.

10. Severability. In the event any one or more of the provisions contained in this agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

Nothing in this Agreement shall preclude federal agencies or federal officials from fulfilling their responsibilities under the National Environmental Policy Act (NEPA) as codified in 42 USC Section 4321 et seq., or any of NEPA's implementing regulations.

11. Signatory Warranty. The undersigned signatories represent and warrant that each has full and complete authority to enter into this contract on behalf of their respective organizations. These representations and warranties are made for the purpose of inducing the parties to enter into this contract.

12. BLM Non-Funding Stipulation. This instrument is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement of funds between parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures, including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This instrument does not provide such authority. Specifically, this instrument does not establish authority for noncompetitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

13. USDA Forest Service Rider

a. DISPUTE RESOLUTION STIPULATION. Should a SHPO or any other consulting party object within 30 days to any finding or action proposed pursuant to this agreement, the specific Forest shall consult with SHPO and the objecting party to resolve the objection. If the Forest determines that the objection cannot be resolved, the specific Forest shall forward all documentation relevant to the dispute to the Council. Within 30 days after receipt of all pertinent documentation, the Council will either:

1. Provide the Forest with recommendations, which the Forest will take into account in reaching a final decision regarding the dispute; or

2. Notify the Forest that it will comment pursuant to 36 CFR 800.7(c), and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the Forest Service in accordance with 36 CFR 800.7(c)(4) with reference to subject of the dispute.

3. Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; the Forest's responsibility to carry out all actions under this agreement that are not the subjects of the dispute will remain unchanged.

b. QUALIFICATIONS. The Forest Service shall follow the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation and Professional Qualifications for Archeologists/Historians (48FR190:44716-44742), throughout the implementation of this agreement.

c. TERMINATION. The Regional Forester may terminate this agreement by providing thirty (30) days written notice to the other parties, provided that the parties consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event this agreement is terminated, the Regional Forester will comply with 36 CFR 800 with regard to individual undertakings covered by this agreement.

d. NON-FUND OBLIGATING DOCUMENT. This agreement is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors

will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This agreement does not provide such authority. Specifically, this agreement does not establish authority for non-competitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

f. FREEDOM OF INFORMATION ACT (FOIA). Any information furnished to the Forest Service under this instrument is subject to the FOIA. However, certain sensitive spatial and non-spatial information will be protected per the NHPA (1966, with revisions).

g. PARTICIPATION IN SIMILAR ACTIVITIES. This instrument in no way restricts the Forest Service or the Cooperators from participating in similar activities with other public or private agencies, organizations, and individuals.

AGENCIES

FEDERAL HIGHWAY ADMINISTRATION

By: _____ Date: 4/22/04
William C. Jones, Division Administrator

COLORADO DEPARTMENT OF TRANSPORTATION

By: _____ Date: 11/11/03
Tom Norton, Executive Director

USDA FOREST SERVICE, ROCKY MOUNTAIN REGION

By: _____ Date: 4/13/2004
for Rick D. Cables, Regional Forester

USDI BUREAU OF LAND MANAGEMENT

By: _____ Date: 2/20/04
Ron Wenker, State Director

STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: 11/17/03
Georgianna Contiguglia, State Historic Preservation Officer

SIGNATORY TRIBE

SOUTHERN UTE INDIAN TRIBE

By: _____ Date: MAY 12, 2004

Howard Richards, Chairman

SIGNATORY TRIBE

CHEYENNE AND ARAPAHO TRIBES OF OKLAHOMA

By: Bill Blind Date: June 14, 2004

Bill Blind, Vice-Chairman

SIGNATORY TRIBE

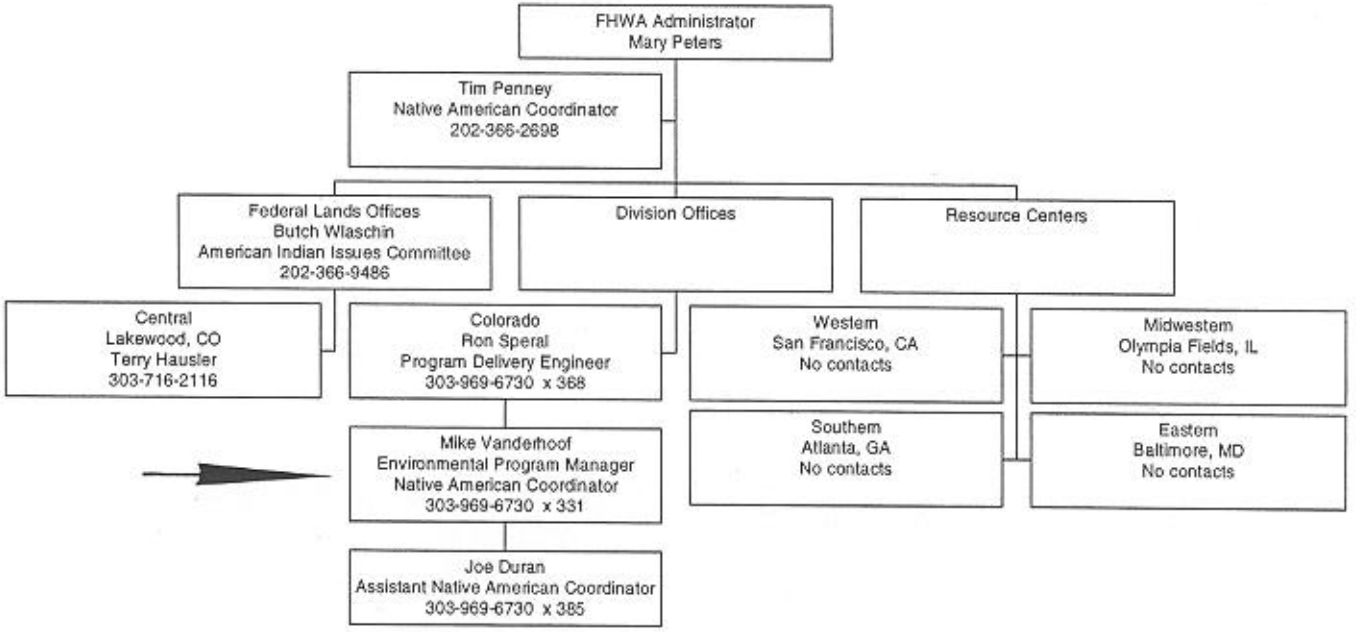
KIOWA TRIBE OF OKLAHOMA

By: Billy Evans Horse Date: Oct. 27, 04

Billy Evans Horse, Chairman

ATTACHMENT 1

Federal Highway Administration
Field Offices
Native American Coordinators



Colorado Department of Transportation
Section 106 Native American Liaison
Dan Jepson, (303)757-9631

ATTACHMENT 2

STANDARD SPECIFICATION 107.23, ARCHAEOLOGICAL AND PALEONTOLOGICAL DISCOVERIES

(Excerpted from Colorado Department of Transportation Standard Specifications for Road and Bridge Construction, 1999)

When the contractor's operations, including materials pits and quarries, encounter plant or animal fossils, remains of prehistoric or historic structures, prehistoric or historic artifacts (bottle dumps, charcoal from subsurface hearths, old pottery, potsherds, stone tools, arrowheads, etc.), the Contractor's affected operations shall immediately cease. The Contractor shall immediately notify the Engineer, or other appropriate agency for contractor source pits or quarries, of the discovery of these materials. When ordered to proceed, the Contractor shall conduct affected operations as directed. Additional work, except that in contractor source materials pits or quarries under subsection 106.02(b), will be paid for by the Department as provided in subsection 104.02 when contract unit prices exist, or as extra work as provided in subsection 104.03 when no unit prices exist. Delays to the Contractor, not associated with work in contractor sources, because of the materials encountered may be cause for extension of contract time in accordance with subsection 108.06. If fossils, prehistoric or historic structures, or prehistoric or historic artifacts are encountered in a contractor source materials pit or quarry, all costs and time delays shall be the responsibility of the Contractor.

Appendix E.
Context Sensitive Solutions and the Mountain Corridor Project

Using Context Sensitive Solutions in the Tier 2 NEPA and Section 106 Processes

The Section 106 process for Tier 2 undertakings, as established in this PA, involves participation by the consulting parties in many aspects of agency decision-making. CDOT is committed to initiating a context sensitive solutions (CSS) program that would engage Mountain Corridor consulting parties and other stakeholders in the process of developing solutions during the Tier 2 NEPA and Section 106 processes and continue throughout the implementation of design and construction phases. Table E-1 illustrates the consultation process interface between the Section 106 and NEPA activities emphasizing CSS.

Measuring Context Sensitive Solutions Performance for Section 106 Issues

By partnering and collaborating with the agencies, consulting parties, and other stakeholders, CDOT will develop effective transportation solutions in a manner that:

- Satisfies the project need and achieves purposes to the extent practicable, while recognizing fiscal constraints
- Fits into the context of the Corridor
- Avoids or minimizes adverse effects on historic properties and other impacts
- Adds value to the communities and environment of the Corridor
- Achieves a level of excellence.

As part of initiating consultation at the beginning of each Tier 2 undertaking, CDOT will convene a charrette-style meeting (collaborative session in which a group of participates explore solutions) among FHWA, CDOT, SHPO and the appropriate consulting parties to develop a vision and historic preservation goals for the project. In this or subsequent meetings, the parties will establish context-sensitive solutions performance measures for the project. The ideal outcome for each Tier 2 undertaking would be a Section 106 finding of "no historic properties affected" or "no adverse effect." For undertakings found to have an "adverse effect on historic properties," a PA supplement for that undertaking will be executed. Subsequent to the PA supplement, the agencies and appropriate consulting parties will meet to evaluate the Section 106 process and outcome for that undertaking in terms of the previously established context-sensitive solutions performance measures.

Sample evaluation measures might include (but are not limited to):

- Project design consistency with and/or enhancement of historic community setting and features of the surrounding area and community.
- Project design consistent with or providing enhancement of the historic integrity of the surrounding community, including historic districts, the national historic landmark district, individual buildings, and their context included within boundaries listed or determined to be eligible for the National Register of Historic Places.
- Project design that promotes preservation of integrity of archaeologically significant structures or sites.

Guidance for development of effectiveness measures might include National Cooperative Highway Research Program (NCHRP) Document 69: *Performance Measures for Context Sensitive Solutions – A Guidebook for State DOTs* (October 2004) or other current NCHRP and USDOT materials available at that time.

Table E-1.
Section 106 and NEPA Process Interface Emphasizing Context Sensitive Solution (CSS) Activities for I-70 Mountain Corridor Tier 2 Projects

Tier 2 Section 106 Consultation Process	Tier 2 NEPA Process	Tier 2 Context Sensitive Solution (CSS) Activities	Tier 1 PA Stipulations
Initiate Section 106 consultation (with interested tribes and parties)	Initiate NEPA study – Scoping • Formulate or refine purpose and need • Develop public involvement plan	Early project consultations with stakeholder/consulting parties Facilitate process of developing project-specific context sensitive solutions Issues identified and tracked by: • stakeholder group and Section 106 consulting parties • type of concern • significance of the outcome to the group Obtain Section 106 consulting parties and stakeholders views on: • purpose and need • Issues that might affect NEPA process, particularly alternative analysis	Stipulations I. A-H, II.B, IV.A, and VI.A
Consultations about: • Identification of Area of Potential Effects (APE) • Information on known or potential historic properties in APE (including properties listed in the National Register of Historic Places (NRHP)) • Level of effort for identifying historic properties in APE	Alternative Analysis – preliminary alternatives development and screening	Obtain consulting party views on: • preliminary alternatives • screening criteria Develop alternatives concepts through collaboration with stakeholder/consulting parties	Stipulations II.C and D, III.A-B, and IV.B-E
Consultations about: • Identification of NRHP eligible and listed properties in APE • Effects on NRHP eligible and listed properties	Analysis of alternatives retained for detailed study	Issues related to: • community values • environmental sensitivity of the project setting (including historic setting) • fiscal constraints	Stipulations II.E and V.A-D
Consultations about: • whether effects on NRHP eligible and listed properties are adverse (includes assessment of indirect, reasonably foreseeable, and cumulative effects)	Impact Analysis – identification of Preferred Alternative Indirect and cumulative effects analysis	Identify impacts in coordination with agency and community stakeholders/consulting parties	Stipulations II.E, II.F and V.A-D
Continued consultations about: • resolution of adverse effects on historic properties (avoid, minimize, or mitigate adverse effects) Develop a project-specific supplement to the PA	Mitigation For project impacts: • avoid and/or minimize • reduce or eliminate • compensate Include PA supplement in the NEPA document	Encourage creative mitigation: • commitment to environmental stewardship • outside the box • better project and historic preservation outcomes • greater public benefit Develop mitigation in coordination with agency and community stakeholder/consulting party participation	Stipulations II.F and VI.A-C

Tier 2 Section 106 Consultation Process	Tier 2 NEPA Process	Tier 2 Context Sensitive Solution (CSS) Activities	Tier 1 PA Stipulations
	After NEPA		
Implement stipulations of PA and project-specific supplemental	Project Design	Continue stakeholder/consulting party involvement through the design process Use design standards and criteria that follow American Association of State Highway and Transportation Officials (AASHTO) policy, which will provide flexibility in design activities to incorporate CSS	Stipulation VI.B
Implement stipulations of PA and project-specific supplemental	Project Construction	Develop construction mitigation strategies for each Tier 2 project with stakeholder/consulting party input Focus strategies on community involvement to minimize disruption (including to minimize/mitigate economic impacts on historic properties/heritage tourism) during construction	Stipulation VI.B

Appendix F.
CDOT Chief Engineer's Policy Memo #26 on Context Sensitive Solutions

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
Office of the Chief Engineer
4201 East Arkansas Avenue, Room 262
Denver, Colorado 80222
Office 303-757-9206
Facsimile 303-757-9656

Date: October 31, 2005

To: Region Transportation Directors, Professional Engineer II's and III's, Region Environmental & Planning Managers, Maintenance Superintendents

From: Craig Siracusa, Chief Engineer Craig Siracusa

Subject: Chief Engineer's Policy Memo 26, Context Sensitive Solutions (CSS) Vision for CDOT

The philosophy and structure of *Context Sensitive Solutions* (CSS) made their way into state Departments of Transportation in the early- to mid-1990s. At first my reaction was: 'what's new about this, we have been doing this for years - planning, designing, building, and maintaining our projects to fit within the context of the communities we work in'. Take a look at Glenwood Canyon, for example!

But as I learned more, I realized that the principles of CSS did represent a new way of thinking and a good model for doing our business.

CDOT has embraced many of the CSS principles in our Environmental Stewardship Guide - early, collaborative public involvement in project planning and design. We have not, however, adopted the full scope and intent of CSS as a business model for CDOT.

The purpose of this Policy Memo is to take a first step in that direction by explaining CSS to you, offering my vision for implementation of CSS, and giving you some examples of CSS practices already going on at CDOT. Finally, I will outline plans for upcoming training on CSS.

What is CSS?
According to the Maryland Department of Transportation, "*Context Sensitive Solutions* asks questions first about the need and purpose of the transportation project, and then equally addresses safety, mobility, and the preservation of scenic, aesthetic, historic, environmental, and other community values. Context sensitive solutions involves a collaborative, interdisciplinary approach in which citizens are part of the design team." Florida DOT states that CSS "seeks transportation solutions that improve mobility and safety while complementing and enhancing community values and objectives. Context sensitive solutions are reached through joint effort involving all stakeholders."

CSS principles should also be applied to our day-to-day operations and maintenance activities. You may be able to recognize that Context Sensitive Solutions concepts fit in closely with CDOT's Vision, Mission and Values – our philosophy for conducting business. I encourage you to review these again on page 6 of the booklet at:
http://www.dot.state.co.us/TopContent/FactBook2005.pdf

Key Elements of CSS (from NCHRP Report 480):

- The project satisfies the purpose and needs as agreed to by a full range of stakeholders. This agreement is forged in the earliest phase of the project and amended as warranted as the project develops.
- The project is a safe facility both for the user and the community.
- The project is in harmony with the community and preserves environmental, scenic, aesthetic, historic, and natural resource values of the area.
- The project exceeds the expectations of both designers and stakeholders and achieves a level of excellence in people's minds.
- The project involves efficient and effective use of resources (such as time, budget, and community) of all involved parties.
- The project is designed and built with minimal disruption to the community.
- The project is seen as having added lasting value to the community.

CSS is not just an aesthetic treatment; rather, CSS involves developing a transportation solution to fit into its context. The purpose of the CSS approach is to identify and address both transportation and project area needs during project development. CSS requires the flexibility to consider alternative solutions that can benefit a broad range of stakeholders, while recognizing the fiscal constraints and the limits of CDOT's mission as a transportation agency. Effective transportation solutions that fit the project's context, rather than project enhancements, are the purpose of CSS.

CSS maintains safety and mobility as priorities, yet recognizes that these are achieved in varying degrees with alternative solutions. Utilizing the CSS philosophy, CDOT design professionals determine which safe solution best fits, given the site's conditions and context. CSS is about making good engineering decisions.

CSS can affect all design elements; therefore project costs may increase, decrease or be unchanged when compared to the traditional design approach. Cost issues must still be addressed during project development, as is the case with all technical and environmental constraints. CSS adds value to the process by helping the Department identify and work with stakeholders to develop projects that are sensitive to their context. The CSS approach does not imply that there will always be unanimity among stakeholders, nor does it eliminate the Department's responsibility to exercise engineering judgment in balancing trade-offs.

At the recent AASHTO Annual meeting in Nashville, our Berthoud Pass Mountain Access Project was recognized as a "Notable Practice" in CSS. We were able to submit several projects to AASHTO that were excellent examples of applications of CSS principles.

However, while we have embraced CSS principles on many levels in CDOT, there has never been an Executive Management statement of our agency's vision for implementing CSS. That vision needs to be grounded in our basic understanding of community.

What makes the community you live in special? What is it about where you live that gives you a sense of place, or is a source of local pride for you and your neighbors? You might answer that my community is scenic, it has a unique history, it has many cultural resources, it has physical characteristics I like, et cetera. These community values are important, and you probably feel that they should be preserved and enhanced if possible.

Our state highways traverse virtually every community in Colorado. Our day-to-day work on these roadways, and our projects to improve them, should respect community values and should be sensitive to the unique context of each community. ***By partnering and collaborating on a multi-disciplinary basis with each community, we will find ways to achieve our transportation objectives while at the same time respecting local values. We will often enhance what makes that community special for the people who live there. Our projects should be seen as having added lasting value to the community. Our end result should exceed our expectations and those of community members, and should achieve a level of excellence in people's minds.*** In the very broadest sense that's my vision of CSS, and our success in following this vision, in my view, will be what sustains lasting support by our customers for achievement of our Vision and Mission.

These few examples may help better define *Context Sensitive Solutions* for you:

Day-to-day CDOT Operations
When we do shoulder sweeping on miles of various state highways to accommodate the thousands of bicyclists participating in the annual Ride the Rockies event, we are helping to enhance the values of those communities and groups involved. When our Maintenance crews painted the Colorado Boulevard bridge over Cherry Creek, we worked with the City of Glendale to make sure our efforts meshed with their desire to improve the area. We are being context sensitive when we add a crosswalk near a school and make it safer for children in that community. I'm sure that you can think of many of our other day-to-day activities that are similar to these, which support or enhance community values.

In order to be sensitive to community values as operators and maintainers of Colorado's highways, you have to first know them. That means those responsible for daily operations must spend some time learning what's important to the communities they work in.

CDOT Projects
As we scope, design and construct our projects we need to continue our history of finding *Context Sensitive Solutions.* For example, town and city leaders in our downtowns often feel that wider pavements limit pedestrian circulation. They fear that one side of the community may feel cut off from the other. Intersection "bump-outs" that bring sidewalks out to the edge of parking lanes, and color contrasting cross walks shorten and better define pedestrian movements, and may even allow better Americans with Disabilities (ADA) access. Decoratively paved and landscaped medians often can add aesthetic value to the community. Our designers and construction personnel worked closely with community groups on the US 6 bridge reconstruction and rehabilitation project near the gaming areas to make sure traffic delays were minimized. We worked closely with concerned groups on the Snowmass Canyon project to fit the road in, while preserving the natural beauty of the area to the largest extent possible. Our sensitivity to individual community visions is further evidenced along the Transportation Expansion (T-REX) project, where several local agencies requested different sound wall aesthetics that best fit into their respective communities. The examples go on and on.

Advancing capital projects that provide safe transportation solutions designed in harmony with the community is a bit complex. The first step is the need to identify a range of community stakeholders who can help us quickly understand the community's character before engineering work begins. We need to communicate with them in an open and honest way, early and

continuously throughout the development of each project in order to join our objectives with theirs.

We have a cadre of dedicated professionals experienced in many varied disciplines. Whether you are a designer, maintenance worker, planner, traffic engineer, real estate specialist, environmental manager, or in another discipline, please be assured that your knowledge is vital to what we do at CDOT. Your skills and ingenuity, together with the input received from our customers, helps us make outstanding and lasting contributions to Colorado's quality of life. Let's continue to make *Context Sensitive Solutions* our posture for all of our work.

Training

For the future, training will be set up for CDOT personnel, where much more detail will be provided regarding the CSS process and principles. The National Highway Institute (NHI) offers a three-day long Context Sensitive Solutions training session. CDOT may consider hiring a consultant to prepare and provide a CDOT-specific CSS training course. Our Center for Training and Organizational Development will be soliciting interest, setting up training sessions, and signing people up to attend. The expectation is that CDOT's Resident Engineers and Program Engineers will be the first group to be trained, followed by other planning, design, construction, and maintenance professionals.

Additional information relating to Context Sensitive Solutions is available at: **http://trb.org/news/blurb_detail.asp?id=1373** (National Cooperative Highway Research Program (NCHRP) Report 480: A Guide to Best Practices for Achieving Context-Sensitive Solutions) **http://www.sha.state.md.us/events/oce/thinkingBeyondPavement/tbtp.pdf** (Maryland DOT)

Appendix G.
Additional Signatory Form
Programmatic Agreement
Regarding the Interstate70 Mountain Corridor Project

WHEREAS, [name of agency] proposes to [nature of participation in or assistance to the Mountain Corridor Project]; and

WHEREAS, [name of agency] must take into account the effects of such undertakings on historic properties and provide the Advisory Council on Historic Preservation with an opportunity to comment on those effects as required by Section 106 of the National Historic Preservation Act (16 U.S.C. 470[f]); and

WHEREAS, FHWA, USFS, BLM, Colorado SHPO, CDOT, and ACHP, with participation by and concurrence of other consulting parties, have executed a programmatic agreement governing Section 106 compliance for Tier 2 undertakings that are part of the Mountain Corridor Project;

NOW THEREFORE, [name of agency] has chosen to meet its Section 106 responsibilities for Mountain Corridor Tier 2 undertakings by executing this Agreement as provided in stipulation XVI of the programmatic agreement.

[Name of Agency]

By: _____ Date: _____

Appendix C
I-70 Collaborative Effort Consensus Recommendation

2008

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CONSENSUS RECOMMENDATION

INTRODUCTION

The Collaborative Effort, a 27-member group representing varied interests of the corridor, was charged with reaching consensus on a recommended transportation solution for the I-70 Mountain Corridor. The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA) were active participants in this group and committed to adopt the consensus recommendation in the I-70 Programmatic Environmental Impact Statement (PEIS).

VISION FOR THE I-70 MOUNTAIN CORRIDOR

The Collaborative Effort's vision for transportation in the I-70 Mountain Corridor is multi-modal. Transit and highway improvements are based on proven needs and will enhance the corridor, its environment and communities. The Collaborative Effort has not completed a corridor-wide vision for the future, thereby limiting the ability of the group to accurately determine future actions and needs. In order to adequately assess future transportation needs, local governments and communities, along with additional broad stakeholder participation, need to lead a discussion to develop a long-range corridor vision for growth, transportation, and mobility. One primary purpose of this endeavor would be used to assist in the evaluation of capacity improvements. All parties must take ownership in needed changes and continue to work together to achieve this vision.

The criteria below informed the Collaborative Effort's recommendation and will serve as criteria of effectiveness moving forward:

- The solution should improve safety and mobility for all users.
- The solution should be responsive and adaptive to broader global trends that will affect the way we make travel decisions into the future.
- The solution will meet the purpose and need and all environmental and legal requirements.
- The solution should preserve, restore and enhance community and cultural resources.
- The solution should preserve, and restore or enhance ecosystem functions.
- The solution should be economically viable over the long term.

The Collaborative Effort's solution recognizes the importance of providing meaningful recommendations, short-term direction, and the ability to adapt to future conditions and needs. The Collaborative Effort has not analyzed the potential environmental impacts of this recommendation. A comparative analysis must be made of the impacts of this alternative against all other alternatives identified in the Draft Programmatic Environmental Impact Statement. The CE understands that the agencies will make this comparison as required by the National Environmental Policy Act. As soon as this analysis is complete and prior to publication in the Final Programmatic EIS the agencies shall provide a briefing to interested members of the CE of the results of this analysis.

The recommendation below captures the consensus of the Collaborative Effort.

RECOMMENDATION

The recommendation for I-70 through Colorado's mountain corridor is a multi-modal solution including non-infrastructure components, a commitment to evaluation and implementation of an Advanced Guideway System (AGS), and highway improvements. A reassessment of the improvements' effectiveness and reviews of study results and global trends shall be conducted prior to implementing additional capacity improvements. Continued stakeholder involvement is necessary for all tasks conducted on the I-70 transportation system.

The following describes the components of this recommendation:

Non-Infrastructure Related Components

Non-infrastructure related components can begin in advance of major infrastructure improvements to address some of the issues in the corridor today. These strategies and the potential tactics for implementation require actions and leadership by agencies, municipalities and other stakeholders beyond CDOT and FHWA. The strategies include but are not limited to the following:

- Increased enforcement.
- Bus, van or shuttle service in mixed traffic.
- Programs for improving truck movements.
- Driver education.
- Expanded use of existing transportation infrastructure in and adjacent to the corridor.
- Use of technology advancements and improvements which may increase mobility without additional infrastructure.
- Traveler information and other intelligent transportation systems.
- Shift passenger and freight travel demand by time-of-day and day-of-week.
- Convert day-trips to overnight stays.
- Promote high occupancy travel and public transportation.
- Convert single occupancy vehicle commuters to high occupancy travel and/or public transportation.
- Implement transit promotion and incentives.
- Other transportation demand management (TDM) measures yet to be determined.

Advanced Guideway System

An Advanced Guideway System (AGS)[1] is a central part of the recommendation and includes a commitment to the evaluation and implementation of AGS within the corridor, including a vision of transit connectivity beyond the study area and local accessibility to such a system.

Additional information is necessary to advance implementation of an AGS system within the corridor:

- Feasibility of high speed rail passenger service.
- Potential station locations and local land use considerations.
- Transit governance authority.
- Alignment.
- Technology.
- Termini.
- Funding requirements and sources.
- Transit ridership.
- Potential system owner/operator.
- Interface with existing and future transit systems.
- Role of AGS in freight delivery both in and through the corridor.

Several studies currently underway will provide further information to assist stakeholders with evaluation and implementation of AGS. CDOT is committed to provide funding for studies in support of the additional information needs to determine the viability of the AGS. The implementation plan included in the Final Programmatic Environmental Impact Statement will identify roles and responsibilities,

[1] As defined by the performance criteria identified by the I-70 Coalition.

including actions and leadership required by agencies, municipalities and other stakeholders in addition to CDOT and FHWA.

Highway Improvements

The Collaborative Effort recognizes that following highway improvements are needed to address current corridor conditions and future demands. These improvements must be planned considering all elements of the recommendation and consistent with local land use planning. The following safety, mobility, and capacity components are not listed in order of priority, are not subject to the parameters established for future capacity improvements identified in the latter part of this document, do not represent individual projects and may be included in more than one description. They are listed in two categories. All of the improvements in both categories are included in our recommendation. The "Specific Highway Improvements" are called out specifically for the triggers for the Future Highway and Non-AGS Transit Improvements:

Specific Highway Improvements

- A six-lane component from Floyd Hill through the Twin Tunnels including a bike trail and frontage roads from Idaho Springs East to Hidden Valley and Hidden Valley to US 6.
- Empire Junction (U.S. 40/I-70) improvements.
- Eastbound auxiliary lane from the Eisenhower Johnson Memorial Tunnel (EJMT) to Herman Gulch.
- Westbound auxiliary lane from Bakerville to the EJMT.

Other Highway Projects

- Truck operation improvements such as pullouts, parking and chain stations.
- Safety improvements west of Wolcott.
- Eastbound auxiliary lane from Frisco to Silverthorne.
- Safety and capacity improvements in Dowd Canyon.
- Interchange improvements at the following locations:
    - East Glenwood Springs.
    - Gypsum.
    - Eagle County Airport (as cleared by the FONSI and future 1601 process)
    - Eagle.
    - Edwards.
    - Avon.
    - Minturn.
    - Vail West.
    - Copper Mountain.
    - Frisco/Main Street.
    - Frisco/SH 9.
    - Silverthorne.
    - Loveland Pass.
    - Georgetown.
    - Downieville.
    - Fall River Road.
    - Base of Floyd Hill/US 6.
    - Hyland Hills and Beaver Brook.
    - Lookout Mountain.
    - Morrison.

- Auxiliary Lanes:
    - Avon to Post Boulevard (eastbound).
    - West of Vail Pass (eastbound and westbound).
    - Morrison to Chief Hosa (westbound).

Future Stakeholder Engagement

Ongoing stakeholder engagement is necessary because the aforementioned improvements may or may not fully address the needs of the corridor beyond 2025, and the recommendation does not preclude nor commit to the additional mutli-modal capacity improvements. As such, CDOT and FHWA will convene a committee that retains that the Collaborative Effort member profile. The committee will establish its own meeting schedule based on progress made against the approved triggers, with check-ins at least every two years. Such meetings will review the current status of all projects and will consider the following triggers in evaluating the need for additional capacity improvements.

Triggers for Additional Highway and Non-AGS Transit Capacity Improvements

Additional highway and non-AGS transit capacity improvements may proceed if and when:

- The "Specific Highway Improvements" are complete, and an AGS is functioning from the front range to a destination beyond the Continental Divide, or

- The "Specific Highway Improvements" are complete, and AGS studies that answer questions regarding the feasibility, cost, ridership, governance, and land use are complete and indicate that AGS cannot be funded or implemented by 2025 or is otherwise deemed unfeasible to implement, or

- Global, regional, local trends or events have unexpected effects on travel needs, behaviors and patterns and demonstrate a need to consider other improvements, such as climate change, resource availability, and/or technological advancements.

In 2020, there will be a thorough assessment of the overall purpose and need and effectiveness of implementation of these decisions. At that time, CDOT and FHWA, in conjunction with the stakeholder committee, may consider the full range of improvement options.

The CE recommends that the Record of Decision for the PEIS require that Tier 2 studies comply with:

- The Section 106 Programmatic Agreement,
- The Memoranda of Understanding for:
    - Stream Wetland Ecology Enhancement Project (SWEEP),
    - Minewaste, and
    - A Landscape-level Inventory of Valued Ecosystem Components (ALIVE),, and
- The Context Sensitive Solutions (CSS) decision making process and guidance manual.

CDOT and FHWA also will consider the principles of the Colorado Governor Ritter's Climate Action Plan within future environmental studies.

Appendix D
SWEEP Memorandum of Understanding

2010

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DISCLAIMER

minor text edits but the structure and overall content are in their final form.

Stream and Wetland Ecological Enhancement Program (SWEEP)

Memorandum of Understanding

Background

This Memorandum of Understanding (MOU) is made and entered into this xxth day of xxx, 2010, among the Colorado Department of Transportation (CDOT), the Federal Highway Administration (FHWA), the US Fish and Wildlife Service (USFWS), the USDA Forest Service (USFS), the US Bureau of Land Management (BLM), Colorado Division of Wildlife (CDOW), Clear Creek County, Clear Creek Watershed Foundation, Upper Clear Creek Watershed Association (UCCWA), and Colorado Trout Unlimited, hereinafter referred to as "Parties."

The Parties to this agreement recognize that the existing I-70 Mountain Corridor and the proposed future improvements pass through several watersheds that support numerous aquatic resources. While all Parties to this MOU recognize that the I-70 transportation system provides important benefits to Colorado citizens, the local communities, and economic interests on a statewide level, they also acknowledge that the I-70 Mountain Corridor impacts the water quality and viability of watershed ecology in these watersheds. Therefore, the benefits derived from a transportation system may come at a cost to other resources, including water quality and aquatic resources, unless appropriate actions are taken to consider these resources at all stages of the Context Sensitive Solutions (CSS) Decision Making Process.

The Parties to this agreement desire to improve stream and wetland conditions in the I-70 Mountain Corridor. To meet that need, CDOT convened the Stream and Wetland Ecological Enhancement Program (SWEEP) Committee, an advisory committee consisting of fisheries biologists, hydrologists, and other watershed and water quality-related technical experts, community representatives, and other potentially-affected parties. The SWEEP Committee will identify and recommend appropriate mitigation strategies, including design, implementation and monitoring, for anticipated environmental impacts likely to occur as a result of redevelopment of the I-70 Mountain Corridor. The SWEEP Committee will coordinate with the A Landscape Level Inventory of Valued Ecosystem Components Committee (ALIVE), whose goal is to increase the permeability of the I-70 Corridor to terrestrial and aquatic species to provide and maintain long-term protection and restoration of wildlife linkage areas, improve habitat connectivity, and preserve essential ecosystem components.

The I-70 Mountain Corridor extends through three major hydrologic drainage basins: Clear Creek, the Blue River and the Eagle/Colorado Rivers. Historic human practices, not solely related to I-70, have significantly degraded the quality of these streams. This MOU establishes agreement around SWEEP and forms the foundation of mitigation for aquatic resource impacts during Parties' projects along the I-70 Mountain Corridor and its communities.

Purpose and Intent

The primary purpose of the SWEEP Committee and MOU is to assist the parties with means by which to effectively and efficiently comply with applicable federal, state, and local laws regarding water quality, stream and riparian habitats, and aquatic wildlife; and where applicable, improve stream conditions associated with past, ongoing, and future planning, construction, and

maintenance actions in the I-70 Mountain Corridor. All applicable federal and state laws apply to these actions, such as the Clean Water Act, Endangered Species Act, CERCLA, RCRA, Colorado Water Quality Control Act, and Senate Bill 40. Local laws, regulations, and legislative actions also apply. The parties to this MOU agree to work within the decision making structure of the I-70 Mountain Corridor CSS Guidance to consider and expand the menu of mitigations strategies and develop standards, quality control and assurance, and processes for future studies.

Whereas the Parties intend to implement this SWEEP MOU to:

1. Enhance stream and wetland ecology using the watershed context
2. Develop more sustainable ways of maintaining transportation systems while avoiding and minimizing future impacts to watersheds within the Corridor.
3. Protect aquatic and amphibian communities
4. Sustain and restore aquatic communities supporting species for their intrinsic, ecological, and recreational value
5. Address stream stability and functionality
6. Compile historic information on changes to stream geometry from community development and transportation-related activities and explore logical strategies for restoring stream functions, such as bank stabilization and flood control
7. Support and coordinate with ALIVE (A Landscape Level Inventory of Valued Ecosystem Components)
8. Work with the ALIVE recommendations to coordinate actions that support the ALIVE MOU
9. Establish a foundation of baseline information for water-related state and federal permits along the I-70 Mountain Corridor
10. Relate CDOT and FHWA state and federal permitting procedures to current laws and regulations and determine potential impact of SWEEP recommendations.
11. Support delisting 303(d) waterways
12. Understand factors contributing to water quality impaired segments within the Corridor and base certain goals on specific pollutant reduction

The intent of this MOU is to establish agreement to:

1. Create a system for management and mitigations over the life of the projects
2. Follow the CSS Decision Process in developing mitigation procedures based on SWEEP recommendations
3. Outline a process for collaboration and defining specific strategies for avoidance and mitigation
4. Determine appropriate people and data resources to develop strategies. Expand Tier 1 recommendations to avoid, minimize, and compensate for impacts during Tier 2
5. Identify issues to be considered
6. Use diversity of data resources and stakeholders to recognize Corridor issues related to streams and wetlands. Allow for dynamic nature of diverse experiences and ideas
7. Address cumulative impacts
8. Collect data on past corridor activities and future growth projections to predict potential impacts on water quality.
9. Prioritize and specify aquatic, riparian, and amphibian resources

10. Assemble Corridor studies and information on species with special designation to identify those species and habitats that should be priority while establishing mitigation recommendations
11. Define the process for developing mitigation for Tier 2 documents
12. Determine SWEEP Committee involvement in Tier 2 and how mitigation recommendations will be incorporated into project development.
13. Identify parties and how they work together
14. Agree to work together effectively and outline expectations, including general and specific roles and responsibilities.
15. Pool resources
16. Maintain collaboration as an efficient way to use individual expertise, gather agency/group information, and concentrate the focus while allowing room for innovative solutions.
17. Identify realistic opportunities for specific issues and sustainability
18. Promote the development of mitigation recommendations specific to a watershed, community, or project with future needs and resources in mind.
19. Compare past activities and apply lessons learned to recommendations for future mitigation strategies.
20. Develop standards, quality control and assurance, and processes for future studies
21. Expand existing standards to fit future Tier 2 needs and support activities that meet or exceed these standards.

Issues of Concern

This MOU identifies three areas of concern that should be addressed in all subsequent phases of development – water quality, natural habitat, and information. Other concerns may be identified and will need to be addressed.

Water Quality

- Sediment Management
  Because I-70 Mountain Corridor experiences severe weather during the winter, CDOT and local agencies use significant amounts of traction sand to keep the roadway open and safe. CDOT has developed Sediment Control Action Plans (SCAP) to identify solutions to sedimentation, but not all basins have been studied. SCAPs should be developed and implemented in coordination with ALIVE to minimize linkage interference.

  SWEEP will support the development of SCAPs in areas where they are needed. Existing SCAPs should be updated to reflect completed projects and water quality features, modifications, and lessons learned.

- Clean Water Act, Section 303(d) Listing of Stream Segments
  A number of stream segments along I-70 are listed as impaired waters of the United States. The impairment is due to heavy metals and/or sediments that exceed levels of chronic standards. Sources for these issues include past mining activities and the operation and maintenance of I-70.

  SWEEP will support strategies, including but not limited to restoration and remediation, toward de-listing the segments in the Corridor from the 303(d) list.

- Mine Workings in the I-70 Corridor
  The I-70 corridor contains shafts, drifts, stopes, and other mine workings often filled with contaminated water. The groundwater hydrology of these workings is not known, but evidence indicates that these workings contain significant quantities of acid mine waters.

  SWEEP will support the identification of these underground mine locations, avoid intercepting these pollutants to the extent practicable, and remediate exposed contaminated mine water, where practicable and particularly those near impaired waters within the Corridor.

- Highly Mineralized Rock Formations within the I-70 Mountain Corridor
  The geology through the I-70 Mountain Corridor includes certain sections of heavily mineralized bedrock, mainly in Clear Creek County. Historic construction practices required significant excavation through rock walls that exposed entrained heavy metals. Over time these minerals have leached from the rock walls and have likely found their way to local water courses, contributing to their toxicity.

  SWEEP will recommend means by which these potential threats can be abated.

- Previous Construction Practices Using Mine Waste as Roadbed Material
  Several miles of the current I-70 alignment run through areas of historic and active mining, mainly in Clear Creek County. Original construction of I-70 through Clear Creek County used mine waste as road bed material which, even today, has quantities of toxic metals (and other materials) that represent significant threats to water quality should that material be disturbed.

  SWEEP will recommend strategies for dealing with these potential threats on a site-specific basis, using expertise and sound science.

Natural Habitat

- Wetlands Protection
  Wetlands perform many important functions, including providing wildlife habitat and filtering stormwater runoff. The location of I-70 adjacent to creeks and rivers makes it difficult to completely avoid wetland impacts during transportation improvements, and locating mitigation property within the same watershed as impacts can be a challenge.

  SWEEP will support avoidance and minimization measures during project development and identify ways of restoring and enhancing wetlands, preferably in the same watershed, to compensate for unavoidable impacts.

- Aquatic Species with Special Status Designation under State and Federal Rule
  Clear Creek, Blue River, and the Eagle/Colorado Rivers are home to aquatic species of special designation, as defined by the Colorado Division of Wildlife, U.S. Fish and Wildlife Service, Bureau of Land Management, and U.S. Forest Service. (Links to agency lists are available in Appendix X). In each case these species have suffered through a significant loss of habitat, and each species is currently being studied under recovery efforts.

  SWEEP will identify mitigation that will encourage no further degradation to, and where possible improve, stream systems containing species of special designation and show that

transportation improvements and other community developments will be consistent with the efforts of these recovery strategies.

- Aquatic Species as a Recreational Resource
  Each of the river basins in the I-70 Mountain Corridor contains populations of introduced species of trout that provide significant recreational resources to both in-state and out-of-state visitors. In some instances, whole reaches of these rivers were rendered unusable for aquatic life as creeks were channelized, inundated with sediment, heavy metals, and/or chemicals were introduced.

  SWEEP will develop recommendations that protect, and where possible improve, aquatic systems in each of the phases of development identified in the Context Sensitive Solution process. These recommendations should be consistent with the protection or recovery of special status species.

Information

- Information and Research Needs
  Development of mitigation is hampered by a lack of information germane to watershed health.

  SWEEP will identify relevant information needs and take steps to acquire that information.

Implementation

Implementation of SWEEP Committee recommendations will be subject to the respective Parties' planning, NEPA, and decision-making requirements. SWEEP activities and recommendations should be coordinated with the ALIVE committee and be consistent with the ALIVE recommendations.

- Project-specific SWEEP teams
  The development of specific recommendations and mitigations for projects will be developed collaboratively with a project specific SWEEP team. Establishment of a SWEEP team will follow the CSS guidelines for establishing issue teams based on the specific needs and issues of the project.

- Define the process for developing mitigation for Tier 2 documents
  Determine SWEEP Committee involvement in Tier 2 and how mitigation recommendations may be incorporated into project development.

- Implementation Matrix
  The Implementation Matrix provided in the Appendix should be used as guidance for developing recommendations at each life cycle phase of projects on the corridor. The matrix outlines inputs, considerations, and outcomes for each phase of a project, consistent with the phases used by the CSS decision-making process.

- Development and implementation of SCAPS
  Sediment Control Action Plans (SCAPs) will be used to address sediment management and meet Total Maximum Daily Loads (TMDLs). Parties will work collaboratively to implement SCAP recommendations.

Cooperation

All Parties recognize that this process goes beyond the ordinary regulatory or statutory requirements of its participants. All Parties, within their statutory and regulatory authority, agree to work together toward the long-term protection of water quality and restoration of wetlands and aquatic resources within the I-70 Mountain Corridor. All parties recognize that neither CDOT nor FHWA has a mission to enhance water quality and aquatic resources and that they cooperate with and rely on resources and regulatory agencies to further these efforts. Based on this understanding, all Parties agree to reasonably cooperate in the implementation of this MOU. Such cooperation would include:

- Supporting the concepts identified in this MOU and working to actively implement this MOU as authorized under applicable laws, regulations, and policies.
- Providing transportation and stream and wetland expertise, data, and technical support to the SWEEP Committee for planning and project review that will mitigate impacts on, or provide betterments for, water quality, wetlands, and aquatic resources within the I-70 Mountain Corridor.
- Considering the SWEEP Committee's program and recommendations when the opportunity to construct improvements arises, with the expectation that additional analyses may be needed prior to any investment in stream and wetland improvements. Analysis will include evaluations of the effectiveness of previous improvements.
- Identifying specific programs or actions that could result in the long-term protection, restoration and enhancement of stream and wetland ecology in the I-70 Mountain Corridor
- Working with the SWEEP Committee, local governments, and other stakeholders as appropriate to:
  - pursue potential partnerships and funding mechanisms;
  - identify and promote opportunities and resources to enhance stream and wetland ecology; and
  - sustain partnerships for the long-term protection and restoration of stream and wetland ecology in the I-70 Mountain Corridor.
- All Parties to this MOU agree that when funding options are identified through successful efforts of one or more of the Parties or stakeholders, or other independent initiatives, recommendations developed by the SWEEP Committee will be considered.
- Existing planning and funding mechanisms for transportation projects can create limitations to the programmatic approaches envisioned by this MOU. Full implementation of a successful SWEEP outcome requires the participation by all Parties and other stakeholders in the commitment of resources beyond those meant for transportation mitigation.

Roles and Responsibilities

Cooperation by CDOT shall include:

1. Leading the primary effort to initiate the SWEEP, thereby helping to achieve the environmental goals of the Tier 1 PEIS and subsequent Tier II decisions, which extend beyond the legal requirements of CDOT and FHWA.
2. Facilitating open discussions and working relationships to accomplish corridor wetland and stream mitigation goals.
3. Providing technical support to the SWEEP, primarily involving wetlands, water quality, wildlife, and transportation engineering.
4. Providing funding mechanisms to support mitigation strategies, primarily through project budgets and applying for state and federal grant programs

Cooperation by FHWA and CDOT shall include:

1. Leading the primary effort to initiate the SWEEP program, thereby helping to achieve the environmental goals of the PEIS and subsequent Tier II decisions, which extend beyond the requirements of CDOT and FHWA.

Cooperation by the USFS and BLM shall include:

1. Considering the recommendations of SWEEP in the review of Tier 2 NEPA documents, considering granting of any land actions or other use permits germane to aquatic/amphibian wildlife movement corridors and other aquatic resources including water quality and riparian habitat, and reviewing biological reports for consideration of approval and participating in Section 7 consultation under the ESA so that transportation projects and associated conservation measures can proceed in a timely manner.
2. Encouraging the cooperation and support of land authorization holders and other entities with legal interest on public lands to ensure the realization of the objectives of the MOU, which could include their active participation in achieving the goals of SWEEP.
3. Exercising Forest Service regulatory requirements and authorities to protect aquatic/amphibian wildlife and riparian vegetation species and their habitats. Accordingly, the USFS, by means of ordinary and established planning and subsequent NEPA processes, will consider lands in proximity to I-70 for their aquatic/amphibian wildlife and riparian vegetation habitat and aquatic/amphibian wildlife movement attributes, among other multiple use considerations. They will treat installed aquatic/amphibian wildlife passages consistent with their intended purpose of connecting functional aquatic /amphibian wildlife movement corridors, and will strive to maintain the associated aquatic and amphibian wildlife movement corridors.
4. Informing the CDOT Environmental Programs Branch, Transportation Regions 1 and 3 by letter of all requested land actions, special use permits, USFS plan amendments, or other pertinent actions that could affect an identified aquatic or amphibian habitat linkage and/or could potentially conflict with a planned aquatic/amphibian wildlife passage area.
5. Seeking to acquire lands along the I-70 Corridor through donation, exchange, or legislation to maintain or improve aquatic, riparian, and amphibian habitat connectivity adjacent to the I-70 Corridor, as opportunities arise and in compliance with the Forest Service land adjustment policy.

Cooperation by USFWS shall include:

1. Providing fish passage and aquatic wildlife expertise.
2. Considering SWEEP recommendations during Tier 2 review and ESA Section 7 consultation.

Cooperation by CDOW shall include:

1. Providing in-kind support through cooperation and consultation with other Parties, jurisdictions, and landowners to facilitate a Corridor-long perspective and understanding of aquatic wildlife needs and conservation measures.
2. Providing aquatic wildlife data and management expertise.
3. Assist with monitoring the effectiveness of aquatic wildlife mitigation.

Cooperation by Clear Creek County shall include:

1. Support the concepts and activities identified in this MOU.
2. Through adoption and implementation of Best Management Practices, protect water quality and riparian areas.
3. Through partnerships, act to enhance stream and wetland ecology.
4. Through our budgetary process, strive to continue to support the acquisition of data relating to Clear Creek.
5. Through outreach efforts, raise public awareness of and support for actions that protect and enhance stream and wetland health.

Cooperation by Upper Clear Creek Watershed Association (UCCWA) shall include:

1. Supporting the concepts identified in this MOU and working to actively implement this MOU as authorized under applicable laws, regulations, and policies.
2. Providing Clear Creek water quality expertise, data, and support to the SWEEP Committee for planning and project review that will mitigate impacts on, or provide betterments for, Clear Creek water quality across the I-70 Mountain Corridor.
3. Identifying programs or actions that could result in the long-term protection, restoration, or enhancement of water quality in Clear Creek along I-70 Mountain Corridor. Implementation of SWEEP Committee recommendations would be subject to the respective Parties' planning, NEPA, and decision-making requirements.
4. Working with the SWEEP Committee, local governments, and other stakeholders as appropriate to:
    a. pursue potential partnerships and funding mechanisms; and
    b. identify and promote opportunities and resources to improve water quality in Clear Creek along the I-70 Mountain Corridor.
5. Be a signing party to the Memorandum of Understanding along with other signing parties.
6. Solicit volunteer and donated efforts among its members and affiliates for providing data, in-kind labor, or other volunteer or donated efforts.
7. Act as a conduit for information sharing and communication between CDOT, the I-70 PEIS, and UCCWA members

Cooperation by Clear Creek Watershed Foundation (CCWF) shall include:

1. Promoting and managing Good Samaritan projects that advance watershed sustainability.
2. Bringing potential funding for projects that enhance watershed sustainability through grants and other resources.
3. Sharing data and expertise concerning water quality for the Clear Creek Watershed. CCWF is the repository for continuous data and analysis dating from 1994 to the present.
4. Aiding in public outreach and education through our existing outlets; including our website (www.clearcreekwater.org) and the Clear Creek Watershed Exhibit, housed in the Idaho Springs Heritage Museum & Visitor Center.
5. Be a signing party to this Memorandum of Understanding with other cooperating signatories.

Cooperation by Colorado Trout Unlimited (CTU) shall include:

1. Supporting the concepts identified in this MOU and working to actively implement it as authorized under applicable laws, regulations, and policies.
2. Identifying opportunities for enhancement of aquatic species in those river systems likely to be adversely affected by activities associated with the redevelopment of the I-70 Mountain Corridor.
3. Identifying programs or actions that could result in the long-term protection, restoration, or enhancement of aquatic species in riparian systems along I-70 Mountain Corridor. Implementation of SWEEP Committee recommendations would be subject to the respective Parties' planning, NEPA, and decision-making requirements.
4. Working with the SWEEP Committee, local governments, and other stakeholders as appropriate to:
    a. pursue potential partnerships and funding mechanisms; and
    b. identify and promote opportunities and resources to improve water quality in Clear Creek along the I-70 Mountain Corridor.
5. Be a signing party to the Memorandum of Understanding along with other signing parties.
6. Solicit volunteer and donated efforts among its members and affiliates for providing data, in-kind labor, or other volunteer or donated efforts.
7. Act as a conduit for information sharing and communication between CDOT, the I-70 PEIS, and other conservation organizations.

It Is Mutually Understood and Agreed by and among the Parties that:

1. Freedom of Information Act (FOIA). Any information furnished to all federal and state agencies under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

2. Participation in Similar Activities. This instrument in no way restricts the Parties from participating in similar activities with other public or private agencies, organizations, and individuals.

3. Commencement/Expiration/Termination. This MOU takes effect upon the signature of the Parties and shall remain in effect from the date of execution until all I-70 Mountain Corridor projects tiered to that Programmatic Environmental Impact Statement have been constructed and the mitigation/reclamation actions committed to in the PEIS have been completed. All Parties will review this MOU every 5 years from original date of execution. This MOU may be amended if/as necessary by written request of any Party and upon written concurrence of all Parties.

4. Responsibilities of Parties. The Parties and their respective agencies and office will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives. Each party will carry out its separate activities in a coordinated and mutually beneficial manner.

5. Principal Contacts. The principal contacts for this instrument are:

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UCCWA Administrative Contact

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Trout Unlimited Administrative Contact

Gary Frey
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E-Mail: Gbfrey@msn.com

6. Non-fund Obligating Document. Nothing in this MOU shall obligate the Parties to obligate or transfer any funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the Parties will require execution of separate agreements and be contingent upon the availability of appropriated funds. Such activities must be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.

7. Establishment of Responsibility. This MOU is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.

8. Authorized Representatives. By signature below, the Cooperating Party certifies that the individuals listed in this document as representatives of the Cooperating Party are authorized to act in their respective areas for matters related to this agreement.

The Parties hereto have executed this instrument.

DATE	DATE
DATE	DATE
DATE	DATE
DATE	DATE
DATE	DATE

The authority and format of this instrument has been reviewed and approved for signature.

DATE

Appendix A

SWEEP Implementation Matrix

The following matrix identifies the primary objective for each of the Issues of Concern identified in the SWEEP MOU and supports policy-level mitigation for aquatic resources as it applies to site specific projects. The matrix outlines the inputs, considerations, and outcomes needed for each of the life cycle phases for improvements in the corridor. As activities in the corridor move from corridor planning to project development to project design and so on, the outcomes from the previous phase become inputs for the subsequent phase. This approach is consistent with the Life Cycle Phases and 6-Step Process in the CSS Guidance for the I-70 Mountain Corridor. (For more information on the I-70 Mountain Corridor CSS Life Cycle Phases, see Appendix B)

Water Quality	**Corridor Planning**	**Project Development**	**Project Design**	**Project Construction**	**Operations, Maintenance, Monitoring**
Sediment Management Objective: Reduce sediment loading in waterways from winter maintenance, erosion, and mine waste Applicable Laws: Clean Water Act Section 303(d)	**Inputs:** Total Maximum Daily Loading (TMDLs) or other quantification of loading and characterization Current operations Existing conditions and anticipated broad impacts Inventory of potentially impacted streams	**Inputs:** Existing water quality monitoring programs Sediment Control Action Plans (SCAPs) Site specific assessments	**Inputs:** Anticipated project impacts Best management practices (BMPs) Recommended mitigations Existing water quality monitoring programs data Water Quality Management Plan SCAPs	**Inputs:** Storm Water Management Plan (SWMP) for the project Water quality monitoring during construction	**Inputs:** Water quality monitoring programs SCAPs BMPs

Water Quality	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Sediment Management (continued)	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	What opportunities exist to minimize sediment loading?	Does the existing SCAP provide strategies to avoid, minimize or mitigate impact to meet the objective? What are the costs and benefits of each strategy? What revisions are needed for the SCAP?	What are the appropriate site specific sediment controls? What are the receiving waters in the project area? How might any remaining impacts that exceed standards in the project reach be mitigated?	What practices can be implemented to minimize or avoid construction related impacts?	Are conditions and sediment levels consistent over time? Do the current levels meet TMDLs
	Outcomes:	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**
	Develop SCAPs for the I-70 Mountain Corridor	Revise or endorse SCAP Specific sediment management recommendations to meet the standards Identify site specific mitigation strategies Water Quality Management Plan	Design sediment management strategies and structures Plan for maintaining operations into the future Water Quality Monitoring Plan	Construct sediment management recommendations from the SCAP Implement Best Management Practices (BMPs) Maintenance and removal of temporary BMPs	Maintenance of mitigation measures Remove remaining temporary construction BMPs Sediment basin maintenance Meet the objective

Water Quality	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Clean Water Act, Section 303(d) Listing of Stream Segments Objective: Reduce non-point source loading impacting stream segments and reduce metals and nutrients loading to meet water quality standards Applicable Laws: Clean Water Act CERCLA RCRA	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**
	303d listings	303d List impairments by segment Gaining/losing segments	Remediation strategies for specific segments Sampling Analysis Protocol (SAP)	Design requirements Agency permit	Listed stream segment inventory and remediation areas
	Considerations:	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	What are the requirements for working in and/or near a listed segment?	What are the baseline vs. event driven issues?	What are project design options to lessen impacts to listed segments? What are mitigation design options to remediate impaired segments?	How can construction activities minimize impacts and control specific species of pollutants?	How can maintenance activities avoid impacts?
	Outcomes:	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**
	Recognition of impaired segments, isolated areas with increased concentration of pollutants, and associated requirements	Remediation strategies for specific segments Sampling Analysis Protocol (SAP) Initiate site specific consultation with permitting agencies	Non-point source mitigation design Agency permit	Remediate impaired areas consistent with agency BMPs and stipulations in agency-granted permits	Monitoring and adaptive management to meet objective

Water Quality	**Corridor Planning**	**Project Development**	**Project Design**	**Project Construction**	**Operations, Maintenance, Monitoring**
Mine Workings in the I-70 Right-of-Way Objective: Avoid intercepting underground mines and remediate contaminated mine water where possible Applicable Laws: CERCLA RCRA Clean Water Act	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**
	CERCLA sites information -surface -subsurface -water Mill sites in ROW Previous efforts to remediate mine site Current agreements regarding mitigation and mitigation responsibilities	Subsurface / Geotechnical analysis Site specific avoidance opportunities	Identify specific locations	Follow remediation designs	Known locations of mine workings
	Considerations:	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	What are possible impacts? Are there potential effects to the water course?	What design/controls are available?	Identify specific remediation designs if appropriate	Potential design issues or construction challenges	How can activities avoid impacts?

Water Quality	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Mine Workings in the I-70 Right-of-Way (continued)	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**
	Avoidance opportunities Liability relief for general improvements	Water quality design/controls/ baselines Mitigation strategies Liability relief memo for specific project	CERCLA site remediation support Plan for meeting stipulations in site specific liability relief memo	Remediate impacted areas Plan implementation	Monitor plan to determine success

Water Quality	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Highly Mineralized Rock Formations within the I-70 Mountain Corridor Objective: Avoid cuts in rock walls that expose entrained heavy metals Applicable Laws: CERCLA	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**
	Surface and subsurface geology of ores Existing monitoring results, if any	Site specific assessments	Site specific geology and hydrology considerations	Design specifications	Known locations of mineralized rock formations
	Considerations:	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	Plan avoidance of rock cuts through the ore body	What alternatives minimize impacts?	How can these formations be avoided?	If encountered, how can site specific mitigation be utilized?	Can impacts be avoided?
	Outcomes:	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**
	Avoidance opportunities	Avoidance or mitigation strategies	Project mitigation design	Redesign or make adjustments in the field	Hydraulic and chemical management of contaminants Monitoring

Water Quality	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Previous Construction Practices Using Mine Waste as Roadbed Material Objective: Avoid disturbing mine waste in mining areas or mine waste previously used as roadbed material Applicable Laws: CERCLA RCRA	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**
	Identify existing locations/sites	Verify location inventory Site specific assessments	Verify location inventory Commitments from project development phase	Verify location inventory Design specifications	Location inventory
	Considerations:	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	Can remobilization of mine waste be avoided?	What alternatives minimize impacts?	How can this material be avoided?	If encountered, how can site specific mitigation be utilized?	Avoid further impacts
	Outcomes:	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**
	Avoidance opportunities Liability relief for general improvements	Avoidance or mitigation strategies Liability relief memo for specific project	Site specific design that avoids or minimizes impacts Plan for meeting stipulations in site specific liability relief memo	Redesign or field adjustments Plan implementation	Chemical management of contaminants Monitor plan to determine success

Natural Habitat	**Corridor Planning**	**Project Development**	**Project Design**	**Project Construction**	**Operations, Maintenance, Monitoring**
Wetlands Protection Objective: No net loss of wetland functions Applicable Laws: Clean Water Act Section 404 Executive Order 11990	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**
	GIS inventory of wetlands (NWI) Existing watershed information Stream morphology Species of special concerns inventory	Wetland location inventory Site specific assessments Wetland Functional Assessments Current guidance and regulations Coordination with USACE and USEPA	Wetland location inventory General avoidance and minimization measures Mitigation plan requirements Permit Special Conditions Monitoring Plan	Wetland location inventory Specific impact minimization measures	Wetland location inventory Current guidance and regulation
	Considerations:	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	Opportunities for corridor level mitigation strategies What are the policies regarding off-site remediation should remediation of existing wetlands be deemed infeasible?	Do unique or highly functioning wetlands exist in project areas? Will project be subject to USACE Merger Agreement?	What design strategies are being used to avoid all wetland areas?	Can construction practices be improved to further avoid wetland impacts? Are wetlands and drainages adjacent to the project area being protected from direct and indirect impacts?	Does CDOT Maintenance staff know who to contact in case of an accidental discharge to wetlands or drainages? How long following construction of mitigation sites and/or remediation of temporary impacts should monitoring continue?

Natural Habitat	**Corridor Planning**	**Project Development**	**Project Design**	**Project Construction**	**Operations, Maintenance, Monitoring**
Wetlands Protection (continued)	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**
	Corridor-wide mitigation strategies Coordination with USACE and USEPA	Site specific mitigation, preferably within the same watershed ROW acquisition Clean Water Act Permit or continued consultation	Site specific protection measures Mitigation design / monitoring plan Clean Water Act permits, if necessary	BMPs – Installation, maintenance during construction, and removal following construction	Maintenance of permanent BMPs Monitoring reports Adaptive management

Natural Habitat	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Aquatic Species with Special Status Designation Under State and Federal Rule Objective: No further degradation to, and where possible improvement of, stream systems containing species of special designation Applicable Laws: Endangered Species Act CDOW Listing Colorado SB 40	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**
	Current guidance and regulations	Species habitat inventory Existing recovery efforts Section 7 consultation on special status species Coordination with CDOW and USFWS	Species habitat inventory Species specific needs and compatible project designs	Species habitat inventory Design specifications	Species habitat inventory
	Considerations:	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	Are any special status species present? Do species recovery teams have restoration plans within the project area? Are water depletions to the South Platte River or Colorado River basins a potential?	Do opportunities exist for projects to enhance recovery efforts? Do fish barriers exist that should be removed or fish passages that should be designed? Should fish barriers be installed that will protect special status species?	Will project designs minimize impacts to native fish during construction and operations? Are there innovative designs that will further the goals of the recovery efforts in the stream segments affected?	Do storm water management plans show locations of temporary and permanent BMPs?	Are maintenance strategies in place to reduce pollutants that enter streams known to have Special Designation status?

Natural Habitat	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Aquatic Species with Special Designation Under Federal and State Rule (continued)	**Outcomes:** Corridor-wide mitigation strategies Inventory of special status species	**Outcomes:** Identify possible recovery efforts	**Outcomes:** Project design incorporating recovery efforts	**Outcomes:** Avoidance of special designation species impacts	**Outcomes:** Impact minimization

Natural Habitat	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Aquatic Species as a Recreational Resource Objective: Protect and improve aquatic systems as significant recreational resources	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**
	Current guidance and regulations Current stream designations by segment	Recreational resource inventory within corridor Project area stream designations Adopted local plans	Recreational resource inventory within corridor Site specific mitigation strategies	Recreational resource inventory within corridor Design specifications	Recreational resource inventory within corridor
	Considerations:	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	Have corridor creeks, rivers, and lakes been inventoried by segment? What areas of viable habitat can be improved?	Does the CDOW have special designation segments within the project area?	Where can new and improved recreation opportunities be incorporated into project design? Where should recreation in certain stream segments be avoided to protect special status species?	Is it necessary to limit construction during certain times of the year to avoid reproduction periods?	Are maintenance strategies in place to reduce pollutants that enter streams known to have Special Designation status?
	Outcomes:	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**
	Corridor-wide mitigation strategies	Site specific mitigation strategies Partnerships Enhancement opportunities	Design for improved habitat and compatible low-impact recreation	Improved habitat for recreational resources and users	Expanded habitat and Improved habitat value and function

Information	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Information and Research Needs Objective: Identify and acquire information germane to watershed health	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**	**Inputs:**
	Habitat, flow data, water quality data, event data, and site specific data	Project specific data	Project specific data	Project specific data	Data inventory
	Considerations:	**Considerations:**	**Considerations:**	**Considerations:**	**Considerations:**
	Do we know the variety and quantity of aquatic species present in the stream being impacted? What are the historic aquatic values and functions of each stream reach? Is there evidence of stressed riparian vegetation in the project area? Is there a water quality baseline available for the stream likely to be affected?	What are the environmental effects of winter sand/salt procedures on aquatic vegetation? Are there alternative processes that would better minimize sand/salt deposits in the vicinity of rivers and streams?	Are additional data needed for design?	Are additional data needed for construction?	What monitoring protocols are in place?

Information	Corridor Planning	Project Development	Project Design	Project Construction	Operations, Maintenance, Monitoring
Information Needs (continued0	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**	**Outcomes:**
	Data inventory and needs analysis	Data collection and use	Data collection and use	Data collection and use	Monitoring strategies Data collection and use

Appendix E
ALIVE Memorandum of Understanding

2008

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FS Agreement No. 08-MU-11021000-013
Cooperator Tax ID No. _____
Cooperator Agreement No. _____

ALIVE
Memorandum of Understanding
among the
Colorado Department of Transportation
Federal Highway Administration
US Fish and Wildlife Service
The USDA Forest Service
US Bureau of Land Management
Colorado Department of Natural Resources, Division of Wildlife

This Memorandum of Understanding (MOU) is made and entered into this 11th_day of _April, 2008, between the Colorado Department of Transportation (CDOT), the Federal Highway Administration (FHWA), the US Fish and Wildlife Service (USFWS), the USDA Forest Service (USFS), the US Bureau of Land Management (BLM), and the Colorado Department of Natural Resources, Colorado Division of Wildlife (CDOW), hereinafter referred to as "Parties" or "Agencies."

The Parties to this agreement are public entities with responsibilities pertaining to the I-70 Mountain Corridor (I-70 Corridor) Tier I Programmatic Environmental Impact Statement (PEIS) and Tier II (site-specific, project-level) National Environmental Policy Act (NEPA) documents.

The PEIS recognizes that the existing I-70 Corridor and the proposed future improvements pass through several life zones and ecosystems that support numerous aquatic and terrestrial wildlife species. While all Parties to this MOU recognize that the I-70 transportation system provides important benefits to Colorado citizens, the local communities, and economic interests on a statewide level, they also acknowledge that the I-70 Corridor fragments or isolates existing habitats, interferes with free movement of animals within their habitat, and reduces remaining quality wildlife habitat by making such habitat less accessible to many native species. In addition, high-traffic volumes form a difficult-to-penetrate barrier to movement, often resulting in animal-vehicle collisions and serious levels of mortality for some rare or low-density species. Therefore, over time, the benefits derived from a transportation system can come at a cost to other resources, including interference with the ability of wildlife to use the landscape in a manner that maintains population effectiveness.

The Parties to this agreement desire to improve conditions for wildlife in this Corridor. To meet that need, CDOT convened the ALIVE Committee, a technical advisory committee consisting of biologists from each of this MOU's signatory government agencies. The **ALIVE Committee** ("**A** Landscape Level **I**nventory of **V**alued **E**cosystem Components") has developed a landscape-based ecosystem approach for consideration of wildlife needs and conservation measures, and has identified measures to improve existing aquatic and terrestrial ecosystem connectivity across the I-70 Corridor between Denver and Glenwood Springs.

Using best available information, the ALIVE Committee identified 13 high-priority locations where evidence suggests that the highway's barrier effect impedes important wildlife migration or movement routes or zones of dispersal. The PEIS and this MOU refer to these locations as linkage interference zones (LIZs). The 13 LIZs are described on Table 1 and shown on Figure 1, both appended to and made a part of this MOU. The ALIVE program provides a starting point for, and ensures Agencies' participation in development of, subsequent Tier II site-specific analyses and implementation of long-term impact mitigation measures within the context of a Corridor-long, landscape-based ecosystem approach to Corridor impacts on wildlife needs and conservation measures. It is understood by all parties to this MOU that, because the I-70 Mountain Corridor project is anticipated to span many years, the descriptions of the LIZs, species affected, and recommended mitigation strategies in Table 1 are subject to change through time. All parties to this MOU agree to coordinate to update this Table, if necessary, during each applicable Tier II process and in those respective NEPA documents.

I. Purpose and Intent of the MOU

With this MOU, the Parties identify their interdependence in identifying, designing, and managing landscape elements to ensure effective populations of species identified by the ALIVE Committee. The Parties herewith establish a program of cooperation for the purpose of early and full implementation of corrective actions to solve

permeability problems in identified LIZs, and to streamline the section 7 consultation process under the Endangered Species Act for the I-70 Corridor Tier II projects. Time and resources will be better invested in proactive programs that involve a corridor-wide, coordinated program of species and habitat conservation and provide the maximum benefit to wildlife.

It is the intent of the Parties to increase the permeability of the I-70 Corridor to terrestrial and aquatic species, including but not limited to deer, elk, the boreal toad, fish (for example, greenback cutthroat trout), and forest carnivores (for example, Canada lynx). This includes development of management strategies that will result in the long-term protection and restoration of wildlife linkage areas that intersect the I-70 Corridor, improve habitat connectivity, and preserve essential ecosystem components.

The Parties recognize that:

1. This process goes beyond the ordinary regulatory or statutory requirements of its participants. While CDOT and FHWA have an obligation under the Endangered Species Act (ESA) section 7(a)(1) "to utilize their authorities in furtherance of the purposes of the Act by carrying out programs for the conservation of species listed pursuant to the Act," neither CDOT nor FHWA has a mission to sustain wildlife populations. They cooperate with and rely on resource and regulatory agencies to further the conservation of wildlife and the protection of endangered species.
2. Regulatory and resource agencies, and other stakeholders with an interest in wildlife habitat connectivity and conservation along the I-70 Corridor, have limited resources to address the barrier effects of the I-70 Corridor and to pursue key conservation objectives and principles for game animals and threatened, endangered, or otherwise sensitive aquatic and terrestrial species. By working together, these agencies can make the most effective and efficient use of limited resources.
3. Traditional project-by-project evaluation and treatment of regulatory requirements for, and mitigation of, impacts on wildlife have limited effectiveness in a corridor the extent of I-70.
4. Constructing wildlife passages at the earliest possible opportunity, particularly in locations where ordinary regulatory processes do not require mitigation or conservation measures for wildlife, would require the financial support of the Parties and other stakeholders, as well as an active pursuit of other elements essential to the function of wildlife passages. Financial support can include but is not limited to direct funding, in-kind contribution of labor or equipment, etc.
5. Resources otherwise devoted to the regulatory consultation and documentation process would be better spent by combining and streamlining the processes for multiple projects over an extended timeframe and the furtherance of a coordinated program to address habitat fragmentation and wildlife viability for the entire length of the Corridor, i.e., at the landscape, ecosystem level.
6. Existing planning and funding mechanisms for transportation projects can create limitations to the programmatic approaches envisioned by this MOU. Full implementation of a successful ALIVE outcome would require the participation by all Parties and other stakeholders in the commitment of resources beyond those meant for transportation mitigation.

With this MOU, the Parties propose to develop mechanisms that focus resources on results. The Parties will work together to identify programs or actions for implementing the MOU as opportunities, funding, or proposed transportation improvement projects warrant. The Parties seek to collaborate in identifying the means for funding and constructing wildlife passages as soon as possible, to use all available means to protect and maintain the viability of these passages as allowed by land management policy, and to identify regulatory review processes to accelerate project permitting.

Other stakeholders not party to this MOU also hold keys to full implementation of the ALIVE recommendations. Specifically, local governments, land managers, and private landowners with jurisdiction over or ownership of lands affected by the Corridor are instrumental in developing growth policies and defining conservation easements, land holdings, and other mechanisms which are needed to ensure the long-term viability of wildlife passages and other

best management practice (BMP) investments. In addition, financial participation by these other stakeholders, as well as other interested parties, would be necessary to fully implement the recommendations of ALIVE.

Construction of effective wildlife passages will require the cooperation of transportation, resource, and regulatory agencies and those other stakeholders with jurisdiction or ownership affected by the Corridor, whether or not they are Parties to this MOU. All Parties to this agreement understand that CDOT cannot commit public funding to construction of wildlife passages unless the Parties and other affected stakeholders with jurisdiction or ownership are in agreement to commit their respective resources, regulation, and management policies and practices to ensuring functional key wildlife passages in respective LIZs. Recognizing that, all Parties to this agreement commit to ensuring functional key wildlife passages and linkage areas along the length of the Corridor not only through full analysis of a reasonable range of alternatives in the PEIS and subsequent project-specific NEPA and their own respective management, regulation, design, construction, maintenance, and monitoring authorities, but also through collectively and actively seeking agreement and cooperation among those who are not Parties to this agreement but who have pertinent jurisdiction or ownership or are interested parties in the respective LIZs.

II. Cooperation

A. All Parties, within their statutory and regulatory authority, agree to work together toward the long-term protection and restoration of wildlife habitat or habitat linkages that intersect the I-70 Corridor. All Parties to this MOU understand that any action that would curtail or prohibit restoration of the functionality of a movement corridor identified by the ALIVE Committee could result in a reconsideration of the feasibility of an alternative or a wildlife passage associated with this Corridor. Based on this understanding, all Parties agree to reasonably cooperate in the implementation of this MOU. Such cooperation-would include:

1. Supporting the concepts identified in this MOU and working to actively implement this MOU as authorized under applicable laws, regulations, and policies.
2. Providing transportation and wildlife expertise, data, and technical support to the ALIVE Committee for planning and project review that will mitigate impacts on, or provide betterments for, wildlife, and increase and improve wildlife habitat connectivity across the I-70 Corridor.
3. Considering the ALIVE Committee's recommendations when the opportunity to construct a specific wildlife passage arises; with the expectation that additional analyses are needed prior to any investment in wildlife passages or BMPs. Analysis will include evaluations of the effectiveness of previously-installed structures, including their location and design, as well as the compatibility of associated land use with the intended function of the structure.
4. Identifying programs or actions that could result in the long-term protection, restoration, or enhancement of wildlife habitat or habitat connectivity intersected by the I-70 Corridor. Implementation of ALIVE Committee recommendations would be subject to the respective Parties' planning, NEPA, and decision-making requirements. All Parties recognize the importance of management of enough land adjacent to each passage so that a reasonable person can conclude that the intended permeability function of each passage will be sustained as growth and other land uses inevitably occur.
5. Establishing more efficient processes of regulatory review and permitting, thereby helping to reduce the cost and delay of subsequent individual Tier II construction projects in the I-70 Corridor.
6. Working with the ALIVE Committee, local governments, and other stakeholders as appropriate to:
    a. pursue potential partnerships and funding mechanisms;
    b. identify and promote opportunities and resources to construct wildlife passages in the most effective locations based on the best available information on wildlife use of passages over or under highways and determined by supporting land use, and

c. sustain partnerships for the long-term protection and restoration of habitat in important habitat conservation and linkage areas.

7. All Parties to this MOU agree:

a. that passages in LIZs (see map, Figure 1) where construction of I-70 occurs as a result of the PEIS Decision and subsequent Tier II decisions will be built before or during such construction, providing all Parties and other stakeholders with jurisdiction or ownership in those respective LIZs are cooperatively committed to and are coordinating to ensure functional LIZs and passages. In coordination with the ALIVE Committee, Tier II NEPA and ESA section 7 analyses will identify the specific location and appropriate structure(s) for passages within each LIZ, based on best available information on wildlife species of concern, habitat connectivity, effectiveness of wildlife passages, and type and adjacent land use plans. Included in this effort are the development of other BMPs such as a fencing plan intended to direct or inhibit wildlife movement, as required, and an identification of the necessary funding to build and maintain the BMPs including wildlife passages and the corridor easements;

b. that, when funding options are identified through successful efforts of one or more of the Parties or stakeholders, or other independent initiatives, wildlife passages in identified LIZs that will not undergo construction as a result of the PEIS and subsequent Tier II decisions will be constructed with consideration of priorities developed by the ALIVE Committee;

c. All Parties to this MOU agree to partner as authorized in an effort to understand and satisfy the wildlife and habitat needs associated with each passage within the context of a Corridor-long, landscape-level ecosystem approach to wildlife needs and conservation measures. The design and location of each passage within each of the LIZs is necessarily site-specific, but all Parties agree as authorized to locating, designing, constructing, and maintaining each passage within the Corridor-long context.

B. Such cooperation by FHWA and CDOT shall include:

1. Leading the primary effort to initiate the ALIVE program, thereby helping to achieve the environmental goals of the PEIS and subsequent Tier II decisions, which extend beyond the requirements of CDOT and FHWA.

2. The design criteria of all alternatives considered in full in the PEIS will not preclude incorporation and construction of viable wildlife passages for the species of concern in that LIZ, as identified by the ALIVE Committee.

3. Pursuing options for identifying, and if necessary funding, an administrative position for a maximum of two (2) years. The function of the administrator would be to explore, identify, and pursue funding sources and mechanisms to construct wildlife passages, especially for those passages to be pursued beyond CDOT's legal responsibility. In the best interest of the ALIVE program, determining the need for an administrative position will be revisited regularly by the Parties and funding sought to maintain the position as determined necessary by the Parties.

C. Such cooperation by the USFS and the BLM shall include:

1. Considering the recommendations of the ALIVE program in the review of Tier II NEPA documents, considering the granting of any land actions or other use permits germane to movement corridors, and reviewing for consideration of approval of biological reports and participating in section 7 consultation under the ESA so that transportation projects and associated conservation measures can proceed in a timely manner.

2. Encouraging the cooperation and support of land lease holders and other entities with legal interest on public lands to ensure the realization of the objectives of the MOU, which could include their active participation in achieving the goals of the ALIVE program.

3. Exercising their respective regulatory requirements and authorities to protect wildlife species and their habitat. Accordingly, the USFS and the BLM, by means of ordinary and established planning and subsequent NEPA processes, will consider lands in proximity to I-70 for their habitat and wildlife movement attributes, among other multiple use considerations. They will treat installed wildlife passages consistent with their intended purpose of connecting functional wildlife movement corridors, and strive to maintain associated wildlife movement corridors.

4. Informing the CDOT Environmental Programs Branch, Transportation Regions 1 and 3 by letter of all requested land actions, special use permits, USFS and BLM plan amendments, or other pertinent actions, that could affect an identified habitat linkage and conflict with a planned wildlife passage area.

5. As opportunities arise, and in compliance with the Forest Service land adjustment policy, seeking to consolidate lands along the Corridor to maintain or improve habitat connectivity adjacent to the I-70 Corridor.

D. Such cooperation by the USFWS shall include:

Participating in and facilitating the development of regulatory streamlining instruments that accelerate the section 7(a)(2) consultation process under the Endangered Species Act as it may apply to transportation projects and their associated conservation measures, and any related right-of-way actions from the USFS or the BLM to FHWA and CDOT. A separate Programmatic Agreement will be pursued among FHWA, CDOT, and USFWS for this purpose.

E. Such cooperation by CDOW shall include:

Providing in-kind support through cooperation and consultation with other Parties, jurisdictions, and landowners to facilitate a Corridor-long perspective and understanding of wildlife needs and conservation measures; providing wildlife data and management expertise; and assist with monitoring the effectiveness of wildlife passages and LIZ management.

III. Principal Contacts

Michelle Li
Planning and Environmental Manager
Region 1, Colorado Department of Transportation
18500 E. Colfax Avenue
Aurora, CO 80011
303.365.7041 phone
303.365.7350 fax
michelle.li@dot.state.co.us

Other Parties' principle contacts are their ALIVE Committee members, i.e., each Party's respective affected Regional, Field Office, or Forest biologist.

IV. Non-Fund Obligating Document

Nothing in this MOU shall obligate either the Forest Service or any other Parties to obligate or transfer any funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the Forest Service and any other Parties will require execution of separate agreements and be contingent upon the availability of appropriated funds. Such activities must be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.

V. Freedom Of Information Act (FOIA)

Any information furnished to the Forest Service under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

VI. Participation in Similar Activities

This instrument in no way restricts the Forest Service or the Parties from participating in similar activities with other public or private agencies, organizations, and individuals.

VII. Responsibilities of Parties

The Forest Service and other Parties and their respective agencies and office will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives. Each Party will carry out its separate activities in a coordinated and mutually beneficial manner. Nothing in this MOU precludes the Parties from using outside grants or other funding sources to fulfill their responsibilities.

VIII. Effective Date

This MOU is effective as of the date of the signatures shown below and will expire upon the full implementation of the Selected Alternative in the Record of Decision for the I-70 Mountain Corridor PEIS.

Full implementation of this MOU may take place over a long time span. To deal with changing conditions, the Parties will meet within 60 days after the MOU is signed and annually thereafter, unless all Parties agree to another schedule, to review changes, consider unforeseen developments, and make decisions regarding the priorities, placement, and design of wildlife passages considered in this MOU.

IX. Modification

To be effective, all Parties must agree in writing to any modifications to this MOU.

X. Termination

Parties may terminate their participation in this MOU with a 30-day notice to the other Parties. Termination by any one Party will terminate the entire MOU and eliminate any remaining requirements for any of the Parties. Termination of this MOU does not relieve CDOT and FHWA of obligations identified in the PEIS/ROD, section 7 consultation, or other permit requirements.

XI. Availability of Funds

Implementation of this MOU by the federal agencies is subject to the requirements of the Anti-Deficiency Act (31 USC 1341) and the availability of appropriate funds. Nothing in this MOU will be construed by the Parties to require the obligation, appropriation, or expenditure of any money from the US Treasury.

XII. Dispute Resolution

All Parties agree to work cooperatively to avoid and resolve conflicts. The Parties agree to explore issues thoroughly before escalating disputes. Resolution mechanisms to ensure that adequate communication has occurred, such as mediation and facilitation, may be used at any level to help expedite resolution. If disagreements emerge which cannot be resolved at any level, the dispute will be escalated through management as appropriate.

XIII. Retention of All Authorities

Nothing in this MOU is intended to limit or diminish the legal obligations, responsibilities, and management authority of the Parties.

XIV. Establishment of Responsibility

This MOU is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.

XV. Authorized Representatives

By signature below, the Parties certify that the individuals listed in this document as representatives of the Parties are authorized to act in their respective areas for matters related to this agreement.

COLORADO DEPARTMENT OF TRANSPORTATION

By: Margaret A. Carla
As Russell George, Executive Director

COLORADO DIVISION, FEDERAL HIGHWAY ADMINISTRATION

By: Karla S Petty
Karla S. Petty, P.E., Division Administrator

US FISH AND WILDLIFE SERVICE, ECOLOGICAL SERVICES

By: Susan C. Linner
Susan Linner, Colorado Field Supervisor

USDA FOREST SERVICE

By: Glenn P. Casamassa
Glenn P. Casamassa, Forest Supervisor, Arapaho & Roosevelt National Forests and Pawnee National Grassland
AND FOR
White River National Forest

US BUREAU OF LAND MANAGEMENT

By: Kent B. Mundam
for Jamie Connell, Field Manager, Glenwood Springs Resource Area

COLORADO DEPARTMENT OF NATURAL RESOURCES, COLORADO DIVISION OF WILDLIFE

By: Thomas E. Remington
Thomas E. Remington, Director, Colorado Division of Wildlife

The authority and format of this instrument has been reviewed and approved for FS signature.

LUANN WAIDA 4/11/08
LUANN WAIDA Date
FS Agreements Coordinator

Attachments to ALIVE MOU

Table 1. Linkage Interference Zones and Recommended Mitigation

Life Zones	Linkage Interference Zones	Animal-Vehicle Collisions	Proposed Mitigation
Western Slope Foothills Glenwood Springs to Avon (mp 116 to mp 170)	**Zone 1: Dotsero (mp 131.4 to mp 134.5)** Setting: • Predominantly sagebrush with little tree cover. • The Nature Conservancy (TNC) recently purchased a conservation easement on the Bair Ranch property near this zone, which will enhance and preserve wildlife movement opportunities in this area. Wildlife Movement: • Known movement corridor for deer and elk. • Area fairly heavily used for crossing. • Most deer and elk in this zone cross from mp 133 west to the mouth of the Glenwood Canyon, avoiding the nearby lakes south of I-70 where several developments are under construction. • Mule deer severe winter range and winter concentration areas on both sides of I-70. • Elk winter range north of I-70. • Located adjacent to the BLM Glenwood Canyon lynx linkage that provides movement between Flattops Wilderness and Red Tables in WRNF. • CDOW indicates that as few as 30 percent of the roadkills in this area are ever reported. Existing Structures and Fencing: The existing transportation underpasses in this area are not being used as wildlife crossings and are not suitable for wildlife.	1.4 per mile per year	• mp 132.5 to mp 132.8: Repair/replace wildlife fencing, as appropriate. • mp 132.5 to mp 132.8: Redesign fence in areas prone to rockfall (approximately 100 feet); use concrete barrier/fence combination.
	Zone 2: Eagle County Airport to Town of Eagle (mp 142.0 to mp 145.3) Setting: • Open piñon-juniper woodland near I-70. • Riparian forest and shrub habitats. • Adjacent to the Eagle River. • Rapid development through the 1990s occurred in this area around Eagle County Airport. Planned developments in this area include, Frost Creek, and Diamond S Ranch developments south of I-70. Wildlife Movement: • CDOW describes this section of I-70 as a highway crossing area for big game. • Provides for movement to and from deer and elk severe winter range, winter concentration areas, and fawning/calving habitat to the north and south of I-70. • Mule deer severe winter range areas on north and south of I-70. • Elk severe winter range on north of I-70 on BLM lands. • Lands managed by the WRNF as elk habitat are located to the south of the zone. Existing Structures and Fencing: Game fencing exists through the entire length of zone on both sides of I-70, for approximately 35,850 total linear feet.	0.39 per mile per year	• mp 143.1: Remove fill at bridge west of Cottonwood Creek to increase height, making it more suitable for an elk crossing. • mp 142.0 to mp 142.3: Realign wildlife fencing in steep areas north of I-70 where rockfall damage occurs, and repair damaged fencing as necessary. • mp 145.5: Remove berm from south entrance of passage. • mp 143.8: Investigate potential costs for conservation easement on private land surrounding the Eagle River.
	Zone 3: Eagle to Wolcott (mp 147.3 to mp 153.4) Setting: • The eastern portion of the zone is moderately forested, while the western portion closer to the town of Eagle is sparsely forested. • Zone extends through Red Canyon. • Steep slopes on both sides of highway for most of its length. • Large areas of BLM lands are located to the north and south with mixed private lands in between. • Recreation uses near the zone include numerous BLM trails. Wildlife Movement: • Elk severe winter range southwest of I-70. • Mule deer severe winter range, winter concentration to the south of I-70. • Forest carnivores including bear and mountain lion frequent the area. • Providing for lynx movement across shrub-steppe habitats from Flattops Wilderness in the east to Castle Peak in the west, the BLM has designated this zone as a lynx linkage area. Existing Structures and Fencing: Solid 8-foot fencing exists on both sides of I-70 through the entire zone. No suitable wildlife crossing structures are currently located through this area.	0.39 per mile per year	• mp 153.8: Extend existing fencing to I-70 bridge across Eagle River. • mp 151.8: Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area. • Investigate median barriers with gaps large enough to accommodate small mammals (for example, raccoons and skunks). Place barriers every 0.25 mile. • Investigate costs of conservation easement around mp 151.8.

Table 1. Linkage Interference Zones and Recommended Mitigation (Continued)

Life Zones	Linkage Interference Zones	Animal-Vehicle Collisions	Proposed Mitigation
Western Slope Foothills – Continued Glenwood Springs to Avon (mp 116 to mp 170)	**Zone 4: Wolcott to Avon (mp 154.5 to mp 166.5)** Setting: • Sparsely forested. • Rapid development around Avon and Edwards occurred through the 1990s. • Significant development is still occurring through the eastern half of the zone, including 250 housing units, soccer fields, a school, and a church south of mp 163. • Red Sky Ranch, a large development of 35-acre lots southwest of the zone, is being subdivided into 15-acre lots. • The BLM recently completed a 1,400-acre land swap to private interests near the zone in exchange for lands outside Grand Junction. Wildlife Movement: • Heavily traveled by carnivores, including black bear and mountain lion (Bellyache Ridge); designated by CDOW as a human conflict area for both species. • CDOW considers most of the area a highway conflict zone for deer and elk. • Elk and mule deer severe winter range and winter concentration both sides of I-70. The area south of I-70 through the eastern portion of this zone contains elk severe winter range and calving areas. • Federal lands to the north are managed by the WRNF for deer and elk winter range, while the Holy Cross Wilderness is located to the south. • Rapid development, combined with habitats historically occupied by deer, elk, and forest carnivores has resulted in wildlife conflicts in this zone. • The zone is located at the western edge of the Castle Peak BLM lynx linkage. BLM has designated the area between mp 154.0 and 160.0 as lynx habitat linkage. Existing Structures and Fencing: This linkage interference zone currently has no CDOT wildlife fencing.	1.2 per mile per year	• mp 153.9 to mp 159.0: Add wildlife fencing on south side of I-70 between Wolcott interchange and where I-70 crosses the Eagle River. Create gaps with berms or one-way gates to enable wildlife to escape from highway side. • Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area. • mp 155.3 or mp 155.6: Add crossing structure across I-70 and US 6 north and west of Bellyache Ridge, just south of Alkali Creek. • mp 159.7: Add crossing structure south of Red Canyon Creek and Bear Gulch, south and east of existing motorized underpass. • mp 163 to mp 166.5: Add wildlife fencing on both sides of I-70. • Investigate conservation easements for each proposed crossing.
Western Slope Montane Avon to East Vail (mp 170 to mp 182)	**Zone 5: Dowd Canyon (mp 169.5 to mp 172.3)** Setting: • The area has little forest cover adjacent to I-70. • Steep slopes on the north side are a significant rockfall hazard. • The WRNF surrounds the zone to the north and south, while pockets of residential development are located to the east and west. • Federal lands and good habitat are located north and south. • Wildlife fencing has been damaged. Wildlife Movement: • This is a western Vail north–south connection for wildlife movement. • Elk winter range/severe winter range is located south of the zone. • Important elk and mule deer migration corridor. • Camera studies performed by CDOW have shown the area to be used by elk, deer, and mountain lion. • Bear and lion conflict areas. • Designated as a lynx linkage area by USFS. Existing Structures and Fencing: This linkage interference zone has median and guardrail barriers along most of I-70. A concrete box culvert and several land leases by CDOW are located in this zone for wildlife movement. The existing crossing structure is long and only 10 feet in height, inhibiting the movement of large elk. Most of I-70 in this zone includes CDOT wildlife fencing on both sides, which is often damaged by rockfall on the north and winter snowplowing activities from residences to the south. A paved bike path with restricted winter usage is located near the existing crossing structure in addition to several trails and a river rafting "put in" location. Eagle County plans to expand the paved bike path to the west.	0.59 per mile per year	• Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area. • mp 170.2 to mp 172.5: Replace existing wildlife fencing with reinforced fence through rockfall area north of I-70, where current fencing has numerous holes. • CDOT should coordinate with community at West Vail to avoid damage caused by plowing snow against fences.

Table 1. Linkage Interference Zones and Recommended Mitigation (Continued)

Life Zones	Linkage Interference Zones	Animal-Vehicle Collisions	Proposed Mitigation
Subalpine East Vail to US 40 (mp 182 to mp 233)	**Zone 6a and 6b: Upper and Lower West Vail Pass (mp 181.7–188.5)** Setting: • Coniferous forest grows to the edge of both sides of the highway through most of the zone. • Bridges are highly effective as wildlife crossings to connect forest lands from mp 182.5–185.3. • Eagles Nest Wilderness Area is located directly north of I-70 through most of the zone. • The land on the southwest side of lower west Vail Pass is forest property managed as forested landscape linkage, intended to be maintained for a connection between Eagles Nest Wilderness Area to the east and the Holy Cross Wilderness Area to the southwest. • The forest lands at the top of upper west Vail Pass are managed for year-round motorized backcountry recreation to the west and for nonmotorized backcountry recreation to the east. Wildlife Movement: • Surrounded by the WRNF, this zone is used heavily by wildlife and has a low amount of roadkill. • Designated as a lynx linkage area by the USFS; based on habitat of the area, lynx usage is highly probable. (Note: Two lynx were killed within a short distance of each other in vehicle collisions on upper west Vail Pass, one in 1999 and one in 2004, both near mile marker 187.) • Bighorn sheep range north. • Bear and lion conflict area. Existing Structures and Fencing: Six open-span bridges are located contiguously in the eastbound and westbound direction of I-70 through lower west Vail Pass, although there are no existing crossing structures through upper west Vail Pass. Animals in the area are found to readily jump over median barriers but showed reluctance to cross in areas with guardrail structures (Barnum 2002). The offset lanes of the interstate and associated jersey barriers are significant movement barriers to wildlife in portions of this LIZ.	0.03 per mile per year	• mp 188.0 and mp 186.3: Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area. • mp 188.0 to mp 186.3: Add CDOT wildlife fencing between proposed structures on both sides of I-70.
	Zone 7: East Vail Pass to Copper Mountain (mp 190.4 to mp 194.0) Setting: • Most of zone is forested, although not as densely as west Vail Pass. • Significant open areas exist. • The eastbound and westbound lanes of I-70 are separated through this section with an open wetland area containing West Tenmile Creek. • The zone is surrounded by ski areas, forest property managed as forested landscape linkage, nonmotorized backcountry recreation, and primitive wilderness. • Several parcels of private land are located within the east end of the zone, just west of Copper Mountain near the Guller Creek and West Tenmile Creek bridges. • In addition to the Tenmile-Vail Pass National Recreation Trail that runs the length of the zone, USFS trails are located through Stafford Gulch, Wilder Gulch, Corral Creek, and Guller Creek. Wildlife Movement: • This zone is located within the USFS Vail Pass lynx linkage zone. • CDOW indicates that wildlife cross through drainages predominantly at Smith Gulch and Guller, Stafford, Wilder, and Corral creeks. • CDOW also noted that forest carnivores are frequently seen crossing at Stafford Creek. The forest cover is less dense in this area than that seen on west Vail Pass. Existing Structures and Fencing: Five existing open-span bridge structures occur in the eastbound direction through this zone. Only one structure exists in the westbound direction, and it is not directly adjacent to a corresponding structure in the eastbound direction.	0.68 per mile per year	• Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area. • mp 192.5: Add crossing structure to westbound side of I-70 north of Stafford Creek. • mp 193.4: Add crossing structure to westbound side of I-70 north of Guller Creek. • Add berms and screening vegetation to guide wildlife between existing Wilder Gulch (eastbound) and Corral Creek (westbound) crossings. • Add berms and screening vegetation to guide wildlife between existing Smith Gulch (eastbound) and Corral Creek (westbound) crossings. • Provide space between guardrail structures and the road to allow wildlife jumping over barriers to avoid jumping directly into traffic.
	Zone 8: Officers Gulch/Owl Canyon (mp 195.5 to mp 200.5) Setting: • Area dominated by extreme slopes on all sides; canyon opens up to Wheeler Flats area near Copper Mountain (south) and Frisco (north). • Borders Eagles Nest Wilderness Area (west) and WRNF lands managed for nonmotorized backcountry recreation and scenic byways, which is conducive to wildlife habitat. • This steep canyon area has several water bodies, including Uneva Lake, Officers Gulch Pond, and Wheeler Flats Ponds. • The area is heavily forested with tree cover for wildlife use close to I-70. • While the area is encompassed by the WRNF, the land surrounding Uneva Lake to the east of I-70 is a forest inholding, although the owners have indicated to the USFS that they do not plan to develop the land. Several other private mine inholdings are located to the east of I-70 in this area, although they are located on very steep slopes. • The lands are managed by the WRNF as pristine wilderness, nonmotorized backcountry recreation, and scenic byways or travel corridors. The Tenmile-Vail Pass National Recreation Trail runs through the length of this linkage interference zone. Wildlife Movement: • Connection between habitats in the Gore Mountain Range and Tenmile Mountain Range, especially for carnivores. • CDOW considers mp 200.8 a black bear movement corridor. • Mule deer migration corridor runs parallel. • Located within the USFS Officers Gulch lynx linkage area, providing movement between Eagles Nest Wilderness Area and the Tenmile Mountain Range. • USFS biologists have indicated that most of the ungulate movement in the area is lateral with the highway. Existing Structures and Fencing: A single box culvert is located at mp 199.6. Box culverts are viewed as acceptable structures for the area by USFS and CDOW for most carnivore highway crossing activity in the area. An interchange at Officers Gulch is used as an informal overnight truck pullover. WRNF manages an area adjacent to Officers Gulch Pond that is proposed as an overnight camping area, although the area is currently not for overnight use and USFS indicated overnight use would potentially inhibit carnivore movement.	0.24 per mile per year	• mp 198.0, mp 199.2, and mp 200.8: Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area. • Investigate amending WRNF plan to exclude overnight use of area surrounding Officers Gulch Pond, planned and secondarily managed as a campground site.

Table 1. Linkage Interference Zones and Recommended Mitigation (Continued)

Life Zones	Linkage Interference Zones	Animal-Vehicle Collisions	Proposed Mitigation
Subalpine – Continued East Vail to US 40 (mp 182 to mp 233)	**Zone 9a: Laskey Gulch (mp 207.0 to mp 209.7)** Setting: • The area is moderately forested, transitioning to sagebrush closer to the town of Dillon. • Located between Dillon and a steep pass leading to the EJMT and constructed on steep cut-and-fill slopes of I-70. • In Dillon, condominiums have been built along the western edge of the linkage interference zone on the south side of I-70 within 0.5 miles of Laskey Gulch. Sound walls are currently being constructed adjacent to the condominiums. Due to the vertical height of these walls, they would be considered a movement barrier to most species of terrestrial wildlife. • Solid median and guardrail barriers are located through the length of the linkage interference zone, and no crossing structures currently exist. • This zone is within the WRNF and is managed as forested landscape linkage. • Most private lands are developed in this area, although the Denver Water Board possesses several large undeveloped inholdings in the central portion of the zone. Wildlife Movement: • Laskey Gulch is an important connection for deer, elk, and bear. • Elk severe winter range habitat north and south of I-70. • Elk and mule deer highway conflict areas. • Mule deer and bear migration corridors. • Potential lynx crossing. Located within the USFS Loveland Pass lynx linkage area, this zone provides for north-south lynx movement from the Ptarmigan Peak Wilderness Area and Williams Fork River area to forest lands south of I-70. Existing Structures and Fencing: CDOW noted that resident populations of elk and deer in the area were not obstructed by the golf course south of I-70 and would benefit from a crossing structure at Laskey Gulch to reconnect lands managed by the WRNF as deer and elk winter range north and south of I-70.	0.50 per mile per year (total zone 9)	• mp 208.3: Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area. • Coordinate with local planners to ensure that area zoning accommodates a wildlife structure in this location. • Continue interagency efforts to ensure that future land planning and zoning efforts improve the viability of the wildlife corridor.
	Zone 9b: Hamilton Gulch/Dead Coon Gulch (mp 210.7 to mp 212.6) Setting: • With the exception of cut-and-fill slopes of I-70, this area is densely forested. • This zone includes 3- to 5-foot concrete center barrier structure throughout its length, and approximately 2,300 feet of guardrail. • Straight Creek follows the length of the zone along I-70. • Several large road cuts and a runaway truck ramp are located north of I-70 in this zone. • Straight Creek and wetland areas are located below I-70 through the zone to the south. Hamilton Gulch reaches I-70 at mp 211.5, while Dead Coon Gulch lays further to the east at mp 212.2. Members of the ALIVE committee from both the USFS and CDOW commented that they felt that Hamilton Gulch and Laskey Gulch were both important and that they should both be considered equally. Wildlife Movement: • High usage by deer and elk along Hamilton Gulch and near Dead Coon Gulch to the east. • Located within the USFS Loveland Pass lynx linkage area and managed as forested landscape linkage. • The USFS noted that numerous elk and deer tracks are seen through the area and the zone would connect areas north of I-70 managed as forested landscape linkage and pristine wilderness to lands managed for forested landscape linkages south of I-70. Existing Structures and Fencing: I-70 was constructed on large fill slopes through this zone and no crossing structures currently exist, although two 4-foot plastic pipes and one corrugated metal pipe are located in the zone. Solid median barriers and an offset height between eastbound and westbound directions of I-70 are located through the length of this zone.	As above	• mp 212.2: Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area.

Life Zones	Linkage Interference Zones	Animal-Vehicle Collisions	Proposed Mitigation
	Zone 10: Herman Gulch/Bakerville (mp 216.7 to mp 220.8) Setting: • Herman Gulch is located 3 miles east of EJMT, surrounded by the ARNF. • The forest lands are managed for scenery, ski-based areas (Loveland), and nonmotorized backcountry recreation. • Six residential structures are located near I-70 north of the underpass at Herman Gulch. • The Continental Divide National Scenic Trail traverses through this area along the Herman Gulch trail to the north of I-70 and along the Loveland to Bakerville trail to the south of I-70. Wildlife Movement: • Considered important lynx habitat. Herman Gulch lynx linkage area is located within this zone, designated as a connection between suitable lynx habitats to the north and south of I-70. If quality habitat north of I-70 were combined with that south of the highway, a more viable lynx range would be possible, especially if connectivity across the Corridor improved. • ARNF has designated the area a lynx linkage zone. • Boreal toad breeding area. • Snowshoe hare inhabit the Mount Bethel Avalanche Path east of Herman Gulch and other avalanche paths in the area, providing forage for lynx and other forest carnivores. • USFS and CDOW indicated that evidence existed that two female lynx were using the area as home range. A lynx was killed on I-70 by a vehicle in the area of Herman Gulch in 2000. Another female (pregnant with 2 fetuses) was killed near eastbound mp 217 on 5/19/2005. Existing Structures and Fencing: Motorists use the shoulder of I-70 as informal parking on the south side of I-70 near mp 219. Few median barriers are located through this zone, although guardrails are located through most of its length.	Data Unavailable	• mp 217.3: Design corridor to allow free movement of wildlife under I-70 within this zone. • Continue interagency efforts to ensure that future land planning and zoning efforts improve the viability of the wildlife corridor.

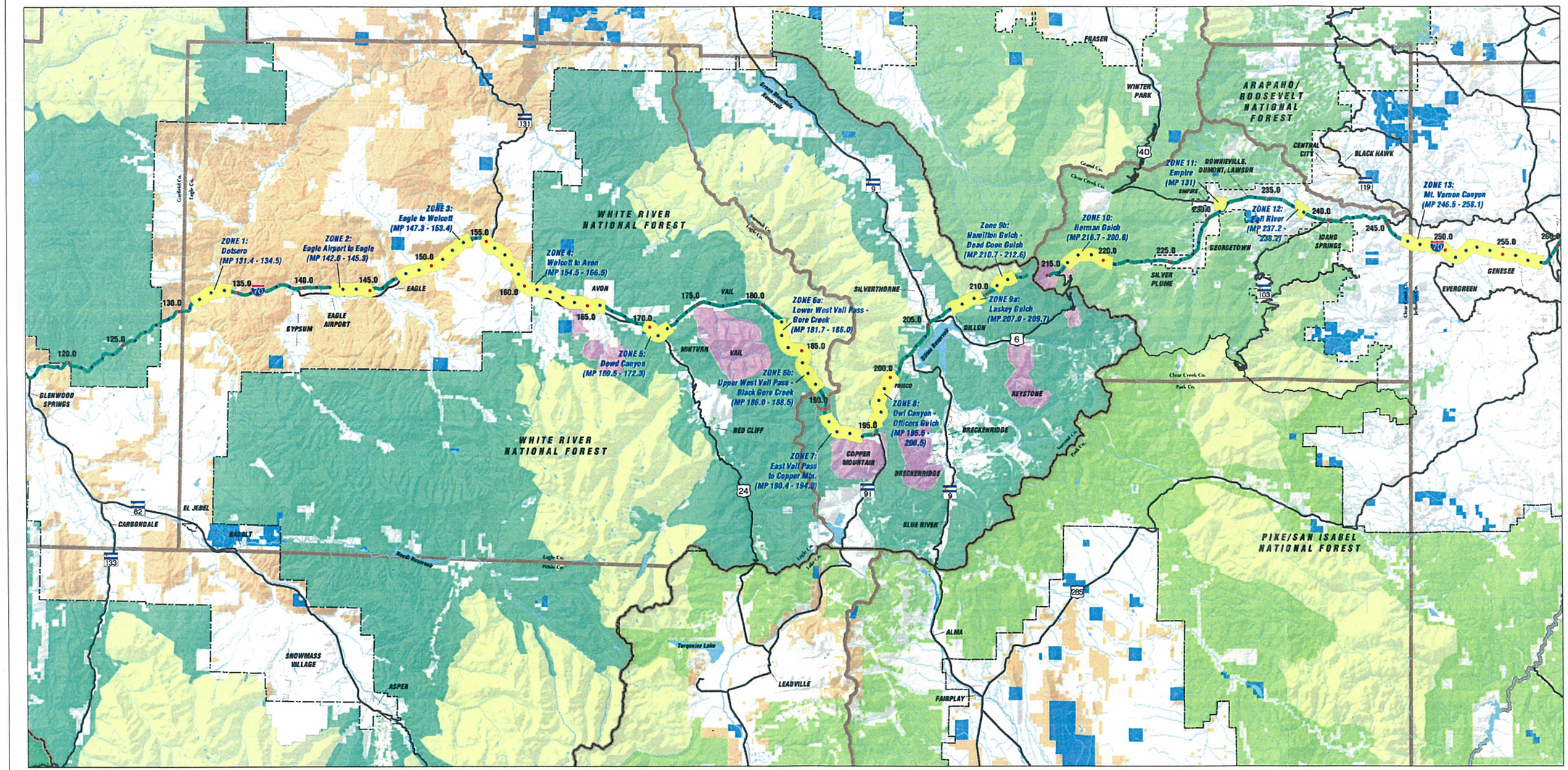
Table 1. Linkage Interference Zones and Recommended Mitigation (Continued)

Life Zones	Linkage Interference Zones	Animal-Vehicle Collisions	Proposed Mitigation
Eastern Slope Montane Silver Plume to Mount Vernon Canyon (mp 233 to mp 255)	**Zone 11: East of Empire on US 40 (off I-70 – approximately mp 232.0)** Setting: • North-facing slope heavily forested; south face primarily bare exposed rock cliffs. • ARNF is located just to the east of this zone. Wildlife Movement: • Steep slopes used by bighorn sheep on both sides of US 40. This zone was delineated specifically to address issues with bighorn sheep, which approach the edge of the highway to lick salt and are sometimes hit by vehicles at the edge of the I-70 and US 40 interchange. Bighorn sheep generally do not attempt to cross I-70 (except near the Henderson Mine west of this zone) but do cross US 40 and are frequently hit west of Empire. • Mule deer winter concentration north; mule deer highway conflict area. • Mountain lion conflict area. Existing Structures and Fencing: CDOW stated that bighorn sheep would not use an underpass or enclosed structure to cross a roadway.	0.42 per mile per year	• Good place for overpass structure 4.2 miles west of US 40/I-70 interchange, primarily for bighorn sheep crossing. • Investigate using jersey barriers or other barrier structures on both US 40 and I-70 to keep sheep away from road edge.
	Zone 12: Fall River (mp 237.2 to mp 238.2) Setting: • Primarily forested, though not densely. No wildlife fencing. Relatively gentle slopes throughout zone. • Located entirely on private land with the ARNF approximately 2 miles away to the north and south. • Numerous residences are located along Fall River Road and several along US 40. Wildlife Movement: • The Fall River area provides a significant break in the surrounding topography and functions as a movement corridor for mule deer, elk, bighorn sheep, mountain goat, black bear, and mountain lion. • CDOW noted that carnivores are frequently hit in this area, and there are concerns about elk populations becoming habituated and inhabiting the area year-round. • Bighorn sheep, elk, bear, and mountain lion frequent the area and are hit occasionally. • Resident elk living close to populated areas are a concern in this area. Elk calving 0.25 miles north. • Mule deer severe winter and winter concentration north. • The ALIVE Committee identified this zone , however, CDOW has concerns regarding the introduced mountain goats currently inhabiting the Mount Evans area south of I-70 having the ability to reach areas north of I-70 and compete with native bighorn sheep. Existing Structures and Fencing: Two concrete box culverts, one 4 feet in height at Georgia Gulch, the other 10 feet in height at Fall River, currently exist in this linkage interference zone. An underpass is located at the intersection of US 40 and I-70. Solid median barriers are located through the length of the linkage interference zone and a guardrail is located on the south side of I-70 through most of the zone.	Reported numbers too low for average	• Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area. • Factor improvements into bridge redesign (Fall River Road Interchange) such as a wider span and leaving adequate space along road and river for wildlife passage.

Life Zones	Linkage Interference Zones	Animal-Vehicle Collisions	Proposed Mitigation
	Zone 13: Mount Vernon Canyon (mp 246.5 to mp 258.1) Setting: • Several Denver Mountain Park and Jefferson County open space properties are situated in or adjacent to this zone. • Mountain subdivisions have been extensively built through this area. • The 2,340-acre Denver Mountain Park (Genesee) extends north and south of I-70 between mp 251 and 254 and approximately 20 percent is fenced for bison rangeland adjacent to I-70. The park includes open forests and grasslands. Wildlife Movement: • Overall, this zone sees more reported roadkill than any other zone through the Corridor. • Several deer and elk highway conflict areas mapped by CDOW. • Bear summer and human conflict areas south of I-70. • Due to extensive subdivisions, elk in zone have habituated to human presence. • Resident elk are frequently hit by vehicles; groups of five or more elk have been killed in individual accidents in this linkage interference zone. Existing Structures and Fencing: CDOW indicated that fencing in this area would be detrimental and could trap wildlife in the roadway. CDOW also indicated that it would be difficult to direct wildlife to crossing structures in this zone. No wildlife fencing and very little guardrail and median barriers exist in this zone. No suitable wildlife crossing structures currently exist for larger mammals, except for a transportation dirt road underpass at Soda Creek near mp 249.	2.37 per mile per year	• Recognized as a problem area; mitigation measures currently being evaluated. • Fencing throughout the length of the zone may be the only solution. However, CDOW has stated that fencing could be detrimental to the wildlife in the area and has suggested that wildlife fencing through the zone not be considered as a mitigation measure for the area. • Investigate costs of adding intelligent signs to warn motorists about wildlife movement.

FS Agreement No. 08-MU-11021000-013
Cooperator Tax ID No. _____
Cooperator Agreement No. _____

Figure 1. Wildlife Linkage Interference Zones



General Features

- I-70 Mile Posts
- Interstate Highway 70
- State & Federal Highways
- White River NF
- Arapaho/Roosevelt NF
- Pike / San Isabel NF
- Rivers & Streams
- Lakes & Water Bodies
- County Boundaries
- Cities & Towns

Jurisdiction

- Arapaho/Roosevelt NF
- White River NF
- Bureau of Land Management
- Pike/San Isabel NF
- NF Wilderness

Wildlife Linkage Interference Zones

- State of Colorado
- Ski Areas
- Private Lands
- Wildlife Linkage Interference Zones

N W E S

4 0 4 Miles

SCALE - 1:471,000 or 1" = 39,250'

Figure 1. Wildlife Linkage Interference Zone

NAME	AGENCY	email
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