



Presentation #2 Script

Slide 1:

(Introduce ourselves) Hi our names are Dan Mattson from CDOT and Joel Hemesath from the City of Greeley. We would like to thank you for attending this virtual public meeting for the US 34 at 35th and 47th Avenues Interchange Design Project. This is the second public meeting and first live virtual presentation for the project which is being led by CDOT Region 4 and the City of Greeley.

Slide 2:

Before we start the meeting, we'd like to go over some details about how this virtual meeting is set up. During the meeting your microphone will be muted, but you can still participate. To ask questions, submit comments, or share ideas please use the chat box if you're on the zoom app or send us an email at US34infogreeley@gmail.com. We'll be taking breaks periodically to answer questions as they come in.

After we finish, we will be posting a recording of this meeting and an FAQ -document to the project website. We also encourage you to follow up with any questions or comments through the project email or the project phone line 970-616-4008.

Slide 3:

We do have members of our team with us today to help answer questions just as we would in a traditional public meeting, and we will go through quick introductions now, so you have some idea on who is answering your questions.

- Dan Mattson PE – CDOT R4 Resident Engineer
- Joel Hemesath PE – City of Greeley Public Works Director
- LJ Maillet PE – CDOT PM
- Craig Parent PE – AECOM Design Team Project Manager will be leading the remainder of the presentation.
- Jason Bonini PE – AECOM Design Team Deputy Project Manager and will be helping answer questions in the chat
- Ed Parks- AECOM Design Team-Meeting Facilitator
- Kordel Braley- AECOM Design Team Traffic Lead

Slide 4:

Here is the meeting agenda. We will give a brief overview of the project, discuss the design alternatives that we have evaluated and how we narrowed down the alternatives to one recommended interchange design for each intersection. We'll finish up with what to expect as design moves forward.

Slide 5:

Craig Parent will take over from here and is going to start us off with an overview of the project and lead us into the design alternatives.

Craig Parent: Slides 6-31

Slide 6:

Last year, CDOT led a Planning and Environmental Linkages (PEL) Study for US 34 to better understand the corridor and needs of local communities. An overall vision for US 34 was created during the study. This specific project, that started at the beginning of 2020, is within the Greeley Expressway portion of that larger corridor vision. 35th Avenue and 47th Avenue were both identified as critical intersections for improvement in the Expressway.



Presentation #2 Script

Slide 7:

The project team has analyzed traffic conditions and developed multiple interchange alternatives for each location, including ones that came from the PEL study and others. We looked at the pros and cons of each design to narrow the alternatives to three for each intersection. The rest of the presentation will cover how we determined which alternative to recommend based on the screening criteria and your feedback.

Slide 8:

We held the first virtual presentation in August to present our work on the project so far and gather your initial feedback. We presented 3 interchange alternatives for each intersection. Your feedback was used to help us evaluate and determine a preferred alternative.

Social media posts linked to the presentation were shared from CDOT's Facebook page and by the City of Greeley through its Facebook, Twitter and Nextdoor accounts. By using these platforms, the presentation reached close to 5700 people. 706 of those people engaged with the post and 355 watched the video.

We received comments through social media posts and asked viewers to complete a survey following the first presentation so that we could gather specific feedback on how you interact with US 34 and how you would like the project team to prioritize the design criteria. Most of the feedback we have received so far has been supportive. There is excitement for the project and a strong desire for improvements that reduce congestion and improve safety.

Slide 9:

Next, we'll discuss how we've screened the various alternatives.

Slide 10:

Many factors are considered when comparing different designs. In addition to reducing future congestion and improving safety, we also look at ways to minimize impacts to surrounding properties and ways to protect the natural environment (such as wetlands, air quality, and endangered species).

Slide 11:

One of the key design aims of this project is to improve safety and congestion at 47th and 35th, which have the 2nd and 3rd highest number of crashes in the US 34 corridor. Over 50% of the crashes at both intersections are rear end crashes. Traffic is expected to increase by more than 20,000 vehicles between now and 2045. Multimodal connections like the ones called out here have also been emphasized during design. Together, these considerations contribute to designing infrastructure that can handle future growth and multiple modes of travel.

Slide 12:

Goals for reducing emissions and improving air quality are also important during design. Interchanges can increase average travel speeds and improve free-flow traffic. This decreases emissions because less vehicles are idling in traffic and the time spent in traffic is shorter. Less emissions improves air quality and reduces long-term respiratory health risks.

Slide 13:

Here is the process we have followed for this project. The red arrow shows where we currently are, and the orange arrows shows where we were when we had the first virtual meeting in August. Since then, we've done a detailed



Presentation #2 Script

alternatives analysis based on public feedback and design engineering. We looked at the six screening criteria in more detail and used your feedback to set up a scoring system to select a preferred alternative for each intersection.

Slide 14:

Here are some of the things that we considered when looking at each screening criteria in more detail.

For safety we consider things like the number and severity of crashes as well as bicycle and pedestrian safety. Survey feedback confirmed that many people don't feel safe to ride a bike or walk near either intersection. For congestion we look at how well the design reduces time spent sitting in traffic and improves travel time. Reductions in congestion can also represent environmental benefits like reductions in greenhouse gas emissions. Access to driveways and side streets are also considered. Environmental criteria may include impacts to noise level, parks, and air quality and emissions. Criteria for multimodal considerations includes maintaining bus routes, ADA access, and improvements to bike and pedestrian comfort. For property impacts, we look at how much space we need for each design and whether the project would need to purchase surrounding right of way.

Slide 15:

To make sure design priorities are consistent with public preference, we asked survey responders to rank the screening criteria from most important to least important. Here we are showing how the screening criteria were ranked based on that feedback. We used this information to weight the points for each design. Points given to the most important screening categories were worth more than points given to the least important categories. For example, safety is the most important screening category, so points given to safety are worth the most.

Slide 16:

We used survey feedback to help score each interchange alternative, but we've also considered other comments and concerns that we've heard from you. Many comments, like the examples shown here, have been supportive, expressing excitement and relief that work toward improvements at both locations is moving forward. We've also received feedback encouraging us to continue looking into multimodal access, transit improvements, and prioritizing safety.

Slide 17:

Before we discuss the selected design for each location in detail, we're going to briefly go through the three alternatives we've scored for each location starting with 35th Avenue. All three alternatives are interchanges with US 34 going over 35th Avenue using a bridge. US 34 would flow freely without having to stop at 35th Avenue.

Slide 18:

The first alternative is a frontage road underpass with a loop. In this alternative, US 34 would go over 35th Avenue with a bridge, shown here in purple, and drivers would use ramps to get onto the freeway. Access from 28th Street to 35th Avenue would change with this design, but red bus route #1 would not. When this interchange configuration was evaluated against the screening criteria, it ranked the lowest of the three alternatives. It had the poorest scores in terms of safety and property impacts.

Slide 19:

The second alternative is a tight urban diamond with a loop. This alternative would have a longer bridge carrying US 34 over 35th Avenue. Drivers would use the ramps to get on to the freeway like the previous designs, but northbound traffic from 35th Avenue would use the turnaround on the east side of the interchange to go west on the freeway. Traffic on-



Presentation #2 Script

and off-ramps will flow freely. This design ranked second of the three, but the difference compared to the recommended design is its scoring on accommodating multimodal alternatives and safety.

Slide 20:

Our third option for US 34 at 35th is a partial diamond interchange and loop. US 34 would go over 35th Ave with a bridge. Drivers would use ramps to access the freeway. The 28th Street intersection will have a ¾ movement that eliminates westbound left turns with partial signalization for NB and SB traffic. Red bus route # 1 would stay the same for this option. This option scored the best against the other two options. It has the highest safety rating among all the alternatives in addition to scoring on par or higher in accommodating multimodal options.

Slide 21:

The preferred alternative at 35th supports existing multimodal facilities shown here and provides opportunity to expand multimodal integration in the future. It has good scores in the multimodal and future flexibility categories.

(Click) The dashed lines show where potential sidepaths, bicycle facilities, trails, and bus routes may be located and work with the interchange in the future. All existing facilities will be replaced in kind.

(Click) Pedestrians and bicyclists will be able to use the signals on 35th Ave to cross.

Slide 22:

Here is a summary showing the scoring for the design alternatives at 35th Avenue. The second column shows how each category is weighted and correlates to the public input we received from the survey. The last two rows show the results of the scoring for each alternative. The tight urban diamond and the partial diamond-loop are ranked very closely. The partial diamond-loop exceeded the tight urban diamond alternative in safety and multimodal accommodations to score the best and become the preferred design alternative.

Slide 23:

Q/A Slide. At this point, I would like to pause and take 3-4 questions that have come in through the chat. Ed could you share some questions we have received?

Slide 24:

Next, we will review the three alternatives for 47th Avenue and discuss the preferred design. Like 35th Avenue, each of the designs would have US 34 going over 47th Avenue with a bridge. US 34 would not have a traffic signal. Freeway traffic would flow freely over 47th Avenue.

Slide 25:

Alternative 1 is a single point urban interchange or SPUI. US 34 would go over 47th Avenue without stopping and the freeway would be accessed from 47th Avenue using ramps. There would be a signal on 47th Avenue in the middle of the SPUI under the bridge which controls all left turn movements on 47th. Traffic exiting the freeway would flow freely through right turn lanes channelized onto 47th Avenue. This design requires the 47th Avenue alignment to be shifted and has the fewest pedestrian crossing points. This alternative scored poorly in the categories of access and worst in multimodal accommodations and right-of-way.



Presentation #2 Script

Slide 26:

The second place alternative is a standard diamond. US 34 would go over 47th Avenue with a bridge shown in purple. Four ramps would provide on and off access to US 34. Signals would control traffic on 47th Avenue where the ramps meet 47th Avenue north and south of the bridge. This design keeps 47th Avenue on the same alignment and would not impact access to surrounding businesses. This alternative ranked the lowest with safety and multimodal accommodations of the three.

Slide 27:

The innovative diverging diamond interchange or DDI is the preferred design at 47th Avenue. It ranked the highest because of how efficiently it meets goals to improve safety and congestion. It also scored the best in the multimodal accommodations. The design will give drivers direct access to the freeway ramps so there will be much less sitting in traffic, waiting to get onto US 34. With the DDI, we can nearly double the number of drivers that will be able to turn left and drivers will not have to sit and wait at a signal but will be able to flow freely onto the ramps to access US 34. This design removes left turns across traffic and the crashes that can result from those left turns. It is a flexible design that leaves room for future expansion as local travel demand increases.

Slide 28:

While the safety improvements set the preferred diverging diamond alternative above the other alternatives; the DDI scored well in both multimodal accommodations and future flexibility. Here you can see the existing pedestrian and bicycle infrastructure at 47th Avenue.

(Click) The dashed lines show potential transit and bicycle facility improvements that could improve multimodal access at the interchange in the future. All existing facilities will be replaced in kind.

(Click) Pedestrians and bicyclists will be able to use the signals and pedestrian refuge islands to cross at the intersections.

Slide 29:

Here is a summary showing the scoring for the design alternatives at 47th Avenue. The last two rows show the scoring results with the diverging diamond interchange ranked number one. The weighted grades were not as close between the three design alternatives as they were for 35th Avenue. The DDI is more clearly the preferred alternative. All three alternatives score very well in the traffic operations category, but the DDI and the SPUI scored better for safety. The DDI and the SPUI tied with the best scores in the safety category, but the DDI had better scores for constructability and utilities which resulted in the DDI scoring better overall.

Slide 30:

Here we have a short clip from a video CDOT developed to visually illustrate what a DDI may look like and how to drive on one.

Slide 31:

Q/A Slide. We are going to pause again here to take a few questions. Ed what do you have for me now?

Slide 32:

Next we will discuss what to expect as design moves forward and how you can participate in the process.



Presentation #2 Script

Slide 33:

Here is the project schedule. Right now we have narrowed down alternatives. We have one preferred design at each intersection and are starting to advance that design to get ready for construction. Construction could start as early as fall 2022 and would last for approximately two years.

Slide 34:

As we continue to develop the designs, we'd like to hear from you. There are several ways you can let us know your thoughts. Message us directly at US34infogreeley@gmail.com or give us a call at 970-616-4008; you can also give us a thumbs up or a thumbs down, share, tag others, or comment on this Youtube video, the Facebook pages linked here, and our twitter pages.

Slide 35:

Thank you for listening in to an update on this project. We have covered a lot of information in this meeting and we would really like to hear from you and your questions. Our team members will be here for the next (minutes?) to answer questions. Your input is important to us. Our team will be sticking around to answer questions and we will be posting an FAQ document to the project website following the presentation.