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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: Abhishek Deora, Engineering Aide

DATE: August 11th, 2017

SUBJECT: Cass St (Bridge) Between Washington & 8th St Classification Count

This memo is to formalize City Engineering's initial findings and observations in regard to the class of vehicles traveling on Cass St between Washington St and 8<sup>th</sup> St.

City Engineering performed a 24-hour classification count of Cass St began at 9:15 am on August 8th, 2017 and ended at 2:25 pm on August 9th, 2017. The data was gathered using a Jamar Traffic Counter which collected traffic data, including vehicle classification, for each lane of traffic (northbound and southbound) 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 6843 vehicles traveled on Cass St during the 24-hour class count. The vehicle class count showed that 475 vehicles, 4.9 percent, traveling on Cass St during the count were a class 6 (FHA Scheme F) or higher. This means that 4.9 percent of the vehicles traveling on the road have at least three axels (not including buses or class 14).

701 vehicles, 7.5 percent, fell into class 14 which is for bicycles and unknown vehicles. This number suggests that many people use this section of Cass St as a bicycling route. This number could also be partially due to vehicles parking on the tubes for the traffic counter.

## Summary:

- Number of Vehicles: 6843 vehicles
- Class 6 or Higher: 4.9%
- Class 1 to 5: 87.5%
- Class 14 (Unknown/Bicycles): 7.5%

Encl.: Detailed TraxPro Classification Report

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

A to B

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
08/08/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	1	160	31	3	9	1	0	7	0	1	0	1	2	15	231
10:00	0	168	22	5	7	1	0	7	2	1	0	0	1	13	227
11:00	1	199	31	4	10	0	0	7	1	2	0	0	0	17	272
12 PM	2	207	35	4	10	1	0	15	1	3	1	0	3	23	305
13:00	1	216	26	2	9	1	0	9	0	3	0	2	1	17	287
14:00	2	169	38	4	8	0	2	3	0	2	0	0	0	14	242
15:00	3	158	29	4	5	0	1	6	0	1	0	0	0	26	233
16:00	0	199	26	1	4	1	0	8	0	1	0	1	1	15	257
17:00	0	159	39	5	3	1	1	5	0	1	0	0	1	15	230
18:00	0	152	20	2	6	0	0	6	0	0	0	0	0	20	206
19:00	2	129	16	0	5	0	0	4	0	0	0	0	1	6	163
20:00	3	99	9	0	6	0	0	1	0	1	0	0	0	4	123
21:00	2	69	7	0	1	0	0	4	1	0	0	0	0	3	87
22:00	0	41	8	0	0	0	0	0	0	0	0	0	0	2	51
23:00	0	33	2	0	0	0	0	0	0	0	0	0	0	0	35
Total	17	2158	339	34	83	6	4	82	5	16	1	4	10	190	2949
Percent	0.6%	73.2%	11.5%	1.2%	2.8%	0.2%	0.1%	2.8%	0.2%	0.5%	0.0%	0.1%	0.3%	6.4%	
AM Peak	09:00	11:00	09:00	10:00	11:00	09:00		09:00	10:00	11:00		09:00	09:00	11:00	11:00
Vol.	1	199	31	5	10	1		7	2	2		1	2	17	272
PM Peak	15:00	13:00	17:00	17:00	12:00	12:00	14:00	12:00	12:00	12:00	12:00	13:00	12:00	15:00	12:00
Vol.	3	216	39	5	10	1	2	15	1	3	1	2	3	26	305

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

A to B

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
08/09/17	0	11	4	1	1	0	0	0	0	0	0	0	0	0	17
01:00	0	11	1	0	0	0	0	0	0	0	0	0	0	0	12
02:00	1	3	1	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
04:00	0	2	0	0	0	0	0	1	0	0	0	0	0	0	3
05:00	1	18	3	1	1	0	0	1	0	0	0	0	0	0	25
06:00	0	46	16	0	4	1	0	0	0	0	0	0	0	2	69
07:00	1	132	31	1	4	0	0	2	0	0	0	0	0	9	180
08:00	0	174	40	2	10	2	1	5	0	2	0	0	0	13	249
09:00	1	195	35	7	7	2	0	11	0	0	0	2	0	18	278
10:00	3	197	29	2	7	0	3	5	2	1	0	3	1	11	264
11:00	2	202	30	5	9	0	3	10	0	2	0	3	0	20	286
12 PM	0	233	42	3	8	0	0	8	1	1	0	2	1	21	320
13:00	3	190	36	2	10	0	0	3	0	1	0	2	2	36	285
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	12	1419	268	24	61	5	7	46	3	7	0	12	4	130	1998
Percent	0.6%	71.0%	13.4%	1.2%	3.1%	0.3%	0.4%	2.3%	0.2%	0.4%	0.0%	0.6%	0.2%	6.5%	
AM Peak	10:00	11:00	08:00	09:00	08:00	08:00	10:00	09:00	10:00	08:00		10:00	10:00	11:00	11:00
Vol.	3	202	40	7	10	2	3	11	2	2		3	1	20	286
PM Peak	13:00	12:00	12:00	12:00	13:00			12:00	12:00	12:00		12:00	13:00	13:00	12:00
Vol.	3	233	42	3	10			8	1	1		2	2	36	320
Grand Total	29	3577	607	58	144	11	11	128	8	23	1	16	14	320	4947
Percent	0.6%	72.3%	12.3%	1.2%	2.9%	0.2%	0.2%	2.6%	0.2%	0.5%	0.0%	0.3%	0.3%	6.5%	

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

B to A

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
08/08/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	7	114	42	5	9	3	1	10	0	0	0	0	2	19	212
10:00	3	69	52	3	7	1	2	8	0	0	0	0	2	12	159
11:00	3	135	50	2	10	0	0	13	0	2	0	0	0	17	232
12 PM	2	115	52	3	2	1	0	19	0	1	0	0	1	21	217
13:00	3	150	55	3	7	3	2	7	0	1	0	0	2	27	260
14:00	5	142	50	5	5	3	1	12	0	0	0	2	0	23	248
15:00	3	151	58	0	5	2	0	8	0	2	0	0	0	22	251
16:00	4	168	56	6	11	1	0	13	0	2	0	2	2	31	296
17:00	5	166	42	0	9	1	0	10	1	1	0	1	2	21	259
18:00	9	107	27	0	4	1	0	4	0	0	1	1	0	10	164
19:00	8	90	26	1	4	1	0	3	0	2	0	0	1	13	149
20:00	3	72	19	0	1	2	0	2	0	0	0	0	0	9	108
21:00	5	73	21	0	2	0	0	1	0	0	0	0	0	6	108
22:00	1	43	16	0	2	1	0	0	0	0	0	0	1	3	67
23:00	1	34	10	0	0	1	0	1	0	0	0	0	0	1	48
Total	62	1629	576	28	78	21	6	111	1	11	1	6	13	235	2778
Percent	2.2%	58.6%	20.7%	1.0%	2.8%	0.8%	0.2%	4.0%	0.0%	0.4%	0.0%	0.2%	0.5%	8.5%	
AM Peak Vol.	09:00	11:00	10:00	09:00	11:00	09:00	10:00	11:00		11:00			09:00	09:00	11:00
PM Peak Vol.	18:00	16:00	15:00	16:00	16:00	13:00	13:00	12:00	17:00	15:00	18:00	14:00	13:00	16:00	16:00
	7	135	52	5	10	3	2	13		2			2	19	232
	9	168	58	6	11	3	2	19	1	2	1	2	2	31	296

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

B to A

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
08/09/17	0	15	5	0	1	0	0	1	0	0	0	0	0	3	25
01:00	0	8	1	0	0	0	0	0	0	0	0	0	0	1	10
02:00	0	6	5	0	0	0	0	0	0	0	0	0	0	3	14
03:00	0	2	2	0	0	0	0	1	0	0	0	0	0	0	5
04:00	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
05:00	1	5	4	0	1	1	0	0	0	0	0	0	1	0	13
06:00	1	29	15	0	4	1	0	0	0	0	0	0	0	1	51
07:00	5	79	29	1	5	0	2	1	0	0	0	0	0	7	129
08:00	5	106	52	0	9	3	0	5	1	0	0	0	1	16	198
09:00	3	122	53	5	8	1	0	5	0	0	0	0	1	15	213
10:00	4	138	46	2	7	4	0	9	2	1	0	0	1	21	235
11:00	0	142	43	0	7	4	0	9	1	1	0	0	0	21	228
12 PM	7	130	45	3	6	2	2	16	0	1	0	0	1	35	248
13:00	4	156	37	4	8	0	0	12	0	1	0	1	0	23	246
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	30	942	339	15	56	16	4	59	4	4	0	1	5	146	1621
Percent	1.9%	58.1%	20.9%	0.9%	3.5%	1.0%	0.2%	3.6%	0.2%	0.2%	0.0%	0.1%	0.3%	9.0%	
AM Peak	07:00	11:00	09:00	09:00	08:00	10:00	07:00	10:00	10:00	10:00			05:00	10:00	10:00
Vol.	5	142	53	5	9	4	2	9	2	1			1	21	235
PM Peak	12:00	13:00	12:00	13:00	13:00	12:00	12:00	12:00		12:00		13:00	12:00	12:00	12:00
Vol.	7	156	45	4	8	2	2	16		1		1	1	35	248
Grand Total	92	2571	915	43	134	37	10	170	5	15	1	7	18	381	4399
Percent	2.1%	58.4%	20.8%	1.0%	3.0%	0.8%	0.2%	3.9%	0.1%	0.3%	0.0%	0.2%	0.4%	8.7%	

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

A to B, B to A

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
08/08/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	8	274	73	8	18	4	1	17	0	1	0	1	4	34	443
10:00	3	237	74	8	14	2	2	15	2	1	0	0	3	25	386
11:00	4	334	81	6	20	0	0	20	1	4	0	0	0	34	504
12 PM	4	322	87	7	12	2	0	34	1	4	1	0	4	44	522
13:00	4	366	81	5	16	4	2	16	0	4	0	2	3	44	547
14:00	7	311	88	9	13	3	3	15	0	2	0	2	0	37	490
15:00	6	309	87	4	10	2	1	14	0	3	0	0	0	48	484
16:00	4	367	82	7	15	2	0	21	0	3	0	3	3	46	553
17:00	5	325	81	5	12	2	1	15	1	2	0	1	3	36	489
18:00	9	259	47	2	10	1	0	10	0	0	1	1	0	30	370
19:00	10	219	42	1	9	1	0	7	0	2	0	0	2	19	312
20:00	6	171	28	0	7	2	0	3	0	1	0	0	0	13	231
21:00	7	142	28	0	3	0	0	5	1	0	0	0	0	9	195
22:00	1	84	24	0	2	1	0	0	0	0	0	0	1	5	118
23:00	1	67	12	0	0	1	0	1	0	0	0	0	0	1	83
Total	79	3787	915	62	161	27	10	193	6	27	2	10	23	425	5727
Percent	1.4%	66.1%	16.0%	1.1%	2.8%	0.5%	0.2%	3.4%	0.1%	0.5%	0.0%	0.2%	0.4%	7.4%	
AM Peak	09:00	11:00	11:00	09:00	11:00	09:00	10:00	11:00	10:00	11:00		09:00	09:00	09:00	11:00
Vol.	8	334	81	8	20	4	2	20	2	4		1	4	34	504
PM Peak	19:00	16:00	14:00	14:00	13:00	13:00	14:00	12:00	12:00	12:00	12:00	16:00	12:00	15:00	16:00
Vol.	10	367	88	9	16	4	3	34	1	4	1	3	4	48	553

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

A to B, B to A

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
08/09/17	0	26	9	1	2	0	0	1	0	0	0	0	0	3	42
01:00	0	19	2	0	0	0	0	0	0	0	0	0	0	1	22
02:00	1	9	6	0	0	0	0	0	0	0	0	0	0	3	19
03:00	0	7	2	0	0	0	0	1	0	0	0	0	0	0	10
04:00	0	6	2	0	0	0	0	1	0	0	0	0	0	0	9
05:00	2	23	7	1	2	1	0	1	0	0	0	0	1	0	38
06:00	1	75	31	0	8	2	0	0	0	0	0	0	0	3	120
07:00	6	211	60	2	9	0	2	3	0	0	0	0	0	16	309
08:00	5	280	92	2	19	5	1	10	1	2	0	0	1	29	447
09:00	4	317	88	12	15	3	0	16	0	0	0	2	1	33	491
10:00	7	335	75	4	14	4	3	14	4	2	0	3	2	32	499
11:00	2	344	73	5	16	4	3	19	1	3	0	3	0	41	514
12 PM	7	363	87	6	14	2	2	24	1	2	0	2	2	56	568
13:00	7	346	73	6	18	0	0	15	0	2	0	3	2	59	531
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	42	2361	607	39	117	21	11	105	7	11	0	13	9	276	3619
Percent	1.2%	65.2%	16.8%	1.1%	3.2%	0.6%	0.3%	2.9%	0.2%	0.3%	0.0%	0.4%	0.2%	7.6%	
AM Peak	10:00	11:00	08:00	09:00	08:00	08:00	10:00	11:00	10:00	11:00		10:00	10:00	11:00	11:00
Vol.	7	344	92	12	19	5	3	19	4	3		3	2	41	514
PM Peak	12:00	12:00	12:00	12:00	13:00	12:00	12:00	12:00	12:00	12:00		13:00	12:00	13:00	12:00
Vol.	7	363	87	6	18	2	2	24	1	2		3	2	59	568
Grand Total	121	6148	1522	101	278	48	21	298	13	38	2	23	32	701	9346
Percent	1.3%	65.8%	16.3%	1.1%	3.0%	0.5%	0.2%	3.2%	0.1%	0.4%	0.0%	0.2%	0.3%	7.5%	

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

A to B

Start Time	0	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
08/08/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	14	50	122	34	3	1	1	0	0	0	0	0	0	6	231	16-25	173
10:00	6	55	142	15	1	2	1	1	1	0	0	1	0	2	227	16-25	197
11:00	10	90	144	18	2	0	3	1	0	0	0	0	0	4	272	16-25	235
12 PM	33	130	117	13	0	2	1	0	0	1	0	1	1	6	305	16-25	249
13:00	17	129	121	12	0	1	1	0	0	0	0	0	1	5	287	16-25	251
14:00	12	65	129	25	0	0	0	0	2	1	0	0	0	8	242	16-25	195
15:00	15	68	124	16	4	0	0	1	0	1	0	0	0	4	233	16-25	193
16:00	24	88	127	15	1	0	0	0	0	0	0	0	0	2	257	16-25	216
17:00	10	79	116	16	1	0	1	0	0	0	1	0	0	6	230	16-25	196
18:00	16	92	75	12	0	1	1	0	0	0	0	0	0	9	206	16-25	168
19:00	10	72	74	6	1	0	0	0	0	0	0	0	0	0	163	16-25	147
20:00	11	51	57	4	0	0	0	0	0	0	0	0	0	0	123	16-25	109
21:00	5	34	41	7	0	0	0	0	0	0	0	0	0	0	87	16-25	75
22:00	1	16	31	3	0	0	0	0	0	0	0	0	0	0	51	16-25	47
23:00	0	6	19	9	1	0	0	0	0	0	0	0	0	0	35	21-30	28
Total	184	1025	1439	205	14	7	9	3	3	3	1	2	2	52	2949		
Percent	6.2%	34.8%	48.8%	7.0%	0.5%	0.2%	0.3%	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%	1.8%			
AM Peak	09:00	11:00	11:00	09:00	09:00	10:00	11:00	10:00	10:00			10:00		09:00	11:00		
Vol.	14	90	144	34	3	2	3	1	1			1		6	272		
PM Peak	12:00	12:00	14:00	14:00	15:00	12:00	12:00	15:00	14:00	12:00	17:00	12:00	12:00	18:00	12:00		
Vol.	33	130	129	25	4	2	1	1	2	1	1	1	1	9	305		



Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

A to B

Start Time	0	16	21	26	31	36	41	46	51	56	61	66	71	76	9999	Total	Pace Speed	Number in Pace
08/09/17	0	6	9	2	0	0	0	0	0	0	0	0	0	0	0	17	16-25	15
01:00	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	12	16-25	12
02:00	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	5	26-35	3
03:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	5	16-25	5
04:00	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3	10-19	2
05:00	1	8	11	4	0	0	0	0	1	0	0	0	0	0	0	25	16-25	19
06:00	1	9	45	12	2	0	0	0	0	0	0	0	0	0	0	69	21-30	57
07:00	8	25	112	32	2	0	0	0	0	0	0	0	0	0	1	180	21-30	144
08:00	7	39	157	40	2	0	0	2	0	0	0	0	0	0	2	249	21-30	197
09:00	5	52	168	44	2	0	2	1	0	1	0	0	1	2	2	278	16-25	220
10:00	9	83	141	24	1	1	0	0	0	0	0	0	0	0	5	264	16-25	224
11:00	16	119	129	11	2	0	1	0	1	0	0	0	1	6	6	286	16-25	249
12 PM	26	143	129	12	1	0	1	1	0	0	0	1	0	6	6	320	16-25	273
13:00	14	114	120	22	2	1	2	0	0	1	3	0	0	6	6	285	16-25	235
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	87	609	1031	206	15	2	6	4	2	2	3	1	2	28	1998			
Percent	4.4%	30.5%	51.6%	10.3%	0.8%	0.1%	0.3%	0.2%	0.1%	0.1%	0.2%	0.1%	0.1%	1.4%				
AM Peak	11:00	11:00	09:00	09:00	06:00	10:00	09:00	08:00	05:00	09:00			09:00	11:00	11:00			
Vol.	16	119	168	44	2	1	2	2	1	1			1	6	286			
PM Peak	12:00	12:00	12:00	13:00	13:00	13:00	13:00	12:00		13:00	13:00	12:00		12:00	12:00			
Vol.	26	143	129	22	2	1	2	1		1	3	1		6	320			
Total	271	1634	2470	411	29	9	15	7	5	5	4	3	4	80	4947			
Percent	5.5%	33.0%	49.9%	8.3%	0.6%	0.2%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	1.6%				

15th Percentile : 16 MPH  
50th Percentile : 21 MPH  
85th Percentile : 24 MPH  
95th Percentile : 28 MPH

Stats  
10 MPH Pace Speed : 16-25 MPH  
Number in Pace : 4118  
Percent in Pace : 83.2%  
Number of Vehicles > 25 MPH : 572  
Percent of Vehicles > 25 MPH : 11.6%  
Mean Speed(Average) : 21 MPH

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000

Station ID:

Latitude: 0' 0.0000 South

B to A

Start Time	0	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
08/08/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9999	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	<b>10</b>	29	93	<b>63</b>	6	<b>4</b>	0	<b>2</b>	0	0	0	0	<b>1</b>	<b>4</b>	212	21-30	156
10:00	7	20	66	54	6	1	0	1	0	<b>1</b>	0	0	1	2	159	21-30	120
11:00	10	<b>52</b>	<b>114</b>	45	<b>8</b>	0	0	0	0	0	0	0	0	3	<b>232</b>	16-25	166
12 PM	16	60	105	29	2	0	<b>1</b>	0	0	0	0	0	0	4	217	16-25	166
13:00	16	<b>72</b>	127	33	1	<b>2</b>	0	0	<b>2</b>	0	0	1	0	6	260	16-25	200
14:00	17	58	117	35	<b>8</b>	<b>3</b>	0	0	0	1	<b>1</b>	1	0	<b>7</b>	248	16-25	176
15:00	6	51	<b>146</b>	41	6	0	0	0	0	0	0	0	0	1	251	16-25	197
16:00	17	67	126	<b>65</b>	5	3	1	<b>1</b>	1	<b>2</b>	0	<b>2</b>	0	6	<b>296</b>	16-25	194
17:00	19	67	139	32	0	0	0	0	0	0	0	0	0	2	259	16-25	207
18:00	17	50	78	18	0	0	0	0	0	0	0	0	0	1	164	16-25	129
19:00	<b>26</b>	38	56	26	2	0	0	0	0	0	1	0	0	0	149	16-25	95
20:00	11	26	50	19	0	1	1	0	0	0	0	0	0	0	108	16-25	76
21:00	9	31	54	13	1	0	0	0	0	0	0	0	0	0	108	16-25	85
22:00	2	8	32	22	3	0	0	0	0	0	0	0	0	0	67	21-30	54
23:00	1	6	22	15	4	0	0	0	0	0	0	0	0	0	48	21-30	37
Total	184	635	1325	510	52	14	3	4	3	4	2	4	2	36	2778		
Percent	6.6%	22.9%	47.7%	18.4%	1.9%	0.5%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	1.3%			
AM Peak	09:00	11:00	11:00	09:00	11:00	09:00		09:00		10:00			09:00	09:00	11:00		
Vol.	10	52	114	63	8	4		2		1			1	4	232		
PM Peak	19:00	13:00	15:00	16:00	14:00	14:00	12:00	16:00	13:00	16:00	14:00	16:00		14:00	16:00		
Vol.	26	72	146	65	8	3	1	1	2	2	1	2		7	296		

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

B to A

Start Time	0	16	21	26	31	36	41	46	51	56	61	66	71	76	9999	Total	Pace Speed	Number in Pace
08/09/17	2	3	11	8	0	1	0	0	0	0	0	0	0	0	0	25	21-30	19
01:00	1	1	3	4	1	0	0	0	0	0	0	0	0	0	0	10	21-30	7
02:00	2	3	0	6	2	0	0	0	0	0	0	0	0	0	1	14	26-35	8
03:00	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	5	19-28	4
04:00	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	6	16-25	5
05:00	2	1	4	3	3	0	0	0	0	0	0	0	0	0	0	13	21-30	7
06:00	1	5	17	19	6	3	0	0	0	0	0	0	0	0	0	51	21-30	36
07:00	5	1	42	66	14	1	0	0	0	0	0	0	0	0	0	129	21-30	108
08:00	8	18	65	80	23	1	0	0	0	0	0	0	0	0	3	198	21-30	145
09:00	10	20	112	56	7	2	1	0	0	1	0	0	0	0	4	213	21-30	169
10:00	5	34	128	50	8	1	2	2	1	0	1	0	1	2	235	21-30	178	
11:00	11	70	103	34	3	2	0	0	0	0	2	0	0	3	228	16-25	174	
12 PM	20	73	109	32	4	1	1	0	0	1	1	1	0	5	248	16-25	183	
13:00	17	70	108	41	3	0	1	2	0	0	0	0	0	4	246	16-25	179	
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	84	302	707	402	74	12	5	4	1	2	4	1	1	22	1621			
Percent	5.2%	18.6%	43.6%	24.8%	4.6%	0.7%	0.3%	0.2%	0.1%	0.1%	0.2%	0.1%	0.1%	1.4%				
AM Peak	11:00	11:00	10:00	08:00	08:00	06:00	10:00	10:00	10:00	09:00	11:00		10:00	09:00	10:00			
Vol.	11	70	128	80	23	3	2	2	1	1	2		1	4	235			
PM Peak	12:00	12:00	12:00	13:00	12:00	12:00	12:00	13:00		12:00	12:00	12:00		12:00	12:00			
Vol.	20	73	109	41	4	1	1	2		1	1	1		5	248			
Total	268	937	2032	912	126	26	8	8	4	6	6	5	3	58	4399			
Percent	6.1%	21.3%	46.2%	20.7%	2.9%	0.6%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	1.3%				

15th Percentile : 17 MPH  
50th Percentile : 22 MPH  
85th Percentile : 27 MPH  
95th Percentile : 29 MPH

Stats  
10 MPH Pace Speed : 16-25 MPH  
Number in Pace : 2980  
Percent in Pace : 67.7%  
Number of Vehicles > 25 MPH : 1162  
Percent of Vehicles > 25 MPH : 26.4%  
Mean Speed(Average) : 23 MPH

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

A to B, B to A

Start Time	0	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
08/08/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	24	79	215	97	9	5	1	2	0	0	0	0	1	10	443	21-30	313
10:00	13	75	208	69	7	3	1	2	1	1	0	1	1	4	386	16-25	284
11:00	20	142	258	63	10	0	3	1	0	0	0	0	0	7	504	16-25	401
12 PM	49	190	222	42	2	2	2	0	0	1	0	1	1	10	522	16-25	414
13:00	33	201	248	45	1	3	1	0	2	0	0	1	1	11	547	16-25	451
14:00	29	123	246	60	8	3	0	0	2	2	1	1	0	15	490	16-25	370
15:00	21	119	270	57	10	0	0	1	0	1	0	0	0	5	484	16-25	390
16:00	41	155	253	80	6	3	1	1	1	2	0	2	0	8	553	16-25	410
17:00	29	146	255	48	1	0	1	0	0	0	1	0	0	8	489	16-25	403
18:00	33	142	153	30	0	1	1	0	0	0	0	0	0	10	370	16-25	297
19:00	36	110	130	32	3	0	0	0	0	0	1	0	0	0	312	16-25	242
20:00	22	77	107	23	0	1	1	0	0	0	0	0	0	0	231	16-25	185
21:00	14	65	95	20	1	0	0	0	0	0	0	0	0	0	195	16-25	161
22:00	3	24	63	25	3	0	0	0	0	0	0	0	0	0	118	21-30	88
23:00	1	12	41	24	5	0	0	0	0	0	0	0	0	0	83	21-30	65
Total	368	1660	2764	715	66	21	12	7	6	7	3	6	4	88	5727		
Percent	6.4%	29.0%	48.3%	12.5%	1.2%	0.4%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	1.5%			
AM Peak	09:00	11:00	11:00	09:00	11:00	09:00	11:00	09:00	10:00	10:00		10:00	09:00	09:00	11:00		
Vol.	24	142	258	97	10	5	3	2	1	1		1	1	10	504		
PM Peak	12:00	13:00	15:00	16:00	15:00	13:00	12:00	15:00	13:00	14:00	14:00	16:00	12:00	14:00	16:00		
Vol.	49	201	270	80	10	3	2	1	2	2	1	2	1	15	553		

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

A to B, B to A

Start Time	0	16	21	26	31	36	41	46	51	56	61	66	71	76	9999	Total	Pace Speed	Number in Pace
08/09/17	2	9	20	10	0	1	0	0	0	0	0	0	0	0	0	42	21-30	30
01:00	1	7	9	4	1	0	0	0	0	0	0	0	0	0	0	22	16-25	16
02:00	2	4	1	8	3	0	0	0	0	0	0	0	0	1	19	26-35	11	
03:00	0	3	5	2	0	0	0	0	0	0	0	0	0	0	10	16-25	8	
04:00	0	4	3	2	0	0	0	0	0	0	0	0	0	0	9	16-25	7	
05:00	3	9	15	7	3	0	0	0	1	0	0	0	0	0	38	16-25	24	
06:00	2	14	62	31	8	3	0	0	0	0	0	0	0	0	120	21-30	93	
07:00	13	26	154	98	16	1	0	0	0	0	0	0	0	1	309	21-30	253	
08:00	15	57	222	120	25	1	0	2	0	0	0	0	0	5	447	21-30	343	
09:00	15	72	280	100	9	2	3	1	0	2	0	0	1	6	491	21-30	381	
10:00	14	117	269	74	9	2	2	2	1	0	1	0	1	7	499	16-25	387	
11:00	27	189	232	45	5	2	1	0	1	0	2	0	1	9	514	16-25	422	
12 PM	46	216	238	44	5	1	2	1	0	1	1	2	0	11	568	16-25	456	
13:00	31	184	228	63	5	1	3	2	0	1	3	0	0	10	531	16-25	414	
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	171	911	1738	608	89	14	11	8	3	4	7	2	3	50	3619			
Percent	4.7%	25.2%	48.0%	16.8%	2.5%	0.4%	0.3%	0.2%	0.1%	0.1%	0.2%	0.1%	0.1%	1.4%				
AM Peak	11:00	11:00	09:00	08:00	08:00	06:00	09:00	08:00	05:00	09:00	11:00		09:00	11:00	11:00			
Vol.	27	189	280	120	25	3	3	2	1	2	2		1	9	514			
PM Peak	12:00	12:00	12:00	13:00	12:00	12:00	13:00	13:00		12:00	13:00	12:00		12:00	12:00			
Vol.	46	216	238	63	5	1	3	2		1	3	2		11	568			
Total	539	2571	4502	1323	155	35	23	15	9	11	10	8	7	138	9346			
Percent	5.8%	27.5%	48.2%	14.2%	1.7%	0.4%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	1.5%				

15th Percentile : 16 MPH  
50th Percentile : 21 MPH  
85th Percentile : 25 MPH  
95th Percentile : 29 MPH

Stats  
10 MPH Pace Speed : 16-25 MPH  
Number in Pace : 7099  
Percent in Pace : 76.0%  
Number of Vehicles > 25 MPH : 1734  
Percent of Vehicles > 25 MPH : 18.6%  
Mean Speed(Average) : 22 MPH

Cass St  
Btw Washington St and 8th St  
Count#15

Site Code: 00000000000  
Station ID:

Latitude: 0' 0.0000 South

Start Time	07-Aug-17 Mon	08-Aug-17 Tue	09-Aug-17 Wed	10-Aug-17 Thu	11-Aug-17 Fri	Weekday Average	12-Aug-17 Sat	13-Aug-17 Sun
12:00 AM	*	*	42	*	*	42	*	*
01:00	*	*	22	*	*	22	*	*
02:00	*	*	19	*	*	19	*	*
03:00	*	*	10	*	*	10	*	*
04:00	*	*	9	*	*	9	*	*
05:00	*	*	38	*	*	38	*	*
06:00	*	*	120	*	*	120	*	*
07:00	*	*	309	*	*	309	*	*
08:00	*	*	447	*	*	447	*	*
09:00	*	443	491	*	*	467	*	*
10:00	*	386	499	*	*	442	*	*
11:00	*	504	514	*	*	509	*	*
12:00 PM	*	522	568	*	*	545	*	*
01:00	*	547	531	*	*	539	*	*
02:00	*	490	*	*	*	490	*	*
03:00	*	484	*	*	*	484	*	*
04:00	*	553	*	*	*	553	*	*
05:00	*	489	*	*	*	489	*	*
06:00	*	370	*	*	*	370	*	*
07:00	*	312	*	*	*	312	*	*
08:00	*	231	*	*	*	231	*	*
09:00	*	195	*	*	*	195	*	*
10:00	*	118	*	*	*	118	*	*
11:00	*	83	*	*	*	83	*	*
Total	0	5727	3619	0	0		0	0
Percentage	0.0%	83.7%	52.9%	0.0%	0.0%		0.0%	0.0%
AM Peak	-	11:00	11:00	-	-	-	-	-
Vol.	-	504	514	-	-	-	-	-
PM Peak	-	16:00	12:00	-	-	-	-	-
Vol.	-	553	568	-	-	-	-	-
Total		5727	3619					