



Floyd Hill Design - Technical Team

Meeting Summary

May 27, 2022, 9 AM to 12 PM

CDOT Golden Office – Lookout Mountain Conference Room and Virtual (Zoom)

1. Introductions, Meeting Purpose and Project Updates

CDR Associates opened the meeting and welcomed participants. The purpose of the meeting was to review and address the ITF recommendations for the Central Section Evaluation Matrix and present the Innovations for the West Section. Ashley Giles, Pinyon Environmental, was introduced as an alternate Technical Team member representing Trout Unlimited (with Gary Frey as the primary TT member).

Project Updates:

- **Schedule:** CDOT stated that the goal is to begin construction by summer 2023.
- **Value Engineering:** CDOT stated the value engineering meeting took place and there will be a report out in the coming weeks focused on the differences between Innovations and potential refinements.
- **Grant Application:** The grant application for CDOT's Multimodal Project Discretionary Grant was submitted for the full \$240 million funding gap. Mandy Whorton, Peak Consulting Group, thanked all of the TT members who provided letters of support for the grant.
- **Emergency Responder ITF:** CDOT sent all of the identified organizations invitations to participate in the Emergency Responder ITF and has received many responses, while still waiting on several.
 - **ACTION:** CDR to add Eva LaDow, FHWA, to the Emergency Responder ITF invite list (eva.ladow@dot.gov)
 - **ACTION:** CDR to schedule the Emergency Responder ITF prior to the June 24, 2022 TT meeting to review the Central and West section evaluation matrices and provide input.

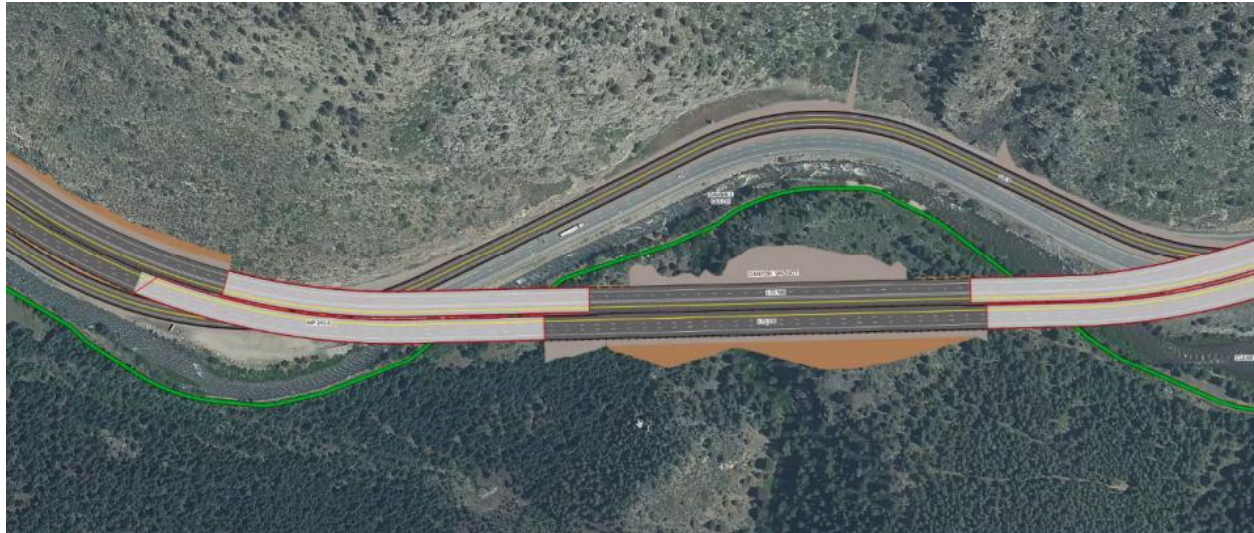
2. Review Central Section Alignment Innovations and Discuss Key Issues

Atkins shared graphics for the Central section alignments: Preferred Alternative, Braided Bridges Option, and the Eastbound Down Option. The Innovations do not impact the US 6 Interchange and Hidden Valley Interchange. Options related to US 6 will be discussed in a different conversation.

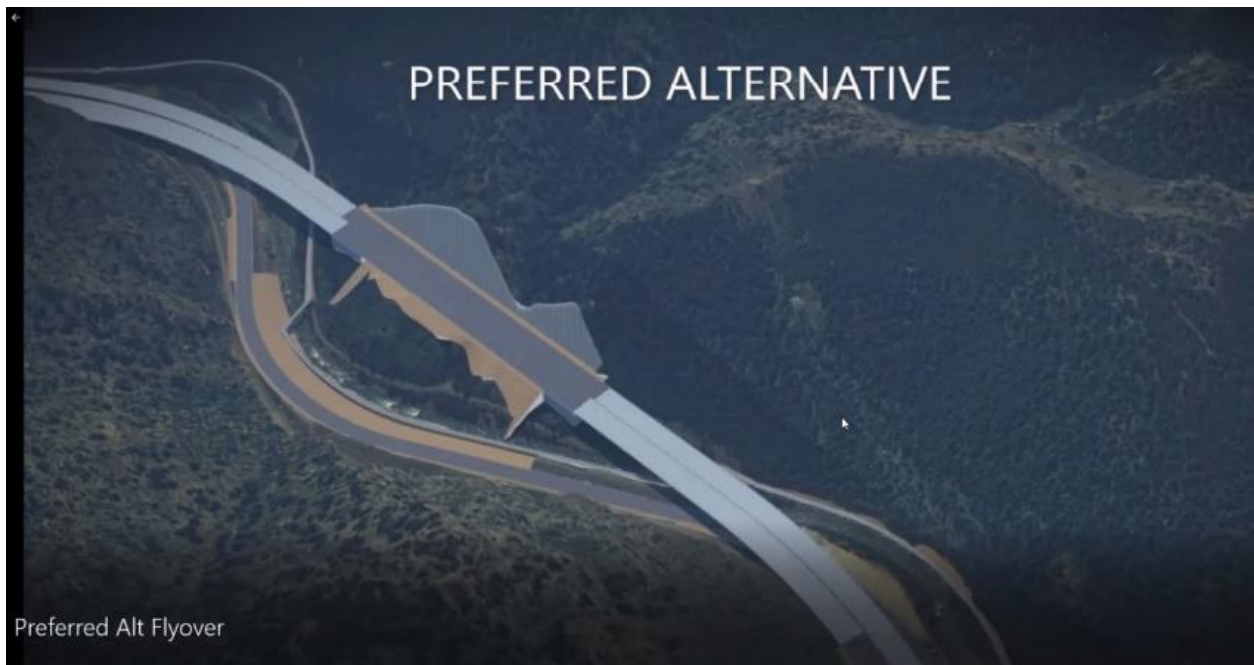


Preferred Alternative

On the Preferred Alternative, both lanes of EB/WB come through the saddle cut, see images below:



Flyover graphic of the Preferred Alternative:



- **TT Question:** Where is the Greenway Trail and how does it interface with this option?



- **Response:** The Greenway Trail will cross the creek with pedestrian bridges.
- **TT Question:** What is the extent of the rock cut on Sawmill Gulch that will be visible from the trail and below on the Preferred Alternative?
 - **Response:** Forthcoming videos will help answer that question (videos available to the TT for subsequent viewing upon request).
- **TT Question:** What is the slope on the rock cut at Sawmill Gulch?
 - **Response:** That information is to be determined at this time.

Braided Bridges

Atkins shared graphics for the Braided Bridges option. This option places WB I-70 on the viaduct, and then shifts the WB highway to the south side of EB higher up on the saddle cut area, and continues to the west, then crosses back over EB. EB I-70 would be the lower section coming through the saddle cut area, moving under WB as it goes over the braided area, and then connecting near the US 6 interchange (see images below).



The Frontage Road/US 6 in the Braided Bridges option is similar to the Preferred Alternative because it is in the canyon area, and continues along the north side. The Design Team tried to minimize the rock cut and impacts to maintenance facilities, trading those impacts for impacts and improvements to the creek area. This option would require reconstruction of the Greenway Trail.



- **TT Question:** In this section, the creek and the trail are being moved to the south. How much creek gets moved?
 - **Response:** This option calls for 1000 feet of channelized creek.
- **TT Comment (Clear Creek Rafting):** This west channelized section of the creek is a fun rapid area due to the constriction. We would love to see a fun rapid maintained through this section, although we support restoration of creek and wildlife habitat. We agree that this can happen in tandem.

Atkins shared the following image of the proposed fire access road for the Braided Bridges option (green circle), noting that the vertical profiles for this option can be moved up or down, and that a vertical clearance will be set for EB so the trail can be placed underneath the structure. Clear Creek County noted that EB and WB being at two different levels will create two shadows instead of one and it's unclear whether two shadows would be a concern to Greenway users or the environment.



Atkins noted that a major differentiator is that the frontage road is to the north on the Braided Bridges option, meaning an extra bridge to the south would not be required. On the Preferred Alternative and Eastbound Down options there is a new bridge near Hidden Valley to bring the frontage road over. This is also in a wetland area.

- **TT Question:** Will there be cut walls along the trail near the Creek relocation? Clear Creek County is interested in the size of the cut walls along the trail.
 - **Response:** There may be cut walls, but it's unclear exactly what they would look like at this phase of the project. The Project Team is not committed to walls, and will need to bring in THK Associates (landscape architects) for this section to help with landscape design.



- **TT Question:** How much space is there between the existing trail and the proposed EB lane at Sawmill Gulch near the center of the curve? How much elevation is there in that area?
 - **Response:** 90 feet of space between EB and Sawmill Gulch at that location; 50 feet vertically between EB and the Creek. Profiles can be adjusted and there will be a vertical clearance set for EB so the trail can exist underneath.
- **TT Question:** How do the Preferred Alternative and Braided Bridges compare on the length of the bridge going to the west?
 - **Response:** Braided Bridges features a slightly longer bridge than the Preferred Alternative; the Eastbound Down bridge is longer than Braided Bridges.

Eastbound Down

Atkins reviewed the Eastbound Down option. A portion of the frontage road would be up on a bridge to cross the Creek, similar to the Preferred Alternative. He shared an image showing the proposed fire access road for this option (green circle in the image below).



- **TT Question (Clear Creek County):** Does US 6 as a road have a different configuration than a frontage road? Frontage roads in our Clear Creek County are 11-ish feet with 2-3 foot shoulders. US 6 is a gravel pit haul road. This would typically be 12 feet with wider shoulders. Is there a difference between Hwy 6 and a frontage road?



- **Response:** The frontage road in this model is a wider option: 12 foot lanes and 8 foot shoulders (40 feet wide). This is an important footprint to consider when the frontage road is on the north or south of the highway.
- **TT Question:** Are both EB and US 6 about the same elevation for the Eastbound Down option?
 - **Response:** No, EB is higher than the frontage road from a profile perspective.
- **TT Question (Clear Creek County):** Are there any differences in maintenance?
 - **Response:** There is less total structure in Eastbound Down, but there is more rockface – so the answer is dependent on what type of maintenance is being done.
- **TT Question:** Is there a difference in maintenance techniques (sand, salt, magnesium chloride) that would impact the creek/vegetation?
 - **Response:** Differences would not likely be substantial. De-icing would occur whether you are on grade or at elevation. Emergency stops on grade would be easier.
- **TT Question:** What are the widths of the shoulder for the different options?
 - **Response:** 10 feet and 8 feet – with some areas designated for wider shoulders.

CDR asked the TT members to state their current perspectives regarding the options presented and if they had a preference.

- I-70 Coalition – Seems like Eastbound Down is worse for creek access, recreation access, and construction would be longer.
- Clear Creek Bicycle User Group – Braided Bridges seems to have the least impacts, but there are concerns about rockfall, runoff and soil on trails.
- Clear Creek School District – Braided Bridges would be her suggested alternative.
- Clear Creek County – Braided Bridges.
- Trout Unlimited – There are tradeoffs being made. The Preferred Alternative does not relocate the creek, Braided Bridges does relocate. Consider vegetation and spawning habitat.



- Central City – Eastbound Down may have a slight advantage due to maintenance. Likes the idea of not having a huge canopy over recreation.
- Idaho Springs – Interested in getting answers to the questions raised today around maintenance and emergency response.
- Floyd Hill POA – Agree with Braided Bridges being the top option, but curious about input from the Operations & Maintenance ITF. Would Braided Bridges increase safety through the canyon or create more problems with bridges?
- Clear Creek Rafting – The Preferred Alternative doesn't move the Creek – makes me nervous to move the creek.
- FHWA – Braided Bridges seems like it better aligns with the success metrics that are important to the group.
- Clear Creek County – Ready to move away from the Preferred Alternative. There are also monetary savings associated with the Innovations.
- CMCA – Braided Bridges seems like it might rise to the top. Has questions on Operations & Maintenance (e.g. how to deal with icing).
- Bridge & Tunnel Enterprise – Braided Bridges might be better, but will need to look at the evaluation matrix.
- UCCWA – Agree with positives of Braided Bridges, but interested in Operations & Maintenance.
 - **TT AGREEMENT:** The Project Team will further refine the Central Section Matrix based on the TT discussion. These issues will be raised again at the June 10 TT meeting, with the goal being to reach a tentative recommendation (contingent upon Emergency Responder and Operations and Maintenance ITF input).

4. West Section Major Alignment Innovations Introduction

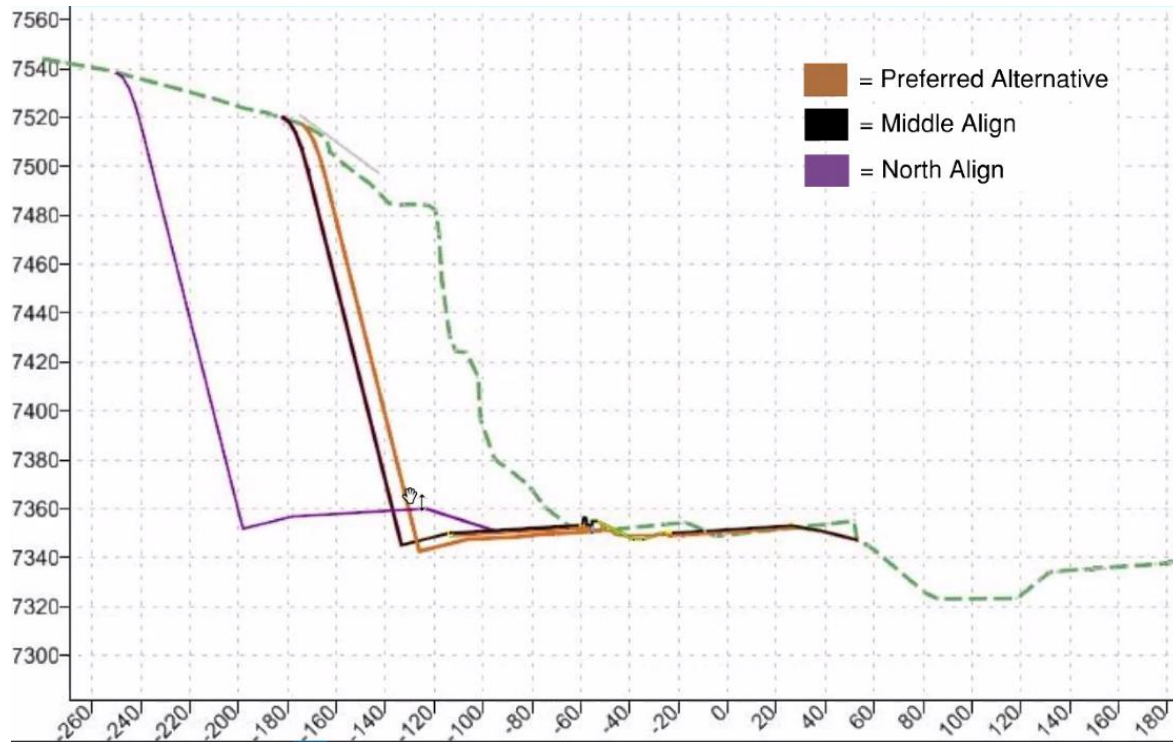
Atkins reviewed the West Section Preferred Alternative to lay the groundwork for future evaluations of the West Section Innovations. They briefly described the two proposed innovation options, labeled as the “Middle Option” and the “North Option,” noting that more details would be provided at the next TT meeting. A sensitivity analysis was conducted on how far north I-70 could be moved before it impacted the Xcel Energy facility in the area.

- **Middle Option:** This option still features rock cuts and impacts on the “knob” (just west of the Hidden Valley interchange), but removes impacts to CR 314 closer to the Veterans Memorial Tunnel. This option removes the need to relocate the creek.



- **North Option:** This option mitigates all of the impacts on CR 314 and to the creek, but it features substantially larger rock cut by volume of rock, and moderately larger on rock face on WB I-70. This option features no rock cut on the south side of CR 314 and no impacts to the walls. All impacts would be contained to the north side of I-70.

Atkins shared the image below depicting the differences in rock cut between the options:



- **TT Question:** What is the difference in total rock cut between the Preferred Alternative and the Innovations?
 - **Response:** Total volume on North Option would double that of the Preferred Alternative; the Middle Option is relatively similar to the Preferred Alternative.
 - **ACTION:** CDR to schedule West Section Innovations Evaluation ITF prior to June 10 TT meeting

4. Next Steps

The TT agreed to review the updated Central Section Matrix prior to the next meeting (June 10) and send any additional comments. A West Section Innovations Evaluation ITF



will be scheduled prior to the June 10th TT meeting to begin the evaluation process. The Project Team will present more information about the West Section at the June 10th meeting.

An Operations and Maintenance ITF (with members from Clear Creek County, CDOT and Central City) and an Emergency Responder ITF will be scheduled prior to the June 24, 2022 TT meeting.

8. Attendees

Cindy Neely, Amy Saxton (Clear Creek County); Bill Coffin (Saddleback POA), Lisa Wolff, Will Cassidy (Floyd Hill POA); Lynnette Hailey (City of Black Hawk); Jessica North (Clear Creek School District); Mike Raber (Clear Creek Bicycle User Group); Margaret Bowes (I-70 Coalition); Melinda Urban, Elizabeth Cramer (FHWA); John Curtis (Idaho Springs); Dale Drake (Clear Creek Rafting); JoAnn Sorensen (UCCWA); Sam Hoover (Central City); Jonathan Cain (Idaho Springs); James Proctor (Bridge & Tunnel Enterprise); Steve Durian (Jefferson County); Tracy Sakaguchi (CMCA); Ashley Giles (Trout Unlimited); Gary Frey (Trout Unlimited); Joe Walter (CPW); Vanessa Halladay, Kurt Kionka, Tyler Brady, Jeff Hampton (CDOT); Anthony Pisano, Matt Aguirre, Alan Carter, Nicholas Janitch (Atkins); Koichiro Shimomura, Brandon Simao, Austin Knapp, Tim Maloney (Kraemer); Tammy Hefron (HDR); Mandy Whorton (Peak Consulting Group); Kevin Shanks (THK Associates); Jonathan Bartsch, Taber Ward, (CDR Associates)



Floyd Hill Design // CMGC Technical Team

May 27, 2022

- 1. Introductions, Meeting Purpose and Project Updates**
- 2. Review Preferred Alternative and the Central Section Alignment Innovations (Atkins)**
- 3. Central Section Innovations Evaluation and ITF Recommendations**
- 4. Introduce West Section Proposed Innovations and Evaluation**
- 5. Next Steps, June 10 TT Agenda Topics**



Project Updates

- **Overall strategy** is to focus on what we need to get to a Decision Document
 - Central Section: Alignment Innovations
 - West Section: rock cut;
 - US 6 interchange (WB I-70/US 6 ramp movements and touchdown points for environmental review and EA
 - Will need an IAR completed (Interstate Access Report)
- **Grant application update:** submitted on 5/23
- **ITFs for Innovations**
 - Emergency Responders: recommendations for Central and West.
 - SWEEP: July



Tentative CSS Schedule & Milestones

Major Decisions

- **Mid-June:** Central Section Alignment Decision (Braided Bridges and Eastbound Down)
- **Mid-Late June:** West Section Decision (rock cut)
- **July:** Decision on East Section (US 6 Ramps)
- **September:** Finalize Decision Document

Meetings

- TT Meetings remain on same schedule
- PLT Meeting to check-in and review process (June)
- Emergency Services ITF (June)
- SWEEP/ALIVE ITFs (TBD)



Review PA & Central Section Alignment Innovations (Atkins)

Objectives:

- Review Preferred Alternative
- Review Braided Bridges/Eastbound Down
- TT understands how measures of success will be implemented
- Focus on key factors and differences between the options and the preferred alternative



BREAK

May 27, 2022



Central Section Evaluation & ITF Recommendations

Objectives

- Confirm relevant measures of success based on last TT meeting and ITF recommendations
- Review by core value the evaluation ideas from ITF
- Identify additional data needs and areas for further information



West Section Proposed Innovations and Evaluation

- PA/North/Middle shifts (plan view, cross sections)
- Use measures of success



Next Steps & TT Agenda Topics

Next Steps and Actions

- Review Action Items
- Discuss next TT agenda items