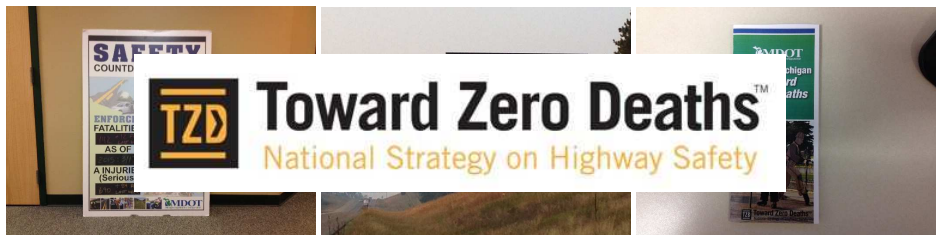Garrett Dawe, P.E.
North Region Operations Engineer

MDOT North Region Toward Zero Deaths Implementation Plan
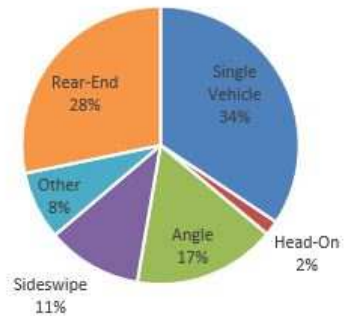

TZD in Michigan

- National Strategy adopted by MDOT in 2010
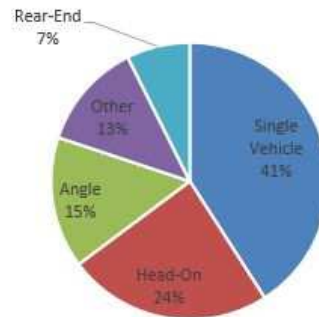
- Primary focus has been increasing awareness

- These are good strategies for raising awareness in Michigan, but are they good strategies for reducing fatal crashes in the North Region?

High Level Crash Analysis
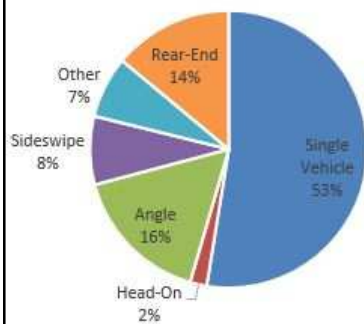
Total Crashes - Trunkline
- Single Vehicle 34%
- Rear-End 28%
- Angle 17%
- Sideswipe 11%
- Other 8%
- Head-On 2%

Fatal Crashes - Trunkline
- Single Vehicle 41%
- Head-On 24%
- Angle 15%
- Other 13%
- Rear-End 7%

High Level Crash Analysis

Total Crashes - Local Roads
- Single Vehicle 53%
- Angle 16%
- Rear-End 14%
- Sideswipe 8%
- Other 7%
- Head-On 2%

Fatal Crashes - Local Roads
- Single Vehicle 68%
- Angle 15%
- Head-On 9%
- Other 8%

High Level Crash Analysis

Fatal Crashes

- Other, 10%
- Angle, 15%
- Lane Departure, 75%
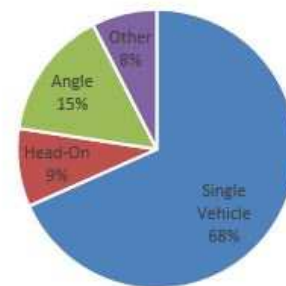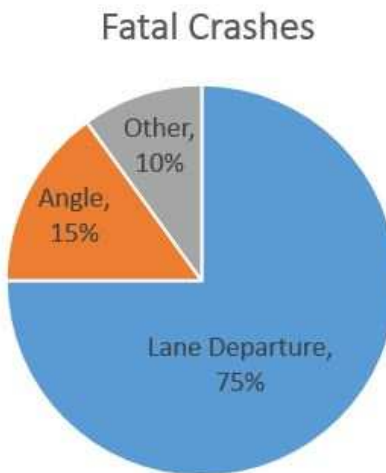
TZD Implementation Plan

- Four focus areas have been identified:
  - Trunkline Lane Departure
  - Trunkline Angle Crashes
  - Local Roads
  - Public Education

- Each focus area includes:
  - Strategies
  - Procedures for tracking implementation
  - Processes for measuring success

TZD Implementation Plan

- Four focus areas have been identified:
  - **Trunkline Lane Departure**
  - Trunkline Angle Crashes
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  - Strategies
  - Procedures for tracking implementation
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Lane Departure Crashes

- Why do they occur?
  - Driver distraction, inattention or impairment
  - Adverse Road Conditions
  - Speed too fast

- Where do they occur?
  - Everywhere.
  - Curves are more susceptible
  - Most fatal crashes occur in rural settings

Lane Departure Crashes

- Two primary mitigation strategies:

  - Implement Measures to keep a driver from leaving:
    - His or Her lane
    - The Roadway

  - Implement measures to reduce the impact if a vehicle does leave the roadway

Trunkline Lane Departure

- Strategy #1: *Identify locations with high lane departure crash frequency compared to the rest of North Region trunklines...*
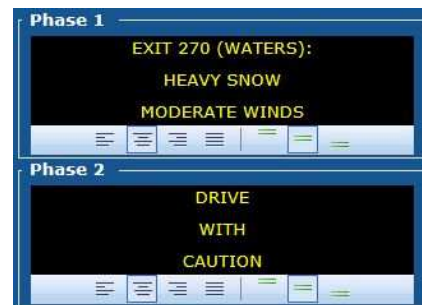
Trunkline Lane Departure

- Strategy #5: **Road R&R Projects:** *Develop a justification process for NOT constructing full paved shoulders on roadways of 45 MPH speed limit or higher with supplemental shoulder rumble strips. An example of a viable justification would be significant environmental impacts, in which case the project should include other countermeasures (i.e. edge line rumble strips, safety edge).*

- Strategy #8: **High Friction Surface:** Spot treatments for curves or intersections with a history of wet crashes and/or low pavement friction values.
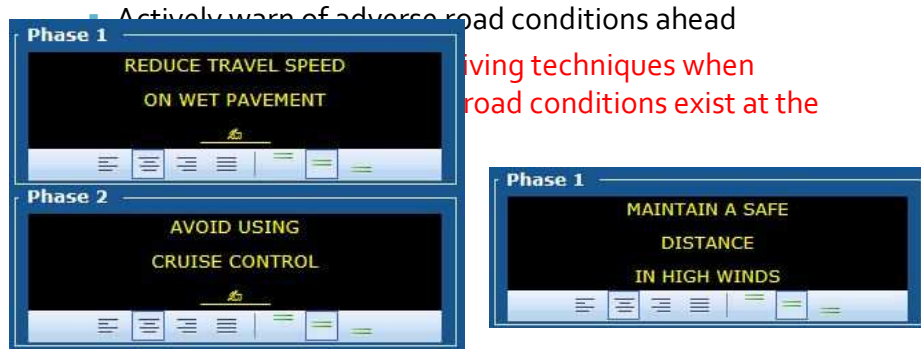
Public Education

Public Education

- Strategy #4: *Utilize freeway message signs to do the following:*

  - Actively warn of adverse road conditions ahead

Public Education

- Strategy #4: *Utilize freeway message signs to do the following:*

  - Actively warn of adverse road conditions ahead
  - ...iving techniques when ...road conditions exist at the

Phase 1
REDUCE TRAVEL SPEED
ON WET PAVEMENT

Phase 2
AVOID USING
CRUISE CONTROL

Phase 1
MAINTAIN A SAFE
DISTANCE
IN HIGH WINDS

Public Education

- Strategy #4: *Utilize freeway message signs to do the following:*

  - Ac...
  - Ac... inc... me...
  - Wh... post saf... orthern Mi...

Phase 1
20% OF TRAFFIC DEATHS
IN NORTHERN MICHIGAN
ARE ALCOHOL-RELATED

Phase 2
BUZZED DRIVING
IS
DRUNK DRIVING

Conclusion

- Current 5 Year Plan for North Region Safety:
  - $13 Million
  - 5 Fatal Crashes being addressed
  - 2 out of 5 fatal crashes were lane departure

- North Region TZD Implementation Plan is a shift in focus from:
  - Crash *Locations* to…
  - Crash ***Types***