

Twin Tunnels Design/Construction Technical Team Meeting #1

May 10, 2012
9:00AM – 12:00PM
CDOT Region 1
425 Corporate Circle
Trail Ridge Conf Room



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Idaho Springs/Clear Creek County



Agenda

- 9:00 Introductions
- 9:15 Review CSS Guidance for Design Construction Phase
- 9:30 Work Plan Updates
- 10:00 Project Timeline
- 10:15 Process for applying criteria, review general criteria, and specific issues
- 10:30 Break
- 10:45 Review efforts that will occur throughout this phase
- 11:00 Develop criteria for noise/vibration, wall railings, traffic impacts and tunnel lining
- 11:45 Next steps / adjourn



CSS Guidance

- 6 Step Review
- Life Cycle handout
- PLT and Technical Team responsibilities

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



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Work Plan Updates

- **Points of Contact and Org Chart**
- **Context Statement and core values**
- **Add new outcomes and inputs**
- **Reconstituting personnel on PLT, Project Staff and Technical Teams**
- **Review roles and responsibilities of each group in this phase**
- **Discuss process, milestone activities and proposed meeting schedule**



Core Values

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

The Creek



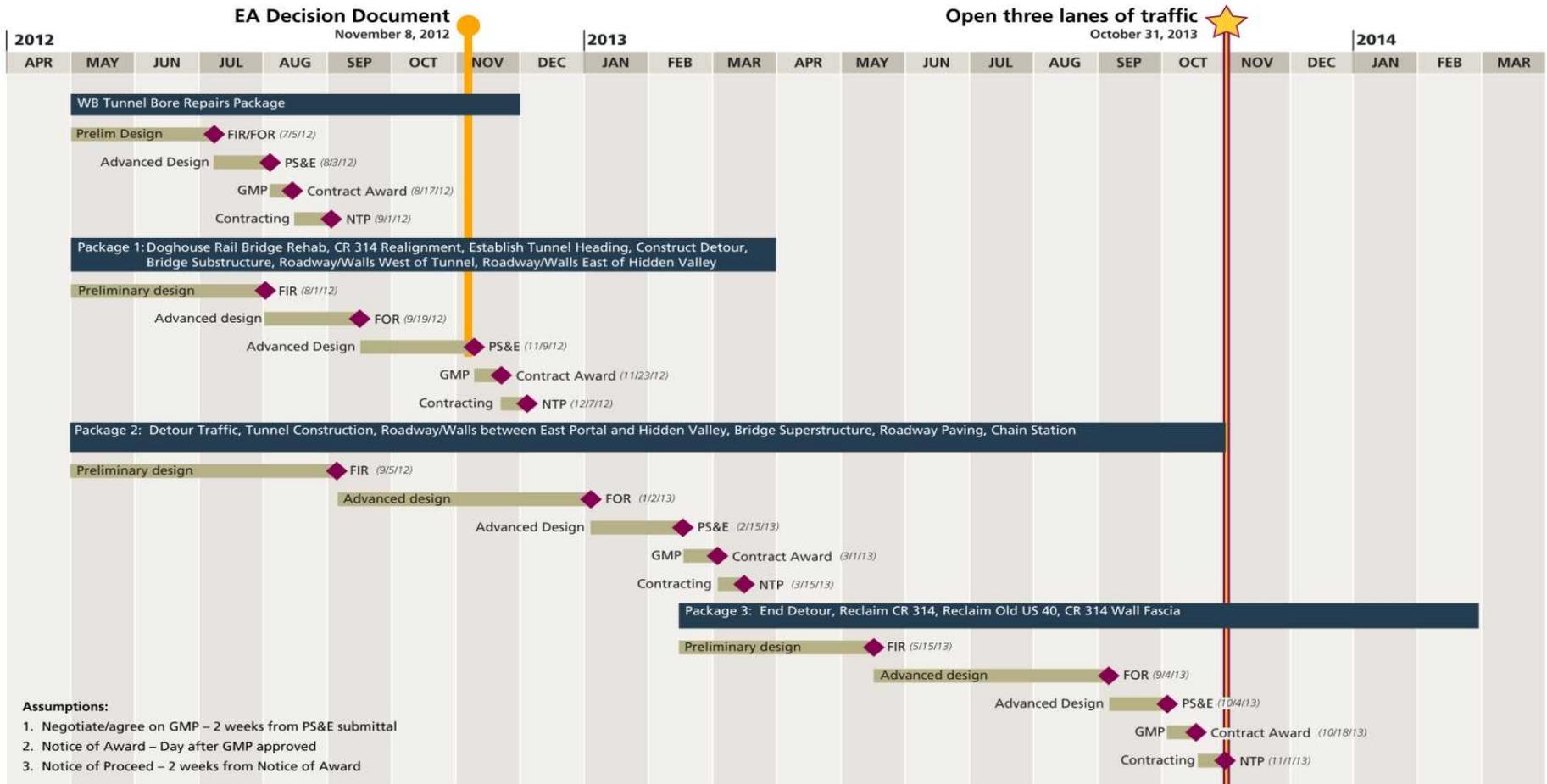
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Project Timeline



Timeline Twin Tunnels Design/Construction



Establish process and measures for applying design criteria

1. Proposed by Project Team
2. Augmented by the Technical Team
3. Utilized by the Project Team to develop solutions
4. Results presented to Technical Team
5. Technical Team offers feedback
6. Project Team incorporates refinements as appropriate



Ongoing Efforts

- NEPA Analysis of Different Construction Methods
- Public and Stakeholder Communications
- Adaptive Mitigation
- Enhancement Opportunities



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NEPA Analysis of Different Construction Methods

1. CM/GC team presents a suggested method for construction to CDOT.
2. CDOT evaluates the suggested method to determine if it should be carried further in the evaluation process. Criteria that might be appropriate for this initial evaluation include:
 - » Will the suggested method save more money than it might cost to mitigate for a new impact that could be created?
 - » What is the overall schedule for the new method and will it save time in the construction process?
 - » Are there any possible “fatal flaws” related to stakeholder or resource agency acceptance?
3. If the suggested method passes these initial tests, and does not have physical impacts that extend beyond those evaluated in the EA – or the impacts are not likely to extend beyond the period of construction, environmental resource specialists will evaluate any changed impacts and changed mitigation.
4. Resource agency, stakeholder or other meetings will be held as necessary to further “vet” the suggested method. (Including the Technical Team)
5. The technical memo will be forwarded to the relevant CDOT and FHWA reviewers no later than early May,.
6. By June, CDOT and FHWA will together make a decision to either advance the proposed method or to drop it.
7. If a decision is made to advance it, it will undergo the agency review process for the Twin Tunnels EA (currently scheduled for July 10 to August 9) and be discussed during the public review process



Public and Stakeholder Communications

CDOT, PLT and Technical Team will set realistic expectations during construction to build trust with the traveling public, residents, local business, media, public information officers (PIOs)

- **Project Communications Management**

- » Issues management, Program integration, Key messages

- **Stakeholder Relations**

- » Facilitation of interactive PLT and Technical Team meetings, briefings with key individuals and groups

- **General Public Outreach & Media Communication**

- » Outreach at special events, presentations, speakers' bureau, earned media marketing, construction communications (hotline, email, fly website), program collateral (brochures, videos) proactive media briefings and press releases



Other Ongoing Efforts

- Adaptive Mitigation
 - » Overview from David
- Enhancement opportunities
 - » T4 will develop criteria
 - » Parking lot for ideas throughout the process



Break



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The Creek



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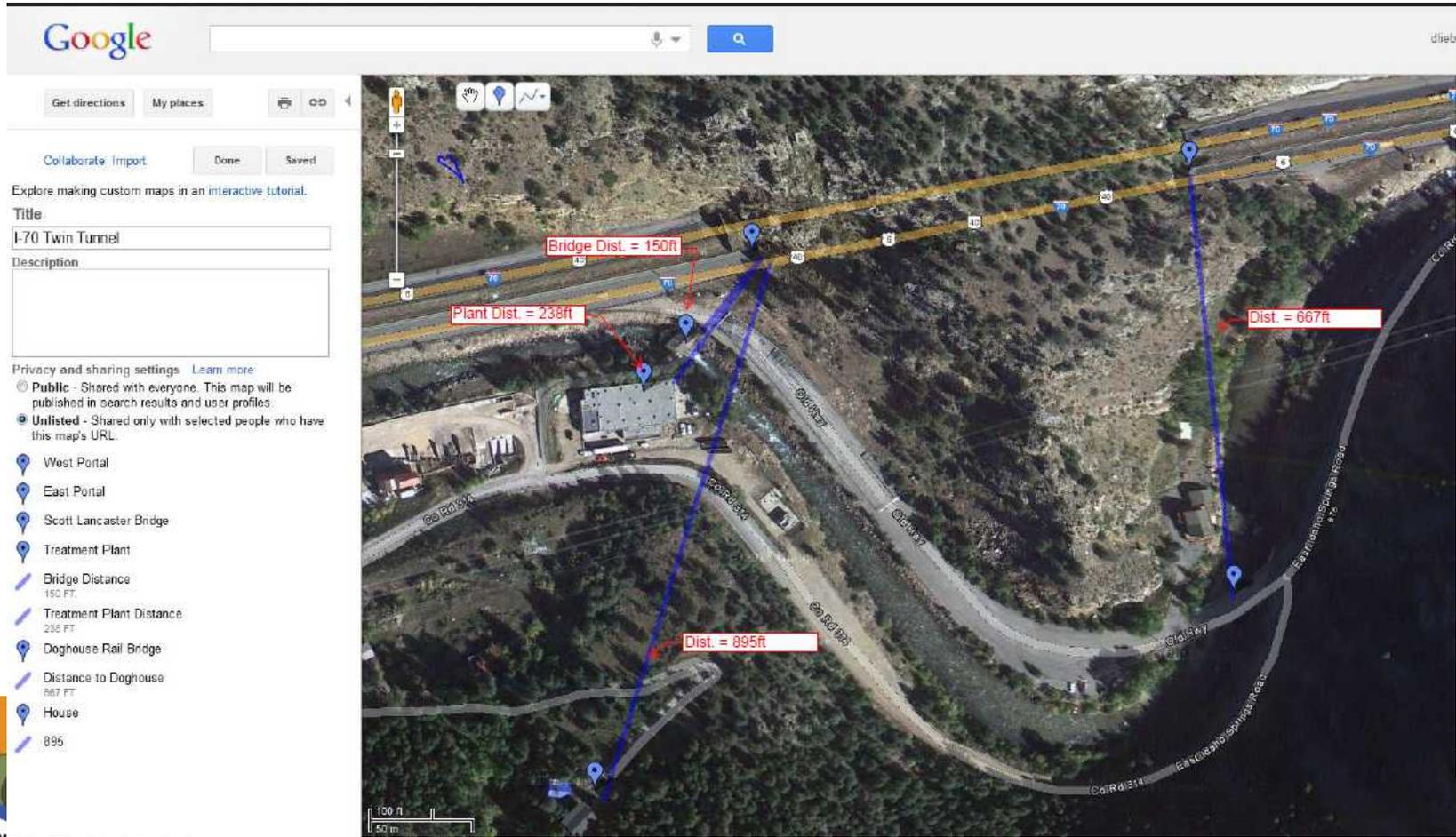


Construction/Blasting Noise & Vibration

- How well does the minimization strategy conform to CDOT, FHWA and industry standards? (Safety, Constructability)
- How well does the concept minimize noise and/or vibration? (Safety)
- How much effort is required to manage the noise and/or vibration outreach effort? (Constructability, Schedule)
- How well does the mitigation strategy mitigate the real and perceived risks to the public? (Inclusivity)



Possible Monitoring Areas



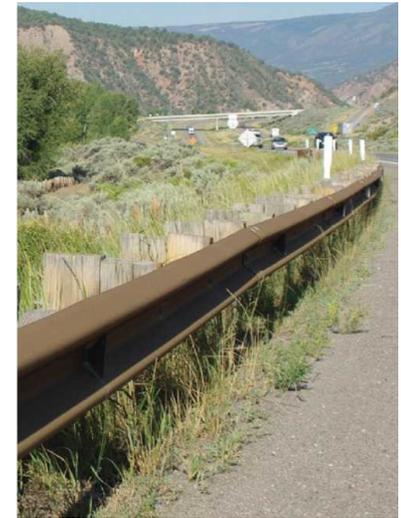
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DOT

DEPARTMENT OF TRANSPORTATION

Wall Railing

- How durable is the railing including weathering and crash resistance? (Safety, Mobility)
- How easy is the rail to maintain, repair and replace? (Mobility)
- How well does the rail design provide lines of sight to and from the frontage road and Clear Creek? (Wildlife, Clear Creek, Destination)
- How well does the rail design allow wildlife crossing? (Wildlife)
- How well does the rail meet CDOT rail standards? (Safety, Constructability)
- How well does the railing design achieve the mountain mineral aesthetic guidelines? (Gateway)



Tunnel Lining

- How well does the tunnel design facilitate a smooth flow of traffic via accommodation of lighting and reduction of the black hole effect? (Mobility, Gateway)
- How easily can the tunnel be cleaned, painted, accessed, inspected and repaired? (Mobility)
- How well does the lining handle potential crash and fire impacts? (Safety, Mobility)
- How well can drainage be addressed, including minimization of icing? (Safety, Mobility)
- How well does the tunnel lining adhere to the National Tunnel Inspection System guidance? (Safety, Mobility)
- How easily can the tunnel lining be constructed? (Constructability)
- How supportive is the community about the tunnel lining aesthetics ? (Inclusivity, Schedule)



Tunnel Lining - shotcrete examples



Tunnel Lining - Full Arch Cast in Place (CIP) examples



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Tunnel Lining - Wall & Arch CIP example



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Impacts to Traffic

- How well informed is the general public able to anticipate congestion and adjust behaviors? (Inclusivity, Destinations, Gateway)
- How well are temporary impacts to traffic minimized? (Mobility, Inclusivity, Safety)
- How well is the overall duration of traffic impacts minimized? (Mobility, Schedule, Destinations)
- How well can local destinations be accessed? (Destinations)
- How well are incidents handled during the construction phase? (Safety, Mobility)



Next Steps

- Meeting Schedule in Idaho Springs May 24th 9-12
- Proposed May 24th Next Meeting Topics
 - » Responses to Meeting #1 Questions
 - » Review construction proposals for:
 - Wall railing
 - Tunnel lining
 - Traffic impacts
 - » Develop Criteria for:
 - Retaining walls
 - Bridge aesthetics
 - Rockfall mitigation
 - Signing



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