

Oakland County Gravel Road Speed Limits

Lt. Lance Cook
Sgt. Chad Lindstrom



MCL 257.627(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".

MCL 257.627(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".

MCL 257.627(10) continued

- 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.

MCL 257.627(10) continued

- 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.

MCL 257.627(10) continued

- 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.

MCL 257.627(10) continued

- 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.

MCL 257.627(10) continued

- 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.

Logistics Problems with Law

- Need to establish 85th and 50th percentile speeds
- Need 100 vehicle minimum for valid study
- Pattern only starts to emerge with about 30-35 vehicles
- Low traffic volume requires several hours/multiple visits to observe enough vehicles
- Narrow window (3 to 14 days) creates difficulty working around weather, weekends, other duties

Kansas State University Study

- Kansas State University Study, Published April 10, 2009, at request of Kansas DOT
- Researchers Sunanda Dissanayake, associate professor of civil engineering, and Litao Liu, graduate student in civil engineering
- Kansas gravel roads have varying speed limits, but a study by Kansas State University researchers shows that instead of abiding by those limits, people are more likely to use their own judgment to gauge how fast they should drive on the roads.

Kansas State University Study

- "We found that people are driving at speeds based on their perceptions and existing conditions – regardless of the speed limit," said Dissanayake, who also is a faculty member with K-State's University Transportation Center.

Kansas State University Study

- Kansas has about 78,000 miles of gravel roads, or 58 percent of all roads in the state. By state law, gravel roads have a speed limit of 55 mph, though local governments are allowed to reduce the speed limit within their jurisdictions. Most of the state's 105 counties maintain the 55 mph speed limit and don't post the limit on gravel roads

Kansas State University Study

- One exception is Johnson County, where the gravel road speed limit has been reduced to 35 mph and signs are posted. Dissanayake said this creates problems since the county is the only one in the area with that speed limit. For instance, when driving on a gravel road in Miami County, the speed limit is 55 mph -- and it's not posted. However, when staying on the same road and passing into Johnson County, signs alert drivers that the speed limit is 35 mph.

Kansas State University Study

- The Kansas Department of Transportation wanted to know the better approach in setting speed limits on gravel roads. The study also is important for county engineers who face complaints from county residents who ask for the speed limit to be lowered.
- For the project, the researchers collected speed data on Kansas gravel roads. They used automatic traffic counters that collect the speed of drivers without them knowing.

Kansas State University Study

- The researchers found that people drove faster when gravel roads were sandier and when they were wider. They also found that heavy vehicles drove faster than smaller vehicles. However, when it came to speed limits and the actual speeds driven, the difference was not significant between 35 mph and 55 mph roads.
- Johnson County's speed limit is 35 mph and posted, the average actual speed of 37.5 mph was higher than the average actual speed of 35.8 mph in Miami County, where the speed limit is 55 mph and not posted.

Kansas State University Study

- "Johnson County does not gain anything by lowering the speed limit and posting it," she said. "Spending money on posting and maintaining signs in this aspect is pointless, really."
- In addition, the study found no safety benefit to posting speed limit signs or reducing the speed limit on gravel roads, as there was not a large difference in the number of crashes or the types of crashes.

Kansas State University Study

- The researchers recommend that the practice of lowering speed limits and posting signs on gravel roads in Kansas not be adopted in new situations. However, Dissanayake said the researchers have not made recommendations for past practices, such as in Johnson County.
- "I can't say there is any harm in the posting," she said. "The only thing is that you might lose the respect of the drivers. The majority are driving under the speed limit, so why do you need to lower it?"

Local Experience

- Livernois speed limit posted between Tienken and Dutton in Rochester Hills
- Mr. S.P., a local "squeaky wheel" that was instrumental in getting the revised law passed now regrets having the road posted
- Noted that before, faster vehicles simply passed him
- Now they tailgate and honk if he drives below the posted limit

Problems with Posting

- Number on sign gives non-motorists false sense of security, making them more likely to engage in more risky behavior
- Number on sign creates expectation that the posted speed is intrinsically safe, making drivers more likely to drive faster when not supported by conditions, which can change rapidly
- Signs that don't match driver perception tend to breed disrespect for all signs
- Artificially low signs put drivers into conflict with each other, increasing crashes and road rage

Example #1

NUMBER OBSERVATIONS				
SPEED	PASSENGER CARS	TRUCKS	BUSES	TOTAL
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
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67				
68				
69				
70				

LOCATION: EMERY RD
 BETWEEN N & E W
 OF SEPARATE LANE P&R ROAD
 DIRECTION OF TRAVEL: E & W
 COUNTY: OSHTON
 TOWNSHIP: OSHTON TWP
 DATE: 11/25/18
 TIME: 12:00 P - 1:15 P
 WEATHER: PARTLY SUNNY 79°
 ROAD SURFACE CONDITION: DRY
 SPEED DETECTION DEVICE: SPD 35 PHOTO
 SPEED LIMIT: 35 MPH
 POSTED: Yes No X
 80th PERCENTILE: 35 MPH
 85th PERCENTILE: 42 MPH
 90th PERCENTILE: 45 MPH
 PACE:
 INCIDENT #
 STUDY COMPLETED BY: Sgt. Lindstrom

TOTAL OBSERVATIONS: 15

Example #2

SPEED	NUMBER OBSERVATIONS			TOTAL
	PASSENGER CARS	TRUCKS	BUSES	
20				
21				
22				
23				
24				
25				
26				
27				
28				
29	11			11
30				
31	11			11
32				
33				
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35				
36				
37				
38				
39				
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64				
65				
66				
67				
68				
69				
70				
TOTAL OBSERVATIONS				33

LOCATION: Southworth Road
 @ N S E W
 OF: WATSON LANE
 DIRECTION OF TRAVEL: H R S
 COUNTY: OSHTON
 TWP: REHOBOTH TWP
 DATE: 9/25/18
 TIME: 11:00 A - 11:00 A
 WEATHER: PARTLY SUNNY 79°
 ROAD SURFACE CONDITION:
GENERAL
 SPEED DETECTION DEVICE:
 Lidar X Radar
 SPEED LIMIT: 55 MPH
 POSTED: Yes No X
 85th PERCENTILE: 51 MPH
 90th PERCENTILE: 40 MPH
 95th PERCENTILE: 40 MPH
 PACE:
 INCIDENT #:
 STUDY COMPLETED BY:
DR. LINDSEY

TCRU Position

- Residents on gravel roads in Oakland County can request the RCOC, through their municipality, to post a 45-mph speed limit without MSP involvement
- MSP will not conduct studies on gravel roads with volumes such that 100 free-flowing vehicles cannot be observed during a two-hour off-peak morning or afternoon window
- MSP will only conduct studies when the township or municipality passes a resolution beforehand stating that they will abide by the results

