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# Memorandum

The City of Traverse City  
Engineering Department



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TO: Timothy J. Lodge, P.E., City Engineer  
FROM: Jessica Cichowski, Engineering Technician  
DATE: Wednesday May 28, 2014  
SUBJECT: 24-hour Speed Study of Carver St, 800 Block

City Engineering performed an on-site 24-hour speed count beginning Thursday, May 22, 2014 at 4 pm until Friday, May 23, 2014 at 5 pm on the 800 block of Carver St. This memo is to formalize City Engineering's initial findings and observations with regard to the speeds of vehicles on the 800 block of Carver St.

The data was gathered using a Jamar Traffic Counter which collected traffic data, including vehicle speed, using two parallel tubes that are placed on the road and are connected to the device. This information was then analyzed and the data for each lane compiled into one report, regardless of direction, 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, 4630 vehicles were recorded on this section of Carver St with about 72 percent of the vehicles traveling between 23 and 32 miles per hour and an average speed of 27 miles per hour. 1222 of these vehicles, about 26 percent, were recorded going speeds below the posted speed limit of 25 miles per hour.

### Summary:

- Speed Limit: 25 mph
- Number of Recorded Vehicles (24 hours): 4630
- Percent of Vehicles Under Speed Limit: 25.8 %
- Average Speed: 27 mph
- 10 Mile Per Hour Pace Speed: 23-32 mph
- 85<sup>th</sup> Percentile: 31 mph

Encl.: Detailed TraxPro Speed Report

# Carver St 800 Block Speed

Site Code: 000000000000  
Station ID:

Westbound, Eastbound Latitude: 0' 0.0000 Undefined

Start Time	0	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace	Number in Pace
05/22/14	15	20	25	30	35	40	45	50	55	60	65	70	75	9999			
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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	7	5	107	228	73	5	1	0	0	1	1	0	0	2	430	23-32	315
17:00	5	5	74	188	75	5	0	1	0	0	1	0	0	3	357	23-32	258
18:00	0	3	57	102	29	4	0	0	0	0	0	0	0	0	195	22-31	147
19:00	2	4	52	68	21	2	0	0	0	0	1	0	0	0	150	22-31	107
20:00	1	3	32	60	13	0	0	0	0	0	0	0	0	0	109	22-31	83
21:00	1	1	21	26	9	3	0	0	0	0	0	0	0	1	62	22-31	42
22:00	2	0	17	17	6	1	0	0	0	0	0	0	0	0	43	21-30	30
23:00	2	0	7	12	5	0	0	0	0	0	0	0	0	0	26	23-32	17
Total	20	21	367	701	231	20	1	1	0	1	3	0	0	6	1372		
Percent	1.5%	1.5%	26.7%	51.1%	16.8%	1.5%	0.1%	0.1%	0.0%	0.1%	0.2%	0.0%	0.0%	0.4%			
AM Peak																	
Vol.																	
PM Peak	16:00	16:00	16:00	16:00	17:00	16:00	16:00	17:00	16:00	16:00	16:00	16:00	17:00	17:00	16:00		
Vol.	7	5	107	228	75	5	1	1	1	1	1	1	3	3	430		

# Carver St 800 Block Speed

Site Code: 000000000000

Station ID:

Westbound, Eastbound

Latitude: 0' 0.0000 Undefined

Start Time	0	15	20	21	25	26	31	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	76	Total	Pace Speed	Number in Pace
05/23/14	0	1	1	3	6	6	1	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	22-31	8
01:00	0	0	0	6	6	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	22-31	12
02:00	3	1	1	3	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	21-30	7	
03:00	0	0	0	1	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	24-33	4	
04:00	0	0	0	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	22-31	6	
05:00	0	0	1	1	1	4	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	26-35	18	
06:00	0	0	1	1	15	29	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	23-32	41	
07:00	0	0	4	8	58	99	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	206	23-32	147	
08:00	8	2	2	86	171	171	48	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	324	23-32	236	
09:00	3	6	6	74	128	128	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271	23-32	189	
10:00	5	7	7	54	165	165	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	308	24-33	218	
11:00	4	6	6	73	174	174	58	2	2	12	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	339	23-32	237	
12 PM	10	6	6	89	209	209	96	1	1	4	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	8	24-33	295	
13:00	9	6	6	87	213	213	68	0	0	3	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	392	23-32	285	
14:00	4	2	2	68	213	213	90	0	0	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	401	24-33	291	
15:00	5	6	6	93	245	245	92	1	1	10	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	4	23-32	333	
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total	52	49	713	1683	628	75	6	2	2	6	5	2	3	3	32	3258														
Percent	1.6%	1.5%	21.9%	51.7%	19.3%	2.3%	0.2%	0.1%	0.2%	0.2%	0.1%	0.1%	0.2%	0.1%	1.0%															
AM Peak	08:00	10:00	08:00	11:00	10:00	10:00	11:00	11:00	11:00	08:00	07:00	06:00	11:00																	
Vol.	8	7	86	174	62	13	2	2	2	1	1	1	1	1	6	339														
PM Peak	12:00	12:00	15:00	15:00	12:00	14:00	12:00	12:00	14:00	14:00	14:00	14:00	14:00	12:00	12:00	15:00														
Vol.	10	6	93	245	96	16	2	2	2	2	2	2	2	1	8	458														
Total	72	70	1080	2384	859	95	7	3	2	7	8	2	3	3	38	4630														
Percent	1.6%	1.5%	23.3%	51.5%	18.6%	2.1%	0.2%	0.1%	0.0%	0.2%	0.2%	0.0%	0.1%	0.1%	0.8%															

Stats

10 MPH Pace Speed : 23-32 MPH  
 Number In Pace : 3310  
 Percent In Pace : 72.1%  
 Number of Vehicles > 25 MPH : 3408  
 Percent of Vehicles > 25 MPH : 74.2%  
 Mean Speed(Average) : 27 MPH