
Memorandum

The City of Traverse City
Engineering Department



TO: Transportation Committee (Per Slabtown) *M. S.*
FROM: Matthew Sexton, Seasonal Engineering Aide
DATE: Wednesday, June 27th, 2018
SUBJECT: 24 Hour Speed and Volume of Randolph Street, Near Spruce

City Engineering performed a 24 hour speed study on Randolph Street, Near Spruce Street beginning on Monday, June 25th, 2018 and concluding on Tuesday, June 26th, 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 Randolph 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, 1467 vehicles were recorded. The average (mean) speed of the 1467 vehicles was 23 miles per hour, with 38.3% 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 8.1%.

Summary (Combined):

- **Mean Speed:** 23 MPH
- **Number of Vehicles above Posted Speed Limit** 38.3%
- **85th Percentile of Speed:** 27 MPH
- **95th Percentile of Speed:** 30 MPH

Enclosed:

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

Randolph St between Spruce & Cedar

Best Times for Enforcement

Location:
Randolph Street
Closest Cross Street:
 Spruce Street

Analysis Dates:
 Monday, June 25, 2018
 Tuesday, June 26, 2018

Requested By:
 Slabtown

Sun

Mon

Combined: 4 PM to 6 PM

Lane1: 4 PM to 6 PM

Lane2: 10 AM to Noon

Tue

Combined: 7 AM to 9 AM

Lane1: 7 AM to 9 AM

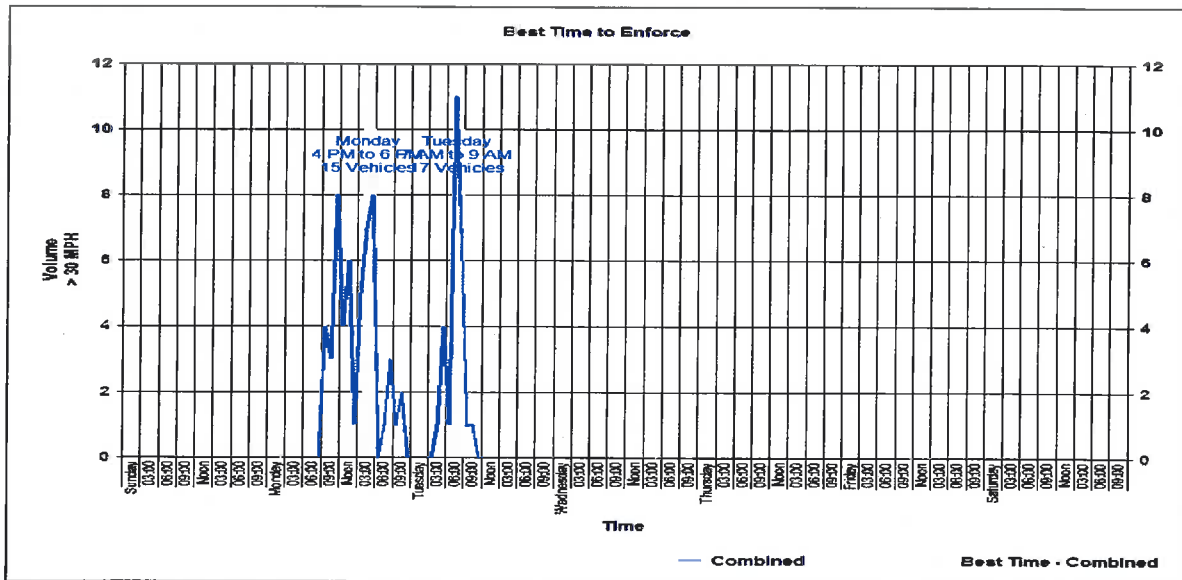
Lane2: 7 AM to 9 AM

Wed

Thu

Fri

Sat



Randolph St between Spruce & Cedar

Randolph Street
Spruce Street

Direction 1		1	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
06/25/18	01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	10:00	3	12	10	9	0	0	0	0	0	0	0	0	0	0	34	16-25	22
	11:00	4	23	29	7	2	0	0	0	0	0	0	0	0	0	65	16-25	52
	12 PM	3	18	34	11	3	0	0	0	0	0	0	0	0	0	69	16-25	52
	13:00	2	11	20	9	1	0	0	0	0	0	0	0	0	0	43	16-25	31
	14:00	2	13	20	4	1	0	0	0	0	0	0	0	0	0	40	16-25	33
	15:00	2	15	30	17	1	0	0	0	0	0	0	0	0	0	65	21-30	47
	16:00	6	19	29	14	2	0	0	0	0	0	0	0	0	0	70	16-25	48
	17:00	9	13	41	6	4	0	0	0	0	0	0	0	0	0	73	16-25	54
	18:00	3	9	26	6	0	0	0	0	0	0	0	0	0	0	44	16-25	35
	19:00	6	19	11	5	0	0	0	0	0	0	0	0	0	0	41	16-25	30
	20:00	1	9	10	2	0	0	0	0	0	0	0	0	0	0	22	16-25	19
	21:00	1	11	11	2	0	0	0	0	0	0	0	0	0	0	25	16-25	22
	22:00	1	1	5	2	1	0	0	0	0	0	0	0	0	0	10	16-25	7
	23:00	0	1	3	1	0	0	0	0	0	0	0	0	0	0	5	21-30	4
	Total	43	174	279	95	15	0	0	0	0	0	0	0	0	0	606		
	Percent	7.1%	28.7%	46.0%	15.7%	2.5%	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	11:00												
	Vol.	4	23	29	9	2										11:00		
	PM Peak	17:00	16:00	17:00	15:00	17:00										17:00		
	Vol.	9	19	41	17	4										65		73

Randolph St between Spruce & Cedar

Randolph Street
Spruce Street

Direction 1		1	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	80	85		Speed	in Pace
06/26/18	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	*	1
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	14-23	1
02:00	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	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
06:00	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	1	14-23	1
07:00	3	9	13	4	3	0	0	0	0	0	0	0	0	0	4	15-24	3	
08:00	3	7	7	6	1	0	0	0	0	0	0	0	0	0	32	16-25	22	
09:00	1	11	23	3	1	0	0	0	0	0	0	0	0	0	24	16-25	14	
10:00	2	1	2	2	0	0	0	0	0	0	0	0	0	0	39	16-25	34	
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	7	19-28	4	
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total	10	29	49	17	5	0	0	0	0	0	0	0	0	0	110			
Percent	9.1%	26.4%	44.5%	15.5%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	09:00	09:00	08:00	07:00													
Vol.	3	11	23	6	3										09:00			
PM Peak															39			
Vol.																		

Total	53	203	112	20	0	0	0	0	0	0	0	0	0	0	0	716
Percent	7.4%	28.4%	45.8%	15.6%	2.8%	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:					21 MPH											
85th Percentile:					26 MPH											
95th Percentile:					29 MPH											
Stats	10 MPH Pace Speed :		16-25 MPH													
	Number in Pace :		531													
	Percent in Pace :		74.2%													
	Number of Vehicles > 25 MPH :		132													
	Percent of Vehicles > 25 MPH :		18.4%													
	Mean Speed(Average) :		22 MPH													

Randolph St between Spruce & Cedar

Randolph Street
Spruce Street

Direction 2	1	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
06/26/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14-23	1
02:00	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	*	*
04:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	19-28	1
05:00	1	1	0	2	3	1	0	0	0	0	0	0	0	0	8	26-35	5
06:00	4	1	2	5	1	0	0	0	0	0	0	0	0	0	13	21-30	7
07:00	3	13	16	26	6	2	0	0	0	0	0	0	0	0	66	21-30	42
08:00	0	7	19	25	5	0	0	0	0	0	0	0	0	0	56	21-30	44
09:00	2	12	15	16	0	0	0	0	0	0	0	0	0	0	45	21-30	31
10:00	1	3	1	1	1	0	0	0	0	0	0	0	0	0	7	16-25	4
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	11	37	54	76	16	4	0	0	0	0	0	0	0	0	198		
Percent	5.6%	18.7%	27.3%	38.4%	8.1%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	06:00	07:00	08:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00		
Vol.	4	13	19	26	6	2									66		

Direction 1	1	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
06/26/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14-23	1
02:00	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	*	*
04:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	19-28	1
05:00	1	1	0	2	3	1	0	0	0	0	0	0	0	0	8	26-35	5
06:00	4	1	2	5	1	0	0	0	0	0	0	0	0	0	13	21-30	7
07:00	3	13	16	26	6	2	0	0	0	0	0	0	0	0	66	21-30	42
08:00	0	7	19	25	5	0	0	0	0	0	0	0	0	0	56	21-30	44
09:00	2	12	15	16	0	0	0	0	0	0	0	0	0	0	45	21-30	31
10:00	1	3	1	1	1	0	0	0	0	0	0	0	0	0	7	16-25	4
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	40	131	294	232	48	6	0	0	0	0	0	0	0	0	751		
Percent	5.3%	17.4%	39.1%	30.9%	6.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
PM Peak	06:00	07:00	08:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00		
Vol.	4	13	19	26	6	2									66		

Stats

10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 526
 Percent in Pace : 70.0%
 Number of Vehicles > 25 MPH : 286
 Percent of Vehicles > 25 MPH : 38.1%
 Mean Speed(Average) : 24 MPH

Randolph St between Spruce & Cedar

Randolph Street
Spruce Street

Start Time	6/25/2018 Mon	6/26/2018 Tue	6/27/2018 Wed	6/28/2018 Thu	6/29/2018 Fri	Weekday Average	6/30/2018 Sat	7/1/2018 Sun
12:00 AM	*	2	*	*	*	2	*	*
01:00	*	2	*	*	*	2	*	*
02:00	*	0	*	*	*	0	*	*
03:00	*	0	*	*	*	0	*	*
04:00	*	2	*	*	*	2	*	*
05:00	*	9	*	*	*	9	*	*
06:00	*	17	*	*	*	17	*	*
07:00	*	98	*	*	*	98	*	*
08:00	*	80	*	*	*	80	*	*
09:00	*	84	*	*	*	84	*	*
10:00	81	14	*	*	*	48	*	*
11:00	127	*	*	*	*	127	*	*
12:00 PM	124	*	*	*	*	124	*	*
01:00	105	*	*	*	*	105	*	*
02:00	94	*	*	*	*	94	*	*
03:00	100	*	*	*	*	100	*	*
04:00	135	*	*	*	*	135	*	*
05:00	129	*	*	*	*	129	*	*
06:00	75	*	*	*	*	75	*	*
07:00	76	*	*	*	*	76	*	*
08:00	45	*	*	*	*	45	*	*
09:00	39	*	*	*	*	39	*	*
10:00	19	*	*	*	*	19	*	*
11:00	10	*	*	*	*	10	*	*
Total	1159	308	0	0	0		0	0
Percentage	81.6%	21.7%	0.0%	0.0%	0.0%		0.0%	0.0%
AM Peak	11:00	07:00	-	-	-	-	-	-
Vol.	127	98	-	-	-	-	-	-
PM Peak	16:00	-	-	-	-	-	-	-
Vol.	135	-	-	-	-	-	-	-
Total		308	0					