

Twin Tunnels Design/Construction Technical Team Meeting #16

**November 7, 2013
10:00AM – Noon**

**Clear Creek County Commissioners
Board Room
Georgetown, Colorado**



Agenda

1. Introductions
2. Agenda Review
3. Other Corridor Updates
4. Construction Status
5. CSS Design Process Survey Results
6. Potential Westbound Tunnel Expansion
7. CSS Process Next Steps

Step 1
Define Desired Outcomes
and Actions

Step 2
Endorse the Process

Step 3
Establish Criteria

Step 4
Develop Alternatives and Options

Step 5
Evaluate, Select, and Refine
Alternatives and Options

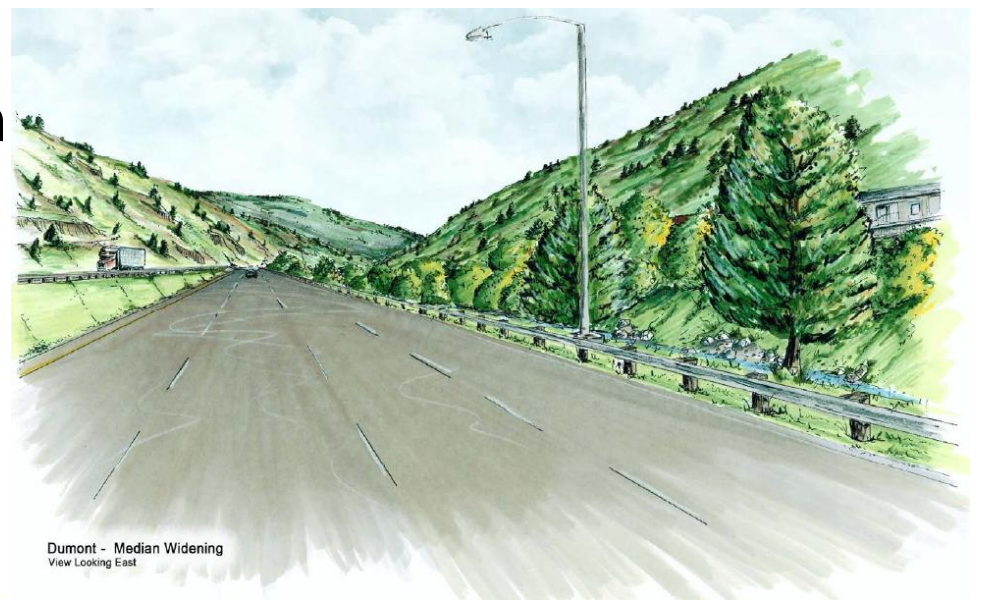
Step 6
Finalize Documentation and
Evaluation Process



Twin Tunnels Design/Construction
Idaho Springs/Clear Creek County

Other Corridor Updates

- AGS Study
- Peak Period Shoulder Lanes
- Traffic and Revenue Study
- RAMP project funds for Colorado Boulevard
- Clear Creek Transportation Visioning



Dumont - Median Widening
View Looking East

Core Values

- **Safety**
- **Mobility**
- **Gateway**
- **Wildlife**
- **The Creek**
- **Destination**
- **History**
- **Constructability**
- **Inclusivity**
- **Schedule**



2013 Construction Milestones

- Conducted nearly 75 rock blasts
- Removed 18-inch thick concrete tunnel liner and replaced with liner designed to last for 75 to 100 years
- Rebuilt I-70 bridge over Clear Creek
- Built chain-up station just west of the tunnel entrance



Final I-70 Work

- Early to mid-December final work on eastbound I-70
- I-70 will be reduced to one lane in each direction near the tunnels for about 60 straight hours to complete work
- This work is weather dependent



CSS Design Process Evaluation

- Review of Design Phase Survey results

VIEWED
44

STARTED
39

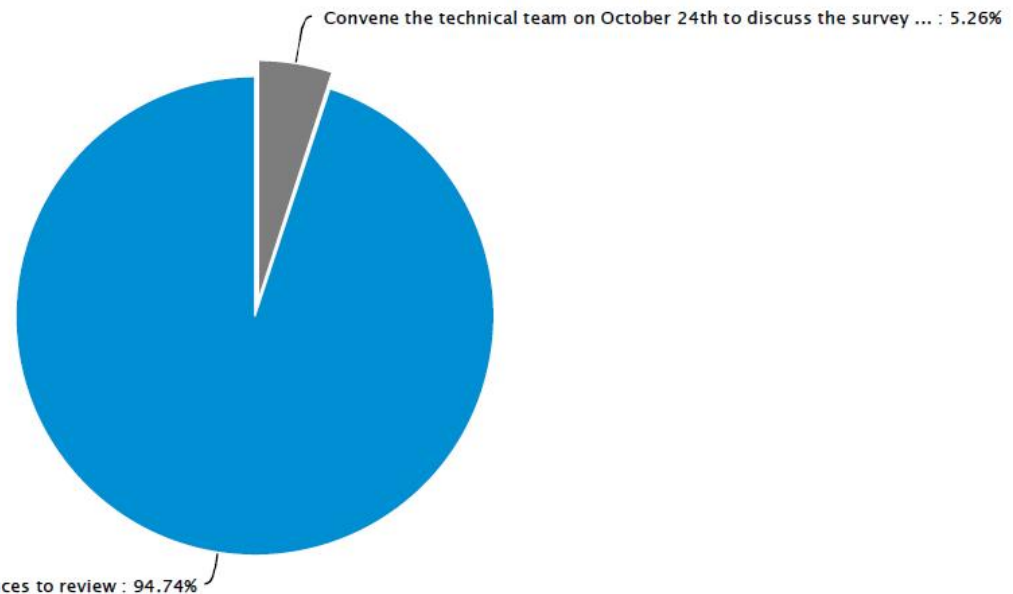
COMPLETED
25

COMPLETION RATE
64%

DROP OUTS
14

TIME TO COMPLETE
4 min

Based on your experience with the design phase, and your responses to this survey, would you like to:



Answer	Count	Percent	
1. Convene the technical team on October 24th to discuss the survey results	1	5.26%	<input type="checkbox"/>
2. Receive a summary of responses to review	18	94.74%	<input type="checkbox"/>
Total	19	100%	



CSS Design Process Evaluation

- **Review of Design Phase Survey results**

- » Issues cited by respondents

- General public not engaged enough
- Final plans not improved with stakeholder input
- Residents ignored
- Design criteria wasn't effectively referred to
- CMGC had the highest positive response of any

- » Was this survey the right tool?

Step 6

Finalize Documentation and Evaluation Process



Potential Westbound Tunnel Expansion

- **Project scope**
 - Possible WB Tunnel expansion project to widen the westbound tunnel, build new portals, and provide necessary external rock wall excavation immediately east and west of WB tunnel.



Potential Westbound Tunnel Expansion

- **Rationale:** Save money, an estimated savings of \$5M+
 - Available CDOT equipment
 - In place eastbound detour on the frontage road is key since CDOT understands the need for an exclusive access road connecting both tunneling operations



Potential Westbound Tunnel Expansion

- **Rationale: Save time**
 - one vs two season construction
 - detour reduces traffic stops during blasting
 - reduces rework of project data developed for EB bore
 - anticipate expedited CSS process with existing engaged stakeholders



Potential Westbound Tunnel Expansion

- **Rationale:** Create opportunities
 - Reduces likelihood of 2 season closure of Peak Period Shoulder Lane (PPSL)
 - Creates opportunity for a possible WB PPSL
 - WB tunnel expansion still allows a future study to determine the appropriate WB I-70 alignment.
 - Project does not include added capacity on the interstate but provides same footprint as EB tunnel



Potential Westbound Tunnel Expansion

- **Project process**

- CDOT management has given approval to pursue design and environmental clearance
- Environmental – Categorical Exclusion Process
- What else has CDOT management approved so far?
 - Certain EB tunnel work elements will be delayed so they wont have to be taken out.
 - CDOT has released a bid for CMGC contractor for the WB expansion and expects selection by December



Potential Westbound Tunnel Expansion

- **Project process**

- Construction is contingent on:
 - IGA between CDOT, CCC and Idaho Springs
 - Identifying and securing construction funds.
- Twin Tunnels PLT, TT and ITFs will be engaged for the WB tunnel project to identify critical issues and provide input as design proceeds.
 - Portals
 - Rock cut and rockfall mitigation
 - Slope restoration



Eastern Portal Rock Cut



Eastern Portal Rock Cut



Eastern Portal Rock Cut



Western Portal Rock Cut



Western Portal Rock Cut



Potential Westbound Tunnel Expansion

- **Impacts on current project**
 - If the WB construction occurs, it will delay some of the frontage road and trailhead improvements including:
 - Use of CR 314 as a frontage road until October 2015
 - Construction of CR 314 rock veneer
 - Removal of the portal to portal road
 - Riparian area restoration
 - Trailhead construction
 - In-stream enhancements



CSS Process for WB Expansion

- Step 1 and 2: Today
 - » Defining outcomes and actions today
 - » Endorse the process
 - » Confirm critical issues
- Step 3-5: November – January
 - » Establish criteria, develop alternatives, and select options
 - » Review via email, meetings, conference calls or assign an Issue Task Force?

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CSS Process for WB Expansion

- Review CSS guidance
 - » Context Statement
 - » Core Values
 - » Design Criteria
 - » Aesthetic Guidance
 - » Enhancements

FHWA describes CSS as “a collaborative, interdisciplinary approach that involves all stakeholders in providing its setting. It is an approach that leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions.



CSS Process for WB Expansion

Twin Tunnels Context Statement

- *I-70 is Colorado's only east-west Interstate, providing a link over the Continental Divide, interstate commerce and mountain access.*
- *Blasted through a geological feature, the Twin Tunnels symbolize Colorado's historic endeavors to improve access to and from the mountains. The tunnels now are a constriction to travel and create a safety problem.*
- *The Twin Tunnels are a gateway for arriving and departing the mountains, provide a natural crossing for wildlife and connect local communities to national and regional services.*
- *Running parallel to I-70 is Clear Creek, a natural and recreational resource.*



Twin Tunnels Schedule if Westbound Tunnel Expansion is constructed

2013

- December: final work on eastbound I-70

2014

- January – March: EB and WB traffic on I-70, CR 314 remains closed
- April: EB I-70 traffic returns to detour, WB tunnel blasting begins
- April – December: WB tunnel construction

2015

- January – February: Mass grading of detour, haul road and trailhead area
- March – October: Trailhead, creek and riparian area improvements and CR 314 rock veneer construction



Technical Team Discussions Issues Timeline



TWIN TUNNELS WIDENING ISSUES FOR TECHNICAL TEAM PRELIMINARY SCHEDULE

ISSUES	2012														2013							2014																	
	MAY 2ND WEEK	MAY 4TH WEEK	JUNE 2ND WEEK	JUNE 4TH WEEK	JULY 2ND WEEK	JULY 4TH WEEK	AUG 2ND WEEK	AUG 4TH WEEK	SEPT 2ND WEEK	SEPT 4TH WEEK	OCT 2ND WEEK	OCT 4TH WEEK	NOV 2ND WEEK	NOV 4TH WEEK	DEC 2ND WEEK	DEC 4TH WEEK	JAN 2ND WEEK	JAN 4TH WEEK	FEB 2ND WEEK	FEB 4TH WEEK	MAR 2ND WEEK	MAR 4TH WEEK	APRIL 2ND WEEK	APRIL 4TH WEEK	MAY 2ND WEEK	MAY 4TH WEEK	JUNE 2ND WEEK	JUNE 4TH WEEK	JULY 2ND WEEK	JULY 4TH WEEK									
NOISE/ VIBRATION	■*																																						
TUNNEL LINING	■					●	●																																
RETAINING WALL RAILING	■*																																						
IMPACTS TO TRAFFIC	■*	●		●	●	●																																	
I-70 RETAINING WALL AESTHETICS	■*	●	●	●	●																																		
BRIDGE AESTHETICS	■*		●	●	●																																		
NEPA ANALYSIS OF CONSTRUCTION METHODS	■*	●																																					
ROCKFALL STRUCTURES	■*	●																																					
SIGNING		■			●*					●																													
ADAPTIVE MITIGATION						●*																																	
PUBLIC INFORMATION			■			●*																					●												
IMPACTS TO RECREATION USERS		■*	●																																				
INFRASTRUCTURE IN MEDIAN		■																																					
COATINGS (COLOR)		■								●*																													
LIGHTING		■								●																													
LANDSCAPING		■					●*	●*	●*	●*	●*																												
TUNNEL PORTAL AESTHETICS		■								●*																													
INCIDENT MANAGEMENT PLAN		■																																					
C.R. 314 FRONTAGE ROAD RETAINING WALL FASCIA			■																																				
SOUTH SIDE OF W.B. BRIDGE OVER CLEAR CREEK			■							●*																													
TRAILHEAD IMPROVEMENTS																																							
ENHANCEMENT OPPORTUNITIES	■							●*	●*																														
WEST BOUND																																							
ROCK CUTS / ROCK FALL																																							
PORTALS																																							
SLOPE RESTORATION																																							

AESTHETICS REVIEW
Creek Walls, Railing, Landscape

AESTHETICS REVIEW
Bridge Area, Landscape

AESTHETICS REVIEW
East Portal, West Portal, Game Check, Landscape

2014		2014		2014		2014		2014	
NOV 2ND WEEK	NOV 4TH WEEK	DEC 2ND WEEK	DEC 4TH WEEK	JAN 2ND WEEK	JAN 4TH WEEK	FEB 2ND WEEK	FEB 4TH WEEK	MAR 2ND WEEK	MAR 4TH WEEK

LEGEND:
 ■ Shaded Items are Complete
 ■* Discuss Criteria
 ● Presentation of Concepts
 ●* Follow-up (As Needed)

NOTE: FINAL DESIGN AND CONSTRUCTION WILL CONTINUE THROUGH MARCH 2014. AFTER FEBRUARY 2013, TECHNICAL TEAM MEETINGS WILL OCCUR ON AN AS NEEDED BASIS, LESS THAN ONCE A MONTH

END OF PRESENTATION

