



# US 18/151 & County YZ Intersection

Dodgeville – Mount Horeb | Iowa County

Public Involvement Meeting  
Dodgeville, WI

**February 1, 2024**

# Presentation Agenda

- Project Overview
- Crash Data
- Purpose & Need
- Highway Safety Improvement Program (HSIP)
- New Enumerated Study
- Interim Safety Improvements
- Intersection Control Evaluation (ICE) Results and Preferred Alternative
- Information on RCUT Intersections
- Project Schedule
- Contact Information



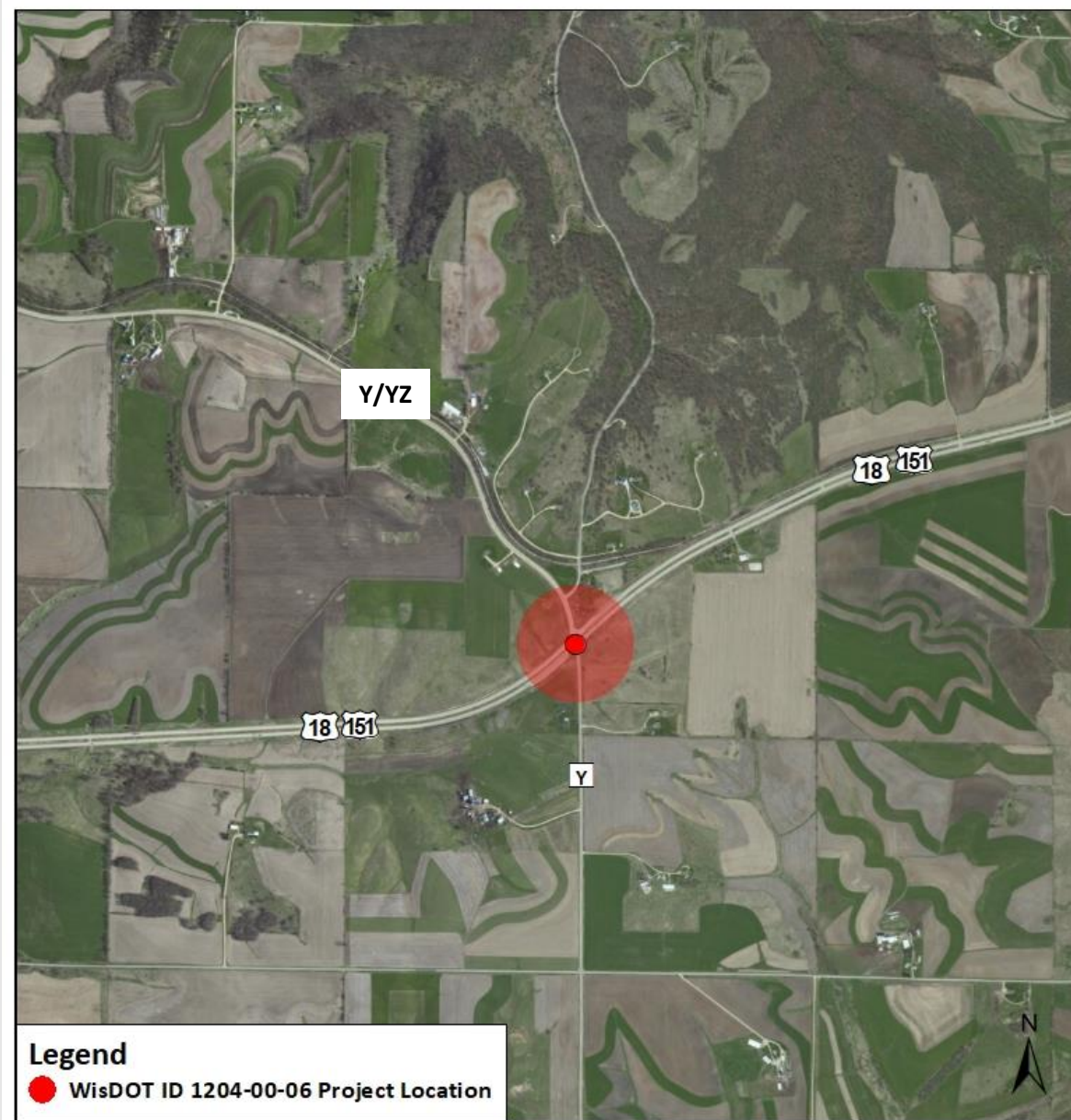
# Project Overview

## US 18/151

- Rural 4-lane Expressway
- 65 mph Speed Limit
- Ave. Annual Daily Traffic (AADT)  
= 16,200 daily vehicles

## County Y/YZ

- Rural 2-lane Highway
- 55 mph Speed Limit
- AADT = 820 daily vehicles



## Project Location

WisDOT ID: 1204-00-06  
Dodgeville - Mount Horeb  
(CTH YZ Intersection)  
USH 18  
Iowa County



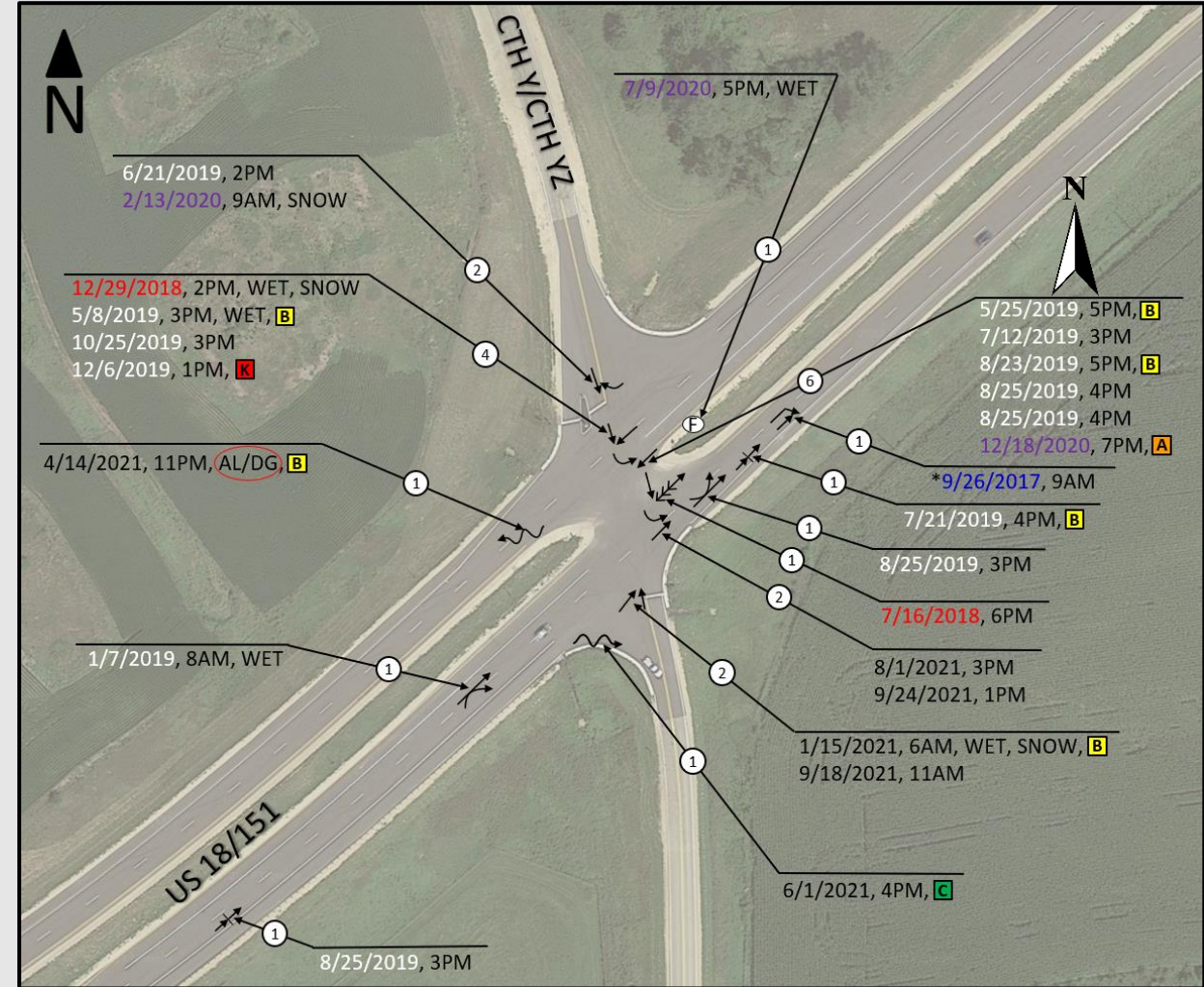
# Crash Data

- 5-Year Crash Analysis (2017 – 2021)

- 25 Total Crashes
- Spike in 2019 Crashes
- Construction in early 2020

- Crash Severity (injury code)

- 1 Fatal Crash (K)
- 1 Incapacitated (A-Level)
- 6 Non-Incapacitated (B-Level)
- 1 Possible (C-Level)
- 16 Property Damage Only



# Project Purpose & Need

This USH 18 project is located at the intersection of CTH Y/YZ just east of Dodgeville in Iowa County. The existing at grade intersection is stop controlled from the minor side streets and is experiencing a high number of crashes. The project is needed to address several geometric issues that may be encouraging / leading to poor decisions by motorists.

The purpose of this project is to address the safety concerns at the USH 18/151 and County Y/YZ intersection. The project is needed to reduce the high crash rate at the intersection.



# Highway Safety Improvement Program (HSIP)

- **Program Goal** – Significantly Reduce Traffic Fatalities & Serious Injuries on Public Roads
- **Data-Driven Approach** – Improve Safety & Maintain Performance
- **Federal-Aid Program** – Quick Timeframe & Smaller Budget Projects
- **5 Alternatives** – Studied for the HSIP Application Process



# New US 18/151 Enumerated Study

- The Transportation Projects Commission (TPC) reviews major highway project candidates and makes recommendations to the Governor and Legislature regarding projects
- The TPC approved a US 18/151 study at their December 13, 2023 meeting
- Study limits are from Dodgeville to Madison and includes the following:
  - Freeway conversion from Dodgeville to Verona
  - Freeway expansion from Verona to Madison
- Important to remember this is a study approval only
- No approvals for any freeway conversion or expansion construction projects at this time



# Interim Safety Improvements

- Implemented in Fall 2023
  - Sign Heights Raised Near Intersection To Avoid Potential Sight Obstruction
  - Sign Sizes Enlarged To Promote Intersection Awareness
  - Signs With Beacons To Alert Motorists Of Intersection Ahead





# Intersection Control Evaluation (ICE)

- Standard Practice Nationwide & by WisDOT
- Framework for Decision Making
- Balance of Several Factors:
  - Safety
  - Traffic Delay
  - Impacts to Property, Stakeholders & Environment
  - Cost & Long-Term Maintenance
- ICE Approved in July of 2023



PHASE II: ICE REPORT

BUREAU OF TRAFFIC OPERATIONS

## Project and Analyst Information:

Project ID:	1204-00-06
Project Type:	Standalone HSIP Project
Location:	USH 18/151 & CTH Y/YZ
	Town of Dodgeville
	Iowa County
	Southwest Region
Analyst:	Kevin C. Wehner, P.E., PTOE
Agency:	KL Engineering
Date:	July 6, 2023

## Background Information:

Project Need:	The project is needed to address the crash pattern at the USH 18/151 intersection with CTH Y and CTH Y/YZ. The CTH Y and CTH Y/YZ approaches are stop controlled and intersect with USH 18/151 at an approximately 63-degree angle between two closely spaced horizontal curves on USH 18/151. This may be contributing to difficulty for drivers on CTH Y and CTH Y/CTH YZ to see oncoming traffic on USH 18/151. A significant number of angle crashes have occurred.
Project Objective(s):	The goal of the project is to improve safety at the intersection by addressing sight line deficiencies and decreasing the number of conflict points. Improvements may include realigning the intersection to form closer to a 90-degree angle, offsetting of turn lanes, and changes to intersection access.
Additional Information:	USH 18/151 is a four-lane divided highway and is classified as a principal arterial with a rural cross section and a posted speed limit of 65 mph. USH 18/151 is also designated as an expressway. The east approach has a 400-foot right turn lane, a 510-foot left turn lane, and two through lanes. The west approach has a 450-foot right turn lane, a 505-foot left turn lane, and two through lanes. The intersection is located approximately five miles east of the City of Dodgeville. The most recent AADT counts on USH 18/151 east of CTH Y/CTH YZ is 15,800 vehicles per day (vpd) (2021) and 14,600 vpd (2022) west of CTH Y/CTH YZ.  CTH Y/CTH YZ is a two-lane undivided highway and is classified as a major collector. CTH Y is classified as a minor collector. The roadways have rural cross sections and posted speed limits of 55 mph. The north approach, CTH Y/CTH YZ, has a through-left lane and a right turn lane. The south approach, CTH Y, has a single lane. Both approaches have stop control. The most recent AADT count on CTH YZ was 820 vpd (2022). There is no recent AADT data for the south approach (CTH Y).  A Project Location Map is included in Attachment A.



# Intersection Control Evaluation Results

- Evaluation included 5 intersection alternatives
  - Alternative 1, No Build
  - Alternative 2, Minor Road Stop Control with Offset Turn Lanes
  - Alternative 3, Right-In/Right Out /Left-In (no U-Turn)
  - Alternative 4, Right-In/Right Out (no U-Turn)
  - Alternative 5, Restricted Crossing U-Turn (RCUT): Closed Median
  - Alternative 6, Restricted Crossing U-Turn (RCUT): Left-In
- Public Involvement
  - Local Officials Meeting Held on April 5, 2023
  - Public Involvement Meeting Held on April 19, 2023
  - Initial Comment Period Ended on May 19, 2023



# Alternative #2 – Minor Road Stop Control with Offset Turn Lanes



## PROS

- Maintains Access to All Movements at the Intersection
- Reduces Crash Potential, by Eliminating Poor Intersection Angle
- No Added Delay to Sideroad Movements

## CONS

- Highest Crash Potential Alternative
- No Reduction in Intersection Conflict Points
- Driver Discomfort from Minor Street Approaches Trying to Enter USH 18/151
- Real Estate Impacts

**ALTERNATIVE NOT SELECTED**



# Alternative #3 – Right-In / Right-Out / Left-In (no U-Turn)

## PROS

- Reduces Crash Potential, Specifically Right-Angle Crashes
- Reduces Intersection Conflict Points by 71% (12 vs. 42)
- Simplifies Driver Decision-Making Task

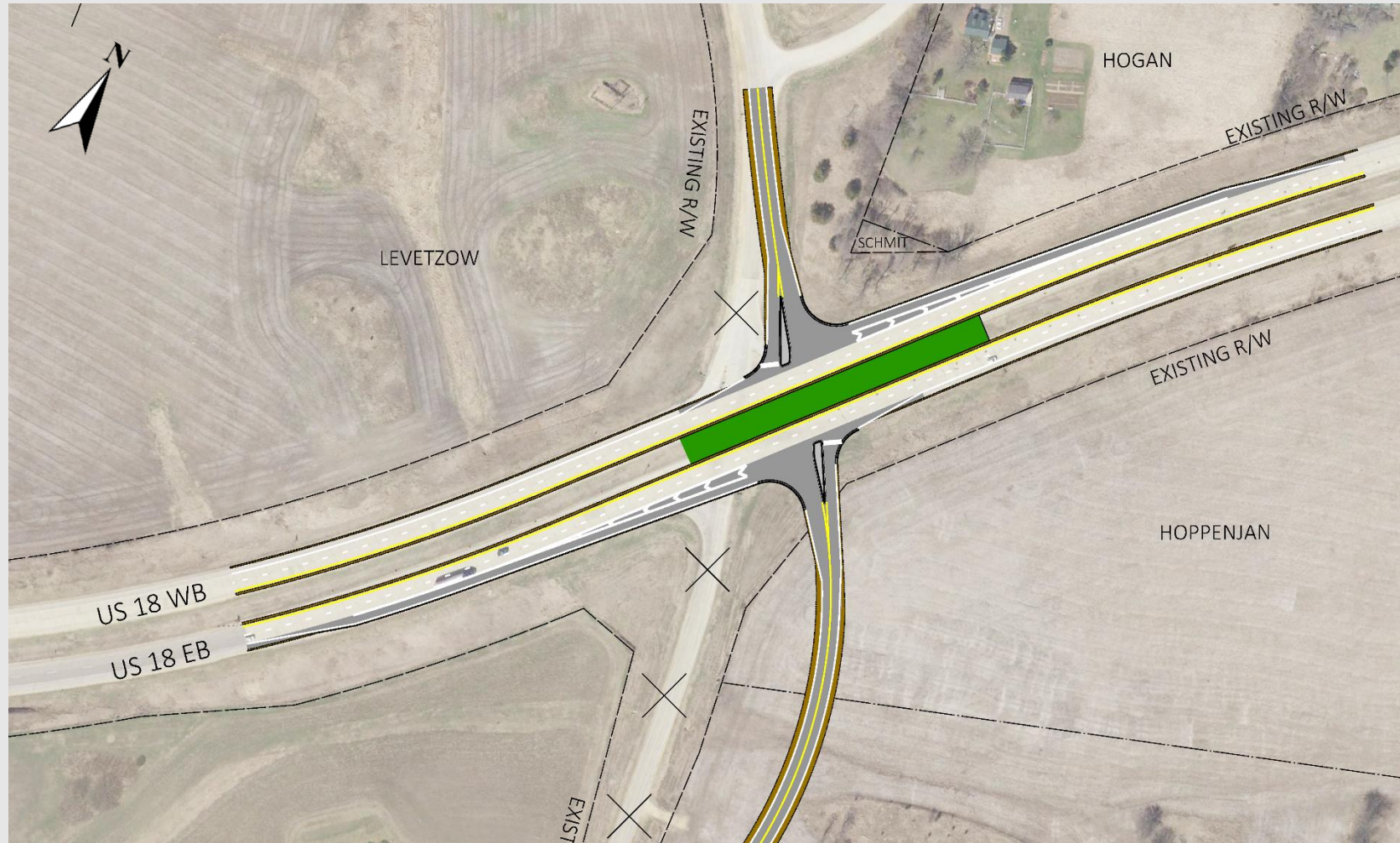
## CONS

- Increased Delay for All Intersection Left-Turn & Sideroad Thru Movements
- Increases Delay & Travel Time for Sideroad Traffic that are Required to Find Alternative Routes to USH 18/151
- May Increase Risk of Illegal U-Turns
- Real Estate Impacts

**ALTERNATIVE NOT SELECTED**



# Alternative #4 – Right-In / Right-Out (no U-Turn)



## PROS

- Safest Alternative, Eliminating All Angle Crashes
- Reduces Intersection Conflict Points by 86% (6 vs. 42)
- Offset Alignments Could Be Used to Reduce R/W Impacts and cost
- Simplifies Driver Decision-Making Task

## CONS

- Increased Delay for All Intersection Left-Turn & Sideroad Thru Movements
- Limited Access, by Eliminating Sideroad Left-Turn & Thru Movements
- Increased Delays & Travel Time for Restricted Movements that are Required to Find Alternate Routes
- May Increase Risk of Illegal U-Turns

**ALTERNATIVE NOT SELECTED**



# Alternative #6 – Restricted Crossing U-Turn (RCUT): Left In



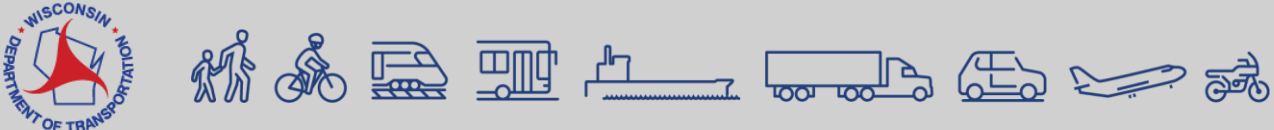
### PROS

- Maintains Access to All Movements at the Intersection
- Reduces Crash Potential, Specifically Right-Angle Crashes
- Reduces Intersection Conflict Points by 43% (24 vs. 42)
- Simplifies Driver Decision-Making Task

### CONS

- Highest Cost Alternative
- Increased Delay for Sideroad Left-Turn & Thru Movements
- Potential For Offset Alignments To Reduce Real Estate Impacts

**ALTERNATIVE NOT SELECTED**



# Alternative #5 – Restricted Crossing U-Turn (RCUT): Closed Median



## PROS

- Maintains Access to All Movements at the Intersection
- Reduces Crash Potential, Specifically Right-Angle Crashes
- Reduces Intersection Conflict Points by 57% (18 vs. 42)
- Offset Alignments could be Used to Reduce R/W Impacts and cost
- Simplifies Driver Decision-Making Task

## CONS

- Second-Highest Cost Alternative
- Increased Delay for All Intersection Left-Turn & Sideroad Thru Movements
- Real Estate Impacts

**PREFERRED ALTERNATIVE**



# Preferred Alternative With Offset Alignment



- Maintains RCUT Geometry and Safety
  - South leg offset to the west
- No Change In Traffic Operations
  - Additional delay on south approach is negligible
- Less Environmental Impacts
  - Minimizes impacts to agricultural
- Less Right-Of-Way Acquisition Required
  - Utilizes the existing right-of-way best



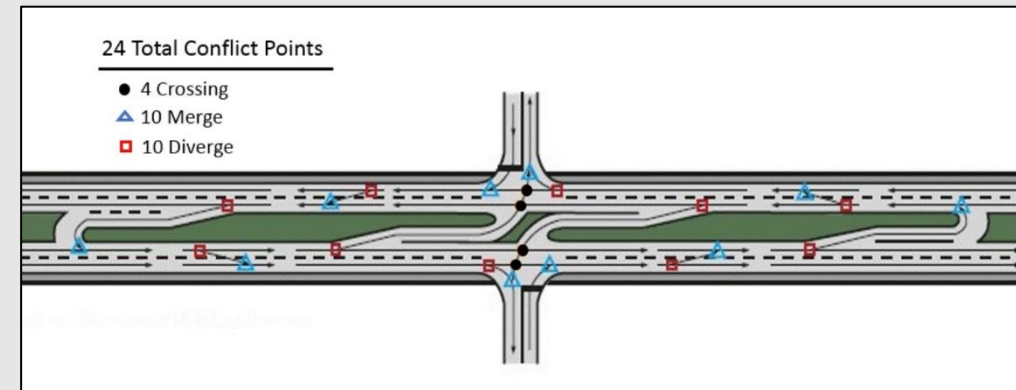
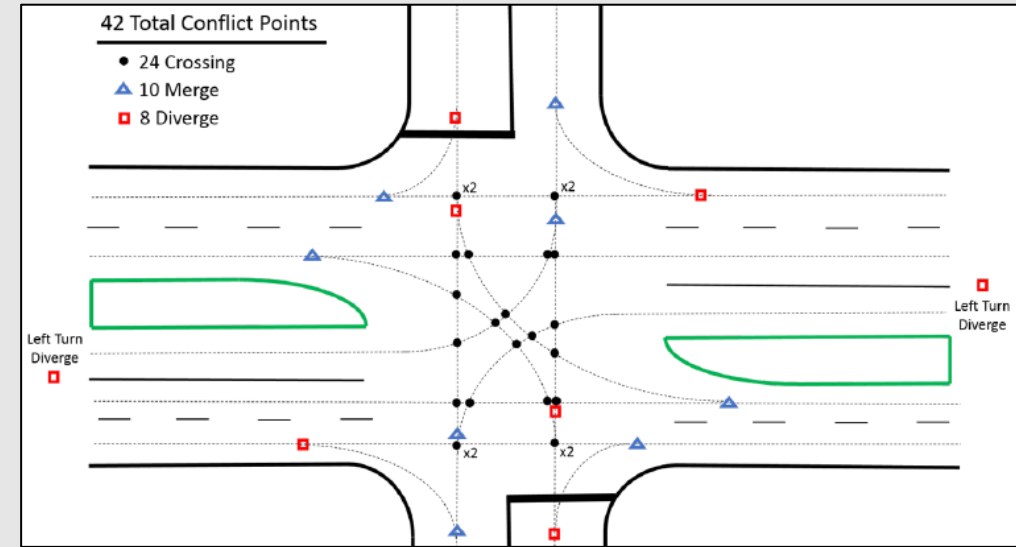


# Preferred Alternative 5A vs 5B



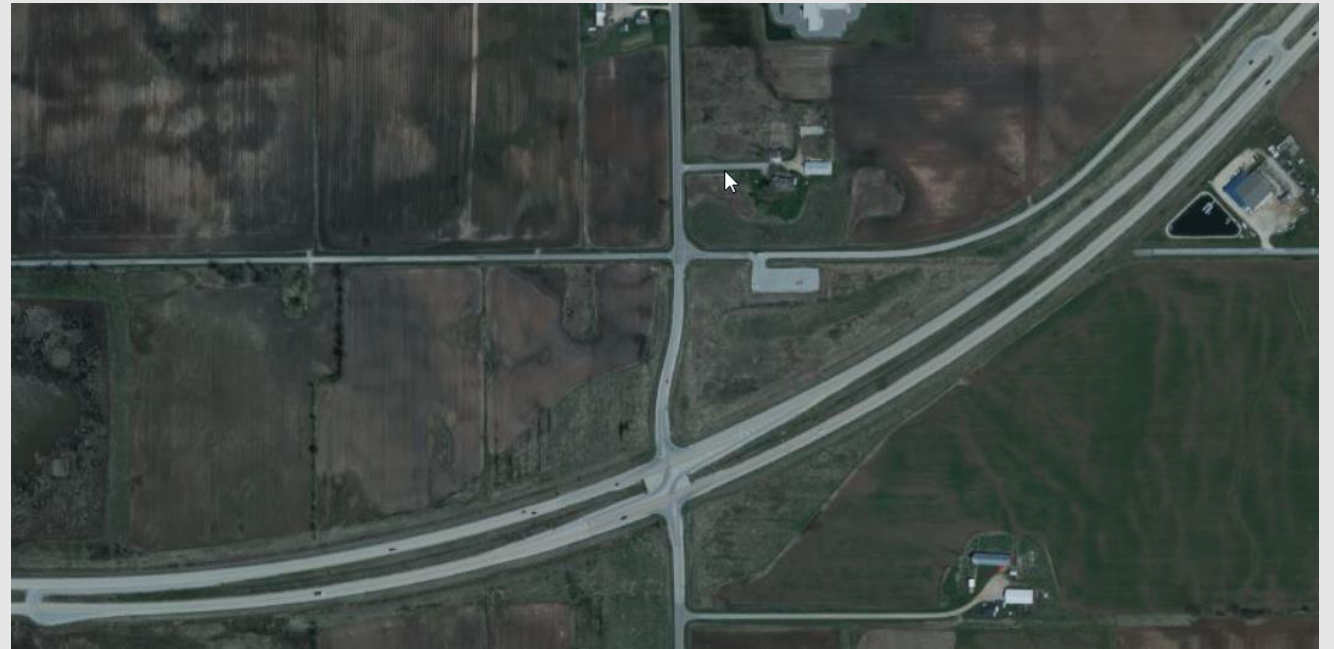
# Why Choose an RCUT?

- Reduces Crash Potential
  - Minimizes intersection conflict points
  - Major reduction in far side right angle crashes
- Reduces Crash Severity
  - 90% reduction in injury/fatalities (2019 WisDOT Study)
- Simplifies Driving Tasks
  - Only need to look at one direction of traffic at a time
- Long Vehicle Friendly
  - Provides additional space for longer vehicles to store



# Why Choose an RCUT?

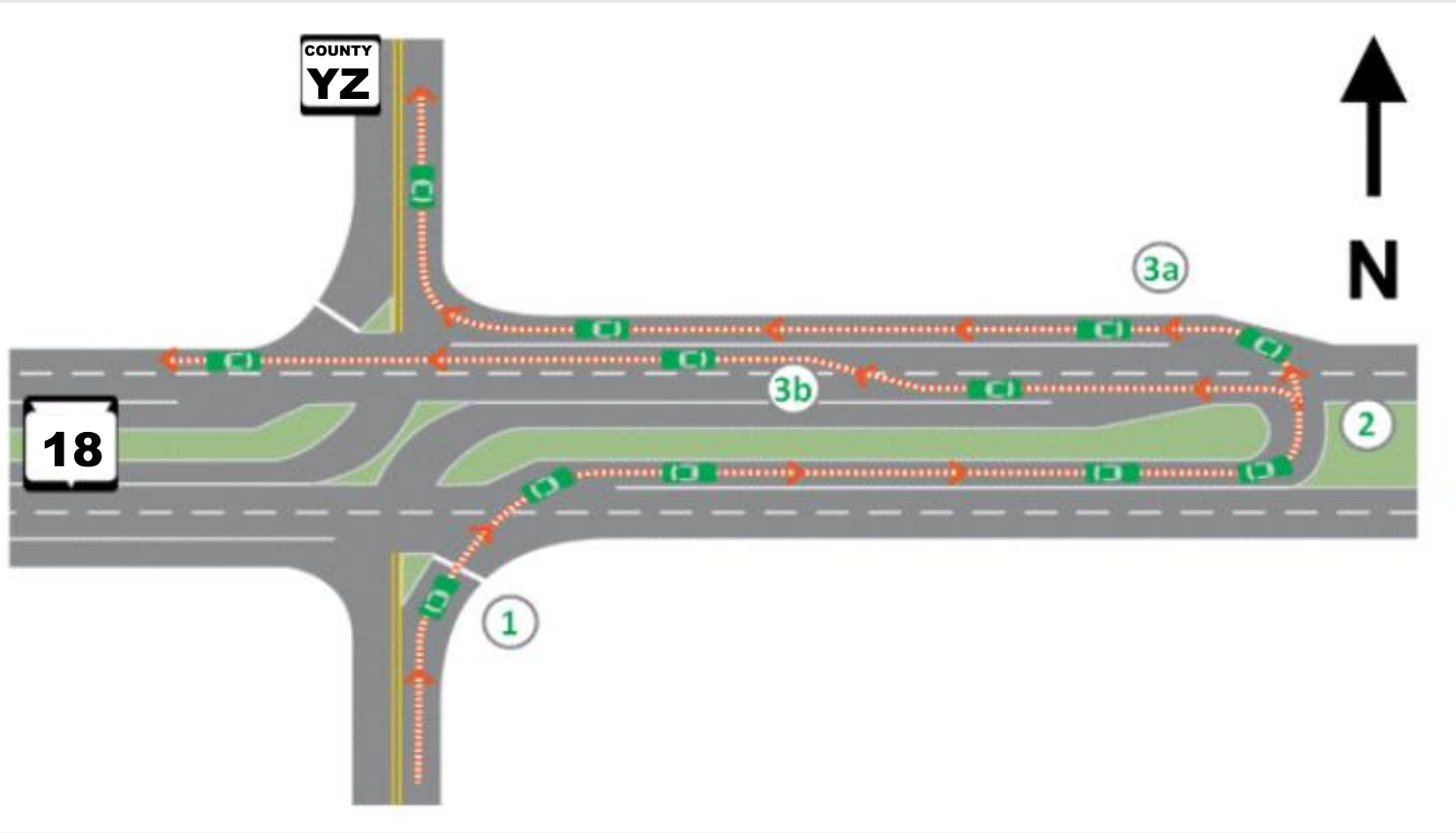
- WIS 57 & County C/D (Completed in 2015)
  - Mainline ADT – 10,900 (Lower than US 18/151)
  - Side Road ADT – 920/1400 (Higher than County Y/YZ)
- Before RCUT
  - 25 Crashes (19 injury crashes)
- After RCUT
  - 4 Crashes (1 injury)



# Why Choose an RCUT?



# How to Drive an RCUT?



- Northbound Left Turn Movement
  - Side Street Traffic will Turn Right (1)
  - Drivers will then Perform a U-Turn from the Left Turn Lane (2)
  - Left Turns are now Complete (3b)
- Northbound Through Movement
  - Side Street Traffic will Turn Right (1)
  - Drivers will then Perform a U-Turn from the Left Turn Lane (2)
  - Through Traffic will then Turn Right (3a)

# How to Drive an RCUT?



# Project Schedule

- Public Involvement Meeting #1 April 19, 2023
- Preferred Alternative Selected July 26, 2023
- Public Involvement Meeting #2 February 1, 2024
- Preliminary Plans Spring/Summer 2024
- Environmental Document Summer 2024
- Public Involvement Meeting #3 Fall 2024
- Real Estate Acquisition Fall 2024 – Summer 2026
- Final Plans August 2026
- Construction 2027



# Contact information

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Project website: [wisconsindot.gov/Pages/projects/by-region/sw/us18-countyyz/default.aspx](http://wisconsindot.gov/Pages/projects/by-region/sw/us18-countyyz/default.aspx)

QR code to website:

