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# Memorandum

The City of Traverse City  
Engineering Department



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TO: Transportation Committee *TS*  
FROM: Matthew Sexton, Seasonal Engineering Aide *M.S.*  
DATE: Tuesday, May 15<sup>th</sup>, 2018  
SUBJECT: 24 Hour Speed and Volume of Birchwood, Near Western.

City Engineering performed a 24 hour speed study on Birchwood, Near Western. beginning on Monday, May 21<sup>st</sup>, 2018 and concluding on Tuesday, May 22<sup>nd</sup>, 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 Birchwood, Near Western.

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, 232 vehicles were recorded. The average (mean) speed of the 232 vehicles was 19 miles per hour, with 9.0% 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 3.6%.**

### Summary (Combined):

- **Mean Speed:** 19 MPH
- **Number of Vehicles above Posted Speed Limit 24.1%**
- **85<sup>th</sup> Percentile of Speed:** 25 MPH
- **95<sup>th</sup> Percentile of Speed:** 29 MPH

### Enclosed:

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

# Birchwood Near Western Count #100

## Best Times for Enforcement

**Location:**  
**Birchwood**  
**Closest Cross Street:**  
 Western  
**Analysis Dates:**  
 Monday, May 21, 2018  
 Tuesday, May 22, 2018

**Sun**

**Mon**      Combined: 6 PM to 8 PM  
 Lane1: 8 AM to 10 AM  
 Lane2: 3 PM to 5 PM

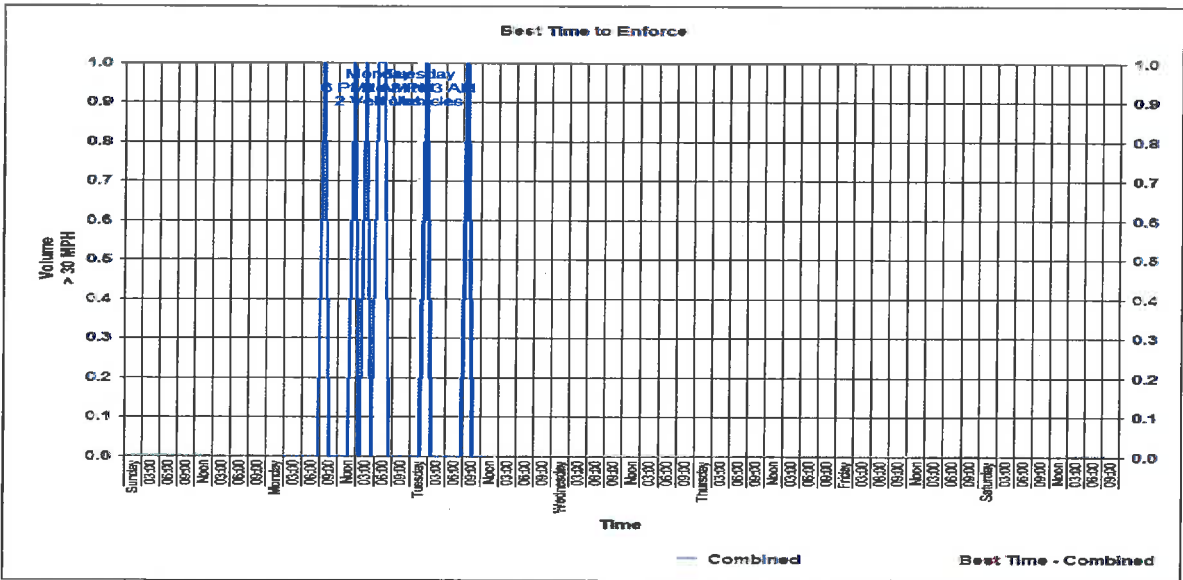
**Tue**      Combined: 1 AM to 3 AM  
 Lane1: 1 AM to 3 AM

**Wed**

**Thu**

**Fri**

**Sat**



**Birchwood  
Near Western  
Count #100**

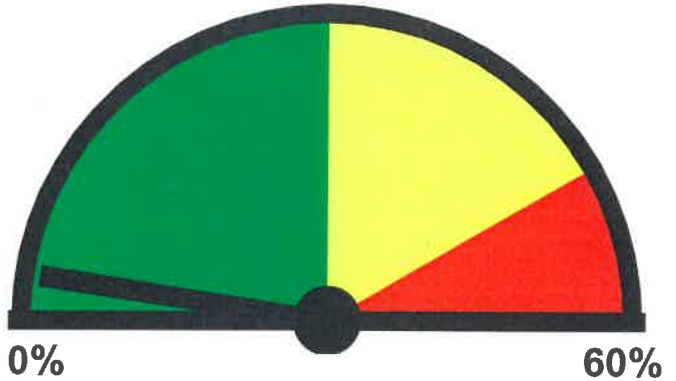
**Speed Enforcement Evaluator**

**Location:**  
**Birchwood**

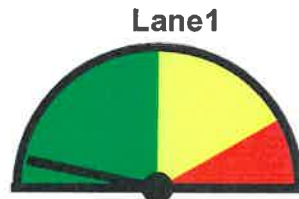
Total Percentage of  
Enforceable Violations

**Closest Cross Street:**  
Western

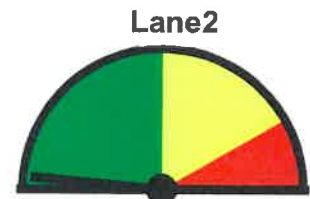
**Analysis Dates:**  
Monday, May 21, 2018  
Tuesday, May 22, 2018



**0%** **60%**  
**Posted Speed Limit:** 25 MPH  
**Enforcement Tolerance:** 5 MPH  
**Enforcement Limit:** 31 MPH & Up  
**Percentage Above Limit:** 3.0%  
**Enforcement Rating:** **LOW**



**Percent Above Limit: 4.0%**  
**Enforcement Rating: LOW**



**Percent Above Limit: 1.8%**  
**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	6	46	60	82	33	6	0	1	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	5	25	26	52	12	4	0	1	0	0	0	0	0

85 percentile = 24

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	1	21	34	30	21	2	0	0	0	0	0	0	0

85 percentile = 26

# Birchwood Near Western Count #100

Birchwood  
Western

Lane 1	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Speed	Number in Pace	
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999				
05/21/18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	3	1	3	1	0	0	0	0	0	0	0	0	0	0	8	21-30	4	
11:00	2	1	1	0	0	0	0	0	0	0	0	0	0	0	4	9-18	2	
12 PM	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7	9-18	4	
13:00	5	1	2	1	0	0	0	0	0	0	0	0	0	0	9	21-30	3	
14:00	4	2	0	0	1	0	0	0	0	0	0	0	0	0	7	12-21	3	
15:00	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	13-22	2	
16:00	4	2	6	1	0	0	0	0	0	0	0	0	0	0	13	16-25	8	
17:00	0	3	6	2	0	0	0	0	0	0	0	0	0	0	11	16-25	9	
18:00	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3	24-33	2	
19:00	0	3	3	1	0	0	0	0	0	0	0	0	0	0	7	16-25	6	
20:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	9-18	1	
21:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15-24	2	
22:00	0	1	4	1	0	0	0	0	0	0	0	0	0	0	6	18-27	5	
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*	
<b>Total</b>	25	18	28	9	2	0	0	0	0	0	0	0	0	0	82			
<b>Percent</b>	30.5%	22.0%	34.1%	11.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
<b>AM Peak</b>	10:00	10:00	10:00	10:00											10:00			
<b>Vol.</b>	3	1	3	1											8			
<b>PM Peak</b>	12:00	17:00	16:00	17:00	14:00										16:00			
<b>Vol.</b>	5	3	6	2	1										13			



# Birchwood Near Western Count #100

Birchwood  
Western

Lane1_Lane2	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	
05/21/18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	4	2	5	4	0	0	0	0	0	0	0	0	0	0	15	20-29	9	
11:00	4	1	3	0	0	0	0	0	0	0	0	0	0	0	8	16-25	4	
12 PM	6	6	2	2	0	0	0	0	0	0	0	0	0	0	16	16-25	8	
13:00	8	5	2	1	0	0	0	0	0	0	0	0	0	0	16	11-20	8	
14:00	7	8	3	0	1	0	0	0	0	0	0	0	0	0	19	13-22	11	
15:00	3	3	3	1	0	0	0	0	0	0	0	0	0	0	10	16-25	6	
16:00	4	4	8	3	1	0	0	0	0	0	0	0	0	0	20	16-25	12	
17:00	4	8	12	3	0	0	0	0	0	0	0	0	0	0	24	16-25	20	
18:00	2	0	2	3	1	0	0	0	0	0	0	0	0	0	8	21-30	5	
19:00	1	5	4	4	1	0	0	0	0	0	0	0	0	0	15	16-25	9	
20:00	2	3	0	6	0	0	0	0	0	0	0	0	0	0	11	26-35	6	
21:00	1	1	3	0	0	0	0	0	0	0	0	0	0	0	5	16-25	4	
22:00	1	1	4	3	0	0	0	0	0	0	0	0	0	0	9	20-29	7	
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*	
Total	44	47	51	30	4	0	0	0	0	0	0	0	0	0	176			
Percent	25.0%	26.7%	29.0%	17.9%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
AM Peak	10:00	10:00	10:00	10:00											10:00			
Vol.	4	2	5	4											15			
PM Peak	13:00	14:00	17:00	20:00	14:00										17:00			
Vol.	8	8	12	6	1										24			

# Birchwood Near Western Count #100

Birchwood  
Western

Start Time	21-May-18 Mon	22-May-18 Tue	23-May-18 Wed	24-May-18 Thu	25-May-18 Fri	Weekday Average	26-May-18 Sat	27-May-18 Sun
12:00 AM	*	0	*	*	*	0	*	*
01:00	*	0	*	*	*	0	*	*
02:00	*	2	*	*	*	2	*	*
03:00	*	0	*	*	*	0	*	*
04:00	*	0	*	*	*	0	*	*
05:00	*	2	*	*	*	2	*	*
06:00	*	5	*	*	*	5	*	*
07:00	*	13	*	*	*	13	*	*
08:00	*	13	*	*	*	13	*	*
09:00	*	14	*	*	*	14	*	*
10:00	15	7	*	*	*	11	*	*
11:00	8	*	*	*	*	8	*	*
12:00 PM	16	*	*	*	*	16	*	*
01:00	16	*	*	*	*	16	*	*
02:00	19	*	*	*	*	19	*	*
03:00	10	*	*	*	*	10	*	*
04:00	20	*	*	*	*	20	*	*
05:00	24	*	*	*	*	24	*	*
06:00	8	*	*	*	*	8	*	*
07:00	15	*	*	*	*	15	*	*
08:00	11	*	*	*	*	11	*	*
09:00	5	*	*	*	*	5	*	*
10:00	9	*	*	*	*	9	*	*
11:00	0	*	*	*	*	0	*	*
Total	176	56	0	0	0		0	0
Percentage	79.6%	25.3%	0.0%	0.0%	0.0%		0.0%	0.0%
AM Peak	10:00	09:00	-	-	-	-	-	-
Vol.	15	14	-	-	-	-	-	-
PM Peak	17:00	-	-	-	-	-	-	-
Vol.	24	-	-	-	-	-	-	-
Total		56	0					