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# Memorandum

The City of Traverse City  
Engineering Department



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TO: Timothy J. Lodge, P.E., City Engineer  
FROM: Jessica Carpenter, E.I.T., Engineering Technician  
DATE: Thursday, April 30, 2015  
SUBJECT: Striping Follow Up Speed Study of E. Eighth Street, 300 Block between Lake Ave. and Boardman Ave.

City Engineering performed an on-site 2-week speed count beginning Thursday, March 26, 2015 at 5 pm until Friday, April 10, 2015 at 10 pm on the 300 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 300 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, 219,123 vehicles were recorded on this section of Eighth St with about 66 percent of eastbound vehicles traveling between 26 and 35 miles per hour and an average speed of 32 miles per hour. Westbound vehicles had an average speed of 23 miles per hour, with about 83 percent traveling between 21 and 30 miles per hour. About 88 percent of eastbound vehicles and 24 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 32 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, 58 percent of eastbound vehicles were traveling between 27 and 36 miles per hour with an average speed of 30 miles per hour. Westbound vehicles had an average speed of 24 miles per hour, with about 57 percent traveling between 22 and 31 miles per hour. About 82 percent of eastbound vehicles and 43 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 35 percent.

The post-striping average speed increased by 2 miles per hour for eastbound vehicles and decreased by 1 mile per hour for westbound vehicles. Eastbound pace speed decreased by 1 mile per hour while westbound vehicles pace speed decreased by 1 mile per hour after the road was reduced to a three lane section. The percentage of vehicles driving above the posted speed limit was increased by 2 percent for vehicles traveling east, and decreased by 17 percent for westbound vehicles. The total percentage of enforceable violations decreased by 3 percent after the road was reduced to a three lane section.

**Post-Striping Follow Up Summary:**

- Speed Limit: 25 mph
- Number of Recorded Vehicles (2 weeks): 219,123
- Average Speed 27 mph
- Total Enforcement Rating High
- Total Percentage Above Speed Limit 54.8 %

**Pre-Striping vs Post-Striping Summary:**

	<b>Pre-Striping</b>	<b>Post-Striping</b>
<b>Average Speed</b>	27 mph	27 mph
<b>85th Percentile Speed</b>	33 mph	33 mph
<b>Total Percentage Above Speed Limit</b>	67.60%	54.8%
<b>Total Enforcement Rating</b>	High	High

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