

I-70 Traffic and Revenue Study
Technical Team (TT) Meeting #4
Meeting Minutes
February 26, 2014
Frisco – County Commons Buffalo Mountain Room

Handouts for the meeting included:

An information packet was sent to TT members on February 19, 2014 that included the following: Level 1 Base Cost Estimates (draft 2/17/14) and Level 1 Summary Cost Estimates (draft 2/17/14).

Welcome and Opening

Ben Acimovic (CDOT) kicked-off the meeting. Self introductions were made. The agenda was reviewed.

Agenda

Ben Acimovic (CDOT) summarized the items on the agenda for the I-70 Traffic & Revenue study.

Item 1 - Level 1 Process Overview & Alternatives & Cost Estimating Process

Item 2 - Alternatives Costs

Item 3 – Small Group Sessions

Item 4 – Schedule Review & Next Meetings

Agenda Item 1 – Level 1 Process Overview & Alternatives & Cost Estimating Process

Ben Acimovic (CDOT) gave the Level 1 Process Overview:

- A Level 1 T&R is mainly to generate financial feasibility information based on conceptual design no greater than 5%. The alternatives that pass the screening criteria can change and nothing is locked in after Level 1 results are generated.
- Alternatives Level 1 cost estimates have been developed and will be reviewed today. The team is soliciting input from the Technical Team, the Project Leadership Team, and any stakeholders that review and have questions.
- Louis Berger traffic and revenue data will be received by CDOT next week and released to the PLT & TT on March 19.
- CDOT Website should be up to date; please send any comments to Ben Acimovic.
- David Singer (CDOT) Reviewed the CSS Process. We are currently on Step 5 of the CSS Process “Evaluate, Select, Refine Alternative or Option”.

- No decisions on the design and construction will be made with the Level 1 Process. Decisions will not be made independently; CDOT intends to have internal discussion on the Level 1 T&R results and decisions will be made with consensus and collaboration from the TT and PLT. No decision has been made about moving to Level 2.
- Upcoming Level 1 schedule includes March PLT & TT review of alternatives' costs, and April PLT & TT review of screening.
- *Sara Richardson (Parsons)* reviewed all six alternatives under consideration. These six alternatives include: 2 Managed Lanes (2 options), 3 Managed Lanes (3 options), PEIS Minimum Improvements (4 options), PEIS Maximum Improvements (2 options), Permanent Peak Period Shoulder Lane, Temporary Peak Period Shoulder Lane. Requested questions after each alternative was described. Fact sheets for each alternative are posted on CDOT project website.
- Commissioner Tim Mauck's (CCC) Question – Asked for managed lanes width/footprint clarification. Sara Richardson (Parsons) responded by reading the alternatives' widths from the fact sheets shown in the powerpoint presentation.
- A request for a sheet for all alternative lane width/footprints for quick and easy comparison was submitted to the project team. CDOT will work to develop this sheet for the March and April meetings.

Ralph Trapani (Parsons) described the cost estimating process:

- Developed general concepts for capital costs that included roadway, structures, tunnels, transit, CDOT unit costs, allowance for unallocated items (known items but not quantifiable), allowance for CSS factor (15%), and AGS system costs from CDOT AGS Feasibility Study (February 2014), Preconstruction & Administration (NEPA, design, CSS, construction engineering), and Operations & Maintenance costs.
- Ralph Trapani asked Ben Acimovic to describe the process used to derive the CSS factor. Ben Acimovic summarized the process which primarily consisted of looking at project CSS cost data along the I-70 corridor and breaking out what portion of the costs was used to address CSS, and then averaging these for an average parametric percentage used to address CSS. A better way to approach developing the CSS factor will be developed in a higher level study, if initiated; our current parametric approach works well for this Level 1 study. Vail Pass, Glenwood Canyon, I-70 Frontage Road, EB and WB Twin Tunnels, and the Twin Tunnel EA were all analyzed for this effort.
- Validated costs using Transportation Risk and Uncertainty Estimating (TRUE) method. This method takes a comprehensive look at the project, employing a collaborative team approach that focuses on key issues. This method helps to quantify uncertainty, apply risk management strategies, and document estimated costs. A Monte Carlo simulation calculates thousands of scenarios, and develops a probability distribution curve for each alternative's cost. For this analysis, 50,000 iterations were performed.

Agenda Item 2 – Alternatives Costs:

Ralph Trapani (Parsons) discussed each alternative's costs:

- Costs ranged from \$4-5B for managed lanes alternatives, \$1-2B Minimum Program + \$6.8B AGS alternatives, \$2-3B Maximum Program + \$6.8B AGS alternatives, and \$100M - \$2B + \$6.8B AGS Peak Period Shoulder Lane alternatives. A full cost breakdown was included in the information packet sent to the TT members prior to the meeting.
- The team clarified that the \$6.8B AGS cost is made up of \$5.8B capital cost + \$1B design/construction.
- O&M costs were reviewed for each alternative.
- Art Ballah (Colorado Motor Carriers) Question – Clarified range CDOT selected is 80% probability. No CDOT policy exists for selecting this percentage. This percentage will change (probably increase) as project costs are more defined at further levels.
- Rich Doak (White River US Forest Service) Question – Has a project ever done both cost estimating methods to compare the outcome? Research white papers have done this, but no known projects have. Ben Acimovic stated that the Twin Tunnel EB design/construction was done using typical cost estimating process with contingency; the project was underestimated. The Twin Tunnel WB design/construction used risk based estimating and it is coming out more accurate. Rich stated AGS was done with typical cost plus contingency methods, and this is being mixed with TRUE-developed numbers. David Krutsinger stated that at this level, CDOT was comfortable using the cost plus contingency method to estimate AGS numbers. Rich stated he feels the TRUE method is very good, and accepts the AGS method.
- Commissioner Tim Mauck (CCC) made statements to express their point of view. Alts 1 and 2 are unattainable; they do not want Alts 1 and 2 through their community. Feels if alternative is outside ROD, should start over with Collaborative Effort (CE). CCC has no problems with cost estimating. If Alts 1 and 2 are pursued, CCC will change their position in the process. CCC put in a letter of concern to CDOT dated February 20, 2014; left copies with project team (letter is attached). Commissioner Mauck apologized for departure of CCC staff, as they had another engagement. (Letter Attached to Minutes) Letters were passed out to all members of the technical team that were in attendance.

Agenda Item 3 – Small Group Sessions – TT agreed to just stay in one group:

Ben Acimovic led discussion on questions. Ben reminded everyone that everything is still on the table and that ideas, comments, questions, and input are all welcome for consideration.

Group Discussion regarding two questions:

1. Can we create a better alternative by mixing and matching elements of different alternatives?
 - Scott Thomas (APEX) – We should look at what deal breakers are for CCC/Idaho Springs and from engineering perspective look at traffic volumes, and see if that can converge on alternative. Potential Max PEIS – keep same footprint and

operate inside shoulder as managed lanes, so there would be two managed lanes for each direction of travel.

- Art Ballah (Colorado Motor Carriers Association, CMCA) – What extent are alternatives 1 and 2 outside ROD? Ben Acimovic answered that they are not part of preferred alternative (3 lanes each direction and AGS). Alts 1 and 2 include BRT (not AGS) and expands the footprint. If these Alternatives 1 and 2 are pursued, CDOT/FHWA may need to go back and start new EIS process, or revise ROD; this would be an additional risk. Art Ballah (CMCA) stated the CMCA desires a 65mph speed limit for trucks; not 55mph. Can we do a 65mph option and still be within the bounds of the ROD? If stay with 55mph, might need to increase costs with more signage.
- Sara Richardson (Parsons) – Higher level of design will be done to make costs lower (i.e. more rock cuts, less tunnels).
- Ralph Trapani (Parsons) – By incorporating the AGS component with alternatives, costs are higher for those alternatives.
- Elena Wilkens (CASTA) – Would like to see a comparison chart of alternatives' costs, as a menu. Would also like to see a breakdown of "part"s to build a better alternative with the costs. Ralph referred her to the base cost breakdown.

Action Items:

- Project team will put together a chart that develops a cost "menu" of sorts.
- Project team will put together a width/footprint alternative comparison chart for distribution.
- Hans Hoppe (Parsons) – Stated sensitivity analysis was also conducted with cost estimating modeling, and those can be adjusted based on bigger ticket items. (i.e. rock cuts, mobilization, wildlife crossing structures) Hans Hoppe stated he is happy to answer any specific questions about the model.
- Scott Thomas (APEX) – Need to look at the attributes/effects of each improvement, such as travel times, number of people served, and expectancy for traffic operations to remain at desirable levels, and include these forecasts in the level 1 comparison.

2. What constitutes a good cost estimate?

- No general comments about the cost estimating process or cost estimates were made.

Joe Mahoney (CDOT) – Stated everyone should review CCC comments and respond back to CDOT with pros/cons/comments.

Eva Wilson (Eagle County) – Understands the cost estimates and process; no questions at this time. Review times are adequate.

Art Ballah (Colorado Motor Carriers) – No questions at this time. Feels that the alternatives we are studying are ok, even though they are outside the ROD. Eva Wilson (Eagle County) agrees with this, that the PLT will be the place to vet solutions.

David Krutsinger (CDOT) – Feels that it is important to look at revenues from alternatives that would help pay for an AGS system at later time.

Rich Doak (White River US Forest Service) – Clarification on amortization time frame of AGS. David Krutsinger (CDOT) answered AGS did 30 year amortization from 2020 to 2050.

Elena Wilkens (CASTA) – After reading through CCC letter, agreed with the point about finding it difficult to follow calendar and access to documents (dissemination of information). Speaking for transit agencies along corridor, welcome cost numbers that we are receiving, and look forward to receiving traffic numbers as well. Ralph Trapani (Parsons) – Responded that we did hear Sharepoint was too clunky for stakeholders to use, and that is why CDOT project website was created. We are at a point where cost data is all coming together – alternatives, AGS, and soon revenue forecasts. The website is updated regularly.

Agenda Item 4 – Schedule Review & Next Meetings

Discussion on potential schedule. Scott Thomas (APEX) stated we might want a week in between the Modeling and Tolling ITF meeting (currently scheduled on March 25) and the PLT meeting (currently scheduled on March 26) so that project team can have adequate time to respond to comments heard at ITF meeting, before PLT meeting.

Action item: Change dates to allow for more review time. Look back to meeting minutes to see overall conflicts stakeholders have in calendar, to consider possibility of moving tentative March 26 PLT towards early April. Potential to move March 25 ITF meeting up too. CDOT will also let the team know what information will be distributed on March 19.

Tentative Tolling and Modeling ITF Meeting March 25 – will review traffic and revenue

Tentative PLT Meeting March 26 – will review costs, traffic and revenue

Tentative PLT/TT April 23 – will review Level 1 Results

The presentation will be posted on the CDOT project website within 2 business days.

Meeting adjourned.

ATTACHMENTS: Clear Creek County letter to CDOT and HPTE, dated 2/20/14
Meeting attendees