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To:
Ben Croy
City Engineer, Department of Public Works,
Engineering Division, City of Novi
26300 Lee BeGole Dr
Novi, MI 48375

Project name:
Meadowbrook Rd 85th Percentile Speed Study

Project ref:

From:
AECOM

Date:
June 12, 2024

CC:
Jeff Herczeg, Director
Department of Public Works

Memo

Subject: 85th Percentile Speed Study on Meadowbrook Road, Novi

Introduction

The City of Novi received a request to study the 85th percentile speed and update the speed limit on Meadowbrook Road from 8 Mile Road to 12 Mile Road to better align with community expectations and the existing speed limit. Currently, Meadowbrook Road has a speed limit of 30 mph from 8 Mile Road to 10 Mile Road and a speed limit of 40 mph from 10 Mile Road to 12 Mile Road. The traffic and engineering investigation follows the established standardized methods outlined in Chapter 5 - Spot Speed Study from the Institute of Transportation Engineers (ITE) Manual of Transportation Engineering Studies 2nd Edition to determine reasonable and proper speed typically defined by the 85th percentile speed.

Project Area and Background

Meadowbrook Road is a minor arterial roadway in Novi, Michigan with an Average Annual Daily Traffic (AADT) of 8,321 in 2023 (Source: traffic counts from Michigan Department of Transport Traffic Count Database System, MDOT TCDS, Location ID 63-5343). Between 8 Mile Road and 10 Mile Road, Meadowbrook Rd is a two-lane roadway. Between 10 Mile Road and 12 Mile Road, Meadowbrook Road is a two-lane roadway with a two-way left-turn lane.

Figure 1 below shows the limits of the study area of the project. **Figure 2** below shows the existing speed limit along Meadowbrook Road. **Figures 3 through 7** below show where the tubes for data collection were laid at various locations along Meadowbrook Road.

Figure 1: Meadowbrook Road from 8 Mile Road to 12 Mile Road

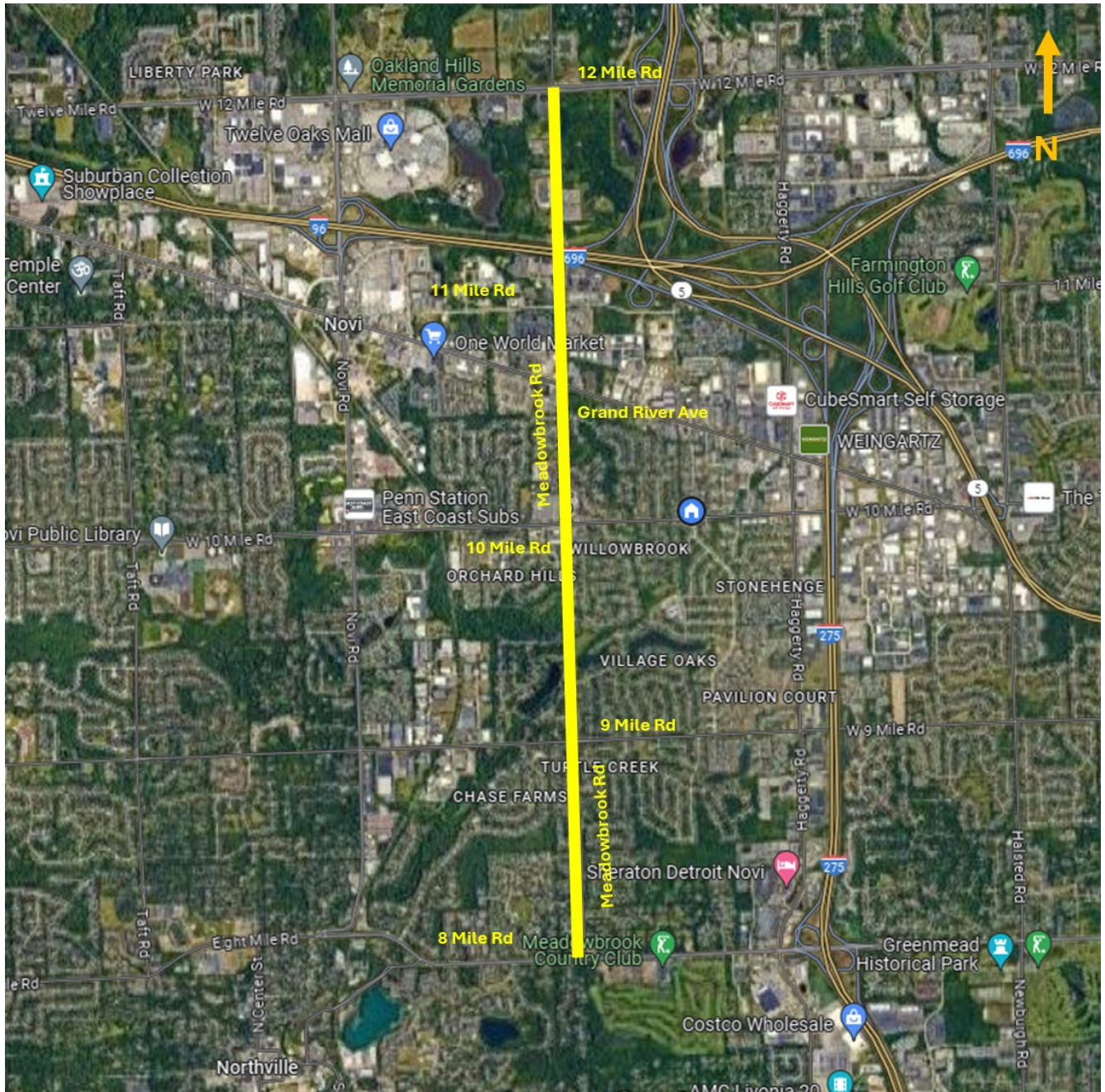


Figure 2: Existing Speed Limits along Meadowbrook Road



Figure 3: Meadowbrook Road Tube Locations from 8 Mile Road to 9 Mile Road



Figure 4: Meadowbrook Road Tube Locations from 9 Mile Road to 10 Mile Road



Figure 5: Meadowbrook Road Tube Locations from 10 Mile Road to Grand River Avenue



Figure 6: Meadowbrook Road Tube Locations from Grand River Avenue to 11 Mile Road



Figure 7: Meadowbrook Road Tube Locations from 11 Mile Road to 12 Mile Road



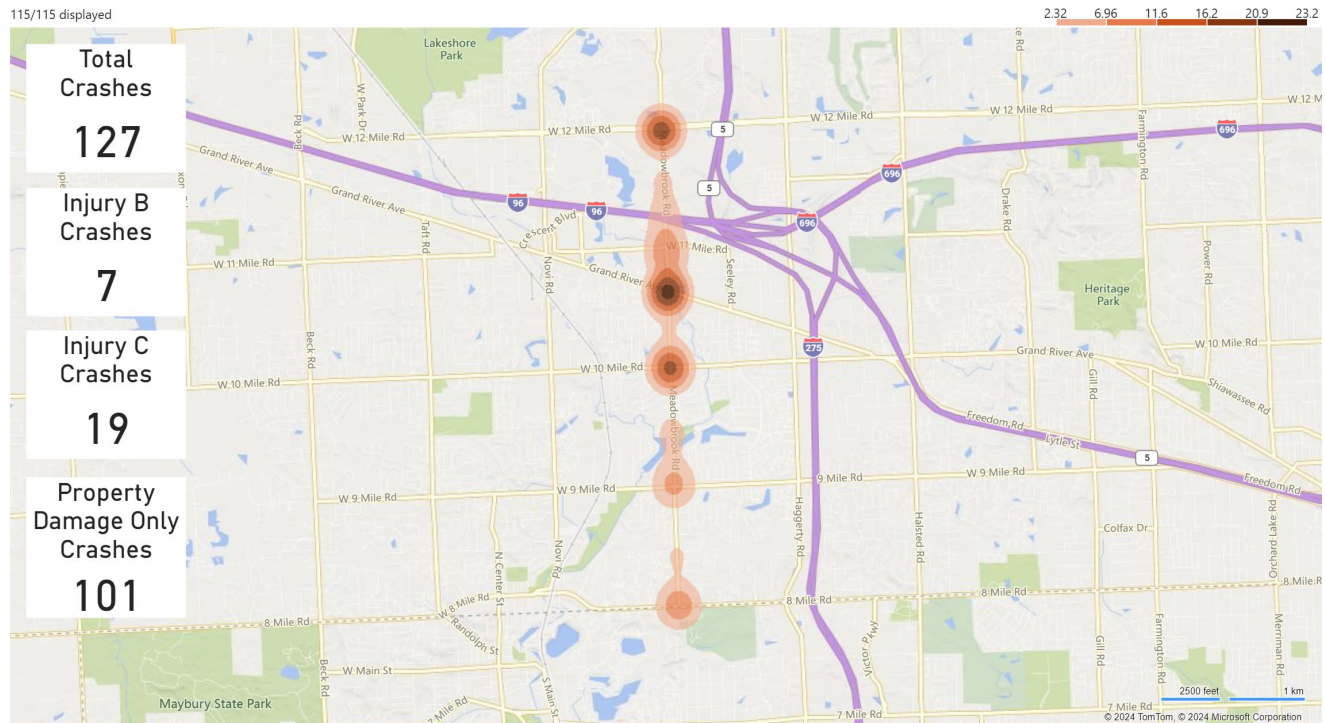
Speed Data Collection

Speed data was collected on Meadowbrook Road on May 14, 2024. Additional speed data was collected on May 22, 2024 to supplement the initial data collection.

Crash Analysis

Crashes from 2019 to 2023 on Meadowbrook Road from 8 Mile Road to 12 Mile Road were studied for this analysis. Below in **Figure 7** is a hotspot map of crashes on Meadowbrook Road.

Figure 7: Hotspot Map of Crashes on Meadowbrook Road



As shown on the hotspot map, the density of crashes along Meadowbrook Road is the highest at Grand River Avenue and 12 Mile Road.

Crashes along Meadowbrook Road were broken up into segments and analyzed by both crash type and severity. **Table 1** below shows the breakdown of crashes by crash type.

Table 1: Crashes by Crash Type

Location	Crash Type						Total
	Angle	Rear-End	Single Motor Vehicle	Head-On	Sideswipe	Other	
8 Mile Rd to 9 Mile Rd	5	8	6	0	0	1	20
9 Mile Rd to 10 Mile Rd	6	10	3	1	3	0	23
10 Mile Rd to Grand River Ave	12	14	1	2	5	0	34
Grand River Ave to 11 Mile Rd	7	6	0	0	6	1	20
11 Mile Rd to 12 Mile Rd	4	18	6	0	2	0	30
Total	34	56	16	3	16	2	127

The most common crash type in the study area was rear-end crash, followed by angle crash.

Table 2 below shows the breakdown of crashes by severity.

Table 2: Crashes by Crash Severity

Location	Crash Severity					Total
	<i>Fatal</i>	<i>A-Level Injury</i>	<i>B-Level Injury</i>	<i>C-Level Injury</i>	<i>Property Damage Only</i>	
8 Mile Rd to 9 Mile Rd	0	0	2	5	13	20
9 Mile Rd to 10 Mile Rd	0	0	1	5	17	23
10 Mile Rd to Grand River Ave	0	0	3	1	30	34
Grand River Ave to 11 Mile Rd	0	0	0	6	14	20
11 Mile Rd to 12 Mile Rd	0	0	1	2	27	30
Total	0	0	7	19	101	127

There were no fatal or A-level crashes reported on Meadowbrook Road during the study period.

Table 3 below shows the crash frequency and crash rate of each segment in the study corridor. The crash rates are lower than the average crash rates of a similar facility per Southeast Michigan Council of Governments (SEMCOG) Traffic Analysis Process 2016.

Table 3: Crash rate calculation

Location	Total Crashes	Crash Frequency	AADT	Segment Length (mi)	Crash Rate
8 Mile Rd to 9 Mile Rd	20	4	8,512	1.0	0.26
9 Mile Rd to 10 Mile Rd	23	4.6	8,512	1.0	0.30
10 Mile Rd to Grand River Ave	34	6.8	8,512	0.63	0.69
Grand River Ave to 11 Mile Rd	20	4	4,590	0.37	1.29
11 Mile Rd to 12 Mile Rd	30	6	4,970	1.0	0.66

Access Points

As per the violation of the basic speed law “VBSL”, speed limit is defined by land use and number of access points. The amount of access points varies along the corridor. Shown in **Table 4** below is a summary of access points along Meadowbrook Road. Access points were manually counted from Google Earth.

Table 4: Access Points on Meadowbrook Road

Location	# of Access Points			Existing Speed Limit	VBSL Speed Limit ¹
	Northbound	Southbound	Total for Segment		
8 Mile Rd to 9 Mile Rd	8	10	18 (9 in ½ mile)	30	None
9 Mile Rd to 10 Mile Rd	49	37	86 (43 in ½ mile)	30	40
10 Mile Rd to Grand River Ave	8	8	16 (8 in ½ mile)	40	None
Grand River Ave to 11 Mile Rd	3	4	7 (4 in ½ mile)	40	None
11 Mile Rd to 12 Mile Rd	5	8	13 (7 in ½ mile)	40	None

¹Source: MICHIGAN VEHICLE CODE, 257.627 Speed limits. Refer to **Appendix A**.

The highest concentration of access points in the study area is from 9 Mile Road to 10 Mile Road and it is the only segment that meets the prima facie speed limit based on the number of access points. The lowest concentration of access points in the study area is between Grand River Ave and 11 Mile Road.

Speed Data Analysis

Shown below in **Table 5** are the results of the speed study analysis on Meadowbrook Road. Data from 10 AM to 12 PM was used in this analysis as it is outside of a peak time period. Please refer to **Appendix B** for speed data.

Table 5: 85th Percentile Speeds on Meadowbrook Road

Location	85 th Percentile Speed			Existing Speed Limit
	Northbound	Southbound	Both Directions	
8 Mile Rd to 9 Mile Rd	39	39	39	30
9 Mile Rd to 10 Mile Rd	37	39	37	30
10 Mile Rd to Grand River Ave	53	47	51	40
Grand River Ave to 11 Mile Rd	51	51	51	40
11 Mile Rd to 12 Mile Rd	43	51	47	40

The area with the lowest 85th percentile speed is Meadowbrook Road from 9 Mile Road to 10 Mile Road, with a speed of 37 mph. The area with the highest 85th percentile speed is Meadowbrook Road from 10 Mile Road to 11 Mile Road, with a speed of 51 mph.

Recommendations

Table 6 below shows our recommended posted speed limit based on the 85th percentile speed profile for the segments along Meadowbrook Road. Typically, speed limits are set within 5 MPH of the 85th percentile speed.

Table 6: 85th Percentile Speeds on Meadowbrook Road

Location	85 th Percentile Speed for Both Directions	Existing Speed Limit	Recommended Speed Limit
8 Mile Rd to 9 Mile Rd	39	30	40
9 Mile Rd to 10 Mile Rd	37	30	35
10 Mile Rd to Grand River Ave	51	40	45
Grand River Ave to 11 Mile Rd	51	40	45
11 Mile Rd to 12 Mile Rd	47	40	45

Act No. 445
Public Acts of 2016
Approved by the Governor
January 4, 2017
Filed with the Secretary of State
January 5, 2017
EFFECTIVE DATE: January 5, 2017

**STATE OF MICHIGAN
98TH LEGISLATURE
REGULAR SESSION OF 2016**

Introduced by Rep. Jacobsen

ENROLLED HOUSE BILL No. 4423

AN ACT to amend 1949 PA 300, entitled “An act to provide for the registration, titling, sale, transfer, and regulation of certain vehicles operated upon the public highways of this state or any other place open to the general public or generally accessible to motor vehicles and distressed vehicles; to provide for the licensing of dealers; to provide for the examination, licensing, and control of operators and chauffeurs; to provide for the giving of proof of financial responsibility and security by owners and operators of vehicles; to provide for the imposition, levy, and collection of specific taxes on vehicles, and the levy and collection of sales and use taxes, license fees, and permit fees; to provide for the regulation and use of streets and highways; to create certain funds; to provide penalties and sanctions for a violation of this act; to provide for civil liability of manufacturers, the manufacturers of certain devices, the manufacturers of automated technology, upfitters, owners, and operators of vehicles and service of process on residents and nonresidents; to regulate the introduction and use of certain evidence; to regulate and certify the manufacturers of certain devices; to provide for approval and certification of installers and servicers of certain devices; to provide for the levy of certain assessments; to provide for the enforcement of this act; to provide for the creation of and to prescribe the powers and duties of certain state and local agencies; to impose liability upon the state or local agencies; to provide appropriations for certain purposes; to repeal all other acts or parts of acts inconsistent with this act or contrary to this act; and to repeal certain parts of this act on a specific date,” by amending section 627 (MCL 257.627), as amended by 2012 PA 252; and to repeal acts and parts of acts.

The People of the State of Michigan enact:

Sec. 627. (1) A person operating a vehicle on a highway shall operate that vehicle at a careful and prudent speed not greater than nor less than is reasonable and proper, having due regard to the traffic, surface, and width of the highway and of any other condition existing at the time. A person shall not operate a vehicle upon a highway at a speed greater than that which will permit a stop within the assured, clear distance ahead. A violation of this subsection shall be known and may be referred to as a violation of the basic speed law or “VBSL”.

(2) Except as provided in subsection (1), it is lawful for the operator of a vehicle to operate that vehicle on a highway at a speed not exceeding the following:

(a) 15 miles per hour on a highway segment within the boundaries of a mobile home park, as that term is defined in section 2 of the mobile home commission act, 1987 PA 96, MCL 125.2302.

(b) 25 miles per hour on a highway segment within a business district.

(c) 25 miles per hour on a highway segment within the boundaries of a public park. A local authority may decrease the speed limit to not less than 15 miles per hour in a public park under its jurisdiction.

(d) 25 miles per hour on a highway segment within the boundaries of a residential subdivision, including a condominium subdivision, consisting of a system of interconnected highways with no through highways and a limited number of dedicated highways that serve as entrances to and exits from the subdivision.

(e) 25 miles per hour on a highway segment with 60 or more vehicular access points within 1/2 mile.

(f) 30 miles per hour on a highway segment with not less than 50 vehicular access points but no more than 59 vehicular access points within 1/2 mile.

(g) 35 miles per hour on a highway segment with not less than 45 vehicular access points but no more than 49 vehicular access points within 1/2 mile.

(h) 40 miles per hour on a highway segment with not less than 40 vehicular access points but no more than 44 vehicular access points within 1/2 mile.

(i) 45 miles per hour on a highway segment with not less than 30 vehicular access points but no more than 39 vehicular access points within 1/2 mile.

(3) A person operating a truck with a gross weight of 10,000 pounds or more, a truck-tractor, a truck-tractor with a semi-trailer or trailer, or a combination of these vehicles shall not exceed a speed of 35 miles per hour during the period when reduced loadings are being enforced in accordance with this chapter.

(4) Where the posted speed limit is greater than 65 miles per hour, a person operating a school bus, a truck with a gross weight of 10,000 pounds or more, a truck-tractor, or a truck-tractor with a semi-trailer or trailer or a combination of these vehicles shall not exceed a speed of 65 miles per hour on a limited access freeway or a state trunk line highway.

(5) All of the following apply to the speed limits described in subsection (2):

(a) A highway segment adjacent to or lying between 2 or more areas described in subsection (2)(a), (b), (c), or (d) shall not be considered to be within the boundaries of those areas.

(b) A highway segment of more than 1/2 mile in length with a consistent density of vehicular access points equal to the number of vehicular access points described in subsection (2)(e), (f), (g), (h), or (i) shall be posted at the speed limit specified in the adjoining segment. A separate determination shall be made for each adjoining highway segment where vehicular access point density is different.

(c) A speed limit may be posted on highways less than 1/2 mile in length by prorating in 1/10 mile segments the vehicular access point density described in subsection (2)(e), (f), (g), (h), or (i).

(6) A person operating a vehicle on a highway, when entering and passing through a work zone described in section 79d(a) where a normal lane or part of the lane of traffic has been closed due to highway construction, maintenance, or surveying activities, shall not exceed a speed of 45 miles per hour unless a different speed limit is determined for that work zone by the state transportation department, a county road commission, or a local authority, based on accepted engineering practice. The state transportation department, a county road commission, or a local authority shall post speed limit signs in each work zone described in section 79d(a) that indicate the speed limit in that work zone and shall identify that work zone with any other traffic control devices necessary to conform to the Michigan manual of uniform traffic control devices. A person shall not exceed a speed limit established under this section or a speed limit established under section 628.

(7) The state transportation department, a county road commission, or a local authority shall decrease the speed limit in a hospital highway zone by up to 10 miles per hour upon request of a hospital located within that hospital highway zone. The state transportation department, county road commission, or local authority may decrease the speed limit in a hospital highway zone by more than 10 miles per hour if the decrease is supported by an engineering and safety study. The state transportation department, county road commission, or local authority shall post speed limit signs in a hospital highway zone that indicate the speed limit in that hospital highway zone and shall identify that hospital highway zone with any other traffic control devices necessary to conform to the Michigan manual of uniform traffic control devices. If a change in a sign, signal, or device, is necessitated by a speed limit decrease described in this subsection, the hospital requesting the decrease shall pay the cost of doing so. As used in this subsection, "hospital highway zone" means a portion of state trunk line highway maintained by the state transportation department that has a posted speed limit of at least 50 miles per hour and has 2 or fewer lanes for travel in the same direction, traverses along property owned by a hospital, contains an ingress and egress point from hospital property, and extends not more than 1,000 feet beyond the boundary lines of hospital property in both directions in a municipality.

(8) Subject to subsection (17), the maximum speed limit on all limited access freeways upon which a speed limit is not otherwise fixed under this act is 70 miles per hour, which shall be known as the "limited access freeway general speed limit". The minimum speed limit on all limited access freeways upon which a minimum speed limit is not otherwise fixed under this act is 55 miles per hour.

(9) Subject to subsection (17), the speed limit on all trunk line highways and all county highways upon which a speed limit is not otherwise fixed under this act is 55 miles per hour, which shall be known as the "general speed limit".

(10) Except as otherwise provided in this subsection, the speed limit on all county highways with a gravel or unimproved surface upon which a speed limit is not otherwise fixed under this act is 55 miles per hour, which shall be known as the "general gravel road speed limit". Upon request of a municipality located within a county with a population of 1,000,000 or more, the county road commission in conjunction with the requesting municipality may lower the speed limit to 45 miles per hour on the requested road segment and if a sign, signal, or device is erected or maintained, taken

down, or regulated as a result of a request by a municipality for a speed limit of 45 miles per hour, the municipality shall pay the costs of doing so. If a municipality located within a county with a population of 1,000,000 or more requests a speed different than the speed described in this subsection, the county road commission in conjunction with the department of state police and the requesting municipality may conduct a speed study of free-flow traffic on the fastest portion of the road segment in question for the purpose of establishing a modified speed limit. A speed study conducted under this subsection shall be completed between 3 and 14 days after a full gravel road maintenance protocol has been performed on the road segment. A full gravel road maintenance protocol described in this subsection shall include road grading and the application of a dust abatement chemical treatment. Following a speed study conducted under this subsection, the speed limit for the road segment shall be established at the nearest multiple of 5 miles per hour to the eighty-fifth percentile of speed of free-flow traffic under ideal conditions for vehicular traffic, and shall not be set below the fiftieth percentile speed of free-flow traffic under ideal conditions for vehicular traffic. A speed study conducted under this subsection shall be the responsibility of the department of state police, and if a sign, signal, or device is erected or maintained, taken down, or regulated as a result of a request by a municipality under this subsection, the municipality shall pay the costs of doing so.

(11) A public record of all traffic control orders establishing statutory speed limits authorized under this section shall be filed with the office of the clerk of the county in which the county highway is located or at the office of the city or village clerk or administrative office of the airport, college, or university in which the local highway is located, and a certified copy of the traffic control order shall be evidence in every court of this state of the authority for the issuance of that traffic control order. The public record filed with the county, city, or village clerk or administrative office of the airport, college, or university shall not be required as evidence of authority for issuing a traffic control order in the case of signs temporarily erected or placed at points where construction, maintenance, or surveying activities is in progress.

A traffic and engineering investigation is not required for a traffic control order for a speed limit established under subsection (2). A traffic control order shall, at a minimum, contain all of the following information:

- (a) The name of the road.
- (b) The boundaries of the segment of the road on which the speed limit is in effect.
- (c) The basis upon which the speed limit is in effect.
- (d) The section of law, including a reference to the subsection, under which the speed limit is established.

(12) Except for speed limits described in subsections (1), (2)(d), and (9), speed limits established under this section are not valid unless properly posted. In the absence of a properly posted sign, the speed limit in effect is the basic speed law described in subsection (1). Speed limits established under subsection (2)(b), (e), (f), (g), (h), and (i) are not valid unless a traffic control order is filed as described in subsection (11).

(13) Nothing in this section prevents the establishment of a modified speed limit after a speed study as described in section 628. A modified speed limit established under section 628 supersedes a speed limit established under this section.

(14) All signs erected or placed under this section shall conform to the Michigan manual on uniform traffic control devices.

(15) If upon investigation the state transportation department or county road commission and the department of state police determine that it is in the interest of public safety, they may order city, village, airport, college, university, and township officials to erect and maintain, take down, or regulate speed limit signs, signals, and devices as directed. In default of an order, the state transportation department or county road commission may cause designated signs, signals, and devices to be erected and maintained, removed, or regulated in the manner previously directed and pay the costs for doing so out of the designated highway fund. An investigation, including a speed study, conducted under this subsection shall be the responsibility of the department of state police.

(16) A person who violates a speed limit established under this section is responsible for a civil infraction.

(17) No later than 1 year after the effective date of the amendatory act that added this subsection, the state transportation department and the department of state police shall increase the speed limits on at least 600 miles of limited access freeway to 75 miles per hour if an engineering and safety study and the eighty-fifth percentile speed of free-flowing traffic under ideal conditions of that section contain findings that the speed limit may be raised to that speed, and the department shall increase the speed limit of 900 miles of trunk line highway to 65 miles per hour if an engineering and safety study and the eighty-fifth percentile speed of free-flowing traffic under ideal conditions of that section contain findings that the speed limit may be raised to that speed.

(18) As used in this section:

(a) "Traffic control order" means a document filed with the proper authority that establishes the legal and enforceable speed limit for the highway segment described in the document.

(b) "Vehicular access point" means a driveway or intersecting roadway.

Enacting section 1. Section 629 of the Michigan vehicle code, 1949 PA 300, MCL 257.629, is repealed.

Draft

Enacting section 2. This amendatory act does not take effect unless all of the following bills of the 98th Legislature are enacted into law:

- (a) House Bill No. 4424.
- (b) House Bill No. 4425.
- (c) House Bill No. 4426.

This act is ordered to take immediate effect.



.....
Clerk of the House of Representatives



.....
Secretary of the Senate

Approved

.....
Governor

State of Florida Department of Transportation

Form 750-010-03
TRAFFIC ENGINEERING
March 2020

VEHICLE SPOT SPEED STUDY

General Information										Site Information									
Analyst/Observer: ECH/SS					Location: Meadbrook Rd														
Agency or Company: AECOM					City: Novi County: Oakland														
Date Performed: Tuesday, May 14, 2024					Roadway ID: 656706														
Time Period From: 10:00 AM To: 12:00 PM					Milepost: 0.0-1.0 Posted Speed (mph): 30														
Weather/Road Condition: Clear, Dry					Remarks: Between 8 Mile and 9 Mile														
Vehicles traveling North bound						Speed (mph)	Vehicles traveling South bound						Both Directions						
Cum Total	Total	20	15	10	5		5	10	15	20	Total	Cum Total	Total	Cum Total					
	0					≥ 80					0			724					
	0					78 - 79.9					0			724					
	0					76 - 77.9					0			724					
	0					74 - 75.9					0			724					
	0					72 - 73.9					0			724					
	0					70 - 71.9					0			724					
	0					68 - 69.9					0			724					
	0					66 - 67.9					0			724					
	0					64 - 65.9					0			724					
	0					62 - 63.9					0			724					
	0					60 - 61.9					0			724					
	0					58 - 59.9					0			724					
	0					56 - 57.9					0			724					
362	1					54 - 55.9	1				1	362	2	724					
	0					52 - 53.9					0			722					
361	1					50 - 51.9	1				1	361	2	722					
360	3					48 - 49.9	1	2			3	360	6	720					
357	2					46 - 47.9	2				2	357	4	714					
355	7					44 - 45.9	4	3			7	355	14	710					
348	11					42 - 43.9	8	3			11	348	22	696					
337	13					40 - 41.9	6	7			13	337	26	674					
324	18					38 - 39.9	7	11			18	324	36	648					
306	29					36 - 37.9	10	19			29	306	58	612					
277	52					34 - 35.9	24	28			52	277	104	554					
225	78					32 - 33.9	34	44			78	225	156	450					
147	75					30 - 31.9	29	46			75	147	150	294					
72	52					28 - 29.9	20	32			52	72	104	144					
20	13					26 - 27.9	9	4			13	20	26	40					
7	3					24 - 25.9	1	2			3	7	6	14					
4	1					22 - 23.9	1				1	4	2	8					
	0					20 - 21.9					0			6					
	0					18 - 19.9					0			6					
	0					16 - 17.9					0			6					
	0					14 - 15.9					0			6					
	0					12 - 13.9					0			6					
	0					10 - 11.9					0			6					
3	3					≤ 10	2	1			3	3	6	6					
362		TOTALS										362		724					
Travel Direction 1 →		North		Speed Data Summary			South		← Travel Direction 2			Both Directions							
		308		85 th Percentile Vehicle			308		85 th Percentile Vehicle			615							
		39		85 th Percentile Speed			39		85 th Percentile Speed			39							
		181		50 th Percentile Vehicle			181		50 th Percentile Vehicle			362							
		33		50 th Percentile Speed			33		50 th Percentile Speed			33							
		28-38		10 mph pace			28-38		10 mph pace			28-38							
		OK					OK					OK							

State of Florida Department of Transportation

VEHICLE SPOT SPEED STUDY

Form 750-010-03
TRAFFIC ENGINEERING
March 2020

General Information										Site Information									
Analyst/Observer: ECH/SS					Location: Meadowbrook Rd														
Agency or Company: AECOM					City: Novi County: Oakland														
Date Performed: Wednesday, May 22, 2024					Roadway ID: 656706														
Time Period From: 10:00 AM To: 12:00 PM					Milepost: 1.0-2.0 Posted Speed (mph): 30														
Weather/Road Condition: Clear, Dry					Remarks: Between 9 Mile and 10 Mile														

Vehicles traveling North bound						Speed (mph)	Vehicles traveling South bound						Both Directions	
Cum Total	Total	20	15	10	5		5	10	15	20	Total	Cum Total	Total	Cum Total
	0					≥ 80					0			817
	0					78 - 79.9					0			817
	0					76 - 77.9					0			817
	0					74 - 75.9					0			817
	0					72 - 73.9					0			817
	0					70 - 71.9					0			817
	0					68 - 69.9					0			817
	0					66 - 67.9					0			817
	0					64 - 65.9					0			817
	0					62 - 63.9					0			817
	0					60 - 61.9					0			817
	0					58 - 59.9					0			817
	0					56 - 57.9					0			817
	0					54 - 55.9	1				1	394	1	817
	0					52 - 53.9	1				1	393	1	816
	0					50 - 51.9					0			815
423	1					48 - 49.9	1				1	392	2	815
422	2					46 - 47.9	2	2			4	391	6	813
420	3					44 - 45.9	2	3			5	387	8	807
417	8					42 - 43.9	6	5			11	382	19	799
409	17					40 - 41.9	4	7			11	371	28	780
392	31					38 - 39.9	15	11			26	360	57	752
361	45					36 - 37.9	25	29			54	334	99	695
316	73					34 - 35.9	32	33			65	280	138	596
243	103					32 - 33.9	23	53			76	215	179	458
140	71					30 - 31.9	36	41			77	139	148	279
69	33					28 - 29.9	17	14			31	62	64	131
36	22					26 - 27.9	6	13			19	31	41	67
14	6					24 - 25.9	3	3			6	12	12	26
8	5					22 - 23.9	1	2			3	6	8	14
	0					20 - 21.9	2				2	3	2	6
	0					18 - 19.9					0			4
	0					16 - 17.9					0			4
3	2					14 - 15.9	2				0		2	4
	0					12 - 13.9					0			2
	0					10 - 11.9					0			2
1	1					≤ 10	1				1	1	2	2
423						TOTALS					394		817	

Travel Direction 1 →	North	Speed Data Summary	South	← Travel Direction 2	Both Directions
	360	85th Percentile Vehicle	335	85th Percentile Vehicle	694
	37	85th Percentile Speed	39	85th Percentile Speed	37
	212	50th Percentile Vehicle	197	50th Percentile Vehicle	409
	33	50th Percentile Speed	33	50th Percentile Speed	33
	28-38	10 mph pace	28-38	10 mph pace	28-38
	OK		OK		OK

State of Florida Department of Transportation

VEHICLE SPOT SPEED STUDY

Form 750-010-03
TRAFFIC ENGINEERING
March 2020

General Information										Site Information									
Analyst/Observer: ECH/SS					Location: Meadowbrook Rd														
Agency or Company: AECOM					City: Novi County: Oakland														
Date Performed: Tuesday, May 14, 2024					Roadway ID: 656706														
Time Period From: 10:00 AM To: 12:00 PM					Milepost: 2.0-2.63 Posted Speed (mph): 40														
Weather/Road Condition: Clear, Dry					Remarks: Between 10 Mile and Grand River														

Vehicles traveling North bound						Speed (mph)	Vehicles traveling South bound						Both Directions	
Cum Total	Total	20	15	10	5		5	10	15	20	Total	Cum Total	Total	Cum Total
	0					≥ 80					0		1116	
	0					78 - 79.9					0		1116	
	0					76 - 77.9					0		1116	
	0					74 - 75.9					0		1116	
	0					72 - 73.9					0		1116	
	0					70 - 71.9					0		1116	
	0					68 - 69.9					0		1116	
	0					66 - 67.9					0		1116	
603	1					64 - 65.9					0	1	1116	
	0					62 - 63.9					0		1115	
602	7				5	60 - 61.9					0	7	1115	
595	7				4	58 - 59.9					0	7	1108	
588	13				8	56 - 57.9	1				1	513	1101	
575	21				11	54 - 55.9	3				3	512	1087	
554	55				28	52 - 53.9	3	1			4	509	1063	
499	83				37	50 - 51.9	7	7			14	505	1004	
416	88				46	48 - 49.9	17	10			27	491	907	
328	100				42	46 - 47.9	27	35			62	464	792	
228	84				45	44 - 45.9	52	56			108	402	630	
144	54				31	42 - 43.9	48	57			105	294	438	
90	41				16	40 - 41.9	30	51			81	189	279	
49	12				3	38 - 39.9	18	32			50	108	157	
37	10				4	36 - 37.9	8	13			21	58	95	
27	6				5	34 - 35.9	1	4			5	37	64	
21	7				3	32 - 33.9	3	3			6	32	53	
14	2				2	30 - 31.9	4	6			10	26	40	
12	4				1	28 - 29.9	3	3			6	16	28	
8	4				1	26 - 27.9	3				3	10	18	
	0					24 - 25.9	2				2	7	11	
	0					22 - 23.9	1	1			2	5	9	
4	1				1	20 - 21.9	2				2	3	7	
	0					18 - 19.9					0		4	
	0					16 - 17.9					0		4	
	0					14 - 15.9					0		4	
3	1				1	12 - 13.9					0	1	4	
	0					10 - 11.9					0		3	
2	2				2	≤ 10	1				1	1	3	
603						TOTALS					513		1116	

Travel Direction 1 →	North	Speed Data Summary	South	← Travel Direction 2	Both Directions
	513	85 th Percentile Vehicle	436	85 th Percentile Vehicle	949
	53	85 th Percentile Speed	47	85 th Percentile Speed	51
	302	50 th Percentile Vehicle	257	50 th Percentile Vehicle	558
	47	50 th Percentile Speed	43	50 th Percentile Speed	45
	44-54	10 mph pace	38-48	10 mph pace	40-50
	OK		OK		OK

State of Florida Department of Transportation

VEHICLE SPOT SPEED STUDY

Form 750-010-03
TRAFFIC ENGINEERING
March 2020

General Information										Site Information									
Analyst/Observer: ECH/SS					Location: Meadowbrook Rd														
Agency or Company: AECOM					City: Novi County: Oakland														
Date Performed: Tuesday, May 14, 2024					Roadway ID: 656706														
Time Period From: 10:00 AM To: 12:00 PM					Milepost: 3.0-4.0 Posted Speed (mph): 40														
Weather/Road Condition: Clear, Dry					Remarks: Between 11 Mile and 12 Mile														

Vehicles traveling North bound						Speed (mph)	Vehicles traveling South bound						Both Directions	
Cum Total	Total	20	15	10	5		5	10	15	20	Total	Cum Total	Total	Cum Total
	0					≥ 80					0			1049
	0					78 - 79.9					0			1049
	0					76 - 77.9					0			1049
	0					74 - 75.9					0			1049
	0					72 - 73.9					0			1049
	0					70 - 71.9					0			1049
	0					68 - 69.9					0			1049
572	1					66 - 67.9	1				1	477	2	1049
	0					64 - 65.9					0			1047
	0					62 - 63.9					0			1047
571	1					60 - 61.9	1				0		1	1047
570	1					58 - 59.9	4	4			8	476	9	1046
569	7					56 - 57.9	3	5			8	468	15	1037
562	12					54 - 55.9	6	8			14	460	26	1022
550	33					52 - 53.9	7	11			18	446	51	996
517	43					50 - 51.9	21	30			51	428	94	945
474	53					48 - 49.9	30	37			67	377	120	851
421	99					46 - 47.9	51	48			66	310	165	731
322	127					44 - 45.9	74	53			83	244	210	566
195	93					42 - 43.9	57	36			68	161	161	356
102	51					40 - 41.9	26	25			58	93	109	195
51	22					38 - 39.9	7	15			17	35	39	86
29	15					36 - 37.9	7	8			10	18	25	47
14	3					34 - 35.9	1	2			2	8	5	22
11	1					32 - 33.9	1				2	6	3	17
10	1					30 - 31.9	1				1	4	2	14
	0					28 - 29.9					1	3	1	12
9	6					26 - 27.9	6				0		6	11
3	1					24 - 25.9	1				1	2	2	5
	0					22 - 23.9					0			3
	0					20 - 21.9		1			1	1	1	3
	0					18 - 19.9					0			2
	0					16 - 17.9					0			2
	0					14 - 15.9					0			2
2	2					12 - 13.9	2				0		2	2
	0					10 - 11.9					0			
0	0					≤ 10					0			
572						TOTALS					477		1049	

Travel Direction 1 →	North	Speed Data Summary	South	← Travel Direction 2	Both Directions
	486	85 th Percentile Vehicle	405	85 th Percentile Vehicle	892
	51	85 th Percentile Speed	51	85 th Percentile Speed	51
	286	50 th Percentile Vehicle	239	50 th Percentile Vehicle	525
	45	50 th Percentile Speed	45	50 th Percentile Speed	45
	40-50	10 mph pace	40-50	10 mph pace	40-50
	OK		OK		OK

State of Florida Department of Transportation
VEHICLE SPOT SPEED STUDYForm 750-010-03
TRAFFIC ENGINEERING
March 2020

General Information										Site Information									
Analyst/Observer: ECH/SS										Location: Meadowbrook Rd									
Agency or Company: AECOM										City: Novi County: Oakland									
Date Performed: Tuesday, May 14, 2024										Roadway ID: 656706									
Time Period From: 10:00 AM To: 12:00 PM										Milepost: 2.63-3.0 Posted Speed (mph): 40									
Weather/Road Condition: Clear, Dry										Remarks: Between Grand River and 11 Mile									
Vehicles traveling North bound						Speed (mph)	Vehicles traveling South bound						Both Directions						
Cum Total	Total	20	15	10	5		5	10	15	20	Total	Cum Total	Total	Cum Total					
	0					≥ 80					0		1201						
	0					78 - 79.9					0		1201						
	0					76 - 77.9					0		1201						
	0					74 - 75.9					0		1201						
	0					72 - 73.9					0		1201						
	0					70 - 71.9					0		1201						
	0					68 - 69.9					0		1201						
	0					66 - 67.9	1				1	557	1	1201					
	0					64 - 65.9	1				1	556	1	1200					
644	1					62 - 63.9	1				1	555	2	1199					
	0					60 - 61.9					0			1197					
643	1					58 - 59.9	1	1			2	554	3	1197					
	0					56 - 57.9	5	2			7	552	7	1194					
642	2					54 - 55.9	6	8			14	545	16	1187					
640	1					52 - 53.9	9	19			28	531	29	1171					
639	3					50 - 51.9	19	16			35	503	38	1142					
636	6					48 - 49.9	32	28			60	468	66	1104					
630	25					46 - 47.9	44	47			91	408	116	1038					
605	47					44 - 45.9	38	36			74	317	121	922					
558	90					42 - 43.9	29	36			65	243	155	801					
468	118					40 - 41.9	18	29			47	178	165	646					
350	123					38 - 39.9	23	26			49	131	172	481					
227	75					36 - 37.9	12	10			22	82	97	309					
152	55					34 - 35.9	12	8			20	60	75	212					
97	24					32 - 33.9	6	3			9	40	33	137					
73	18					30 - 31.9	2	5			7	31	25	104					
55	21					28 - 29.9	3	2			5	24	26	79					
34	15					26 - 27.9	2	1			3	19	18	53					
19	7					24 - 25.9	2	3			5	16	12	35					
12	9					22 - 23.9	1				1	11	10	23					
3	2					20 - 21.9	1	1			2	10	4	13					
	0					18 - 19.9	2				2	8	2	9					
	0					16 - 17.9					0			7					
	0					14 - 15.9	1				1	6	1	7					
	0					12 - 13.9					0			6					
	0					10 - 11.9	3				3	5	3	6					
1	1					≤ 10	2				2	2	3	3					
644		TOTALS										557		1201					
Travel Direction 1 →		North		Speed Data Summary		South		← Travel Direction 2		Both Directions									
		547		85 th Percentile Vehicle		473		85 th Percentile Vehicle		1021									
		43		85 th Percentile Speed		51		85 th Percentile Speed		47									
		322		50 th Percentile Vehicle		279		50 th Percentile Vehicle		601									
		39		50 th Percentile Speed		45		50 th Percentile Speed		41									
		34-44		10 mph pace		40-50		10 mph pace		38-48									
		OK				OK				OK									