

A Path Forward

WESTBOUND I-70 MOUNTAIN CORRIDOR CONCEPT DEVELOPMENT

WELCOME



COLORADO
Department of Transportation



Meeting Agenda

5:00 p.m. - Doors open and Open House

5:30 p.m. - Project Presentation

6:00 p.m. - Public Comment Period

6:45 p.m. - Open House

7:00 p.m. - Closing

PURPOSE FOR MEETING

CONCEPT DEVELOPMENT

- Present and discuss the recommendations out of the Concept Development Process.
- Solicit public feedback on the concepts presented.
- Discuss public input from March Public Meeting # 1.

NATIONAL ENVIRONMENTAL POLICY ACT: TWO PROJECTS

- Solicit public comment on two upcoming NEPA Projects
 - Floyd Hill
 - WB PPSL
- Receive input and advice around the community issues and concerns for design solutions for these two projects.

EASTBOUND DATA

WINTER 2016-2017 VOLUMES (HIGHER THAN PREVIOUS YEAR)

1.12 million vehicles

2015-2016 winter volumes: 1.03 million vehicles



Eastbound PPSL:
89,800 vehicles

2015-2016: 42,600 vehicles

CORRIDOR SAFETY IMPROVED



Corridor incidents were down 22 percent in the winter season.

Incident response times were 4 minutes quicker than last year.

TRAVEL TIMES IMPROVED

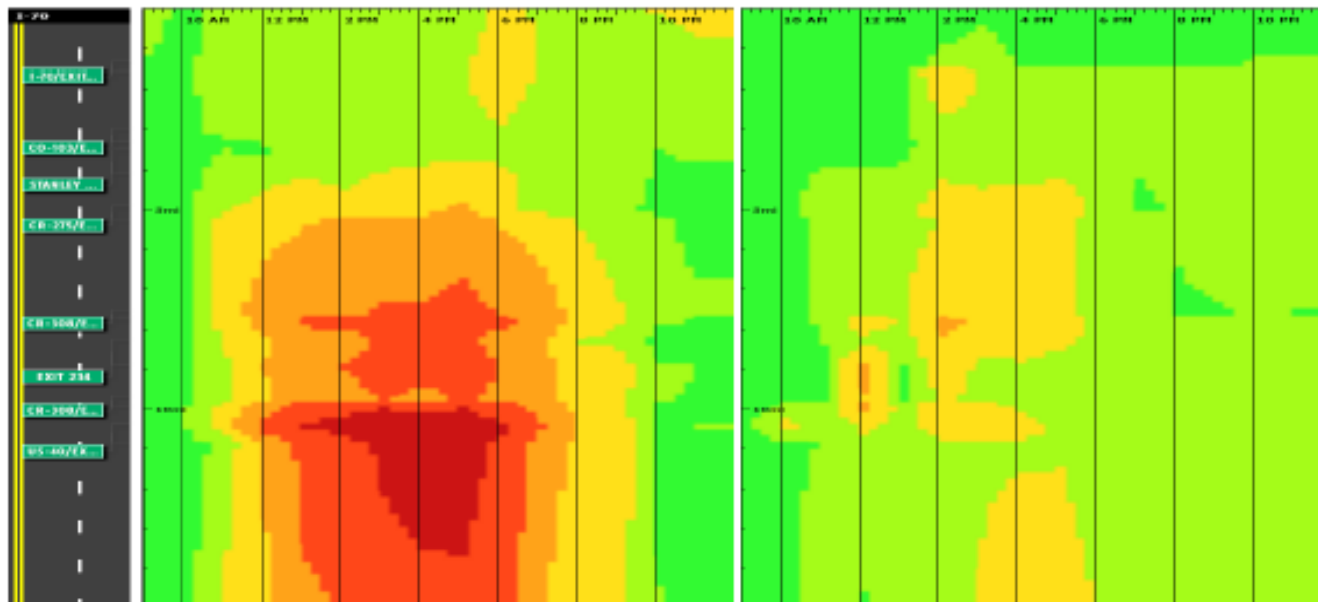


In a worst-day comparison between 2015 and 2016, eastbound travel times between Georgetown and US 40 improved by 21 minutes with Mountain Express Lanes.

EASTBOUND TRAVEL SPEEDS

Pre-EB Mountain Express Lane

Post-EB Mountain Express Lane



Travel Times Reduced 26% to 52%

These figures depict average speed by location and by time-of-day. Areas of dark green reflect normal highway speeds, while areas of dark red show times and locations of very slow congested speeds.

EASTBOUND IMPACT

POSITIVE EFFECT OF RECENT CONSTRUCTION



Travel times
for all lanes
has improved
22 to 52
percent



Time to clear
corridor
back-ups has
substantially
improved



Express Lane
has been well
received by
public and
the media



Time to
clear
incidents
has
improved



Frontage
Road
congestion
has been
alleviated

Data is from the I-70 Mountain Express Lane January 1 through April 10, 2016 and May 30 through September 5, 2016 Summary of Findings Report



**AWARDS &
HONORS**

CONCEPT DEVELOPMENT PROCESS AND CORE VALUES

CONCEPT SENSITIVE SOLUTIONS PROCESS



CORE VALUES



PROJECT CORRIDOR



WHO'S DOING THE WORK?

CONTEXT SENSITIVE SOLUTIONS



Project Leadership Team

- + Drives Concept Development Process and ensures guidance is followed
- + Approves decision making process and enables teams to follow process
- + Determines what materials are relevant for decision making
- + Assists to resolve issues



Technical Team

- + Defines context of project segments and identifies critical issues
- + Evaluates concepts based on critical issues, core values, and evaluation criteria
- + Defines level of feasibility



Engineering Consultants & Contractors

- + Participates in meetings to understand Technical Team perspectives
- + Develops concepts and identifies fatal flaws, constructibility and design
- + Ensures feasibility of Technical Team guidance



Project Management Team*

- + Personnel the Project Leadership and Technical Teams uses to organize, fund and facilitate the process

* The Project Management Team is comprised of FHWA; CDOT; HDR, Inc.; THK Associates, Inc; and CDR Consultants

TEAM PARTNERSHIPS

PROJECT LEADERSHIP TEAM



- + CDOT
- + Central City
- + City of Idaho Springs
- + Clear Creek County
- + Eagle County
- + Federal Highway Administration
- + Georgetown
- + I-70 Coalition
- + Silver Plume
- + Summit County
- + Town of Empire
- + U.S. Forest Service

TECHNICAL TEAM*



* *Technical Team is made up of agencies that have been invited to participate*

- + CDOT
- + Central City
- + City of Black Hawk
- + City of Idaho Springs
- + Clear Creek Bikeway Users Group
- + Clear Creek County
- + Clear Creek County Archivist
- + Clear Creek County Emergency Services
- + Clear Creek County Sheriff
- + Clear Creek Economic Development Corp.
- + Clear Creek Fire Authority
- + Clear Creek Greenway Authority
- + Clear Creek Open Space
- + Clear Creek Rafting
- + Clear Creek School District
- + Clear Creek Tourism Bureau
- + Clear Creek Watershed Foundation
- + Colorado Motor Carriers Association
- + Colorado Parks and Wildlife
- + Denver Regional Council of Governments
- + Downieville, Lawson, and Dumont Neighborhood
- + Empire Junction
- + Federal Highway Administration
- + Floyd Hill Property Owners Association
- + Georgetown Loop Railroad
- + Gilpin County
- + Jefferson County
- + Loveland Ski Resort
- + Mile Hi Rafting
- + Summit County
- + Trout Unlimited
- + U.S. Forest Service
- + Vail Ski Resorts
- + Winter Park Ski Resort

COMMENTS HEARD AT MARCH 14TH PUBLIC MEETING

COMMENTS ON NEED

Improvements are needed

Make sure safety issues are addressed

Existing interchanges have problems

Emergency access needs to be considered

At the bottom of Floyd Hill, consider improving conditions for the Greenway, existing businesses and rafting industry

Account for traffic from the Gaming Areas in addition to traffic on I-70 and traffic generated from local developments and subdivisions



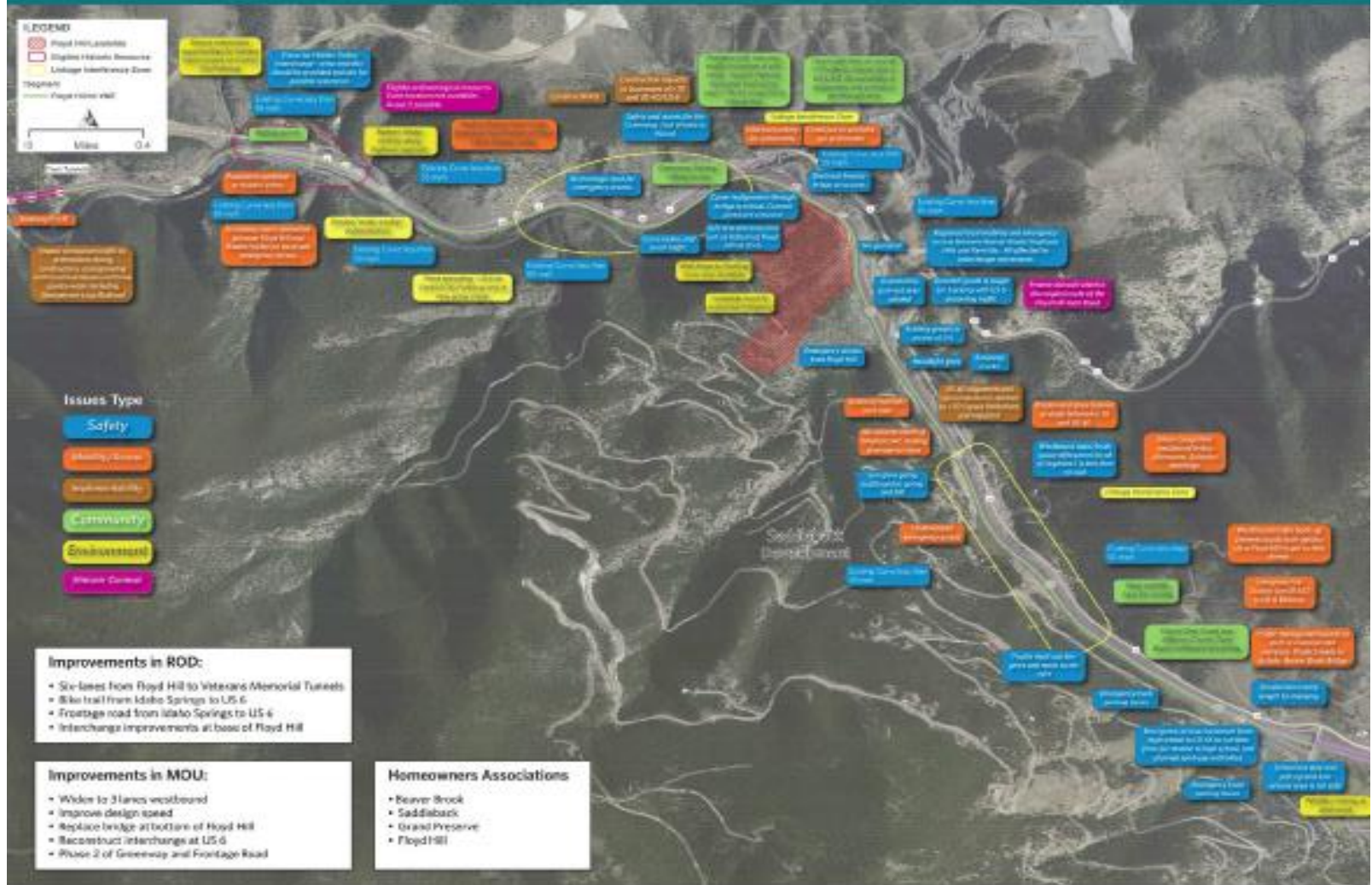
COMMENTS ON CONCERNS

Neighborhood concerns must be incorporated

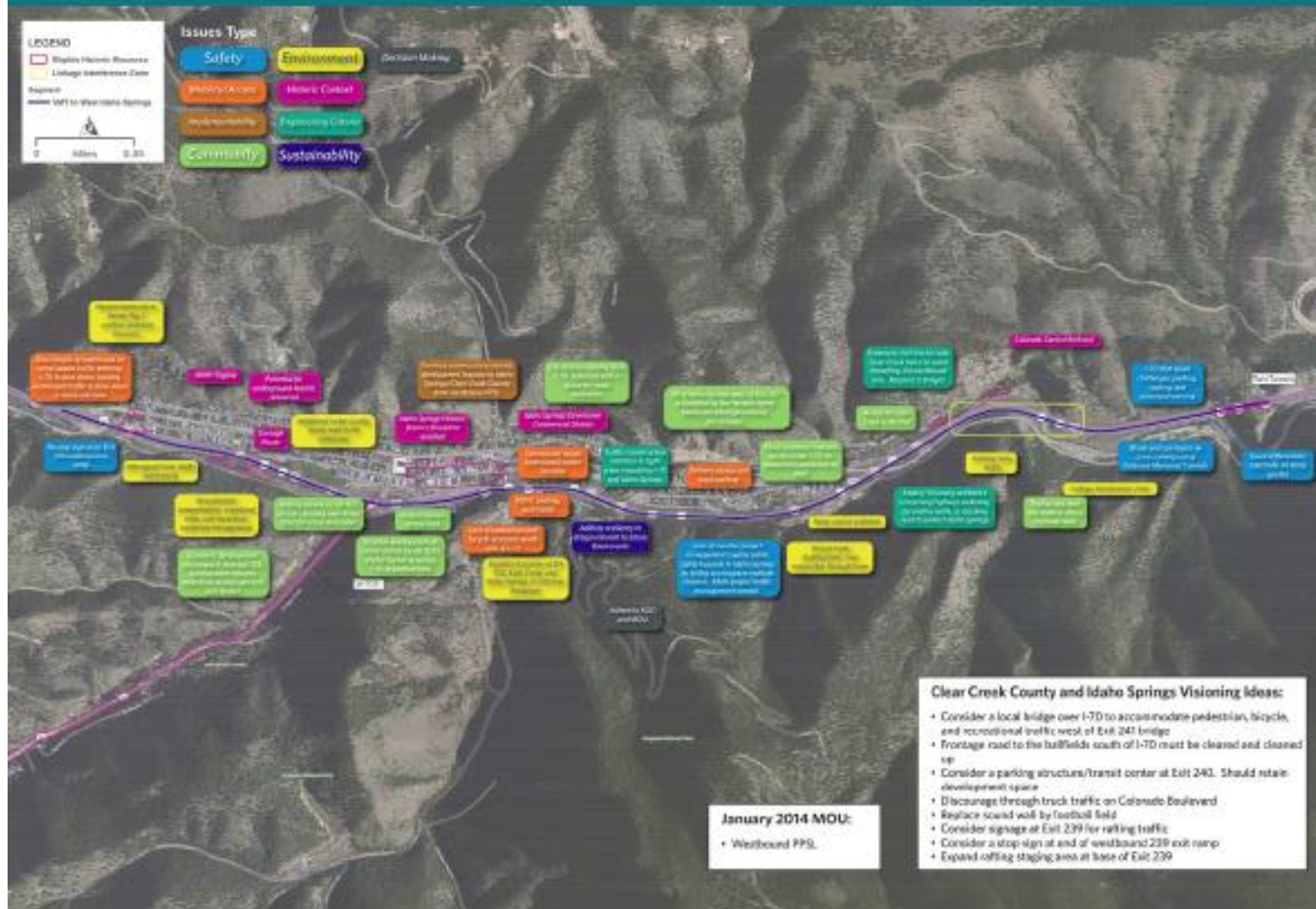
Noise, air quality, historic building and economic development are important in Idaho Springs

(Please see handout for response to all comments received)

CRITICAL ISSUES: SEGMENT 1



CRITICAL ISSUES: SEGMENT 2



CRITICAL ISSUES: SEGMENT 3



Issues Type



Clear Creek County and Idaho Springs Visioning Ideas:

- Investigate moving the Port of Entry
- Construction schedules developed with stakeholder input
- Improve view quality, reduce noise, signage, lights
- Connect Fall River Road to Frontage Road with bridge
- Greenway construction
- Study light, shadow, and icing at Fall River Road before any curve improvements
- Retain eastbound/westbound medians
- Keep signage to a minimum
- Incorporate Downsville-Lawson Damant Neighborhood Plans
- Cover I-70 in Downsville-Lawson-Damant area
- Raise I-70 or otherwise buffer Lawson and Silver Lakes area
- Buffer Rocky Mountain Village to provide noise and visual mitigation
- Relocate government uses at Empire Junction
- Include iconic pedestrian/bicycle bridges at Empire Junction
- Maximize county development and recreation uses at Empire Junction

- January 2014 MOU:**
- Westbound PPSL
 - Not exceed scope of eastbound PPSL

EVALUATION MATRICES

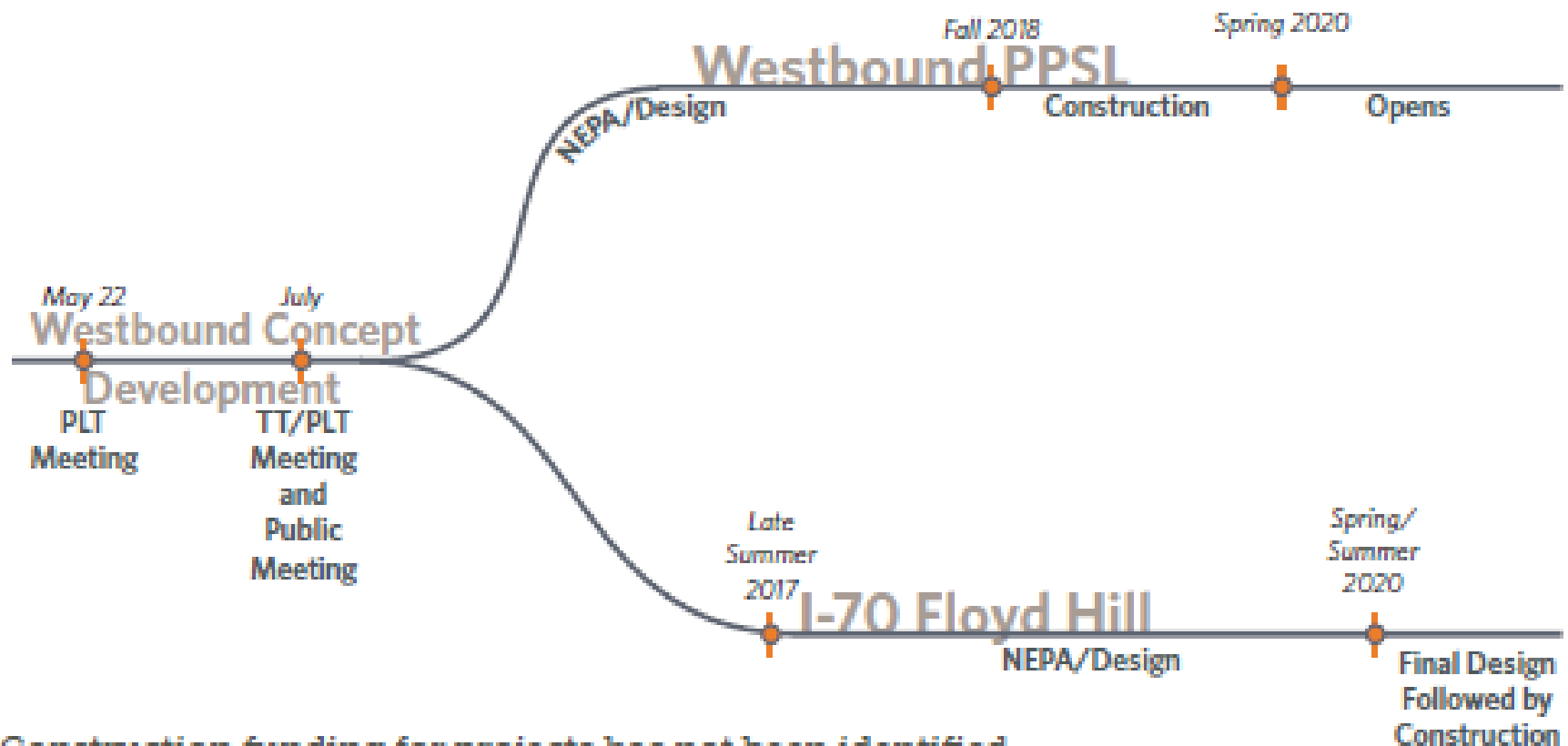
- Used to determine **alignment** and **interchange** concepts for Segment 1
- Used to determine **cross section concepts** for Segments 2 and 3
- Will be **brought to NEPA** for more detailed review and discussion
- Evaluation Criteria **developed by PLT and TT**
- Concepts **compared to each other** and then used to **develop recommendations**.

EVALUATION MATRICES

ID	Criteria	Segment 1: I-70 and US 6 Interchange				
		Options Ranking				
		Reconfigure - Full Movement at Current Location	Shift - Interchange slightly to the East (full closure option)	Close US 6 Interchange and move to the West (Hidden Valley)	Close US 6 Interchange and move to the East (Top of Floyd Hill)	
				Fair	Better	Best
RECOMMENDATIONS						
Summary of findings	Recommended to be advanced into the NEPA process. This concept has several benefits (provides additional access points, improves mobility and reliability, does not affect known historic resources and is fully responsive to CCC Master Plan) and more negative features (unresolved safety issues of steep grades, challenging geometry, extensive construction effects to the traveling public, reduced recreation access, most impacts to wildlife and Clear Creek, high impact to landslide, multiple structures in the canyon) but none that mean the concept should not be studied further in the NEPA process.	Recommended to be advanced into the NEPA process. This concept has many benefits (opens the canyon for AGS and Greenway alignments, enhances recreational potential, least impact to wildlife, no effects to known historic properties, consistent with Clear Creek County desires for the US 6 interchange, responsive to Clear Creek County 2017 Master Plan, provides direct access to the interstate) and some features that are not clearly benefits (impact to commercial vehicles, lessor impact to the landslide, reduced number of structures in the canyon) but none that mean the concept should not be further studied in the NEPA process.	Recommended to be advanced into the NEPA process. This concept has fewer benefits (it eliminates a confusing interchange) and more negative features (it requires out of direction travel, reduces travel options, results in extensive impacts to the traveling public during construction, affects an archaeological site, reduces tourism potential) but none that mean the concept should not be further studied in the NEPA process.	Recommended to be advanced into the NEPA process. This concept has some benefits (no impact to Clear Creek, no impact to the landslide, no impact to known archaeological or historic resources, opens the US 6 canyon for recreational potential, minimal impact to the traveling public during construction) but also some negative features (inconsistent with 2017 Clear Creek County master plan, out of direction travel up a steep hill, limits emergency access points, residents are not supportive of economic development potential on top of Floyd Hill) but none that mean the concept should not be further studied in the NEPA process.		
EVALUATION CRITERIA						
1.	Accommodates emergency access and response?	Provides additional access points.	Provides additional access points.	Limits emergency access points.	Limits emergency access points.	Limits emergency access points. A concentration of truck traffic conflicting with residential traffic could hinder operations
2.	Addresses safety of the traveling public and the community?	Unresolved safety issues - steep grade and sharp curves. If a roundabout is part of the design, it will need to be designed for commercial vehicles.	Improves safety issues - steep grades possible	Eliminates conflicting and confusing interchange	Eliminates conflicting and confusing interchange	Eliminates conflicting and confusing interchange at US6, however traffic will have to move up the steep hill in both directions. If a roundabout it part of the design, it will need to be designed to accommodate commerical vehicles.

CONCEPT DEVELOPMENT TRANSITION TO TWO NEPA PROJECTS

NEPA = National Environmental Policy Act, a federal environmental law that applies to federally funded projects



* Construction funding for projects has not been identified

INFORMATION FROM THE CONCEPT DEVELOPMENT PROCESS TO BE INCORPORATED INTO TWO NEPA PROJECTS

- Issues of concern to the general public, the Project Leadership Team, the Technical Team and the Issue Task Force
- Issues of concern to state and federal resource agencies
- Environmental resources
- Alternatives that should be brought forward into the NEPA process
- Alternatives that should not be advanced into the NEPA process



SEGMENT 1 – FLOYD HILL PROJECT

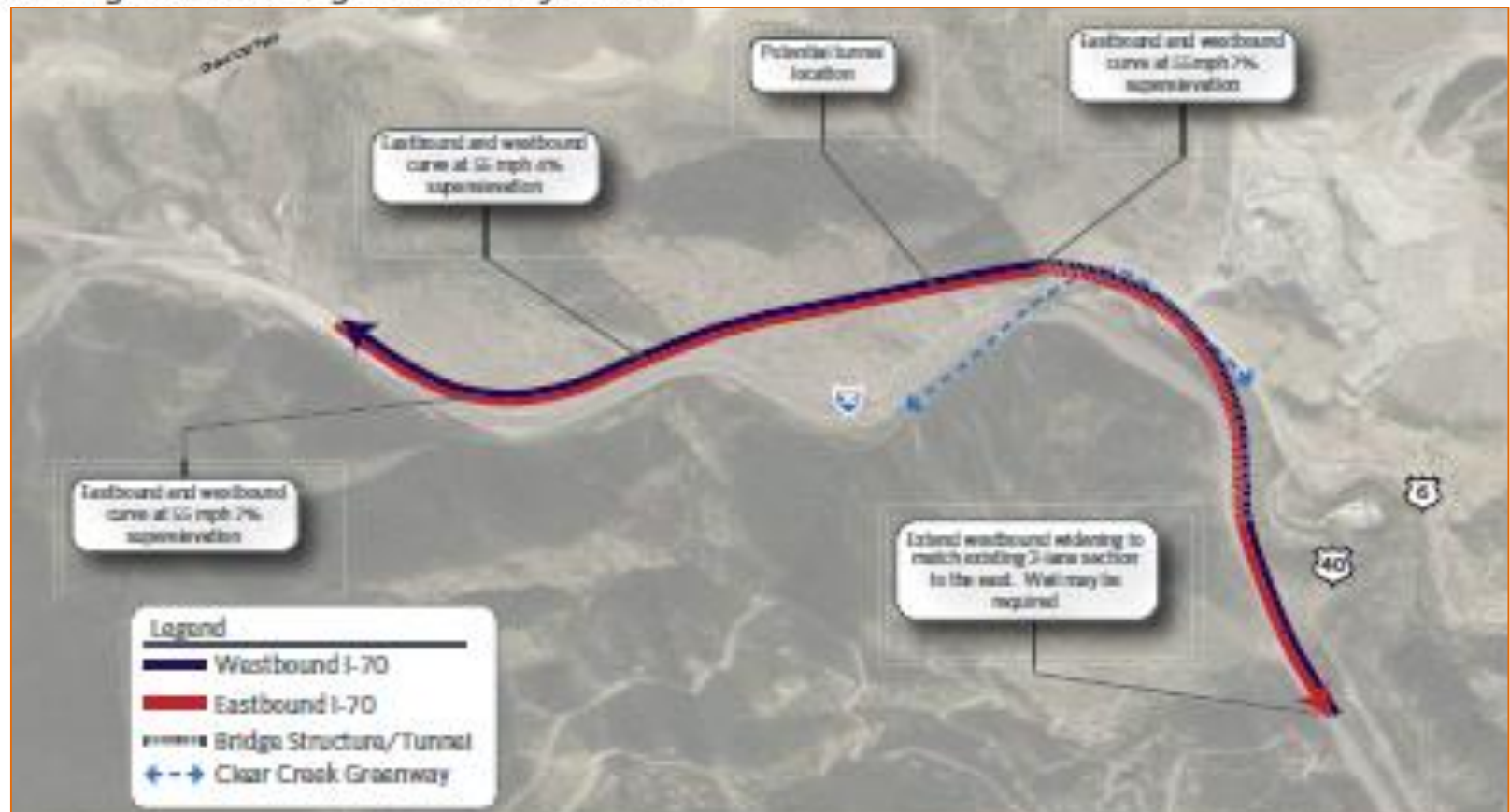


ALIGNMENT CONCEPTS

SEGMENT 1 (FLOYD HILL)

NORTH ALIGNMENT CONCEPT

Consider an option of realigning I-70 slightly to the north of its current alignment, including a new bridge from Floyd Hill.

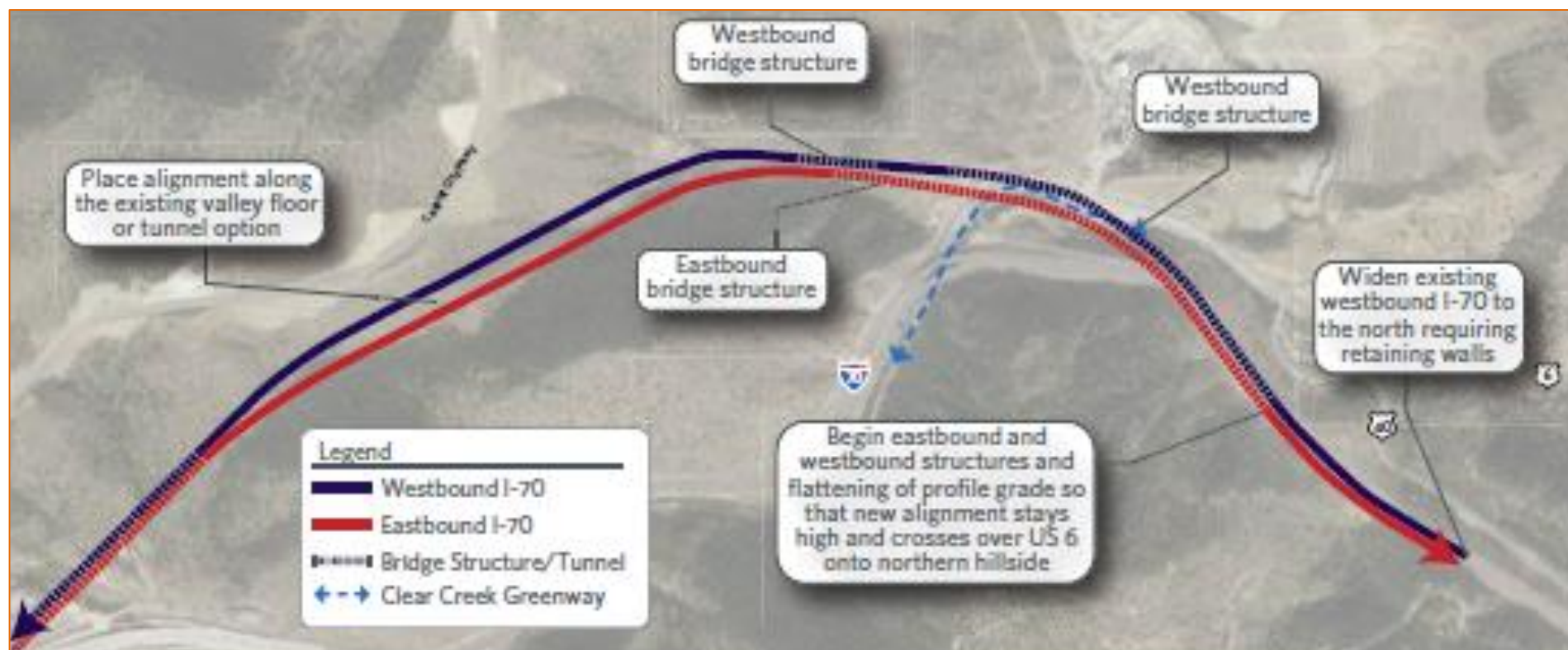


ALIGNMENT CONCEPTS

SEGMENT 1 (FLOYD HILL)

OFF ALIGNMENT CONCEPT

Consider an option of realigning I-70 to the north off of its current alignment, including new bridges from Floyd Hill and a tunnel on the west.

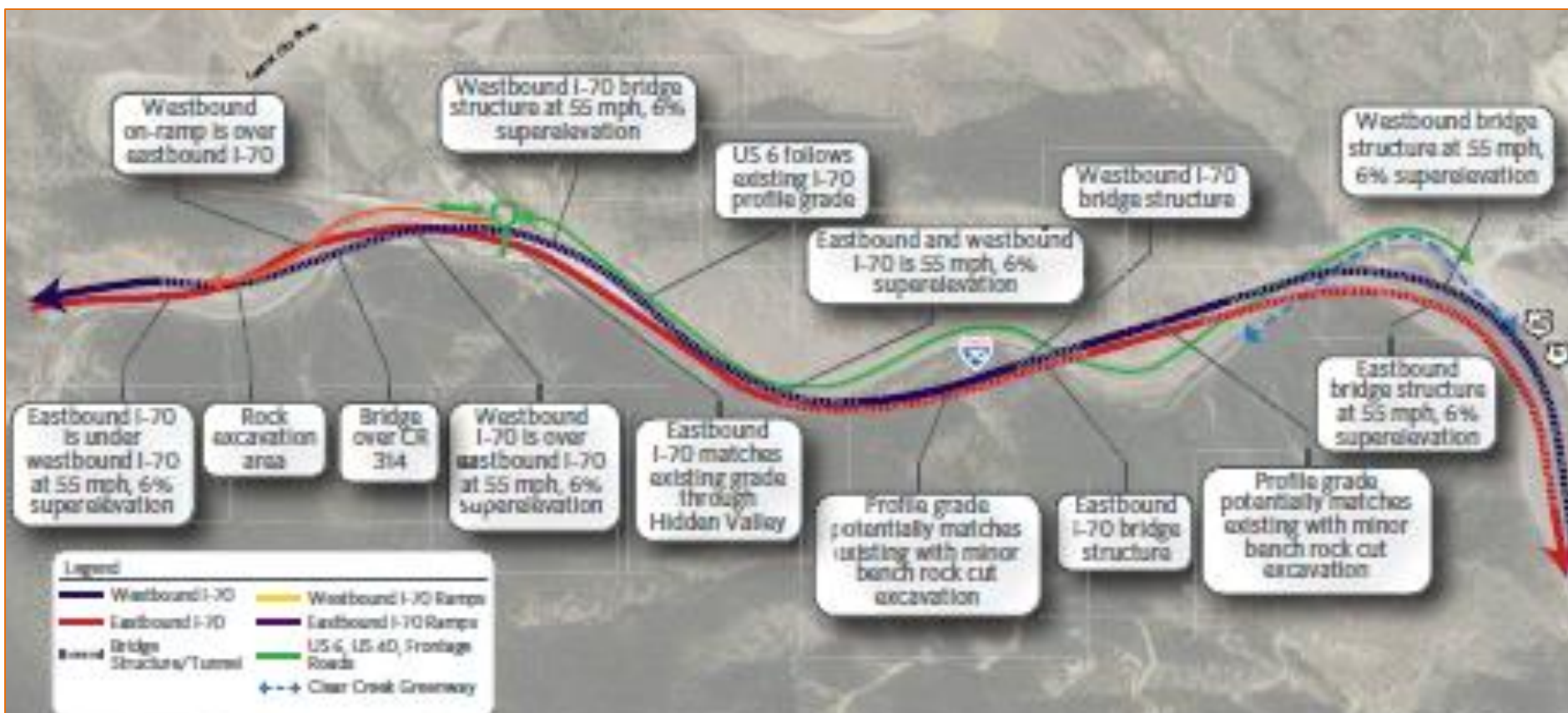


ALIGNMENT CONCEPTS

SEGMENT 1 (FLOYD HILL)

SOUTH ALIGNMENT CONCEPT

Consider straightening curves generally along the existing I-70 alignment, including new bridges from Floyd Hill and south of the existing alignment.

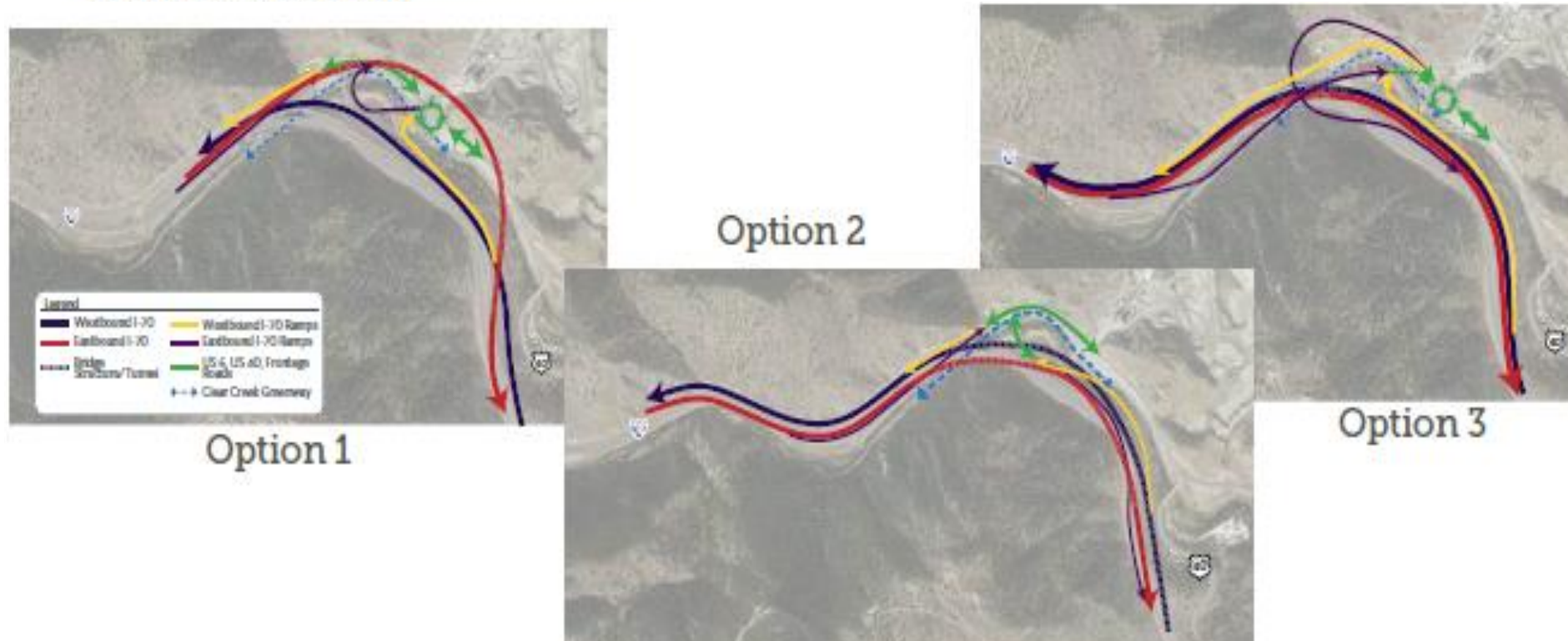


INTERCHANGE CONCEPTS

SEGMENT 1 (FLOYD HILL)

FULL MOVEMENTS AT CURRENT LOCATION

Consider reconfiguring the US-6 interchange at its current location. Options include consideration of roundabouts and flyover ramp structures, along with associated realignments of I-70.



INTERCHANGE CONCEPTS

SEGMENT 1 (FLOYD HILL)

CLOSE INTERCHANGE AT US 6, MOVE TO WEST (HIDDEN VALLEY)

Consider closing the US-6 interchange access at its current location, and moving US-6 access to the Hidden Valley interchange. Some Hidden Valley interchange improvements would be included.



INTERCHANGE CONCEPTS

SEGMENT 1 (FLOYD HILL)

SHIFT OTHER MOVEMENTS TO THE EAST

Consider moving some US-6 interchange movements up Floyd Hill to the east. Options include consideration of roundabouts and flyover or tunnel ramp structures.



Option 1



Option 2



Option 3

INTERCHANGE CONCEPTS

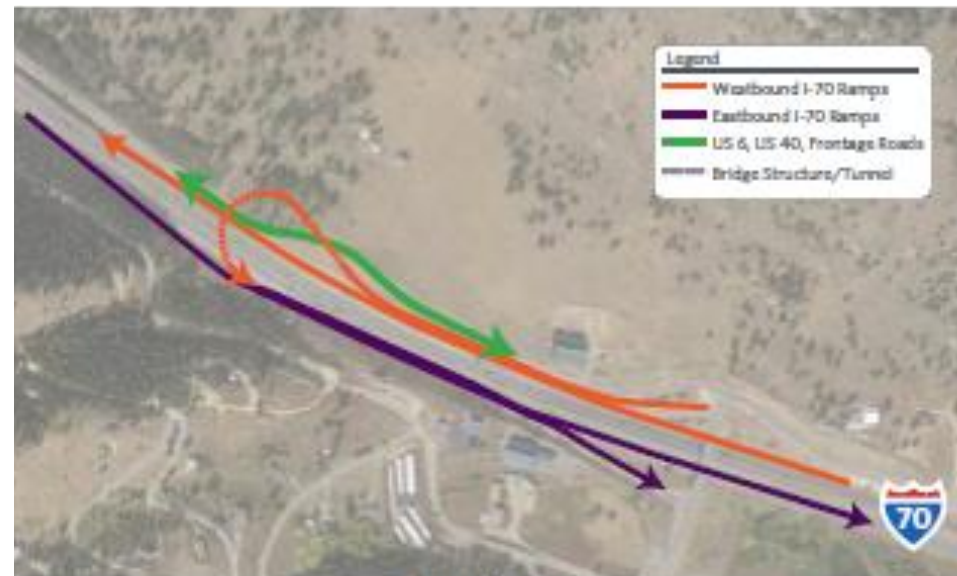
SEGMENT 1 (FLOYD HILL)

MOVE INTERCHANGE EAST (TOP OF FLOYD HILL)

Consider closing the US-6 interchange access at its current location, and moving US-6 access to the top of Floyd Hill. Options include consideration of roundabouts and ramp flyover or tunnel structures.



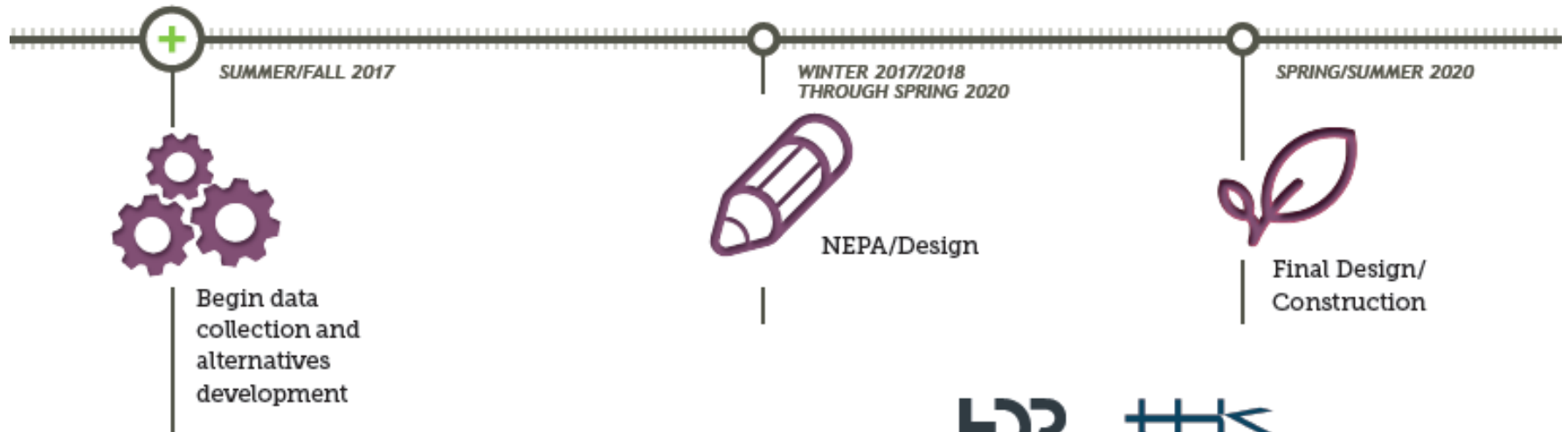
Option 1



Option 2

FLOYD HILL NEPA PROJECT

FLOYD HILL SCHEDULE AND PROJECT TEAM



SUMMER/FALL 2017



Begin data collection and alternatives development

WINTER 2017/2018 THROUGH SPRING 2020



NEPA/Design

SPRING/SUMMER 2020



Final Design/Construction

ATKINS
PRIME

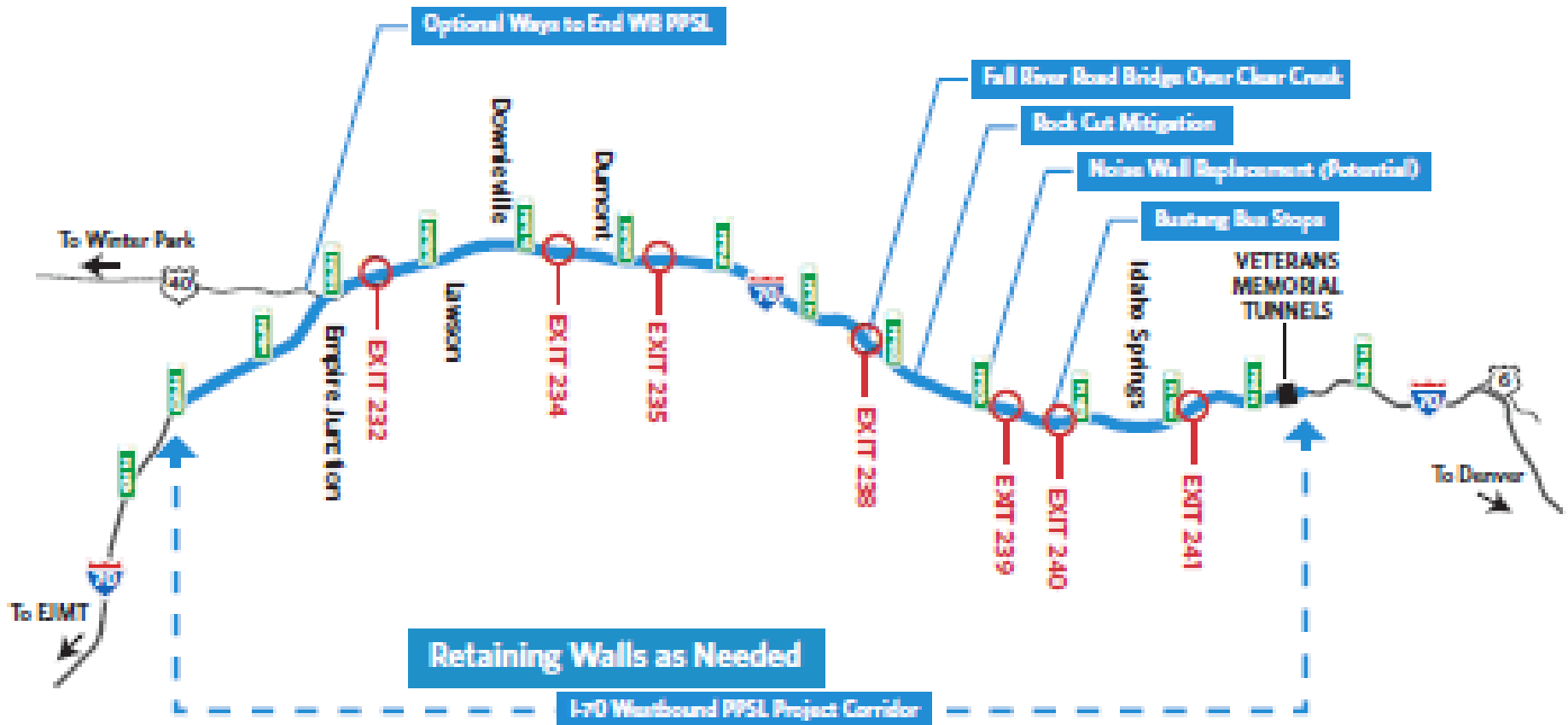


SUBS

SEGMENTS 2/3 – Westbound Peak Period Shoulder Lane Project

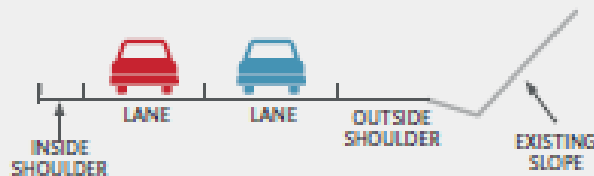


WESTBOUND PEAK PERIOD SHOULDER LANE PROJECT ELEMENTS



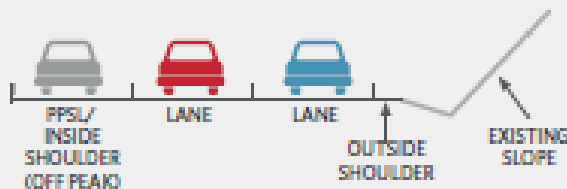
WESTBOUND PEAK PERIOD SHOULDER LANE PROPOSED CONCEPT

SEGMENTS 2 & 3



Existing Roadway Width

WB PPSL Proposed Concept



- Uses existing pavement to create PPSL
- Examine on a foot-by-foot basis to determine appropriate level of improvement
- Conforms to 2011 Record of Decision
- Interim Improvement

- The Project Leadership Team and Technical Teams agree on the proposed concept for a westbound peak period shoulder lane.
- It provides safety and mobility benefits while minimizing impacts to communities and natural resources.
- It is consistent with the 2011 Record of Decision and mirrors the improvements made in the eastbound direction.

INTERCHANGE CONCEPTS

SEGMENT 3

EMPIRE JUNCTION INTERCHANGE

Consider where peak period shoulder lane (PPSL) will end heading westbound. For PPSL traffic headed to US-40, cutting across the general purpose lanes is an option, with variations on where to end the PPSL lanes for westbound I-70 traffic.

Option 1: PPSL Traffic Weaves Across Other Lanes.
PPSL Lane Ends At US 40



Option 2: PPSL Traffic Weaves Across Other Lanes, But
PPSL Lane Continues Past US 40 Ramp



INTERCHANGE CONCEPTS

SEGMENT 3

EMPIRE JUNCTION INTERCHANGE

Consider where peak period shoulder lane (PPSL) will end heading westbound. For PPSL traffic headed to/from US-40, a direct connect flyover bridge across I-70 and Clear Creek ending at a T-intersection is an option.

Flyover Bridge with T at US 40 Ramp



INTERCHANGE CONCEPTS

SEGMENT 3

EMPIRE JUNCTION INTERCHANGE

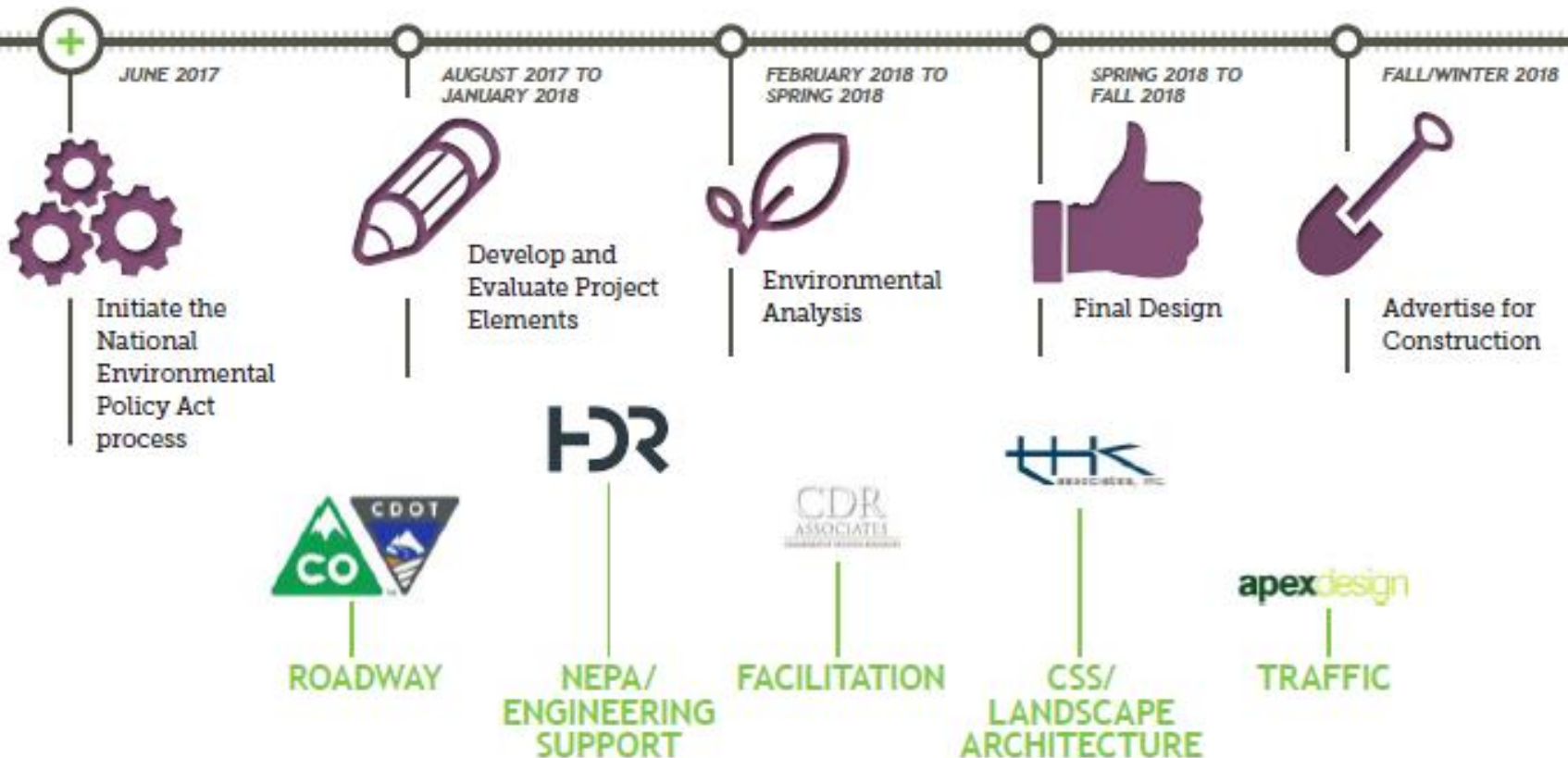
Consider where peak period shoulder lane (PPSL) will end heading westbound. For PPSL traffic headed to US-40, a direct connect flyover bridge across I-70 and Clear Creek ending at a roundabout is an option.

Flyover Bridge with Roundabout



WB PEAK PERIOD SHOULDER LANE (PPSL) NEPA PROJECT

WB PPSL SCHEDULE AND PROJECT TEAM



TELL US YOUR IDEAS



ideas clue marketing
belief marketing hint success
hint solutions innovation
innovation clue plan aim
aim thinking hint ideas
clue aim solution

A Path Forward

WESTBOUND I-70 MOUNTAIN CORRIDOR CONCEPT DEVELOPMENT

THANK YOU
FOR JOINING US



COLORADO
Department of Transportation