



US 34 at 35th and 47th Avenues Interchange Design Study Frequently Asked Questions



General

Q: Where can I get a copy of the proposed design for each intersection alternative?

A: Recordings of this meeting will be posted to the project website in both English and Spanish. Additionally, visuals of the preferred interchange options can be found on CDOT's press release here:

<https://www.codot.gov/news/2020/december-2020/us34-35th-47th-requestforinput>.

Q: Will these projects qualify for the one percent for art program?

A: The interchanges will qualify for Greeley's 1% for work on new capital projects. The Greeley Art Commission has these projects on their radar and will be working with the design team to determine how to best incorporate art into both of these interchanges.

Q: When will the City of Greeley and the state address the intersection of 83rd Avenue and US 34?

A: The US 34 PEL Study identified that 83rd Avenue will need further study to identify the necessary improvements and was identified as the 10 highest project along the corridor. The City is working on its capital programming; identifying projects and their funding sources and will begin working on the planning and design of an initial phase intersection project over the next 5 years but will not be an interchange project addressing long term needs. Similar to this project, construction funding has not been identified for improvements at 83rd Avenue and US 34.

Design

Q: What will be the speed limit on US 34 once the interchange options are constructed?

A: CDOT and the City of Greeley will determine an appropriate speed limit once design is complete. The design will allow for up to a posted 60 MPH (miles per hour) limit but the final decision is based on the corridor context. The speed limits on 35th and 47th Avenues will remain the same.

Q: What does the term grade separated interchange mean?

A: The grade is the measurement of the slope and elevation of the roadway. The purpose of this project is to design grade separated interchanges at 35th and 47th Avenues. That means that the east-west travel lanes on US 34 will travel over the north-south travel lanes on 35th and 47th Avenues and the existing traffic lights will be removed. Entrance and exit ramps will connect 35th and 47th Avenues to US 34 and form interchanges. Currently, the intersections are at the same grade and are therefore called at-grade intersections.

Q: Would the grade drop between 23rd Avenue and 35th Avenues be reduced? In other words, when would the grade to go up over 35th begin?

A: US 34 will be raised over 35th Avenue and then drop back down to its existing elevation east of the interchange. The design profile is being refined as part of preliminary design, but US 34 would tie in well in advance of 23rd Avenue.

Traffic & Traffic Signals

Q: In the presentation, it states that 35th Avenue and 47th Avenue are the number 2 and 3 ranked intersections along US 34 corridor. Which intersection is ranked number 1?



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A: The number 1 is US 34 and Weld County Road 17, which is also an intersection that CDOT is working on as part of a separate project.

Q: Can congestion levels be improved by having adequate traffic light timing, which doesn't exist right now in these areas? It would also be helpful to add additional entrances and exits to Centerplace shopping center as well as T-Bone ranch. Will these issues be addressed?

A: The alternatives investigated are meant to work together in terms of signal timing with other intersections. The traffic analysis takes that into account. The alternatives that are under development will work better in terms of signal operations. The project is limited to the interchanges, and the spacing of the interchanges and the on and off ramps don't allow enough space to add additional access from US 34 into Centerplace. It does not include looking at access points along Centerplace drive or for T-Bone Ranch. It does include potential improvements to traffic flow and reducing the access from 47th Avenue into the entrance at Wendy's to a right-in/right-out only.

Q: Is there a way to tweak this design to accommodate left turns from 28th St onto southbound 35th Ave?

A: In consultation with the City of Greeley and CDOT, the main objective for the intersection of 28th Street and 35th Avenue is to provide for the existing transit route (Red #1). Therefore, the 3/4 movement intersection is the best compromise between transit and traffic operations. Providing a left turn from 28th Street (WB to SB) would have a big impact on traffic operations due to the very close proximity between the 28th Street intersection and the proposed US 34 westbound ramp intersection. An additional alternative was created that accommodates this movement while still providing acceptable traffic operations for the overall interchange. However, this alternative still scored lower than the other alternatives. The alternate route for traffic in the NE quadrant to access southbound 35th Avenue is to enter US 34 at the westbound on-ramp from 27th Street (west of 23rd Avenue) then travel west on US 34 to the proposed exit ramp at 35th Avenue and finally turn left to southbound 35th Avenue.

Q: In the proposed 35th Avenue Interchange design option, there are two stop signals close to one another north of the overpass. Do all alternatives on 35th Avenue include a traffic light on 28th street next to Circle K?

A: The 28th Street intersection is close to US 34 and accommodating all the movements there wasn't possible in this design. Left turns from the north to 28th Street can be accommodated by coordinating traffic signals. The signals will essentially work together through one controller to accommodate traffic movements. Signals located closely to each other can be operated with one signal controller to control movements using overlaps where certain movements can occur at the same time. This can be done at intersections that are located close to the interchanges.

Q: Can new traffic signals be integrated with existing signals at intersections to work properly?

A: The proposed design will remove US 34 through traffic at the intersections using bridges. This means that more green time can be used to accommodate turns on and off US 34 as well as northbound/southbound through traffic on the cross streets. Existing signals today must balance the needs of east/west and north/south traffic which is already growing.

Q: How will yielding and other traffic movements be controlled through the diverging diamond at 47th Ave?

A: The proposed design will provide adequate signing in advance of the interchange to help drivers navigate the various movements.



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Q: Will a diverging diamond interchange (DDI) at 47th Avenue permit turns from northbound 47th Avenue to westbound US 34?

A: The diverging diamond alternative permits drivers to access US 34 in any direction from any direction on 47th. With a DDI, traffic will be shifted to the left side. Instead of having to stop and wait for cross traffic to clear, traffic will be shifted and progress through the interchange to access on- and off-ramps for US 34. Drivers will be able to make a direct left turn to the on-ramps

Amenities & Properties Nearby

Q: How will accesses on the south side of US 34 and 47th Avenue be affected?

A: Design does not include closing any of the existing accesses; however, some accesses may need to be modified to improve traffic operations.

Q: What is the impact on nearby property value?

A: Right-of-way and property impacts were a major part of the alternatives analysis and comparison. Design to date has sought to minimize right-of-way impacts. The City has anticipated growing traffic demand, as this area has developed, and planned for accommodating interchange improvements like the ones proposed in order to meet demand. Most of the right-of-way needed at 47th Avenue has been dedicated; providing most or all of what is needed to accommodate design. At 35th Avenue in the southwest and northwest corners, the land has been dedicated to accommodate ramps.

Q: How many businesses at these intersections will be losing space for these designs and is the impact equal at each interchange?

A: The current design does not cause any direct impact to buildings or homes. Most of the right-of-way required for these interchanges had been previously dedicated. Further design is needed to determine the right-of-way impacts. CDOT, City of Greeley and the design team will work to minimize impacts to private property throughout the design process.

Q: Can there be an additional access point to shopping centers along US 34 to provide direct access off of US 34?

A: An additional access could not be easily and safely accommodated between the interchanges. CDOT has design standards that limit access to State Highways. The addition of another direct access from US 34 would create more complication with the ramps.

Construction & Cost

Q: What is the overall schedule for design to construction including the duration of construction activities?

A: That is still to be determined. Preliminary design is planned to be done this Spring and if additional funding is found final design and possibly construction may continue. Final design will take approximately another year and construction another two years at least. The details regarding whether both interchanges can be constructed together will be refined with further design.

Q: Did scoring consider phasing plans and constructability?



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A: Yes, constructability was considered during the alternatives analysis. For example, at the 35th interchange, a slight shift to US 34 through the interchange is being proposed. This accommodates construction of the bridge structure with greatly reduced impacts to the traffic along US 34 during construction. Design exhibits show the westbound bridge is shifted north of the current intersection to help with a number of other design challenges, especially related to the cemetery. Phasing was also considered during alternatives analysis. For example, at the 47th Ave interchange, construction of the ramps can be completed in a first phase to accommodate traffic during construction of the other components.

Q: Are the costs for each interchange design alternative at 35th and 47th Avenue the same?

A: Preliminary planning level construction costs were developed as part of this design phase for each interchange alternative. The cost of the alternatives developed varied. The cost of the preferred alternative is commensurate with the benefits that it provides when compared to the other alternatives.

Q: What time of day will construction activities be occurring?

A: Construction will take place during normal workday hours, typically 7am-7pm for CDOT projects. Periodic night work may be needed. Construction activities outside of standard hours will be permitted according to project specifications and approved by CDOT/City of Greeley. Noise levels will vary throughout the day depending on the contractor's methods, equipment used, and construction sequence.

Q: What are the proposed streets to handle the traffic while bridges, etc. are constructed?

A: As part the design process, construction phasing will be considered, and a phasing plan will be developed prior to construction. Phasing plans will aim to maintain traffic on US 34, 35th Avenue and 47th Avenue through the intersections.

Multimodal (Bicycles, Pedestrians, Transit)

Q: Can you address walkability and cycling for each design alternative?

A: Design includes upgrades to the pedestrian facilities along 47th and 35th Avenues. Both 47th and 35th Avenues would have wider sidewalks (10 feet), that meet the standards of the City of Greeley's side path. That would be an improvement for both intersections going north-south along the local streets and then the HWY 34 Bypass Trail going east-west. Through the 47th Avenue intersection, the Bypass Trail continues providing east and west pedestrian access west of 47th Avenue. The diverging diamond is preferred here because it allows that movement to happen more easily than the other alternatives. At 35th Avenue, the preferred design includes potentially extending the Bypass Trail along US 34 to the east along 28th street. Pedestrians will be able to use median refuge areas to cross over 35th safely and access the trail on the east side.

Q: How does the flow look for pedestrians moving E<->W and N<->S?

A: For the north-south movements, side paths will be constructed leading up to the interchange on both sides of US 34 before crossing to the middle within the interchange. The new paths will provide connectivity to the trail that runs east-west north of US 34, which will be running on the north side of the interchange ramps.

Q: Can peds/bikes/wheelchairs be separated completely from the roadway?



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A: Yes, the proposed design at both interchanges includes side paths that are 10-feet wide and off-street.

Q: A trail is planned along the ditch from 35th Avenue to US 34. Can this project include a connection across US 34 for this trail to connect to Reservoir?

A: The City has plans for an ultimate trail crossing in this location. However, this project is not currently planning to construct the crossing. The design accommodates this crossing being space for this crossing to be constructed in the future.

Q: Do any of these options have walking/cycling passage without crossing traffic?

A: Pedestrians will be required to cross traffic through the intersections. New pedestrian signals and pedestrian facilities are being widened and detached from the roadway to improve comfort for pedestrians and bicyclists.

Utilities & Noise

Q: Will the Xcel facilities along 35th Avenue be undergrounded, and can streetlights be added on the east side?

A: There is an existing large overhead electric line running north-south that is not going to be undergrounded. It is too high energy to underground. The utility line running east-west on the north side of 34 may be undergrounded for a portion of the line through the interchange. Streetlights cannot be installed on the east side of 35th Avenue because they would conflict with the high-energy overhead power lines that run along the side of the street.

Q: How will access and operations for GLIC Canal and Grapevine Headgate be accommodated with the proposed design?

A: Utility investigations will be conducted to understand existing conditions for all utilities in the project area including drainage infrastructure such as the GLIC Canal and Grapevine Headgate. The proposed design will maintain or improve existing utility infrastructure.

Q: Will the interchange impact drainage on 47th Avenue north of US 34?

A: Drainage impacts are being analyzed. The proposed design will maintain existing drainage flows and improvements such as conveying flows into closed storm sewer systems.

Q: Will barriers or walls be put in place near residential property to block the increased visibility into back yards and increased noise?

A: CDOT will complete a noise analysis in accordance with the FHWA's Procedures for Abatement of Highway Traffic Noise and Construction Noise ([Federal Noise Regulation 23 CFR 772](#)), and CDOT's Noise Analysis & Abatement Guidelines ([2020 Noise Analysis and Abatement Guidelines](#)). In addition, a Visual Impact Assessment Scoping Questionnaire will be prepared to determine the level of Visual Impact Assessment should be conducted for the project, in accordance with CDOT Visual Impact Assessment Guidelines ([VIA Guidelines 2020](#)), which is in line with [FHWA's 2015 Guidelines for the Visual Impact Assessment of Highway Projects](#). CDOT will carefully review the results of these technical documents to determine where walls may be required in accordance with the above state and federal guidelines and regulations. Noise and Visual technical documents prepared for the project will be presented during a public meeting once complete.



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