

Twin Tunnels Environmental Assessment



Purpose:	Project Leadership Team and Technical Team Combined Meeting		
Day:	Tuesday	Date:	September 8, 2011
Location:	CDOT Region 1, Golden Office, Fox Hollow Conference Room		

Participants:

Project Leadership Team

Attendee	Representing	
Ben Acimovic	CDOT R 1	Y
Chuck Attardo	CDOT R 1	Y
Jim Bemelen	CDOT R 1	Y
Allan Brown	Atkins	Y
Janet Gerak	CDOT R 1	Y
Stephanie Gibson	FHWA	Y
Vanessa Henderson	CDOT EPB	N
Gina McAfee	Jacobs	Y

Attendee	Representing	
Tim Mauck	Clear Creek Co.	Y
Jack Morgan	Idaho Springs	Y
Pat Noyes	Pat Noyes	Y
Melinda Urban	FHWA	Y
Mary Jo Vobedja	CH2M HILL	Y
Rebecca White	CDOT Local Affairs	Y
Mandy Whorton	CH2M HILL	Y

Technical Team

Attendee	Representing	
Ben Acimovic	CDOT R 1	Y
Chuck Attardo	CDOT R 1	Y
Phyllis Adams	Upper CC Watershed Assn.	N
Carol Anderson	EPA	Y
Rick Beck	Clear Creek Co Public Works	Y
Jim Bemelen	CDOT R 1	Y
Rena Brand	USACE	Y
Allan Brown	Atkins	Y
Steve Cook	DRCOG	Y
Maria D'Andrea	Jefferson Co.	N
Jim DiLeo	CDPHE	Y

Attendee	Representing	
Carol Kruse	USFS	Y
Gina McAfee	Jacobs	Y
Bill Macy	Idaho Springs	Y
Alison Michael	USFWS	Y
Cindy Neely	Clear Creek Co.	N
Ty Petersburg	Colorado Parks & Wildlife	N
Amy Pallante	SHPO	N
Bob Quinlan	Jacobs	N
Colleen Roberts	CH2M HILL	Y
Martha Rudolph	CDPHE	N
Steve Rudy	DRCOG	N

Attendee	Representing	
Gary Frey	Colorado Trout Unlimited	Y
Janet Gerak	CDOT R 1	Y
Stephanie Gibson	FHWA	Y
Vanessa Henderson	CDOT EPB	N
Nicolena Johnson	Clear Creek EMS	N

Attendee	Representing	
Tom Schilling	Intermountain Corporate Affairs	Y
Paige Singer	Center for Native Ecosystems	N
Melinda Urban	FHWA	Y
Mary Jo Vobejda	CH2M HILL	Y
Mandy Whorton	CH2M HILL	Y

Discussion Items

The purpose of the meeting was to review the Twin Tunnels project and process, discuss the project context statement, review the roles and responsibilities of the Project Leadership Team and Technical Team, and review the scope for environmental analyses. The meeting followed the agenda and associated presentation slides (**Attachment 1** and **Attachment 2**).

Introductions

Participants introduced themselves. Jim Bemelen explained that the Twin Tunnels team is a combination of CDOT, FHWA, and Consultant staff, all of whom have expertise and experience in the corridor. Jim is the CDOT program manager, Ben Acimovic is CDOT's project manager, and Mandy Whorton, CH2M HILL, is the consultant project manager. The PLT and Technical Team can contact any of these people with questions or concerns.

Project Description

Jim reviewed the purpose of the Twin Tunnels project, schedule for the Environmental Assessment (EA), background efforts that lead to the current project, and described the frontage road improvement project and tolling discussion according to the attached presentation (**Attachment 2**).

When reviewing the detour, Alison Michel asked about how bikes and pedestrians would have access to the trail during construction if the frontage road were used for interstate traffic. Jim explained that CDOT was looking at possibilities but safety may require the trail to be closed during the detour. He also mentioned that CDOT would gather more information about the trail users to determine how many are commuters vs. recreational users, explaining that recreational users may avoid the area during the construction period.

Project Leadership Team and Technical Team

Mary Jo Vobejda walked through the work plan. She explained that, consistent with the CSS process, the project has both a PLT and TT. The work plan provides contacts for the PLT and TT members and an expanded discussion of the roles and responsibilities of each group.

Mary Jo summarized the primary differences between the PLT and TT:

- The PLT will lead the process, champion CSS, and enable decision making. Enabling decision making does not mean making decisions but rather identifying decisions to be made and recommends how to make them (identifying the right people and data needed). Mary Jo explained that this PLT has met already and has agreed to an added

responsibility to help CDOT meet the aggressive schedule. The PLT will help identify issues that are taking time and recommend approaches to keep on schedule.

- The Technical Team is more a technical advisory group. The TT makes sure member agency's or organization's agendas and critical issues are understood and considered and addressed in the project. She explained that the process is intended to be collaborative and that the project team wants members to speak out as soon as issues arise. The TT provides insights into methodologies, regulations, and local issues. CDOT particularly wants input about the proposed action and how it evolved. She explained that normally the TT would be more involved in the evaluation criteria and evaluation of alternatives but in this case, that process happened with another team: the Tunnel Visioning team. However, we want your input on the process and where we are.

Mary Jo referenced a handout of the PLT and TT members provided at the meeting. The TT list does not include a couple late RSVPs but all names on the sign-in sheet will be added. Mary Jo noted that the general schedule of meetings is on the back of the agenda. The meeting topics will likely evolve but we wanted to give members an idea of what is coming.

Context Statement and Core Values

Mary Jo reviewed the context statement for the corridor. She explained that the PEIS was what the solution would be and CSS is how we will implement. All of the agreements are part of the CSS process and the PEIS.

The project context is one of the requirements of the CSS process. It describes what we want to preserve and celebrate in this project. The PLT drafted the context statement, and Mary Jo reviewed it with the group.

Blasted through a geological feature which has always provided access for wildlife to Clear Creek, the Twin Tunnels symbolize Colorado's historic endeavors to improve access to and from the mountains. They are now a constriction to travel, creating a safety problem. The Twin Tunnels must remain a gateway for arriving and departing the mountains and a celebration of Clear Creek's natural and recreational resources.

The PLT will maintain the collaboration and communication of recent studies, streamlining this process to reach the goal of "Open to traffic in October 2013," and bring 21st century solutions into the discussion.

Bill Macy said the Twin Tunnels were the first tunnels constructed on the interstate system.

Stephanie Gibson asked for clarification of the purpose of the context statement. She said her experience was that context statements were not as specific as providing a date goal. Mary Jo explained that the goal was project-specific and a commitment of the PLT. Stephanie recommended removing the second paragraph and including it as a mission statement for the PLT. Mary Jo agreed.

Mary Jo went through the core values.

- Stephanie asked for clarification about how comments should be received on the context and core values. Mary Jo said to either provide now or send to her separately.
- Gary Frey said the core values should include water quality. No one objected.

- Jack Morgan stated that the most important core value is safety. Jim asked for clarification since the core values do include safety. Jack requested that safety be first on the list. No one objected.
- Carol suggested adding recreation as a core value. All agreed.
- Rebecca White noted that the context statement doesn't capture the economic value in the core values. She suggested adding the economic importance to the end of the context statement. All agreed.
- Several suggested adding more detail to the description of core values.

Mary Jo said she would revise the context statement and core values based on feedback.

Jack stated that CDOT needs some political power behind I-70 improvements, both political involvement and money. He expressed optimism that that President's speech on jobs would include a large commitment to transportation infrastructure that CDOT should capitalize on. Rebecca agreed that she thought the President's speech would propose a new transportation commitment but noted that immediate needs are to renew the transportation bill and gas tax, both of which expire soon.

Tunnel Visioning

Jim said he wanted to provide background on the Tunnel Visioning design workshop to explain what CDOT is thinking of doing and the thought process behind it. Jack asked what the configuration of lanes would be through the tunnel. Jim said CDOT was looking at 12-foot lanes with 4-ft inside and 8-ft outside shoulders but that there was some consideration of a bigger bore that might allow four lanes so that westbound improvement could be made with a two lane bidirectional detour through the eastbound bore. CDOT has some geologic concerns about a larger bore.

Mary Jo suggested Jim continue the presentation to explain how we got to the current proposal.

Jim presented the findings of the Tunnel Visioning design workshop, as noted in the attached presentation (**Attachment 2**). He said the Tunnel Visioning workshop was prompted by findings in the zipper lane study that concluded that Twin Tunnels is the control point on the corridor in the most congested area. Jim went through the critical success factors considered by the group, the elements considered by the team, and how those were grouped into concept packages. He then showed graphics and discussed each of the seven concept packages. He summarized the major issues with the alternatives not recommended and explained that concept package 2 was the recommendation of the workshop attendees.

Jack asked about the US 6 bridge that is under repair now, specifically how much of the bridge infrastructure will come out. Jim said most of the supports would come out. The repairs are expected to last 4 to 6 years, but this bridge will still need to be replaced in the future.

Jim explained this initial project would not address all of the issues in the area but that CDOT was trying to keep options open. Specifically, the AGS is unknown and the bridge condition is unknown.

Environmental Analysis

Mandy Whorton reviewed the environmental scoping form. She explained this was a similar form used in internal scoping with CDOT resource specialists to identify the important environmental issues to be considered in the EA. The group reviewed the form and made several suggestions listed below. These suggestions have been incorporated into the revised form attached to these notes (**Attachment 3**).

- Air quality should note that the area is in *attainment* not in *nonattainment*.
- Hazardous materials should consider disposal of waste rock from tunneling operations and mineralization in rock formation. Form has been revised and topic changed to Hazardous/Solid Wastes.
- Issue of mineralization has also been added to Wetlands and Waters of the US resource.
- Recreation is not on CDOT's standard scoping form (it is included under Section 4f). It has been added as a separate category to be analyzed in the EA (as was planned but not accurately reflected in form).

Other Discussion

Gary said he had a number of questions:

- He asked how many alternatives would be considered in the EA. Jim said two: a build and no build. Gary asked what criteria were used to dismiss alternatives. He noted that cost appeared to be the major consideration, and reminded CDOT that decisions based on cost were a problem in the PEIS alternatives analysis.
- Gary asked if there was a public involvement plan. Mary Jo said a draft is built into the work plan and would be updated.
- He asked about when scoping notices would be sent out. Mandy replied that the scoping notices would go out next week. Gary reminded the group that the Administrative Procedures Act requires 15 day notification for all public meetings. Mandy said the notices would meet requirements.
- Gary asked about the ITF groups and if the members for the SWEEP ITF could be modified. He asked Carol Kruse if the MOU allowed for non signatory members to participate. Carol thought only the SWEEP group could be officially involved but others could be invited. Team agreed to check MOU language to determine if SWEEP allows for involvement of non-SWEEP members.

Meeting was adjourned. Jim clarified that future meetings would be 3 hours rather than 2 hours. Meetings will all be in Golden.

Twin Tunnels Environmental Assessment

Project Leadership Team
and Technical Team
Meeting Notes, 9/8/2011

Attachment 1



I-70 Twin Tunnels Environmental Assessment Combined Project Leadership and Technical Team Meeting

**Thursday, September 8, 2011
Golden Residency
9:00 am - 11:00 am**

1. Introductions (Bemelen)
2. Project Description (Bemelen)
 - Purpose
 - Schedule
 - Previous Studies
 - PEIS and ROD
 - Idaho Springs Visioning
 - Tunnel Visioning
 - Ongoing Efforts
 - Frontage Road
3. PLT Roles and Responsibilities (Vobejda)
4. Technical Team (Vobejda)
 - Roles and Responsibilities
 - TT Membership
5. Finalize Context (Vobejda)
6. Background of the Twin Tunnels project (Bemelen)
7. Environmental resource evaluation methodology (Whorton)
 - SWEEP, ALIVE, 106 Programmatic Agreement
 - Other resources
8. Next PLT/TT meeting - Sept. 22, 2011 (Bemelen)
Public Meeting - September 27th

Handouts

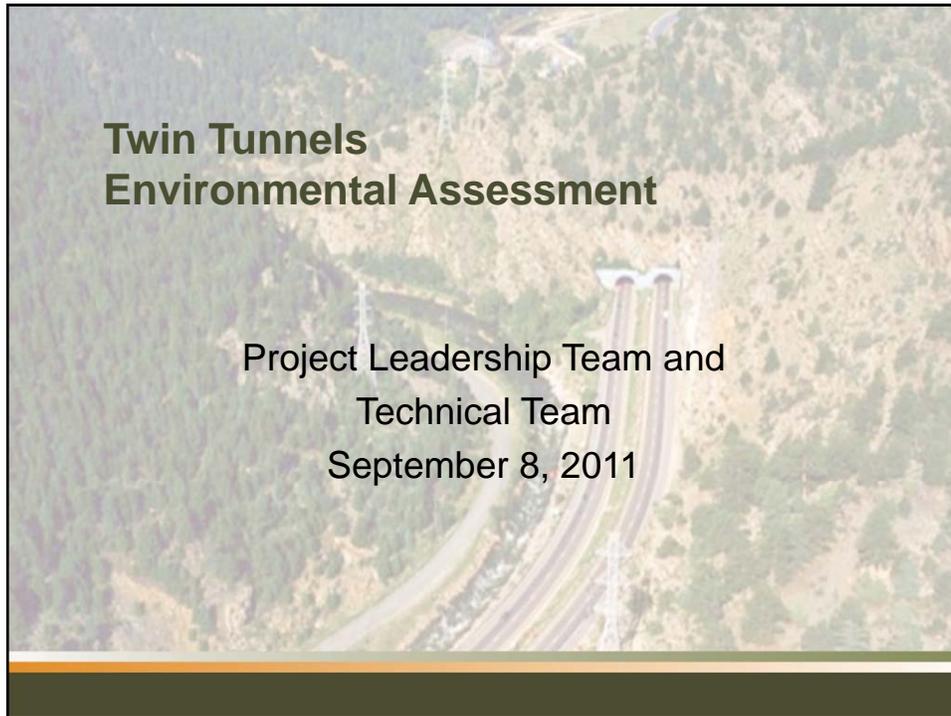
1. Agenda
2. PLT and Tech Team members list
3. Twin Tunnels EA Work Plan
4. Environmental Scoping Form
5. Summary of Tunnel Visioning
Alternative Analysis

Date	Group	Purpose
Sept. 8	PLT and TT	PLT and TT Roles and Responsibilities Finalize Context Statement Review Tunnel Visioning Process and Alternatives
Sept. 22	PLT and TT	Discuss Proposed Action Discuss Public Meeting
Sept. 26	Agency Scoping	Review the Process and Teams Present the Proposed Action Discuss the Environmental Resources
Sept. 27	Public Meeting	Present Process and Teams Present Alternatives and Analysis Present Proposed Action
Oct. 6	PLT	Discuss results of the Public Meeting Review Schedule and Process steps Discuss Refinements to the Proposed Action Discuss tolling
Oct. 20	TT	Review Environmental Scoping Discuss Refinements to the Proposed Action Present Issue Task Forces Progress
Nov. 3	PLT	Present Environmental Status
Nov. 17	TT	Present Environmental Status Present Issue Task Forces Progress
Dec.	PLT and TT	Proposed Action Footprint Dates for future meetings Present Issue Task Forces Progress
Jan	NO PLT or TT	
Feb	PLT	Schedule and Project Status Discuss Impacts
	TT	Discuss Impacts Present Issue Task Forces Progress
Mar	PLT	Schedule and Project Status Discuss Mitigation
	TT	Discuss Mitigations Final Reports from Issue Task Forces
Apr	NO PLT or TT	
May	PLT and TT	Present highlights of the EA Discuss the Public Hearing
June	NO PLT or TT	
June	Public Hearing	Present the Process, EA results, solicit comments
July	PLT	Next Steps for the PLT Discuss results of the Public Hearing
July	TT	Discuss results of the Public Hearing Close the TT

Twin Tunnels Environmental Assessment

Project Leadership Team
and Technical Team
Meeting Notes, 9/8/2011

Attachment 2

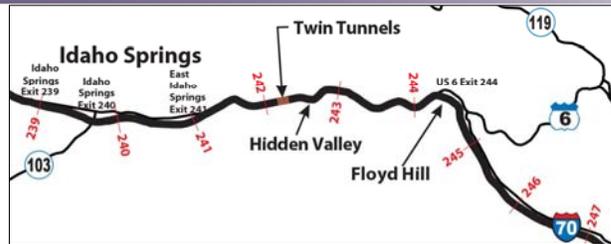


Introductions



- **Project Staff**
 - » Combination of CDOT and Consultant Staff
 - » Depth of resources familiar with the I-70 Mountain Corridor
- **Contacts**
 - » CDOT Program Engineer – Jim Bemelen
 - » CDOT Project Manager – Ben Acimovic
 - » Consultant Project Manager – Mandy Whorton, CH2M HILL

Project Description



Goal

- Improve capacity, mobility, and safety in the eastbound direction of the I-70 Mountain Corridor in the Twin Tunnels area east of Idaho Springs.
- Consistent with the I-70 Mountain Corridor Programmatic Environmental Impact Statement (PEIS) Record of Decision, I-70 Mountain Corridor Context Sensitive Solutions process, and other commitments of the PEIS.

Schedule



✓ NEPA process to be completed in one year

	2011				2012								
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Project Initiation and Scoping	█	█											
Purpose and Need	█	█											
Alternatives	█	█	█	█	█								
Affected Environment	█	█	█	█									
Impact Analysis			█	█	█	█							
EA Documentation		█	█	█	█	█	█	█	█	█			
Section 4(f) Documentation		█	█	█	█	█	█	█	█	█			
Public Review										█	█		
Section 4(f) Review										█	█	█	
Review Comments/Decision										█	█	█	█

✓ Goal to implement project quickly – construction Fall 2013

Previous Studies



- I-70 Mountain Corridor Programmatic Environmental Impact Statement
 - » Record of Decision – June 2011
- CSS Website
 - » August 2011
- Twin Tunnels Visioning Design Workshop
 - » February 2011
- Reversible Lanes (Zipper Lane) Study
 - » Fall 2010
- Idaho Springs Visioning Workshop
 - » May 2010

Ongoing Efforts



- Frontage Road Improvements in Idaho Springs
- Discussion about tolling along the Corridor and for this project

Project Leadership Team



- Roles and Responsibilities
- Membership

Technical Team



- Roles and Responsibilities
- Membership

The I-70 Mountain Corridor Context Statement



The I-70 Mountain Corridor is a magnificent scenic place. Human elements are woven through breathtaking natural features. The integration of these diverse elements has occurred over the course of time. This corridor is a recreational destination for the world, a route for interstate and local commerce and a unique place to live.

It is our commitment to seek balance and provide for 21st century uses.

We will continue to foster and nurture new ideas to address the challenges we face.

We respect the importance of individual communities, the natural environment, and the need for safe and efficient travel.

Well thought-out choices create a sustainable legacy.

Twin Tunnels Context Statement



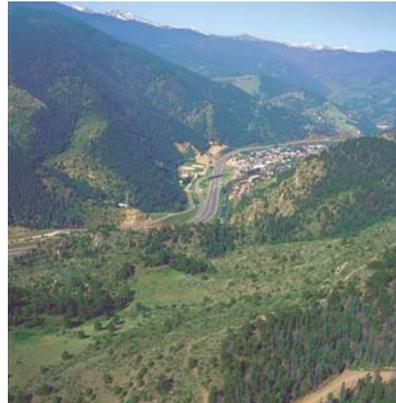
Blasted through a geological feature which has always provided access for wildlife to Clear Creek, the Twin Tunnels symbolize Colorado's historic endeavors to improve access to and from the mountains. They are now a constriction to travel, creating a safety problem. The Twin Tunnels must remain a gateway for arriving and departing the mountains and a celebration of Clear Creek's natural and recreational resources.

The PLT will maintain the collaboration and communication of recent studies, streamlining this process to reach the goal of "Open to traffic in October 2013," and bring 21st century solutions into the discussion.

Core Values



- Gateway
- Improve safety
- Better mobility
- Wildlife crossing
- Clear Creek, both the natural and recreational uses
- Community treasures
 - » The Scott Lancaster Bridge must be visible and usable between Floyd Hill and Idaho Springs
- Economic lifeline for national, regional and local communities
- History



Tunnel Visioning Workshop





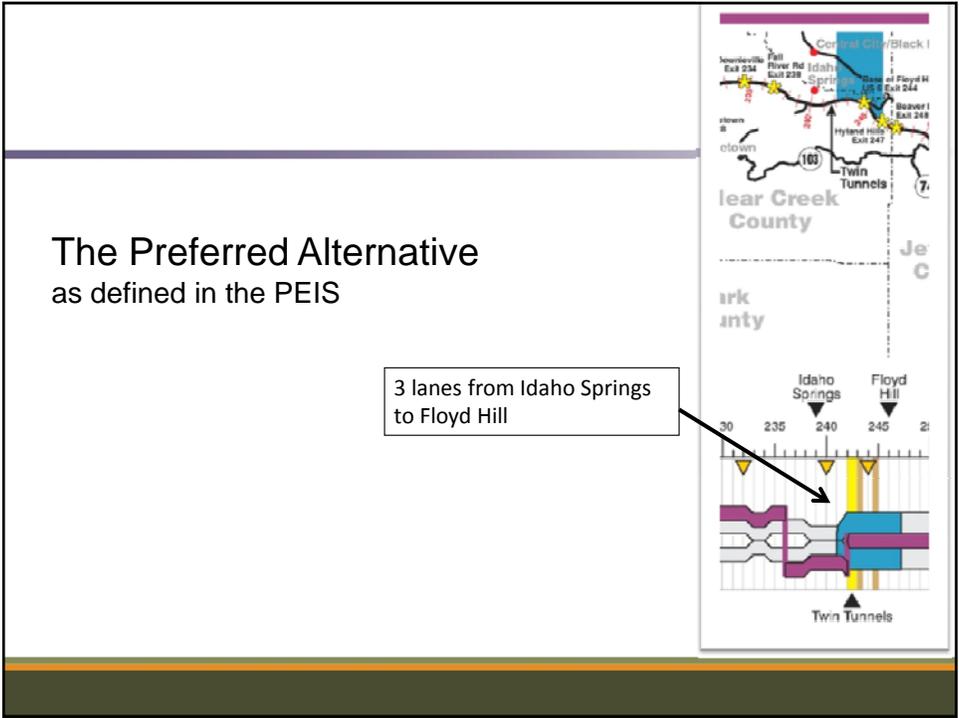
Develop improvements that address near term and current mobility needs

GOAL FOR TUNNEL VISIONING

Critical Success Factors



Improve Mobility
Compatibility with existing plans
Timing of Implementation
Capital Cost
Level of Environmental Change
Level of Economic Benefit
Flexibility of design and long term usability
Community Stakeholder acceptance
Attractive solution to gain funding and political support
Safety
Construction Disruption



- Team started with elements gathered from the stakeholders
-
- A** -- Widen Existing EB and WB Tunnels
 - B** -- Widen Existing EB Tunnel
 - C** -- Construct new 3rd Tunnel
 - D** -- Realign 3 EB lanes with 65 mph design
 - E** -- Realign 3 EB lanes with 55 mph design
 - F** -- Flatten EB and WB curves to 65mph
 - G** -- Flatten EB and WB curves to 55mph
 - H** -- Flatten EB 45 mph curve to 55 mph
 - J** -- Hidden Valley to Floyd Hill widen to 3 EB lanes
 - L** -- Add 3rd EB lane from Idaho Springs to Twin Tunnels
 - M** -- Improve shoulder to provide 3 EB lanes for peak period
 - O** -- Old US 40/CR 314 used for detour EB during construction
 - P** -- Restore/enhance frontage road, trail and trailhead

Then built the Concept Packages

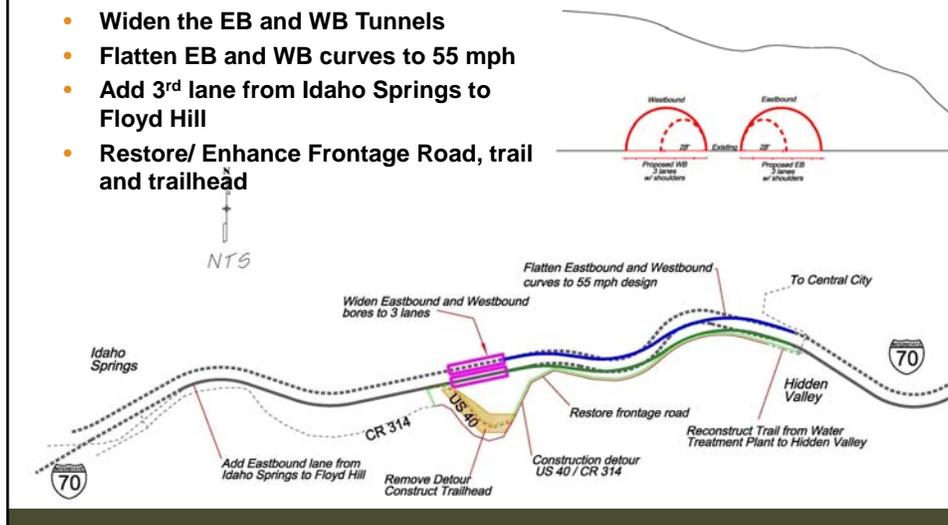


	CP1	CP2	CP3	CP4	CP5	CP6	CP7
Widen EB & WB Tunnels	x		x				
Widen EB Tunnel		x		x			
Construct 3 rd Lane							x
Realign EB w/ 65 mph						x	
Realign EB w/55 mph					x		
Flatten EB & WB to 65 mph			x	x			
Flatten EB & WB to 55 mph	x						
Flatten EB 45 mph curve		x					x
3 rd Lane – HV to FH	x	x	x	x	x	x	x
3 rd Lane – IS to HV	x	x	x	x	x	x	x
Improve shoulders	Optional CP1, CP2, CP3 and CP4						
US40 for detour	x	x	x	x			
Restore FR, trail, trailhead	x	x	x	x			

Concept Package 1



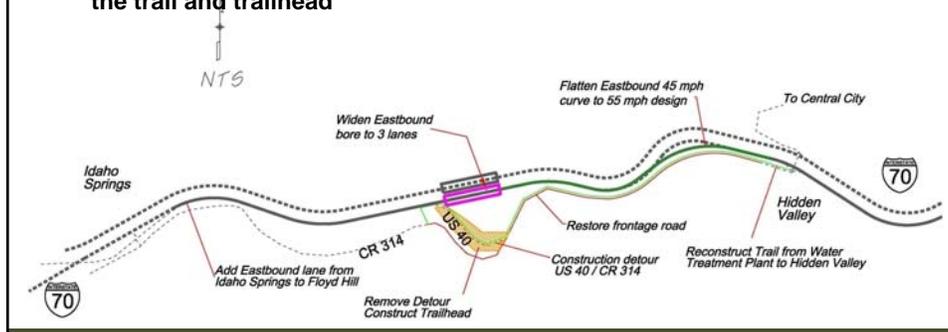
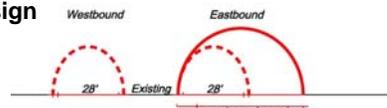
- Construct a detour on US40 and CR 314.
- Widen the EB and WB Tunnels
- Flatten EB and WB curves to 55 mph
- Add 3rd lane from Idaho Springs to Floyd Hill
- Restore/ Enhance Frontage Road, trail and trailhead



Concept Package 2



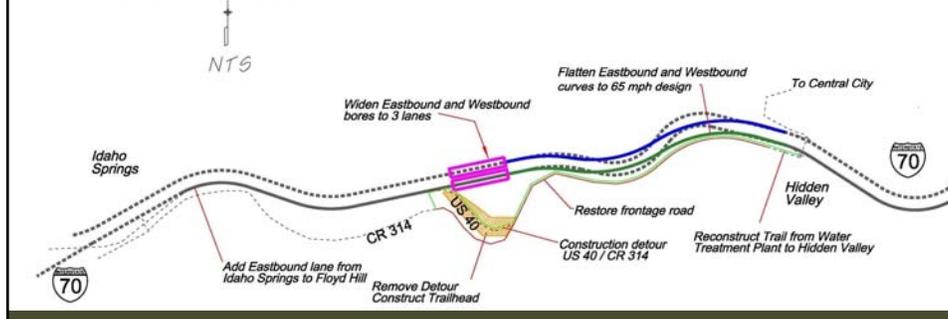
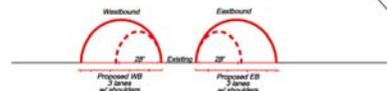
- Construct a detour on US40 and CR 314.
- Widen the EB Tunnel
- Flatten the 45 mph curve to 55 mph design
- A 3rd EB lane from the Idaho Springs of Floyd Hill,
- Restore/ Enhance the Frontage Road the trail and trailhead



Concept Package 3



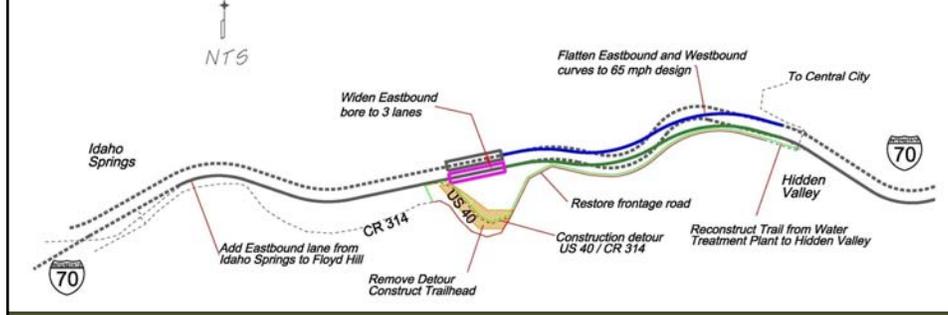
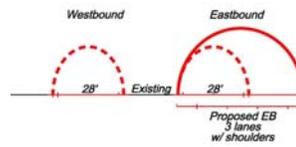
- Construct a detour on US40 and CR 314
- Widen the EB and WB Tunnels
- Flatten the EB and WB curves to 65 mph
- Add a 3rd lane from Idaho Springs to Floyd Hill
- Restore/ Enhance the Frontage Road, trail and trailhead



Concept Package 4



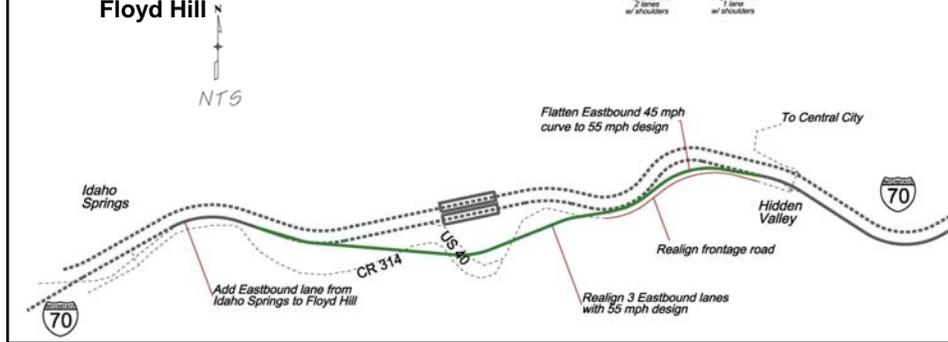
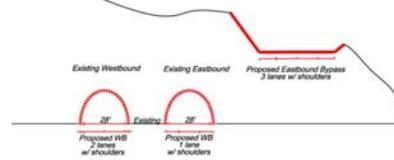
- Construct a detour on US40 and CR314
- Widen the EB tunnel
- Flatten the EB and WB curves to 65 mph
- Add a 3rd lane from Idaho Springs to Floyd Hill
- Restore/ Enhance the Frontage Road, trail and trailhead



Concept Package 5



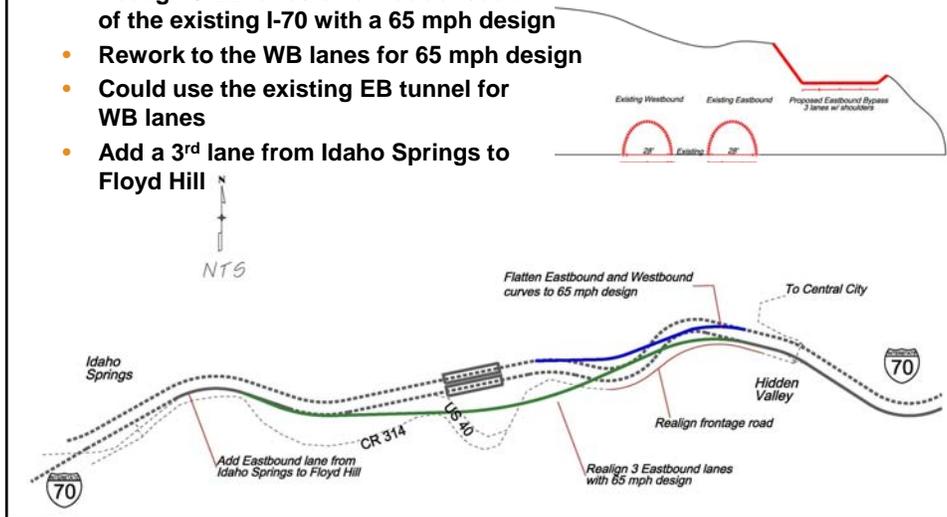
- Realign 3 EB lanes south of existing I-70 on a viaduct with a 55 mph design
- WB lanes remain in existing location
- Could use the existing EB tunnel for WB lanes
- Add a 3rd lane from Idaho Springs to Floyd Hill



Concept Package 6



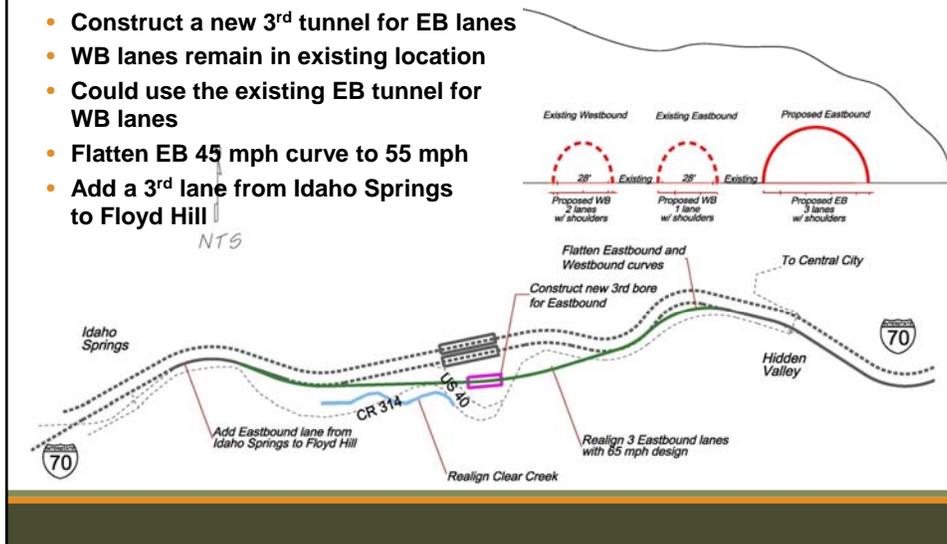
- Realign 3 EB lanes on a viaduct south of the existing I-70 with a 65 mph design
- Rework to the WB lanes for 65 mph design
- Could use the existing EB tunnel for WB lanes
- Add a 3rd lane from Idaho Springs to Floyd Hill



Concept Package 7 (PEIS Preferred Alternative)



- Construct a new 3rd tunnel for EB lanes
- WB lanes remain in existing location
- Could use the existing EB tunnel for WB lanes
- Flatten EB 45 mph curve to 55 mph
- Add a 3rd lane from Idaho Springs to Floyd Hill



Major issues for CP 1, 3, and 4

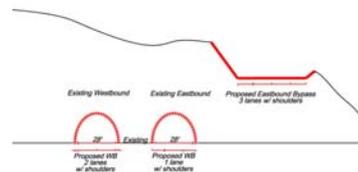


- The WB bridge at the interchange with US6 will require replacement within the next few years. Any westbound work now would result in disrupting WB traffic twice.
- Without rebuilding the US6 bridge, adding a WB lane at this time would not provide continuous 3-lane WB section and would not meet the ultimate 55/65 mph solution.
- Any 65 mph EB design impacts the WB lanes and results in disrupting the WB traffic twice.

Major issues for CP 5 and 6 (viaducts)



- Results in steep (7%) grades
- Cuts into the mountain and disrupts the natural wildlife crossing
- Viaducts would be over the creek or require realignment of the creek
- Safety concerns with icing of the bridge
- Increased maintenance of long structures



Major issues with CP 7



- Realignment of the road requires realignment of the creek
- Increases the maintenance costs by increasing the linear feet of tunnels

Reaching a Recommendation



Concept Package	Major Issues
1	Impacts westbound with improvements to both tunnels
2	Recommended as option best meeting evaluation criteria
3	Impacts westbound with improvements to both tunnels and 65 mph design
4	65 mph design impacts westbound lanes
5	Impacts natural wildlife crossing; impacts creek; requires 7% grades, which can affect safety and mobility; higher maintenance costs for structures
6	Impacts natural wildlife crossing; impacts creek; requires 7% grades which can affect safety and mobility; higher maintenance costs for structures
7	Impacts the creek with the new road alignment; increases maintenance with increased linear footage of tunnel

Environmental Resource Evaluation Methodologies



- Internal scoping with CDOT, FHWA, and consultant staff held August 23
- Agreement that most resources require detailed evaluation
- Tier 2 NEPA processes outlined in PEIS provide basis for evaluation and methodologies
- Data available from PEIS
 - » Some can be used/validated as is
 - » Other requires new data collection or methods

Mitigation Strategies



- Project-specific design modifications (reduce footprints)
- Program-level and project-specific commitments outlined in the ROD
- Four important agreements/commitments included in ROD; all are relevant to the Twin Tunnels EA
 - » CSS Process
 - » Stream and Wetland Ecological Enhancement Program (SWEEP)
 - » A Landscape-level Inventory of Valued Ecosystems (ALIVE)
 - » Section 106 Programmatic Agreement

Issue Task Forces



- Issue Task Forces to be established:
 - » Section 106 Consulting Parties
 - » SWEEP
 - » ALIVE
- Suggestions for membership?

Meeting Schedule and Topics



- See Agenda for topics and proposed meeting dates
 - » More frequent in first three months
 - » Some combined PLT and TT meetings
- Next PLT/TT meeting
 - » September 22
- Agency scoping meeting
 - » Monday, September 26
 - » FHWA, Lakewood, 10:00 to 12:00
- Public scoping meeting
 - » Tuesday, September 27
 - » Buffalo Bar, Idaho Springs, 5:30 to 7:30

Twin Tunnels Environmental Assessment

Project Leadership Team
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Meeting Notes, 9/8/2011

Attachment 3



TOPICS	CONSIDERATIONS
Air Quality	Coordination between CDOT, APCD, and DRCOG for PM10 and ozone conformity; dust emissions from tunnel boring likely high concern - discuss approach with APCD; currently in an attainment area, won't need MOVES modeling or hot spot analysis, confirm with APCD; boundaries of ozone area may change and include Clear Creek County; MSATs; updated traffic; tunnel emissions and ventilation
Archaeology	Several recorded sites; one known eligible site won't be affected; intensive survey required
Cumulative Impacts	Limited effects of induced growth; Section 106 cumulative effects analysis; likely evaluation of cumulative effects to wildlife / fisheries
Environmental Justice	Tier 1 concerns from EPA and Clear Creek County; Tier 2 commitments to update and expand analyses; however, no residences in project area; tolling impacts; detour impacts - commuting and access to jobs; 2010 Census
Farmlands	No farmlands in project area
Floodplains	Clear Creek channelized throughout; flood hazard zone throughout project area; portions of highway may be in floodplain, particularly east of tunnels
Hazardous / Solid Wastes	Historic mining sites and mill site locations in area and of concern to residents and agencies. Disturbance of mineralized rock formations may expose allow heavy metals to enter Clear Creek through stormwater runoff. Disposal of waste rock material from tunnel blasting.
Historic Bridge	Confirm through survey but none recorded or likely
History	Adverse effect to twin tunnels; PA in place; separate mitigation agreement required; possibility of APE expansion to include historic mines and/or viewshed
Land Use	Coordination / consistency with Idaho Springs Visioning and Greenway Plan
Native American Consultation	PA in place; no sites of known significance
Noise	PEIS analysis based on representative locations. One (M1) located east of 241 on north side of I-70 near NAC (65 dBA); construction noise and valley/tunnel effect of concern; may need separate construction noise assessment. Three (at least) sensitive receptors south of I-70; effects of noise on Clear Creek recreation; new noise guidance; updated traffic
Noxious Weeds/Weed Management Plan	Six designated noxious weeds present in Clear Creek County; standard BMPs and Noxious Weed management plans to be implemented
Paleontology	Early Proterozoic metamorphic rock units (no fossils) surround the project area; low potential around Clear Creek; field survey to be conducted
Public Involvement	Public coordination needed for multiple projects (frontage road, AGS, past studies); first tier 2 for CDOT; coordination with resource agencies; CSS process; SWEEP and ALIVE MOUs; Section 106 PA; PLT; I-70 Coalition; CE check-in; tolling issues
Recreation	Fishing, hiking, trails, and rafting. Access and economic impacts, particularly for rafting industry. Possible effect to Scott Lancaster bridge and Scott Lancaster trail; construction impacts to Clear Creek recreation uses; coordination/joint planning for future recreation sites associated with the Clear Creek County Greenway.
Right of Way	Improvements mostly, maybe completely, within ROW; one private parcel and USFS-administered land could be affected
Safety	Safety assessment to be updated and analysis isolated to project area; emergency response is concern in design and during construction; crash data to be obtained from Idaho Springs Police Dept.



TOPICS	CONSIDERATIONS
Section 4(f) / 6(f)	Critical path – both recreation and historic sites present; adverse effect to twin tunnels; possible effect to Scott Lancaster bridge and Scott Lancaster trail; construction impacts to Clear Creek recreation uses; coordination/joint planning for future recreation sites associated with the Clear Creek County Greenway; will need to evaluate avoidance alternatives such as the viaduct over the Twin Tunnels
Senate Bill 40	Alternatives may affect Clear Creek and associated riparian habitat along it
Socioeconomics	I-70 important to local & state economy; congestion and unmet demand affect both; REMI model used for PEIS aggregated economic data; tier 2 to focus on county-level impacts and benefits; construction impacts on social and economic values highly important to Clear Creek County; 2010 Census update; local economic impacts of recreation, especially rafting access and permits.
Storm / Water Quality	SCAP and SWEEP MOU; tunnel discharges; effects of mine wastes and mineralized rock veining; winter maintenance activities; quality in Clear Creek is degraded due to sedimentation and heavy metal concentrations; SPWRAP (South Platte Water Related Activities Program); MS4 compliance may be required; construction dewatering
T or E Species	15 species listed in CCC; tier 2 studies to complete surveys, BAs; downstream effects
Traffic	Traffic studies conducted for zipper lanes to be modified and updated for project area (to isolate effects of tunnel improvements on congestion); likely concern of traffic impacts during construction. Impacts to pedestrian and bike access, particularly commuting, during construction.
Vegetation	Tier 2 commitment to assess pine beetle effect on habitat and forests; can likely use/reference USFS pine beetle assessment
Visual	Project area in valley, and improvements will be visible; visual effects to Twin Tunnels could be adverse; aesthetic guidelines and area of special interest
Wetlands and Waters of the US	Limited/no wetlands in project area but WUS (Clear Creek) adjacent to project; SWEEP; SCAP currently under development but primarily affects wetlands upstream of project area; 404 permit likely required; effects to downstream species. Disturbance of mineralized rock formations may allow heavy metals to enter Clear Creek through stormwater runoff.
Wildlife / Fisheries	Land bridge is important wildlife crossing; big horn sheep habitat; Clear Creek aquatic habitat; effect to Trout Unlimited Clear Creek restoration project a concern; SWEEP and ALIVE MOUs; noise impacts on wildlife; LIZ identified at east end of project area