

SPEED STUDY

STH 60 (Lizbeth Lane to 1st Avenue) Ozaukee County

DATE COMPLETED: August 8th and 15th, 2012

PREPARED BY:

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SPEED STUDY REQUEST

This speed study was prompted in order to evaluate the corridor for a future project.

BACKGROUND

Listed below are the project limits for the STH 60 corridor and general information about the roadway.

Highway:	STH 60
Project Limits:	Lizbeth Lane to 1 st Avenue
Project Length:	Approximately 3.5 miles
County:	Ozaukee
Municipality:	Town of Cedarburg/Village of Grafton
AADT:	14100 (Year 2010)
Cross Section:	2-Lane Rural

METHODOLOGY

The laser gun method was used to obtain the speed, recorded in miles per hour (MPH), of the approaching vehicles. The handheld device emits a laser beam that reflects off of moving vehicles. The device collects the returning beams and converts the amount of time for the beam to emit and return into an instantaneous speed measurement.

A minimum sample size (number of observations) of no less than 100 vehicles per lane per direction was taken at each location. Additionally, the samples were taken during non-peak traffic hours within the weekdays of Tuesday through Thursday. These guidelines are followed to provide an accurate representation of the vehicle speeds within the study area.

DAY/TIME/WEATHER

The speed counts along STH 60 were taken during the hours of 10:00 am to 2:00 pm on Wednesday August 8th and 15th, 2012. The temperature ranged from 75 to 80 degrees Fahrenheit during sunny conditions with no precipitation occurring throughout the study period.

LOCATIONS

Speed data was collected at four locations for both eastbound and westbound approaching vehicles traveling on STH 60.

Location #1 was at Lizbeth Lane.

Location #2 was approximately 0.35 mile east of Horns Corners Road.

Location #3 was at Hilltop Drive.

Location #4 was midway between Keup Road and 1st Avenue.

The posted speed limit at location #1 and #2 is 55 miles per hour and the posted speed limit at location #3 and #4 is 45 miles per hour.



Figure 1: Speed Data Capture Locations on STH 60

PERCENTILE AND PACE SPEEDS

The recorded speeds for all vehicles at each location are used to calculate percentile speeds at each location. A percentile speed is important in determining the appropriate speed that should be posted on a given roadway. The definition of a percentile speed is the speed at or below which a certain percentage of observed traffic travels.

The 85th percentile speed is an important benchmark in setting the speed limit for a given roadway. The Wisconsin Statewide Speed Management Guidelines considers the 85th percentile speed to best represent the “reasonable” and “proper” speed perceived by motorists and is a key characteristic of traffic conforming to a “safe” and “reasonable” speed limit. A speed limit within 5 miles per hour of the 85th percentile speed is a good starting point for a speed limit proposal, but the analyst should consider a full range of factors when developing a recommendation. The 50th percentile speed, or median speed, may also be of interest when reviewing speed studies.

Finally, the pace speed is a range of speeds that covers the highest number of observations from a given set of data. The pace speed is generated using a ten-mile per hour range.

SPEED STUDY RESULTS

Table 1: Speed Count Results

Location	Direction	Posted Speed (MPH)	Percentile Speed (MPH)				10 MPH Pace Speed
			15 th	50 th	85 th	95 th	
#1: Lizbeth Lane	Eastbound	55	52	56	60	62	52 - 61
	Westbound	55	52	57	60	63	52 - 61
#2: 0.35 Mile East of Horns Corners Road	Eastbound	55	50	55	59	60	51 - 60
	Westbound	55	50	55	58	61	50 - 59
#3: Hilltop Drive	Eastbound	45	46	49	51	55	43 - 52
	Westbound	45	44	48	52	55	43 - 52
#4: Midway between Keup Road and 1 st Avenue	Eastbound	45	39	43	47	50	38 - 47
	Westbound	45	39	44	48	51	38 - 47



Figure 2: 50th Percentile Speed Results



Figure 3: 85th Percentile Speed Results

CAPTURE ZONES



Figure 4: EB STH 60 at Lizbeth Lane Capture Zone



Figure 5: WB STH 60 at Lizbeth Lane Capture Zone



Figure 6: EB STH 60 Approximately 0.35 Mile East of Horns Corners Road



Figure 7: WB STH 60 Approximately 0.35 Mile East of Horns Corners Road



Figure 8: EB STH 60 at Hilltop Drive



Figure 9: WB STH 60 at Hilltop Drive



Figure 10: EB STH 60 Midway between Keup Road and 1st Avenue



Figure 11: WB STH 60 Midway between Keup Road and 1st Avenue