
Subject: Technical Team Meeting

Client: CDOT Region 1

Project: I-70 PPSL

Project No: 215164

Meeting Date: July 22, 2013

Meeting Location: Elks Lodge, Idaho Springs

Notes by: Lorena Jones/Gina McAfee/Tammy Heffron/Laycee Kolkman

ATTENDEES:

See attached sign-in sheet.

SUMMARY OF DISCUSSION:

[Note: Action items are in **bold**.]

- 1) Stephanie White opened the discussion by welcoming everybody and making sure everyone has the meeting materials. For future meetings, we intend to have **with people's names on them plus a flip chart to record input received during the meeting.**
- 2) Steve Long introduced the topics that will be discussed at today's meeting—which are a review of the Feasibility Study and Express Lane of the left vs. right option. The left vs. right option is the first technical issue we need to resolve.
- 3) David Singer also welcomed everybody to the meeting and expressed the team's appreciation for any input that everyone provides today for identifying concerns and getting them resolved. The team is looking to make the process better and looking forward to hearing everyone's opinions.
- 4) Individual introductions followed.
- 5) Stephanie White went through the team roles and responsibilities, meeting topics/format, and ground rules (*see presentation handout for a complete list*).
 - a) The project team will send out meeting minutes from the previous meeting and materials for the next meeting promptly.

Gary Frey: Can the management team provide actual number of days for sending out meeting materials—not just say promptly?

David Singer: The agenda does not take long to produce and send out. But preparing a presentation and other handout materials for the upcoming meeting take time.

Holly Huyck: Maybe a compromise would be at least one full working day before the meeting considering that some materials do take time to produce.

Kevin Shanks: You will see that you will have plenty of opportunity to review materials and provide input.

Andi Schmid: One entire working day would be the minimum, but we will try our best to send out materials a few days before each meeting.

Comment [HTC1]: I think Stephanie is now thinking name tags.

Phyllis Adams: The meeting notes from the 7/3 meeting says that the engineering criteria and guidelines will be sent out with the meeting minutes, but I didn't receive them.

Andi Schmid: The files were put on the FTP site because the files were too large to e-mail, and a link to the site was sent out prior to the meeting notes distribution.

Phyllis Adams: The meeting notes from the last meeting did not specify that the documents would be put on an FTP site.

David Signer: There will be a project Web site which will serve as the clearing house for all information that everybody can access.

Stephanie White: To reiterate, the project team will send out agendas and materials no later than one business day in advance of meetings. Where changes have been made, hardcopies of the updated materials will be distributed at the meeting.

- b) The Technical Team will make sure that solutions fit the corridor, fit the core values, technical design criteria, and all other aspects of the project.
 - c) Meetings will start on time and end on time.
 - d) If a Technical Team member cannot attend a session, he or she is responsible to send a delegate and to get up to speed on what was discussed prior to the next meeting.
 - e) All action items will be captured and reviewed collectively at the end of the meeting.
 - f) All participants shall be respectful of the views and contributions of all members.
- 6) Clear Creek County Representative: We realize the speed with which this project is going to be completed (two years from now). We have expressed some concerns in the past—concerns that Clear Creek County has had that have not been addressed. We have held numerous workshops amongst ourselves and have hired a legal counsel. So I want to make it known to this group what our concern are, because we do not want our concerns to go unheard. We wrote them down in a letter. Some of those concerns are (*see copy of letter attached to these minutes as Exhibit A*):
- Is PPSL compliant with the ROD, especially considering planned infrastructure improvements such as pullouts, rebuilding acceleration and deceleration lanes and replacing bridges?
 - How does CDOT intend to address the safety concerns?
 - Access for emergency vehicles; room for broken down vehicles.
 - Is an EA more appropriate than a CatEx? Specific concerns are related to consideration of alternatives and to enforceable mitigation
 - Interim/temporary—Will there be a written commitment to an end date or triggers for when a more permanent solution will be implemented?
 - Not convinced that passive management will keep everyone safe.
 - Economic viability of the project?

- a) Steve Long: We need to make sure the criteria are in alignment with this.
- b) Gina McAfee: The last time we met we showed an issues tracking schedule, and a lot of the issues noted on Clear Creek County's letter are already on the list. We will review this letter and make sure all of these issues are on that issues tracking list. There will be a discussion on the Cat Ex vs. EA issue when we have data about environmental impacts, but as of this point in time, FHWA is comfortable with the class of action designation as a Cat Ex. We will document consideration of alternatives in the Cat Ex. A Cat Ex has the same enforceable mitigation as an EA does. Want to assure everybody that we have heard a lot of these issues, and we will be addressing these as we go through the process.
- c) Kevin Shanks: We will continue to update the issues schedule and we will include all issues that are not already there. I expect the schedule to expand a little bit.

7) Decision-Making Process

- a) Kevin Shanks started the discussion on the CSS process. He reminded everyone that the CSS process is really about how we go about the decision-making process. Some of members of this team are familiar with the process and some of you are not. He then went through the handout and mentioned that changes have been made. Andi Schmid pointed out the two changes that were made from the time the handout was distributed—changed the title from “project criteria” to “evaluation criteria,” so it doesn't sound like those are design criteria.

- b) Gary Frey: *Core Value/Environment/Critical Issues*—I would like to reiterate my concern about a Cat Ex vs. the EA, which is the same issue that Clear Creek County has.

Gina McAfee/David Singer: FHWA is comfortable with a Cat Ex. We identified existing conditions and impacts associated with this activity. We will revisit the issue and see if our assumptions will change. But in the mean time, FHWA is comfortable with a Cat Ex. (For future reference, the DOT regulations contained in CFR 771.117 clearly identify the types of projects that FHWA allows to be documented as Categorical Exclusions. All of the improvements being considered as a part of this project are included in these lists of projects.)

Gary Frey: I would like to suggest adding that issue in the Evaluation Criteria handout.

Kevin Shanks: The type of NEPA document doesn't matter as it relates to issues like wetland impact. The various issues we examine will have various wetland impacts and those will be assessed regardless of what type of document we are preparing. The issues on the evaluation criteria are not going to change. The issues will remain whether we prepare a CatEx or an EA—or even an EIS.

Gary Frey: What we are missing here is that the public is not comfortable with a Cat Ex.

David Singer: At this point, there is a comfort level with a Cat Ex. We have committed to revisit this when we have environmental impact information. This will happen in the winter.

- c) JoAnn Sorensen, Clear Creek County: Adherence to local permitting requirements should be added to the evaluation criteria. *Critical Issues/environment*—We should look

at Environmental Justice issues and affordable housing. Is cumulative considered for the entire length of the project? Can we call out specifics to include cumulative impacts?

Kevin Shanks: Yes, that is a good idea. We will add EJ to the list.

- d) JoAnn Sorensen, Clear Creek County: *Mobility and reliability*—Are we going to look at what's going on in the new lane, as well as what's going on in the existing lane during peak time?

Steve Long: Yes, we are looking at mobility as a whole for all three eastbound lanes, not just the new lane.

- e) JoAnn Sorensen, Clear Creek County: *Constructability*—Is there a disclosure about what the life expectancy of this project is?

David Singer: We will have an interim conversation in September. You can see this issue pretty high up on our list.

- f) Joanne Sorenson, Clear Creek County: *Wildlife*—"Protect wildlife needs" is kind of general. The ALIVE group has a specific thing that they look at—improving permeability of the corridor and reducing vehicle-animal collision.

David Singer: We will work with our wildlife specialist to reword the wildlife criterion (#12) to be all-inclusive.

- g) We will modify the critical issues list and will send a revised copy to the team.

8) Nineteen Project Criteria

- a) Kevin Shanks: We will talk about left vs. right today. We will look at the 19 project criteria and see if there are any issues-related criteria that we need to add to address. We will also talk about the evaluation criteria and then the project criteria (which is now called "evaluation" criteria) in addition to the 19 project criteria. For each issue we discuss, we will first solicit issue-specific evaluation criteria to be used (in addition to the 19 project criteria), then we will together walk through the matrix in draft form, then we will back check the results the next meeting. We will add those three steps to the issues tracking schedule.

- b) Gary Frey: Are there any changes since the handout was distributed?

Andi Schmid: No. Except that the title should be *Evaluation* Criteria vs. Project Criteria.

9) Purpose of the Feasibility Study (Scott Thomas) (*see presentation handout*)

- a) The Feasibility Study was a precursor to the PPSL project. CDOT and the consultant put together the study to see if this was a good idea; if it was feasible to do. It was not a document to make decisions. It was a document to lay information out and help with decision-making. Some of the ground rules included, looking at it as an interim improvement—knowing it's not going to be long term. How are we going to go about it?

- b) Gary Frey: First bullet and second bullet—What is the difference? Does the Feasibility Study identify how traffic will improve?

Steve Long: It means, does it improve overall traffic operations? And yes, we did document that. What we didn't say was, it should be on the left or on the right and this is how we should stripe it.

- c) **Bullet #3 should be changed to "Will PPSL improve operations during peak hours?"**

We looked at it from a traffic operations perspective.

- d) *Design Concepts slide*—right side vs. left side.

- e) *Signing Concepts slide*—We came up with some signing concepts—what could we do? Static version? Electronic version? We came up with different signs in the report and conceptually laid out several options.

- f) *Speed Limit Concepts slide*—Can we keep the speed limits? Do we need to reduce speed limits? Variable speed limit signs?

In general, the Feasibility Study determines if it is feasible from a traffic operations standpoint.

- g) *Travel Time slide*—Almost 50 minutes of travel time on a congested day meaning peak period operations. When we modeled for the PPSL, we reduced travel time.

It was noted that the handouts contained the different slides than those presented. The incorrect slide was replaced in kind with two different slides. The slides presented represented upstream and downstream travel times. The graphics in the distributed power point were corrected.

Scott Thomas: The graph on the handout was the wrong graphic, and I apologize. The VISSIM model on the projected slide is the results that came from the final Feasibility Study. **We will send out a copy of the revised graph, and we will send out the link to the FTP site again.**

The worst congestion is happening mid-afternoon on Sundays—from US 40 to Twin Tunnels.

Holly Huyck: Can you define peak period? Is it 17 days a year?

Scott Thomas: We modeled one of the 10 most congested periods. Peak period is whenever there is congestion—can be during the weekend or holidays.

Carol Kruse—what is the line on the bottom of the graph?

Scott Thomas: That line on the bottom is the free flow.

Steve Long: There are actually two lines—modeled for left vs. right.

Scott Thomas: There is no difference really between left and right. So we made assumptions and ran a sensitivity analysis—what if we add 10 percent more, what if we add 20 percent more? By doing that, the left started making more sense. The left side operates better when you load it with more traffic.

Jill Schlaefer—Did the distribution on this graph change with the speed limit?

Scott Thomas: No, it did not. From a technical operations perspective, you can set the speed limit to whatever you want. Do we want to limit the speed during peak period?

Jill Schlaefer: Is there maximum efficiency?

Scott Thomas: No. It didn't make a difference. There was no separation as peak period is a congested condition.

Is the chart based on particular days?

Scott Thomas: We took the ten busiest days of the year, which included the summer and winter.

Gary Frey: We went through a similar exercise on the Collaborative Effort and there was a concern about the validity of the model. Now that we have the Twin Tunnels, are you modeling at all to measure the results against?

Dave Hattan—We did model the detour to figure out what the capacity might be. The model told us that the capacity of the two-lane detour would be 2,700 vehicles per hour. So I have confidence in the model.

Gina McAfee—There has been a lot of things that happened after the Collaborative Effort that have verified the validity of the traffic modeling. The Twin Tunnels EA and the Feasibility Study both used traffic projections from the DRCOG model plus verified those with existing conditions and modeling using DynasT.

Gary Frey: Did you actually validate the queue at Twin Tunnels?

Steve Long: We are validating the model. Those results are truly representative of the existing conditions.

Scott Thomas: The model has been calibrated based on existing data. We ran multiple iterations of the model.

- h) *Concept of Operations slide*—We will use the process in the Feasibility Study to make decisions for the PPSL project. We will walk through the process as a group and document that through the concept of operations.

Andi Schmid requested Scott to go back to the graph and reiterate time savings.

Scott Thomas: If you drive through the corridor during one of the busiest time of the year—

- Starting on Silver Plume—no one on the road, go through it in seven minutes, but when congested, it climbs up to 40 minutes to 50 minutes around 5:00 p.m., and then starts tapering off around 7:00 p.m. but still lots of congestion.
- If you add the PPSL, saves you a lot of time from Silver Plume to US 40. You can average the savings to 30 minutes.

15-MINUTE BREAK

10) Safety/Left vs. Right (Laycee Kolkman) (*see presentation handout*)

- a) For today's meeting, we are not going to discuss the specific types of signing, but rather left side vs. right side and see what makes sense.
- b) Melinda Urban: Accel lane—would it be widened or lengthened?

Laycee Kolkman: We don't know right now. We do know that there is more widening on the right side vs. the left side.

- c) Jill Schlaefer: If your permanent GP lane stayed to the inside of the roadway, is that even viable to put up there because you need to merge? If you look at the left, it's just moving the accel lane out and moving it back in? Are you saying that the GP lane would remain in the location as they are today for the median express lane? Are you expanding into the center median?

Steve Long: No.

- d) Why is it that you need more widening on the right side vs. the left side? You could potentially build a potential acceleration lane. The graphic doesn't show that, so it is hard to understand it.

Laycee Kolkman: We can update the graphic as we progress through the design.

Steve Long: We are trying to show the minimum improvements that we can have for left and right. We are going to develop this different permutation/develop the scenarios that would show kind of a whole build-out.

- e) Kevin Shanks: The thing that helps me understand this is the conflict point. This conflict point is similar to what you experience on 6th Avenue at Wadsworth, and that helped me understand this concept.

- f) Jill Schlaefer: I would take it as a minimal vs. base?

Kevin Shanks: We should keep in mind that we are trying to minimize the amount of infrastructure needed.

- 11) Managed Lane Access. Access at the beginning of the express lane/managed lane/PPSL. Those specific issues will be analyzed as we move through the design process.

- 12) Incident Management Responses. This shows the breakdown lane and pull-out points for off peak and on peak.

- a) Carol Kruse: Can you expand on the GP lane and express lane? Laycee reiterated and expanded the differences in the different lanes. The express lane will always be on the left, right side option utilizes the shoulder to serve general purpose traffic, the left side option utilizes the left lane to service express lane traffic.

- b) Scott Thomas: You would not have a merge condition at US 40.

- c) Gary Frey: Would you need extra room in the existing? No, not on US 40.

- d) Steve Long: Depending on what the geometrics is, you may have to add to the right side or the left side. The right side would require more widening than the left side.

- e) Laycee Kolkman: We will modify the incident management graphic so it becomes more apparent.

- f) Holly Huyck: The upper one on incident management is left/left. I'm assuming the lower one is right/right?

Steve Long: Yes, it is right/right.

- g) Laycee Kolkman: For the right side option—off-ramps will need minimal pavement widening. On-ramps will need minimal pavement widening. Drawbacks are that the left lane will be an express lane during peak period, which forces all your general purpose traffic to merge right. Express lane would be separated by a white broken line rather than a solid line. Peak period vs. off peak period merging will be different in this case.
- h) Andi Schmid: Signage for the right side option significantly increase total signage. When signing for the right side you have to sign both right and left hand lanes, signing for the left side allow consolidation of PPSL and express lane signing, decreasing the overall amount of signing.
- i) Laycee Kolkman: For the left side, the lane configurations remain consistent during off-peak and on peak hours. Some drawbacks are driver expectancy; breakdown lane would be on the left side during peak period. Break down pull-outs on the right side.
- j) Gary Frey: Have you determined how many of those pull-outs are needed?

Laycee Kolkman: Not at this time.

Scott Thomas: Through previous efforts, we identified seven areas as potential pull-out areas, but no specific number of frequency.

Steve Long: Traditionally, one refuge area every mile between interchanges. We will determine that for the PPSL as we get more into the design.

- 13) Melinda Urban: As far as interchange, do you foresee relocating ramps, moving the ramp gores? Yes.
- 14) Kevin Shanks (Evaluation Criteria Matrix handout)
 - a) Noted that the team did a first cut of the matrix. Walked through matrix. Same format that was used on the Twin Tunnels project. The 19 evaluation criteria are the top 19 on the left column of the matrix. Then we have the issues criteria. The team is going to help us create what those issues-specific criteria area. But for the left vs. right issue, there are four additional issues-specific criteria that we thought would be good addition for the left vs. right issue. Kevin read through the issues. We are going to introduce an issue at the TT meeting and we would discuss that issue at the next TT meeting.
 - b) First meeting will introduce the next issue and solicit issues specific evaluation criteria, the second meeting, we will go through all the criteria, and then third meeting, we will revisit, and say did we get everything? Did we forget anything?
 - c) You will get the matrix for moving into the median vs. moving into the creek because we will talk about that issue at the second meeting. And then we will review it yet again at the third meeting. We will have time to establish the criteria and re-check it. So you will have a number of weeks to go through the criteria. And we will expand the schedule to show these three specific times that we review the same issue. You will see three different dates fro a specific issue (which issue and where we are with that issue).
 - d) Is it appropriate for a draft to be color-coded already?

David Singer—we prepared this as a starting point but it is definitely a draft.

e) Wanted to emphasize that there really is that opportunity for collaboration. The local people very much have a say and can raise those concerns, and a lot of times, different decisions can be made based on input from the local community.

f) Kevin Shanks: We definitely want to collaborate. We will continue to modify this matrix as we need to. Before we go into the matrix, are there any issues you would like added to the matrix?

g) Andi Schmid: It seems like there was a lot of confusion about ramp widening, so I would like to suggest that we assume at this point that both of the options will have the same impact on widening because we don't know at this point.

Kevin Shanks: Yes, that is a good idea.

h) For left vs. right, when do we discuss the issues of safety? If you look at the criteria, it is number 1 and number 2 for both left vs. right. Every decision we make will tie into safety.

i) Holly Huyck: Number 2 for safety, it seems to me that having a standard breakdown lane on the right is better than having a non-standard one on the left.

Kevin Shanks: That is a good point. We will make that as a starting point in the matrix discussion.

j) Gary Frey: No. 19, does that include the study for AGS?

Kevin Shanks: Yes, it does. No differentiator between putting PPSL on the left side of the cross-section or the right side of the cross section.

k) Kevin then went through the Matrix from top to bottom.

Jim Bemelen: We need to talk about it whether it should be a yellow or a white lane for striping.

Laycee: Yes, we will talk about it during the striping discussion.

What defines an express lane? It's because it's tolled, and normally we would call it a managed lane. The state is moving toward calling it into an express lane vs. a managed lane. Tolled/express lanes are normally on the left.

How can be a general-purpose lane also be a managed lane? Through signage.

Do we have quantifiable data for whether it makes sense to have the pullout on the left side vs. the right side?

Jim Bemelen: We have traffic data for every state highway.

Steve Long: The left side is more traditional and has a lot more merit. We are running out of time. We will let the team take this matrix with you and we will plan to discuss this and finalize it in the next meeting.

Art Ballah: Are there any lane restrictions for vertical clearance for traffic?

Steve Long: We can't answer that right now. We have two bridges to consider. We will get verification of this for the next meeting.

Andi Schmid: Do we have data that addressed vertical clearances in the Feasibility analysis?

Scott Thomas: There is not a lot of managed lane data we can use for existing conditions.

- 15) Topic next time: median or creek, wide vs. narrow. Let's start thinking about wide vs. narrow. Think about what defines narrow and wide. Keep in mind that for a normal lane, we have to widen to 15 feet.
- 16) Joanne Sorensen: What is the standard PPSL width?
Steve Long: There is no standard. So the question is, should we go wider?
Andi Schmid: 40 feet would have two 11-foot lanes which are not standard. If we add the standard 12-foot lanes, that would be 42 feet wide. If we add 6-foot shoulders, then that would be 48 feet.
- 17) Jill Schlaefer: How about some building blocks for the minimal federal standard so we have a way of comparison?
Melinda Urban: There is no FHWA standard for PPSL. It is not in the Greenbook.
- 18) Steve Long: I want to get to the point where we can say there is where we want to go. The corridor is very tight that the wider you go, the more impacts you have.
- 19) Can we request an aerial photo of the corridor as a reference? Yes. We can do that.
- 20) All bridges will need to be widened, unless there is another compromise. All bridges are about 38 feet and we are proposing 40 feet cross section as a minimum.
- 21) Ignore anything on the left vs. right matrix that says "requires more pavement or widening."
- 22) Who do we e-mail the issues-specific evaluation criteria suggestions to? E-mail them to Kevin Shanks.
- 23) Next meeting is 2nd Monday in August (August 12) at CDOT in Golden.

ACTION ITEMS:

1. Send meeting materials a minimum of one full working day before the meeting.
2. Include Clear Creek County's letter of concerns as an exhibit or attachment to today's meetings minutes.
3. Update the Issues Schedule to include any of Clear Creek County's concerns that are not already on it.
4. Wildlife criterion—CDOT will work with their wildlife specialist to revise the wildlife criterion to be all-inclusive.
5. Add EJ to critical issues.
6. Add the CCC's and Joanne Sorensen's input to the issues schedule and to the 11 x 17 flow chart.

7. Purpose Feasibility Study slide—Change bullet #3 to “Will PPSL improve operations during peak hours?”
8. Send revised VISSIM graph/slide.
9. Send link to FTP site again.
10. Modify incident management graphic so it becomes more apparent (gray line).
11. Get verification of vertical clearance for traffic for the next meeting.
12. Provide an aerial photo of the corridor as a reference.
13. Add “develop criteria and back-checking decision” to each item on the issues tracking schedule.