
Memorandum

The City of Traverse City
Engineering Department



TO: Transportation Committee *JK*
FROM: Matthew Sexton, Seasonal Engineering Aide
DATE: Friday July 27th, 2018 *M. S.*
SUBJECT: 24 Hour Speed and Volume of State Street near Garfield

City Engineering performed a 24 hour speed study on State Street near Garfield Beginning on Thursday, July 26th, 2018 and concluding on Friday, July 27th, 2018. This memo is to formalize City Engineering's initial data observations and findings with to the speed statistics and volume of vehicular traffic on State Street.

The data was gathered using a JAMAR Radar Recorder; this data recorder collects both vehicle speed and volume using radar sensors in both Eastbound and Westbound 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 this 24 hour study, 1348 vehicles were recorded. The average (mean) speed of the 1348 vehicles was 24 miles per hour, with 52.0% of all vehicles traveling at speeds greater than the posted limit of 25 miles per hour. Giving motorist an extra 5 miles per hour over the posted speed limit for enforcement tolerance, the number of vehicles speeding was 13.3%.

Summary (Combined):

Mean Speed:	24 MPH
Number of Vehicles above Posted Speed Limit	52.0%
85th Percentile of Speed:	29 MPH
95th Percentile of Speed:	32 MPH

Enclosed:

Detailed TraxPro Speed Reports (Combined and Directional)
TraxPro Police Enforcement Reports

**State Street
Between Gilbert and Garfield**

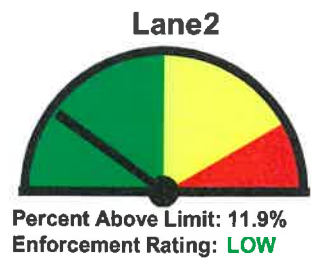
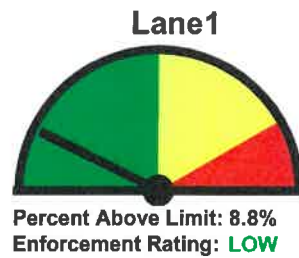
Speed Enforcement Evaluator

Location:
State Street

**Total Percentage of
Enforceable Violations**

Closest Cross Street:
Garfield

Analysis Dates:
Thursday, July 26, 2018
Friday, July 27, 2018



Combined

1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	>65
0	18	126	244	619	559	157	17	0	0	0	0	0	0

85 percentile = 28

Lane1

1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	>65
0	12	65	158	405	335	82	12	0	0	0	0	0	0

85 percentile = 28

Lane2

1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	>65
0	6	61	86	214	224	75	5	0	0	0	0	0	0

85 percentile = 29

**State Street
Between Gilbert and Garfield**

State Street
Garfield

Direction 2	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	999	Total	Pace Speed	Number in Pace				
07/27/18	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	19-28	1				
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*				
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*				
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*				
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*				
05:00	0	0	0	0	0	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*				
06:00	1	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21-30	10				
07:00	2	2	5	10	5	10	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	21-30	4				
08:00	2	5	11	17	5	17	5	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21-30	15				
09:00	5	2	9	11	9	11	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	21-30	28				
10:00	1	6	11	14	11	14	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	21-30	20				
11:00	0	1	16	25	11	25	9	9	9	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	21-30	25				
12 PM	2	1	17	20	13	20	11	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	21-30	41				
13:00	1	3	13	20	10	20	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	21-30	37				
14:00	1	3	10	15	10	15	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	21-30	33				
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	35	21-30	25				
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*			
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*			
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*			
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Total	15	23	98	141	51	51	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	331							
Percent	4.5%	6.9%	29.6%	42.6%	15.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%							
AM Peak	09:00	10:00	11:00	11:00	11:00	07:00																												
Vol.	5	6	16	25	9	1																												
PM Peak	12:00	13:00	12:00	12:00	12:00																													
Vol.	2	3	17	20	11																													
Total	73	86	214	224	75	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	677						
Percent	10.8%	12.7%	31.6%	33.1%	11.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%							

15th Percentile : 16 MPH
 50th Percentile : 24 MPH
 85th Percentile : 29 MPH
 95th Percentile : 33 MPH

10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 438
 Percent in Pace : 64.7%
 Number of Vehicles > 25 MPH : 304
 Percent of Vehicles > 25 MPH : 44.9%
 Mean Speed(Average) : 24 MPH

**State Street
Between Gilbert and Garfield**

State Street
Garfield

Direction 1, Direction 2		16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace	Number
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999		Speed	in Pace
07/27/18	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	19-28	2
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	19-28	1
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14-23	1
03:00	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	15-24	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	19-28	1
05:00	0	1	6	10	8	0	0	0	0	0	0	0	0	0	25	25-34	18
06:00	1	2	2	5	0	0	0	0	0	0	0	0	0	0	10	21-30	7
07:00	3	3	14	19	3	1	0	0	0	0	0	0	0	0	43	21-30	33
08:00	3	6	17	26	7	1	0	0	0	0	0	0	0	0	60	21-30	43
09:00	5	7	22	20	11	1	0	0	0	0	0	0	0	0	66	21-30	42
10:00	1	10	26	23	9	1	0	0	0	0	0	0	0	0	70	21-30	49
11:00	0	10	39	41	12	1	0	0	0	0	0	0	0	0	103	21-30	80
12 PM	3	2	38	37	15	0	0	0	0	0	0	0	0	0	95	21-30	75
13:00	2	7	30	48	10	2	0	0	0	0	0	0	0	0	99	21-30	78
14:00	3	10	53	35	10	0	0	0	0	0	0	0	0	0	111	21-30	88
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	22	58	251	267	85	7	0	0	0	0	0	0	0	0	690		
Percent	3.2%	8.4%	36.4%	38.7%	12.3%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	10:00	11:00	11:00	11:00	07:00									11:00		
Vol.	5	10	39	41	12	1									103		
PM Peak	12:00	14:00	13:00	13:00	12:00	13:00									14:00		
Vol.	3	10	53	48	15	2									111		
Total	154	244	619	559	157	17	0	0	0	0	0	0	0	0	1750		
Percent	8.8%	13.9%	35.4%	31.9%	9.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

Stats

10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 1178
 Percent in Pace : 67.3%
 Number of Vehicles > 25 MPH : 733
 Percent of Vehicles > 25 MPH : 41.9%
 Mean Speed(Average) : 24 MPH

**State Street
Between Gilbert and Garfield**

State Street
Garfield

Start Time	7/23/2018 Mon	7/24/2018 Tue	7/25/2018 Wed	7/26/2018 Thu	7/27/2018 Fri	Weekday Average	7/28/2018 Sat	7/29/2018 Sun
12:00 AM	*	*	*	*	2	2	*	*
01:00	*	*	*	*	1	1	*	*
02:00	*	*	*	*	1	1	*	*
03:00	*	*	*	*	3	3	*	*
04:00	*	*	*	*	1	1	*	*
05:00	*	*	*	*	25	25	*	*
06:00	*	*	*	*	10	10	*	*
07:00	*	*	*	*	43	43	*	*
08:00	*	*	*	*	60	60	*	*
09:00	*	*	*	*	66	66	*	*
10:00	*	*	*	*	70	70	*	*
11:00	*	*	*	97	103	100	*	*
12:00 PM	*	*	*	99	95	97	*	*
01:00	*	*	*	98	99	98	*	*
02:00	*	*	*	101	111	106	*	*
03:00	*	*	*	125	*	125	*	*
04:00	*	*	*	131	*	131	*	*
05:00	*	*	*	186	*	186	*	*
06:00	*	*	*	93	*	93	*	*
07:00	*	*	*	40	*	40	*	*
08:00	*	*	*	39	*	39	*	*
09:00	*	*	*	27	*	27	*	*
10:00	*	*	*	14	*	14	*	*
11:00	*	*	*	10	*	10	*	*
Total	0	0	0	1060	690		0	0
Percentage	0.0%	0.0%	0.0%	78.6%	51.2%		0.0%	0.0%
AM Peak	-	-	-	11:00	11:00	-	-	-
Vol.	-	-	-	97	103	-	-	-
PM Peak	-	-	-	17:00	14:00	-	-	-
Vol.	-	-	-	186	111	-	-	-
Total		0	0					

**State Street
Between Gilbert and Garfield**

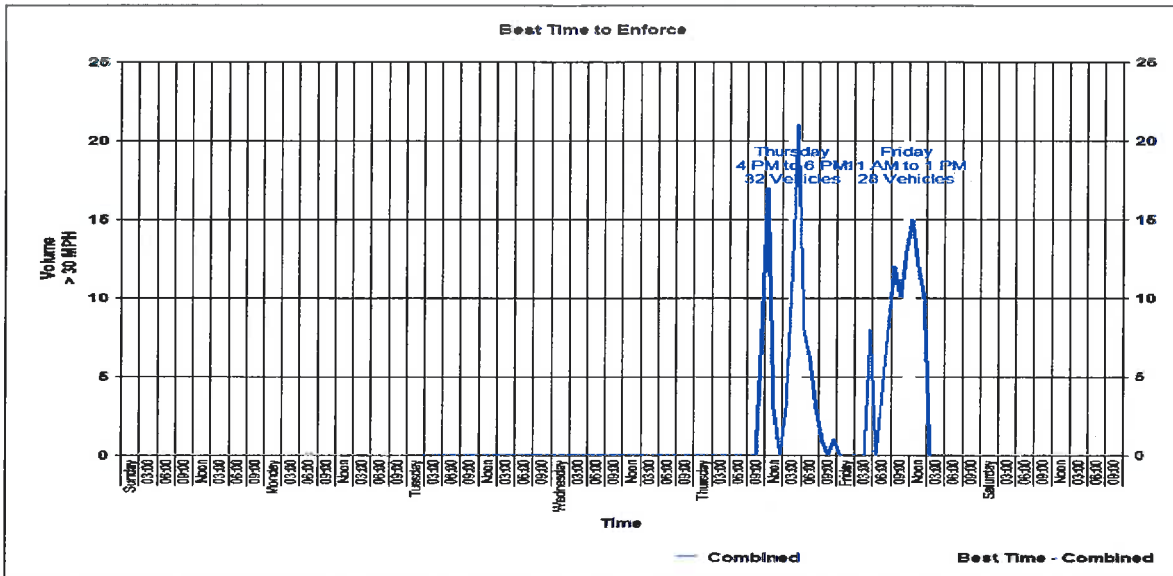
Best Times for Enforcement

Location: Sun
State Street
Closest Cross Street: Mon
 Garfield

Analysis Dates: Tue
 Thursday, July 26, 2018
 Friday, July 27, 2018

Requested By: Wed

Thu Combined: 4 PM to 6 PM
 Lane1: 4 PM to 6 PM
 Lane2: 11 AM to 1 PM
Fri Combined: 11 AM to 1 PM
 Lane1: Noon to 2 PM
 Lane2: 11 AM to 1 PM
Sat



State Street Between Gilbert and Garfield

