



**COLORADO**  
Department of Transportation

# WELCOME

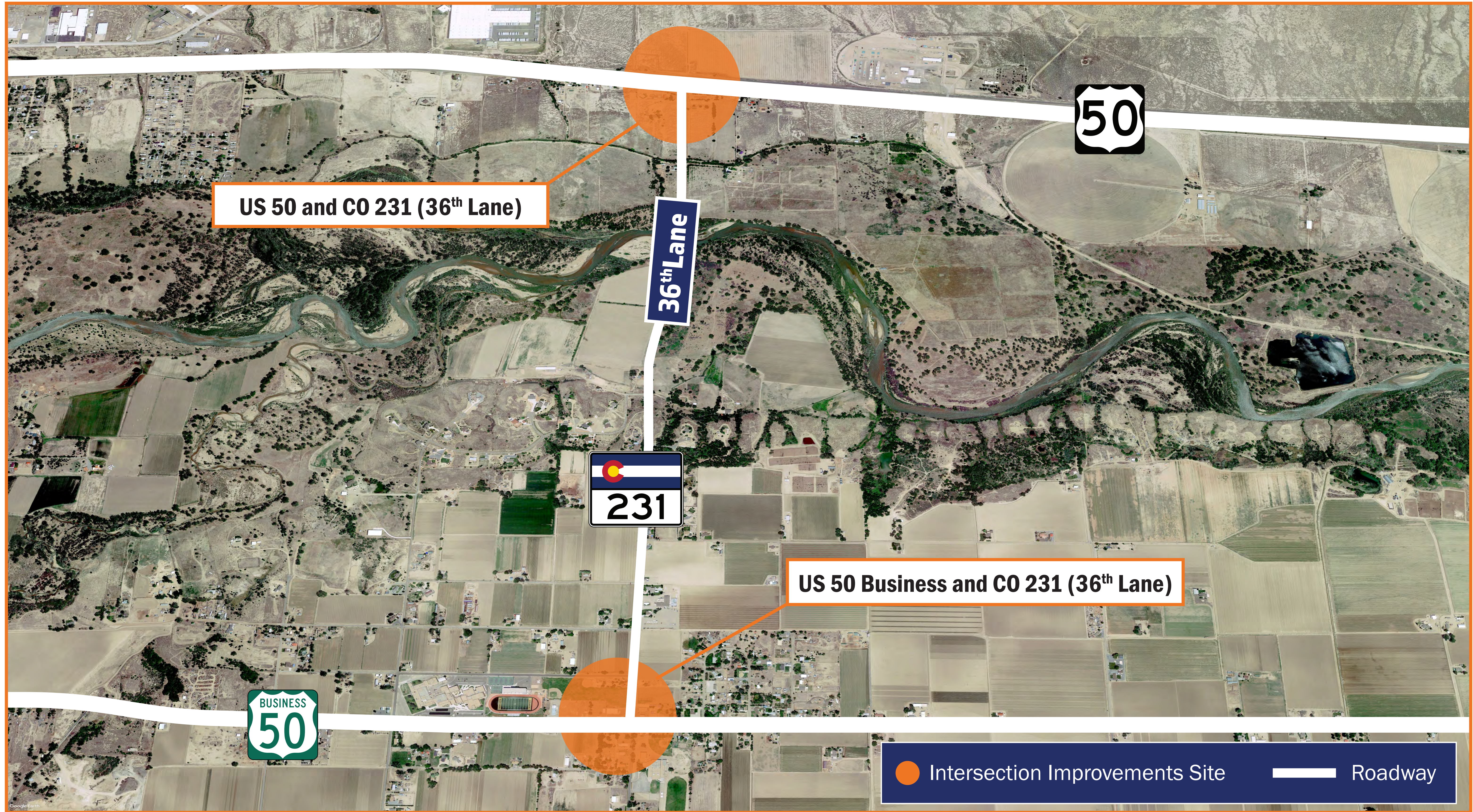
**US 50 & CO 231 (36<sup>th</sup> Lane)  
Intersections  
Improvement Project**

# Public Open House

**March 7, 2023  
5:00 PM to 7:00 PM**



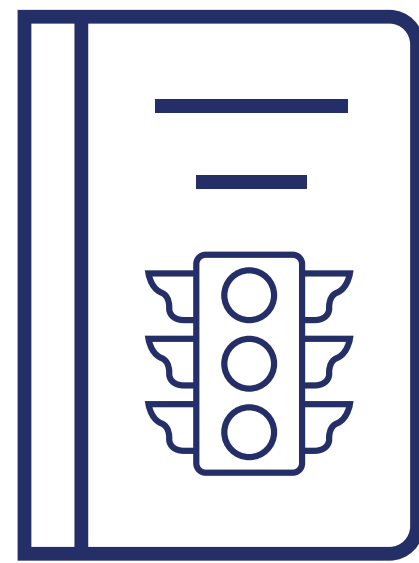
**Please  
Sign In  
Here**



## US 50 & CO 231 (36<sup>th</sup> Lane) Intersections Improvement Project

### Project Contact Information

- 719-691-7106
- us50intersectionimprovements@gmail.com
- [www.codot.gov/projects/us50-co231-intersection-improvements](http://www.codot.gov/projects/us50-co231-intersection-improvements)



## Purpose of the Study

The purpose of the study was to evaluate safety and operational improvements of US 50 and US 50 Business and CO 231 (36th Lane).



## The Analysis of the Intersections

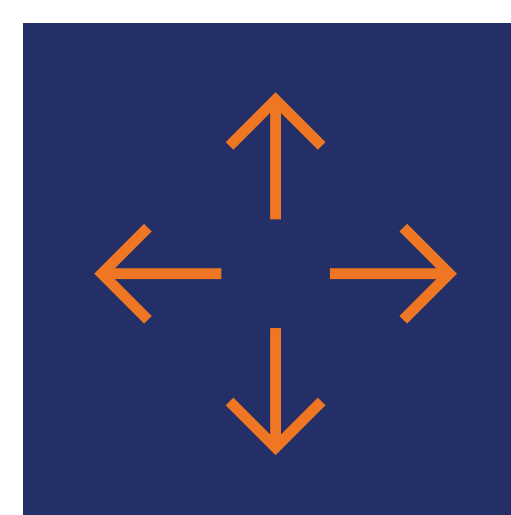
The study included an analysis of the intersection against Federal and State guidelines including in the Manual of Uniform Traffic Control Devices (MUTCD) criteria for signal warrants. This included analysis of the intersection for safety and operational performance. The project team also looked at cost-effective countermeasures to address identified problems and provide guidance on how to reduce severe crash occurrences.

## The following improvements are in the process of being made:



*Completed*

**Reduced speed limit approaching the intersection on US 50 Business and CO 231 (36th Lane)**



*Completed*

**Repositioned existing signage to improve sight distance at US 50 and CO 231 (36th Lane)**



*In Process*

**Advanced guide signs to be relocated 1/4 mile before the US 50 and CO 231 (36th Lane) intersection**



*In Process*

**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**



# Signal Determination for Improvements

## Safety considerations

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



## Operational considerations

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

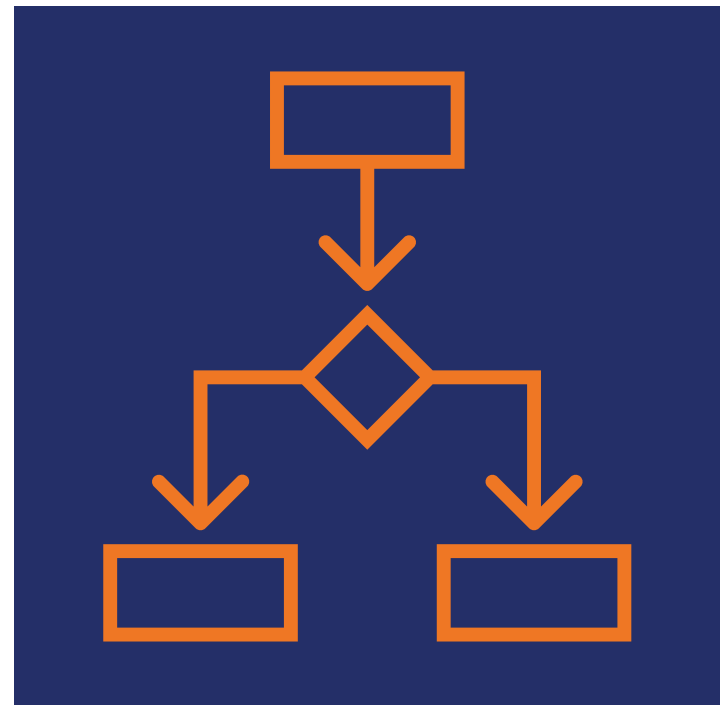


**The installation of unwarranted signals has been shown to increase the risk of crashes such as rear end collisions by creating overall intersection congestion. Unwarranted signals can increase the presence of aggressive driving behavior and violation of red lights.**

\*According to the US Department of Transportation's Federal Highway Administration, the Advocates for Highway and Auto Safety, and the Institute of Transportation Engineers, Intersection Safety, 2020

## Project Contact Information

- 719-691-7106
- us50intersectionimprovements@gmail.com
- [www.codot.gov/projects/us50-co231-intersection-improvements](http://www.codot.gov/projects/us50-co231-intersection-improvements)



## About the Determination

After an extensive study was completed at each intersection, the engineer's recommendations included improvements that were safer than the installation of 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 a signal by reducing wait times during certain periods of the day.



## How a Signal Can Increase Unsafe Intersection Conditions

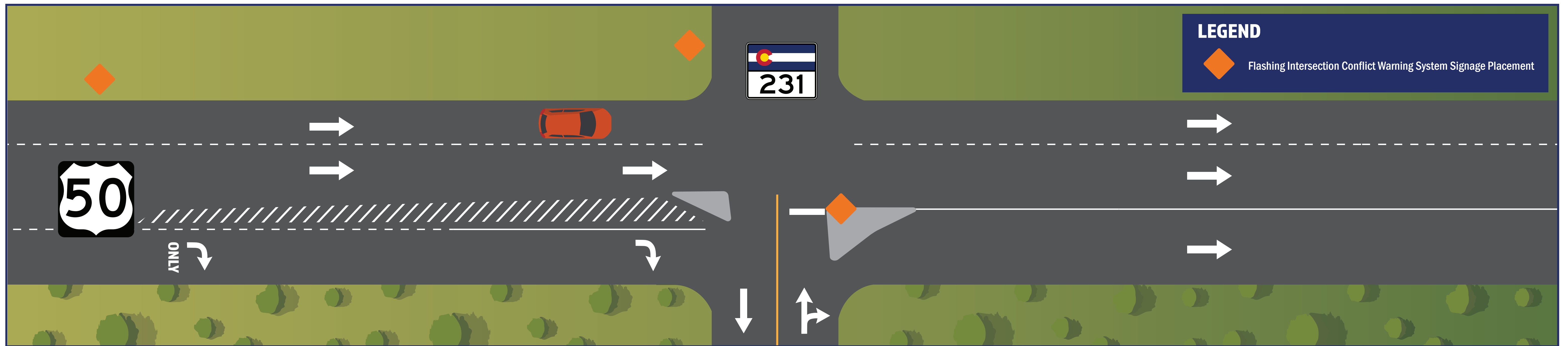
A signal can help reduce the number of angled collisions at an intersection but can increase other types of crashes. Specifically rear-end collisions are increased when installing a signal. In this instance, a signal at this intersection likely would cause an overall deterioration in safety at the intersection.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



## Outcome

The study showed that safety will be improved 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). Based on this study and at the recommendations of the engineers, the new improvements will not include a signal.

### Project Contact Information

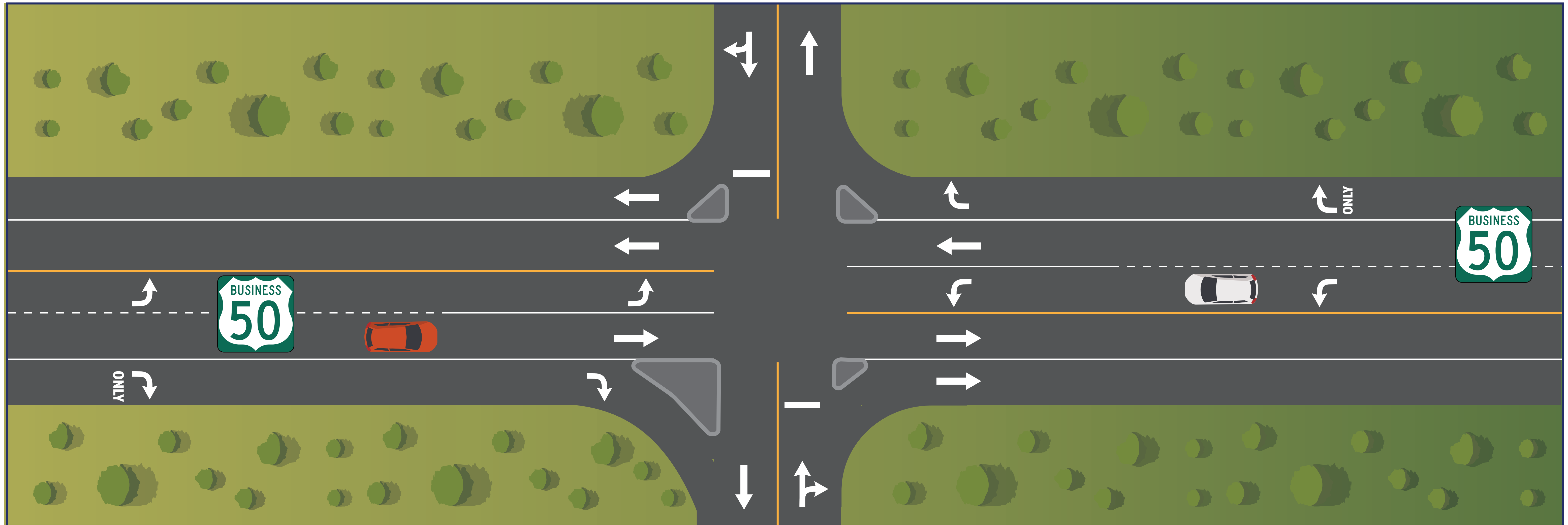


\* Preliminary Design. Subject To Change.

## Safety 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 allows the stop line to be moved up and improves sight distance when crossing the intersection.

## Project Contact Information



\* Preliminary Design. Subject To Change.

## Safety 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 with pedestrian refuge that allows the stop line to be moved up and improves sight distance when crossing the intersection.

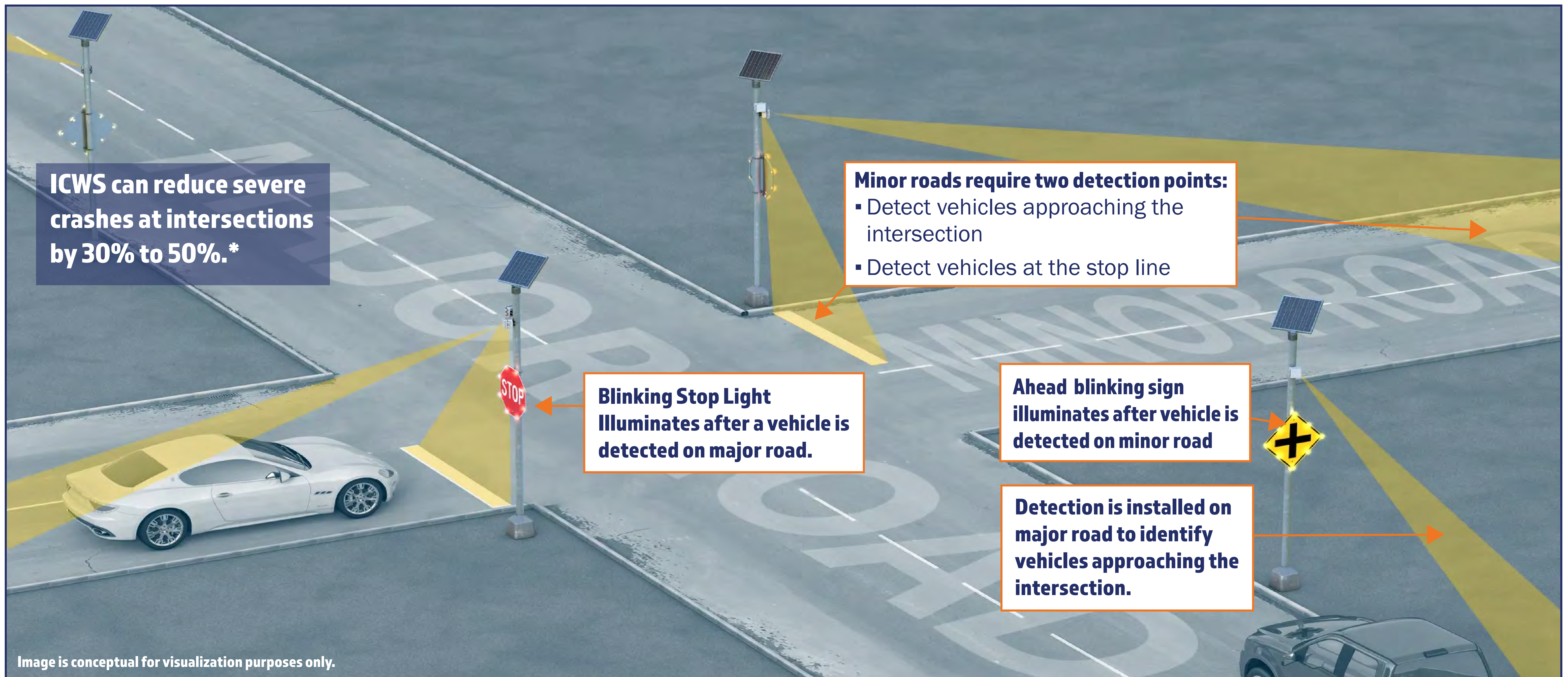
## Project Contact Information



# Intersection Conflict Warning System

## Safety Improvements

Intersection conflict warning systems (ICWSs) are used to warn drivers on the major road of the presence of traffic at stop-controlled cross streets and to warn drivers at stop-controlled approaches of the presence of traffic on the major road.



*\*According to the US Department of Transportation's Federal Highway Administration*

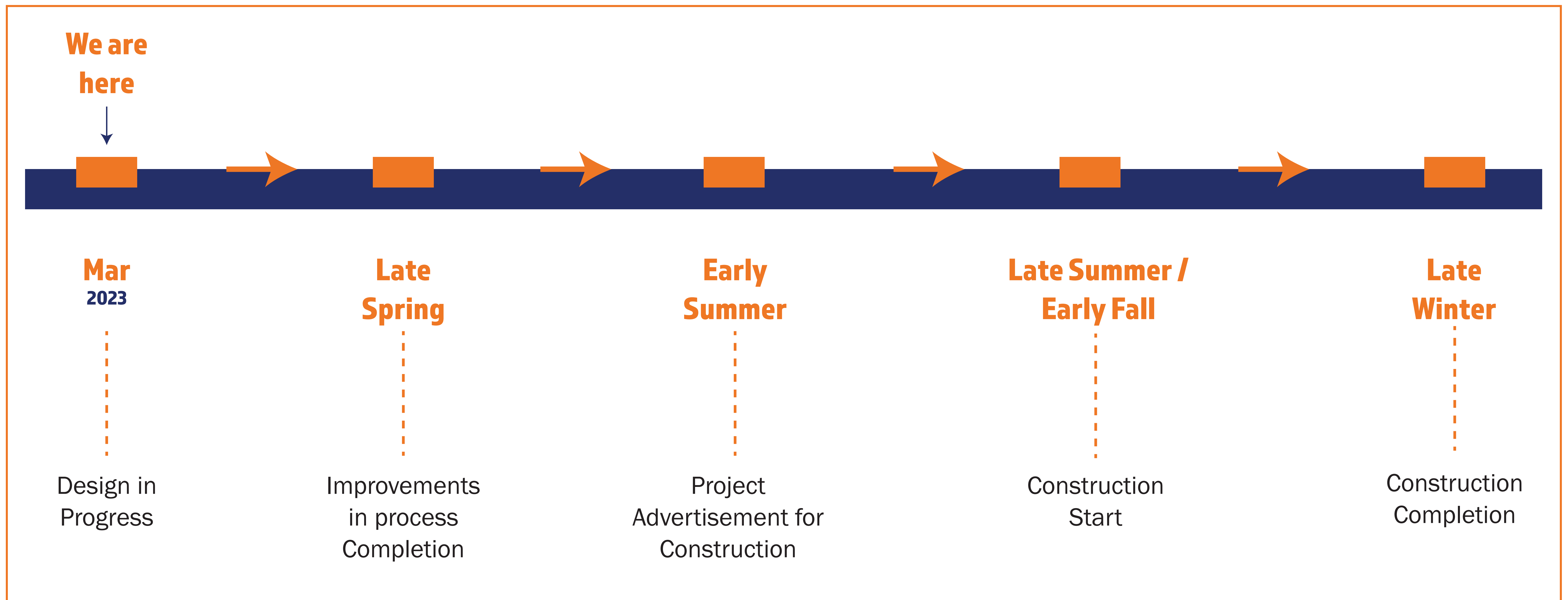
### Project Contact Information





## About the Project Schedule

The project team is actively working on the design for these intersection improvements and in the process of completing other improvements.



**\*Schedule is preliminary, subject to change, and weather dependent.**

### Project Contact Information