



## Meeting Summary

### Technical Team #13

March 14, 2018 | CDOT Offices – Golden

[Ctrl +Click HERE or paste link below into your browser for Shared WB I-70 PPSL Project GDrive](#)

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#### Introductions and Overview

Jonathan Bartsch, CDR Associates, opened the meeting with a brief overview of the agenda. Self-introductions followed.

#### The TT reviewed the process to date and outcomes from TT Meeting #11:

- Meeting minute review, comments, TT ratification
- Review and Feedback on Median vs Mountain Matrix
- With the integration of the TT feedback into the Median vs. Mountain Matrix and modifications to summary statements, the TT gave “a thumbs up” to the Focus Area #2 Matrix and recommended the design team move forward with developing the summary statement for the Median option to be used where feasible.
- Preliminary Review of Focus Area 3 Map and Identification of Issue Specific Criteria

#### Project Updates

- Fall River Road – The FIR is coming up in mid-April. There is an annual pre-season rafting community meeting coming up this Friday, March 16 at 10am. CDOT will attend this meeting and provide an update to the rafting community about the WB PPSL project and other upcoming projects.
- Bridge Deck Rehab at 244 and 249 – the bids go out tomorrow, March 15.
- Floyd Hill – Progress on interchange movements. Presenting central roadway design options today (3/14) for review and selection.
- Vail Pass – The second Tech Team meeting has been held. The third TT meeting will be held next week to examine road alignments.

- Idaho Springs – Still working to secure a site for the transit center. Colorado Blvd is moving along – the next step is asphalt when the weather is warmer. Currently putting the plan together to fix east Miner Street. Will be completely done with Colorado Blvd. in August. There will be a ribbon cutting and party! Put your dancing shoes on.
- CCC Greenway- The Idaho Springs Greenway section design is at 90% and almost ready to put out to bid for construction. Wrapping up RAMP project (Hidden Valley to Empire) with five sections almost at construction bid level. It is likely that construction will start this summer and take about 12 months. Grant from CDOT and State Trails (CPW) is completing the plans for the Greenway between Visitors Center and up to intersection of Loop Drive and 6th.
- There is also an ecological project going in between Georgetown and Empire Junction. Work between Clear Creek and CDOT is going very well.
- Smart 70 – this PLT has reactivated. CDOT is getting permitting to place 5 roadside units. Looking to cast a wider net to get more cars outfitted with the device to communicate with roadside units. This process will take a few years.
- Geohazard Mitigation Program – Working on mesh over rock cuts. Phase 1 will be done prior to May 1.

## Schedule Review

**April 10<sup>th</sup> is a big day for WBPPSL! There is a Conceptual Plan Roadway Design Workshop open to all PLT and TT members from 10 am– 3pm. An ALIVE and SWEEP meeting will follow from 3pm to 4pm.**

The Technical Team and Project Leadership Team are invited to ALIVE and SWEEP as well. CDOT would like to finalize decisions around integral components at the April 10 workshop.

**TT agreement:** The TT confirmed that the April 11<sup>th</sup> TT meeting will be cancelled.

It is likely that we will be moving to once per month TT meetings starting in May.

**ACTION:** CDR to re-send out meeting invites for the remainder of the project.

## TT Follow Up

### Focus Area 2 Mountain vs. Median Summary Statement Review and Discussion

The updated Matrix Summary Statement was presented and the TT was asked for comments/feedback.

“In general, widening to the median is recommended to avoid rock cutting. It is more consistent with an interim definition for the project, has fewer impacts to the traveling public and fewer visual impacts. Opportunities to lower the height of the median barrier and reduce the amount of encroachment in the median will be explored. During design, each specific location will be evaluated based on context and impacts specific to that location. Any locations that are

determined favorable to shift into the median will be presented to the PLT for their review as this would be a variance from the I-70 design criteria.”

**Jo Ann Sorensen asked:** What type of median barrier will be implemented? Will it address glare, drainage, wildlife, etc?

**CDOT:** Glare shouldn't be an issue because of off-set elevations for EB and WB. Currently, considering a Type 10 barrier (i.e. Berthoud Pass).

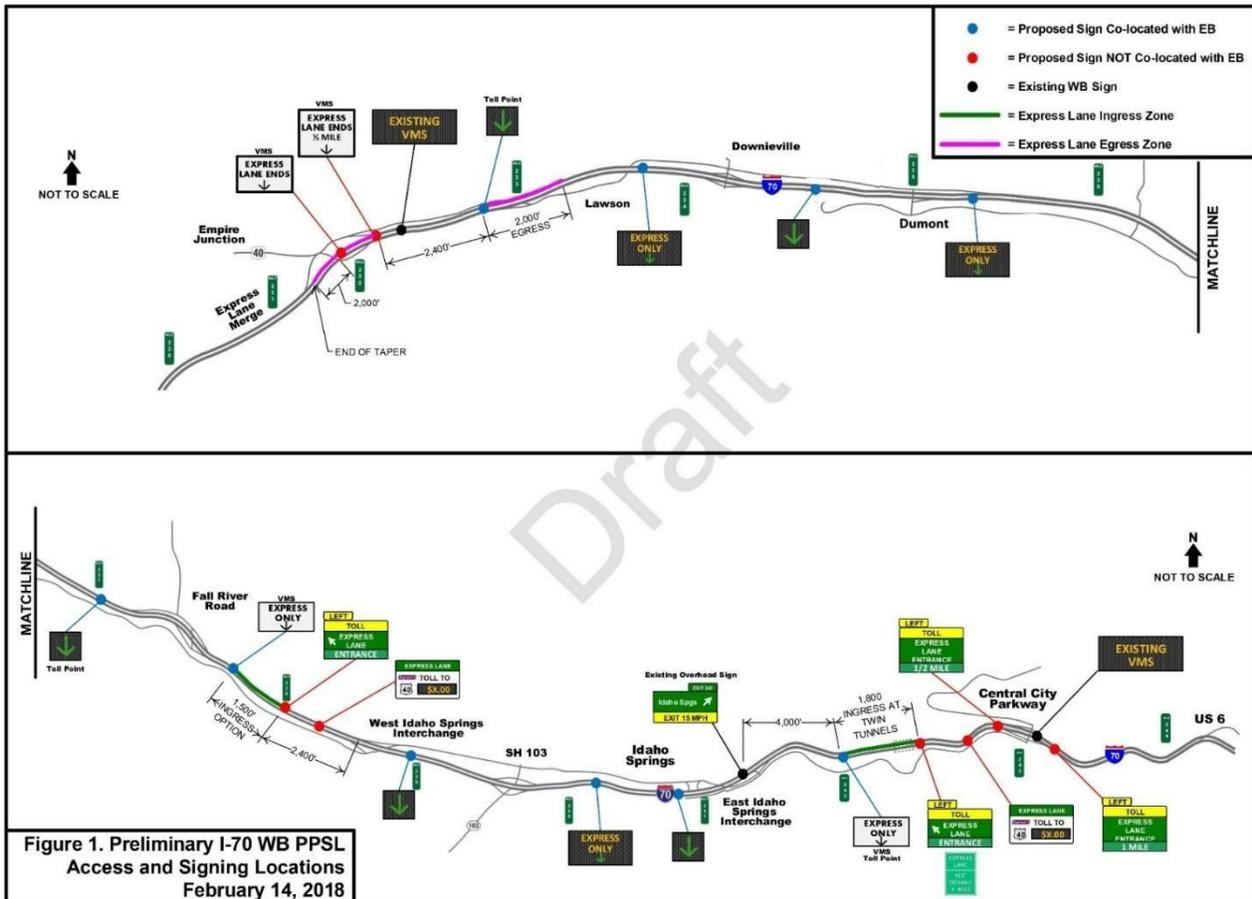
**TT agreement:** The barrier used will need to consider functionality, drainage, aesthetics, wildlife.

**TT agreement:** acceptance of Median v. Mountain summary statement.

### Ingress/Egress Locations, Striping and Signage

**Sign Locations – Steve Long indicated that** the goal of signage is to notify drivers on 1) what type of lane they are in, 2) where the lane starts and ends, 3) how people should drive in this lane, and 4) where the exit locations are. The FHWA has standards (documented in the MUTCD Guidance) for signage locations, number of signs, distance, layout, symbols, etc. These goals are balanced with desire to avoid cluttering the corridor with too many signs.

**Jeff Ream, Apex Design, presented the plan for signage, striping, ingress/egress points.** The signage presented is a “first-case,” interim condition for the next 2 years (prior to Floyd Hill).



Highlights from the signage, ingress/egress discussion are noted below:

- The Veteran Memorial Tunnels are a bottleneck because in the WB direction, they are only two-lanes. There is room for 3 lanes through the tunnels.
  - This proposal begins the PPSL just east of the tunnel to get three lanes through the tunnels (this would be skip-striped).
- The PPSL ingress would formally begin at the west side of the VMT. The managed lane (from Floyd Hill) will shift from being a full-time managed lane east of tunnels to a part-time PPSL west of tunnels.
- **TT Question:** Are these permanent signs/infrastructure? How does this coordinate with Floyd Hill Project? **Apex Answer:** When doing this design, we needed to make some assumptions about Floyd Hill because we don't know how that project will look yet. What we do know, is that Floyd Hill would likely be a full-time managed lane. It is likely that some of the signs will be taken out. In the design process, we did our best to minimize "throwaway" by making some assumptions about Floyd Hill.
- The number of signs is governed by the FHWA MUTCD. Some of these signs are "optional" – for example, Apex did not include a "2 mile upstream" sign. Started with 1-mile sign.
- **TT Question:** How do you get a driver out of managed lane on Floyd Hill when managed lane becomes a part-time shoulder lane? **FHWA Answer:** The driver will need to pay close attention to signage – the signs will inform drivers about this change. There will be a series of variable message signs west side of the tunnel to indicate whether the PPSL is open or closed. There will be arrow signage that pushes people into GP lanes when PPSL is closed.

It was suggested that Apex design a sign plan for post-Floyd Hill construction so it would be clear what the potential throwaway and reconfiguration of signage would look like.

**ACTION:** Apex/HDR will develop a signage, striping and ingress/egress PPSL model for Post-Floyd Hill Construction.

- Apex will need to do more traffic analysis to determine exactly where the PPSL managed lane will begin, once the Floyd Hill project is open to traffic.

**Andrew Marsh:** From Idaho Spring's perspective, we want to ensure that drivers can access all three Idaho Springs exits from WB PPSL. Suggestion for a sign **before** tunnels that say, for "Idaho Springs, use right lanes." **Apex:** Since these exits are close, it would be awkward to have egress for each exit. However, this might change when Floyd Hill is completed.

**Mayor Mike Hillman:** Once people get in the WBPPSL lane, will it be difficult to get off on Exit 241? **Apex:** Will create a static sign that alerts drivers to Idaho Springs location and exits. The graphic we are reviewing today does not include the static signs.

**ACTION:** Apex will add an Idaho Springs static signs (i.e. IS next three exits, IS exits keep right) to the next signage model.

**Tracy Sakaguchi:** Will any signs say "2-axle only, trucks, busses excluded?" CMCA does not like a sign that says "all trucks use right lane" – it is better to exclude trucks from PPSL.

**ACTION:** Apex will add truck/bus signs on the next signage model.

**ACTION:** Apex will include all static signs on next version of signage model.

**Cassandra Patton:** Need to ensure coordination of signing with paid messaging signage that businesses use – i.e. gas, food, etc. Where will these paid business signs be in coordination with the traffic signs? This coordination will assist drivers in making decisions.

**ACTION:** HDR/Apex to include tourist/business signs in planning.

**ACTION: Consider changing Eastbound sign that says “Idaho Springs local access.”** People think this road is just for locals. Change to “Idaho Springs Access” or just “access?”

- The TT discussed how the WBPPSL would impact Dumont, Lawson, Downieville (**DLD**) residents and businesses.
  - Once a driver enters the PPSL in Idaho Springs, they cannot leave before Empire. Drivers will miss these areas and miss the tourism in these areas (Adventure Park, Rafting, etc).
  - Every CME van on the highway stops at this exit to get Starbucks. They need to know that they will not be able to get out of the PPSL at the DLD exits.
  - **ACTION:** Apex will add a static sign to make it clear that once in the PPSL, drivers cannot get out of the PPSL between Idaho Springs and Empire.

**End of the PPSL:** Several locations were looked at (US 40, at US 40 onramp, or area in middle). The area in middle is best. There will be a 2000 foot merge zone, typical of lane drop situation. There will be a sign at the beginning saying “lane will end” and then lane begins to taper. These signs are dynamic so they show an “X” when lane is closed. There did not appear to be any problems with the merge or delay with the 2000 foot distance.

**General Themes Discussed by the TT around signage, egress/ingress:**

1. Adequate access to Idaho Springs and DLD (rafting, adventure parks, Dumont/Lawson),
2. Static signage locations and needs
3. Truck signage – restricting trucks
4. Limiting throwaways and replacements – what is necessary?
5. Limiting signage clutter
6. Local Residents and CCC traffic: how do local residents benefit from an express lane? Local traffic gets no benefit other than GP lanes will have less traffic. Can local traffic use a managed lane? Special transponders for residents is a legislative issue and outside the scope of CDOT’s jurisdiction.
  - a. For example, it’s a Saturday morning a DLD resident went to Denver to take care of errands and wants to get back to DLD, there is no exit for them, therefore they cannot use the Express Lane to get home. They might want to use the Express Lane.

**ACTION:** Operations Plan – A Concept of Operations will be presented to the TT after the April meeting.

**ACTION:** Apex will come back during the April 10th Design Workshop with updated graphic and interim and post-FH and static signs.

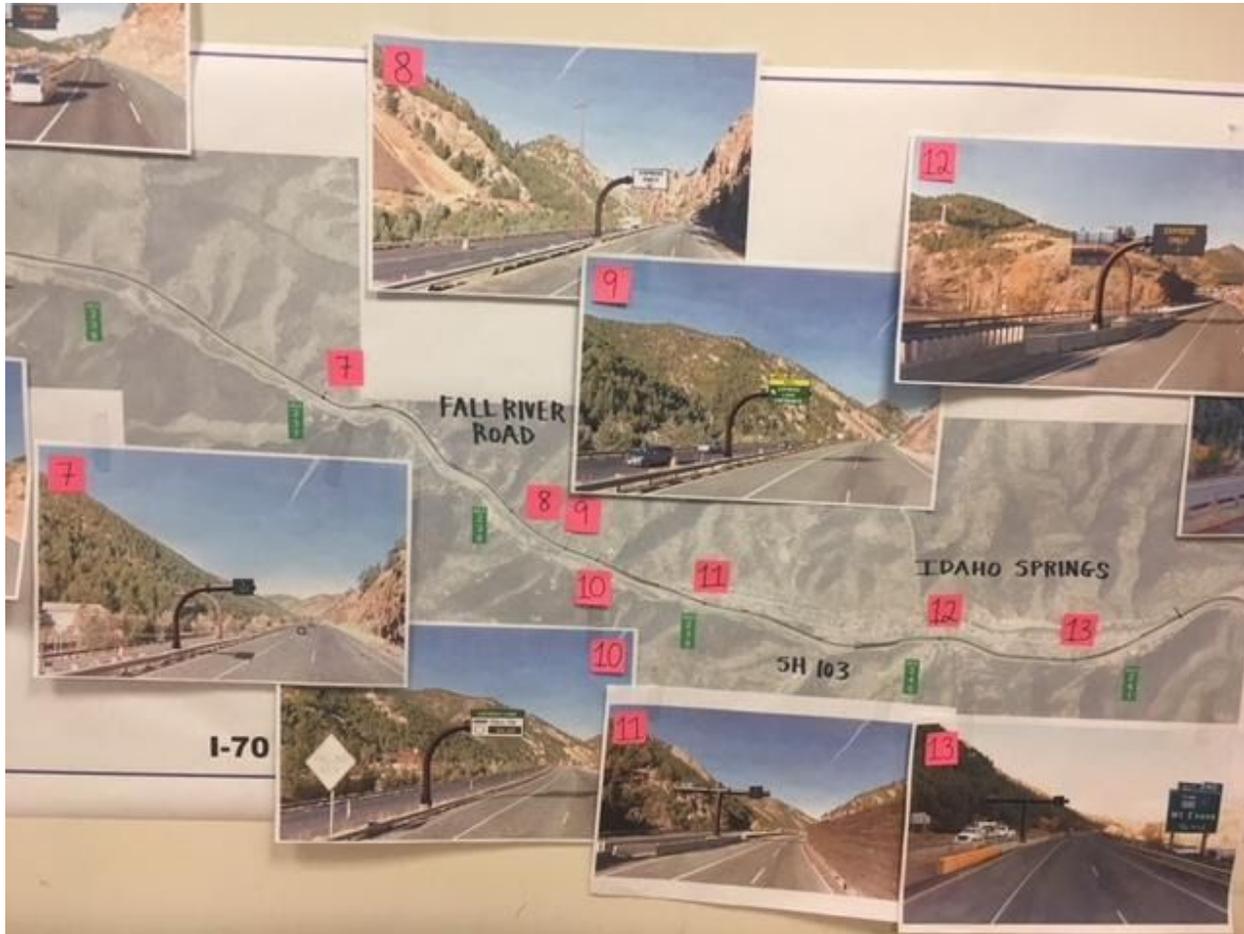
Steve Long walked the group through a visual signage model review: Picture of the signs were taped up on the wall on a large corridor roll plot map. Highlights from the discussion are below:



- Although Sign #16 impacts the viewshed, it is the correct location for safety reasons.
- Sign #15: consider moving it back away from the tunnel portal.

**TT Agreement:** When possible, signs should be on J-poles, more natural feel, organic. Every time there is a T-post, there is already another sign. These should be replaced with off-set J-poles when possible (i.e. Sign #13). Must be careful of setting J-poles too close together, looks bad (see Sign #12)

**ACTION:** THK will update the "T" post signs to be two mono tubes per the TT direction



Sign #11: Dual J. Room to separate. Adjacent to sound wall.

Sign #9: Lonesome sign – might be co-located with EB sign.

Sign #8: Lonesome sign

Sign #7: Adjacent to existing – vertical separation. Suggestion to move #7 so there is less of a gap between #6 and #7. This will need to be examined because this correlates with moving a toll-point on EB operations. Will need to consider this in operations.

Sign #6: Long gap between #6 and #7. Consider options to close the gap. Need to review MUTCD re: sign placement.



Sign #5 will go to J-post

Sign #4 Express Lane:

Sign #2 is Express Lane Ends: lone signs

Sign #1: Lonesome sign.

**Cassandra Patton suggestion:** Where there are “bump outs” around the signs, need to add more room in shy distance area to give drivers more space.

Cindy Neely: When we did this similar exercise for the EB project, we looked at all existing signs to get a better idea of how many signs are in a location – and how much clutter there will be once new signs are added. Is there an opportunity to remove some signs?

**ACTION:** CDOT to do sign inventory and sign clutter analysis prior to adding new signs.

## Concept Design Plan Introduction

### The TT reviewed the process of how the Design Concept for PPSL developed?

- Convened a PLT and multi-disciplinary TT.
- Developed Context and Issues maps during CDP/NEPA processes.
- Public meeting input and public comment analysis.
- Video drive-through and issue identification with TT.
- Developed Segment by Segment Evaluation Criteria with PLT/TT.
- November - January TT meetings included roll-plot corridor reviews where the TT and Design Team highlighted areas with context-related issues that would need improvements.

### Safety Toolbox and Rockfall Toolbox Development

#### PLT Direction and Request to put designs on paper

- Charged the Design Team and TT with a foot by foot review of a design concept for the corridor with the goals of 2' shy, 12' GPLs, and 11' PPSL. Accomplish this where feasible. This is not a standard that will carry through the entire corridor.

### The Scope of the Design Concept includes:

- Design assumes shoulder lane is not open full time.
- Design assumes that PPSL is a 2-axle lane – no trailers, no buses, no trucks.
- Design does not preclude any improvements identified as part of the ROD (i.e. Empire Junction interchange, AGS).
- Design based on an interim solution concept.

### CDOT and HDR walked through the Concept Plans to ensure that TT members were comfortable interpreting the Plans, highlights from the conversation below:

- **SCAP:** stands for Sediment Control Action Plan and means “proposed locations for sediment basins.”
- The Concept Design resulted in about  $\frac{3}{4}$  of the corridor being widened.  $\frac{1}{4}$  of the corridor was not widened.
- Pull out locations are indicated on the maps (also added some on EB)
- Worked to optimize alignment to reduce median walls. The true retaining wall length is 8000 linear feet.
- Two locations of Shoulder walls in IS.
- Rock Cuts – two known locations (Hukill Gulch and Fall River Road). May need to cut in other areas, but these are givens. Worked to minimize rock cuts.
- **ACTION:** add Downieville to the location map
- **Question:** Why are some areas up to 47 feet? **Answer:** The design team didn't want to put traffic closer to the rock face, because then more rockfall mitigation would need to be done (see, e.g. Sheet 18). The remaining pavement at these locations may be removed or may

remain in place to provide enforcement/refuge areas. This will be determined during the concept design review.

- **Question:** Where are wall heights shown? **Answer:** These are individually located on different pages.
- **ACTION:** Add the Project Name on the first page.
- Page 2 is a key map – shows 0 -43 (sheet numbers)
- **ACTION:** Change Idaho Springs to “Central Idaho Springs”
- Less than 1/5th of median was used for the whole corridor
- **ACTION:** Incorporate bus slip for Exit 240.
- **ACTION:** CDR will send a Comment Matrix out to the group along with electronic copies of the Concept Designs. TT to provide comment by Wednesday, April 4<sup>th</sup>.

**TT Agreement:** To establish one point of contact, the TT should call or email Neil Ogden with questions on the Concept Plans

**The TT mentioned that there is a need to memorialize the definition of interim and the operations agreements (i.e. 2-axle only in the PPSL).**

**The TT pointed out that the Concept of Operations is essential and the Final Concept of Operations will be needed prior to the 1041 submittal.**

**CDOT/FHWA:** Documents that can be used to memorialize these agreements include: 1) Concept of Operations. Concept of Operations is a physical document (no signatures, kick off now, make sure TT has input, finalized before the 1041 hearing and project construction). 2) Operations MOU/IGA. This is an agreement between HPTE, CDOT and FHWA. It sets the timeframe and limits for the project (EB ends in the year 2035 – WB will be the same) In 2035, PPSL cannot be operated anymore, unless there is an extension. The Operations MOU/IGA will be modified for WB. There could also be a new project prior to 2035. 3) the NEPA documentation will also define interim and memorialize agreements made at the TT and PLT.

## Next Steps

**ACTION:** CDR to cancel the TT on March 28. This will be used for the Focus Area 1 ITF. All TT members are welcome to come.

**County Rd 314 TT discussion and/or ITF:** Need to discuss the ROW issues that came up on the Twin Tunnels project. Although there will be a separate contract for CR 314 construction L, it will be put into the WB PPSL NEPA/CatEx process. Idaho Springs noted that CR 314 has a lot of moving parts, this is bigger than an ITF (i.e. wastewater treatment plant and Greenway).

**Greenway:** Once we have the INFRA grant response and we have closed out RAMP project, we will schedule a Greenway ITF to make an informed decision on how it is packaged. Greenway has its own CatEx, which may need to be reevaluated if there are alignment changes.

Move to monthly TT meetings in May

Project Staff is working on setting up the next Section 106 ITF, still need to get information on walls, etc.

Public Meetings: 1) There will be an online public meeting soon – computer system failure has delayed this process. Will resume scheduling once computers are back up. 2) In-person meeting in June or July – held in Idaho Springs.

## Actions and Agreements

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**ACTION:** Apex will come back during the April 10th Design Workshop with updated graphic and interim and post-FH and static signs.

**ACTION:** THK will update the "T" post signs to be two mono tubes per the TT direction on sign location mock-ups.

**ACTION:** CDOT to do sign inventory and sign clutter analysis prior to adding new signs.

### Concept Plan Specific Actions:

**ACTION:** CDOT to add Downieville to the location map

**ACTION:** CDOT to add the Project Name on the first page.

**ACTION:** CDOT to change Idaho Springs to “Central Idaho Springs”

**ACTION:** CDOT to incorporate bus slip for Exit 240.

**ACTION:** CDR will send a Comment Matrix out to the group along with electronic copies of the Concept Designs. TT to provide comment by Wednesday, April 4<sup>th</sup>.

**ACTION:** TT to provide comment on Concept Plans by Wednesday, April 4.

**ACTION:** CDR to re-send out meeting invites for the remainder of the project.

**TT agreement:** The TT confirmed that the April 11<sup>th</sup> TT meeting will be cancelled.

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**TT agreement:** acceptance of Median v. Mountain summary statement.

**TT agreement:** To establish one point of contact, the TT should call or email Neil Ogden with questions on the Concept Plans

### Attendees

Andy Marsh, Mike Hillman Jonathan Cain (Idaho Springs); Jo Ann Sorensen, Cindy Neely, Cassandra Patton (Clear Creek County); Amy Saxton (CCC Greenway); Tracy Sakaguchi (CMCA); Margaret Bowes (I-70 Coalition); Wendy Koch (Town of Empire); Kelly Galardi (FHWA); Gina McAfee, Tory Jackson, Wendy Wallach, Steve Long (HDR); Jeff Ream (APEX Design); Kevin Shanks, Julie Gamec (THK); Tyler Brady, Adam Parks, Kevin Brown, Vanessa Henderson, Neil Ogden, Stephen Harelson, Bob Smith, Christiana Lacombe, Bobby VanHorn (CDOT); Taber Ward, Jonathan Bartsch (CDR)