

Meeting Notes



I-70 Floyd Hill to Veterans Memorial Tunnels

Date: January 10, 2017

Location: CDOT – Golden

Technical Team - Meeting #6

[Ctrl +Click HERE or paste link below into your browser for Shared Floyd Hill Project GDrive](#)

<https://drive.google.com/open?id=0B5g5iHKBVK6OR2tpb1J0OUNkNU0>

Introductions and Overview

Taber Ward, CDR Associates, welcomed the group and reviewed the agenda. Self-introductions followed. No changes were made to the agenda and the meeting proceeded.

Outcomes from Meeting #5:

- Presented updated draft Purpose and Need
- Update on Context Considerations ITF
- Map Exercise with Traffic volumes, turning movements, etc.
- Reviewed Concept Development - -Interchange Options

Project Updates

Fall River Road – A PLT meeting and scoping meetings are planned for the end of January

Vail Pass - A PLT will be held on January 17

Greenway - The project team had a walk through at Silver Lakes and Animal Shelter, looking at feasibility and alignments of a north alignment.

Technical Team Schedule

Anthony Pisano, ATKINS, reviewed the TT schedule and discussed the issues and when those will be discussed and evaluated. The TT was asked to review the schedule and provide comments/feedback.

TT Question: How do we evaluate the interchanges with the alignments? **A:** This meeting will help clarify the screening process and next steps.

ACTION: CDR - Add updated TT schedule to the [GDrive](#)

Refined Purpose and Need

Carrie Wallis, ATKINS, presented the updated Floyd Hill Draft Purpose and Need Statement. It was noted that this Tier 2 analysis and project must reflect the same basic purpose and need as was developed for the Tier 1 PEIS Purpose and Need. The TT concurred that this P&N draft mirrors the PEIS and that it is satisfied with the P&N statement as written.

Agreement: TT concurrence with the Purpose and Need Statement.

ITF Outcomes – Context Considerations

Kevin Shanks, THK Associates, outlined the revised Context Considerations and the discussion from the December ITF. Kevin distributed a handout to the TT that went through the current work of the ITF. The charge of the ITF was to ‘do something’ with these comments and make them usable in the evaluation efforts.

The ITF is continuing to develop “measures of success” to use in the evaluation process. The idea is to look for measures that are quantifiable. The measures of success cannot be so specific that they point to one alternative/answer.

The ITF has distilled 23 evaluation questions related to Core Values and Critical Issues that will be the basis of understanding on how to track the public, PLT and TT comments made and how these comments have been considered in this effort. The goal is to track individual comments, suggestions and context considerations through the process to the measures of success. This tool will enable people to identify their comment in the evaluation process.

On page 7 of the handout – the design criteria are highlighted in green. These will need to be considered in the design process.

TT Comment: A suggestion was made to ensure that the planned COMBA multi-use recreation park on the north side of the top of FH is included in the matrix with accurate associated measures of success. This comment has been captured in the Issues Question related to multiple uses at the top of Floyd Hill. Martha Tableman has been bringing up this project at the TT meetings and is the source of information for this. There will be a parking lot on the north side and the project team should be aware of the traffic interaction.

TT Comment: What does ‘accommodate’ SCAP mean? The Sediment Control Action Plan(SCAP) is an agenda item for the SWEEP ITF. It will be discussed/accommodated as determined in the SWEEP meetings. ALIVE ITF recommendations would be specific to wildlife recommendations.

Coordination Efforts

Anthony Pisano, ATKINS, provided an update on stakeholder coordination efforts. All identified coordination efforts have been completed. Anthony and his team at ATKINS have been spearheading this effort.

Anthony highlights the following items from recent conversations that may be of interest to the TT:

- Met with rafting companies Mile Hi and Clear Creek Rafting. They would like to see very little impact to the river. Be careful not to change the character of the river for rafting purposes. As the design process moves forward, may need to consider how the removal of rubble and rebar from the river might impact rapids.
- Met with Two Bears Restaurant: Talked about operations and business. Some concerns about parking or access to the river.

Clear Creek County mentioned that a trails task force will be adding a recreation patrol to enforce parking, river access, trailheads, campfires, etc. . .

Interchange Concept Review and Pros/Cons

Anthony Pisano and Tyler Larson, ATKINS, reviewed the Floyd Hill interchange options and solicited feedback regarding the benefits and downsides (pros/cons) for each option.

The goal of the interchange concept review was to determine the location of the interchanges and whether they will be 1) kept them the same, 2) changed by adding ramps and other features or 3) changed by removing ramps and other features at those locations and relocating the access to a different location. Specific interchange designs or configurations at each location will be handled separately. This discussion is focused solely on location of interchanges or interchange improvements.

The discussion notes regarding the pros/cons of these options is outlined below.

Option 1 (Remove Interchange at US 6/ Replace with full access interchange at the Top of Floyd Hill - Frontage Road 314 to US 6)

Pros:

- Cleans up WB traffic from top of FH by putting trucks on to US 40
- Provides more room for recreation
- Opens US 6 to more recreational opportunities; there not a lot of space to fit a full movement interchange at US 6
- Meets driver expectancy

Cons:

- Hard to understand this Option 1 – and can't see it functioning with any practicality.
- Anything that moves to top of FH means you have more traffic on US 6; need information that will help understand this dynamic.
- Will put more I-70 traffic onto US 6; not safe for trucks
- 9% grade makes it hard for trucks to stop and re-start on US 40. Caution not to push large truck traffic on US 40
- Would need to upgrade US 40 or accept substandard geometry or go to out of direction (Hidden Valley)
- Multi-modal conflicts between non-motorized vehicles, road cyclists, mountain bikes
- Mixing motorized (trucks) and non-motorized vehicles on steep grades.
- Congestion and Greenway at the bottom
- This will impact Douglas Mountain residents – SH 119/US 6 – US 40 WB – frontage road;
- Conflict with Black Hawk and Central City traffic (employees and gamers)
- Congestion at roundabouts – traffic getting out of both subdivisions and whatever other types of land developments that might happen there. It was noted that roundabouts have both strengths and options and cautioned the group not to automatically dismiss them.
- Trucks don't fit into Roundabout and would struggle with the 9% grade.

General TT Comments: Would like to look at what problems we are trying to address. The FH region is a problem the way it is currently. A new large scale residential development will increase problems. Even if we leave the interchange the same at US 6, we still need to look at what is happening at the top of FH and the plans.

ATKINS responded that after the traffic modeling is finished we will look at the existing problems at top of FH. We will look at the whole corridor and manage the top and bottom of FH together regardless of what options we chose.

Option 2 – (Remove Interchange at US 6/Replace with Interchange Midway on Floyd Hill US 40 Access)

Overview of the Option: Remove access move all access up the hill along US 40 (midway up on Floyd Hill)

Pros

Interchange is not at the base of Floyd hill; moves movements and traffic out of the valley
Doesn't impact existing landslide
Less impact on residential area at the top of the hill
Improves recreation

Cons

Water reservoir filing at the on/off on south side.
Steep grades – tiered walls; flat slope have to go farther up
Geologic hazard; potential for new landslide – due to new cuts

Tremendous visual impacts to the context of the area
Area of impact is large requires aesthetic guideline variances
Confusing - problem for driver expectancy
AGS conflict
Requires a lot of earthwork

Options 3 & 4 - Bottom of Floyd Hill - Full Access Interchange in its current location

Overview of Options: Maintain existing access at the bottom of Floyd Hill; maintain WB off, WB on, and EB off ramps and add EB on, at its current location (full interchange).

Pros

No Roundabouts exist in some of the sub-options

Cons

Need to limit the access at the bottom of Floyd Hill
Potential impacts to Clear Creek
Flyover - doesn't work with the high options; works on low
Steep grades
No frontage road
Roundabout truck movements
Driver expectancy
Need to accommodate truck traffic coming off of US 6
Out of direction travel – impact on truck traffic
Stop and Go traffic flow

TT General Comments:

This is complicated and messy; Hidden Valley/CC Parkway and Floyd Hill serve as the on/off, come down US 6; clean up by eliminating existing messes and move traffic onto I-70.

This interchange is the “big Leviathan” – messes up recreation; critical path of the entire corridor; we must clean it up here

It is hard to do interchanges in isolation from the alignments.

US 6 is the lynchpin, we need to figure this out; if anything happens at the US 6 it should be limiting the access.

Resiliency – FH gets closed all the time, need to be able to divert EB I-70 to US 6. Concern about getting to Hidden Valley – what do we do at the HV interchange?

We can't overload the CC Parkway. On the HV area – water plant and gas station and provide a service for the corridor (good location).

Options 5/6 – Bottom of Floyd Hill - Half Diamond Interchange Frontage Road from US 6 to CR 314.

Overview of Options: Maintain WB exit ramp and add EB entrance ramp. Move WB on and EB off I-70 access to Hidden Valley with a frontage road.

Pros (for Half Diamond)

Less confusing and less visual impacts

By eliminating WB on-ramp from US 6, would eliminate those bottlenecking

Less construction impacts Option 6 half-diamond

½ diamond facilitates local industry and access

½ diamond is less circuitous

Less construction impacts

No impact at Frei – keep trucks on I-70

Doesn't limit access to US 6 and Kermitts/2 Bears

Cons

Off ramp on a bridge

No access to/from Denver at US 6; out of direction travel

Flyover/Half-spiral is costly and has visual impacts

Interchange is confusing

Half-Diamond US-6 low

Pros

Get off I-70 – 6

Frontage road to I-70 without getting off of HV

Access to/from Idaho Springs

Take truck traffic off US 40

No mixing with CR 65 – eliminates bike conflict

Seems easier

Frontage road connection

Con

Full interchange at bottom of FH doesn't work.

Full diamond at CR 65/US 40

Roundabout capacity and issues;

Option 7 – Mauck/Leviathan – move all movements to Hidden Valley with frontage road (north side); off ramp at Hidden Valley – truck traffic can easily get off and frontage road. Need to limit truck traffic on US 40 and force them to Hidden Valley; CR 65 onto US 40 is dangerous. Another option is to keep WB exit off I-70

Getting rid of an interchange is extremely difficult. We can focus on area and make a good case for why it would be eliminated but it needs to be well documented and compelling.

Frontage road would exist on north side of creek on existing 70 (WB/EB)

Want both east and west/bound lanes in the tunnel.

Pros

Simplify area; clean up access; eliminate conflicts

Centralize access points to interstate and to US 6 – emergency management, simplify operations

Significant footprint to provide unique solutions

Opens up US 6 area for recreation

Better opportunities for acceleration

Minimize visual impacts and decking

Bridge work and concrete

Reduces expense for access

Leave useable land for people and village use

Notes: This is an opportunity to do something with real vision and look at final type of solution; we need to think about and consider partnerships.

Cons

Send trucks up US 40

If no tunnel, not as good of movement.

Tunnel discussion:

If eastbound was also included in the tunnel it would allow the county to reuse that area for economic development as it is the flattest land in the entire county. We should compare the price in the context of adding an additional lane.

CDOT noted that the purpose of this project was focused on the improvements identified in the ROD including the WB bridge replacement, WB additional lane, and minor safety improvements to EB. The team would look at costs of an EB tunnel and how not to preclude any potential improvements on future projects.

ACTION: Project Staff use the pro/con discussion list to begin evaluation of the Floyd Hill concepts.

ACTION: Develop a graphic of the interchange options to show how the options work along the full stretch of the corridor.

The TT also commented on intersection details including:

- Diamonds are better for trucks than roundabouts

- In Option 1 (Full Diamond at Homestead) – must be careful when locating roundabout as it could cause a conflict with private driveway
- Consider a roundabout for Option 1 at CR 65 (currently a full diamond)

Actions and Agreements

Agreement: TT concurrence with the Purpose and Need Statement.

ACTION: CDR - Add updated TT schedule to the [GDrive](#)

ACTION: Project Staff use the pro/con discussion list to begin evaluation of the Floyd Hill concepts.

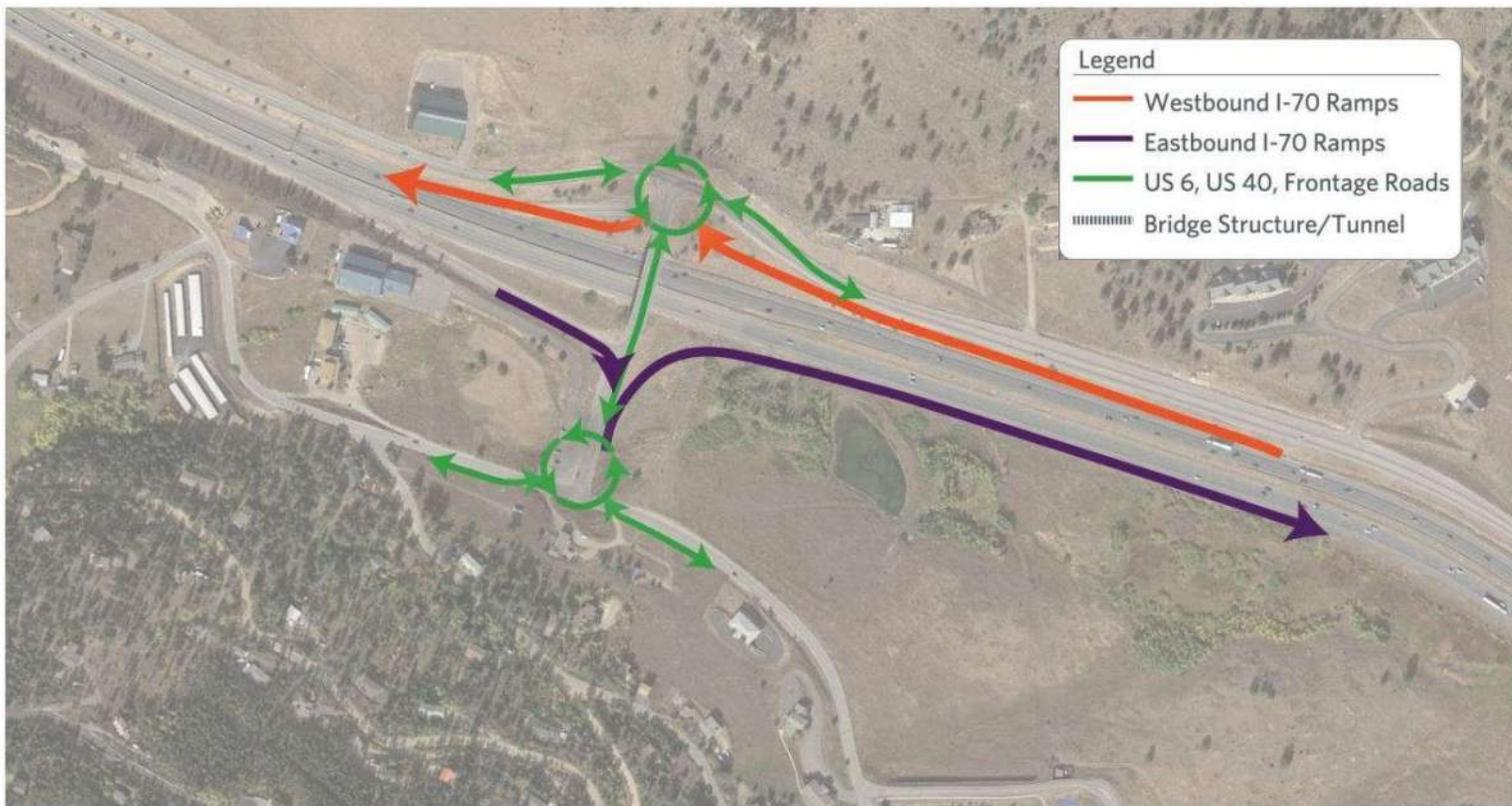
ACTION: Develop a graphic of the interchange options to show how the options work along the full stretch of the corridor.

Attendees

Andrew Marsh (Idaho Springs); Adam Bianchi(USFS); Randy Wheelock, Tim Mauck, Cindy Neeley (Clear Creek County); Bill Coffin (Community Rep from Floyd Hill); Lynette Hailey (I-70 Coalition); Wendy Koch (Town of Empire); Yelena Onnen (Jefferson County); Sam Hoover (Central City); Mike Raber (CC Bikeway User Group); Stephen Strohming, Daniel Horn (Gilpin County); Tracy Sakaguchi (CMCA); Holly Huyck (CC Watershed Foundation), Kelly Galardi (FHWA); Patrick Holinda (CDOT Bridge Enterprise); Anthony Pisano, Carrie Wallis, Tyler Larson (Atkins); Gina McAfee (HDR Inc.); Kevin Shanks (THK Associates); Neil Ogden, Kevin Brown, Vanessa Henderson, (CDOT); Taber Ward, Jonathan Bartsch (CDR Associates)

Opt 1: Close US-6 / Move to Floyd Hill

Full Diamond at Homestead

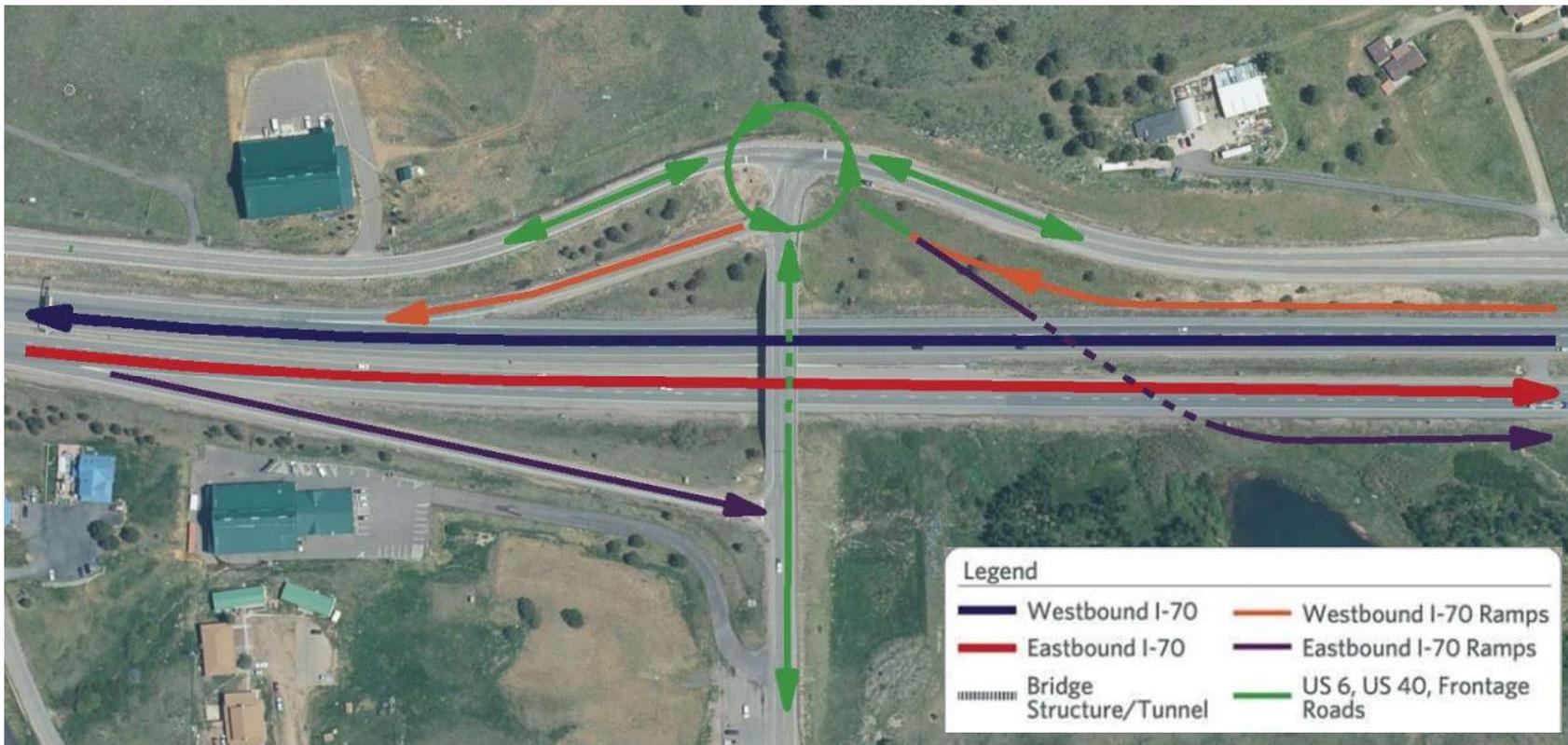


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Opt 1: Close US-6 / Move to Floyd Hill

Full Diamond at Homestead with Connector Ramp

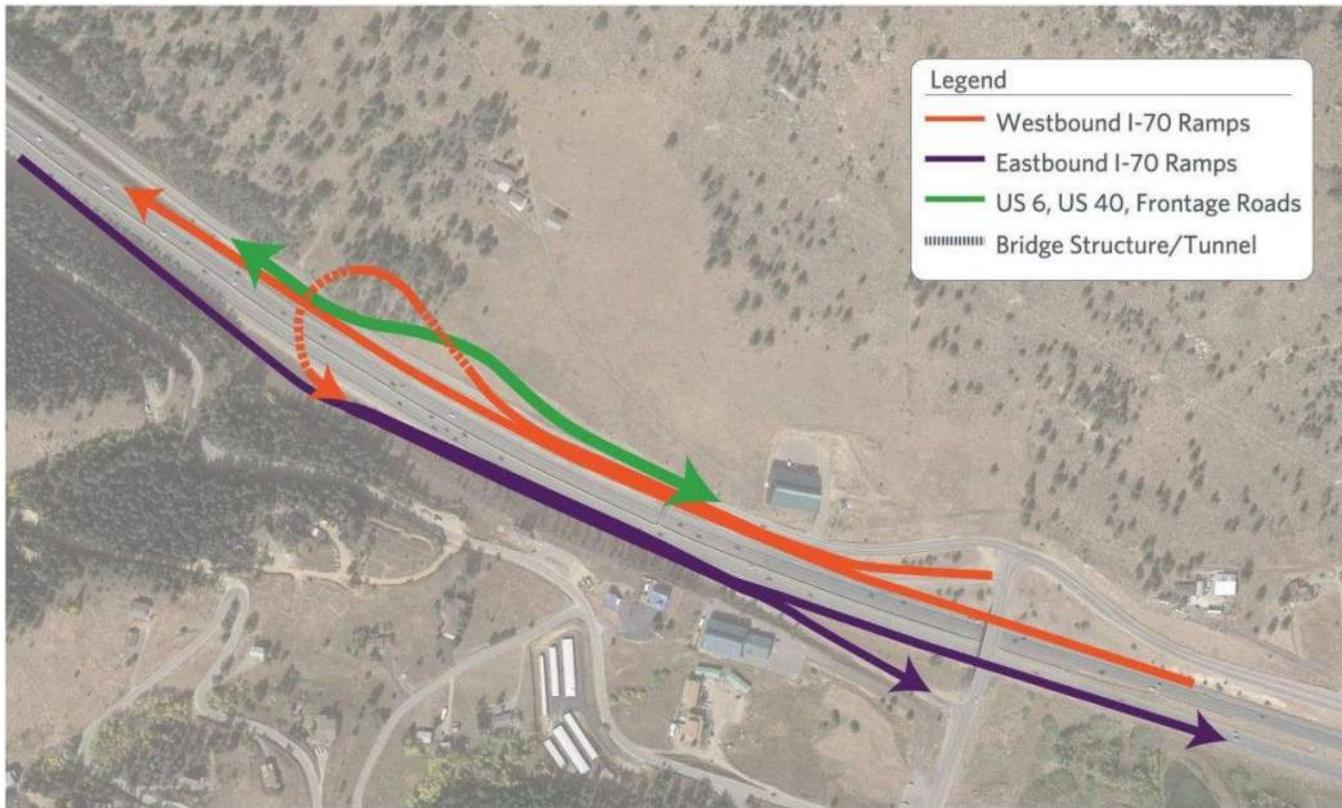


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Opt 1: Close US-6 / Move to Floyd Hill

Full Diamond with Flyover Ramp

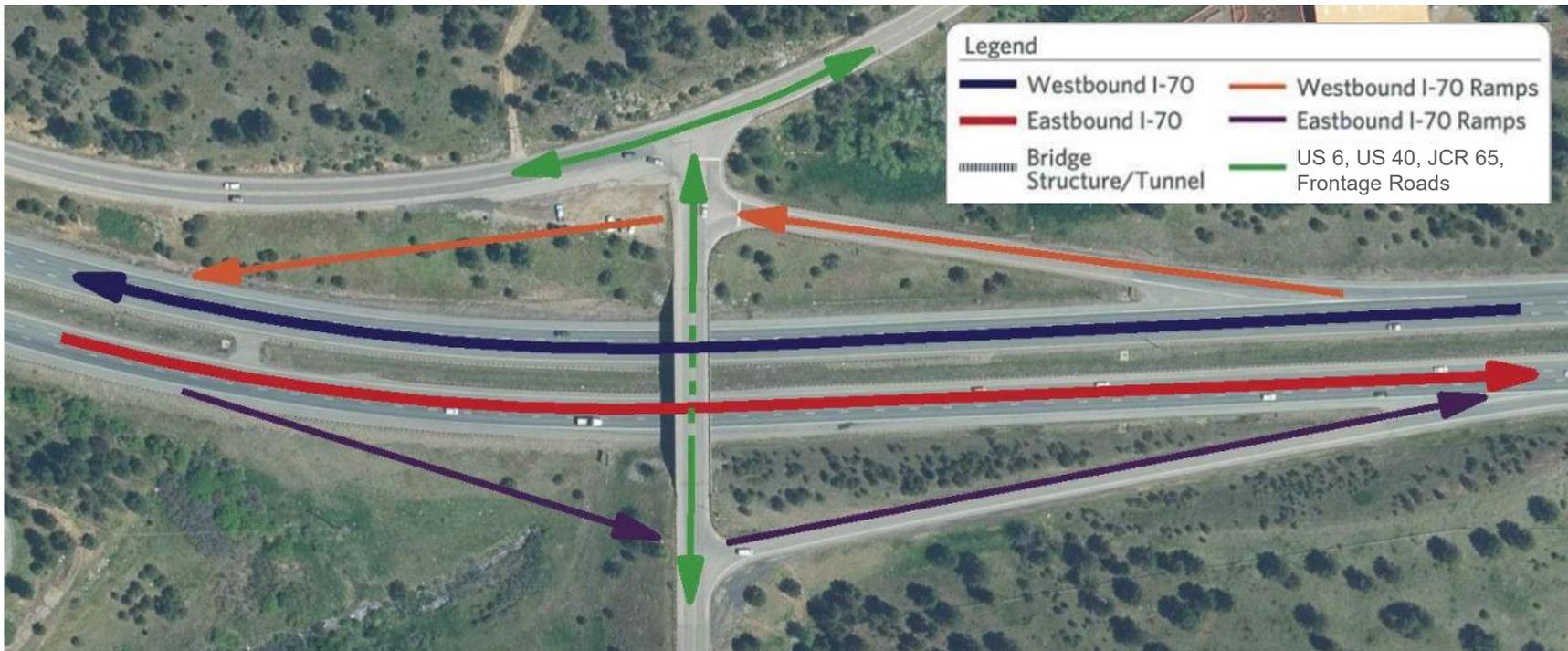


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Opt 1: Close US-6 / Move to Floyd Hill

Full Diamond at JCR-65



Opt 2: US-40 Interchange

Full Movement



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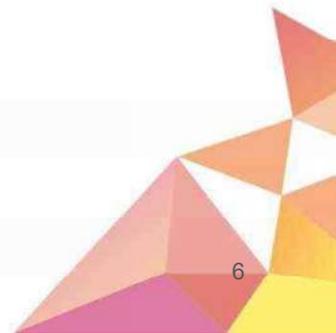


Opt 2: US-40 Interchange

$\frac{3}{4}$ Movement (No EB On)

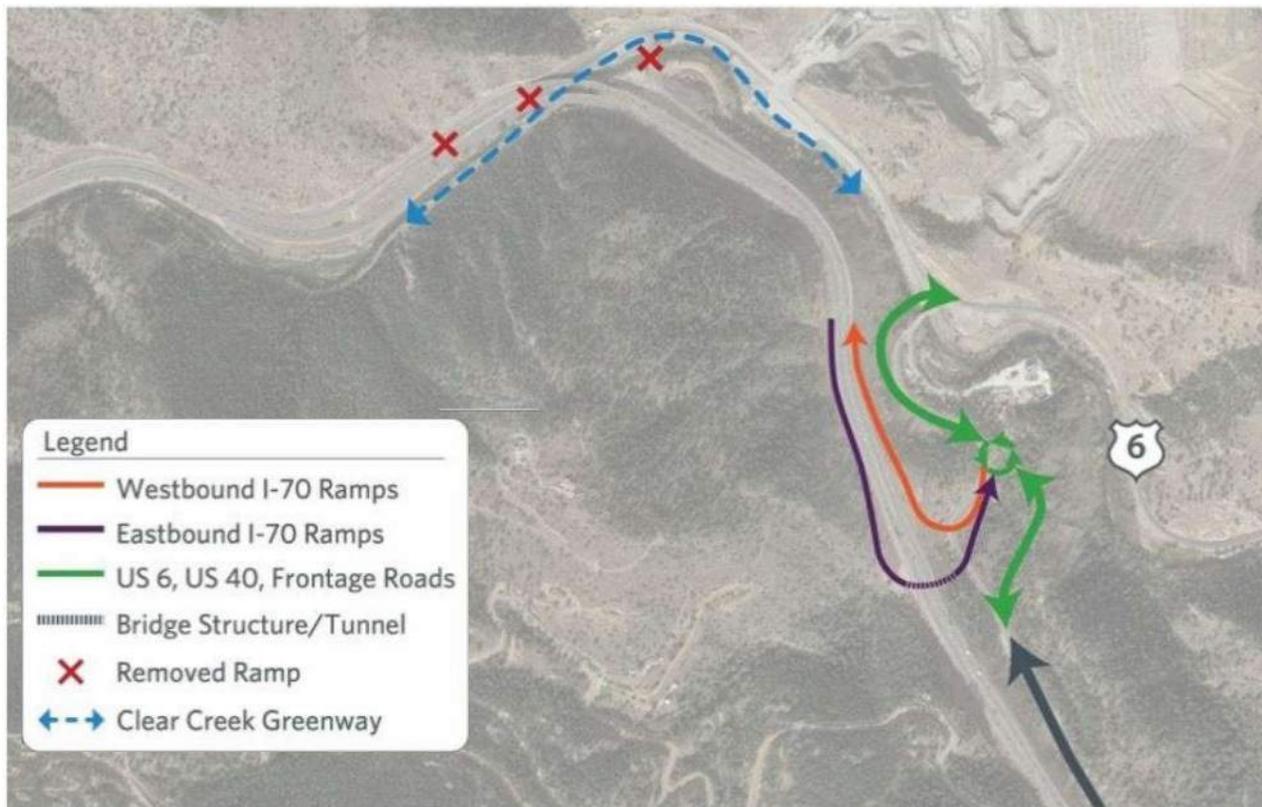


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Opt 2: US-40 Interchange

½ Movement (WB On/EB Off)

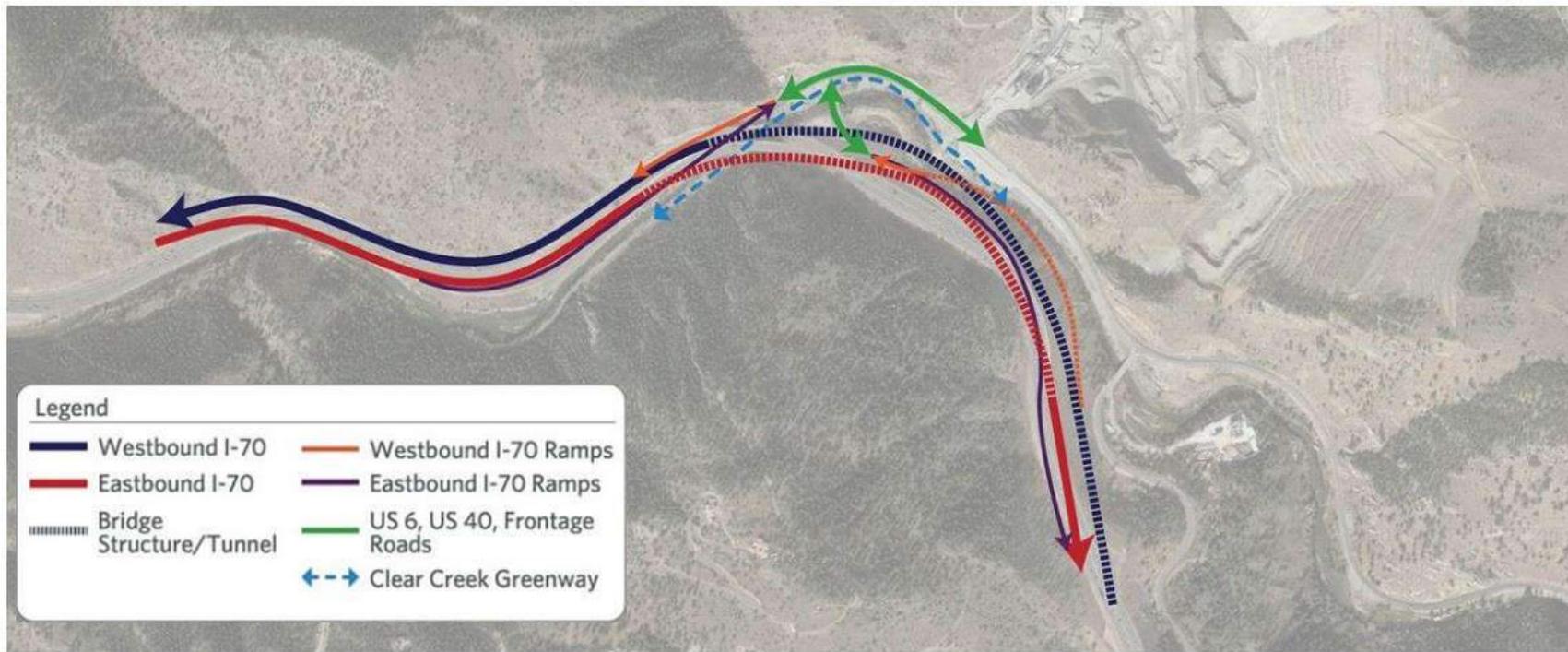


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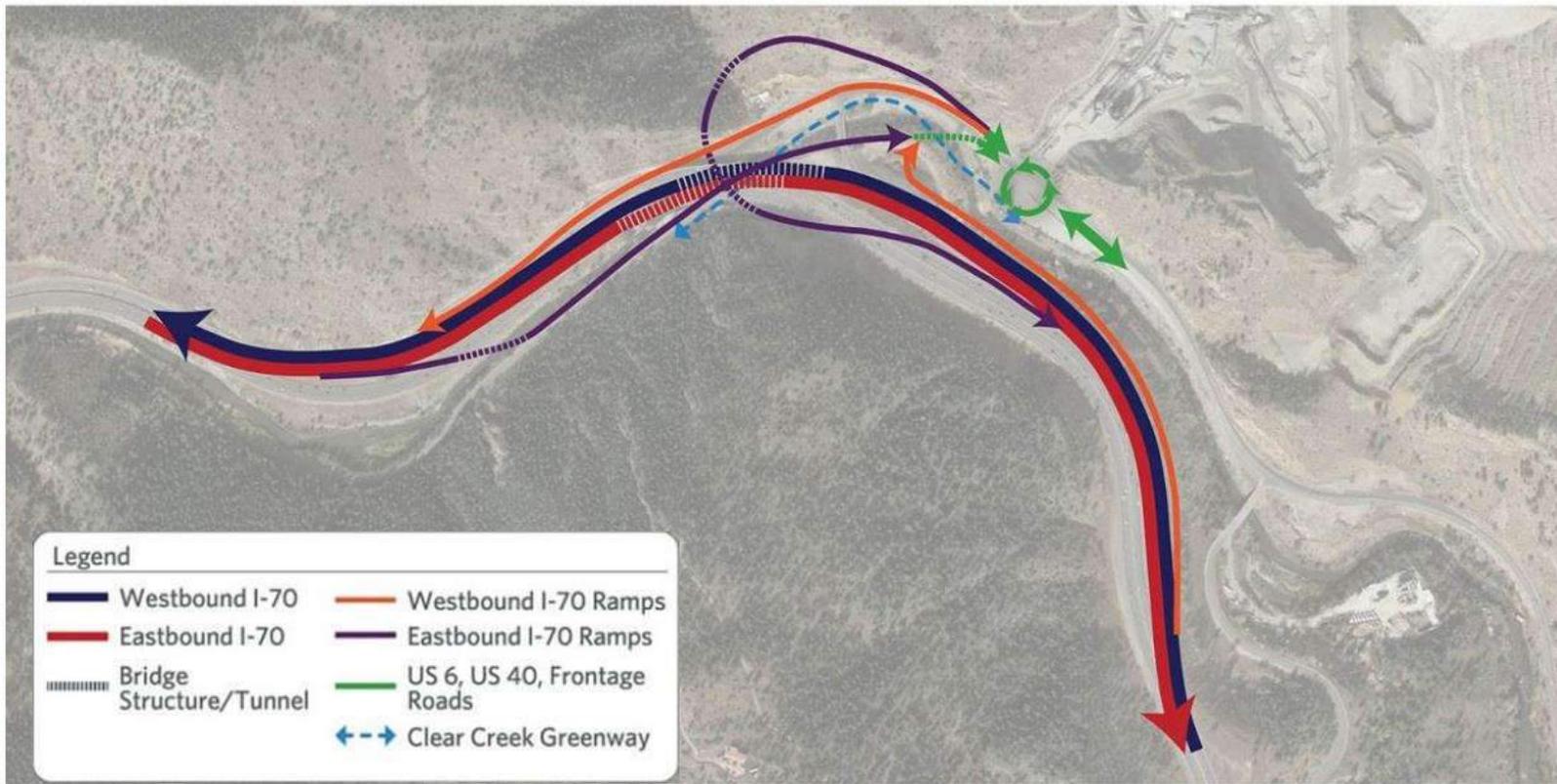
Opt 3 & 4: Full US-6 Interchange

Existing + EB On (CDP)

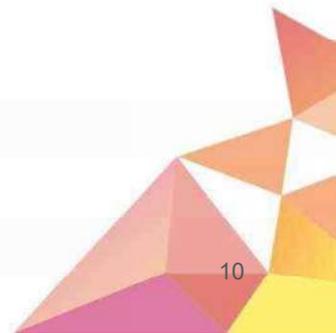


Opt 3 & 4: Full US-6 Interchange

Flyover (CDP)

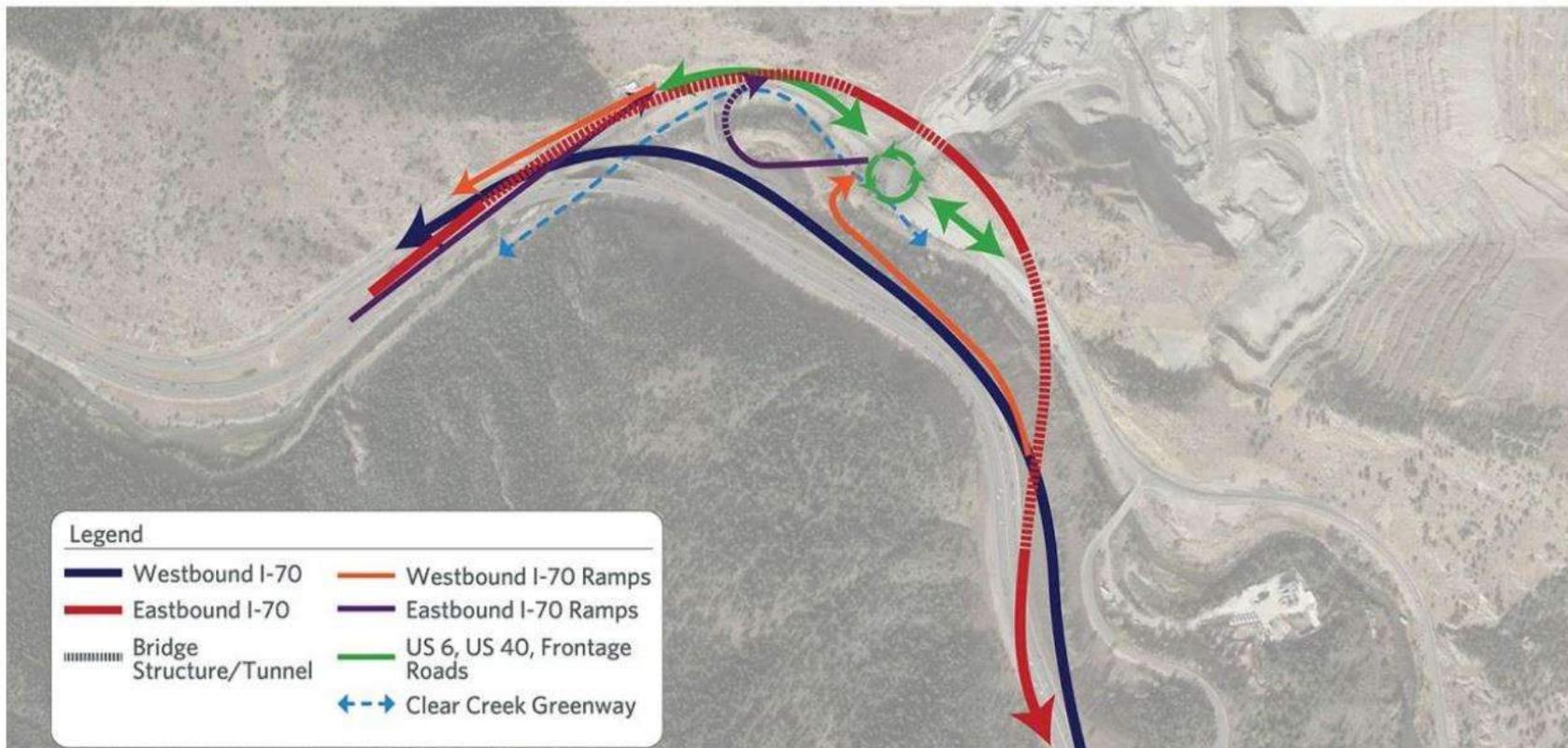


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Opt 3 & 4: Full US-6 Interchange

Spiral (CDP)

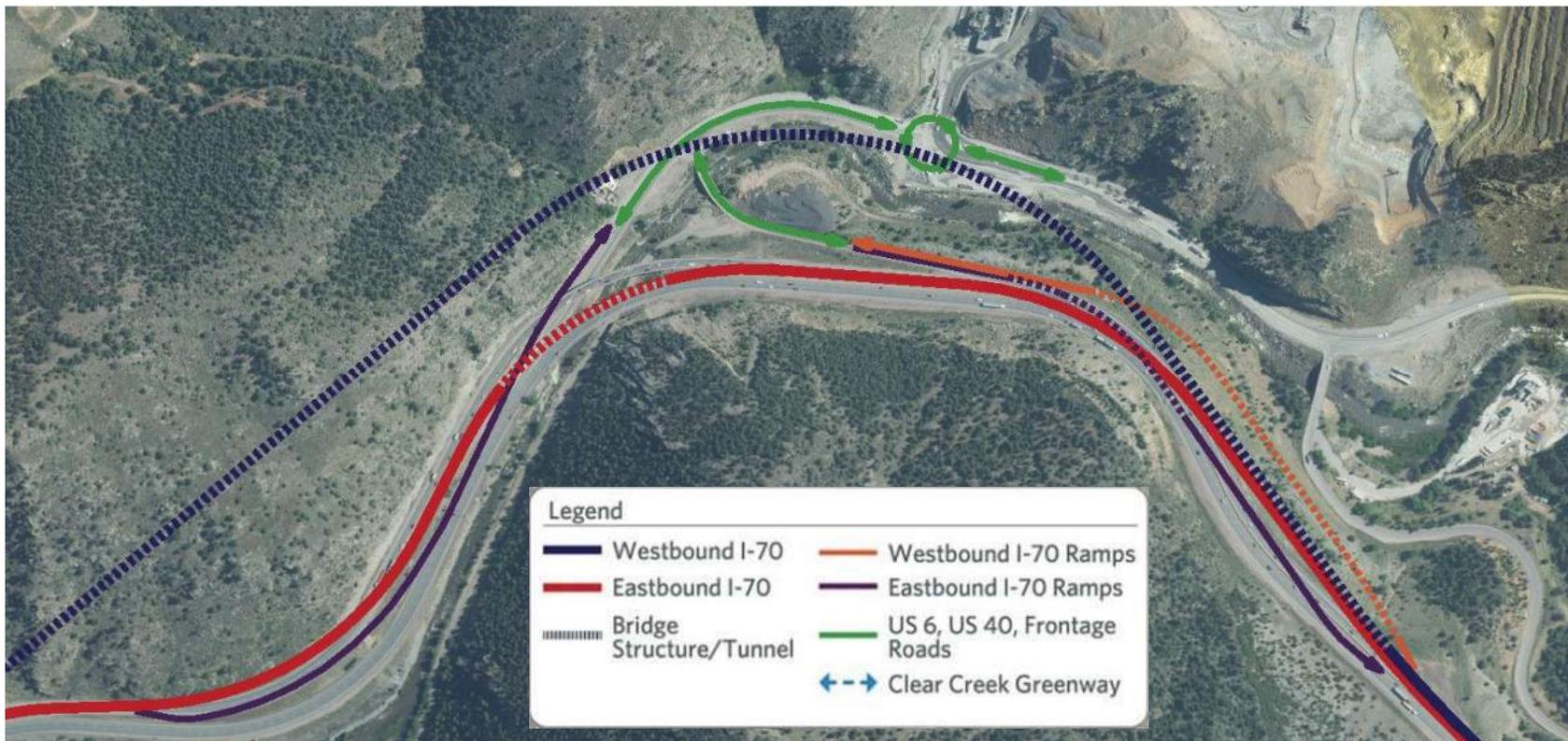


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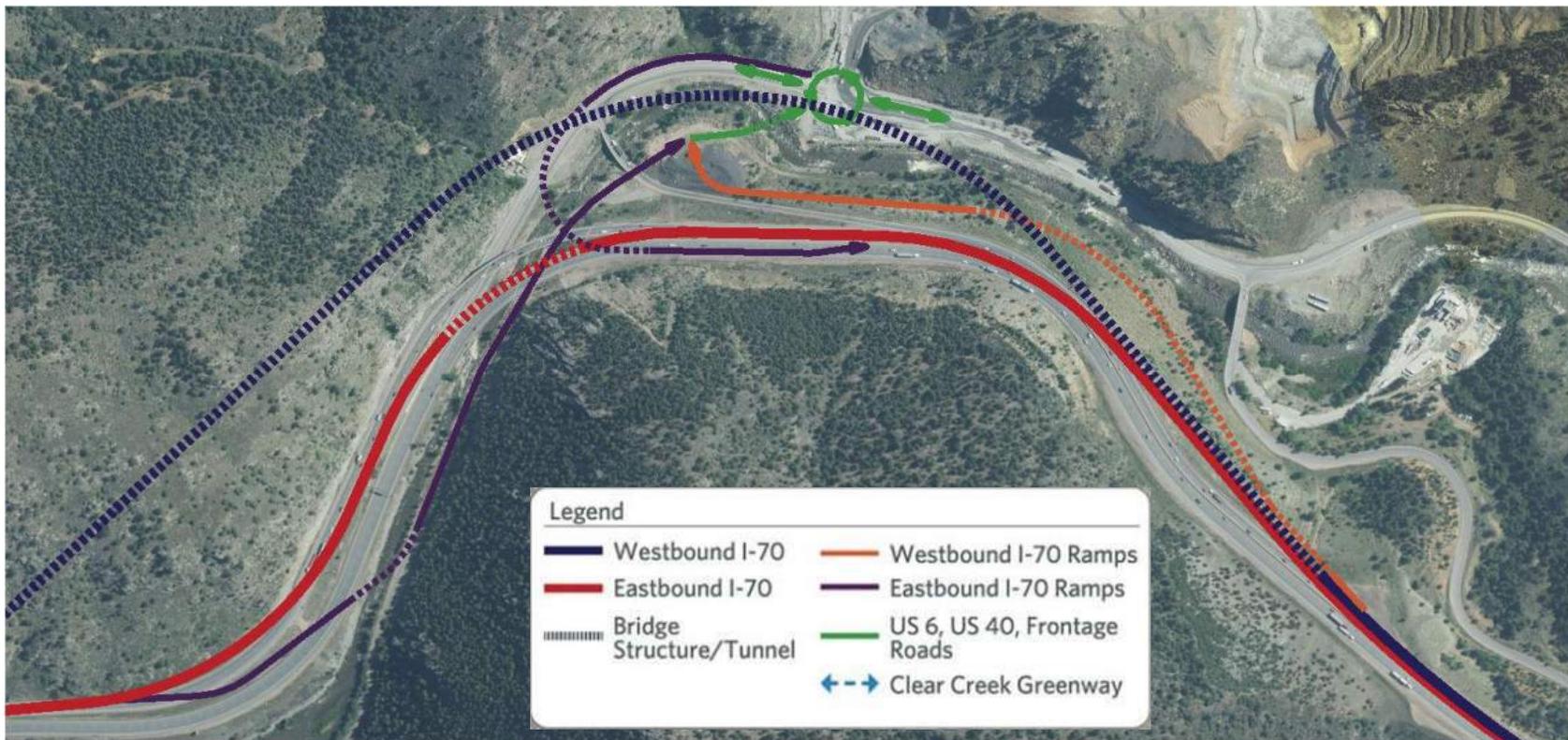
Opt 3: Full US-6 Interchange (Viaduct)

Existing + EB On



Opt 3: Full US-6 Interchange (Viaduct)

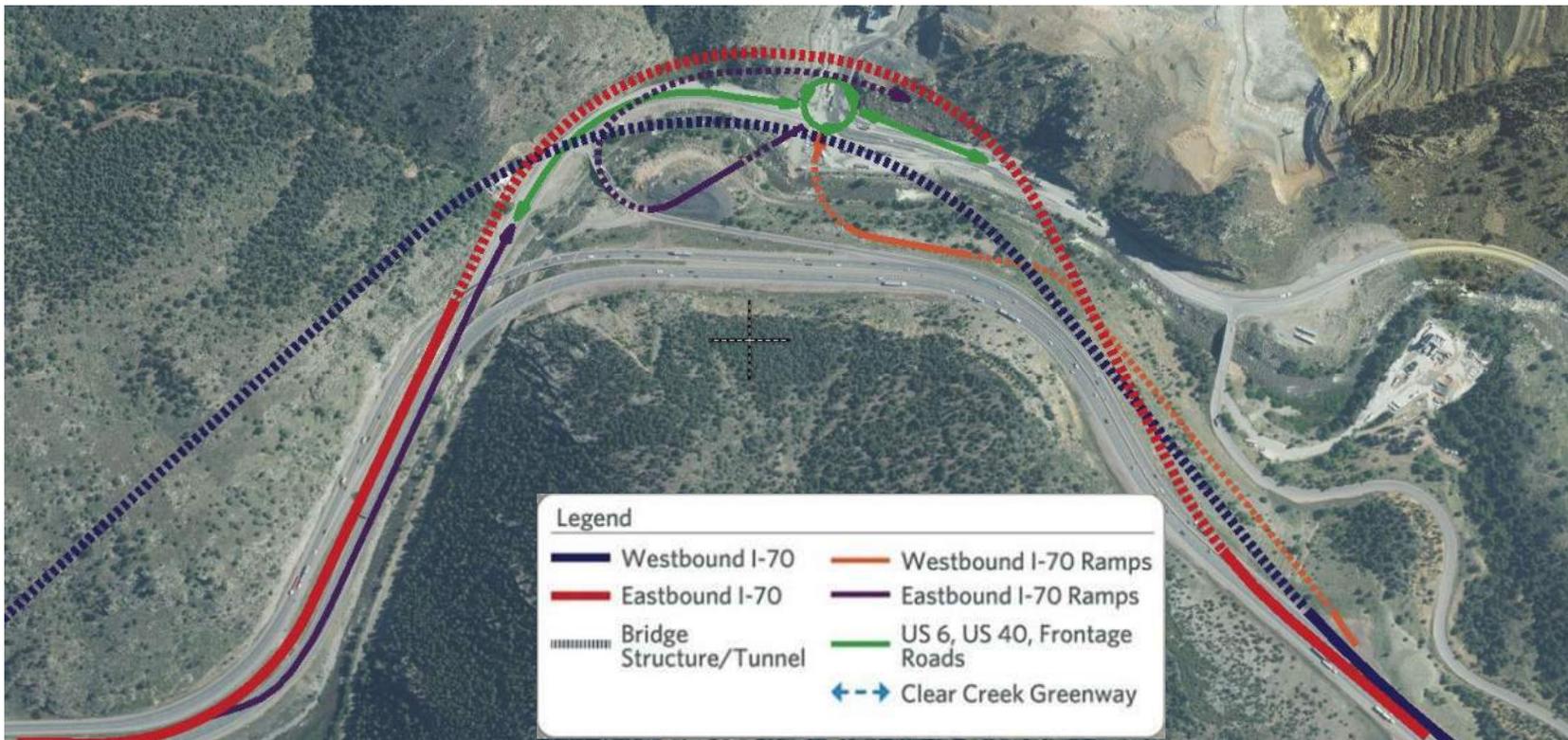
Flyover



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Opt 3: Full US-6 Interchange (Viaduct)

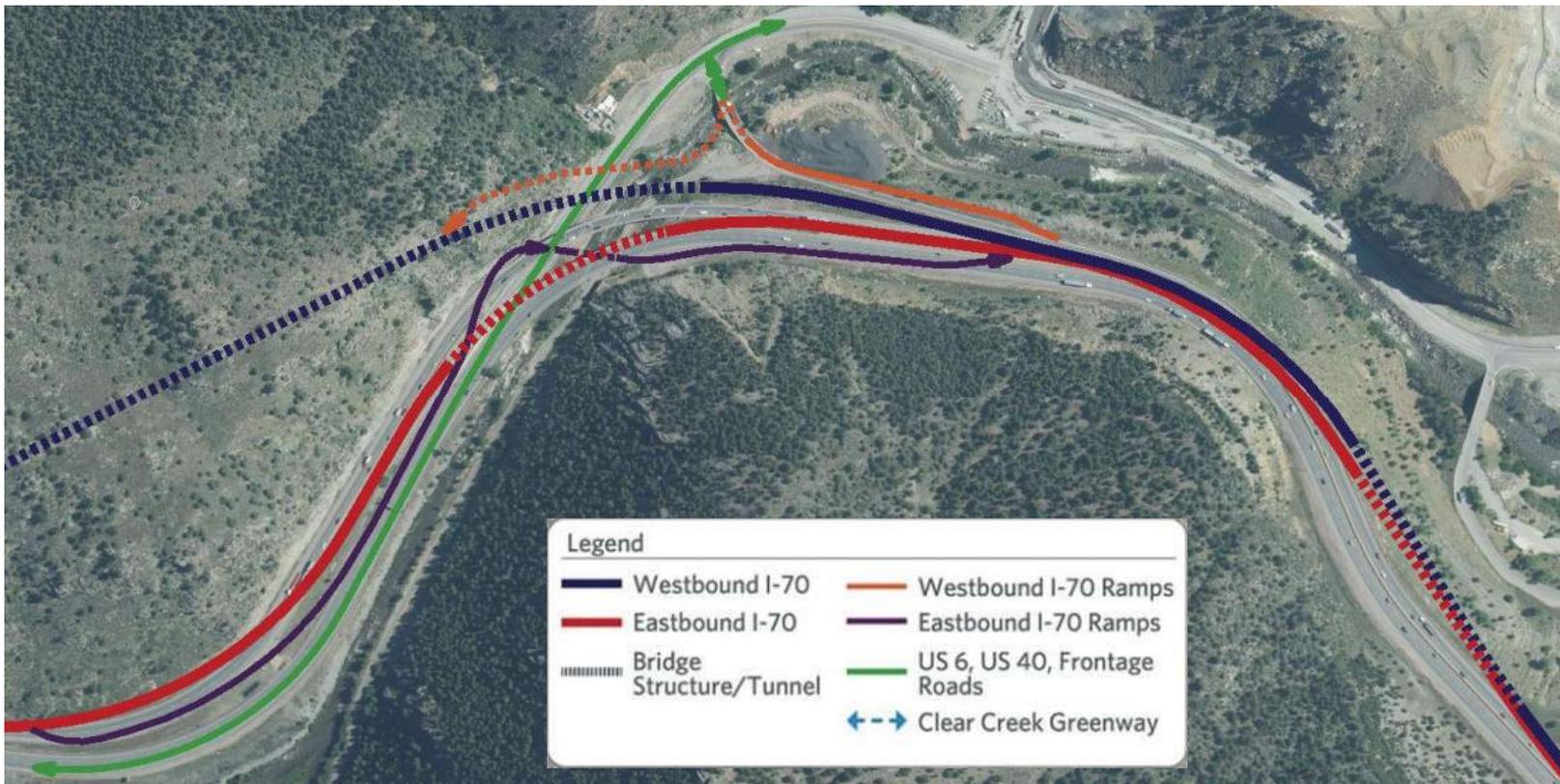
Spiral



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Opt 4: Full US-6 Interchange (Low)

Existing + EB On

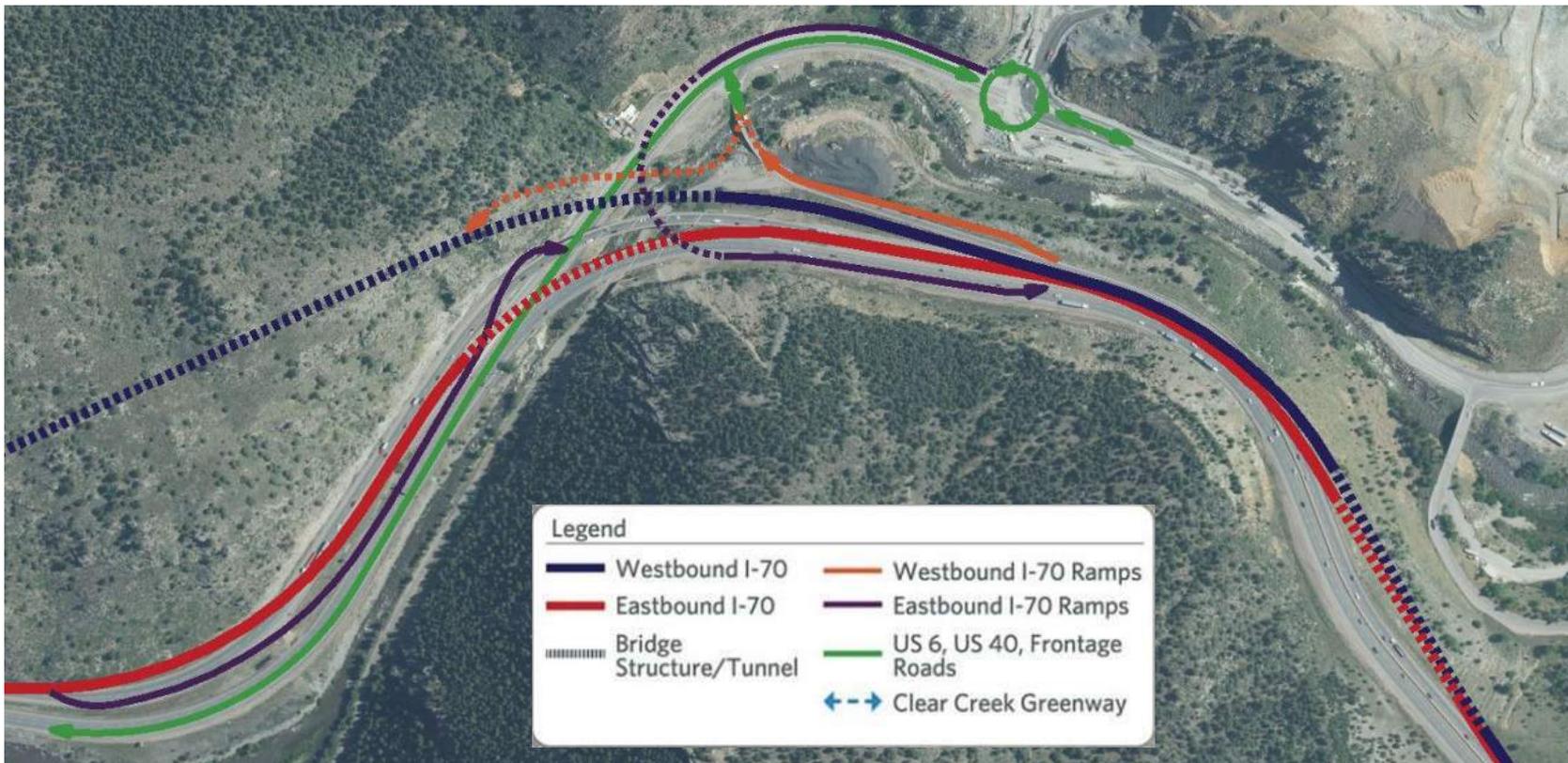


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Opt 4: Full US-6 Interchange (Low)

Flyover

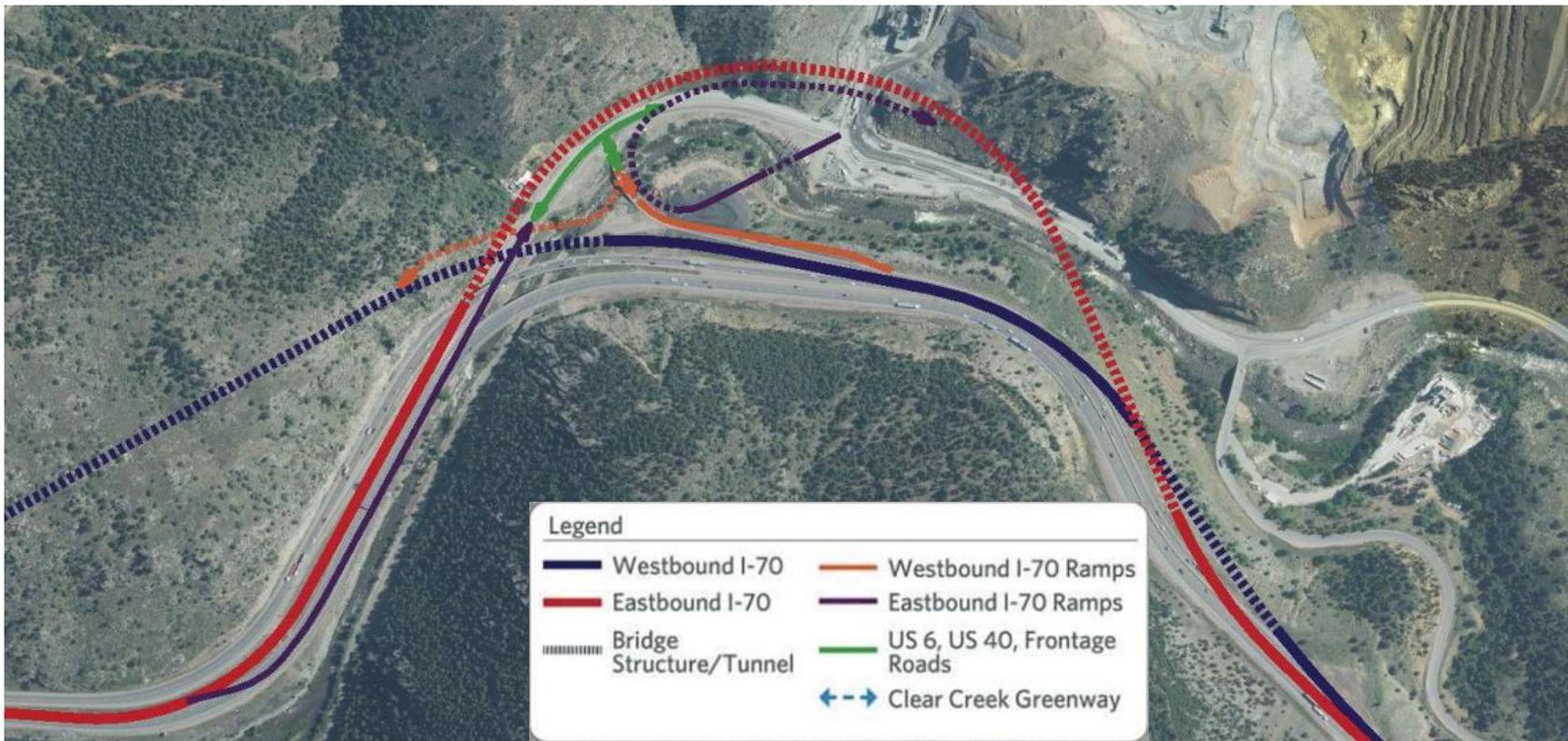


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Opt 4: Full US-6 Interchange (Low)

Spiral

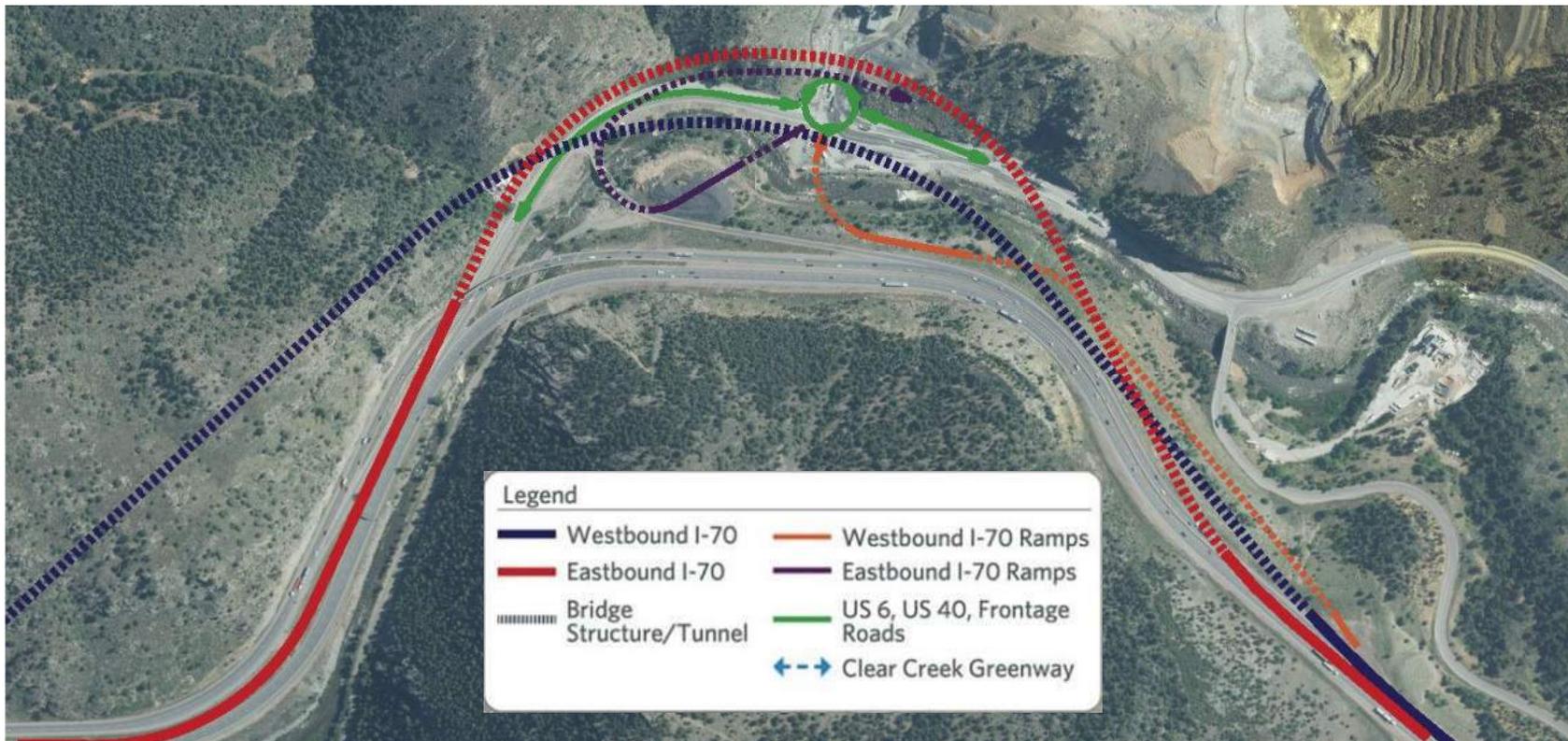


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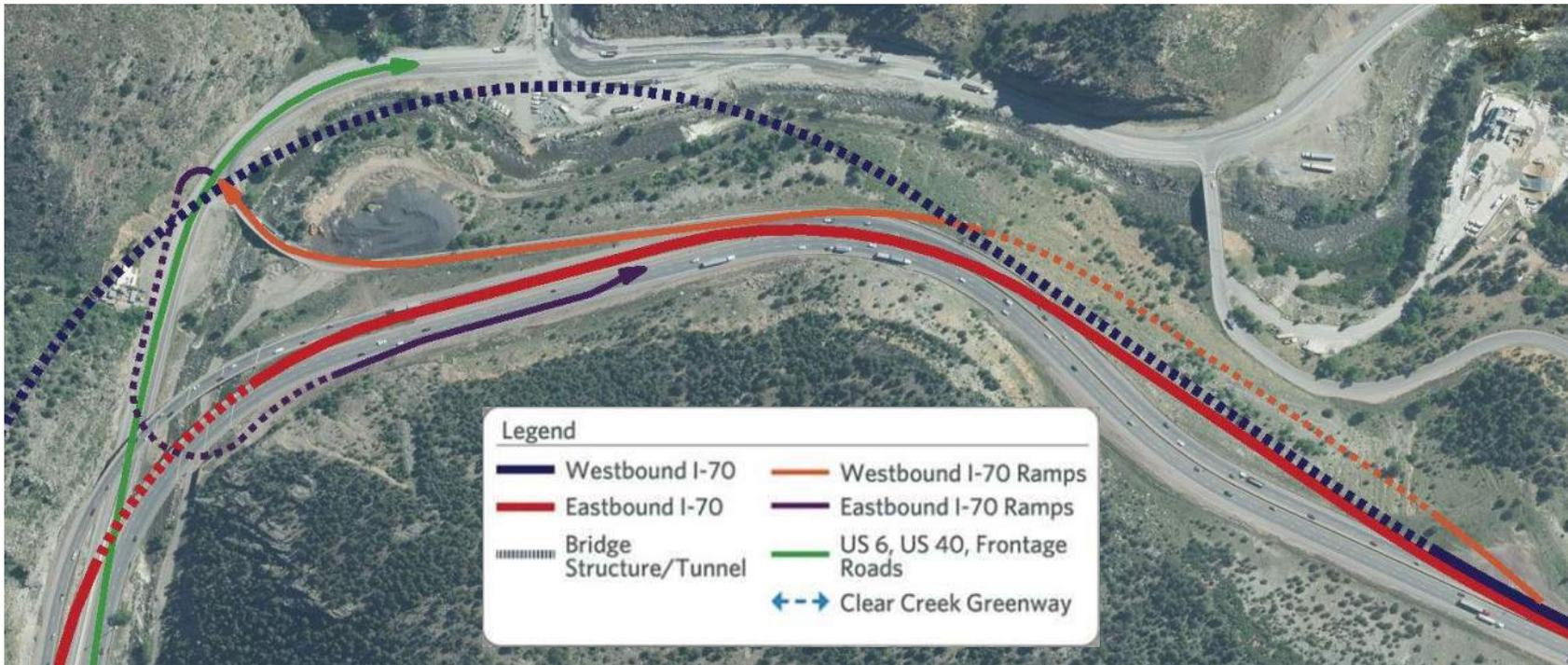
Opt 5: Half US-6 Interchange (Viaduct)

Half Spiral



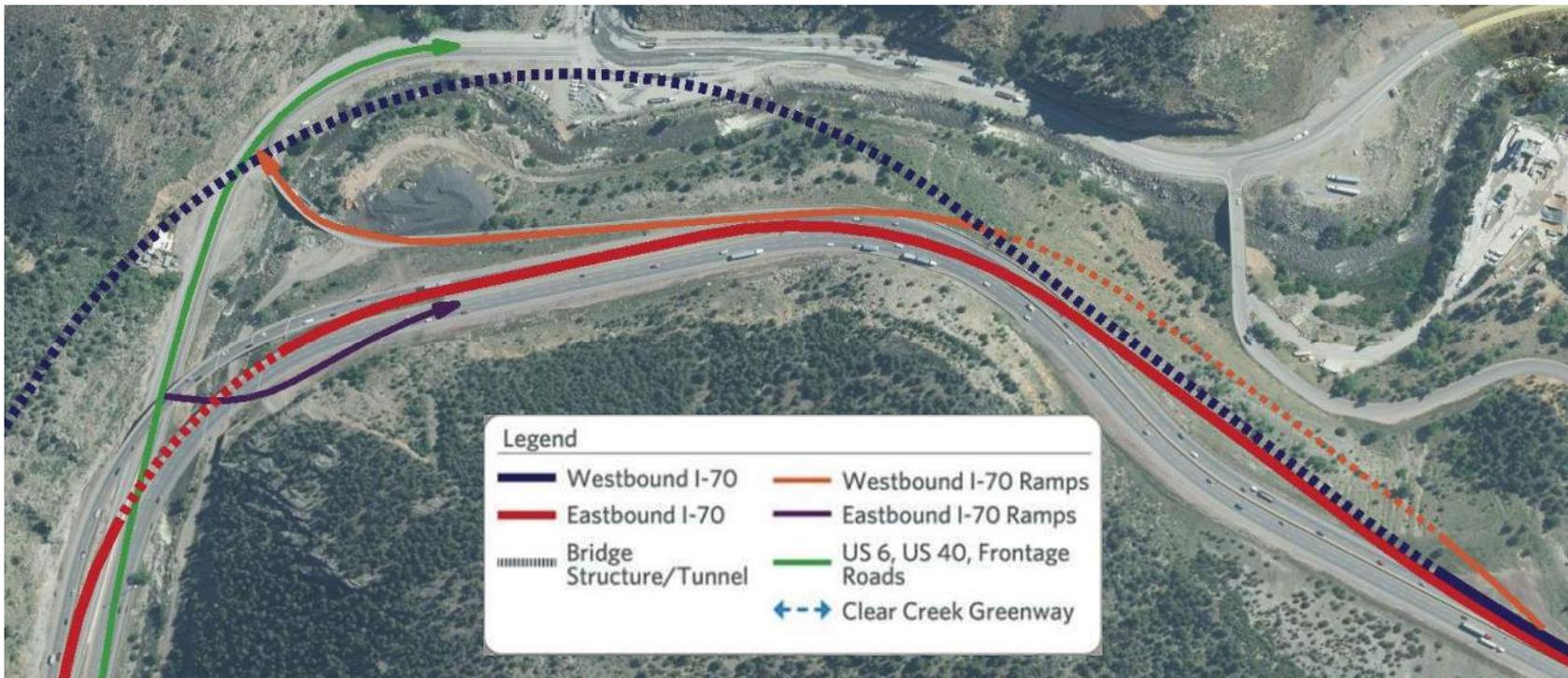
Opt 5: Half US-6 Interchange (Viaduct)

Half Flyover



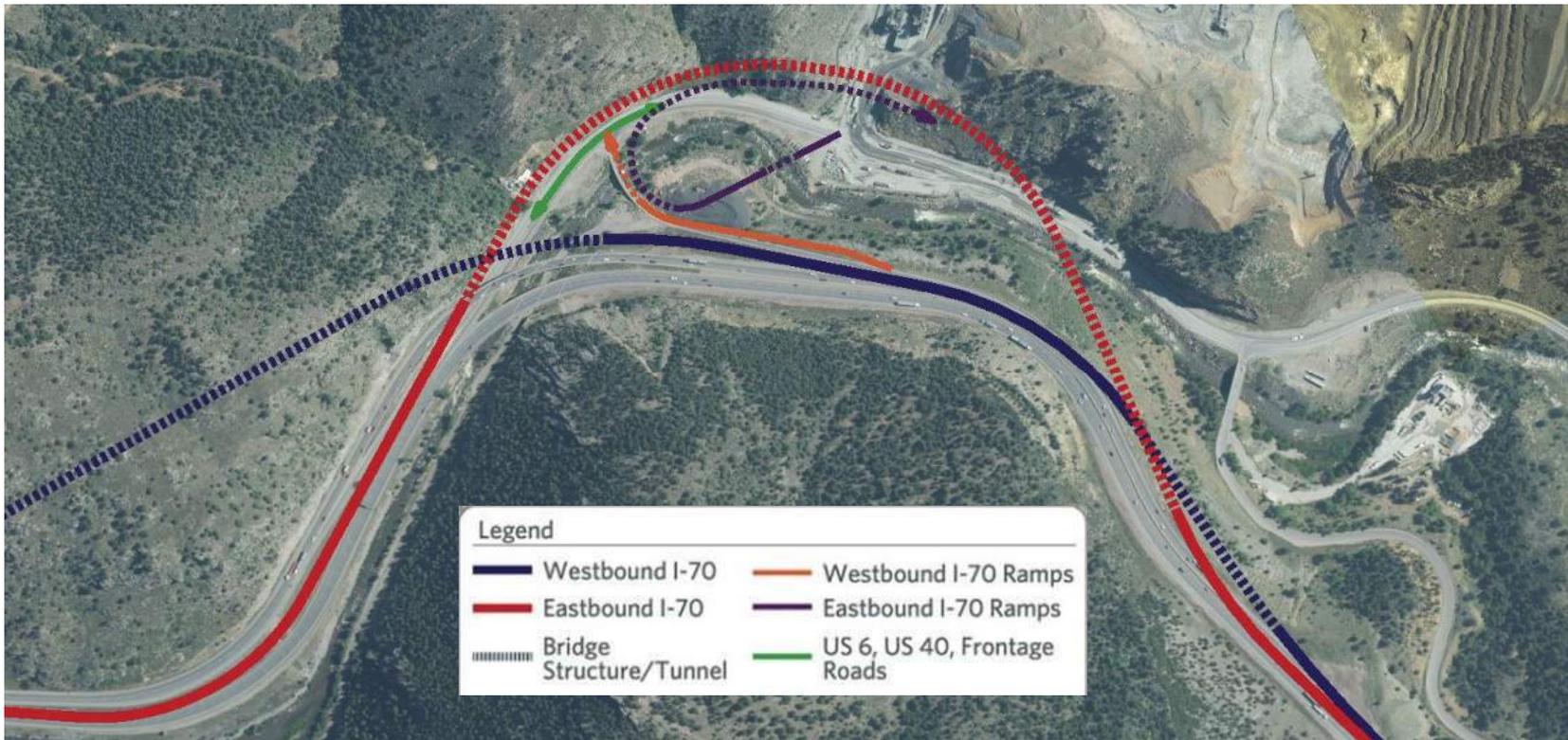
Opt 5: Half US-6 Interchange (Viaduct)

Half Diamond



Opt 6: Half US-6 Interchange (Low)

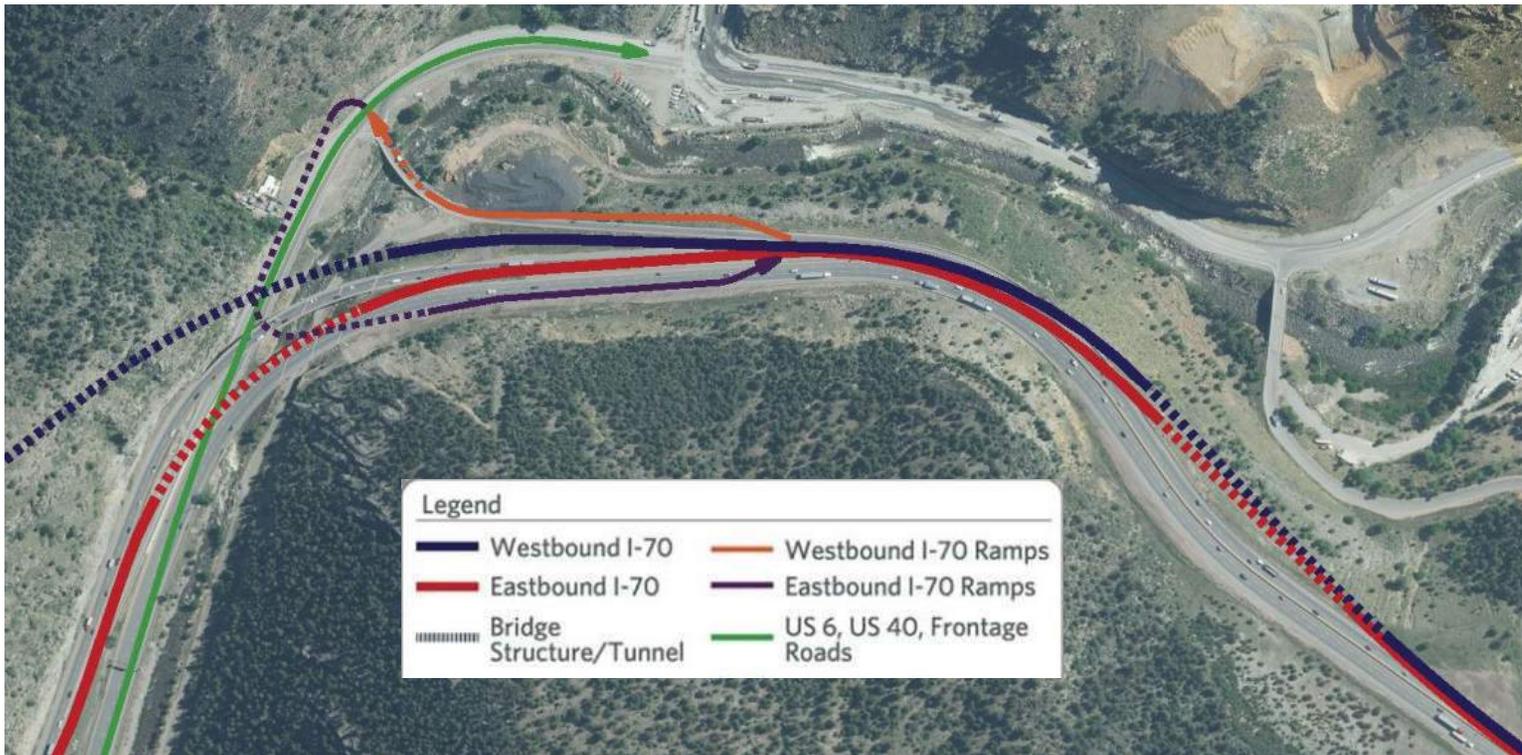
Half Spiral



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Opt 6: Half US-6 Interchange (Low)

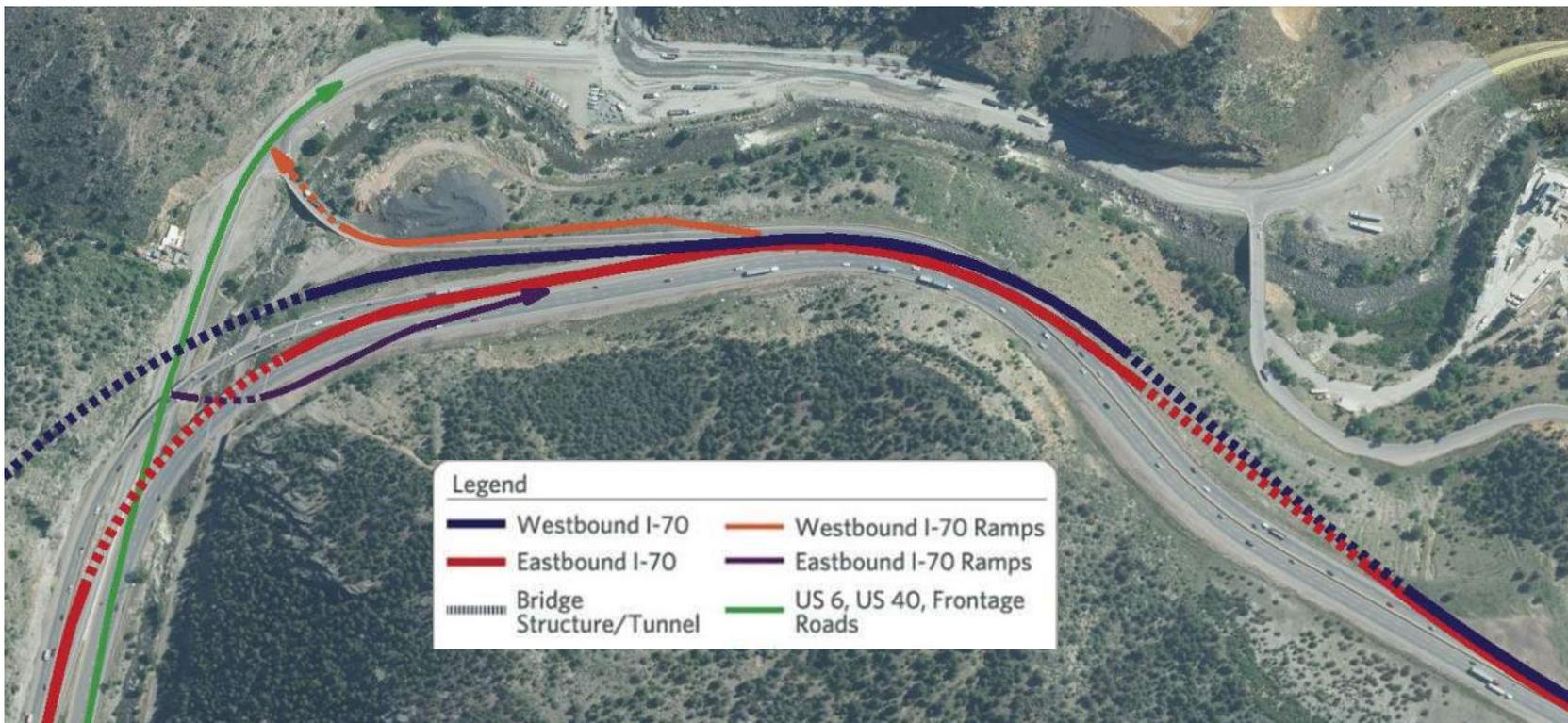
Half Flyover



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Opt 6: Half US-6 Interchange (Low)

Half Diamond



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