



MEETING NOTES

PROJECT:	21685 I-70 West Vail Pass Auxiliary Lanes
PURPOSE:	Technical Team Meeting #7
DATE HELD:	October 23, 2018
LOCATION:	Avon Public Library, 200 Benchmark Road, Avon, CO 81620
ATTENDING:	<p>Joel Barnett, FHWA John Kronholm, Project Manager, CDOT Region 3 Karen Berdoulay, Resident Engineer, CDOT Region 3 David Caesark, Environmental Manager, CDOT Region 3 Stephanie Gibson, FHWA Tracy Sakaguchi, Colorado Motor Carriers Association Scott Jones, Colorado Snowmobile Association Michelle Cowardin, Colorado Parks & Wildlife Taylor Elm, Colorado Parks & Wildlife Tom Gosiorowski, Summit County Dick Cleveland, Vail Community Mark Bunnell, CDOT Region 3 Traffic Emmalee Blender, CDOT Region 3 Traffic Martha Miller, Program Engineer, CDOT Region 3 Kevin Sharkey, ECO Trails Allison Michael, CDOT Environmental Greg Hall, Town of Vail Tom Kassmel, Town of Vail Larissa Read, Consultant to ERWSD Adam Bianchi, USFS Len Wright, ERWSD Pete Wadden, Town of Vail Kara Swanson, Consultant Environmental Task Lead, David Evans and Associates JJ Wierema, Wood Tyler Bowman, Wood Matt Figgs, CDOT Region 3</p>
COPIES:	Attendees

Action items are shown in ***Bold Italics***

SUMMARY OF DISCUSSION:

1. Introductions & Agenda

- a. The group did introductions and Kara presented an outline of the agenda
- b. Kara also walked through the purpose of this meeting which was to update to the Technical Team (TT) as to the progress to date and to gather feedback on the Proposed Action alignment and design option considerations.

2. Work Completed since TT #6 and Next Steps

- a. Kara went over the progress that has occurred since TT #6
 - i. The Project Team held a design workshop to start laying out different design options after the Proposed Action was identified.



- ii. Held a meeting with the US Forest Service (USFS) to provide an update on progress to date and receive feedback
 - iii. The Project Team is in progress on wildlife data compilation and recommendations
 - iv. The Project Team is in progress on initial water quality recommendations to bring to the SWEEP Issue Task Force (ITF)
 - v. The Project Team is in progress on preliminary wetland delineation. The field work is complete, and the Team will have mapped boundaries for the upcoming public meeting
- b. Kara then talked about where the project is headed after today's meeting. This meeting will be high level, but the details will be dived into with several upcoming ITF meetings.
- i. Kara told the TT group that if they have specialists that would like to attend one of the listed ITF meetings to let the Project Team know so they can be added to the invitation list
 - 1. The dates and subjects of the ITFs were then presented to the group
 - ii. After the ITF groups, the final alignment refinements will be made taking the discussions of those meetings into consideration
 - iii. Greg asked what the Project Team is doing with noise at this point
 - 1. Kara responded that the existing measurements have been taken and the noise model is being worked on pending the final alignment
 - 2. Tom G asked what the extents of the noise study were
 - a. Kara responded that it was sensitive receptors including homes, schools, campgrounds, trails, etc. plus 500 feet

3. Purpose and Need

- a. Kara informed the group that the initial alignment was originally developed with the Purpose & Need in mind. From there, the Project Team is doing an iterative process to look at the design options, all while going back to the Purpose & Need for the project
 - i. Kara presented the Purpose & Need as a reminder to the group

4. Design Option Discussion

- a. Kara spoke to the plan for today's meeting which was to provide a status to the Project Team's progress, as well as provide guidance on the appropriate timing of feedback based on the development of the design options
 - i. Some design options are not vetted yet and will be compiled and presented at later ITF meetings
 - ii. The Project Team has also compiled the comments from past Project Leadership Team (PLT), TT, & ITF meetings and are tracking those



comments as design options are being vetted. The Project Team will present some common comments today, but does have a larger spreadsheet of all comments to date

b. Overall Alignment – East Vail, Creek, Geologic Considerations

- i. Tyler presented the comments that the Project Team has received to date on the overall alignment of I-70
- ii. He then presented some design considerations that the Project Team applied to the initial alignment that has been given to the TT including using a design speed of 65 MPH, improving safety and operations, holding the north or south edge of pavement where feasible, improving geometry and sight distance where possible, and seven new bridges built completely off-line for constructability and safety reasons.
 1. Greg asked if the Project Team holds an edge of pavement, would the team still look at water quality and other issues even though that slope wouldn't be constructed on
 - a. The Project Team responded that it would be looked at. John added that the water quality specifically would not be designed as an afterthought but designed for the whole corridor with this project
 - i. He added that there will be competing interests and tradeoffs that will need to be made on many of the design options
 2. Tyler added that there is not much opportunity to lower the grade of the roadway
 - a. Stephanie asked what steepest grade is
 - i. Tyler responded that it is 7.1% but team is trying to get that below 7%
 3. Larissa asked what would happen to the nine bridges that are not getting realigned
 - a. Karen responded that they will be rebuilt in place, but a detour bridge can be provided adjacent to it during construction
- iii. Kara then presented the comments heard from the TT and public meetings regarding East Vail
- iv. Tyler then walked the TT through the alignment starting at the Mile Marker (MM) 180 exit and the start and termination of the lanes in that location
 1. Greg asked what the lines on the plan sheets meant



- a. Tyler replied that some are toes of slope, the pink line is the Right-of-Way (ROW) boundary, salmon is the existing edge of pavement, and green is new walls
2. In East Vail, the south edge of pavement is being held initially to keep the interstate from getting any closer to the residents. Some walls are needed to ensure this takes place
 - a. Greg mentioned that the area next to the existing noise wall has a wider shoulder for snow storage that should remain
 - b. He also added that there is a historic water wheel on Pitkin Creek that needs to be saved
3. Tyler walked the team through the pair of bridges at MM 181. Only one bridge is proposed to be realigned as the residents are close to the south bridge. The Project Team could do a median crossover and use the old westbound (WB) bridge for eastbound (EB) traffic while the EB bridge is built. The project will need to keep the bridge to span the landslide that is in this area. There will also be significant walls for this location
 - a. Tom G asked about the existing box culvert for the access road to Columbine Drive that crosses west of the MM 181 bridges and what the condition of the box is
 - i. Tyler said the Project Team has a note of it, but hasn't investigated its condition yet as part of the project.
 - ii. John added that the Project Team will need to look at this further, but the challenges of reconstructing it would involve opening up I-70
 - iii. Tom G added that it may be a good time to fix it with this project as doing it in the future with 6 lanes of traffic will be much harder
 - b. Greg mentioned that there are some sections of ROW that may need to be double checked as they may not be the most up to date
 - i. ***The Project Team will look at the ROW files to ensure it has the most up to date boundaries***
4. Tyler explained that the Project Team is trying to keep away from impacting the existing large tiered walls with the alignment
 - a. Stephanie asked what will happen to the walls that are avoided
 - b. Tyler replied that the Project Team wants to keep them, but they need to be investigated from a structural capacity standpoint first



There is also an avalanche chute at MM 183.3, but it has to be a very significant snow year for that to slide

- ii. Karen remarked that is a good question the Project Team will need to look at
- iii. Greg asked if a rock/avalanche shed will be looked at to keep roadway closer to cliff face at the Narrows and reduce the impacts towards the creek
 - 1. Martha added that is another good consideration the Project Team can look at further

c. Chain Stations, Truck Ramps, Truck Parking

- i. Tyler presented the general comments the Project Team has received to date regarding chain stations
 - 1. The group discussed the two stations within the project limits and how CDOT uses the MM 184 location to enact chain law higher on the pass and not at MM 182, even though the chain station at MM 182 is much better than the one at MM 184. This needs to be looked at in consideration to how the pass is operated if the station at MM 184 needs to be used more
 - a. Tracy added the grades at MM 184 will need to be flattened as it is too steep currently. It would be best to make it bigger and add lighting too
 - i. Tyler replied that the Project Team will consider that moving forward
 - b. John added that CDOT Maintenance feels the stations are important for the operation of the pass and would like to keep them and add more signage
 - c. Tracy replied that signage needs to be evaluated as it can cause trucks to immediately pull over and chain on the shoulder if incorrectly worded/located
 - 2. Michelle added that the existing chain stations are not on the 11"x17" handouts and would like to see them
- ii. Tyler spoke to the general comments heard on the truck ramps to date. Safety is the #1 concern on both existing truck ramps. He then showed the location of the two existing truck ramps. Both currently curve and need to be straightened out.
 - 1. Tyler highlighted one ramp specifically and the challenges in designing it to make it straighter but not be too impactful to the surrounding environment. New ramps would still need some sort of barrier at the end (i.e. barrels) as there is not enough room for a full



- length ramp. There is a maintenance cost for barriers as they need to be replaced when ramp is used
2. Tracy added that wreckers need to be able to access the ramps too
 3. Karen added that Project Team took a holistic look at the pass to see if there were better locations for these ramps and did not really see any spots that would be better than the two existing locations.
 4. Emmalee added that she can provide more data on the ramps and different studies on them to date
 5. Tracy asked if the data she has access to includes the data from Colorado State Patrol (CSP) as it is sometimes different than CDOT's
 - a. Greg added that Vail Fire might have good data too
 6. Karen said that the truck ramps will also be further discussed at the Emergency Services ITF
- iii. Tyler presented on the issue of truck parking and the comments the Project Team has received to date on parking along the West Vail Pass corridor
1. He pointed to one area the Project Team has looked at in detail at MM 189 EB where there is an existing parking area with bathrooms. The Project Team is looking at widening in this location to provide more parking, but will need to look further at other areas and whether its designated as overnight parking or incident parking
 2. Tracy asked if additional lighting will be there
 - a. Tyler responded that the Project Team will look at this
 - b. Michelle added that lighting will have to be brought to the ALIVE ITF for considerations
 3. Adam asked if the parking would be widened to the south
 - a. Tyler replied that the toe of slope would not move further south

d. Walls

- i. Tyler talked a bit more about the walls on the pass. He reiterated what Karen spoke to earlier about the three categories the Project Team is putting existing walls in (impact, no impact, potential impact). Where possible, the Team is trying to tie the new roadway into existing tiered walls to save them. The current design requires over 20 new walls
 1. Greg asked about how headlight glare from opposing directions of traffic will be handled
 - a. Tyler replied that there is only two miles where this would be a consideration as both directions of the interstate are at the same grade



- g. John added that the Project Team has an upcoming meeting with all the existing utility providers on West Vail Pass. The project will also need to improve the electric infrastructure, so this is the right time to have this conversation about expanded cell coverage

f. Corridor Character and Aesthetics

- i. Kara spoke to how the Project Team has received many comments about how important the existing character and view sheds of the corridor are and how they need to be considered when designing the alternative. There is also the Crest of the Rockies Aesthetic guidance to consider
 - 1. The Project Team is doing a visual impact assessment as part of the NEPA process, but will also incorporate the Crest of the Rockies Aesthetic guidance. The Team is also building a visual impact 3D model to better look at the visual effects. There will be both hand and digital renderings as part of the NEPA process moving forward
 - 2. The Project Team will also hold meeting with the USFS to talk more about this topic
 - 3. Larissa asked if some of this model would be available to show at the public meeting in December to give the public and idea of what the Project Team is considering
 - a. Kara replied that the Team can consider this, although there still needs to be more work with stakeholders and FHWA
 - b. Karen added that if it is not shown at public meeting #2, the Team will definitely show it at public meeting #3

g. Enhanced Environment

i. Water Quality

- 1. Kara spoke to the comments received on water quality to date. She mentioned the Project Team has a lot more comments than what was received and can hand those out at the SWEEP ITF
- 2. She explained the process for SWEEP recommendations the Project Team is taking which is to review all the comments and data, review the implementation matrix, draft a memo with the proposed recommendations that will be sent out ahead of the SWEEP ITF, then discuss those recommendations at the ITF meeting.
 - a. Those specific recommendations will be compared to the original SWEEP MOU and will be sent out well ahead of the SWEEP ITF to allow members to review ahead of the meeting
 - b. Larissa asked if the intent of the project was to lessen the amount of traction sand and mag-chloride used on the pass even through the amount of pavement is increasing by 50%



- more time monitoring parking than the backcountry in this area. If the future 3rd lane terminates on the ramp, there could be more traffic impacts to this parking area
- c. Martha replied that CDOT can pull the traffic data and feels this is more like the parking issue at Hanging Lake. The USFS took the lead on determining a solution on this area
 - d. Scott stated that the use of this area is capped and cannot go beyond the current approved levels at Vail Pass. He is not talking about increasing capacity, but the current drawings are on top of the parking area and he feels it will be impacted
 - e. Dick tried to clarify this question on if the new proposed ramp alignment will make the congestion issue worse
 - i. Scott replied yes, this is his concern
 - f. Adam added that the parking area is part of the bike path, but in the winter time it is effectively a parking lot as the path is closed at the lakes. There is a confluence of recreational users (both motorized and non-motorized), rest area users, and truckers. If the USFS doesn't operate the parking, people will park on the ramps. His biggest concern is that if the third lane is ended on the ramp, it will create a safety hazard
 - g. Tom G added that dropping the lane on an upgrade is a traffic weaving issue the Project Team will need to look at
 - h. Martha responded that this is something the Project Team can look at and if the merge can take place past the bridge.
 - i. Mark concurred with this approach
 - i. Karen added the Project Team isn't sure what else to do at the intersection of the ramps and access roads.
 - i. Dave C added it seems like its its own separate Environmental Assessment (EA) to evaluated this. The Team can look at moving where the lane drop is located with this project though
 - j. Michelle added if the drop is just past the bridge, the weaving of vehicles with semis and trucks with trailers will need to be evaluated
 - k. Kara stated that the Project Team will look at the safety and operational considerations of where the drop lane is
 - l. Emmalee added if an automatic closure system is installed at MM 190 for WB traffic, those gates would direct traffic over



- the MM 190 overpass bridge to EB on-ramp that would get more traffic.
- m. Adam added that because of that configuration, ambulances sometimes can't access the exit and the USFS has to call in flight for life quite often. He understands this issue is outside of the scope of this project, but feels that existing area needs to be reconfigured
 - n. Karen responded that she feels it's important to continue this conversation outside of the project as it needs to be further discussed, but not part of the scope on this project
 - o. Greg added that if you move the trail away from the interstate, there could be more demand to the trail in the winter with skiers and fat tire bikes
 - p. Kara pointed the TT to the Trail/Recreation ITF that will go into more detail on this topic
- iii. Tyler walked through the three initial alignments for the trail that the Project Team has developed. These are only for areas where the trail is being impacted (from ~MM 185.5 to 187.5)
- 1. Michelle asked if there are tiered walls proposed to get the trail next to I-70
 - a. Tyler replied yes, at Narrows there would have to be tiered walls
 - 2. Karen added that the Project Team will spend a whole meeting at the Trail ITF to discuss the trail in more detail. The trail will also be presented on at the SWEEP and ALIVE ITFs
 - 3. Greg asked what the horizontal separation between I-70 and bike path next to interstate is proposed to be
 - a. Tyler replied there is a minimum of 20' of horizontal separation
 - 4. Michelle asked if there was a trail design expert that is part of the Project Team as there are a lot of nuances to consider
 - a. Kara responded that the Team has engineers, but also has a bike & trail planner as part of Team. She added the alignments shown are very conceptual at this point, but the Team will take a holistic approach to designing it
 - b. Michelle asked how many creek crossings are in each alignment
 - i. Tyler referred the group to the alignment. The blue has zero crossings, the pink has four, and the orange has two



5. Greg stated that wildlife wants to access a water source and a trail on the other side of the creek will be a barrier to them accessing the creek
 - a. Michelle seconded this concern and stated that CPW has stated their concerns with the location of the trail south of Black Gore Creek
 - b. Kara responded that this is a good example of competing interests on this project. The Team will be hearing all of these issues at different ITFs and will have to take a holistic approach to designing and not just from a wildlife or bike user standpoint
6. Greg asked if the bike path be a source of sediment collection as a last resort to help trap sand
7. Tom G then asked if the 20' horizontal buffer be widened?
 - a. Tyler responded that the USFS has requested the trail to be at least 100 feet from the creek, so the alignment can't go more than 20' from the interstate or it will be encroaching on that requested distance
 - b. Michelle added it would be good to evaluate if going closer to the creek but staying on north side of creek may be better
8. Greg asked where would wildlife fence be in regards to the trail.
 - a. The Project Team responded that it will need to look further at this
9. Karen stated that the Project Team wants to get the TT in support of the process as there are so many factors to consider. She asked for input as to whether the trail should be presented at all three ITFs as previously discussed or if it should be presented at only the Trail/Recreation ITF
10. Tom G asked if there was a list of design criteria for the path. Not just AASHTO criteria, but for other impacts like how far from stream, how many times to cross creek, etc. He recommended those factors are presented to the ITFs and let to let them prioritize the criteria to weigh the best alignment as there are so many factors. The Team may even need to segment the criteria by location
 - a. Kara replied that this is a great way to look at it. The Project Team can format the presentation of the trail that way to better facilitate the discussion on this moving forward
 - i. John concurred this may be the best way to reach a compromise on the final alignment



- b. Michelle mentioned the roadway wildlife crossing structures and how that final design looks also needs to be part of the criteria as that has a substantial impact
 - i. John responded that all of those factors will be considered
 - c. Kara added that the Project Team needs to hear the feedback and critical issues to then partner with FHWA and the USFS to make the decision on the alignment
11. Greg asked if the public meeting show all 3 alignments
- a. Karen stated that the overall desire is to show the public the roadway alignment as that hasn't been shown to them yet
 - b. Kara added that the Team will also show the process as to how the Project Team will make decisions
 - c. Greg asked how will the public be allowed to comment on these critical issues then
 - d. Kara replied that the Project Team is still in initial stages of developing the plan for the public meeting, but this is good feedback on how to receive feedback on these issues and the Project Team can look at creative ways to generate feedback on critical issues
 - e. Scott stated that he has seen public meetings before where if there isn't enough design data to present to the public, there can be a lot of negative feedback. He encouraged the Team to do their homework prior to the public meeting
12. Scott asked how long the three ITFs will be
- a. Karen replied that they are planned for three hours each, but the Team is not trying to make decisions at those meetings as the deciding agencies are CDOT, FHWA, and the USFS. The Project Team will be open to holding more meetings as needed though
13. Emmalee asked if creek crossing bridges would need to support a fire truck as CDOT typically requires
- a. John replied that this is a design detail that needs to be discussed later on
14. Larissa suggested that the TT members want to help get information out to their stakeholders and the public they interact with, but don't want to be in violation of the intent of the TT charter which is to make sure the TT all pushes the same information. She asked that as soon as a public meeting flyer is available to send to TT, the Project Team do so to allow TT member to send out



- a. Project Team responded that this is good feedback
- iv. Kara then presented other recreation feedback that has been received for consideration. The Project Team will discuss these further at the Trail/Recreation ITF
- i. **Other?**
 - i. Karen added that while many topics are going to ITFs, the overall alignment is not. Asked the TT for feedback over the next few weeks for comments on the alignment that was shown to the group
 - 1. Michelle asked for a drawing of the three trail alignments
 - 2. Greg asked if the Project Team can show areas where the grade is changing
 - 3. Greg asked if this design would change if all passenger cars were required to chain up
 - a. John replied that it would not because of the operational component of the project's Purpose & Need
 - b. Greg then asked if the project would need more chain up areas. If anything, the Team could identify potential future chain up areas and clear them with this project. He pointed to examples in California on this requirement
 - i. Dick added that he feels it's the cheapest way to prevent winter closures by requiring chains on passenger vehicles rather than spending millions of dollars on the pass
 - ii. Martha stated that the Project Team can get CDOT's policy team involved to investigate this more and if requiring passenger vehicles to chain up is moving forward. There are still other issues on the pass like speed differentials and substandard geometry that need to be addressed and not just chains on all vehicles
 - 1. Tom G stated he thought it was a good idea to check with policy on this. Many stakeholders along the corridor are curious about the direction this is heading as it hasn't been clear to date. It may not necessarily be a design issue for this project, but it is a very relevant issue that could play into this and should be evaluated



- iii. Martha added that she drove on Donner pass in California recently and noticed there is a check station to look at chains for all vehicles
- iv. Greg stated the Team should maybe take a larger look at chain up stations along the pass
- v. Tracy added that she has a big concern in mixing CMVs with passenger vehicles while chaining as it is very dangerous. The Team may have to look at adding new chain up stations instead, as well as the enforcement and mainline speed reduction in areas of chain stations
- vi. Karen stated there are Variable Speed Limit (VSL) signs at the existing chain station, but the issue is enforcement
 - 1. The group discussed that those speeds can't be enforced at this point
 - 2. Emmalee stated there's a big process to make variable speed limits enforceable along with MUTCD standards
 - 3. Karen added that the Team will continue to talk about this at the Emergency Services ITF as many comments received were in support of VSLs

5. Schedule and Wrap Up

- a. Kara asked for any follow-up comments on alignment and process by Nov 23rd
 - i. Greg asked for the Advanced Guideway System (AGS) alignment to be sent to Project Team ahead of the comment due date
- b. Karen thanked group for their feedback today and involvement in today's meetings