
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer
FROM: Colby Winter, Seasonal Engineering Aide
DATE: Monday, May 16, 2016
SUBJECT: Speed Study of Front St between Pine St and Hall St

City Engineering performed a speed study on Front St between Pine St and Hall St starting Friday, May 13th, 2016 and concluding on Monday, May 16th, 2016. This speed study is a part of a larger signal warrant study for the Front St and Hall St intersection. This memo serves to formalize City Engineering's initial observations, data, and findings with the speed statistics of vehicular traffic on Front St and to observe the changes in traffic speed habits that have occurred since the infrastructure and striping additions that were constructed in 2015 on W Front St.

The data was gathered using a JAMAR Radar Recorder; this data recorder collects both vehicle speed and volume using radar sensors in both westbound and eastbound lanes. The raw data compiled and analyzed using TraxPro and reported vehicle speed count for every hour during the study in the increments of 5 miles per hour. The TraxPro software also compiled a report to be sent Traverse City Police Department to evaluate the possible percentage of enforceable violations. This data is organized into a small colored meter where red means there is a high enforcement potential and green equates to a low amount of speed infractions are occurring. For this report, the enforceable minimum speed a vehicle would need to be traveling is 5 miles per hour over the posted speed limit of 25 miles per hour.

During the multiday study, a total of 22,756 vehicles were recorded on Front St between Pine St and Hall St. The mean speed of all vehicles recorded is 25 miles per hour. Of all vehicles recorded, 41.4% were traveling above the 25 miles per hour speed limit and 10.4% were traveling the enforcement tolerance level of 30 miles per hour. In the eastbound lane, the mean speed is 22 miles per hour with 19.0% of vehicles above the speed limit, while in the westbound lane the mean speed is 27 miles per hour and 59.9% of vehicles traveling at speeds above the posted speed limit.

Analyzing historical data, a multiday speed study was performed concluding November 4th, 2014, prior to the infrastructure and striping additions that were constructed in 2015. In 2014, traffic traveling above the posted speed limit was 31.2% of all traffic, while in 2016, it was 41.4%. The mean speed was also lower in 2014, 23 miles per hour average speed of vehicular traffic through the area.

2016 Summary (Combined):

- Speed Limit: 25 MPH
- Number of Vehicles Recorded (3 days): 22,756
- Average Speed: 25 MPH
- Total Enforcement Rating: Medium
- Total Percentage above Enforcement Tolerance Limit 10.4%
- Total Percent Above the Speed Limit 41.4%

Historical Speed Summary:

Year	Percent over enforcement tolerance limit (%)	Percent Change from 2014	Percent over Speed Limit (%)	Percent Change from 2016
2014	11.0%		31.2%	
2016	10.4%	-0.6%	41.4%	+10.2%

Encl:

Detailed TraxPro Speed Reports (Combined and Directional)

TraxPro Enforcement Reports

2014 Detailed TraxPro Speed Reports (Combined and Directional)