



CITY of NOVI CITY COUNCIL

**Agenda Item L
August 23, 2010**

SUBJECT: Approval of Traffic Control Order 10-41 for the implementation of a 45 mph speed limit on 13 Mile Road between Meadowbrook Road and Haggerty Road, and approval of Traffic Control Order 10-42 to rescind Traffic Control Order 79-04 for the previous (non-posted) speed limit of 30 mph.

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

CITY MANAGER APPROVAL: 

BACKGROUND INFORMATION:

A recent audit of the City's traffic control sign inventory identified a number of posted speed limits that lack traffic control orders for enforcement of the speed. The Uniform Traffic Code requires that traffic control orders, as issued by the traffic engineer and approved by the City Council, be on file for the enforcement of traffic control signs. As such, an engineering study was performed to establish a legal speed limit as required by the Michigan Manual of Uniform Traffic Control Devices (MMUTCD) (see Birchler Arroyo study dated May 7, 2010). Speed limits are generally set using the 85th percentile speed, which is the speed at or below which 85 percent of the motorists drive on a given road unaffected by slower traffic or poor weather.

The posted speed limit for 13 Mile between Haggerty Road and Meadowbrook Road is currently 40 mph; however the only traffic control order on file for this segment is for a speed limit on this of 30 mph. The proposed speed limit of 45 mph is proposed to represent existing driver behavior on this segment as represented by the 85th percentile speeds of 46.0 mph at Lenox Park and 46.0 mph at Cabot Drive. As discussed in the attached August 10, 2010 memo regarding the proposed speed limit changes, an increase in the posted speed to match the 85th percentile speed does not significantly increase the 85th percentile speed when the posted speed limit is increased. In reviewing the segments on which the speed limits were increased in 2009, the 85th percentile speed increased an average of 0.8 mph. Within one year after implementation of new speed limits, staff will collect speed samples to verify that the new posted speed limit continues to reflect the 85th percentile speed.

The new signs would meet the federal retroreflectivity requirements and would be funded by the Traffic Control Sign Replacement Program as approved in the FY2010-11 budget.

RECOMMENDED ACTION: Approval of Traffic Control Order 10-41 for the implementation of a 45 mph speed limit on 13 Mile Road between Meadowbrook Road and Haggerty Road, and approval of Traffic Control Order 10-42 to rescind Traffic Control Order 79-04 for the previous (non-posted) speed limit of 30 mph.

	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				

CITY OF NOVI
TRAFFIC CONTROL ORDER

 X SPEED
 PARKING
 OTHER

DATE OF ORDER: August 16, 2010

CONTROL NUMBER: 10-41

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.

13 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 13 MILE ROAD FROM MEADOWBROOK ROAD TO HAGGERTY ROAD TO BE 45 MPH



Brian Coburn, P.E. - Traffic Engineer

Dated: August 16, 2010

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 10-41 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

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

SPEED LIMIT FOR 13 MILE ROAD FROM MEADOWBROOK ROAD TO HAGGERTY ROAD TO BE 45 MPH

By: _____
David Landry, Mayor

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON August 23, 2010 .

By: _____
Maryanne Cornelius, Clerk

CITY OF NOVI
TRAFFIC CONTROL ORDER

 X SPEED
 PARKING
 OTHER

DATE OF ORDER: August 16, 2010

CONTROL NUMBER: 10-42

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.

13 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:

TO RESCIND TRAFFIC CONTROL ORDER 79-04 FOR 30 MPH SPEED LIMIT ON 13 MILE RD FROM MEADOWBROOK ROAD TO HAGGERTY ROAD



Brian Coburn, P.E. - Traffic Engineer

Dated: August 16, 2010

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 10-42 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

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

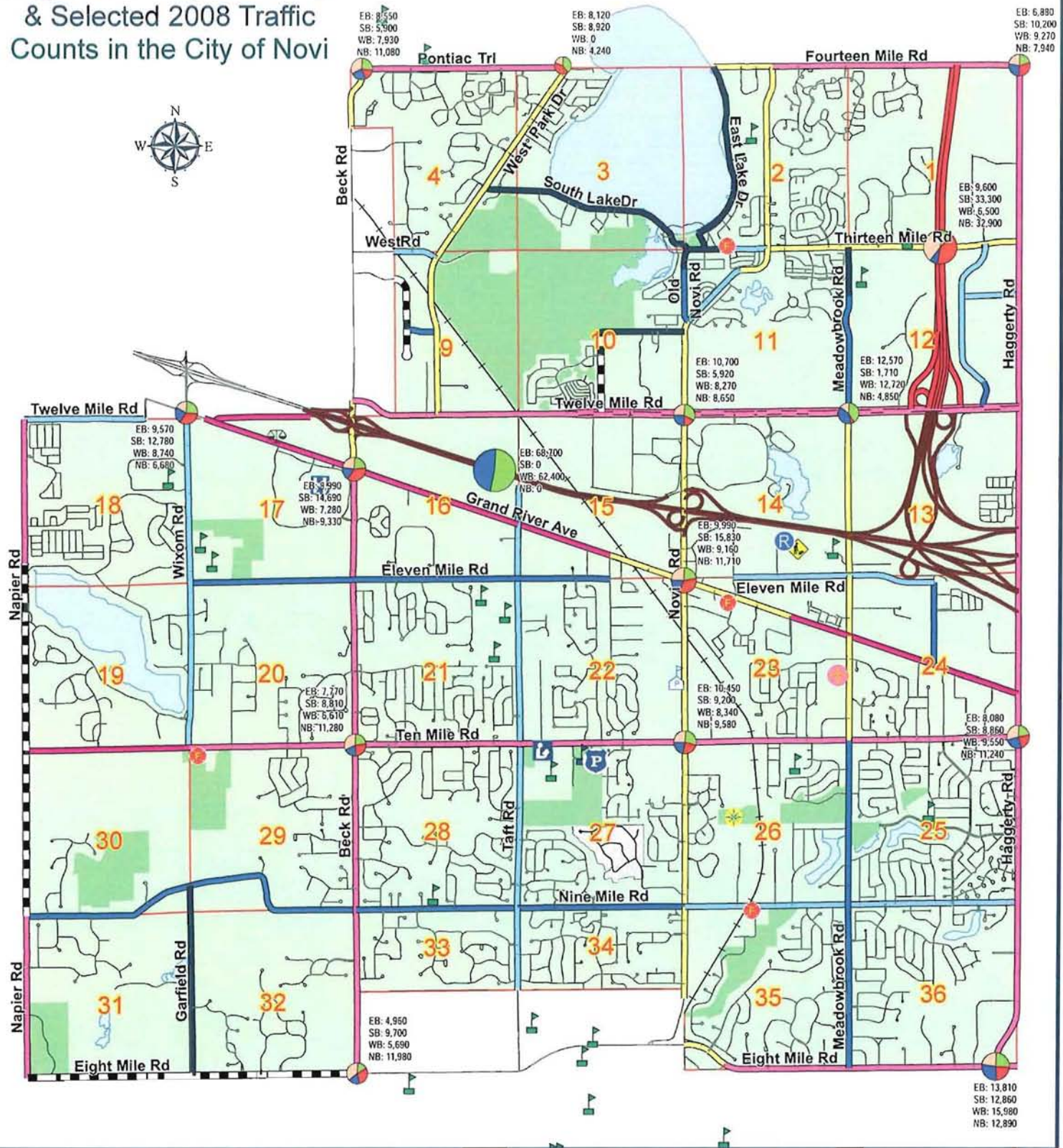
TO RESCIND TRAFFIC CONTROL ORDER 79-04 FOR 30 MPH SPEED LIMIT ON 13 MILE RD FROM MEADOWBROOK ROAD TO HAGGERTY ROAD

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON August 23, 2010 .

By: _____
David Landry, Mayor

By: _____
Maryanne Cornelius, Clerk

August 2010 Speed Limits & Selected 2008 Traffic Counts in the City of Novi



Map Author: Christopher Blough, GIS Manager
 Date: August 16, 2010
 Project: Speed Limits and Selected 2008 Traffic Counts
 Version #: 1.0



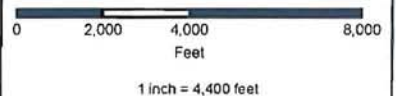
MAP INTERPRETATION NOTICE

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



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



MEMORANDUM



TO: ROB HAYES, P.E.; DIRECTOR OF PUBLIC SERVICES
FROM: BRIAN COBURN, P.E.; SENIOR CIVIL ENGINEER *BC*
SUBJECT: PROPOSED SPEED LIMIT CHANGES
DATE: AUGUST 10, 2010

This memo is a follow-up to my April 28, 2010 memo regarding speed limit evaluations. As you may recall, I conducted an audit of the city's speed limit signs and identified a number of installed signs that lack traffic control orders. The road segments that lack traffic control orders for the posted speed are as follows:

- Novi Road (12 Mile Road to 14 Mile Road)
- Meadowbrook Road (12 Mile Road to 13 Mile Road)
- 13 Mile Road (Meadowbrook Road to Haggerty Road)
- West Park Drive (12 Mile Road to West Road)
- Town Center Drive
- Crescent Blvd
- Crowe Drive
- Ingersol Drive

With the assistance of the Field Operations Division and our traffic consultant, Birchler Arroyo, we have collected speed samples and evaluated these segments to determine the appropriate speed limit. The speed studies for each segment are attached to this memo.

Legal Requirements for Speed Limits

The Uniform Traffic Code requires that traffic control orders, as issued by the traffic engineer and approved by the City Council, be on file for the enforcement of traffic control signs. As discussed in the Detroit News article attached to the April 28 memo, tickets issued for a speed limit that lacks a traffic control order could be successfully challenged by the motorist. 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.

Generally, speed limits should be set so that the majority of drivers observe them voluntarily. Studies have shown that drivers generally operate their vehicles at speeds that are reasonable and proper, regardless of the posted speeds. Nationally, this is recognized as the 85th percentile speed, which is the speed at or below which 85 percent of the motorists drive on a given road unaffected by slower traffic or poor weather. It is generally accepted that when traffic deviates from the 85th percentile speed, the probability of a traffic crash becomes greater. In addition to the 85th percentile speed, the MMUTCD recommends review of other road characteristics including pedestrian activity, road conditions, crash experience, 10 mph pace, and road side environment. Realistic speed limits should be set at no more than five miles per hour below or above the 85th percentile speed based on these mitigating factors.

Public Perception of Speed Limits

It is usually difficult for the public to understand that even though the road may be posted at one speed, a great number of drivers may actually be driving faster based on their comfort level with the road. There is also a perception that when the posted speed limit is increased that it will result in even higher speeds. For example, if a road is posted at 30 mph and the 85th percentile speed is 35 mph, there is a perception that if the posted speed limit is increased to 35 mph, drivers would increase their speed toward 40 mph. To demonstrate the impact of increasing the posted speeds, we have analyzed the speed limits that were changed in 2009. The table below compares the observed 85th percentile speed on several road segments before the new speed limit was posted with the observed 85th percentile speed after the new speed limit was posted. While there was a notable increase on two segments of Beck Road and on Lewis Drive, there was no change in 85th percentile speed for many of the segments. The average change is a 0.8 mph increase in speed.

Road	Segment	Original Posted Speed	New Posted Speed (2009)	85 th percentile speed (mph)		
				Before New Posted Speed Limit	After New Posted Speed Limit	Change
11 Mile Road	Town Center to Meadowbrook	30	35	36	37	+1
	Meadowbrook to Seeley	30	35	39	39	0
Cabot Drive	Lewis to 13 Mile	25	35	38	38	0
	South of Lewis	25	35	37	37	0
	North of 12 Mile (curves)	25	30	34	34	0
Lewis Drive	Haggerty to Cabot	25	35	35	37	+2
Beck Road	11 Mile to Grand River	40	45	47	47	0
	10 Mile to 11 Mile	40	45	45	49	+4
	Nine Mile to 10 Mile	40	45	48	46	-2
	Eight Mile to Nine Mile	40	45	47	49	+2
Average Change						+0.8

Proposed Speed Limits

The enclosed studies demonstrate that the speed limits that are currently posted on the subject road segments are not being observed by the majority of drivers. Further, since the posted speeds lack traffic control orders or engineering studies to support the posted speed limits, they must be reviewed to establish legal speed limits. A summary of the proposed speed limits is shown in the table below, with the justification for each recommendation included in the enclosed studies.

Road	Segment	Current Posted Speed Limit	85 th Percentile Speed	Recommended Posted Speed Limit
Novi Road	12 Mile to 1,640 feet south of 13 Mile	40	47	45
	1,640 feet south of 13 Mile to 13 Mile	35	45	45
	13 Mile Road to 14 Mile Road	40	48	45 (*)
Meadowbrook Road	12 Mile Road to Meadowbrook Elem	30	36	35
	13 Mile Road to Meadowbrook Elem	25	36	35 (**)
13 Mile Road	Meadowbrook Road to Haggerty Road	40	46	45
West Park Drive	12 Mile Road to West Road	40	47	45
Crowe Drive	Novi Road to Ingersol Drive	25	24	25
Ingersol Drive	Crescent Blvd to Crowe Drive	25	27	25
Crescent Blvd	Novi Road to Town Center Drive	25	33	30
Town Center Drive	Crescent Blvd to 11 Mile Road	25	33	30
	Grand River Ave to 11 Mile Road	25	29	30

(*)A 30 mph school speed zone is proposed for this segment during school arrival and dismissal times

(**)A 25 mph school speed zone is proposed for this segment during school arrival and dismissal times

As noted in the table, there are two school speed zones proposed for implementation. The first is adjacent to Hickory Woods Elementary School on Novi Road. The posted speed limit is currently 40 mph at this location and there is no school speed zone at this time. The report recommends a school speed zone be set at 30 mph in the vicinity of the school property. The second school speed zone is proposed adjacent to Meadowbrook Elementary on Meadowbrook Road. The speed limit is currently set at 25 mph as a regular speed limit that is in effect all-day, every day. The report proposes the implementation of a school speed zone set at 25 mph in the vicinity of the school property. State law (MCL 257.627a) allows the speed limit to be decreased by 15 mph from the posted speed (but set at not less than 25 mph) in a school zone for a period of 30 minutes to one hour before school and 30 minutes to one hour after school, when requested by the school superintendent. We have discussed the proposed school speed zones with Walled Lake Schools. They are supportive of the recommendations and intend to request the school speed zones as proposed.

Public Notification

The majority of the segments being studied are located in non-residential areas. Meadowbrook Road has the largest potential impact on the residents since there are several residential units along Meadowbrook Road in the existing 25 mph speed zone. A "Speed Limit Under Review" sign (as shown at right) has been installed at the north and south ends of the Meadowbrook Road segment (12 Mile Road to 13 Mile Road) to notify residents and motorists that the speed limit is being studied. We have received a few calls from residents who were primarily concerned with the speed limit near the school. Our staff has explained that a school speed zone is proposed which calmed their concerns.



Implementation

We propose to prepare the traffic control orders for the speed limit recommendations from the studies for consideration by City Council on an upcoming agenda. Once approved by City Council, the new speed signs would be installed by Field Operations staff as recommended by the studies. The new signs would meet the federal retroreflectivity requirements and would be funded by the Traffic Control Sign Replacement Program as approved in the FY2010-11 budget.

cc: David Molloy, Public Safety Director/Police Chief
Matt Wiktorowski, Field Operations Senior Manager
Terry Whitfield, Police Department

May 7, 2010

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



Subject: Speed Limit Study of 13 Mile Road, Meadowbrook to Haggerty

Dear Mr. Coburn:

Per your request, we have evaluated the above road segment to determine an appropriate speed limit. This letter reports our findings and recommendation.

Recommendation

The speed limit on 13 Mile between Meadowbrook and Haggerty should be raised to 45 mph.

Background

The existing 40 mph speed limit on 13 Mile Road extends from Novi Road east into the City of Farmington Hills. West of Novi Road, the speed limit "steps down" first to 35 mph for about ¼ mile, and then second to 25 mph for the last ¼ mile before reaching its end at Old Novi Road / South Lake Drive. The decreasing speed limit to the west makes sense given the nature of the road, surrounding uses, and related reduction in functional classification from minor arterial to residential collector. The 40 mph speed limit between Novi and Meadowbrook Roads, and east of Haggerty in Farmington Hills, also appears to make sense given the rolling terrain and relatively narrow pavement in less-than-ideal condition.

Less obvious is the desirability of maintaining a 40-mph speed limit on the subject road section between Meadowbrook and Haggerty (Figure 1). This section follows a more consistent vertical alignment and is primarily three lanes wide (Figures 2-7). It also carries significant traffic volumes away from the (currently) 55-mph M-5 expressway, and research has shown that there is typically a "speed-carryover" effect wherein motorists tend to drive somewhat faster than otherwise shortly after leaving a high-speed road for a lower-speed road.

Criteria

In establishing a speed limit, it is appropriate to determine and consider (1) the prima facie limit, (2) the "speed of vehicular traffic" (typically expressed as the 85th-percentile speed), and (3) other traffic and roadway characteristics (per the *Michigan Manual of Uniform Traffic Control Devices*).



Figure 1. Thirteen Mile Road, Meadowbrook to Haggerty



Figure 2. 13 Mile Road in Vicinity of Meadowbrook Road



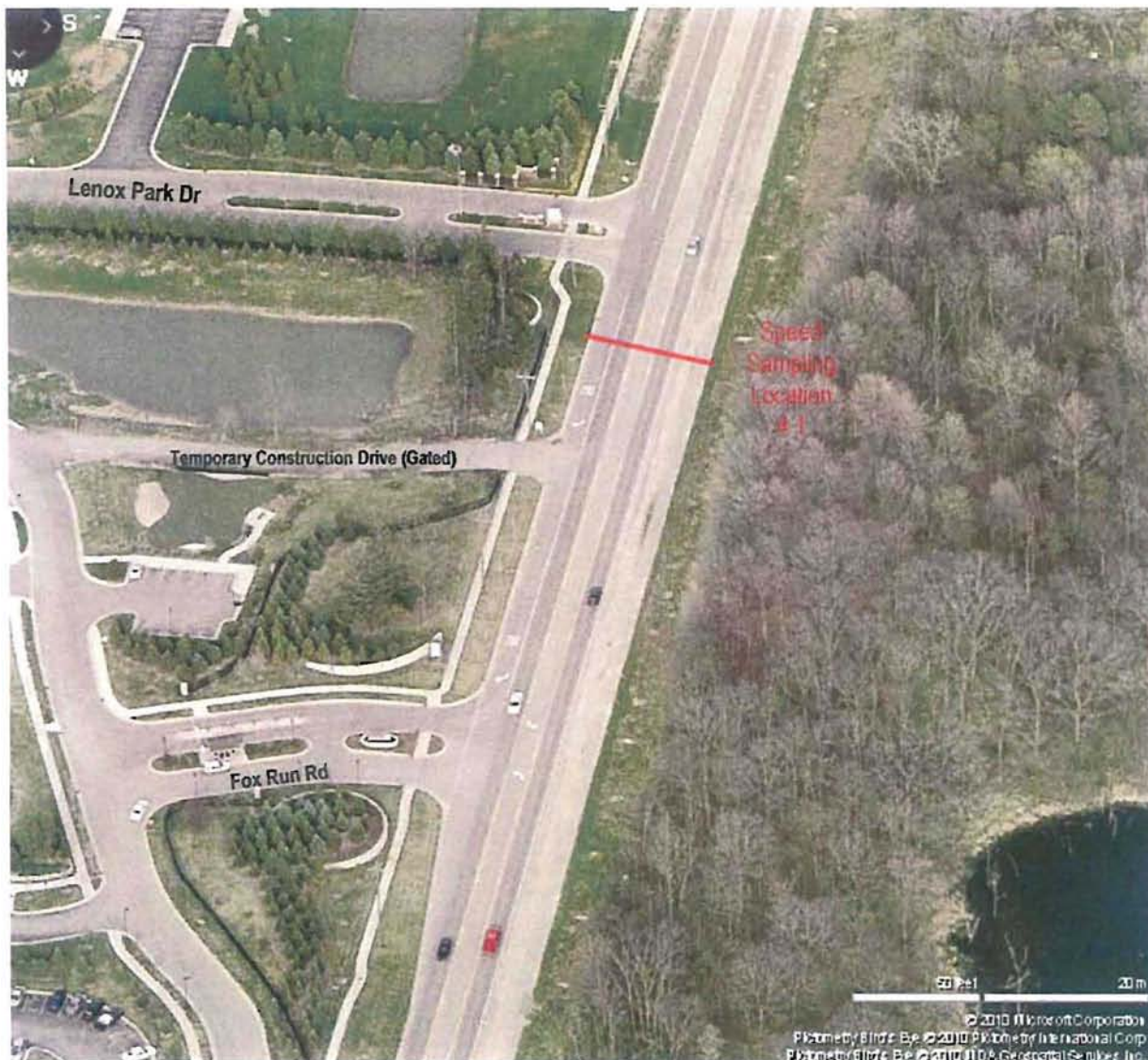


Figure 3. 13 Mile Road in Vicinity of Fox Run Road





Figure 4. 13 Mile Road from Brightmoor Driveway East



Figure 5. 13 Mile Road from M-5 to East



Figure 6. 13 Mile Road at Cabot Drive



Figure 7. 13 Mile Road Just West of Haggerty Road



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.

Another portion of the law (MCL 257.628) indicates that a posted speed limit different than the prima facie limit may be determined based on an "engineering and traffic investigation." Relevant guidelines for such an investigation, found in Section 2B.13 of the *MMUTCD* (approved jointly by the MDOT and the State Police), are as follows:

- "When a speed limit is to be posted, it should be within ... 5 mph of the 85th-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."

Data Collection and Analysis

Prima Facie Speed Limit – Our review of recent-vintage aerial photos (Figures 2-7) found an average of 9.5 access points per half mile for 13 Mile between Meadowbrook and Haggerty. This access-point frequency is well below any of the ranges specified in MCL 257.627; hence, the prima facie speed limit is 55 mph.

85th-Percentile Speed – At our request, City personnel conducted automated speed and volume sampling over 48-hour midweek periods. The two sampling locations are marked in red on Figures 1, 3, and 6.

Table 1 summarizes the sampling results by location, direction, and day. It is interesting to note that the volumes and speeds east of M-5 are nearly identical to those west of M-5. Both sections carry approximately 8,100 vehicles per day, at an overall average speed of 40 mph and an 85th-percentile speed of 46 mph.

Also noteworthy is the fact a smaller-than-normal percentage of vehicles is within the 10-mph range (or "pace") containing the greatest share of the sample, especially west of M-5. There, the average percentage within the pace – 64% – is some 10-20 percentage points below that typically found on other roads recently sampled in Novi. This greater disparity among speeds typically increases the potential for multiple-vehicle crashes. All of the above statistical results support an increase in the speed limit to 45 mph.

Table 1. Summary of Speed Statistics for 13 Mile Road, Meadowbrook-Haggerty
for May 4-6, 2010

Sampling Location	Dir.	Date	Sample Size	Speed (mph)			
				Average	85th %tile	10-mph Pace	% in Pace
# 1 (West of Lenox Park)	EB	5-04-10 (>11 am)	1878	39.9	47.3	35-45	57.3%
		5-05-10	3665	39.8	46.7	35-45	61.5%
		5-06-10 (<11 am)	1765	40.7	46.8	35-45	65.5%
		Average Day	3654	40.0	46.9	35-45	61.4%
	WB	5-04-10 (>11 am)	3390	39.3	45.1	35-45	69.4%
		5-05-10	4554	38.6	45.0	35-45	65.1%
		5-06-10 (<11 am)	1140	38.3	47.2	35-45	59.6%
		Average Day	4542	38.8	45.3	35-45	66.0%
	Both	Average Day	8196	39.4	46.0	35-45	64.0%
	# 2 (East of Cabot)	EB	5-04-10 (>11 am)	2926	40.3	47.3	35-45
5-05-10			4074	40.4	47.2	35-45	65.2%
5-06-10 (<11 am)			1210	41.0	47.2	35-45	66.1%
Average Day			4105	40.5	47.2	35-45	70.9%
WB		5-04-10 (>11 am)	2792	39.5	44.7	35-45	74.8%
		5-05-10	4017	39.4	44.6	35-45	74.2%
		5-06-10 (<11 am)	1161	39.4	44.9	35-45	71.8%
		Average Day	3985	39.4	44.7	35-45	74.1%
Both		Average Day	8090	40.0	46.0	35-45	72.5%

Crash Experience – At our request, the Traffic Improvement Association searched its files for crashes occurring along 13 Mile from Meadowbrook to Haggerty between 2005 and 2009, inclusive. Excluded were intersection crashes at the Meadowbrook, M-5, and Haggerty, since such crashes would likely be due primarily to factors other than the speed limit on 13 Mile.

Detailed crash tabulations are appended to this report. Table 2 summarizes the ten crashes reported for the five-year period. Key findings are as follows:

- A majority (at least six) of the ten crashes appear to be access-related (two at the first commercial drive west of Haggerty, one at Cabot, one at first residential driveway west of M-5, and one at Fox Run).
- The only crash citing "speeding" is one that occurred on a snow-covered road.

Conclusions and Recommendation

- An increase in the speed limit to 45 mph is supported by the 85th-percentile speed of existing traffic, relatively few access points and good road design features (such as the availability of a separate lane for left turns), and a crash history seemingly unrelated to the "speed of vehicular traffic."
- Assuming that the City changes the speed limit to 45 mph as we are now recommending, it would be desirable to conduct a follow-up study to ensure that the increased limit has not resulted in significantly increased speeds. Another speed check on 13 Mile Road would be even more important if MDOT increases the current 55-mph speed limit on M-5.

Sincerely,
BIRCHLER ARROYO ASSOCIATES, INC.



Rodney L. Arroyo, AICP
Vice President



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

Table 2. 2005-2009 Crash History for 13 Mile between Meadowbrook and Haggerty Roads¹

Year	Date	Time	Cross Road	Distance from Cross Road	Crash (Type or #)						Crash Severity (# Persons)				Possible Contributing Factors	
					Angle	Head-On	Sideswipe		Rear-End	Single-Vehicle	K	Personal Injury				Property Damage Only
							Opposite Direction	Same Direction				A	B	C		
2009	12/09	2 p	Meadowbrook	1000' E.	X									2	Failure to yield at Fox Run Rd.	
2008	4/14	1 p	Haggerty	400' W.	X									2	Likely 2-stage LT out of driveway.	
	1/25	6 p	Haggerty	400' W.			X							2	Hurried left turn into driveway?	
2007	7/18	5 p	Meadowbrook	1320' E.				WB						2	Unclear why V#2 had slowed.	
	5/29	4 p	Haggerty	500' W.					EB				2	V#2 stopped for signal at Haggerty?		
2006	6/26	8 a	Cabot	0'		X							1	1	Likely 2-stage LT from N. Cabot.	
2005	11/18	12 a	Haggerty	686' W.						EB					Apparently hit object in road.	
	10/13	6 p	M-5	528' W.	X									3	Van pulling out of drive hit 2 WB veh.	
	2/28	10 p	M-5	1320' W.						EB				1	Speeding on snow, ran off road.	
	2/23	4 p	SB M-5	500' W	X									2	Failure to yield during a U-turn.	
Total					4	1	1	1	1	2	0	0	0	3	15	

¹ Excluding crashes occurring within 200 ft of Meadowbrook, M-5, and Haggerty.

2005-2009 CRASH DATA



Traffic Improvement Association

Crash Detail Report
 Request #: 0003895 Printed By: Dominique Match Printed On: 4/22/2010

FROM_DATE:	1/1/2005
TO_DATE:	12/31/2009
PR/MP	PR 639110 FROM MP 0.499 TO MP 1.046 [W 13 Mile Rd & S M 5 to W 13 Mile Rd & Meadowbrook Rd]

#1 Location: 13 MILE RD (0.57) 500 feet W of SB M5 Crash ID: 5978911
 Crash Date: 02/23/2005 Day: Wed Hour: 4pm Weather: cloudy Roadway: dry Light: day
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 0 Inj 0: 2 How: angle
 CVT: Novi Area: straight HBD: N Drugs: N Complaint No: 0510262

Unit No	Veh Dir	Action Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1		u-turn	veh in transpt	none	none	none	failed to yeild	truck/bus	lftfront
2	E	go straight	veh in transpt	none	none	none	none	car	rtside

UD-10: 055500979

#2 Location: EB 13 MILE RD (0.75) 1320 feet W of M 5 Crash ID: 5994049
 Crash Date: 02/28/2005 Day: Mon Hour: 10pm Weather: snow Roadway: snowy Light: dark/unltd
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 0 Inj 0: 1 How: single
 CVT: Novi Area: straight HBD: N Drugs: N Complaint No: 21142005

Unit No	Veh Dir	Action Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	E	go straight	loss of control	ran off road/r	guardrail face	none	speeding	car	rtfront

UD-10: 055516417

#3 Location: 13 MILE (0.60) 528 feet W of M 5 Crash ID: 6144915
 Crash Date: 10/13/2005 Day: Thu Hour: 6pm Weather: clear Roadway: dry Light: day
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 0 Inj 0: 3 How: uncoded
 CVT: Novi Area: straight HBD: N Drugs: N Complaint No: 0553093

Unit No	Veh Dir	Action Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	N	go straight	loss of control	veh in transpt	veh in transpt	none	none	van	ctrfront
2	W	go straight	veh in transpt	none	none	none	none	car	lftrear
3	W	go straight	veh in transpt	none	none	none	none	pickup	lftfront

UD-10: 055673747, 055674668

#4 Location: 13 MILE (0.80) 1320 feet E of MEADOWBROOK Crash ID: 6726220
 Crash Date: 07/18/2007 Day: Wed Hour: 5pm Weather: cloudy Roadway: dry Light: day
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 0 Inj 0: 2 How: ss-same
 CVT: Novi Area: straight HBD: N Drugs: N Complaint No: 0744458

Unit No	Veh Dir	Action Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	W	avoid veh-fl/bk	veh in transpt	none	none	none	unable to stop	pickup	rtfront
2		slow/stop on rd	veh in transpt	none	none	none	none	car	lftrear

UD-10: 075570047

#5 Location: THIRTEEN MILE RD (0.86) 1000 feet E of MEADOWBROOK ROAD Crash ID: 7496111
 Crash Date: 12/09/2009 Day: Wed Hour: 2pm Weather: clear Roadway: dry Light: day
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 0 Inj O: 2 How: angle
 CVT: Novi Area: straight HBD: N Drugs: N Complaint No: 090079157

Unit No	Veh Dir	Action	Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	N	start on rdwy		veh in transpt	none	none	none	failed to yeild	truck/bus	lftfront
2	E	go straight		veh in transpt	none	none	none	none	car	rtside

UD-10: 090651248

Crash Type

Count	Type
1	uncoded
1	single
0	head-on
0	head-on/lt
2	angle
0	rr-end
0	rr-end/lt
0	rr-end/rt
1	ss-same
0	ss-opp
0	unknown
Totals: 5	

Light Conditions

Count	Type
0	uncoded
4	day
0	dawn
0	dusk
0	dark/ltd
1	dark/unltd
0	unknown
Totals: 5	

Weather

Count	Type
0	uncoded
2	clear
2	cloudy
0	fog/smoke
0	rain
1	snow
0	wind
0	sleet/hail
0	unknown
Totals: 5	

Road Condition

Count	Type
0	uncoded
4	dry
0	wet
0	icy
1	snowy
0	muddy
0	slushy
0	debris
0	unknown
Totals: 5	

Vehicle Type

Count	Type
0	uncoded
5	car
0	other
2	truck/bus
1	van
2	pickup
0	sm truck
0	motorcycle
0	moped
0	go-cart
0	snowmobile
0	off-rd veh
Totals: 10	

Crashes By Month

Count	Type
0	January
2	February
0	March
0	April
0	May
0	June
1	July
0	August
0	September
1	October
0	November
1	December
Totals: 5	

Hazardous Action

Count	Type
6	none
1	speeding
0	imprp/no signal
0	imprp backing
1	unable to stop
0	other
0	unknown
0	reckls driving
0	negl driving
0	spd too slow
2	failed to yeild
0	disrgd traffic cntrl
0	wrong way
0	left of center
0	imprp passing
0	imprp lane use
0	imprp turn
Totals: 10	

Unit Type

Count	Type
0	uncoded
10	vehicle
0	pedestrian
0	bicyclist
0	engineer
Totals: 10	

Crash Severity

	FATAL	A	B	C	No Inj	Total
Persons	0	0	0	0	10	10
Crashes	0	0	0	0	5	5

Alcohol in Crashes

	FATAL	PI	PD	Total
Drinking	0	0	0	0
Not Drinking	0	0	5	5
Total	0	0	5	5

Crashes per Hour by Day

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Unknown	Total
12a - 1a	0	0	0	0	0	0	0	0	0
1a - 2a	0	0	0	0	0	0	0	0	0
2a - 3a	0	0	0	0	0	0	0	0	0
3a - 4a	0	0	0	0	0	0	0	0	0
4a - 5a	0	0	0	0	0	0	0	0	0
5a - 6a	0	0	0	0	0	0	0	0	0
6a - 7a	0	0	0	0	0	0	0	0	0
7a - 8a	0	0	0	0	0	0	0	0	0
8a - 9a	0	0	0	0	0	0	0	0	0
9a - 10a	0	0	0	0	0	0	0	0	0
10a - 11a	0	0	0	0	0	0	0	0	0
11a - 12p	0	0	0	0	0	0	0	0	0
12p - 1p	0	0	0	0	0	0	0	0	0
1p - 2p	0	0	0	0	0	0	0	0	0
2p - 3p	0	0	0	1	0	0	0	0	1
3p - 4p	0	0	0	0	0	0	0	0	0
4p - 5p	0	0	0	1	0	0	0	0	1
5p - 6p	0	0	0	1	0	0	0	0	1
6p - 7p	0	0	0	0	1	0	0	0	1
7p - 8p	0	0	0	0	0	0	0	0	0
8p - 9p	0	0	0	0	0	0	0	0	0
9p - 10p	0	0	0	0	0	0	0	0	0
10p - 11p	0	1	0	0	0	0	0	0	1
11p - 12a	0	0	0	0	0	0	0	0	0
Unknown Time	0	0	0	0	0	0	0	0	0
Total	0	1	0	3	1	0	0	0	5



Crash Detail Report
 Request #: 0003894 Printed By: Dominique Matich Printed On: 4/22/2010

FROM_DATE:	1/1/2005
TO_DATE:	12/31/2009
PR/MP	PR 639110 FROM MP 0 TO MP 0.472 [W 13 Mile Rd & Haggerty Rd to W 13 Mile Rd & N M 5]

#1 Location: 13 MILE (0.13) 686 feet W of HAGGERTY Crash ID: 6215663
 Crash Date: 11/18/2005 Day: Fri Hour: 12am Weather: clear Roadway: dry Light: dark/unltd
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 0 Inj 0: 1 How: single
 CVT: Novi Area: inter other HBD: N Drugs: N Complaint No: 0563319

Unit No	Veh Dir	Action	Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	E	go straight		other non-fixed obj	none	none	none	unknown	car	

UD-10: 055746857

#2 Location: 13 MILE (0.21) 0 feet X of CADOT Crash ID: 6379008
 Crash Date: 06/26/2006 Day: Mon Hour: 8am Weather: clear Roadway: dry Light: day
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 1 Inj 0: 1 How: head-on/lt
 CVT: Novi Area: w/ intersection HBD: N Drugs: N Complaint No: 0642391

Unit No	Veh Dir	Action	Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	E	go straight		veh in transpt	none	none	none	imprp lane use	car	ctrfront
2	W	left turn		veh in transpt	none	none	none	none	car	rtside

UD-10: 061336628

#3 Location: 13 MILE (0.09) 500 feet SW of HAGGERTY RD Crash ID: 6683480
 Crash Date: 05/29/2007 Day: Tue Hour: 4pm Weather: clear Roadway: dry Light: day
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 2 Inj 0: 0 How: rr-end
 CVT: Novi Area: straight HBD: N Drugs: N Complaint No: 0733450

Unit No	Veh Dir	Action	Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	E	go straight		veh in transpt	none	none	none	negl driving	car	ctrfront
2	E	stop on road		veh in transpt	none	none	none	none	car	ctrrear

UD-10: 075525089

#4 Location: THIRTEEN MILE (0.08) 400 feet W of HAGGERTY Crash ID: 6912091
 Crash Date: 01/25/2008 Day: Fri Hour: 6pm Weather: cloudy Roadway: dry Light: dark/lt
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 0 Inj 0: 2 How: ss-opp
 CVT: Novi Area: straight HBD: N Drugs: N Complaint No: 80004098

Unit No	Veh Dir	Action	Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	E	go straight		veh in transpt	none	none	none	left of center	car	lftfront
2	W	go straight		veh in transpt	none	none	none	none	car	lftrear

UD-10: 080052749

#5 Location: 13 MILE (0.08) 400 feet W of HAGGERTY Crash ID: 6984430
 Crash Date: 04/14/2008 Day: Mon Hour: 1pm Weather: clear Roadway: dry Light: day
 Injuries K: 0 Inj A: 0 Inj B: 0 Inj C: 0 Inj O: 2 How: angle
 CVT: Novi Area: driveway HBD: N Drugs: N Complaint No: 80017456

Unit No	Veh Dir	Action	Prior	Event 1	Event 2	Event 3	Event 4	Haz Action	Veh Type	Damage
1	E	change lanes		veh in transpt	none	none	none	imprp lane use	car	lftfront
2		left turn		veh in transpt	none	none	none	none	car	lftfront

UD-10: 080204742

Crash Type

Count	Type
0	uncoded
1	single
0	head-on
1	head-on/lt
1	angle
1	rr-end
0	rr-end/lt
0	rr-end/rt
0	ss-same
1	ss-opp
0	unknown
Totals: 5	

Light Conditions

Count	Type
0	uncoded
3	day
0	dawn
0	dusk
1	dark/ld
1	dark/unld
0	unknown
Totals: 5	

Weather

Count	Type
0	uncoded
4	clear
1	cloudy
0	fog/smoke
0	rain
0	snow
0	wind
0	sleet/hail
0	unknown
Totals: 5	

Road Condition

Count	Type
0	uncoded
5	dry
0	wet
0	icy
0	snowy
0	muddy
0	slushy
0	debris
0	unknown
Totals: 5	

Vehicle Type

Count	Type
0	uncoded
9	car
0	other
0	truck/bus
0	van
0	pickup
0	sm truck
0	motorcycle
0	moped
0	go-cart
0	snowmobile
0	off-rd veh
Totals: 9	

Crashes By Month

Count	Type
1	January
0	February
0	March
1	April
1	May
1	June
0	July
0	August
0	September
0	October
1	November
0	December
Totals: 5	

Hazardous Action

Count	Type
4	none
0	speeding
0	imprp/no signal
0	imprp backing
0	unable to stop
0	other
1	unknown
0	reckls driving
1	negl driving
0	spd too slow
0	failed to yeild
0	disrgd traffic cntrl
0	wrong way
1	left of center
0	imprp passing
2	imprp lane use
0	imprp turn
Totals: 9	

Unit Type

Count	Type
0	uncoded
9	vehicle
0	pedestrian
0	bicyclist
0	engineer
Totals: 9	

Crash Severity

	FATAL	A	B	C	No Inj	Total
Persons	0	0	0	3	6	9
Crashes	0	0	0	2	3	5

Alcohol in Crashes

	FATAL	PI	PD	Total
Drinking	0	0	0	0
Not Drinking	0	2	3	5
Total	0	2	3	5

Crashes per Hour by Day

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Unknown	Total
12a - 1a	0	0	0	0	0	1	0	0	1
1a - 2a	0	0	0	0	0	0	0	0	0
2a - 3a	0	0	0	0	0	0	0	0	0
3a - 4a	0	0	0	0	0	0	0	0	0
4a - 5a	0	0	0	0	0	0	0	0	0
5a - 6a	0	0	0	0	0	0	0	0	0
6a - 7a	0	0	0	0	0	0	0	0	0
7a - 8a	0	0	0	0	0	0	0	0	0
8a - 9a	0	1	0	0	0	0	0	0	1
9a - 10a	0	0	0	0	0	0	0	0	0
10a - 11a	0	0	0	0	0	0	0	0	0
11a - 12p	0	0	0	0	0	0	0	0	0
12p - 1p	0	0	0	0	0	0	0	0	0
1p - 2p	0	1	0	0	0	0	0	0	1
2p - 3p	0	0	0	0	0	0	0	0	0
3p - 4p	0	0	0	0	0	0	0	0	0
4p - 5p	0	0	1	0	0	0	0	0	1
5p - 6p	0	0	0	0	0	0	0	0	0
6p - 7p	0	0	0	0	0	1	0	0	1
7p - 8p	0	0	0	0	0	0	0	0	0
8p - 9p	0	0	0	0	0	0	0	0	0
9p - 10p	0	0	0	0	0	0	0	0	0
10p - 11p	0	0	0	0	0	0	0	0	0
11p - 12a	0	0	0	0	0	0	0	0	0
Unknown Time	0	0	0	0	0	0	0	0	0
Total	0	2	1	0	0	2	0	0	5