
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer
FROM: Jessica Carpenter, E.I.T., Engineering Technician
DATE: Thursday, April 30, 2015
SUBJECT: Post Striping Follow Up Speed Study of E. Eighth Street, 600 Block between Franklin St. and Railroad Ave.

City Engineering performed an on-site 2-week speed count beginning Thursday, March 26, 2015 at 3 pm until Friday, April 10, 2015 at 3 am on the 600 block of E. Eighth St. This memo is to formalize City Engineering's initial findings and observations with regard to the speeds of vehicles on the 600 block of E. Eighth St.

The data was gathered using a Jamar Radar Recorder which collected traffic data, including vehicle speed, for each lane of traffic (eastbound and westbound). This information was then analyzed and the data for each lane compiled into one report, regardless of direction, using TraxPro. The TraxPro report organized the speeds of the vehicles into groups based on 5 mile per hour increments, starting with 0-15 miles per hour. The report shows how many vehicles were within the specified speed range during the time indicated by the report. The speed data was also analyzed through TraxPro's Police Report program to evaluate the possible percentage of enforceable violations. This data was then organized into a small colored chart where red means high enforcement potential and green means low on a total scale for enforceable violations of 30 percent. For this report the enforceable minimum speed a vehicle would need to be traveling was set to 5 miles per hour over the posted speed limit.

During the 2-week study, 204,818 vehicles were recorded on this section of Eighth St with about 65 percent of eastbound vehicles traveling between 26 and 35 miles per hour and an average speed of 30 miles per hour. Westbound vehicles had an average speed of 27 miles per hour, with about 82 percent traveling between 21 and 30 miles per hour. About 81 percent of eastbound vehicles and 66 percent of westbound vehicles were recorded going speeds above the posted speed limit of 25 miles per hour. The total percentage of enforceable violations was about 28 percent.

A 7 day study, from August 7, 2014 until August 14, 2014, was done on this section of Eighth St before it was reduced to a three lane section. During this study, 65 percent of eastbound vehicles were traveling between 25 and 34 miles per hour with an average eastbound speed of 27 miles per hour. Westbound vehicles had an average speed of 30 miles per hour, with about 67 percent traveling between 27 and 36 miles per hour. About 82 percent of eastbound vehicles and 89 percent of westbound vehicles were recorded going speeds above the posted speed limit of 25 miles per hour. The total percentage of enforceable violations was about 50 percent.

After converting this section of Eighth St to a three lane section, the average speed increased by 3 miles per hour for eastbound vehicles and decreased by 3 miles per hour for westbound vehicles. Eastbound pace speed increased by 1 mile per hour while westbound vehicles pace speed decreased by 6 miles per hour after the road was reduced to a three lane section. The percentage of vehicles driving over the posted speed limit was decreased by 1 percent for vehicles traveling east, and decreased by 23 percent for westbound vehicles. The total percentage of enforceable violations decreased by 22 percent after the road was reduced to a three lane section.

Post-Striping Summary:

- Speed Limit: 25 mph
- Number of Recorded Vehicles (2 weeks): 204,818
- Average Speed 28 mph
- Total Enforcement Rating High
- Total Percentage Above Speed Limit 73.0 %

Pre-Striping vs Post-Striping Summary:

	Pre-Striping	Post-Striping
Average Speed	29 mph	28 mph
85th Percentile Speed	34 mph	33 mph
Total Percentage Above Speed Limit	85.8%	73.0%
Total Enforcement Rating	High	High

Encl.: Detailed TraxPro Speed Report (Combined)
TraxPro Enforcement Report