
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer
FROM: John Zarafonitis, Seasonal Engineering Aide *JZ*
DATE: Thursday, June 26, 2014
SUBJECT: 24 hour Speed Study of S. Madison St., 200 Block between North and South Entrance of Circle Dr.

City Engineering performed an on-site 24 hour speed count beginning Tuesday, June 24, 2014 at 1 pm until Wednesday, June 25, 2014 at 3 pm on the 200 block of Madison St. This memo is to formalize City Engineering's initial findings and observations with regard to the speeds of vehicles on the 200 block of S. Madison St.

The data was gathered using a Jamar TRAX Mite which collected traffic data, including vehicle speed, for each lane of traffic (northbound and southbound). This information was then analyzed and the data for each lane compiled into one report 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.

During the 24 hour study, 1801 vehicles were recorded on this section of S. Madison St. with about 60 percent of southbound and 57 percent of northbound vehicles traveling between 20 and 29 miles per hour with an average speed of 23 miles per hour for both. 471 southbound vehicles were recorded going speeds over the posted speed limit of 25 miles per hour, 97 more than recorded northbound vehicles.

Summary:

- Speed Limit: 25 mph
- Number of Recorded Vehicles (24 hours): 1,801
- Percent of SB Vehicles Under Speed Limit: 60.2 %
- Percent of NB Vehicles Under Speed Limit: 58.2 %
- Average Speed for both: 23 mph
- 10 Mile Per Hour Pace Speed for both: 20-29 mph
- 85th Percentile for both: 28 mph

Encl.: Detailed TraxPro Speed Reports

S. Madison St.
 (200 Block, between North and South Entrances of Circle Dr.)
 Speed

SB

Start Time	0	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	60	61	65	70	71	75	76	Total
06/24/14	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	6	4	9	27	22	22	22	22	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	4	13	15	36	23	20	20	20	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	6	6	9	33	24	22	22	22	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	1	1	9	24	24	24	24	24	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	1	1	9	22	22	24	24	24	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	1	1	1	11	11	9	9	9	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19:00	1	1	1	6	6	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	1	8	7	7	7	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	1	6	5	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	5	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	32	67	181	138	34	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	462

S. Madison St.
(200 Block, between North and South Entrances of Circle Dr.)
Speed

Start Time	0	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	Total	
06/25/14	0	0	0	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	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	0
02:00	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
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	0
04:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	5	4	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
06:00	0	0	2	2	13	5	42	13	13	10	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74
07:00	1	1	6	6	28	28	29	29	10	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74
08:00	1	1	12	12	44	31	31	31	4	4	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	93
09:00	3	3	13	13	37	28	28	28	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84
10:00	9	9	13	13	35	21	21	21	4	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83
11:00	4	4	21	21	36	24	24	24	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87
12 PM	7	7	4	4	31	11	11	11	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
13:00	6	6	13	13	38	20	20	20	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81
14:00	2	2	12	12	39	20	20	20	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	33	97	308	230	48	6	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	727
Grand Total	65	164	489	368	82	12	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5	1189	

Statistics

Mean Speed(Average) : 23 MPH

10 MPH Pace Speed : 20-29 MPH

Number In Pace : 711

Percent In Pace : 60.1%

Number of Vehicles > 25 MPH : 471

Percent of Vehicles > 25 MPH : 39.8%

15th Percentile : 14 MPH

50th Percentile : 23 MPH

85th Percentile : 28 MPH

95th Percentile : 31 MPH

S. Madison St.
 (200 Block, between North and South Entrances of Circle Dr.)
 Speed

NB

Start Time	0	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	Total	
06/25/14	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	0	4	
01:00	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	1	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	1
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	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	0
05:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	2	3	7	14	14	7	12	4	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
08:00	4	4	7	19	19	4	4	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
09:00	3	3	5	18	18	9	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
10:00	3	3	12	15	15	9	9	9	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
11:00	4	4	10	21	21	17	17	17	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
12 PM	4	4	9	19	19	13	13	13	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
13:00	8	8	16	27	27	17	17	17	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
14:00	5	5	14	27	27	17	17	17	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	64
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	33	79	170	105	15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	407
Grand Total	52	139	333	289	66	12	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	898

Statistics

Mean Speed(Average) : 23 MPH

10 MPH Pace Speed : 20-29 MPH

Number in Pace : 512

Percent in Pace : 57.3%

Number of Vehicles > 25 MPH : 374

Percent of Vehicles > 25 MPH : 41.8%

15th Percentile : 14 MPH

50th Percentile : 23 MPH

85th Percentile : 28 MPH

95th Percentile : 32 MPH