

**CITY of NOVI CITY COUNCIL**

**Agenda Item H  
November 23, 2009**

**SUBJECT:** Approval of Traffic Control Order 09-16 for the implementation of a 35 mph speed limit on Eleven Mile from Town Center to Seeley Road.

**SUBMITTING DEPARTMENT:** *RH* Department of Public Services, Engineering Division *BTC*  
Police Department

**CITY MANAGER APPROVAL:** *[Signature]*

**BACKGROUND INFORMATION:**

Speed limits are governed by the Michigan Vehicle Code (MVC) and the Michigan Manual of Traffic Control Devices (MMUTCD). The MVC provides a standard "prima facie" speed based on the number of access points on a roadway. The MVC allows the local agency to adjust the speed limit based on a traffic engineering study. The MMUTCD requires an engineering study to determine the speed limit in accordance with established traffic engineering practices, and that the limit must be adopted by the local agency in the form of a traffic control order. The engineering study identifies the 85<sup>th</sup> percentile speed, or the speed at which 85 percent of the traffic is traveling at or below that speed. Drivers who are ticketed for violating a speed limit can challenge the ticket if a valid traffic control order (supported by an engineering study) is not on file.

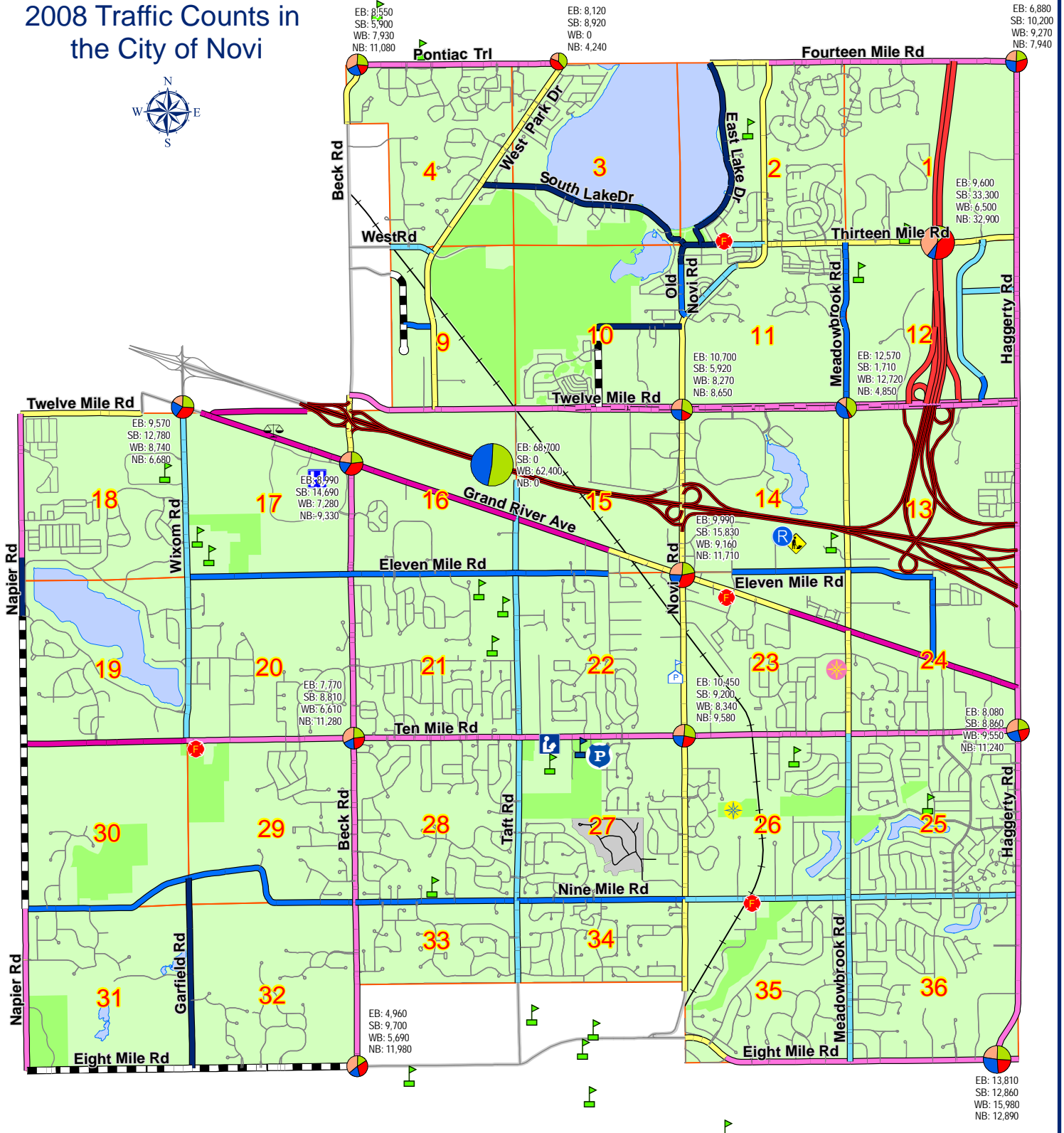
The Department of Public Services is currently in the process of reviewing all traffic control orders on file to match them with currently installed signs to ensure that all signs requiring traffic control orders have a valid order on file and to identify any traffic control orders that are no longer valid. It was determined that a traffic control order for Eleven Mile Road from Town Center Drive to Seeley Road does not have a traffic control order. Therefore, a speed limit study was conducted by the City's traffic consultant, Birchler Arroyo, and a speed limit of 35 miles per hour is recommended (see Birchler's October 29, 2009 study, attached).

**RECOMMENDED ACTION:** Approval of Traffic Control Order 09-16 for the implementation of a 35 mph speed limit on Eleven Mile from Town Center to Seeley Road.

	1	2	Y	N
Mayor Landry				
Mayor Pro Tem Gatt				
Council Member Crawford				
Council Member Fischer				

	1	2	Y	N
Council Member Margolis				
Council Member Mutch				
Council Member Staudt				

# Speed Limits & Selected 2008 Traffic Counts in the City of Novi



Map Author: Christopher Blough, GIS Manager  
 Date: November 18, 2009  
 Project: Speed Limits and Selected 2008 Traffic Counts  
 Version #: 1.0

### MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

### Map Legend

- |                       |  |                            |                    |
|-----------------------|--|----------------------------|--------------------|
| <b>Traffic Counts</b> |  | <b>Posted Speed Limits</b> |                    |
|                       | Traffic Volume is Proportionate to Size of Pie |                            | Expressway/Ramp 35 |
|                       | = 270,000 ADT                                  |                            | Unposted (55 MPH)  |
|                       | Eastbound Traffic                              |                            | 55                 |
|                       | Southbound Traffic                             |                            | 50                 |
|                       | Westbound Traffic                              |                            | 45                 |
|                       | Northbound Traffic                             |                            | 40                 |
|                       |  |                            | 25                 |
|                       |  |                            | Residential 25     |
|                       |  |                            | Railroad           |
|                       |  |                            | Parks              |



**City of Novi**  
 Geographic Information Services  
 Department of Information Technology  
 45175 W Ten Mile Rd  
 Novi, MI 48375  
 cityofnovi.org



**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

  X   SPEED  
PARKING  
OTHER

DATE OF ORDER: November 13, 2009

CONTROL NUMBER: 09-16

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, SENIOR CIVIL ENGINEER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**ELEVEN MILE RD**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE **SPEED LIMIT** SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**SPEED LIMIT FOR ELEVEN MILE RD EAST OF TOWNCENTER TO WEST OF SEELEY RD TO BE 35 MPH**

  
TRAFFIC ENGINEER-BRIAN COBURN

DATED: 11/13/2009

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 09-16 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDEED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COP THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**SPEED LIMIT FOR ELEVEN MILE RD EAST OF TOWNCENTER TO WEST OF SEELEY RD TO BE 35 MPH**

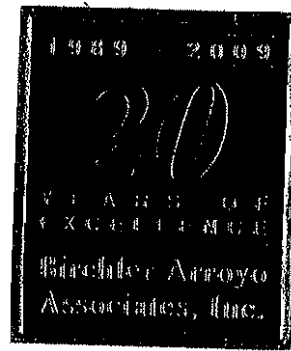
ADOPTED AT THE REGULAR MEETING  
OF COUNCIL ON \_\_\_\_\_.

BY: \_\_\_\_\_  
Mayor - David Landry

By: \_\_\_\_\_  
City Clerk - Maryanne Cornelius

October 29, 2009

Brian T. Coburn, P.E.  
Engineering Div., Dept. of Public Services  
City of Novi  
26300 Delwal Drive  
Novi, MI 48375  
[bcoburn@cityofnovi.org](mailto:bcoburn@cityofnovi.org)



**Subject: Speed Limit Study of Eleven Mile Road between Town Center and Seeley**

Dear Mr. Coburn:

Eleven Mile Road between Town Center Drive and Seeley Road (Figure 1) currently has a posted speed limit of 30 mph. In evaluating this limit per your request, we considered it appropriate to reference the *2005 Michigan Manual of Uniform Traffic Control Devices (MMUTCD)* as well as recently enacted State law supporting access-point frequency and prevailing speed as the two leading determinants of speed limit.

Section 2B.13 of the *MMUTCD* establishes the standard that an "engineering study... in accordance with established traffic engineering practices" be conducted prior to setting a speed limit. Guidance for such a study includes the following:

- "When a speed limit is to be posted, it should be within ... 5 mph of the 85<sup>th</sup>-percentile of free-flowing traffic.
- Other factors that may be considered when establishing speed limits are the following:
  - A. Road characteristics, shoulder condition, grade, alignment, and sight distance;
  - B. The pace speed;
  - C. Roadside development and environment;
  - D. Parking practices and pedestrian activity;
  - E. Reported crash experience for at least a 12-month period."

A portion of the *Michigan Vehicle Code* (MCL 257.627) establishes prima facie speed limits based on (1) whether or not the road runs through a business district, and (2) the number of access points (driveways or intersecting roadways) within each half mile of road. In a business district or where there are 60 or more access points per half mile, the prima facie limit is 25 mph. Outside a business district, the prima facie limit is 35 mph for 45-59 access points per half mile and 45 mph for 30-44 access points per half mile.

A higher speed limit (or limits) can be established by the City based on an engineering study. As you will see in the discussion section below, we began such a study by first determining the prima facie speed limit by road section, and completed the study with an evaluation of 85<sup>th</sup>-percentile speed and recent crash experience.

## Recommendation

The speed limit on Eleven Mile Road, between Town Center and Seeley, should be set at 35 mph and supported by a Traffic Control Order and as well as changes to all existing speed limit signs.

## Discussion

**Prima Facie Speed Limit** – Our review of recent-vintage aerial photos, supplemented by field observations, indicates that Eleven Mile Road between Town Center and Meadowbrook is not a business district according to the 2006 amended definition in MCL 257.5. Our review also found that there are 13 vehicular access points (including Delwal Drive) between Town Center and Meadowbrook, equivalent to about nine per half mile. Between Meadowbrook and Seeley, there are only four access points per half mile. Both of these access-point frequencies are well below any of the ranges specified in MCL 257.627; hence, the prima facie speed limit is 55 mph.

**85<sup>th</sup>-Percentile Speed** – At our request, City staff conducted automated speed and volume sampling over 48-hour midweek periods. The sampling locations are shown in red on Figure 1 (above).

Table 1 (on next page) summarizes the resulting speed statistics by location, direction, and day. As can be seen, the 85<sup>th</sup>-percentile speed was found to be 35.9 mph between Town Center and Meadowbrook, and 38.7 mph between Meadowbrook and Seeley. *Based on these prevailing speeds, a 35-mph speed limit is appropriate for both sections of Eleven Mile Road.*

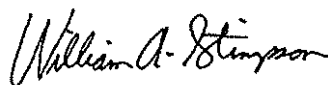
**Crash Experience** – The Traffic Improvement Association searched its files for crashes occurring along Eleven Mile from Town Center to Seeley between 2005 and 2008, inclusive. Excluded were intersection crashes at Town Center, Meadowbrook, and Seeley, since such crashes would likely be due primarily to factors other than the speed limit on Eleven Mile.

The only crash reported for the overall 1.25-mile road section, over all four years, occurred 200 ft east of Delwal (see Appendix B). This "crash" involved a swan flying into the windshield of a Mack truck. The incident was probably due more to the speed of the swan than the speed of the truck.

Sincerely,  
BIRCHLER ARROYO ASSOCIATES, INC.



Rodney L. Arroyo, AICP  
Vice President



William A. Stimpson, P.E.  
Director of Traffic Engineering



Speed Sampling  
Locations  
Marked in Red



BIRCHLER ARROYO  
ASSOCIATES, INC.

Figure 1. Vicinity Aerial

**Table 1. Summary of September-October Speed Statistics**

Section	Dir.	Date	Sample Size	Speed (mph)			
				Average	85th %tile	10-mph Pace	% in Pace
Town Center to Meadowbrook	EB	9-01-09 (>10 am)	1011	31.4	36.6	25-35	71.7%
		9-02-09	1580	31.7	36.9	25-35	71.7%
		9-03-09 (<10 am)	529	31.8	36.8	25-35	73.3%
		Average Day	1560	31.6	36.8	25-35	72.0%
	WB	9-01-09 (>10 am)	1395	30.6	34.9	25-35	78.4%
		9-02-09	1559	30.9	34.9	25-35	78.7%
		9-03-09 (<10 am)	159	32.1	37.1	25-35	70.4%
		Average Day	1557	30.8	35.0	25-35	78.1%
<b>Both</b>	<b>Average Day</b>	<b>3117</b>	<b>31.2</b>	<b>35.9</b>	<b>25-35</b>	<b>75.1%</b>	
Meadowbrook to Seeley	EB	10-20-09 (> 11 am)	250	31.3	37.3	25-35	64.8%
		10-21-09	322	33.4	38.6	30-40	71.1%
		10-22-09 (<11 am)	74	33.6	38.4	30-40	77.0%
		Average Day	323	32.6	38.1	30-40	69.3%
	WB	10-20-09 (> 11 am)	242	33.7	39.3	30-40	66.1%
		10-21-09	366	34.0	39.4	30-40	67.2%
		10-22-09 (<11 am)	117	32.9	38.9	25-35	63.2%
		Average Day	363	33.7	39.3	30-40	66.2%
<b>Both</b>	<b>Average Day</b>	<b>686</b>	<b>33.2</b>	<b>38.7</b>	<b>30-40</b>	<b>67.7%</b>	

## CRASH DATA



Traffic Improvement Association

**Crash Report**

David Allyn

ON\_ROAD: ELEVEN MILE  
 FROM\_ROAD: GRAND RIVER  
 TO\_ROAD: MEADOWBROOK  
 TYPE: CRASH\_LINK  
 STATE: MI  
 COUNTY: OAKLAND  
 COMMUNITY: Novi  
 STAT\_YEAR: 3-Year,  
 CRASH\_ID: 1002662  
 FROM\_DATE: 1/1/2005  
 TO\_DATE: 12/31/2008  
 LOCATION: ELEVEN MILE AT

Printed On: 8/24/2009

**#1 Location:** E 11 MILE RD (0.30) 200 feet E of DELWAL **Crash ID:** 6792140  
**Crash Date:** 10/09/2007 **Day:** Tue **Hour:** 8am **Weather:** cloudy **Roadway:** dry **Light:** day  
**Injuries K:** 0 **Inj A:** 0 **Inj B:** 0 **Inj C:** 0 **Inj O:** 1 **How:** single  
**CVT:** Novi **Area:** straight **HBD:** N **Drugs:** N **Complaint No:** 0760800

Unit No	Veh Dir	Action Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	E	go straight	animal	none	none	none	none	truck/bus	unknown

UD-10: 070262437

Authority: 1949 PA 300, Sec. 257.622  
Compliance: Required MSP UD-10  
Penalty: \$100 and/or 90 days (Flow 1.04)

Do Not Use  
Crash ID 6792140

Page 1 of 1

# STATE OF MICHIGAN TRAFFIC CRASH REPORT

ORI: MI-6362700 Department Name: Novn Police Dept

File Class: 9300-1

Incident Disposition:  Open  Closed

Crash Date Month: 10 Day: 09 Year: 2007	Crash Time Military: 0830	No. of Units: 01	Crash Type <input checked="" type="radio"/> Single Motor Vehicle <input type="radio"/> Head On <input type="radio"/> Head On-Left Turn <input type="radio"/> Angle <input type="radio"/> Rear End <input type="radio"/> Rear End-Left Turn <input type="radio"/> Rear End-Right Turn <input type="radio"/> Sideswipe-Same <input type="radio"/> Sideswipe-Opposite <input type="radio"/> Other/Unknown	Special Circumstances <input type="radio"/> School Bus <input type="radio"/> Hit and Run <input type="radio"/> Fleeing Police <input type="radio"/> Local <input type="radio"/> State <input type="radio"/> Severe Wind <input type="radio"/> Snow/Blowing Snow <input type="radio"/> Fog/Smoke <input type="radio"/> Rain <input type="radio"/> Other/Unknown	Special Checks <input type="radio"/> Fatal (Copy All) <input type="radio"/> Corrected Copy <input type="radio"/> Replace (Entire Report) <input type="radio"/> Delete (Entire Report) <input type="radio"/> Non-Traffic Area <input type="radio"/> ORV/Snowmobile
County: 63 City/Twp: 62	Traffic Control <input checked="" type="radio"/> None of Those <input type="radio"/> Signal <input type="radio"/> Stop Sign <input type="radio"/> Yield Sign	Relation to Roadway (Location of First Impact) <input type="radio"/> Shoulder <input type="radio"/> Outside of Shoulder/Curb <input checked="" type="radio"/> On Road <input type="radio"/> Median <input type="radio"/> Gore <input type="radio"/> Other/Unknown	Weather (Mark Only One) <input checked="" type="radio"/> Clear <input type="radio"/> Cloudy <input type="radio"/> Fog/Smoke <input type="radio"/> Rain <input type="radio"/> Snow/Blowing Snow <input type="radio"/> Sleet/Hail <input type="radio"/> Other/Unknown	Light (Mark Only One) <input checked="" type="radio"/> Daylight <input type="radio"/> Dawn <input type="radio"/> Dusk <input type="radio"/> Dark-Lighted <input type="radio"/> Dark-Unlighted <input type="radio"/> Other/Unknown	Area: 10 Total Lanes: 3 Speed Limit: 30 Posted: <input type="radio"/> Yes <input checked="" type="radio"/> No
Construction Zone (if applicable) (Mark One From Each Group) Type: <input type="radio"/> Const./Maint. <input type="radio"/> Utility Lane Closed: <input type="radio"/> Yes <input type="radio"/> No Activity: <input type="radio"/> On Road <input type="radio"/> Off Road <input type="radio"/> None					

Prefix: EB Road Name: 11 Mile Distance: 200  
 Divided Roadway: (N) (S) (E) (W) Road Type: Rd  
 Trafficway: (2) (3) (4) Access Control: (2) (3)

Prefix: Delwa Intersecting Road: Delwa  
 Divided Roadway: (N) (S) (E) (W) Road Type: Rd

Unit Number: 1 State: MI Date of Birth: 09/27/1961  
 License Type:  O  CY  C  F  M  R Sex:  M  F Total Occup: 01 Hazard Action: 00  
 Unit Type:  MV  B  P  E (train) City: Detroit State: MI Zip: 48235  
 Drivers Condition:  1  2  3  4  5  6  7  8  9  99  
 Interlock:  Yes  No Refused:  Yes  No Not offered:  Yes  No  
 Alcohol:  Yes  No Test Type:  Field  PBT  Breath  Blood  Urine Test Results:  
 Drugs:  Yes  No Test Type:  Blood  Urine Test Results:  
 Injury:  K  A  B  C  O Position: 01 Restraint: 04 Hospital: Ambulance: Citation Issued: Hazardous: N/A Other:

Vehicle Description: Tractor Blue 2007  
 Location of Greatest Damage: (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)  
 First Impact: 1/1 Extent of Damage: 1 Driveable:  Yes  No  
 Vehicle Type:  PA  VA  PU  ST  CY  MO  GC  SM  OR  Other  Truck/Bus  
 Vehicle Direction:  North  South  East  West  
 Special Vehicles: (1) (2) (3) (4) (5) (6) Private Trailer Type: (1) (2) (3) (4) (5) (6) (7) Vehicle Defect: (1) (2) (3) (4) (5) (6) Vehicle Use: (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)

Date of Birth: Sex:  M  F Position: Restraint: Hospital: Ambulance: Ejected:  Yes  No Trapped:  Yes  No  
 Injury:  K  A  B  C  O Airbag Deployed:  Yes  No  Not Equipped

Date of Birth: Sex:  M  F Position: Restraint: Hospital: Ambulance: Ejected:  Yes  No Trapped:  Yes  No  
 Injury:  K  A  B  C  O Airbag Deployed:  Yes  No  Not Equipped

Age	Poc	Res
Age	Poc	Res

Damaged Property: Public  Y  N

LOCALITY PREFIX INTERSECTING ROAD UNIT NUMBER DRIVER INFORMATION VEHICLE INFORMATION PASSENGER INFORMATION

4837481

BACK

Unit Number: [ ] State: [ ]

**NCS**

Unit Type:  MV  B  P  E (train)

City: [ ] State: [ ] Zip: [ ]

Driver Condition: (1) (2) (3) (4) (5) (6) (7) (8) (9) (95)

Interlock:  Yes  No  Refused  Not offered

Alcohol:  Yes  No Test Type:  Field  PBT  Breath  Blood  Urine Test Results: [ ]

Drugs:  Yes  No Test Type:  Blood  Urine Test Results: [ ]

Vehicle Description: Make [ ] Model [ ] Color [ ] Year [ ]

Location of Greatest Damage: (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)

First Impact: [ ] Exent of Damage: [ ] Drivable:  Yes  No

Vehicle Type:  PA  CY  OR  VA  MO  Other  PU  GC  Truck/Bus  ST  SM (Complete Description Section)

Vehicle Direction:  North  South  East  West

Special Vehicles: (1) (2) (3) (4) (5) (6)

Private Trailer Type: (1) (2) (3) (4) (5) (6) (7)

Vehicle Defect: (1) (2) (3) (4) (5) (6)

Vehicle Use: (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)

Date of Birth: [ ] Sex:  M  F Position: [ ] Restraint: [ ] Hospital: [ ]

Amulance: [ ] Ejected:  Yes  No Trapped:  Yes  No

Injury:  K  A  B  C  O Airbag Deployed:  Yes  No  Not Equipped

Age: [ ] Pos: [ ] Feet: [ ]

Forward Original To: Michigan State Police, Traffic Crash Reporting Section, 7150 Harris Drive, Lansing, MI 48913

**Unit Reported on Front**

Action Prior	Sequence of Events			
	First	Second	Third	Fourth
01/20				
Most Harmful	(M)	(M)	(M)	(M)

**Unit Reported Above**

Action Prior	Sequence of Events			
	First	Second	Third	Fourth
Most Harmful	(M)	(M)	(M)	(M)

Unit Number: [ ]

City: [ ] State: [ ]

Zip: [ ] GVWVGCWR: [ ]

Carrier Source:  Papers  Vehicle  Log Book  Driver

Driver's CDL Type:  A  C  B  None  H  P  T  N  S  X

CDL Restrictions:  Interstate  Intra (MI Only)  28  29  30

CDL Exempt:  Farm  Other

Vehicle Type:  AS  AL  BS  CX  AA  AT  BB  SX  Other  AH  AX  BH  CH  AN  AY  BN  CP  AP  AZ  BP  CS

Medical Card:  Y  N

Hazardous Material:  Placard  Cargo Spill

Class # [ ]

Type & Axes Per Unit: First [ ] Second [ ] Third [ ] Fourth [ ]

Cargo Body Type: (1) (2) (3) (4) (5) (6) (7) (8)

Crash Diagram and Remarks

North ↑

11 mile  
Veh 1 was E/W 11 mile  
and was struck in  
the windshield by a  
swan.

TRUCK/BUS INFORMATION

Investigated at Scene  (N)