

# ARDEN AVENUE NEIGHBORHOOD MEETING

DECEMBER 2020



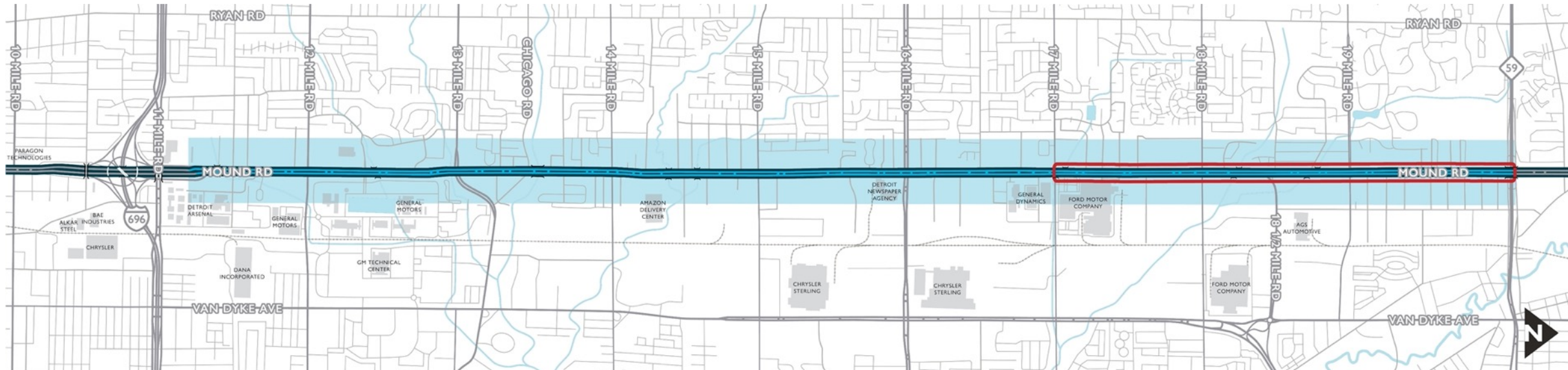


# MEETING AGENDA

## Overview

- Brief Overview
- Scope of Work
- Project Timeline
- Operation and Safety Improvements at Arden Avenue and Mound Road
- Q&A

# PROJECT AREA MAP



 **Full reconstruction:** Mound Rd from 11 Mile Rd to M-59

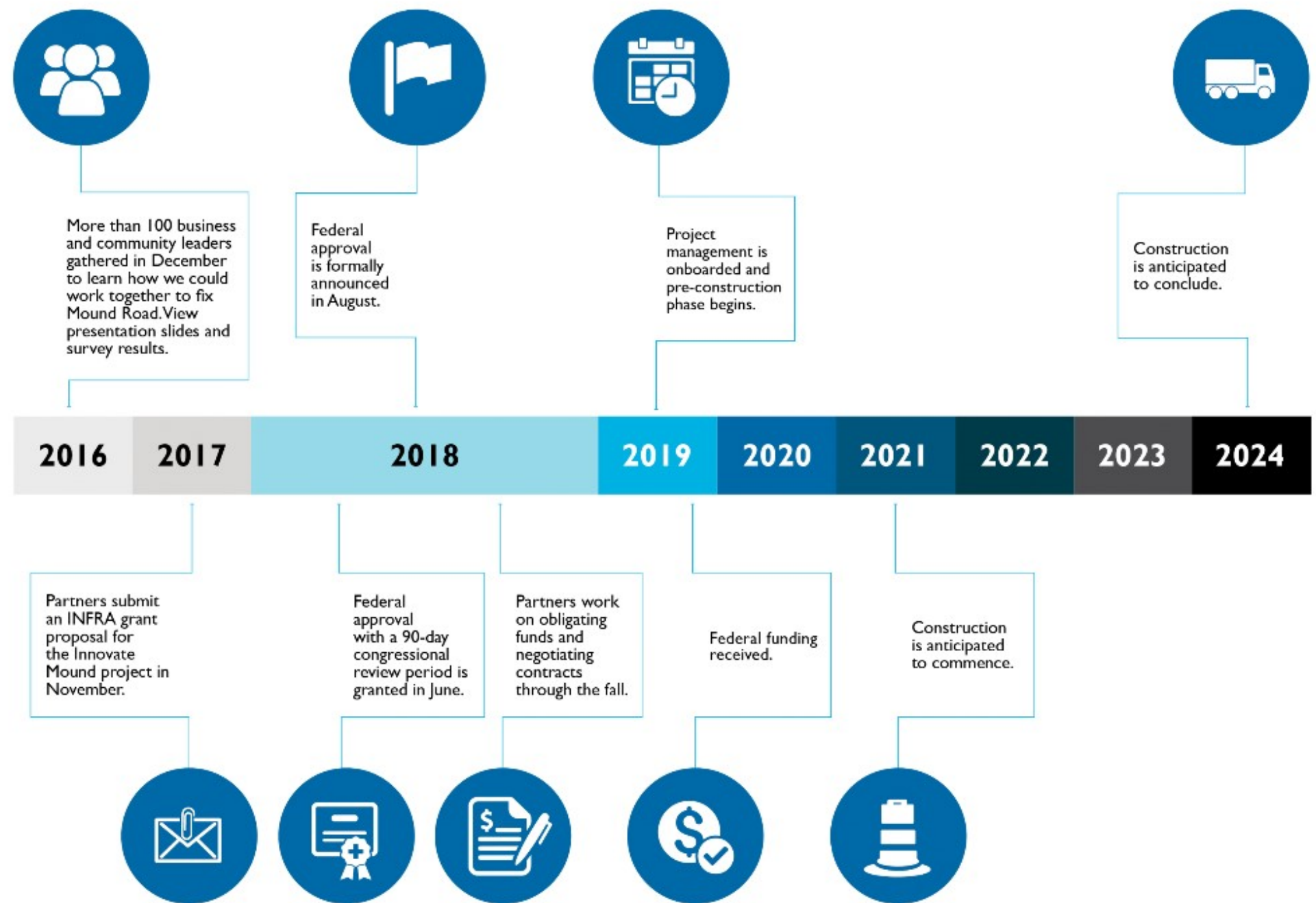
 **Road widening:** Add fourth lane northbound and southbound on Mound Rd from 17 Mile Rd to M-59

## Outcomes:

- Improved pavement surface
- Traffic flow and safety improvements
- Enhanced landscaping
- Unified lighting
- Improved pedestrian access
- Improved transit accessibility
- Emerging mobility features

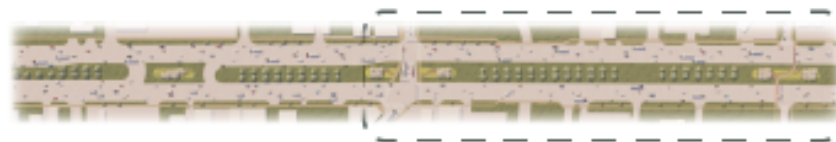


# PROJECT TIMELINE



# HISTORIC VILLAGE OF WARREN

KEY

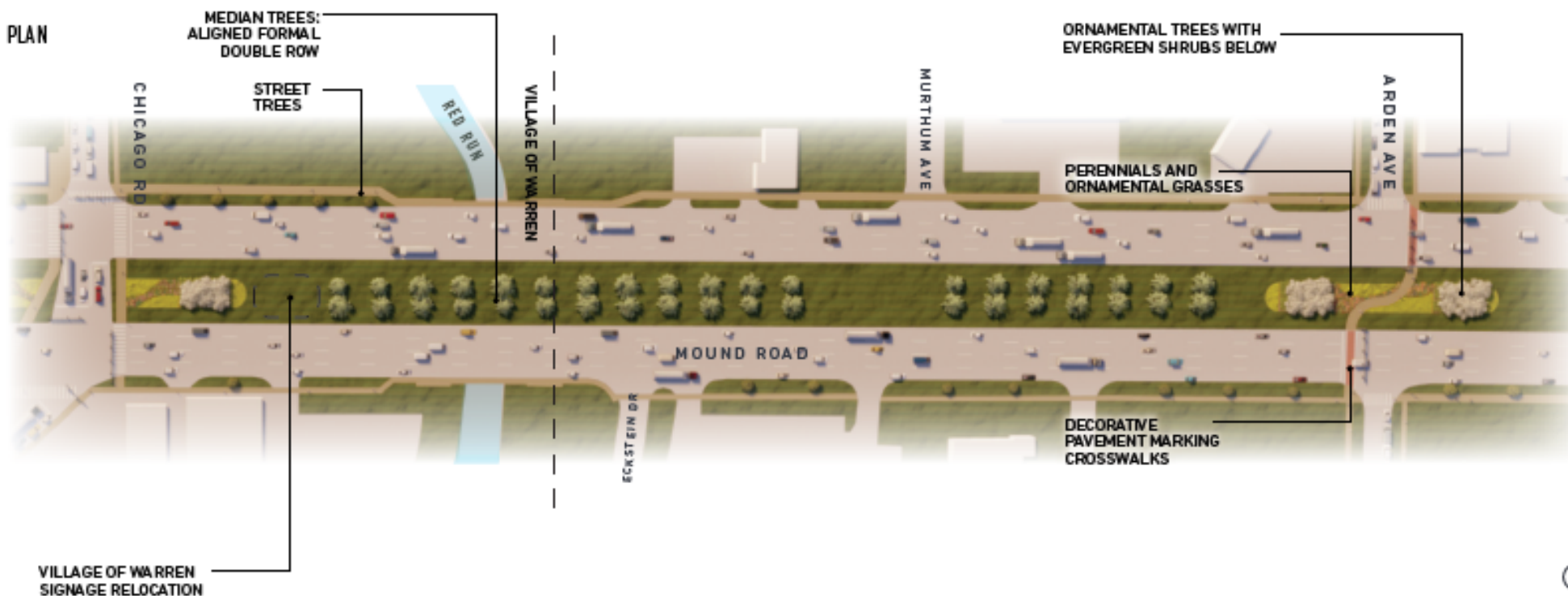


## ARDEN AVENUE PEDESTRIAN CROSSING

The Arden Avenue Intersection treatment will be distinct from the enhanced pedestrian crossings throughout the rest of the corridor due to the updated traffic pattern. This location is also an opportunity to create a branded aesthetic for the Warren Village area.



PLAN



## Motorized and Nonmotorized Safety

- Analyzed crash history (2015-2018) to identify crash hot-spots along the corridor.
- Most crash hot-spots are near intersections, congested areas or related to cross-over maneuvers.

## 3 Highest Predictive Crash Frequency Segments

- 12 Mile Road intersection
- Chicago Road to Arden Avenue
- 16 Mile Road intersection

Based on geometry of the roadway segment and traffic volume





## Crash hot-spot location (Mound Road at Arden Avenue):

- The 2015-2018 crash analysis identified 78 crashes at Mound Road and Arden Avenue.
- High percentage of rear-ends likely a result of the tight existing traffic signal spacing and difficulty coordinating signals.
- Angle crashes are mostly related to the traffic movements on Arden Avenue in relation to the heavy traffic on Mound Road.

Crash Type	Number of Crashes (2015-2018)	Crash Severity	
		Injury	PDO
Rear-ends	50	9	41
Angle	13	3	10
Side-swipe (same-direction)	11	0	11
Single motor vehicle	3	1	2
Backing	1	0	1

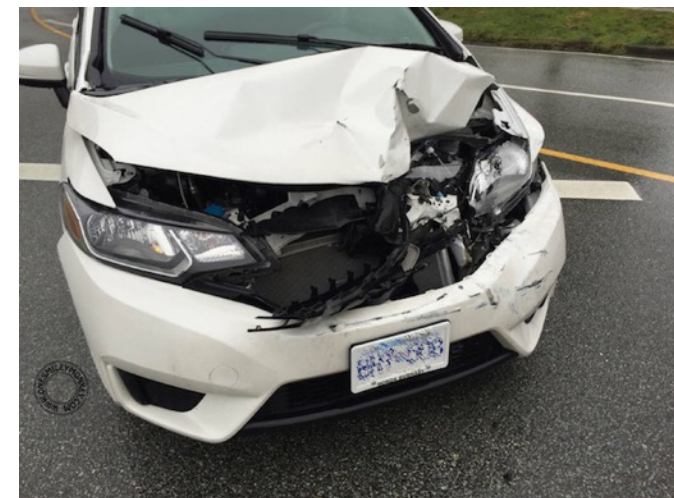


## Rear-End Crashes

- Sudden and unexpected slowing and stopping when drivers make right turns in and out of driveways along the corridor
- Too much slowing and stopping along the corridor due to turbulent traffic flow

## Angle Crashes

- Drivers continuing through a red signal phase on Mound Road, conflicting with through movements on Arden Avenue.
- Drivers turning onto Mound Road, conflicting with corridor traffic.



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# PROPOSED IMPROVEMENTS

## Mitigation Measures

- Improve the signal timing progression and coordination along the corridor to reduce congestion and promote steady traffic flow.
- Improve signal timing progression to reduce the number of vehicles arriving to the intersection on a red signal phase.
- Remove vehicular conflict points that are subject to more severe crashes

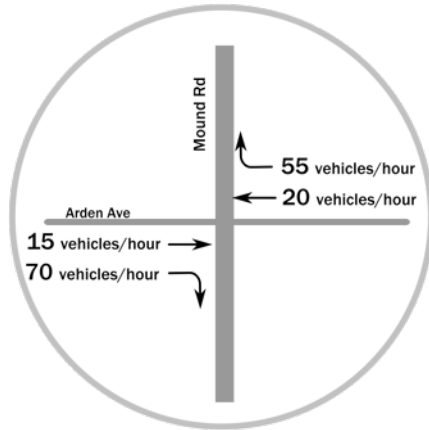
## Proposed Solution

Eliminate the through movement on Arden Avenue at Mound Road and convert intersection to right-in, right-out. Improve signal progression and coordination between 13 Mile Road and 14 Mile Road. Reduce delay on Arden Avenue approaches.

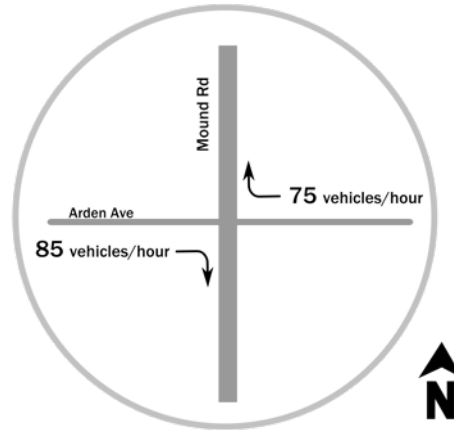
# OPERATIONAL ANALYSIS

## Morning Conditions

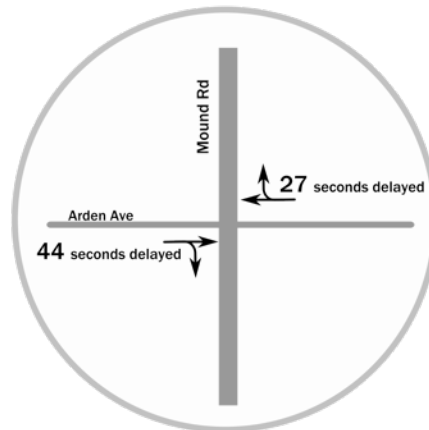
Future No-Build



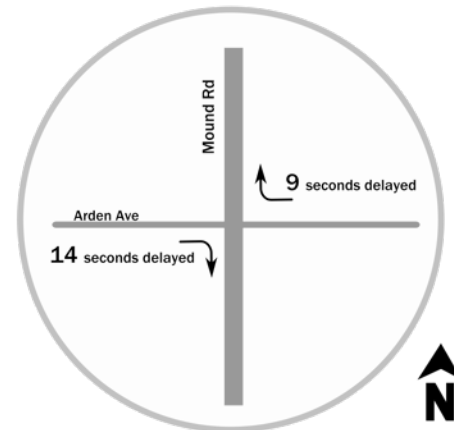
Build



Future No-Build



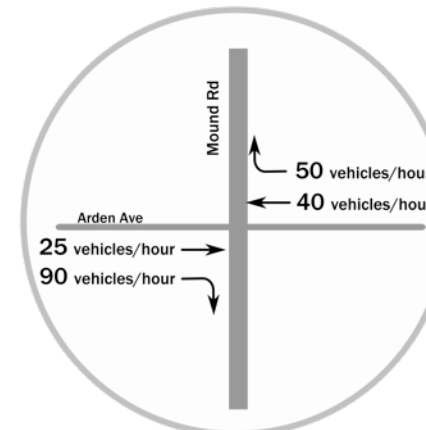
Build



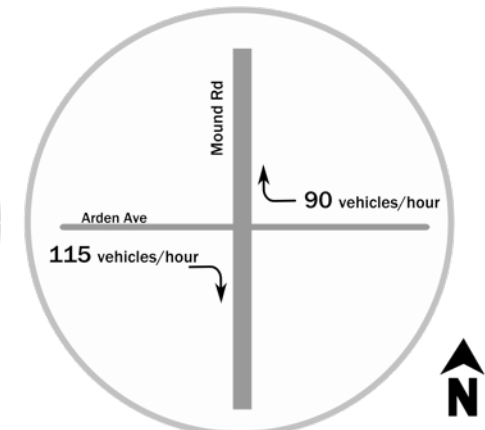
## - delay (seconds/vehicle)

## Afternoon Conditions

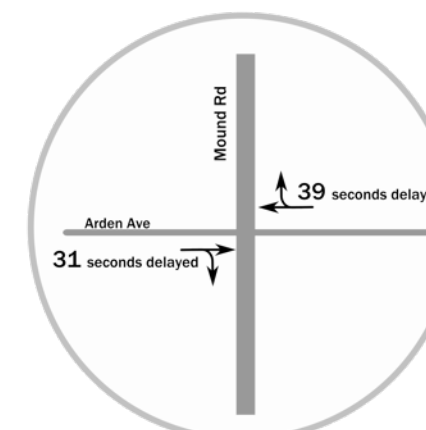
Future No-Build



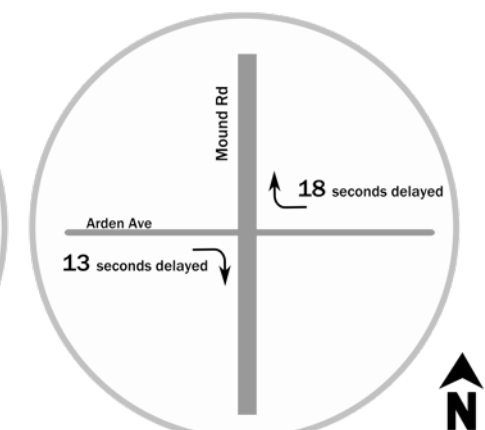
Build



Future No-Build



Build



## - delay (seconds/vehicle)

# ADDITIONAL SAFETY CONCERNS

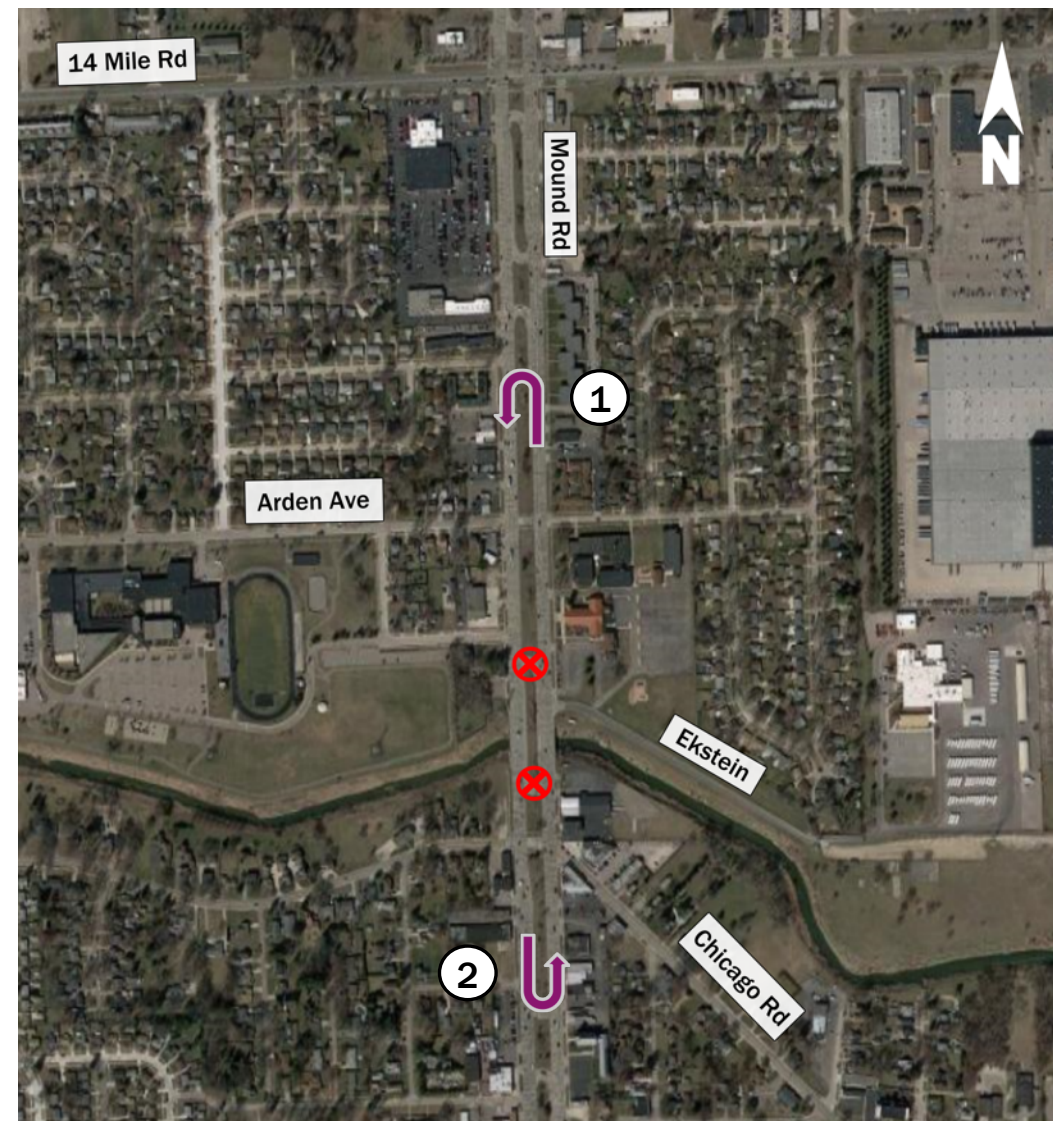
Mound Road between Chicago Road and Arden Avenue was identified in the safety analysis as one of the top three highest crash frequency segments.

Analyzed additional safety and operational concerns between Chicago Road and 14 Mile Road.





# ADDITIONAL SAFETY CONCERNS





# PEDESTRIAN SIGNAL AT ARDEN AVE.

## Benefits:

- Signal heads will be placed on Mound Road as well as Arden Avenue.
  - Detection will be placed on the Arden Avenue approaches to allow green time on Arden Avenue even when pedestrian aren't present, in coordination with nearby signals.
- New configuration allows for more green time and flexibility to coordinate signal timings between 13- and 14-Mile Road, smoother traffic flow and reduced queuing.
- Enhanced options during events.
- Opportunity to enhance the pedestrian experience and the aesthetic of the Historical Village of Warren.



# RUSH HOUR NO-BUILD VS BUILD CONDITIONS

## PM Future No-Build Conditions





## PM Future Build Conditions

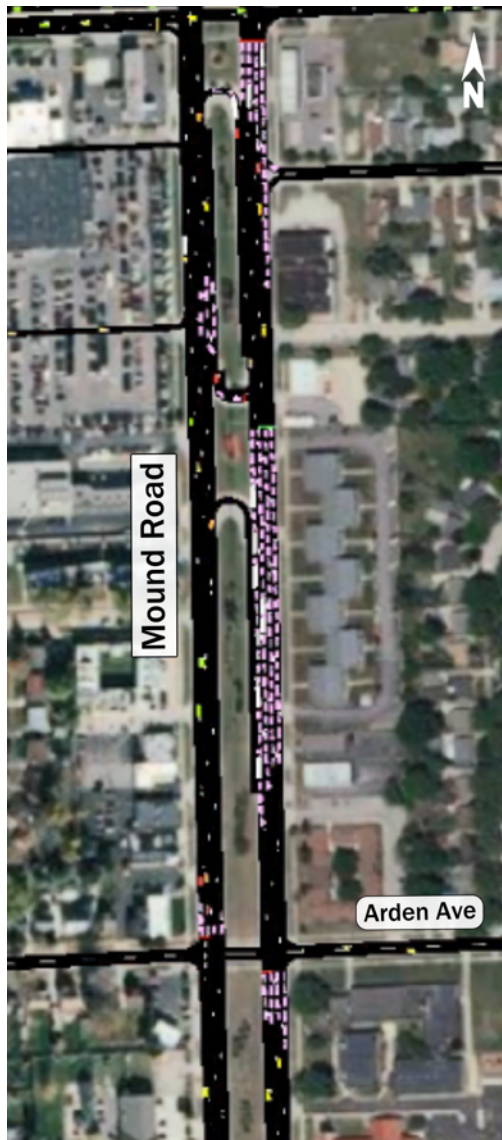


5:15 p.m.

Remove the through movement on Arden Avenue and restrict to right-in right-out.

# RUSH HOUR NO-BUILD VS BUILD CONDITIONS

PM Future No-Build  
Conditions



PM Future Build  
Conditions



## CONTACT US

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## MEDIA INQUIRIES

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