



US 50 and CO 231 (36th Lane) Intersection Improvements

Overview

The Colorado Department of Transportation has been evaluating intersection improvements at both US 50 and CO 231 (36th Lane) and at US 50 Business and CO 231 (36th Lane) in Pueblo County. The purpose of the evaluation was to improve safety by increasing sight distance and reducing crossing distance to allow for safe motorist crossing of US 50 and to improve overall pedestrian and motorist safety near schools on US 50 Business and CO 231 (36th Lane).

The following improvements have already been initiated while awaiting the intersection study result:

- Reduced speed limit approaching the intersection on US 50 Business and CO 231 (36th Lane)
- Repositioned existing signage to improve sight distance at both intersections.
- Advanced guide signs were relocated ¼ mile before the US 50 and CO 231 (36th Lane) intersection
- Updated and replaced pedestrian signs at US 50 Business and CO 231 (36th Lane) and added a rapid flashing beacon sign to alert motorists of pedestrians

The study of both intersections is now complete, and the design of improvements is underway. The study included:

- Analysis of the intersection against Federal and State guidelines included in the Manual of Uniform Traffic Control Devices (MUTCD) criteria for signal warrants
- Analysis of the safety performance of the intersection
- Analysis of the operational performance of the intersection
- Cost-effective countermeasures to address identified problems
- Provide guidance on how to reduce severe crash occurrences

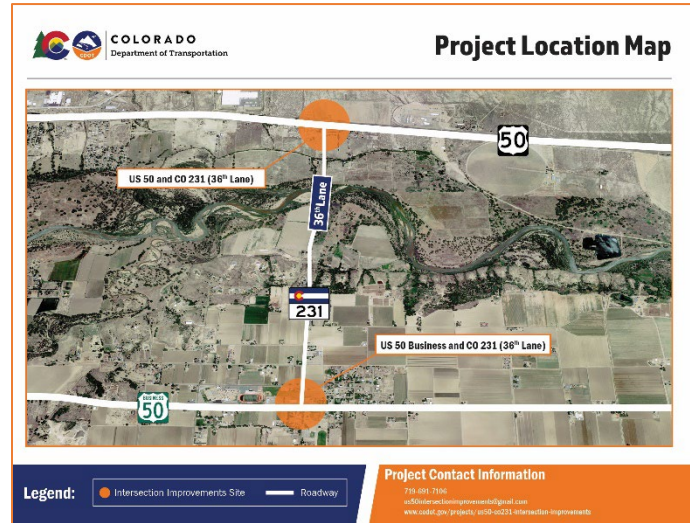
This traffic study looked at two separate buckets of information:

Operational considerations

- The volume of traffic during peak periods and nonpeak periods
- Geometry of the intersections
- Placement of signage and types of signage
- Speed limits in the affected area
- Existing roadway pavement marking

Safety considerations

- Crash-type data
- Directions of travel
- Road conditions
- Time of day
- Behavioral attributes of drivers





Improvements

Based on this study and at the recommendations of the engineers, the new improvements will not include a signal. The following improvements will be made to enhance safety at both intersections:

US 50 & CO 231 (36th Lane) Improvements

- Moving the eastbound right turn lane on US 50 further south into the shoulder by grading to adjust the eastbound approach right turn deceleration lane
- Installation of an intersection conflict warning system on US 50 and on CO 231 (36th Lane). The system recognizes approaching traffic and illuminates the warning signs alerting motorists of approaching vehicles to the intersection on both US 50 and on CO 231 (36th Lane)
- Moving the stop line of CO 231 (36th Lane) at US 50 up to the eastbound lane of travel so the right turn lane will not impact the view of motorists trying to cross the intersection. This will also reduce the crossing distance for northbound left turning vehicles
- Installation of raised islands that allow the stop line to be moved up and improves sight distance when crossing the intersection

US 50 Business & CO 231 (36th Lane) Improvements

- Moving the stop line of CO 231 (36th Lane) at US 50 Business up to the travel lanes of US 50 Business to reduce the crossing distance for northbound and southbound left turning vehicles
- Installation of raised islands that allow the stop line to be moved up and improves sight distance when crossing the intersection

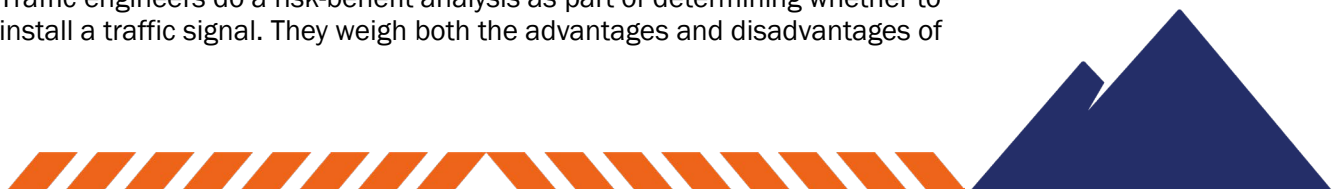
Why is a traffic signal not the right fit for these intersections?

After an extensive study was completed at each intersection, the engineer's recommendations include the intersection improvements listed above instead of installing a signal.

In the study, the safety of these intersections did not warrant a signal installation. Of the many warrants for a signal, only one was met at US 50 and that was for the operations of the signal. This showed the intersection could benefit from reduced wait times at the intersection if a signal was installed.

A signal can help reduce the number of angled collisions at an intersection but can increase other types of crashes. Specifically rear-end collisions are increased when installing a signal. In this instance, a signal at this intersection likely would cause an overall deterioration in safety at the intersection.

Traffic engineers do a risk-benefit analysis as part of determining whether to install a traffic signal. They weigh both the advantages and disadvantages of





traffic signals, and at this intersection, it was determined that a signal would decrease the overall safety of the intersection.

Contact

For more detailed information regarding the study and the considerations used to determine the improvements, please visit the project website, or contact the project team.

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