

Meeting Notes



I-70 Floyd Hill to Veterans Memorial Tunnels

Date: November 29, 2017

Location: CDOT - Golden

Technical Team - Meeting #4

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

<https://drive.google.com/open?id=0B5g5iHKBVK6OR2tpb1J00UNkNU0>

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.

Target Dates

- Data Collection and Alternatives Development – begin Fall of 2017
- NEPA / Design - Winter of 2017 through Spring of 2020
- Complete design followed by construction - Summer of 2020**
- 1041 Process begins after final design plans are complete. 90 day duration

**Subject to funding

Project Updates

Geohazard Mitigation Program - Clear Creek Canyon project has been advertised for bid; it is anticipated that work will start in early 2018 with a winter and fall construction season. US 6 will be open Monday - Wednesday morning to allow Frei gravel trucks to work and no closures on Fridays, Saturdays and Sundays.

Soda Creek Bridge Deck Repair – A PLT meeting was held on November 15, a summary is forthcoming. It was noted that this is the Soda Creek bridge in Jefferson County.

Question: What is the timing on the Floyd Hill bridge rehabilitation? **A:** It will start next summer with minimal traffic impacts since it will be night work.

Technical Team Schedule

The schedule will be updated and posted on the Shared [GDrive](#) later and will be discussed at the next TT meeting.

Project Elements Map Review

Kevin Shanks, THK Associates, provided a large map that highlighted various project elements, including the proposed Greenway throughout the corridor.

The map showed Greenway elements and who is responsible for implementing each section. Some Greenway components are a part of the WB PPSL project while others are separate funding streams (RAMP, GOCO, CPW) and/or led by Idaho Springs or Clear Creek County. Please see Greenway map on the [GDrive](#).

ITF Outcomes – Context Considerations

An Issue Task Force (ITF) meeting was held on November 20th to review the context considerations and discuss how these considerations will be used in the decision making and evaluation process. The next ITF will be held on December 7.

The overall purpose of the ITF is to develop evaluation criteria that highlight the definitions of success. Kevin Shanks, THK Associates, provided an initial draft of how the group has initially organized the context considerations and encouraged the TT to provide additional categories, comments and considerations by December 5, 2017.

Question: Where are the interchange operations handled in the critical issues list? How do you determine whether interchanges are too close to each other? **A:** These design considerations will be addressed with reference to AASHTO's Green Book.

Comment: There is a neighborhood perspective around local mobility and community operations and safety. People travelling from Denver have different needs that are captured in regional mobility, traffic conflict and truck operations. There are some overlapping issues. At a future meeting, the TT will need to list the Core Values and the Critical Issues and match them together. Some strategies will have a link to several boxes.

ACTION: TT provides comments on Context Considerations by December 5th to Taber and the documents will be added to the [GDrive](#).

Coordination Efforts

Anthony Pisano, ATKINS, provided an update on stakeholder coordination efforts including:

Clear Creek EMS – in the process of scheduling a meeting with Kelly Babeon, Clear Creek Fire Chief.

Jefferson County - Bike maps have been provided. Further discussions are occurring with Mike Raber.

CCC GIS Information – A map with land holdings is available. Tim Mauck will provide them to the team.

Mill Site identification – this will be conducted as part of the cultural analysis after the project has been defined further.

CPW wildlife information - Question: Why are sheep and bear only listed in the coordination with CPW? There are deer and moose crossings at CR 65. **A:** These were the two identified during the TT meeting when coordination with CPW was identified. However, all “critters” will be included in the analysis and this will be updated on the slide. This is part of the ALIVE process as well.

School Board – Conversations with the School Board have occurred. They are not concerned about parking at the top of Floyd Hill; rather they are concerned about the construction schedule and closures and how that impacts getting kids to and from school. On past projects they have had kids stuck at school without notice

Colorado State Patrol Operations – CDOT presented to a group of CSP and CC Sheriffs at their monthly corridor operations meeting. CDOT is preparing a summary, but the take-aways included 1) CSP concerns regarding the staging of the vehicles at the bottom of FH during inclement weather near the Frei pit along US 6; 2) Current use of the Greenway for emergency response is possible now and a wider footprint would be fine but it may not add a lot of value; 3) It was noted that a chain up area east of the top of FH would be helpful.

ACTION: CDOT and ATKINS to provide high-level summaries of stakeholder meetings to the TT and Context Considerations ITF group, so they can ensure this information is included.

Purpose and Need (P&N)

Carrie Wallis, ATKINS, reviewed draft Purpose and Need elements with the TT. Members noted that they would like to see more than just a transportation-focused Purpose and Need. Items to consider including in the P&N or the related Goals and Objectives:

- Community; Business/Economic Development; Environmental; Recreation; Gaming Access; Sustainability; Quality of Life.

The Purpose (reason for doing the project) and Need (problems to be solved) was discussed further including the possibility of including the broader issues mentioned by the TT in the Goals and Objectives for the project.

A TT Community member noted that a primary reason for building highways is to encourage economic development. Others noted that the definition of success for this project includes creating jobs for the community, minimizing environmental impacts, and promoting wildlife movement. A purely highway focus in the P&N, a TT member noted, will anger the local communities. TT members mentioned that they are trying to build community as part of this highway project, particularly after the highway separated the communities. The TT pointed out that highway improvement benefits need to consider more than just the highway and regional mobility.

Others suggested that 'sustainability' related to environmental and/or economic be included into the Purpose along with improving the quality of life.

Under Project Needs, it was noted that local mobility needs are not just during weather conditions but every weekend.

ACTION: Project Staff to revise the P&N and outline goals and objectives and provide them to the TT for the next TT discussion.

Alternatives Evaluation

Carrie Wallis, ATKINS, discussed the proposed alternatives evaluation process including both a qualitative and quantitative analysis.

The alternatives evaluation will use the criteria developed by the ITF and adopted by the TT.

At the Level 1 (qualitative) analysis it will be determined if an alternative can physically and financially be accomplished.

At the Level 2 analysis, an in-depth, quantitative analysis will be used and then followed by an alternative(s) refinement process and impacts/mitigation analyses.

The evaluation process will be reviewed at the next TT meeting.

The TT suggested that a generic, schematic interchange scenario with a new EB I-70 ramp from US 6 be provided to demonstrate impacts on US 40. This type of conceptual review would provide an indicator of what is likely to happen at Floyd Hill and on the side roads. The request is that enough traffic analysis be done to have information about how much traffic would likely use a new ramp.

ACTION: Project Staff develop a generic interchange/ramp addition scenario for TT review including, but not limited to, origins, destinations and trip assignments.

Map Exercise

Anthony Pisano, ATKINS, summarized the operational issues identified at the November 8 TT Meeting #3 including:

- Identification of old mill site walls
- Ensuring AGS alignment compatibility
- Truck chain down station at the bottom of FH
- Sanitary facility at the bottom of FH
- Parking for trucks, anglers, rafters, etc. at the bottom of Floyd Hill
- Wildlife - sheep hangout at Kermitts/Two Bears
- Improving bike traffic on US 40 and mountain bike trails
- Open space considerations

Hidden Valley Interchange

- Parking at both sides
- Add a turn around at the gas station when CC Parkway is closed.
- Have a mechanism for Bikes to get a green light
- Access to CC Parkway from the Greenway
- Access at the Gas Station may be too close to the interchange.

Greenway: The TT suggested that the Greenway should be constructed on the planned alignment along the south side of the creek. The intent is to make the Greenway contiguous and keep on the creek side so there is no reason to cross over the road. It needs to be ADA compliant. Parts of the bike path have been constructed in asphalt, not concrete, which didn't meet Greenway objectives of a concrete path.

Hidden Valley – the bike route connection to Central City Parkway and the greenway trail is a real challenge at this area. Vehicles are stopping right at the bottom of the hill and parking. Additionally, for cyclists, the downhill light at the bottom of CC Parkway doesn't

get triggered by bikes. The Hidden Valley gas station is looking for additional access from CC Parkway.

While it was discussed at TT meeting #3 it was reiterated that there is a need for a chain up station east of the top of Floyd Hill. Impacts at the multi-use lot at CR 65 need to be considered. For more detail, see the meeting summary for TT meeting #3.

Floyd Hill Concepts Review

Anthony Pisano, ATKINS, outlined the conceptual alignment options that emerged out of the Concept Development process using a 3D visualization tool.

In order to ensure that the FH highway improvement designs do not preclude the AGS, the conceptual hybrid design for the AGS, developed by Aztec, was modeled and outlined.

Question: Where are the AGS stations? **A:** Idaho Springs

Question: What is the average speed? **A:** 120 mph.

South Alignment

The south alignment was displayed using the visualization tool. The following discussions points were highlighted

- Constructability is a real challenge especially with the roadway elevated 150 feet in the air and long portions of the viaduct would be constructed on top of the existing WB Roadway.
- Access at US 6 is challenging with the roadway elevated 150 feet in the air.
- Several conflicts with the AGS alignment.
- Crosses the creek and existing I-70 several times. This impacts areas south of the creek that otherwise would not be touched and the view from the creek
- Would require removing a large portion of the landslide area to ensure that the highway is safe due to the landslide. This could impact hundreds of homes in addition to the water supply for the wells in the Floyd Hill communities.
- It was noted that the goal is not to reconstruct the Hidden Valley interchange. Would be challenging to tie in to the existing interchange.
- In order to keep the speeds at 55 mph a substantial tunnel will be needed.
- **Question:** is it possible to accomplish this with rock cuts instead? **A:** it could be investigated and would be similar for other alignments.

An interest in using the old highway alignment for frontage roads and creek access was expressed by TT members. **The south alignment makes it difficult to use the old WB alignment for a new frontage road alignment.**

One of the critical issues is whether this alternative is affordable. It does not seem to be. This will be part of the evaluation criteria.

Question: Where does the Greenway alignment go here? **A:** first we will choose the roadway alignment and then determine where it goes, the assumption is that it will follow the railroad bed where it is currently located.

Question: Is the constructability and capital cost radically different between the South, North and Off-alignment alternatives? **A:** The south alignment is probably the most expensive with a lot of unknowns and problems with landslide areas.

The South Alignment is likely the most expensive, involves the landslide area, impacts to the Floyd Hill homes and water supply/wells, conflicts with the AGS alignment, has impacts to Clear Creek, impacts the greenway, would be difficult to tie into existing interchange and creates problems with access to US 6, would have constructability challenges where the new roadway is on the existing alignment likely has extremely expensive maintenance and operations cost due to the length of the tunnel.

[Consensus Agreement by the TT: Drop the South Alignment due to fatal flaws listed above.](#)

Off-Alignment

The 'off-alignment' alternative was discussed including the following notes.

This is extremely rugged and virgin terrain. It would require a 5,000 foot long tunnel and 5,000 foot bridge. If the grades through the tunnel are increased, the distance of the tunnel could be shortened, but ventilation and driver comfort in the tunnel become major issues.

The original thought from the CDP was that it might be easier to go around the mountain and may only require a short tunnel. Once we obtained mapping for that area to test this concept, it proved to be a difficult path to traverse.

Question: How stable is the rock on this side? **A:** More than the south side but this is not yet clear.

The horizontal alignment for the off alignment enters the hidden valley area from a different angle than the current I-70 alignment making access to Central City Parkway

difficult. In addition, the alignment is higher than the other alternatives near US 6 making access more challenging.

Off-Alignment is fatally flawed due to: tunnel length (ventilation), limited access options at US 6 and at Central City Parkway, impacts to private land owners, environmental impact to virgin land, impacts to big horn sheep lambing areas and connectivity, and unknown geology.

Given the potential of the North Alignment to provide a similar configuration as the off alignment, the TT expressed a strong opinion that, comparatively, the off-alignment has fatal flaws including the length of bridges and tunnel. Why would you do a 5,000 foot tunnel and 5,000 foot bridge when you could do something with the North Alignment that has similar benefits?

It was suggested that during Level 1 Screening the off-alignment option could be evaluated in more detail using the established evaluation criteria. Others expressed an interest in documenting the reasons for not looking at the off-alignment options and didn't think there was a need to take them through the matrix options. The fatal flaws are so clear. The TT does not want to waste time on unrealistic and flawed alignment options.

Consensus Agreement by the TT: Drop the Off- Alignment due to fatal flaws listed above.

North Alignment

The north alignment alternative was reviewed including the following discussion items.

Question: What would eastbound look like with north alignment? **A:** Would use existing WB to soften the corners for EB traffic.

The existing alignment has sharp curves that need to be flattened to meet the 55 MPH design speed. These curves are adjacent to two large Hillsides. In order to straighten out these alignments, we would need to go through these hills with tunnels or cut a bench into the hillside. Incorporating the EB alignment with the westbound alignment would require a second bore if a tunnel was used or a wider bench cut .

The TT noted is the importance of accommodating gaming traffic and the Frei Pit near US 6. The design team will evaluate access at this location.

A split alignment (WB elevated and EB lower) opens up space for EB and potentially accommodating a frontage road.

Question: How do you exit from WB I-70 to US 6? **A:** An exit ramp would be placed on a second steeper viaduct adjacent to the WB viaduct and then connect to the existing exit ramp by curving under the WB viaduct..

The TT would like to see options for this alignment.

Consensus Agreement by the TT: The TT indicated that options along the North Alignment should be all that is evaluated moving forward.

North Alignment options include: 1) North Alignment for WB only 2) North alignment with 2 bores to accommodate EB and WB, 4) tunnel versus benching

There will be multiple variations (4-5) for the North alignment evaluation process.

There were TT suggestions that at the second bench/tunnel, there is a need for maximizing sight distance at the exit ramp to improve visibility should be considered. Also, would like to look at opportunities to flatten EB FH roadway so there is less of a climb.

There will also be a No-Action Alternative evaluated in the Environmental Assessment that is used as a baseline to compare action alternatives against. The No-Action only includes planned maintenance activities and no other action.

Near Term Next Steps

1. Consider how the discussion today impacts the Level 1 Screening (does the process need to be updated?).
2. Re-work TT Schedule to reflect context considerations and screening process.
3. Level 1 and Level 2 need traffic analysis to complete the ultimate vision for the highway improvements
4. Project staff will put together necessary documentation of Fatal Flaws and elimination of South- and Off-Alignments.
5. ITF will continue working on context considerations and Evaluation Criteria to recommend to the TT
6. TT will review, modify if necessary, and adopt Evaluation Criteria
7. In January - Begin Level 1 Screening for alignment and interchanges

December 13 - TT Meeting Agenda

1. Review ITF recommendations regarding Evaluation Criteria
2. Discuss draft Purpose and Need
3. Review the alternatives evaluation process
4. Interchange discussion and concepts

Actions and Agreements

ACTION: TT provides comments on Context Considerations by December 5th to Taber and the documents will be added to the [GDrive](#).

ACTION: CDOT and ATKINS to provide high-level summaries of stakeholder meetings to the TT and Context Considerations ITF group, so they can ensure this information is included.

ACTION: Project Staff to revise the P&N and outline goals and objectives and provide them to the TT for the next TT discussion.

ACTION: Project Staff develop a generic interchange/ramp addition scenario for TT review including, but not limited to, origins, destinations and trip assignments.

Consensus Agreement by the TT: Drop the South Alignment due to fatal flaws.

Consensus Agreement by the TT: Drop the Off- Alignment due to fatal flaws.

Consensus Agreement by the TT: The TT indicated that options along the North Alignment should be all that is evaluated moving forward.

Attendees

Carol Kruse, Adam Bianchi, Scott Haas (USFS), Tim Mauck, Randy Wheelock, Cindy Neeley (Clear Creek County); Bill Coffin, John Muscatell (Community Reps from Floyd Hill); Lynette Hailey (I-70 Coalition); Wendy Koch (Town of Empire); Yellena Onnen (Jefferson County); Sam Hoover, Daniel Miera (Central City); Mike Raber (CC Bikeway User Group); Tracy Sakaguchi (CMCA); Anthony Pisano, Carrie Wallis (Atkins); Gina McAfee (HDR Inc.); Kevin Shanks, Julie (THK Associates); Vanessa Henderson, Neil Ogden, Stephen Harelson, Kevin Brown, Stacia Sellers, John Kronholm (CDOT); Taber Ward, Jonathan Bartsch (CDR Associates), Holly Huyck (CC Watershed Foundation), Martha Taberman (CCC Open Space), Tyler Larson (Atkins), Amy Saxton (CC Greenway); Kelly Gilardi (FHWA), Carrie Wallis (Atkins), Patrick Holinda (CDOT Bridge Enterprise).