US 34 at 35th and 47th Avenues August 5, 2020
Presentation Script

Slide 1

Thank you for listening to this recording for an update on the US 34 at 35th and 47th Avenues project. This project is being led by CDOT Region 4 and the City of Greeley.

As we all adjust to the current circumstances surrounding the coronavirus; we've made the decision to give you a virtual update rather than in person.

Keep in mind that this meeting has been pre-recorded and we will not be answering questions during or immediately after the presentation, however, your input is very important to us and we will answer your questions as quickly as we can.

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We encourage you to send us your comments and concerns. The project email is: US34infogreeley@gmail.com

We have set up a brief survey on the project to get your input. Please tell your friends and neighbors about this survey and help us spread the word.

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Here is our meeting agenda. We will give an overview of the project, discuss the project goals, existing conditions, our process to narrow down design alternatives, and our next steps.

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Let's start out with an overview of the project.

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Last year, CDOT led a Planning and Environmental Linkages (PEL) Study for US 34 to better understand the corridor and local needs of communities in the area. An overall vision for US34 was created during the study. Our specific project is within the Greeley expressway portion of that larger corridor vision. 35th Avenue and 47th Avenue were both identified as critical intersections for improvement.

We initiated this project at the beginning of 2020 to target improvements at the 35th Ave and 47th Ave intersections.

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Currently we're working on updating the data gathered during the PEL study. We're looking at traffic conditions at each intersection and revisiting the design options identified during the study. We are also studying new design options.

We will be completing an environmental analysis to study any impacts to sensitive resources as part of this project.

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Next is the project purpose and goals.

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Here are the goals identified during the PEL study: Increase safety, accommodate regional growth and the increased traffic from travel and tourism on the corridor, and increase reliability of travel along the corridor while balancing local access, mobility and freight needs.

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Our project specific purpose and goals build on the goals developed during the PEL study. Designs for the intersections at 35th and 47th should improve safety, increase capacity, reduce congestion and improve throughput (meaning the amount of traffic that can move through the corridor). Safely accommodating bicyclists, pedestrians, and transit is another one of our goals. We'll be aiming to meet these goals while minimizing private property impacts and impacts to the environment.

To meet our goals, we are exploring converting each intersection into a grade separated interchange.

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This rendering shows what a grade separated interchange with US 34 going over 47th Avenue could look like. Grade separated interchanges have a bridge structure that carries one road over the other and ramps to provide access to the elevated road.

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Next we'll discuss the existing conditions. We'll start with a broad look at the region as a whole and then focus in on our project area.

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The North Front Range is the fastest growing region in the state. Between the years 2010 and 2018, population growth more than doubled. Job growth in Weld County has also increased. As a result, traffic congestion has continued to increase.

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Here we can see the population growth that was mentioned previously more clearly. The graph on the left tracks Greeley's population growth from 1960 to 2020. Economic growth follows the steady upward trend in population shown in the graph. The graph on the right shows the estimated growth in housing units from 2020 to 2025. More people and more households means more people driving on the road and more congestion.

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The project area spans along US 34 from west to east and covers both the intersections of 47th Avenue and 35th Avenue. These two intersections are two of the top three locations with the highest number of crashes in the corridor. 47th Avenue has the second most crashes and 35th has the third most crashes.

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Zooming in on the 35th Avenue intersection, we're using arrows to show where existing service passes or fails. As you can see, all the arrows except one are failing. Most of the crashes at intersections are rear end crashes as shown in the pie chart (63% of all crashes are rear end). The blue text on either side of the intersection shows the increase in traffic expected by the Year 2045. It's expected that traffic will

increase by more the 20,000 vehicles between now and 2045. More traffic leads to more congestion and a larger number of crashes at the intersection. The aim is to fix this issue with our project.

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This is a map of 47th Avenue and US 34. Red arrows show where intersections fail and the blue text shows the expected increase in the number of vehicles on the road. More than half of the crashes at the intersections are rear end crashes, 56% to be exact.

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Next up, we'll discuss how we're screening the various designs and options.

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We consider a number of factors when comparing different design options. In addition to whether the options will help reduce congestion and improve safety, we also look at ways to minimize impacts to surrounding property and ways to protect the natural environment (such as wetlands, air quality, and endangered species).

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Here is where we are in the process (the red arrow). We have identified three different options for each intersection. The criteria that we are using is listed and includes: improving safety and access, limiting property impacts; meeting local multimodal needs, considering impacts to noise, and improving traffic conditions. We are using these criteria to compare the options and eventually narrow down to one preferred alternative for 35th Avenue and 47th Avenue.

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At the end of this presentation there is a link to a brief survey which gives you an opportunity to give us input on the criteria we will use to evaluate the alternatives which are covered on the following slides. Please keep the following survey question in mind as you review the alternatives.

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The next three slides describe the alternatives for 35th Avenue

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Our first option for US 34 at 35th is a partial diamond interchange and loop. US 34 would go over 35th Ave with a bridge that we show here in purple. The two ramps to the north make half a diamond shape from a bird's eye view. The option would require drivers to use on and off ramps to access the freeway.

Bubble A shows how westbound US 34 traffic exits to 35th and the traffic movements at 28th Street. In this option, access to 35th Avenue from 28th Street would be limited to right turns only. The Red bus route #1 on 28th street would stay the same.

Bubble B shows a new traffic signal that would control access to and from the loop ramp for eastbound US 34.

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Our second option is a frontage road underpass with a loop. The east side of this interchange is where we have modified the design.

Bubble A shows how direct access from 28th Street to 35th Avenue is restricted to right-in-right-out only; however, access between 28th St and 35th would be maintained through use of the westbound exit ramp. 28th Street traffic can get onto 35th Ave using a short connector road onto the new US 34 westbound exit ramp and then turning onto 35th at the signal. Traffic from 35th can access 28th St using a connector road that would go under the US 34 off ramp.

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Our third option is a tight urban diamond with a loop. This option is similar to our first option, but with a variation for northbound to westbound traffic utilizing a turnaround on the east side of the interchange.

Bubble A shows how this movement operates to eliminate left turns directly from 35th Avenue. In this scenario, traffic travelling from 35th Avenue to US 34 westbound would take the same exit as people going Eastbound, but would travel under US 34 to merge with westbound US 34 traffic exiting to 35th Avenue. Similar to the first option, access to 35th Avenue from 28th Street would be limited to right turns only. Other movements on 28th Street would be maintained.

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Next we will review three alternatives for 47th Avenue.

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Our first option is a standard diamond, with four ramps providing on and off access to US 34. Signals would control traffic where the ramps meet 47th north and south of the bridge. Bubble A shows the movements through the intersection north of the bridge. These movements would be the same for the intersection south of the bridge. Access to properties, shopping, and recreation around the interchange would remain the same for this option.

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A diverging diamond interchange (DDI) is our second option for 47th Ave. This option reduces potential approach turn crashes. It looks similar to our first option because it has the four ramps making up the diamond shape. However, as you can see in bubble A, the movements through the interchange would be different. At the signals north and south of the bridge, traffic, shown with the blue and yellow arrows, would cross sides to access on ramps to US 34 or continue driving on 47th.

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Option 3 is a single point urban interchange or SPUI. There is a single signal in the middle of the SPUI under the bridge rather than at intersections to the north and south. That's where the SPUI gets the "single point" part of its name. All the left turning movements would be controlled by the signal under the bridge and right turn lanes are channelized onto 47th Avenue. US 34 traffic will travel unstopped over the intersection. Bubble A shows how traffic on 47th Avenue would go under the bridge and turn

left to access the freeway ramps. The single signal on 47th enables more efficient traffic flow through the interchange because it enables free flowing right turns and eliminates one intersection.

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

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Here is our schedule. Right now we are in the narrow down alternatives phase. After we select a single option for each intersection together with your input, we will finalize the design. Full funding has not been identified for these interchange projects. If full funding is secured, construction could start as early as the 4th quarter of Year 2022 and would last for approximately two years.

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Thank you for listening in for an update on this project. Your input is important to us. If you would like to ask a question or provide a comment, please email us at US34infogreeley@gmail.com or give us call on our project phone line 970-616-4008.

We would also appreciate if you would take a few minutes to follow the link and complete our survey. The survey has questions about the different design options we covered today, and we want your input on those.

Thank you