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September 12, 2024

Chad Pelishek
Assistant Village Manager/Planner
Village of Harrison
W5298 State Road 114
Harrison, Wisconsin 54952

Dear Chad:

This letter is in response to your request that Wisconsin Department of Transportation-Northeast Region (WisDOT-NER) conduct a speed study of the existing 55 mph speed zone on WIS 114 in the Village of Harrison, between CTH N easterly to Pigeon Road.

WisDOT has completed a comprehensive review of this segment of highway. The review consisted of a traffic engineering speed study, and a field review of the roadway, including existing significant development along/immediately adjacent to the roadway. Based upon this investigation and state/national speed zone management standards, we have concluded that the current 55 mph regulatory speed zone along this segment of WIS 114 is appropriate. WisDOT will not be making any modifications to the regulatory speed limit on this segment of highway.

A speed study was conducted to determine the segment's existing operating speeds in this 55 mph regulatory speed zone. The prevailing speed observed was 61 mph and the average speed was 57.5 mph. These speeds indicate moderate compliance with the existing 55 mph speed limit. Lowering the speed limit on this roadway segment contrary to state and national speed management criteria would increase the variance in vehicle operating speeds. State and national safety studies have determined that when roadway speed variance increases, a decrease of overall safety is very likely. State and national speed management criteria also indicate the safest highway segments have regulatory speed limits that most drivers feel are credible and appropriately enforceable.

Approximately 35% of drivers are complying with the existing 55 mph regulatory speed zone. If the posted regulatory speed limit would be reduced to 45 mph, we would anticipate compliance of under 5%.

A study of reportable crashes on this segment of WIS 114 was completed for the years 2019 to 2023 (most current/official 5-year crash data available). Crash information used was obtained from official Division of Motor Vehicle Records and excludes deer crashes.

The segment's total crash rate is 73.1 (expressed as number of crashes that occurred per 100,000,000 vehicle-miles). This rate is below the statewide total crash rate of 91.4 for similar roadways during this period. The crash severity rate for this segment is 27.1 which is slightly above the statewide average crash severity rate of 19.5 for similar roadways. Crash

rates on this segment of highway are below thresholds that would be considered a safety concern.

Based on our experience, state/national speed management standards, the free flow speed data collected and for all the reasons mentioned above, the existing 55 mph speed limit will not be changed.

If you have any questions, please contact me at (920) 366-4747 or via email at rodney.hamilton@dot.wi.gov

Sincerely,

A handwritten signature in blue ink that reads "Rod Hamilton". The signature is written in a cursive style with a light blue background behind the text.

Rod Hamilton, P.E.
Traffic Engineer

Enclosure: WisDOT speed management summary document



Setting Appropriate Speed Limits on Wisconsin's State Highways



Why Speed Limits?

The setting of speed limits is fundamentally influenced by basic principles of human behavior. Research and experience have shown that effective speed limits are those that the majority of motorists will naturally and instinctively drive. Traffic laws that reflect the behavior of the majority of motorists are found to be the most successful.

Common Misconceptions

- Lowering the posted speed limit will slow down the traffic
- Lowering the posted speed limit will increase safety and decrease the number of crashes
- Raising the posted speed limit will increase the speed of traffic
- Drivers will always travel at 5 mph over the speed limit which is posted

What factors are considered when setting a speed limit?

Nationally, the most recognized practice is to post the speed limit as near as practical to the speed at which 85% of the drivers are traveling. Most people choose a reasonable speed in which they feel comfortable and safe. Traffic engineers consider the 85th percentile speed to help determine the posted speed limit.

The 85th percentile speed may be adjusted based on the following factors if they significantly impact roadway characteristics or safety:

- Crash history
- Roadway geometrics
- Parking
- Pedestrians and pedestrian crossings
- Adjacent development
- Traffic engineering judgment

What a rational speed limit does:

- Encourage compliance from the majority of drivers
- Provide a clear reminder of the maximum reasonable speed under ideal conditions. When conditions change, drivers must reduce their speed accordingly
- Serve as an effective tool for law enforcement
- Minimize public antagonism toward law enforcement agencies which results from enforcement of artificially low speed limits
- Provide a smooth and orderly flow of traffic to prevent crashes

What is the relationship between vehicle speed and crashes?

Roadways are safest when the majority of vehicles are traveling at about the same speed. Studies have shown that crash rates are at their lowest when traffic is travelling at or near the 85th percentile speed. Injury and fatality crashes are highest for motorists traveling at speeds much higher or lower than the 85th percentile speed or current flow of traffic.

Variation of speed within the traffic stream creates more conflicts and passing maneuvers, which in turn lead to more crashes.

Why not post a lower speed limit and have the police enforce it?

This theory is only effective when law enforcement is present. The availability of police officers is limited for speed enforcement on a consistent basis. If unreasonably low speed limits are posted and not vigorously enforced, there will be varying speeds of traffic which will increase the potential for crashes. In general, setting unreasonable speed limits will also lead to a disregard to speed limits.