Q: Why is a roundabout being proposed instead of just keeping the existing traffic signal?

A: The current traffic signal was installed as a temporary span wire signal to address increased traffic along CO 83 during the construction of the I-25 South GAP Monument to Castle Rock project, with the intention of removing it after construction. With the completion of the I-25 GAP project, the intersection no longer meets the required warrants for a traffic signal.

Additionally, as provided on the project website, recently collected crash data shows that crashes have continued to occur at the intersection after the traffic signal was installed. An analysis of the crash data indicates there is a moderate to high potential for crash reduction with improvements at the intersection. The roundabout is being proposed as a proven safety measure that will also provide improved traffic operations that could otherwise not be accomplished at this intersection.

Q: How will the roundabout work with the traffic volumes and high speed along CO83?

A: The project team evaluated future traffic volumes projected at the intersection and found that by the year 2045 the roundabout will operate with significantly less delay than a traffic signal. During peak traffic hours, vehicles entering from County Line Road will enter the roundabout with gaps that are created by turning vehicles exiting the roundabout (see the project website for a video illustrating how only a small gap in traffic creates enough space for a vehicle to enter a roundabout). The traffic analysis shows there will be less delay for drivers on County Line Road when compared to a traffic signal. And during low volume hours, drivers will be able to immediately enter the roundabout and turn onto CO 83 without having to wait for a green light.

The project team is giving particular emphasis to the visibility of roundabout with the proposed design. Key features such as warning signs, raised medians on the approaches, a raised central island, and lighting are all being included to provide advance notice for drivers to recognize the roundabout with ample time to decelerate to the roundabout safe speed of approximately 20 mph.

Q: When was traffic data collected? Does it reflect current conditions given COVID and the I-25 GAP project?

A: The project team worked through the existing and forecast traffic volumes over several iterations and sources. The project team obtained historic daily traffic volumes from CDOT’s database and obtained intersection traffic counts in October of 2021 to validate the data. Future traffic volumes were projected to grow at 3% per year, which is representative of the surrounding area.

Q: How will large trucks and trailers drive the roundabout?

A: Accommodation of trucks and combination vehicles is being addressed by proposing an appropriately sized circle and including a low raised area at the center of the roundabout, called a truck apron. Vehicles with a wide turning radius may drive over the truck apron. Please see the project website for a video of a large truck navigating a roundabout. The turning paths of trucks and trailers will be smoother than the current condition and less prone to load shifting because curves are longer and have flatter radii.  It is understood that making through movements using the roundabout will introduce curvature to all vehicle paths, but this is intended to slow all traffic that cross paths and reduce the potential of high speed crashes.