
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer (Per Resident Request) *TL*
FROM: Matthew Sexton, Engineering Aide *M.S.*
DATE: June 5th, 2018
SUBJECT: Barlow Ave, Between Front Street & Eighth Street

This memo is to formalize City Engineering's initial findings and observations in regard to the class of vehicles traveling on Barlow Ave between Front Street & Eighth Street.

City Engineering performed a 24-hour classification count of Barlow Ave began at 10:30 am on June 4th and ending at 11:50 am on June 5th. The data was gathered using a Jamar Bike Counter which collected traffic data, including vehicle classification, of traffic 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 classification of the vehicles into groups. The report shows how many vehicles were within the specified class during one hour intervals as indicated by the report.

A total of 3463 vehicles traveled between Barlow Ave between Front Street & Eighth Street during the 24-hour class count. The vehicle class count showed that 26 vehicles, 0.8 percent, traveling on Barlow Ave during the count were a class 6 (FHA Scheme F) or higher. This means that 0.8 percent of the vehicles traveling on the road have at least three axels.

A total of 75 bikes, 2.1 percent, traveled on Barlow Ave during the 24-hour count. The average number of the bikes traveling on Barlow Ave per hour is 3 bikes.

Of the 3463 vehicles, 8.1 percent fell into class 14 which is for unknown vehicles. This number could also be partially due to vehicles parking on the tubes for the traffic counter.

During the 24-hour study the average mean speed of the vehicles travelling on Barlow Ave was 16 miles per hour, with 14.8% of all the vehicles travelling at the greater speed than the posted limit of 25 miles per hour.

Summary:

• Number of Vehicles:	3463 vehicles
• Class 6 or Higher:	0.8%
• Class 1 to 5:	89.0%
• Bicycles:	2.1%
• Unknown:	8.1%
• Mean Speed:	16 MPH
• 85 th Percentile of Speed:	24 MPH
• 95 th Percentile of Speed:	30 MPH

Encl.: Detailed TraxPro Classification Report

Barlow Ave

Between Washington St & State St Count#44

Direction 1

Start Time	Motor	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Bicycl	Not Class	Total
06/04/1																
8	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	63	18	0	0	0	0	0	0	0	0	0	0	0	5	17	103
12 PM	81	19	0	0	0	0	1	0	1	0	0	0	0	7	17	126
13:00	56	19	0	0	0	1	0	0	0	0	0	0	0	4	13	93
14:00	65	15	0	0	1	0	0	0	0	0	0	0	0	5	11	97
15:00	63	10	1	0	0	0	0	0	0	0	0	0	0	2	13	89
16:00	75	10	0	0	0	0	0	0	0	0	0	0	0	3	14	102
17:00	70	13	0	0	0	0	0	0	0	0	0	0	0	6	4	74
18:00	55	8	0	0	0	1	0	0	0	0	0	0	0	3	18	104
19:00	39	6	0	0	0	0	0	0	0	0	0	0	0	1	1	47
20:00	32	5	0	0	0	2	0	0	0	0	0	0	0	2	4	45
21:00	14	4	0	0	0	0	0	0	0	0	0	0	0	1	2	21
22:00	22	1	0	0	0	0	0	0	0	0	0	0	0	1	3	27
23:00	11	2	0	0	0	0	0	0	0	0	0	0	0	0	2	15
Total	646	130	1	0	1	4	1	0	1	0	0	0	0	40	119	943
Percent	68.5%	13.8%	0.1%	0.0%	0.1%	0.4%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	4.2%	12.6%	

Barlow Ave Between Washington St & State St Count#44

Direction 2

Start Time	Motor	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Bicycl	Not Class	Total
06/04/18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	3	79	56	0	14	2	0	2	0	0	0	0	0	4	8	168
12 PM	1	96	66	0	11	1	0	0	0	0	0	0	0	0	17	192
13:00	0	67	47	0	18	1	0	0	0	0	0	0	0	3	7	143
14:00	0	66	55	1	17	1	0	0	0	0	0	0	0	1	3	144
15:00	0	83	73	1	18	0	0	0	0	0	0	0	0	2	4	181
16:00	3	81	69	1	26	0	0	2	0	0	0	0	0	0	10	192
17:00	2	105	102	2	24	0	0	1	0	0	0	0	0	3	8	247
18:00	0	56	58	0	19	1	0	1	0	0	0	0	0	0	2	137
19:00	1	41	47	0	6	0	0	1	0	0	0	0	0	1	1	98
20:00	0	43	37	0	5	0	0	1	0	0	0	0	0	0	1	87
21:00	1	24	14	0	2	1	0	1	0	0	0	0	0	0	0	43
22:00	0	15	7	0	3	0	0	0	0	0	0	0	0	0	1	26
23:00	0	5	9	0	3	0	0	0	0	0	0	0	0	0	1	18
Total	11	761	640	5	166	7	0	9	0	0	0	0	0	14	63	1676
Percent	0.7%	45.4%	38.2%	0.3%	9.9%	0.4%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	3.8%	

Barlow Ave Between Washington St & State St Count#44

Direction 1, Direction 2

Start Time	Motor	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Bicycl	Not Class	Total
06/04/18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	66	97	56	0	14	2	0	2	0	0	0	0	0	9	25	271
12 PM	82	115	66	0	11	1	1	0	1	0	0	0	0	7	34	318
13:00	56	86	47	0	18	2	0	0	0	0	0	0	0	7	20	236
14:00	65	81	55	1	18	1	0	0	0	0	0	0	0	6	14	241
15:00	63	93	74	1	18	0	0	0	0	0	0	0	0	4	17	270
16:00	78	91	69	1	26	0	0	2	0	0	0	0	0	3	24	294
17:00	72	118	102	2	24	0	0	1	0	0	0	0	0	6	26	351
18:00	55	64	58	0	19	2	0	1	0	0	0	0	0	6	6	211
19:00	40	47	47	0	6	0	0	1	0	0	0	0	0	2	2	145
20:00	32	48	37	0	5	2	0	1	0	0	0	0	0	2	5	132
21:00	15	28	14	0	2	1	0	1	0	0	0	0	0	1	2	64
22:00	22	16	7	0	3	0	0	0	0	0	0	0	0	1	4	53
23:00	11	7	9	0	3	0	0	0	0	0	0	0	0	0	3	33
Total	657	891	641	5	167	11	1	9	1	0	0	0	0	54	182	2619
Percent	25.1%	34.0%	24.5%	0.2%	6.4%	0.4%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	6.9%	

Barlow Ave Between Washington St & State St Count#44

Direction 2	1	16	21	26	31	36	41	46	51	56	61	66	71	76	76	999	Total	Pace	Number	
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90		Speed	In	
06/04/18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	35	60	39	27	6	1	0	0	0	0	0	0	0	0	0	0	168	16-25	99	
12 PM	54	56	56	17	5	4	0	0	0	0	0	0	0	0	0	0	192	16-25	112	
13:00	27	41	49	18	5	1	1	1	0	0	0	0	0	0	0	0	143	16-25	90	
14:00	21	38	52	21	9	1	2	0	0	0	0	0	0	0	0	0	144	16-25	90	
15:00	33	47	56	35	9	0	0	1	0	0	0	0	0	0	0	0	181	16-25	103	
16:00	33	49	55	30	15	6	1	1	0	1	0	0	0	0	0	0	192	16-25	104	
17:00	34	62	73	45	20	6	3	1	2	0	1	0	0	0	0	0	247	16-25	135	
18:00	10	35	47	24	13	6	0	0	1	0	1	0	0	0	0	0	137	16-25	82	
19:00	10	31	31	20	4	2	0	0	0	0	0	0	0	0	0	0	98	16-25	62	
20:00	5	27	30	21	3	1	0	0	0	0	0	0	0	0	0	0	87	16-25	57	
21:00	4	16	17	4	1	1	0	0	0	0	0	0	0	0	0	0	43	16-25	33	
22:00	4	9	7	6	0	0	0	0	0	0	0	0	0	0	0	0	26	16-25	16	
23:00	1	6	4	4	2	1	0	0	0	0	0	0	0	0	0	0	18	16-25	10	
Total	271	477	516	272	92	30	7	5	3	1	2	0	0	0	0	0	1676			
Percent	16.2%	28.5%	30.8%	16.2%	5.5%	1.8%	0.4%	0.3%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%				
AM Peak	11:00	11:00	11:00	11:00	11:00	11:00														
Vol.	35	60	39	27	6	1														
PM Peak	12:00	17:00	17:00	17:00	17:00	16:00	17:00	16:00	17:00	16:00	17:00	16:00	17:00	17:00	17:00	17:00				
Vol.	54	62	73	45	20	6	3	2	2	1	1	1	1	1	1	1				

Barlow Ave Between Washington St & State St Count#44

Direction 1, Direction 2		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	
06/04/18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	138	60	39	27	6	1	0	0	0	0	0	0	0	0	0	0	271	11-20	106
12:00	180	56	56	17	4	4	0	0	0	0	0	0	0	0	0	0	318	6-15	120
13:00	120	41	49	18	5	1	1	0	0	0	0	0	0	0	0	0	236	16-25	90
14:00	117	39	52	21	9	1	2	0	0	0	0	0	0	0	0	0	241	16-25	91
15:00	122	47	56	35	9	0	0	0	0	0	0	0	0	0	0	0	270	16-25	103
16:00	135	49	55	30	15	6	1	1	2	0	1	0	0	0	0	0	294	16-25	104
17:00	138	62	73	45	20	6	3	1	2	0	1	0	0	0	0	0	351	16-25	135
18:00	84	35	47	24	13	6	0	0	0	0	0	0	0	0	0	0	211	16-25	82
19:00	57	31	31	20	4	2	0	0	0	0	0	0	0	0	0	0	145	16-25	62
20:00	50	27	30	21	3	1	0	0	0	0	0	0	0	0	0	0	132	16-25	57
21:00	25	16	17	4	1	1	0	0	0	0	0	0	0	0	0	0	64	16-25	33
22:00	31	9	7	6	0	0	0	0	0	0	0	0	0	0	0	0	53	1-10	21
23:00	16	6	4	4	2	1	0	0	0	0	0	0	0	0	0	0	33	12-21	11
Total	1213	478	516	272	92	30	7	5	3	1	2	0	0	0	0	0	2619		
Percent	46.3%	18.3%	19.7%	10.4%	3.5%	1.1%	0.3%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	60	39	27	6	1	0	0	0	0	0	0	0	0	0	0	11:00		
PM Peak	12:00	180	62	73	45	20	6	3	2	1	1	0	0	0	0	0	17:00		
Vol.	138	60	39	27	6	1	0	0	0	0	0	0	0	0	0	0	11:00		
Vol.	180	62	73	45	20	6	3	2	2	1	1	0	0	0	0	0	17:00		

Barlow Ave Between Washington St & State St Count#44

Start Time	04-Jun-18 Mon	05-Jun-18 Tue	06-Jun-18 Wed	07-Jun-18 Thu	08-Jun-18 Fri	Weekday Average	09-Jun-18 Sat	10-Jun-18 Sun
12:00 AM	*	18	*	*	*	18	*	*
01:00	*	9	*	*	*	9	*	*
02:00	*	11	*	*	*	11	*	*
03:00	*	0	*	*	*	0	*	*
04:00	*	5	*	*	*	5	*	*
05:00	*	23	*	*	*	23	*	*
06:00	*	72	*	*	*	72	*	*
07:00	*	194	*	*	*	194	*	*
08:00	*	279	*	*	*	279	*	*
09:00	*	218	*	*	*	218	*	*
10:00	*	90	*	*	*	90	*	*
11:00	271	*	*	*	*	271	*	*
12:00 PM	318	*	*	*	*	318	*	*
01:00	236	*	*	*	*	236	*	*
02:00	241	*	*	*	*	241	*	*
03:00	270	*	*	*	*	270	*	*
04:00	294	*	*	*	*	294	*	*
05:00	351	*	*	*	*	351	*	*
06:00	211	*	*	*	*	211	*	*
07:00	145	*	*	*	*	145	*	*
08:00	132	*	*	*	*	132	*	*
09:00	64	*	*	*	*	64	*	*
10:00	53	*	*	*	*	53	*	*
11:00	33	*	*	*	*	33	*	*
Total	2619	919	0	0	0		0	0
Percentage	74.0%	26.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AM Peak	11:00	08:00	-	-	-	-	-	-
Vol.	271	279	-	-	-	-	-	-
PM Peak	17:00	-	-	-	-	-	-	-
Vol.	351	-	-	-	-	-	-	-
Total		919	0					