
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer
FROM: Abhishek Deora, Seasonal Engineering Aide
DATE: Thursday, June 28th, 2017
SUBJECT: 24 Hour Speed and Volume of Madison St between 6th St and Front St

City Engineering performed a 24 hour speed study on Madison St between 6th St and Front St beginning on Tuesday, June 27th, 2017 concluded Wednesday, June 28th, 2017. This memo is to formalize City Engineering's initial data observations and findings with to the speed statistics and volume of vehicular traffic on Madison St.

The data was gathered using a JAMAR Radar Recorder, this data recorder collects both vehicle speed and volume using radar sensors in both Northbound and Southbound 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, 2629 vehicles were recorded. The average (mean) speed of the 2629 vehicles is 21 miles per hour, with 15.5% 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 is 0.0%.

Summary (Combined):

- **Mean Speed:** 21 MPH
- **Number of Vehicles above Posted Speed Limit** 15.5%
- **85th Percentile of Speed:** 25 MPH
- **95th Percentile of Speed:** 28 MPH

Enclosed:

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

Madison St
Btw Front St and 6th St
Speed

Site Code: 00000001
Station ID:

Latitude: 0' 0.0000 South

B=Northbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
06/27/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	13	41	37	11	1	0	0	0	0	0	0	0	0	0	103	16-25	78
11:00	21	47	45	8	0	0	0	0	0	0	0	0	0	0	121	16-25	92
12 PM	17	49	46	3	1	0	0	0	0	0	0	0	0	0	116	16-25	95
13:00	18	48	33	5	0	0	0	0	0	0	0	0	0	0	104	16-25	81
14:00	11	31	43	8	1	0	0	0	0	0	0	0	0	0	94	16-25	74
15:00	14	39	60	9	1	0	0	0	0	0	0	0	0	0	123	16-25	99
16:00	30	43	70	17	2	0	0	0	0	0	0	0	0	0	162	16-25	113
17:00	17	33	63	4	0	0	0	0	0	0	0	0	0	0	117	16-25	96
18:00	13	28	34	9	0	0	0	0	0	0	0	0	0	0	84	16-25	62
19:00	1	11	32	7	1	0	0	0	0	0	0	0	0	0	52	16-25	43
20:00	3	7	24	10	0	0	0	0	0	0	0	0	0	0	44	21-30	34
21:00	3	1	10	4	0	0	0	0	0	0	0	0	0	0	18	21-30	14
22:00	1	1	8	1	0	0	0	0	0	0	0	0	0	0	11	16-25	9
23:00	1	1	6	1	0	0	0	0	0	0	0	0	0	0	9	20-29	7
Total	163	380	511	97	7	0	0	0	0	0	0	0	0	0	1158		
Percent	14.1%	32.8%	44.1%	8.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	11:00	10:00	10:00										11:00		
Vol.	21	47	45	11	1										121		
PM Peak	16:00	12:00	16:00	16:00	16:00										16:00		
Vol.	30	49	70	17	2										162		

Madison St
Btw Front St and 6th St
Speed

Site Code: 00000001
Station ID:

Latitude: 0' 0.0000 South

A=Southbound, B=Northbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
06/27/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	16	70	104	24	2	0	0	0	0	0	0	0	0	0	216	16-25	174
11:00	28	77	103	21	1	0	0	0	0	0	0	0	0	0	230	16-25	180
12 PM	23	94	93	11	1	0	0	0	0	0	0	0	0	0	222	16-25	187
13:00	25	73	88	19	1	1	0	0	0	0	0	0	0	0	207	16-25	161
14:00	18	52	86	24	1	0	0	0	0	0	0	0	0	0	181	16-25	138
15:00	18	49	90	29	1	0	0	0	0	0	0	0	0	0	187	16-25	139
16:00	35	70	108	27	2	0	0	0	0	0	0	0	0	0	242	16-25	178
17:00	24	56	102	19	1	0	0	0	0	0	0	0	0	0	202	16-25	158
18:00	14	31	56	22	0	0	0	0	0	0	0	0	0	0	123	16-25	87
19:00	6	16	45	10	2	0	0	0	0	0	0	0	0	0	79	16-25	61
20:00	3	10	29	15	1	0	0	0	0	0	0	0	0	0	58	21-30	44
21:00	6	2	14	5	1	0	0	0	0	0	0	0	0	0	28	21-30	19
22:00	1	2	15	3	0	0	0	0	0	0	0	0	0	0	21	19-28	18
23:00	2	3	7	1	0	0	0	0	0	0	0	0	0	0	13	16-25	10
Total	219	605	940	230	14	1	0	0	0	0	0	0	0	0	2009		
Percent	10.9%	30.1%	46.8%	11.4%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	10:00	10:00	10:00										11:00		
Vol.	28	77	104	24	2										230		
PM Peak	16:00	12:00	16:00	15:00	16:00	13:00									16:00		
Vol.	35	94	108	29	2	1									242		

Madison St
Btw Front St and 6th St
Count#90

Site Code: 0000001
Station ID:

Latitude: 0' 0.0000 South

Start Time	26-Jun-17 Mon	27-Jun-17 Tue	28-Jun-17 Wed	29-Jun-17 Thu	30-Jun-17 Fri	Weekday Average	01-Jul-17 Sat	02-Jul-17 Sun
12:00 AM	*	*	5	*	*	5	*	*
01:00	*	*	4	*	*	4	*	*
02:00	*	*	3	*	*	3	*	*
03:00	*	*	4	*	*	4	*	*
04:00	*	*	7	*	*	7	*	*
05:00	*	*	15	*	*	15	*	*
06:00	*	*	116	*	*	116	*	*
07:00	*	*	202	*	*	202	*	*
08:00	*	*	174	*	*	174	*	*
09:00	*	*	162	*	*	162	*	*
10:00	*	216	189	*	*	202	*	*
11:00	*	230	114	*	*	172	*	*
12:00 PM	*	222	*	*	*	222	*	*
01:00	*	207	*	*	*	207	*	*
02:00	*	181	*	*	*	181	*	*
03:00	*	187	*	*	*	187	*	*
04:00	*	242	*	*	*	242	*	*
05:00	*	202	*	*	*	202	*	*
06:00	*	123	*	*	*	123	*	*
07:00	*	79	*	*	*	79	*	*
08:00	*	58	*	*	*	58	*	*
09:00	*	28	*	*	*	28	*	*
10:00	*	21	*	*	*	21	*	*
11:00	*	13	*	*	*	13	*	*
Total	0	209	995	0	0		0	0
Percentage	0.0%	76.4%	37.8%	0.0%	0.0%		0.0%	0.0%
AM Peak	-	11:00	07:00	-	-	-	-	-
Vol.	-	230	202	-	-	-	-	-
PM Peak	-	16:00	-	-	-	-	-	-
Vol.	-	242	-	-	-	-	-	-
Total		209	995					

Speed Enforcement Evaluator

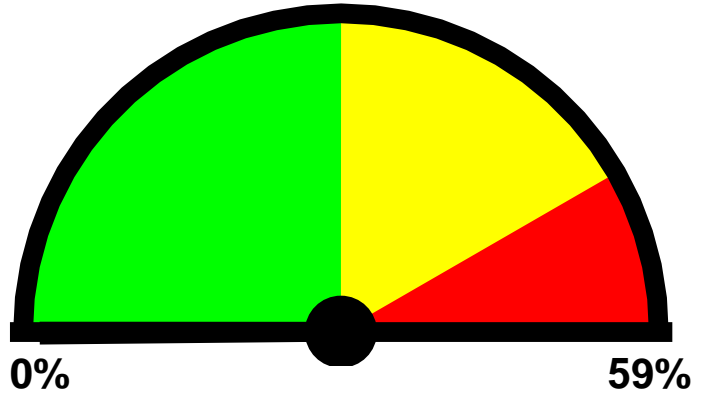
Location:
Madison St

Total Percentage of Enforceable Violations

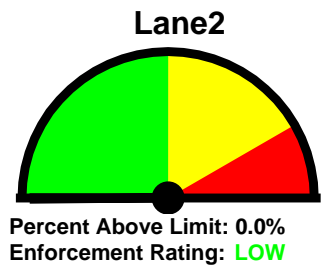
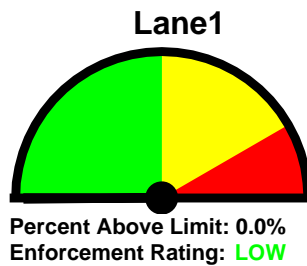
Closest Cross Street:
Btw Front St and 6th St

Analysis Dates:
Tuesday, June 27, 2017
Wednesday, June 28, 2017
Times:

Equipment Used:



Posted Speed Limit: 25 MPH
Enforcement Tolerance: 5 MPH
Enforcement Limit: 31 MPH & Up
Percentage Above Limit: 0.0%
Enforcement Rating: **LOW**



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	28	260	835	1408	435	28	2	0	0	0	0	0	0

85 percentile = 25

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	22	65	336	771	290	20	2	0	0	0	0	0	0

85 percentile = 25

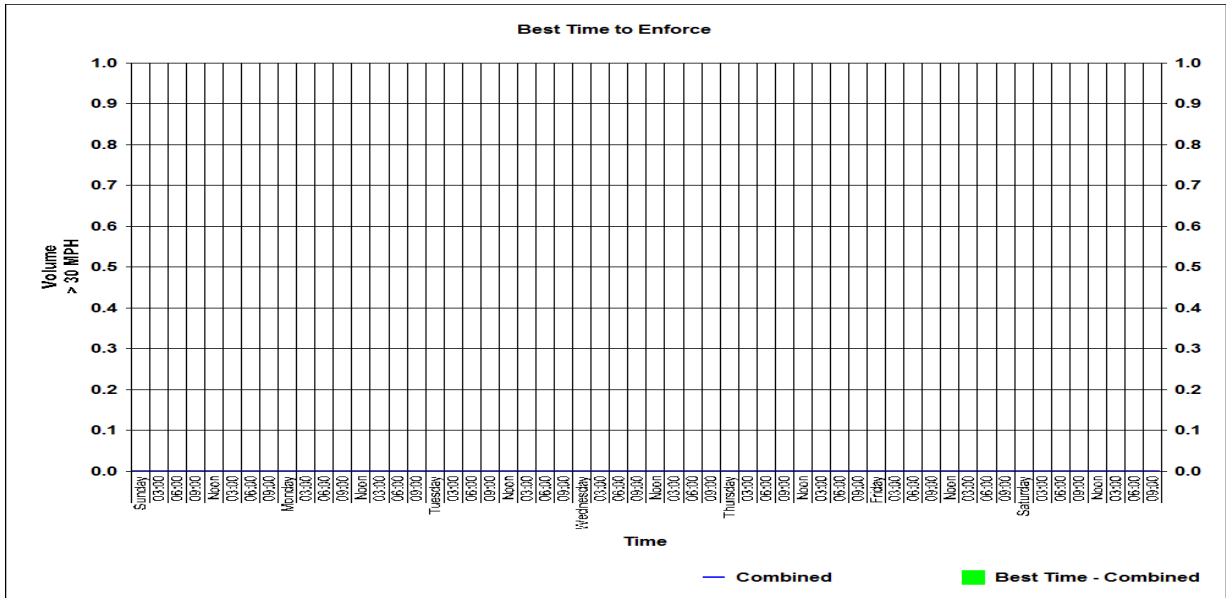
Lane2

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	195	499	637	145	8	0	0	0	0	0	0	0

85 percentile = 24

Best Times for Enforcement

Location: Sun
Madison St
Closest Cross Street: Mon
Btw Front St and 6th St
Analysis Dates: Tue
Tuesday, June 27, 2017
Wednesday, June 28, 2017
Times: Wed
Thu
Fri
Sat



Madison St
Btw Front St and 6th St
Speed

