
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer
FROM: Abhishek Deora, Seasonal Engineering Aide
DATE: Wednesday, May 31st, 2017
SUBJECT: 24 Hour Speed and Volume of Cass St between 11th and 12th St

City Engineering performed a 24 hour speed study on Cass St between 11th St and 12th St beginning on Tuesday, May 30th, 2017 concluded Wednesday, May 31st, 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 Cass 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, 10,744 vehicles were recorded. The average (mean) speed of the 10,744 vehicles is 26 miles per hour, with 55.9% 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 8.3%.

Summary (Combined):

- **Mean Speed:** 26 MPH
- **Number of Vehicles above Posted Speed Limit** 55.9%
- **85th Percentile of Speed:** 29 MPH
- **95th Percentile of Speed:** 32 MPH

Enclosed:

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

Cass Street
Between 11th and 12th Street
Speed

Site Code: 00000001
Station ID:

Latitude: 0' 0.0000 South

A= Northbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
05/30/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	1	8	102	191	29	0	0	0	0	0	0	0	0	0	331	21-30	293
11:00	4	11	132	189	29	0	0	0	0	0	0	0	0	0	365	21-30	321
12 PM	2	11	121	245	36	3	0	0	0	0	0	0	0	0	418	21-30	366
13:00	4	6	145	216	39	1	0	0	0	0	0	0	0	0	411	21-30	361
14:00	6	36	161	191	18	1	0	0	0	0	0	0	0	0	413	21-30	352
15:00	12	13	163	196	23	1	0	0	0	0	0	0	0	0	408	21-30	359
16:00	2	12	148	202	30	0	0	0	0	0	0	0	0	0	394	21-30	350
17:00	3	20	129	222	42	2	0	0	0	0	0	0	0	0	418	21-30	351
18:00	1	9	94	184	29	0	0	0	0	0	0	0	0	0	317	21-30	278
19:00	0	2	65	113	30	2	0	0	0	0	0	0	0	0	212	21-30	178
20:00	0	0	31	85	15	0	0	0	0	0	0	0	0	0	131	21-30	116
21:00	0	9	41	44	4	0	0	0	0	0	0	0	0	0	98	21-30	85
22:00	0	0	13	25	5	0	0	0	0	0	0	0	0	0	43	21-30	38
23:00	0	1	8	20	5	0	0	0	0	0	0	0	0	0	34	21-30	28
Total	35	138	1353	2123	334	10	0	0	0	0	0	0	0	0	3993		
Percent	0.9%	3.5%	33.9%	53.2%	8.4%	0.3%	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.	4	11	132	191	29										365		
PM Peak	15:00	14:00	15:00	12:00	17:00	12:00									12:00		
Vol.	12	36	163	245	42	3									418		

Cass Street
Between 11th and 12th Street
Speed

Site Code: 00000001
Station ID:

Latitude: 0' 0.0000 South

A= Northbound, B= Southbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
05/30/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	5	13	223	355	56	1	0	0	0	0	0	0	0	0	653	21-30	578
11:00	10	47	322	363	54	1	0	0	0	0	0	0	0	0	797	21-30	685
12 PM	5	27	269	469	77	4	0	0	0	0	0	0	0	0	851	21-30	738
13:00	6	18	326	394	64	1	0	0	0	0	0	0	0	0	809	21-30	720
14:00	55	66	330	328	33	1	1	0	0	0	0	0	0	0	814	21-30	658
15:00	58	84	370	344	43	1	0	0	0	0	0	0	0	0	900	21-30	714
16:00	19	62	388	381	52	0	0	0	0	0	0	0	0	0	902	21-30	769
17:00	88	63	266	336	54	5	0	0	0	0	0	0	0	0	812	21-30	602
18:00	6	10	194	332	56	1	0	0	0	0	0	0	0	0	599	21-30	526
19:00	1	9	128	212	48	4	0	0	0	0	0	0	0	0	402	21-30	340
20:00	0	5	89	173	32	2	0	0	0	0	0	0	0	0	301	21-30	262
21:00	0	11	93	100	12	0	0	0	0	0	0	0	0	0	216	21-30	193
22:00	2	4	45	62	12	1	0	0	0	0	0	0	0	0	126	21-30	107
23:00	0	2	19	32	10	0	0	0	0	0	0	0	0	0	63	21-30	51
Total	255	421	3062	3881	603	22	1	0	0	0	0	0	0	0	8245		
Percent	3.1%	5.1%	37.1%	47.1%	7.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	11:00	11:00	10:00	10:00									11:00		
Vol.	10	47	322	363	56	1									797		
PM Peak	17:00	15:00	16:00	12:00	12:00	17:00	14:00								16:00		
Vol.	88	84	388	469	77	5	1								902		

Site Code: 0000001
 Station ID:
 Cass Street
 Between 11th and 12th
 Latitude: 0' 0.0000 South

Start Time	29-May-17 Mon	30-May-17 Tue	31-May-17 Wed	01-Jun-17 Thu	02-Jun-17 Fri	Weekday Average	03-Jun-17 Sat	04-Jun-17 Sun
12:00 AM	*	*	50	*	*	50	*	*
01:00	*	*	14	*	*	14	*	*
02:00	*	*	13	*	*	13	*	*
03:00	*	*	11	*	*	11	*	*
04:00	*	*	24	*	*	24	*	*
05:00	*	*	68	*	*	68	*	*
06:00	*	*	163	*	*	163	*	*
07:00	*	*	619	*	*	619	*	*
08:00	*	*	633	*	*	633	*	*
09:00	*	*	622	*	*	622	*	*
10:00	*	653	282	*	*	468	*	*
11:00	*	797	*	*	*	797	*	*
12:00 PM	*	851	*	*	*	851	*	*
01:00	*	809	*	*	*	809	*	*
02:00	*	814	*	*	*	814	*	*
03:00	*	900	*	*	*	900	*	*
04:00	*	902	*	*	*	902	*	*
05:00	*	812	*	*	*	812	*	*
06:00	*	599	*	*	*	599	*	*
07:00	*	402	*	*	*	402	*	*
08:00	*	301	*	*	*	301	*	*
09:00	*	216	*	*	*	216	*	*
10:00	*	126	*	*	*	126	*	*
11:00	*	63	*	*	*	63	*	*
Total	0	8245	2499	0	0		0	0
Percentage	0.0%	80.2%	24.3%	0.0%	0.0%		0.0%	0.0%
AM Peak	-	11:00	08:00	-	-	-	-	-
Vol.	-	797	633	-	-	-	-	-
PM Peak	-	16:00	-	-	-	-	-	-
Vol.	-	902	-	-	-	-	-	-
Total		8245	2499					

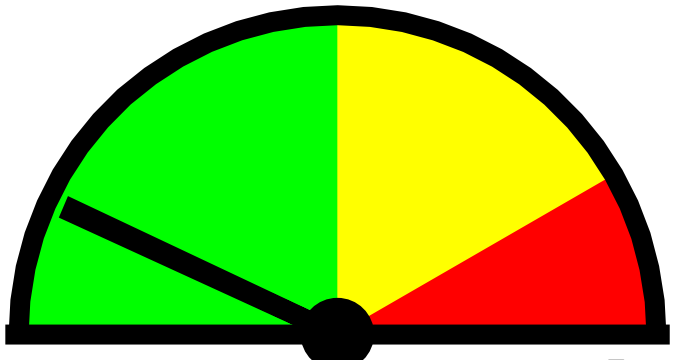
Speed Enforcement Evaluator

Location:
Cass Street

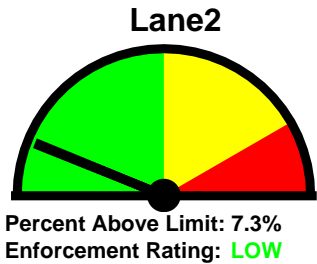
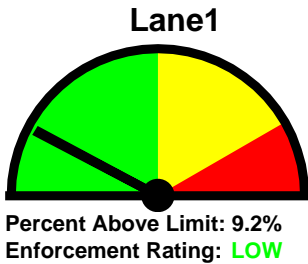
**Total Percentage of
Enforceable Violations**

Closest Cross Street:
Between 11th and 12th

Analysis Dates:
Tuesday, May 30, 2017
Wednesday, May 31, 2017



0% **59%**
Posted Speed Limit: 25 MPH
Enforcement Tolerance: 5 MPH
Enforcement Limit: 31 MPH & Up
Percentage Above Limit: 8.3%
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	26	237	532	3901	5126	846	36	2	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	9	36	207	1764	2774	468	18	1	0	0	0	0	0

85 percentile = 29

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	17	201	325	2137	2352	378	18	1	0	0	0	0	0

85 percentile = 28

Best Times for Enforcement

Location:
Cass Street
Closest Cross Street:
 Between 11th and 12th

Analysis Dates:
 Tuesday, May 30, 2017
 Wednesday, May 31, 2017

Sun

Mon

Tue **Combined: Noon to 2 PM**

Lane1: Noon to 2 PM

Lane2: 11 AM to 1 PM

Wed **Combined: 8 AM to 10 AM**

Lane1: 8 AM to 10 AM

Lane2: 8 AM to 10 AM

Thu

Fri

Sat

