
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer

FROM: Abhishek Deora, Engineering Aide

DATE: August 11th, 2017

SUBJECT: Cass St (Bridge) Between Front St & Grandview Pkwy 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 Front St & Grandview Parkway.

City Engineering performed a 24-hour classification count of Cass St began at 9:45 am on August 8th, 2017 and ended at 2:40 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 3930 vehicles traveled on Cass St during the 24-hour class count. The vehicle class count showed that 279 vehicles, 5.6 percent, traveling on Cass St during the count were a class 6 (FHA Scheme F) or higher. This means that 5.6 percent of the vehicles traveling on the road have at least three axels (not including buses or class 14).

676 vehicles, 13.5 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: 3930 vehicles
- Class 6 or Higher: 5.6%
- Class 1 to 5: 80.9%
- Class 14 (Unknown/Bicycles): 13.5%

Encl.: Detailed TraxPro Classification Report

Cass St
Btw Front St and Geandview Parkway
Count#28

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	2	73	13	0	2	0	0	6	0	0	0	0	1	8	105
11:00	1	76	9	2	4	0	0	5	2	0	0	0	0	18	117
12 PM	5	82	18	0	5	0	0	2	0	1	0	1	1	25	140
13:00	4	83	12	3	2	0	1	5	0	0	0	0	1	26	137
14:00	6	72	12	5	3	0	1	3	1	0	0	0	1	31	135
15:00	4	81	16	2	1	0	0	8	0	0	0	0	2	25	139
16:00	3	75	13	1	1	1	0	5	1	1	0	0	2	20	123
17:00	5	84	13	0	3	0	0	5	3	1	0	1	0	30	145
18:00	6	58	9	1	1	0	0	0	0	0	0	0	0	21	96
19:00	7	60	10	0	4	0	0	1	0	0	0	0	1	36	119
20:00	3	64	1	0	1	0	1	0	0	1	0	0	0	19	90
21:00	1	57	9	0	2	0	0	2	0	0	0	0	0	11	82
22:00	2	43	5	0	0	0	0	0	0	0	0	0	0	9	59
23:00	2	28	5	0	1	0	0	0	0	0	0	0	0	3	39
Total	51	936	145	14	30	1	3	42	7	4	0	2	9	282	1526
Percent	3.3%	61.3%	9.5%	0.9%	2.0%	0.1%	0.2%	2.8%	0.5%	0.3%	0.0%	0.1%	0.6%	18.5%	
AM Peak	10:00	11:00	10:00	11:00	11:00			10:00	11:00				10:00	11:00	
Vol.	2	76	13	2	4			6	2				1	18	
PM Peak	19:00	17:00	12:00	14:00	12:00	16:00	13:00	15:00	17:00	12:00		12:00	15:00	19:00	
Vol.	7	84	18	5	5	1	1	8	3	1		1	2	36	

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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	1	14	2	0	0	0	0	0	0	0	0	0	0	1	18
01:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	3	0	0	0	0	0	1	0	0	0	0	0	0	4
05:00	0	5	0	0	0	0	0	0	0	0	0	0	0	3	8
06:00	1	18	3	0	1	0	0	0	0	0	0	0	0	7	30
07:00	0	30	10	0	0	0	1	2	0	0	0	0	1	3	47
08:00	4	51	15	2	1	1	0	4	1	1	0	0	0	23	103
09:00	1	52	18	4	0	2	0	6	0	0	0	2	1	17	103
10:00	6	70	8	0	1	0	0	4	0	1	0	0	1	28	119
11:00	2	85	10	2	2	1	0	3	0	1	0	1	5	28	140
12 PM	3	104	13	2	1	0	0	3	1	0	0	0	1	23	151
13:00	3	78	11	3	4	0	1	2	0	2	0	0	0	21	125
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	21	528	91	13	10	4	2	25	2	5	0	3	9	154	867
Percent	2.4%	60.9%	10.5%	1.5%	1.2%	0.5%	0.2%	2.9%	0.2%	0.6%	0.0%	0.3%	1.0%	17.8%	
AM Peak	10:00	11:00	09:00	09:00	11:00	09:00	07:00	09:00	08:00	08:00		09:00	11:00	10:00	
Vol.	6	85	18	4	2	2	1	6	1	1		2	5	28	
PM Peak	12:00	12:00	12:00	13:00	13:00		13:00	12:00	12:00	13:00			12:00	12:00	
Vol.	3	104	13	3	4		1	3	1	2			1	23	
Grand Total	72	1464	236	27	40	5	5	67	9	9	0	5	18	436	2393
Percent	3.0%	61.2%	9.9%	1.1%	1.7%	0.2%	0.2%	2.8%	0.4%	0.4%	0.0%	0.2%	0.8%	18.2%	

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Btw Front St and Geandview Parkway
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Site Code: 00000000000
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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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	0	52	24	0	6	0	0	1	0	0	0	0	0	5	88
11:00	0	77	28	2	4	2	1	3	0	0	0	0	0	12	129
12 PM	0	67	26	1	2	1	1	3	0	1	0	0	1	5	108
13:00	0	75	27	2	4	0	2	5	0	2	0	0	0	14	131
14:00	1	84	26	0	2	1	2	4	0	0	0	0	1	13	134
15:00	2	85	28	1	2	2	1	8	0	3	0	0	1	15	148
16:00	1	88	28	4	3	2	0	1	1	1	0	0	0	9	138
17:00	1	72	22	1	5	0	1	5	0	0	0	2	1	10	120
18:00	0	69	15	0	1	0	0	4	0	1	0	0	0	12	102
19:00	1	57	17	0	2	0	0	5	0	1	0	0	1	9	93
20:00	0	36	12	0	4	0	0	2	0	0	0	1	0	5	60
21:00	1	30	6	0	1	0	0	0	0	0	0	0	0	2	40
22:00	0	18	6	0	0	0	0	1	0	0	0	0	0	4	29
23:00	1	10	3	0	0	0	0	0	0	0	0	0	0	0	14
Total	8	820	268	11	36	8	8	42	1	9	0	3	5	115	1334
Percent	0.6%	61.5%	20.1%	0.8%	2.7%	0.6%	0.6%	3.1%	0.1%	0.7%	0.0%	0.2%	0.4%	8.6%	
AM Peak		11:00	11:00	11:00	10:00	11:00	11:00	11:00						11:00	
Vol.		77	28	2	6	2	1	3						12	
PM Peak	15:00	16:00	15:00	16:00	17:00	15:00	13:00	15:00	16:00	15:00		17:00	12:00	15:00	
Vol.	2	88	28	4	5	2	2	8	1	3		2	1	15	

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Site Code: 000000000000
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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	5	1	0	0	0	0	0	0	0	0	0	0	0	6
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
05:00	1	7	4	0	0	0	0	0	0	0	0	0	0	0	12
06:00	1	23	12	0	4	1	0	3	1	0	0	0	0	2	47
07:00	1	124	38	1	3	0	0	5	0	1	0	1	1	9	184
08:00	1	128	40	1	3	2	0	2	0	0	0	0	3	10	190
09:00	3	105	30	4	2	3	1	7	0	1	0	1	1	16	174
10:00	1	113	36	2	4	2	1	11	0	2	0	0	4	29	205
11:00	0	103	38	3	6	1	0	6	0	1	0	0	1	33	192
12 PM	1	67	24	1	6	3	3	6	1	2	0	0	0	14	128
13:00	0	71	29	2	4	0	2	1	0	3	0	1	0	12	125
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	9	754	253	14	33	12	7	41	2	10	0	3	10	125	1273
Percent	0.7%	59.2%	19.9%	1.1%	2.6%	0.9%	0.5%	3.2%	0.2%	0.8%	0.0%	0.2%	0.8%	9.8%	
AM Peak	09:00	08:00	08:00	09:00	11:00	09:00	09:00	10:00	06:00	10:00		07:00	10:00	11:00	
Vol.	3	128	40	4	6	3	1	11	1	2		1	4	33	
PM Peak	12:00	13:00	13:00	13:00	12:00	12:00	12:00	12:00	12:00	13:00		13:00		12:00	
Vol.	1	71	29	2	6	3	3	6	1	3		1		14	
Grand Total	17	1574	521	25	69	20	15	83	3	19	0	6	15	240	2607
Percent	0.7%	60.4%	20.0%	1.0%	2.6%	0.8%	0.6%	3.2%	0.1%	0.7%	0.0%	0.2%	0.6%	9.2%	

Cass St
Btw Front St and Geandview Parkway
Count#28

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	2	125	37	0	8	0	0	7	0	0	0	0	1	13	193
11:00	1	153	37	4	8	2	1	8	2	0	0	0	0	30	246
12 PM	5	149	44	1	7	1	1	5	0	2	0	1	2	30	248
13:00	4	158	39	5	6	0	3	10	0	2	0	0	1	40	268
14:00	7	156	38	5	5	1	3	7	1	0	0	0	2	44	269
15:00	6	166	44	3	3	2	1	16	0	3	0	0	3	40	287
16:00	4	163	41	5	4	3	0	6	2	2	0	0	2	29	261
17:00	6	156	35	1	8	0	1	10	3	1	0	3	1	40	265
18:00	6	127	24	1	2	0	0	4	0	1	0	0	0	33	198
19:00	8	117	27	0	6	0	0	6	0	1	0	0	2	45	212
20:00	3	100	13	0	5	0	1	2	0	1	0	1	0	24	150
21:00	2	87	15	0	3	0	0	2	0	0	0	0	0	13	122
22:00	2	61	11	0	0	0	0	1	0	0	0	0	0	13	88
23:00	3	38	8	0	1	0	0	0	0	0	0	0	0	3	53
Total	59	1756	413	25	66	9	11	84	8	13	0	5	14	397	2860
Percent	2.1%	61.4%	14.4%	0.9%	2.3%	0.3%	0.4%	2.9%	0.3%	0.5%	0.0%	0.2%	0.5%	13.9%	
AM Peak	10:00	11:00	10:00	11:00	10:00	11:00	11:00	11:00	11:00				10:00	11:00	
Vol.	2	153	37	4	8	2	1	8	2				1	30	
PM Peak	19:00	15:00	12:00	13:00	17:00	16:00	13:00	15:00	17:00	15:00		17:00	15:00	19:00	
Vol.	8	166	44	5	8	3	3	16	3	3		3	3	45	

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Count#28

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	1	19	3	0	0	0	0	0	0	0	0	0	0	1	24
01:00	0	11	1	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
04:00	0	5	1	0	1	0	0	1	0	0	0	0	0	0	8
05:00	1	12	4	0	0	0	0	0	0	0	0	0	0	3	20
06:00	2	41	15	0	5	1	0	3	1	0	0	0	0	9	77
07:00	1	154	48	1	3	0	1	7	0	1	0	1	2	12	231
08:00	5	179	55	3	4	3	0	6	1	1	0	0	3	33	293
09:00	4	157	48	8	2	5	1	13	0	1	0	3	2	33	277
10:00	7	183	44	2	5	2	1	15	0	3	0	0	5	57	324
11:00	2	188	48	5	8	2	0	9	0	2	0	1	6	61	332
12 PM	4	171	37	3	7	3	3	9	2	2	0	0	1	37	279
13:00	3	149	40	5	8	0	3	3	0	5	0	1	0	33	250
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	30	1282	344	27	43	16	9	66	4	15	0	6	19	279	2140
Percent	1.4%	59.9%	16.1%	1.3%	2.0%	0.7%	0.4%	3.1%	0.2%	0.7%	0.0%	0.3%	0.9%	13.0%	
AM Peak	10:00	11:00	08:00	09:00	11:00	09:00	07:00	10:00	06:00	10:00		09:00	11:00	11:00	
Vol.	7	188	55	8	8	5	1	15	1	3		3	6	61	
PM Peak	12:00	12:00	13:00	13:00	13:00	12:00	12:00	12:00	12:00	13:00		13:00	12:00	12:00	
Vol.	4	171	40	5	8	3	3	9	2	5		1	1	37	
Grand Total	89	3038	757	52	109	25	20	150	12	28	0	11	33	676	5000
Percent	1.8%	60.8%	15.1%	1.0%	2.2%	0.5%	0.4%	3.0%	0.2%	0.6%	0.0%	0.2%	0.7%	13.5%	

Cass St
Btw Front St and Grandview Parkway
Count#28

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	33	53	18	1	0	0	0	0	0	0	0	0	0	0	105	16-25	72
11:00	48	47	18	1	0	0	0	0	0	0	0	0	0	3	117	16-25	67
12 PM	69	50	15	1	0	0	0	0	0	0	0	0	0	5	140	11-20	74
13:00	67	56	8	2	0	0	0	2	0	0	0	0	0	2	137	11-20	79
14:00	80	41	7	1	0	1	0	2	0	0	0	1	1	1	135	11-20	69
15:00	72	50	9	1	2	1	0	1	0	0	2	0	0	1	139	11-20	75
16:00	49	57	12	0	0	0	0	1	0	0	1	1	0	2	123	11-20	74
17:00	79	51	11	0	0	1	0	0	0	0	0	0	1	2	145	11-20	78
18:00	47	36	13	0	0	0	0	0	0	0	0	0	0	0	96	11-20	52
19:00	78	33	6	0	0	0	0	0	0	1	0	0	0	1	119	11-20	60
20:00	50	31	5	2	0	0	0	0	0	0	0	0	0	2	90	11-20	48
21:00	28	44	10	0	0	0	0	0	0	0	0	0	0	0	82	16-25	55
22:00	19	31	8	1	0	0	0	0	0	0	0	0	0	0	59	16-25	40
23:00	11	16	10	2	0	0	0	0	0	0	0	0	0	0	39	16-25	26
Total	730	596	150	12	2	3	0	6	0	1	3	2	2	19	1526		
Percent	47.8%	39.1%	9.8%	0.8%	0.1%	0.2%	0.0%	0.4%	0.0%	0.1%	0.2%	0.1%	0.1%	1.2%			
AM Peak	11:00	10:00	10:00	10:00										11:00	11:00		
Vol.	48	53	18	1										3	117		
PM Peak	14:00	16:00	12:00	13:00	15:00	14:00		13:00		19:00	15:00	14:00	14:00	12:00	17:00		
Vol.	80	57	15	2	2	1		2		1	2	1	1	5	145		

Cass St
Btw Front St and Grandview Parkway
Count#28

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
08/09/17	4	8	5	1	0	0	0	0	0	0	0	0	0	0	18	16-25	13
01:00	1	7	2	0	0	0	0	0	0	0	0	0	0	0	10	16-25	9
02:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	5	16-25	5
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	14-23	4
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	14-23	4
05:00	2	2	4	0	0	0	0	0	0	0	0	0	0	0	8	16-25	6
06:00	6	11	11	0	0	0	0	0	0	0	0	0	0	2	30	16-25	22
07:00	18	20	8	0	0	0	0	0	0	0	0	0	1	0	47	16-25	29
08:00	43	41	11	2	0	1	1	0	1	1	0	0	0	2	103	11-20	56
09:00	57	33	3	1	1	1	2	1	1	0	1	0	0	2	103	11-20	53
10:00	79	31	5	1	1	0	1	0	0	0	0	0	0	1	119	11-20	58
11:00	85	44	6	1	0	1	0	0	1	0	0	0	0	2	140	11-20	73
12 PM	73	55	18	0	1	1	0	1	0	0	1	0	0	1	151	11-20	80
13:00	54	53	12	3	0	1	0	0	0	0	0	1	1	0	125	11-20	72
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	422	313	90	9	3	5	4	2	3	1	2	1	2	10	867		
Percent	48.7%	36.1%	10.4%	1.0%	0.3%	0.6%	0.5%	0.2%	0.3%	0.1%	0.2%	0.1%	0.2%	1.2%			
AM Peak	11:00	11:00	06:00	08:00	09:00	08:00	09:00	09:00	08:00	08:00	09:00		07:00	06:00	11:00		
Vol.	85	44	11	2	1	1	2	1	1	1	1		1	2	140		
PM Peak	12:00	12:00	12:00	13:00	12:00	12:00		12:00				12:00	13:00	13:00	12:00	12:00	
Vol.	73	55	18	3	1	1		1			1	1	1	1	151		
Total	1152	909	240	21	5	8	4	8	3	2	5	3	4	29	2393		
Percent	48.1%	38.0%	10.0%	0.9%	0.2%	0.3%	0.2%	0.3%	0.1%	0.1%	0.2%	0.1%	0.2%	1.2%			

15th Percentile : 4 MPH
50th Percentile : 15 MPH
85th Percentile : 19 MPH
95th Percentile : 23 MPH

Stats
10 MPH Pace Speed : 11-20 MPH
Number in Pace : 1309
Percent in Pace : 54.7%
Number of Vehicles > 25 MPH : 92
Percent of Vehicles > 25 MPH : 3.8%
Mean Speed(Average) : 14 MPH

Cass St
Btw Front St and Grandview Parkway
Count#28

Site Code: 00000000000
Station ID:

Latitude: 0' 0.0000 South

B to A																Total	Pace	Number
Start	0	16	21	26	31	36	41	46	51	56	61	66	71	76		Speed	in Pace	
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	9999				
08/08/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
10:00	32	41	14	1	0	0	0	0	0	0	0	0	0	0	88	16-25	56	
11:00	61	44	17	3	0	0	0	0	0	0	0	0	0	4	129	11-20	65	
12 PM	59	40	7	0	0	0	0	1	0	0	0	0	0	1	108	11-20	61	
13:00	75	37	14	0	2	1	0	0	0	0	0	0	0	2	131	11-20	63	
14:00	77	42	10	0	1	0	0	0	0	0	0	0	0	4	134	11-20	69	
15:00	86	44	12	1	2	0	1	0	0	0	0	0	0	2	148	11-20	74	
16:00	75	36	16	4	2	2	1	0	0	0	0	0	0	2	138	11-20	62	
17:00	74	41	3	2	0	0	0	0	0	0	0	0	0	0	120	11-20	67	
18:00	65	27	8	1	0	0	0	0	0	0	0	0	0	1	102	11-20	49	
19:00	60	25	5	0	0	0	1	0	0	0	0	0	0	2	93	11-20	46	
20:00	41	17	1	0	0	1	0	0	0	0	0	0	0	0	60	11-20	31	
21:00	20	11	7	2	0	0	0	0	0	0	0	0	0	0	40	16-25	19	
22:00	12	13	4	0	0	0	0	0	0	0	0	0	0	0	29	16-25	17	
23:00	8	6	0	0	0	0	0	0	0	0	0	0	0	0	14	11-20	9	
Total	745	424	118	14	7	4	3	1	0	0	0	0	0	18	1334			
Percent	55.8%	31.8%	8.8%	1.0%	0.5%	0.3%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%				
AM Peak	11:00	11:00	11:00	11:00										11:00	11:00			
Vol.	61	44	17	3										4	129			
PM Peak	15:00	15:00	16:00	16:00	13:00	16:00	15:00	12:00						14:00	15:00			
Vol.	86	44	16	4	2	2	1	1						4	148			

Cass St
Btw Front St and Grandview Parkway
Count#28

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	2	2	0	0	0	0	0	0	0	0	0	0	0	0	6	16-25	4
01:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16-25	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4	14-23	4
04:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4	15-24	4
05:00	2	6	4	0	0	0	0	0	0	0	0	0	0	0	0	12	16-25	10
06:00	6	22	17	1	0	0	0	0	0	0	0	0	0	0	1	47	16-25	39
07:00	37	88	46	11	1	0	0	0	0	0	0	0	0	1	184	16-25	136	
08:00	89	65	32	1	0	1	0	0	0	0	1	0	0	1	190	16-25	100	
09:00	109	53	8	2	0	0	0	1	0	0	0	0	0	1	174	11-20	91	
10:00	151	34	11	1	1	0	0	2	0	0	0	0	0	5	205	6-15	99	
11:00	129	43	9	0	1	0	1	1	1	1	1	0	0	5	192	11-20	87	
12 PM	71	39	11	1	0	0	0	0	0	0	0	1	0	5	128	11-20	63	
13:00	73	40	9	3	0	0	0	0	0	0	0	0	0	0	125	11-20	65	
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	670	398	152	20	3	1	1	4	1	1	2	1	0	19	1273			
Percent	52.6%	31.3%	11.9%	1.6%	0.2%	0.1%	0.1%	0.3%	0.1%	0.1%	0.2%	0.1%	0.0%	1.5%				
AM Peak	10:00	07:00	07:00	07:00	07:00	08:00	11:00	10:00	11:00	11:00	08:00			10:00	10:00			
Vol.	151	88	46	11	1	1	1	2	1	1	1			5	205			
PM Peak	13:00	13:00	12:00	13:00								12:00		12:00	12:00			
Vol.	73	40	11	3								1		5	128			
Total	1415	822	270	34	10	5	4	5	1	1	2	1	0	37	2607			
Percent	54.3%	31.5%	10.4%	1.3%	0.4%	0.2%	0.2%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	1.4%				

15th Percentile : 4 MPH
50th Percentile : 14 MPH
85th Percentile : 19 MPH
95th Percentile : 23 MPH

Stats
10 MPH Pace Speed : 11-20 MPH
Number in Pace : 1309
Percent in Pace : 50.2%
Number of Vehicles > 25 MPH : 100
Percent of Vehicles > 25 MPH : 3.8%
Mean Speed(Average) : 14 MPH

Cass St
Btw Front St and Grandview Parkway
Count#28

Site Code: 00000000000
Station ID:

Latitude: 0' 0.0000 South

A to B, B to A

Start	0	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace	Number
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	9999		Speed	in Pace
08/08/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	65	94	32	2	0	0	0	0	0	0	0	0	0	0	193	16-25	129
11:00	109	91	35	4	0	0	0	0	0	0	0	0	0	7	246	15-24	130
12 PM	128	90	22	1	0	0	0	1	0	0	0	0	0	6	248	11-20	134
13:00	142	93	22	2	2	1	0	2	0	0	0	0	0	4	268	11-20	142
14:00	157	83	17	1	1	1	0	2	0	0	0	1	1	5	269	11-20	137
15:00	158	94	21	2	4	1	1	1	0	0	2	0	0	3	287	11-20	149
16:00	124	93	28	4	2	2	1	1	0	0	1	1	0	4	261	11-20	136
17:00	153	92	14	2	0	1	0	0	0	0	0	0	1	2	265	11-20	145
18:00	112	63	21	1	0	0	0	0	0	0	0	0	0	1	198	11-20	102
19:00	138	58	11	0	0	0	1	0	0	1	0	0	0	3	212	11-20	105
20:00	91	48	6	2	0	1	0	0	0	0	0	0	0	2	150	11-20	79
21:00	48	55	17	2	0	0	0	0	0	0	0	0	0	0	122	16-25	74
22:00	31	44	12	1	0	0	0	0	0	0	0	0	0	0	88	16-25	57
23:00	19	22	10	2	0	0	0	0	0	0	0	0	0	0	53	16-25	33
Total	1475	1020	268	26	9	7	3	7	0	1	3	2	2	37	2860		
Percent	51.6%	35.7%	9.4%	0.9%	0.3%	0.2%	0.1%	0.2%	0.0%	0.0%	0.1%	0.1%	0.1%	1.3%			
AM Peak	11:00	10:00	11:00	11:00										11:00	11:00		
Vol.	109	94	35	4										7	246		
PM Peak	15:00	15:00	16:00	16:00	15:00	16:00	15:00	13:00		19:00	15:00	14:00	14:00	12:00	15:00		
Vol.	158	94	28	4	4	2	1	2		1	2	1	1	6	287		

Cass St
Btw Front St and Grandview Parkway
Count#28

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	6	10	7	1	0	0	0	0	0	0	0	0	0	0	0	24	16-25	17
01:00	2	8	2	0	0	0	0	0	0	0	0	0	0	0	0	12	16-25	10
02:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	5	16-25	5
03:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	8	15-24	8
04:00	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	8	16-25	8
05:00	4	8	8	0	0	0	0	0	0	0	0	0	0	0	0	20	16-25	16
06:00	12	33	28	1	0	0	0	0	0	0	0	0	0	0	3	77	16-25	62
07:00	55	108	54	11	1	0	0	0	0	0	0	0	1	1	231	16-25	164	
08:00	132	106	43	3	0	2	1	0	1	1	1	0	0	3	293	16-25	153	
09:00	166	86	11	3	1	1	2	2	1	0	1	0	0	3	277	11-20	143	
10:00	230	65	16	2	2	0	1	2	0	0	0	0	0	6	324	1-10	151	
11:00	214	87	15	1	1	1	1	1	2	1	1	0	0	7	332	11-20	160	
12 PM	144	94	29	1	1	1	0	1	0	0	1	1	0	6	279	11-20	144	
13:00	127	93	21	6	0	1	0	0	0	0	0	1	1	0	250	11-20	137	
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	1092	711	242	29	6	6	5	6	4	2	4	2	2	29	2140			
Percent	51.0%	33.2%	11.3%	1.4%	0.3%	0.3%	0.2%	0.3%	0.2%	0.1%	0.2%	0.1%	0.1%	1.4%				
AM Peak	10:00	07:00	07:00	07:00	10:00	08:00	09:00	09:00	11:00	08:00	08:00		07:00	11:00	11:00			
Vol.	230	108	54	11	2	2	2	2	2	1	1		1	7	332			
PM Peak	12:00	12:00	12:00	13:00	12:00	12:00		12:00				12:00	12:00	13:00	12:00	12:00		
Vol.	144	94	29	6	1	1		1				1	1	1	6	279		
Total	2567	1731	510	55	15	13	8	13	4	3	7	4	4	66	5000			
Percent	51.3%	34.6%	10.2%	1.1%	0.3%	0.3%	0.2%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	1.3%				

15th Percentile : 4 MPH
50th Percentile : 14 MPH
85th Percentile : 19 MPH
95th Percentile : 23 MPH

Stats
10 MPH Pace Speed : 11-20 MPH
Number in Pace : 2618
Percent in Pace : 52.4%
Number of Vehicles > 25 MPH : 192
Percent of Vehicles > 25 MPH : 3.8%
Mean Speed(Average) : 14 MPH

Cass St
Btw Front St and Grandview Parkway
Count#28

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	*	*	24	*	*	24	*	*
01:00	*	*	12	*	*	12	*	*
02:00	*	*	5	*	*	5	*	*
03:00	*	*	8	*	*	8	*	*
04:00	*	*	8	*	*	8	*	*
05:00	*	*	20	*	*	20	*	*
06:00	*	*	77	*	*	77	*	*
07:00	*	*	231	*	*	231	*	*
08:00	*	*	293	*	*	293	*	*
09:00	*	*	277	*	*	277	*	*
10:00	*	193	324	*	*	258	*	*
11:00	*	246	332	*	*	289	*	*
12:00 PM	*	248	279	*	*	264	*	*
01:00	*	268	250	*	*	259	*	*
02:00	*	269	*	*	*	269	*	*
03:00	*	287	*	*	*	287	*	*
04:00	*	261	*	*	*	261	*	*
05:00	*	265	*	*	*	265	*	*
06:00	*	198	*	*	*	198	*	*
07:00	*	212	*	*	*	212	*	*
08:00	*	150	*	*	*	150	*	*
09:00	*	122	*	*	*	122	*	*
10:00	*	88	*	*	*	88	*	*
11:00	*	53	*	*	*	53	*	*
Total	0	2860	2140	0	0		0	0
Percentage	0.0%	72.8%	54.5%	0.0%	0.0%		0.0%	0.0%
AM Peak	-	11:00	11:00	-	-	-	-	-
Vol.	-	246	332	-	-	-	-	-
PM Peak	-	15:00	12:00	-	-	-	-	-
Vol.	-	287	279	-	-	-	-	-
Total		2860	2140					