



MINNESOTA

TOWARD **ZERO** DEATHS

# Purpose and Protocol of a Fatal and Serious Injury Crash Review Committee

*Jessica Schleck,  
SE MN Toward Zero Deaths Coordinator*

# Purpose

- Identify trends that contributed to recent crashes, resulting fatalities or serious injuries
- Determine specific action to implement to help prevent similar crashes and outcome
- Follow through with action items
- Inform stakeholders as appropriate.



# Confidentiality

- May identify sensitive and/or confidential information.
- Essential personnel should be present.



# Required Participants

- Local & State Law Enforcement
- County & State District Traffic Engineers
- Local Emergency Medical & Trauma Service Responders
- TZD Safe Roads Coordinator

*In addition:*

- Responders that were ON SCENE of the Crash
- Crash Reconstructionist



## What is Reviewed?

- Who: Drivers, passengers, pedestrians, etc.
- Where: Specific roadway types, intersections, detailed locations, etc.
- When: Time of day, day of the week, weather conditions, etc.



# Crash Factors



- Human
- Roadway
- Vehicle



# *“The Golden Hour”*

Post-crash factors that may influence survival/fatality outcomes:

- Emergency response time – was there a delayed response time?
- Extrication time
- Transport time to a hospital or trauma center



# Obtaining Crash Reports

## In the Past...

Local Sheriff's Office

Local Police Department

State Patrol Representative





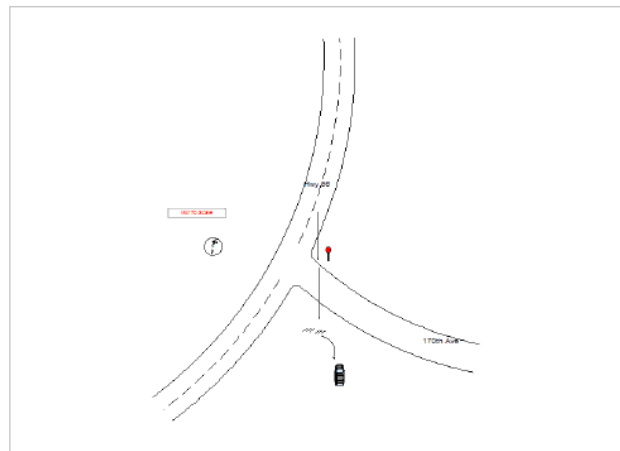
# NOW...

- MnDOT is able to pull summaries of fatal and serious injury crashes by county!
- And... the summaries include ALL roadways!

Incident ID  
810574Crash Date and Time  
5/14/2020 8:50:00AMReport Status  
Accepted - NA

|                                    |                               |                                  |  |                               |                              |  |  |                                  |                    |
|------------------------------------|-------------------------------|----------------------------------|--|-------------------------------|------------------------------|--|--|----------------------------------|--------------------|
| DPS ID<br>201350123                | Local Case Number<br>20102255 | MnDOT District<br>D6-ROCHESTER   | County<br>Dodge                                      | City/Township<br>Wasioja      | Tribal Reservation<br>NA     | Link to Web Map<br>Lat: 44.040000000<br>Lon: -92.900000000 |  |                                  |                    |
| LRS ROUTE ID<br>0300000000000056-I | LRS Route Measure<br>59.21    | Route System<br>3                | Route Number<br>MN-56                                | Reference Point<br>058+00.902 | Route Name<br>170th Ave      | Route Direction<br>South                                   | Officer Location Description<br>170TH AVE -1 |                                  |                    |
| Crash Severity<br>1 - Fatal Crash  | Number Killed<br>1            | Number of Vehicles<br>1          | Basic Crash Type<br>3-SINGLE VEHICLE RUN<br>OFF ROAD | Manner of Collision<br>NA     | First Harmful Event<br>Ditch | Relative to Trafficway<br>NA                               | Relative to Intersection<br>T Intersection   | Lighting Condition<br>Daylight   |                    |
| Surface Condition<br>Wet           | Weather<br>Cloudy,            | Roadway Factor(s)<br>None - None | School Bus<br>No                                     | Hit and Run<br>NO             | On Bridge<br>No              | In Work Zone<br>No   | Workers Present<br>No                        | Work Zone Type<br>NOT APPLICABLE | Work Zone Location |

|                         | Unit 1  | Unit 2 |
|-------------------------|---|--------|
| Vehicle Type:           | Passenger Car   |        |
| Vehicle Direction:      | Southbound  |        |
| Pre-Crash Maneuver:     | Moving Forward  |        |
| Position/Location:      | Driver (Include Motorcycle Driver)                                  |        |
| Sequence of Events:     | 1-Ran Off Roadway Left<br>2-Ditch<br>3-Overturn/Rollover<br>4-Ditch |        |
| Most Harmful Event:     | Ditch   |        |
| Contributing Factors:   | 1-Driver Speeding   |        |
| Posted Speed Limit:     | 60  |        |
| Traffic Control Device: |   |        |
| Trafficway Description: | 2 - Two-Way, Not Divided - Curve Right - Downhill                   |        |
| Age and Sex:            | 30 - M  | -      |
| Physical Condition:     | Unknown   |        |
| Safety Equipment:       | None Used, Motor Vehicle Occupant                                   |        |
| Injury Severity:        | Killed  |        |

**Officer Narrative**

This mini-van was driving southbound on Hwy 56 approaching the intersection with 170th Ave. Eyewitness West said he saw the mini-van drive past him going at least 90 mph on Hwy 56, run off the left side of Hwy 56 as Hwy 56 curves to the right then crash and roll into the east ditch. The physical evidence supports the fact that the minivan crossed the centerline into the oncoming lane, ran off the left side of the roadway, struck the embankment along 170th Ave, vaulted across 170th Ave, struck the opposite ditch then rolled up the hillside before finally coming to rest at the top of the hill on its left side.

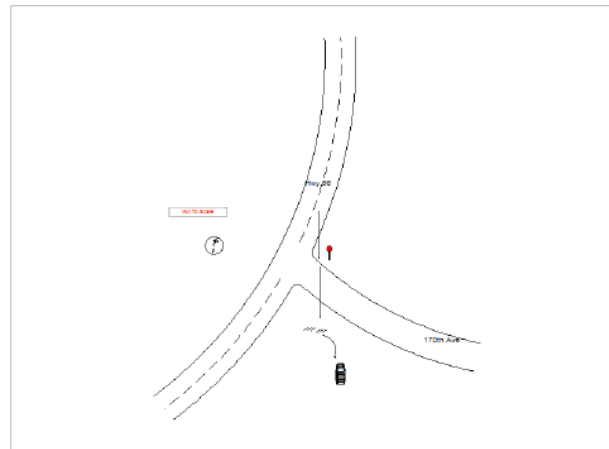
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**SHSP Focus Areas**

|                    |                          |                 |                  |                         |                           |                           |                      |
|--------------------|--------------------------|-----------------|------------------|-------------------------|---------------------------|---------------------------|----------------------|
| Bicyclists<br>N    | Commercial Vehicles<br>N | Impairment<br>N | Inattention<br>N | Intersections<br>Y      | Lane Departure HOSSO<br>N | Lane Departure SVROR<br>Y | Motorcyclists<br>N   |
| Older Drivers<br>N | Pedestrians<br>N         | Speed<br>Y      | Trains<br>N      | Unbelted Occupants<br>Y | Unlicensed Drivers<br>N   | Work Zones<br>N           | Younger Drivers<br>N |

|                                    |  |                                  |  |                               |                              |                              |  |                                  |  |
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| Surface Condition<br>Wet           | Weather<br>Cloudy,                         | Roadway Factor(s)<br>None - None | School Bus<br>No                                     | Hit and Run<br>NO             | On Bridge<br>No              | In Work Zone<br>No           | Workers Present<br>No                        | Work Zone Type<br>NOT APPLICABLE | Work Zone Location   |

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| Posted Speed Limit:     | 60  |        |
| Traffic Control Device: |   |        |
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| Physical Condition:     | Unknown   |        |
| Safety Equipment:       | None Used, Motor Vehicle Occupant                                   |        |
| Injury Severity:        | Killed  |        |



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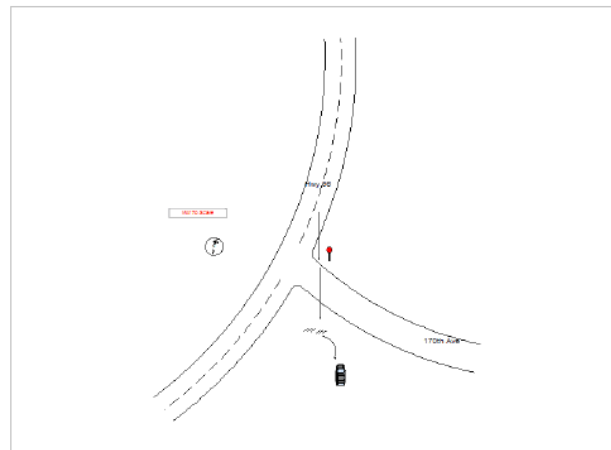
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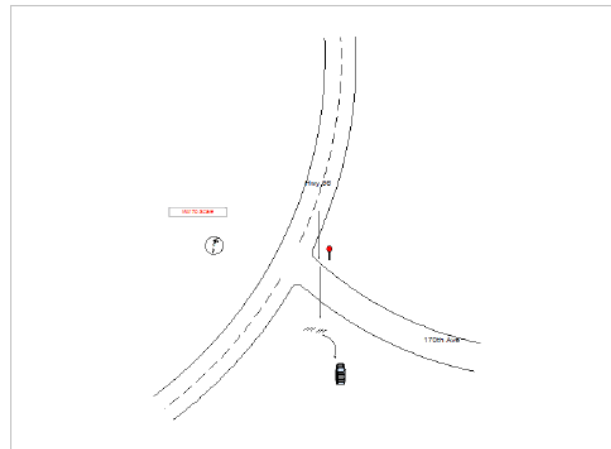
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|                    |                          |                 |                  |                         |                           |                           |                      |
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| Older Drivers<br>N | Pedestrians<br>N         | Speed<br>Y      | Trains<br>N      | Unbelted Occupants<br>Y | Unlicensed Drivers<br>N   | Work Zones<br>N           | Younger Drivers<br>N |



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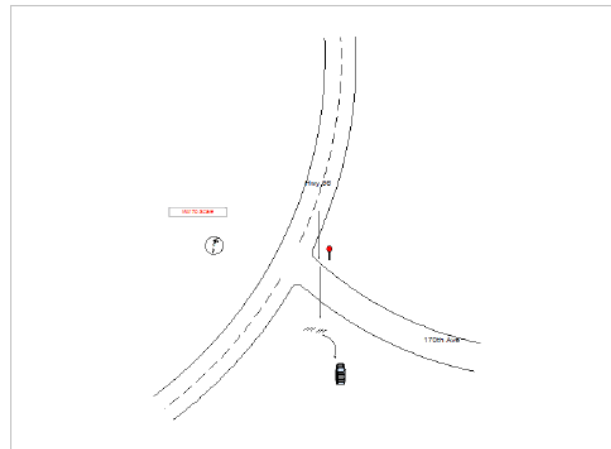
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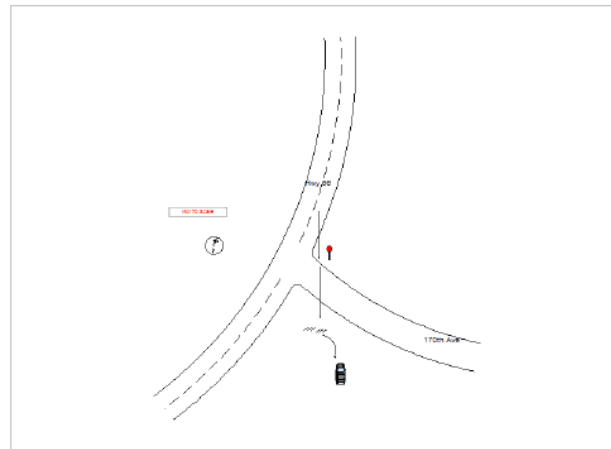
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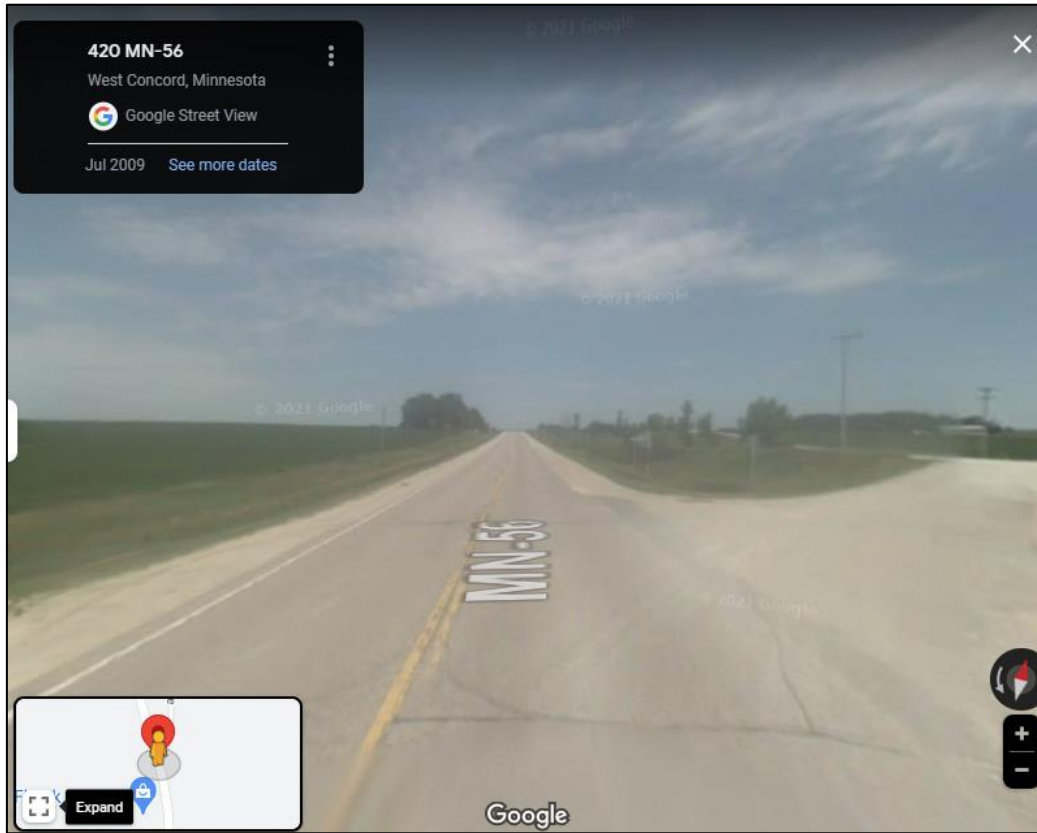
**Officer Narrative**

This mini-van was driving southbound on Hwy 56 approaching the intersection with 170th Ave. Eyewitness West said he saw the mini-van drive past him going at lease 90 mph on Hwy 56, run off the left side of Hwy 56 as Hwy 56 curves to the right then crash and roll into the east ditch. The physical evidence supports the fact that the minivan crossed the centerline into the oncoming lane, ran off the left side of the roadway, struck the embankment along 170th Ave, vaulted across 170th Ave, struck the opposite ditch then rolled up the hillside before finally coming to rest at the top of the hill on its left side.

Firefighters, who arrived first, told me they found the driver laying in the back of the minivan with no evidence he had his seatbelt on. First responders were not able to revive the driver. The driver was deceased from the crash.

**SHSP Focus Areas**

|                    |                          |                 |                  |                         |                           |                           |                      |
|--------------------|--------------------------|-----------------|------------------|-------------------------|---------------------------|---------------------------|----------------------|
| Bicyclists<br>N    | Commercial Vehicles<br>N | Impairment<br>N | Inattention<br>N | Intersections<br>Y      | Lane Departure HOSSO<br>N | Lane Departure SVROR<br>Y | Motorcyclists<br>N   |
| Older Drivers<br>N | Pedestrians<br>N         | Speed<br>Y      | Trains<br>N      | Unbelted Occupants<br>Y | Unlicensed Drivers<br>N   | Work Zones<br>N           | Younger Drivers<br>N |



# Google Maps

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*District Safety Plan Updates*

## The Big Book of Ideas

Prepared for:  
Minnesota DOT

Prepared by:  
**CH2MHILL**® Team

March 2015  
Version 1.0

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# Engineering Strategies:

## Rural

- Segments
- Curves
- Intersections

## Urban

- Segments
- Intersections

## Interchange Types

## List of Strategies

### Rural Segments

- Centerline Rumble Strip
- Buffer Between Opposing Lanes
- Shoulder/Edgeline Rumble Strips
- Safety Edge
- Enhanced Edgeline (6" & 8")
- Shoulder Paving (2', 4', 6')
- Clear Zone Maintenance/Enhancements
- Ditch/embankment Improvements

### Rural Curves

- Chevrons
- Delineators
- High Friction Surface Treatment (HFST)
- Dynamic Curve Signing
- Lighting
- Clear Zone Maintenance/Enhancements
- Reconstruct [TT to a Single T Intersection]

### Rural Intersections

- Upgrade Signs and Pavement Markings
- Streetlights (and approaches)
- All-Way Stop/Yield
- Restricted Crossing U-Turn (RCUT) Intersection
- Rural Intersection Conflict Warning System (RICW)
- Offset T-Intersection
- Roundabout
- Turn Lanes (Offset, Channelized)



Shoulder Rumble Strips

Source: Mitigation Strategies for Design Exceptions (FHWA, FHWA-SA-07-011)



Edgeline Rumble Strips

Source: Proven Countermeasures, Longitudinal Rumble Strips and Stripes on 2-Lane Roads (FHWA)

## Rural Segments

| Strategy                            | Crash Reduction Factor*   | Typical Installation Costs                            |
|-------------------------------------|---|---|
| Centerline Rumble Strip             | 40% head-on/sideswipe crashes   | \$3,600 per mile                                      |
| Buffers Between Opposing Lanes      | 50% for all crashes & 100% for head-on crashes [based on TH 5 in Lake Elmo, MN] | \$150,000 to \$500,000 per mile                       |
| Shoulder/Edgeline Rumble Strip      | 20% run off road crashes  | \$5,850 per mile                                      |
| Safety Edge                         | 5% to 10%§  |   |
| Enhanced Edgeline (6" & 8")         | 10% to 45% all rural serious crashes (6")                                       | \$1,980 per mile                                      |
| Shoulder Paving (2', 4', 6')        | 20% to 30% run-off-the-road crashes (with shoulder rumble) (2' only)            | \$54,000 per mile +\$5,850 per mile (for Edge Rumble) |
| Clear Zone Maintenance/Enhancements |   |   |
| Ditch/Embankment Improvements       |   | \$500,000 to \$1M per mile                            |

Notes:

\* - Crash reduction factors based on review of CMF Clearinghouse and other published research

§ - For all crashes

| Identified Trends          | Frequency       |
|----------------------------|-----------------|
| Seat Belt                  | 4 unbelted      |
| Speed                      | 5 speed-related |
| Distraction                | 1               |
| Inexperience               | 1 teen driver   |
| Equipment                  | None            |
| Weather                    | 2 snow and ice  |
| Alcohol                    | 1               |
| Other Substances           | None reported   |
| Other: (please list below) | 1 ATV           |
|                            |                 |
|                            |                 |
|                            |                 |
|                            |                 |

The committee found the following factors to be represented: speed, impaired driving, lack of seat belt use and failure to yield.

Trees and shrubs will be removed at various locations. Engineering components will be reviewed at the Highway Safety Planning meeting in November.

Educational components will be addressed at 3 local government presentations throughout the year.

The coalition will be enhancing their seat belt efforts throughout each school in the county. Seat belt challenges took place at each school last spring and we plan to host the 3<sup>rd</sup> annual this year.

**ACTION ITEMS**

| Meeting # | Actions | Completed | Not Completed |
|-----------|---------|-----------|---------------|
| 1         |         |           |               |
| 2         |         |           |               |
| 3         |         |           |               |
| 4         |         |           |               |

**SAMPLE**

**STAKEHOLDER LEADERS INFORMED OF COMMITTEE FINDINGS, ACTIONS, DISCUSSION POINTS**

| Meeting # | Stakeholder Leaders | Completed | Not Completed |
|-----------|---------------------|-----------|---------------|
| 1         |                     |           |               |
| 2         |                     |           |               |
| 3         |                     |           |               |
| 4         |                     |           |               |

Notes, Comments:

## Committee Action

- Enhance public awareness
- Evaluate possible Engineering Strategies
- Determine possible locations that could benefit from high-vis enforcement
- Review post-crash factors affecting “The Golden Hour”



| Identified Trends          | Frequency       |
|----------------------------|-----------------|
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|                            |                 |
|                            |                 |

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#### ACTION ITEMS

| Meeting # | Actions  | Completed | Not Completed |
|-----------|--|-----------|---------------|
| 1         | Targeted seat belt enforcement                   |           |               |
| 2         | Responsible Beverage Service Training            |           |               |
| 3         | Spring seat belt education/challenges in schools |           |               |
| 4         |  |           |               |

#### STAKEHOLDER LEADERS INFORMED OF COMMITTEE FINDINGS, ACTIONS, DISCUSSION POINTS

| Meeting # | Stakeholder Leaders | Completed | Not Completed |
|-----------|---------------------|-----------|---------------|
| 1         |                     |           |               |
| 2         |                     |           |               |
| 3         |                     |           |               |
| 4         |                     |           |               |

**SAMPLE**

Notes, Comments:

**Thank you!**