NORTH 31 US-31 Rebuilding Project **Benzie and Grand Traverse** Counties

Michigan Department of Transportation Traverse City TSC **Tuesday, July 18, 2023**





Introductions

- MDOT Traverse City TSC
- Dan Wagner, P.E. TSC Manager
- Lucas Porath, P.E. Project Manager
- Krista Phillips, P.E. Operations Engineer
- Jessica Carpenter, P.E. Traffic and Safety Engineer

RS Engineering (Design Consultant)

- Brian Smith, P.E. Project Manager
- Leigh Burgess, P.E./PTOE Lead Traffic Engineer
- Alex Oosterhoff, P.E. Road Design Engineer



Agenda

- Project Overview
- Existing Conditions
- Proposed Safety Improvements
 - Overall Corridor Improvements
 - South Long Lake/J. Maddy Parkway Intersection Improvements
 - Project Schedule
 - Questions

Project Overview

Project Corridor: US-31 between Reynolds Road and Sullivan Road

Project Length and Type: 7.8-mile, two-lane, two-way rural roadway





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Existing Conditions

Crash Data

From 2017 through 2021, there were 267 crashes within the project limits, including crashes that occurred at intersections on side roads.

Above Average: Existing crashes are **20 percent higher** than other two-lane, two-way rural Michigan roadways, which is what was used as a baseline. Major crashes involving fatalities and other injury-related crashes alone are more than 6 percent higher than the baseline.

Main Type of Crash: Read-end crashes



Involving left-turning vehicles coming from a throughlane







Safety Improvements

- Addition of a center left-turn lane through most of the corridor
- Widened paved shoulders with rumble strips
- Access management improvements •
- Intersection improvements •
- Americans with Disabilities Act (ADA)-• compliant ramps and crosswalks at the South Long Lake Road/J. Maddy Parkway intersection









Center Left-Turn Lane Addition

Expected benefits of a center left-turn lane include the following and is anticipated to reduce all crashes by 10 percent and fatalities by more than 17 percent.







Reduced rear-end collisions

Simplified side street left turns

Smoother flow of traffic and increased capacity

Signal Modernization

24 percent of crashes in the project area occur at the South Long Lake Road /J. Maddy Parkway intersection. Expected benefits of modernizing this traffic signal, including the addition of right-turn lanes and potentially US-31 left-turn arrows are a further reduction of intersection crashes by 15 percent.



Reduced crashes and congestion



- Increased reliability in vehicle detection and improved visibility

Saved energy, reduced maintenance costs, and the potential to automate collection of traffic data for future use







Roundabout Layout

This map shows a potential roundabout design layout for the South Long Lake Road/J. Maddy Parkway intersection.

This roundabout would accommodate personal travel, nonmotorized users, commercial truck traffic, public transportation, and emergency services.







Roundabout Design

Roundabouts reduce high-speed, head-on and angle crashes due to reducing approach speeds and crash impact angles.

> With roundabouts, head-on and high-speed right angle collisions are virtually eliminated.



Traditional Intersection



Roundabout

Potential Vehicle Conflict Point





A roundabout is anticipated to reduce intersection crashes by 55 percent, with fatal and injury-related crashes reduced by 78 percent, according to FHWA data.

This is an overall 42 percent improvement in crash reduction over the signal modernization option and a 72 percent improvement in fatal and injury-related crashes.



Additional Benefits of a Roundabout

- Operates efficiently with reduced delay and increased capacity over a traditional four-way stop or signalized intersection
- ✓ Lower operational and maintenance costs compared to a signalized intersection
- Improved aesthetics, with landscaped central island and stamped concrete median islands







Existing **Roundabouts**

There are 14 existing roundabouts in the MDOT Traverse City TSC area, most of which have been built in the last five years.

Learn More From MDOT About Roundabouts

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The public comment period is open. in summer 2024.

Lucas Porath, P.E. Questions? MDOT Traverse City TSC PorathL@Michigan.gov 231-941-1986 **Scan for Project Website** US-31 Rebuilding Project - Benzie and Grand Traverse Counties

An additional public meeting is anticipated