
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: Union St (Bridge) Btw 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 Union St between Front St & Grandview Parkway.

City Engineering performed a 24-hour classification count of Union St began at 2:09 pm on August 8th, 2017 and ended at 4:15 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 6225 vehicles traveled on Union St during the 24-hour class count. The vehicle class count showed that 429 vehicles, 5.6 percent, traveling on Union 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).

524 vehicles, 7.9 percent, fell into class 14 which is for bicycles and unknown vehicles. This number suggests that many people use this section of Union 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: 6225 vehicles
- Class 6 or Higher: 6.5%
- Class 1 to 5: 85.6%
- Class 14 (Unknown/Bicycles): 7.9%

Encl.: Detailed TraxPro Classification Report

Union St
Btw Front St and Grandview Parkway
Count#29

Site Code: 000000000000
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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	0	129	51	3	13	2	0	14	0	1	1	1	1	8	224
15:00	5	150	68	2	19	2	0	13	1	1	0	2	1	16	280
16:00	3	153	78	3	12	1	1	18	0	3	0	0	0	18	290
17:00	5	143	63	5	26	1	0	15	0	5	0	0	2	20	285
18:00	3	113	44	0	15	0	0	8	0	1	0	0	0	7	191
19:00	5	112	43	0	15	0	0	10	0	2	0	1	0	6	194
20:00	2	84	43	0	14	0	0	4	0	0	0	0	0	7	154
21:00	3	64	32	0	9	0	0	5	0	0	0	0	0	2	115
22:00	4	32	14	0	2	0	0	1	0	0	0	0	0	2	55
23:00	1	20	5	0	1	0	0	0	0	0	0	0	0	2	29
Total	31	1000	441	13	126	6	1	88	1	13	1	4	4	88	1817
Percent	1.7%	55.0%	24.3%	0.7%	6.9%	0.3%	0.1%	4.8%	0.1%	0.7%	0.1%	0.2%	0.2%	4.8%	
AM Peak Vol.															
PM Peak Vol.	15:00	16:00	16:00	17:00	17:00	14:00	16:00	16:00	15:00	17:00	14:00	15:00	17:00	17:00	
	5	153	78	5	26	2	1	18	1	5	1	2	2	20	

Union St
Btw Front St and Grandview Parkway
Count#29

Site Code: 000000000000

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	1	10	9	0	1	0	0	0	0	0	0	0	0	0	21
01:00	0	2	10	0	0	0	0	0	0	0	0	0	0	1	13
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	4
03:00	0	1	2	0	0	1	0	0	0	0	0	0	0	0	4
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	5	2	1	3	0	0	1	0	0	0	0	0	1	13
06:00	0	17	9	0	9	0	0	0	0	0	0	0	0	1	36
07:00	1	59	32	0	17	1	1	5	1	0	0	0	0	6	123
08:00	0	69	41	5	17	2	0	10	1	1	0	0	0	6	152
09:00	2	112	43	3	21	2	2	13	0	1	1	1	0	12	213
10:00	1	109	57	2	11	1	3	11	1	2	1	1	0	26	226
11:00	6	116	68	3	16	1	1	20	1	1	0	0	1	20	254
12 PM	3	124	65	5	30	0	1	12	0	4	0	1	2	12	259
13:00	1	121	68	0	18	1	4	21	0	1	0	0	0	24	259
14:00	4	120	51	1	18	2	0	11	1	2	0	0	2	13	225
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	19	866	459	20	161	11	12	104	5	12	2	3	5	124	1803
Percent	1.1%	48.0%	25.5%	1.1%	8.9%	0.6%	0.7%	5.8%	0.3%	0.7%	0.1%	0.2%	0.3%	6.9%	
AM Peak	11:00	11:00	11:00	08:00	09:00	08:00	10:00	11:00	07:00	10:00	09:00	09:00	11:00	10:00	
Vol.	6	116	68	5	21	2	3	20	1	2	1	1	1	26	
PM Peak	14:00	12:00	13:00	12:00	12:00	14:00	13:00	13:00	14:00	12:00		12:00	12:00	13:00	
Vol.	4	124	68	5	30	2	4	21	1	4		1	2	24	
Grand Total	50	1866	900	33	287	17	13	192	6	25	3	7	9	212	3620
Percent	1.4%	51.5%	24.9%	0.9%	7.9%	0.5%	0.4%	5.3%	0.2%	0.7%	0.1%	0.2%	0.2%	5.9%	

Union St
Btw Front St and Grandview Parkway
Count#29

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	0	124	23	2	7	0	2	3	0	2	0	0	0	22	185
15:00	1	120	11	2	6	1	2	9	0	0	0	0	0	30	182
16:00	2	145	15	4	6	0	1	13	0	1	0	1	1	23	212
17:00	2	125	17	5	9	0	0	6	0	1	0	1	0	41	207
18:00	1	98	14	1	8	0	3	5	0	0	0	0	0	9	139
19:00	0	89	13	2	4	0	2	4	0	0	0	0	0	9	123
20:00	0	78	9	2	6	1	0	4	0	0	0	0	0	16	116
21:00	0	60	5	0	1	0	0	0	0	0	0	1	0	3	70
22:00	1	36	2	0	0	0	0	0	0	0	0	0	0	6	45
23:00	0	27	1	0	0	0	0	0	0	0	0	0	0	0	28
Total	7	902	110	18	47	2	10	44	0	4	0	3	1	159	1307
Percent	0.5%	69.0%	8.4%	1.4%	3.6%	0.2%	0.8%	3.4%	0.0%	0.3%	0.0%	0.2%	0.1%	12.2%	
AM Peak Vol.															
PM Peak Vol.	16:00	16:00	14:00	17:00	17:00	15:00	18:00	16:00		14:00		16:00	16:00	17:00	
	2	145	23	5	9	1	3	13		2		1	1	41	

Union St
Btw Front St and Grandview Parkway
Count#29

Site Code: 000000000000
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	14	2	0	0	0	0	0	0	0	0	0	0	3	19
01:00	1	8	0	0	0	0	0	0	0	0	0	0	0	1	10
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	5	9
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	2	0	0	1	0	0	0	0	0	0	0	0	6
05:00	0	12	7	0	0	0	0	0	0	0	0	0	0	0	19
06:00	1	43	8	0	7	2	0	1	0	0	0	0	0	1	63
07:00	2	114	27	2	5	1	1	3	0	0	0	0	1	12	168
08:00	0	165	38	5	7	0	2	5	0	0	0	2	1	9	234
09:00	0	127	18	0	7	0	0	6	0	0	0	0	1	20	179
10:00	0	145	25	3	11	0	2	5	1	5	0	1	1	27	226
11:00	2	113	26	5	6	0	1	11	1	2	0	1	1	22	191
12 PM	3	140	29	6	5	0	1	5	1	0	0	2	2	21	215
13:00	1	125	16	4	9	0	4	6	0	2	0	0	0	21	188
14:00	0	127	13	2	6	1	2	4	0	0	1	0	3	11	170
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	10	1142	212	27	63	5	13	46	3	9	1	6	10	153	1700
Percent	0.6%	67.2%	12.5%	1.6%	3.7%	0.3%	0.8%	2.7%	0.2%	0.5%	0.1%	0.4%	0.6%	9.0%	
AM Peak	07:00	08:00	08:00	08:00	10:00	06:00	08:00	11:00	10:00	10:00		08:00	07:00	10:00	
Vol.	2	165	38	5	11	2	2	11	1	5		2	1	27	
PM Peak	12:00	12:00	12:00	12:00	13:00	14:00	13:00	13:00	12:00	13:00	14:00	12:00	14:00	12:00	
Vol.	3	140	29	6	9	1	4	6	1	2	1	2	3	21	
Grand Total	17	2044	322	45	110	7	23	90	3	13	1	9	11	312	3007
Percent	0.6%	68.0%	10.7%	1.5%	3.7%	0.2%	0.8%	3.0%	0.1%	0.4%	0.0%	0.3%	0.4%	10.4%	

Union St
Btw Front St and Grandview Parkway
Count#29

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	0	253	74	5	20	2	2	17	0	3	1	1	1	30	409
15:00	6	270	79	4	25	3	2	22	1	1	0	2	1	46	462
16:00	5	298	93	7	18	1	2	31	0	4	0	1	1	41	502
17:00	7	268	80	10	35	1	0	21	0	6	0	1	2	61	492
18:00	4	211	58	1	23	0	3	13	0	1	0	0	0	16	330
19:00	5	201	56	2	19	0	2	14	0	2	0	1	0	15	317
20:00	2	162	52	2	20	1	0	8	0	0	0	0	0	23	270
21:00	3	124	37	0	10	0	0	5	0	0	0	1	0	5	185
22:00	5	68	16	0	2	0	0	1	0	0	0	0	0	8	100
23:00	1	47	6	0	1	0	0	0	0	0	0	0	0	2	57
Total	38	1902	551	31	173	8	11	132	1	17	1	7	5	247	3124
Percent	1.2%	60.9%	17.6%	1.0%	5.5%	0.3%	0.4%	4.2%	0.0%	0.5%	0.0%	0.2%	0.2%	7.9%	
AM Peak Vol.															
PM Peak Vol.	17:00	16:00	16:00	17:00	17:00	15:00	18:00	16:00	15:00	17:00	14:00	15:00	17:00	17:00	
	7	298	93	10	35	3	3	31	1	6	1	2	2	61	

Union St
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Count#29

Site Code: 000000000000

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	24	11	0	1	0	0	0	0	0	0	0	0	3	40
01:00	1	10	10	0	0	0	0	0	0	0	0	0	0	2	23
02:00	0	4	2	0	0	0	0	0	0	0	0	0	0	7	13
03:00	0	4	2	0	0	1	0	0	0	0	0	0	0	0	7
04:00	0	3	3	0	0	1	0	0	0	0	0	0	0	0	7
05:00	0	17	9	1	3	0	0	1	0	0	0	0	0	1	32
06:00	1	60	17	0	16	2	0	1	0	0	0	0	0	2	99
07:00	3	173	59	2	22	2	2	8	1	0	0	0	1	18	291
08:00	0	234	79	10	24	2	2	15	1	1	0	2	1	15	386
09:00	2	239	61	3	28	2	2	19	0	1	1	1	1	32	392
10:00	1	254	82	5	22	1	5	16	2	7	1	2	1	53	452
11:00	8	229	94	8	22	1	2	31	2	3	0	1	2	42	445
12 PM	6	264	94	11	35	0	2	17	1	4	0	3	4	33	474
13:00	2	246	84	4	27	1	8	27	0	3	0	0	0	45	447
14:00	4	247	64	3	24	3	2	15	1	2	1	0	5	24	395
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	29	2008	671	47	224	16	25	150	8	21	3	9	15	277	3503
Percent	0.8%	57.3%	19.2%	1.3%	6.4%	0.5%	0.7%	4.3%	0.2%	0.6%	0.1%	0.3%	0.4%	7.9%	
AM Peak	11:00	10:00	11:00	08:00	09:00	06:00	10:00	11:00	10:00	10:00	09:00	08:00	11:00	10:00	
Vol.	8	254	94	10	28	2	5	31	2	7	1	2	2	53	
PM Peak	12:00	12:00	12:00	12:00	12:00	14:00	13:00	13:00	12:00	12:00	14:00	12:00	14:00	13:00	
Vol.	6	264	94	11	35	3	8	27	1	4	1	3	5	45	
Grand Total	67	3910	1222	78	397	24	36	282	9	38	4	16	20	524	6627
Percent	1.0%	59.0%	18.4%	1.2%	6.0%	0.4%	0.5%	4.3%	0.1%	0.6%	0.1%	0.2%	0.3%	7.9%	

Union St
Btw Front St and Grandview Parkway
Count#29

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9999	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	28	73	74	42	6	0	0	0	0	0	1	0	0	0	224	16-25	148
15:00	30	76	113	41	12	1	0	0	0	0	1	0	0	6	280	16-25	190
16:00	42	74	113	41	14	0	1	0	0	0	1	0	1	3	290	16-25	189
17:00	39	67	112	44	8	5	0	2	0	1	0	2	0	5	285	16-25	181
18:00	16	48	94	24	6	0	0	0	0	0	1	0	0	2	191	16-25	143
19:00	24	65	69	33	2	0	0	0	0	0	0	0	0	1	194	16-25	135
20:00	21	53	60	16	3	1	0	0	0	0	0	0	0	0	154	16-25	114
21:00	5	31	46	28	4	0	0	1	0	0	0	0	0	0	115	16-25	77
22:00	7	8	20	14	4	1	0	0	0	0	0	0	0	1	55	21-30	34
23:00	1	5	14	6	1	0	0	0	0	0	0	0	0	2	29	21-30	20
Total	213	500	715	289	60	8	1	3	0	1	4	2	1	20	1817		
Percent	11.7%	27.5%	39.4%	15.9%	3.3%	0.4%	0.1%	0.2%	0.0%	0.1%	0.2%	0.1%	0.1%	1.1%			
AM Peak Vol.																	
PM Peak Vol.	16:00	15:00	15:00	17:00	16:00	17:00	16:00	17:00		17:00	14:00	17:00	16:00	15:00	16:00		
	42	76	113	44	14	5	1	2		1	1	2	1	6	290		

Union St
Btw Front St and Grandview Parkway
Count#29

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	2	3	5	9	2	0	0	0	0	0	0	0	0	0	0	21	21-30	14
01:00	0	0	6	7	0	0	0	0	0	0	0	0	0	0	13	21-30	13	
02:00	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4	21-30	2	
03:00	1	0	2	1	0	0	0	0	0	0	0	0	0	0	4	21-30	3	
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	19-28	1	
05:00	3	3	5	2	0	0	0	0	0	0	0	0	0	0	13	16-25	8	
06:00	2	4	14	14	2	0	0	0	0	0	0	0	0	0	36	21-30	28	
07:00	5	19	59	32	4	1	0	0	0	0	0	0	0	3	123	21-30	91	
08:00	12	40	57	33	4	0	0	2	1	0	1	0	1	1	152	16-25	97	
09:00	24	78	86	20	1	0	0	0	0	0	0	0	1	3	213	16-25	165	
10:00	52	102	55	6	2	0	1	0	0	0	0	0	1	7	226	16-25	159	
11:00	32	107	80	22	2	2	0	1	0	0	0	0	1	7	254	16-25	189	
12 PM	27	102	87	30	6	0	0	1	1	0	0	1	0	4	259	16-25	190	
13:00	33	85	98	31	3	1	1	1	0	0	0	0	0	6	259	16-25	185	
14:00	31	72	78	36	5	0	0	0	0	0	0	0	0	3	225	16-25	151	
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	225	616	633	245	31	4	2	5	2	0	1	1	4	34	1803			
Percent	12.5%	34.2%	35.1%	13.6%	1.7%	0.2%	0.1%	0.3%	0.1%	0.0%	0.1%	0.1%	0.2%	1.9%				
AM Peak	10:00	11:00	09:00	08:00	07:00	11:00	10:00	08:00	08:00		08:00		08:00	10:00	11:00			
Vol.	52	107	86	33	4	2	1	2	1		1		1	7	254			
PM Peak	13:00	12:00	13:00	14:00	12:00	13:00	13:00	12:00	12:00			12:00		13:00	12:00			
Vol.	33	102	98	36	6	1	1	1	1			1		6	259			
Total	438	1116	1348	534	91	12	3	8	2	1	5	3	5	54	3620			
Percent	12.1%	30.8%	37.2%	14.8%	2.5%	0.3%	0.1%	0.2%	0.1%	0.0%	0.1%	0.1%	0.1%	1.5%				

15th Percentile : 15 MPH
50th Percentile : 20 MPH
85th Percentile : 26 MPH
95th Percentile : 29 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 2483
Percent in Pace : 68.6%
Number of Vehicles > 25 MPH : 718
Percent of Vehicles > 25 MPH : 19.8%
Mean Speed(Average) : 21 MPH

Union St
Btw Front St and Grandview Parkway
Count#29

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	40	88	47	4	1	0	1	0	0	1	0	1	0	2	185	16-25	137
15:00	33	77	55	5	0	1	0	1	1	0	0	0	0	9	182	16-25	134
16:00	26	94	70	8	1	1	2	0	1	0	1	0	0	8	212	16-25	165
17:00	40	90	56	9	0	2	2	2	1	0	0	0	1	4	207	16-25	148
18:00	22	68	38	9	1	0	0	0	0	0	0	0	0	1	139	16-25	107
19:00	24	66	29	3	0	0	0	0	0	0	0	0	0	1	123	16-25	96
20:00	30	62	17	1	0	0	0	0	0	0	0	1	0	5	116	16-25	80
21:00	7	45	17	1	0	0	0	0	0	0	0	0	0	0	70	16-25	62
22:00	9	23	9	1	1	0	0	0	0	0	0	0	0	2	45	16-25	32
23:00	0	15	11	2	0	0	0	0	0	0	0	0	0	0	28	16-25	26
Total	231	628	349	43	4	4	5	3	3	1	1	2	1	32	1307		
Percent	17.7%	48.0%	26.7%	3.3%	0.3%	0.3%	0.4%	0.2%	0.2%	0.1%	0.1%	0.2%	0.1%	2.4%			
AM Peak Vol.																	
PM Peak Vol.	14:00	16:00	16:00	17:00	14:00	17:00	16:00	17:00	15:00	14:00	16:00	14:00	17:00	15:00	16:00		
	40	94	70	9	1	2	2	2	1	1	1	1	1	9	212		

Union St
Btw Front St and Grandview Parkway
Count#29

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	7	8	1	0	0	0	0	0	0	0	0	0	0	1	19	16-25	15
01:00	3	6	1	0	0	0	0	0	0	0	0	0	0	0	10	16-25	7	
02:00	1	2	3	0	0	0	0	0	0	0	1	0	0	2	9	16-25	5	
03:00	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3	10-19	2	
04:00	1	2	2	1	0	0	0	0	0	0	0	0	0	0	6	16-25	4	
05:00	2	9	7	1	0	0	0	0	0	0	0	0	0	0	19	16-25	16	
06:00	7	19	29	7	1	0	0	0	0	0	0	0	0	0	63	16-25	48	
07:00	17	57	69	21	1	0	0	1	0	0	0	0	1	1	168	16-25	127	
08:00	35	118	67	5	2	0	2	2	1	0	1	0	0	1	234	16-25	187	
09:00	42	70	52	11	1	0	0	0	0	0	0	0	0	3	179	16-25	124	
10:00	76	92	45	3	1	0	0	0	0	0	0	1	0	8	226	16-25	140	
11:00	57	79	40	5	2	1	0	0	0	0	0	3	0	4	191	16-25	121	
12 PM	54	88	55	6	0	0	3	1	0	0	1	1	1	5	215	16-25	145	
13:00	31	81	60	8	0	1	1	0	0	0	0	0	1	5	188	16-25	143	
14:00	48	65	46	4	0	1	1	1	1	1	0	0	0	2	170	16-25	113	
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	376	697	484	74	8	3	7	5	2	1	3	5	3	32	1700			
Percent	22.1%	41.0%	28.5%	4.4%	0.5%	0.2%	0.4%	0.3%	0.1%	0.1%	0.2%	0.3%	0.2%	1.9%				
AM Peak	10:00	08:00	07:00	07:00	08:00	11:00	08:00	08:00	08:00	08:00	02:00	11:00	07:00	10:00	08:00			
Vol.	76	118	69	21	2	1	2	2	1		1	3	1	8	234			
PM Peak	12:00	12:00	13:00	13:00		13:00	12:00	12:00	14:00	14:00	12:00	12:00	12:00	12:00	12:00			
Vol.	54	88	60	8		1	3	1	1	1	1	1	1	5	215			
Total	607	1325	833	117	12	7	12	8	5	2	4	7	4	64	3007			
Percent	20.2%	44.1%	27.7%	3.9%	0.4%	0.2%	0.4%	0.3%	0.2%	0.1%	0.1%	0.2%	0.1%	2.1%				

15th Percentile : 11 MPH
50th Percentile : 18 MPH
85th Percentile : 23 MPH
95th Percentile : 26 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 2186
Percent in Pace : 72.7%
Number of Vehicles > 25 MPH : 242
Percent of Vehicles > 25 MPH : 8.0%
Mean Speed(Average) : 19 MPH

Union St
Btw Front St and Grandview Parkway
Count#29

Site Code: 000000000000

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9999	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	68	161	121	46	7	0	1	0	0	1	1	1	0	2	409	16-25	285
15:00	63	153	168	46	12	2	0	1	1	0	1	0	0	15	462	16-25	324
16:00	68	168	183	49	15	1	3	0	1	0	2	0	1	11	502	16-25	354
17:00	79	157	168	53	8	7	2	4	1	1	0	2	1	9	492	16-25	328
18:00	38	116	132	33	7	0	0	0	0	0	1	0	0	3	330	16-25	250
19:00	48	131	98	36	2	0	0	0	0	0	0	0	0	2	317	16-25	231
20:00	51	115	77	17	3	1	0	0	0	0	0	1	0	5	270	16-25	194
21:00	12	76	63	29	4	0	0	1	0	0	0	0	0	0	185	16-25	140
22:00	16	31	29	15	5	1	0	0	0	0	0	0	0	3	100	16-25	61
23:00	1	20	25	8	1	0	0	0	0	0	0	0	0	2	57	16-25	45
Total	444	1128	1064	332	64	12	6	6	3	2	5	4	2	52	3124		
Percent	14.2%	36.1%	34.1%	10.6%	2.0%	0.4%	0.2%	0.2%	0.1%	0.1%	0.2%	0.1%	0.1%	1.7%			
AM Peak Vol.																	
PM Peak Vol.	17:00	16:00	16:00	17:00	16:00	17:00	16:00	17:00	15:00	14:00	16:00	17:00	16:00	15:00	16:00		
	79	168	183	53	15	7	3	4	1	1	2	2	1	15	502		

Union St
Btw Front St and Grandview Parkway
Count#29

Site Code: 000000000000

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	4	10	13	10	2	0	0	0	0	0	0	0	0	0	1	40	21-30	23
01:00	3	6	7	7	0	0	0	0	0	0	0	0	0	0	0	23	21-30	14
02:00	2	3	4	1	0	0	0	0	0	0	1	0	0	0	2	13	16-25	7
03:00	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	7	21-30	4
04:00	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	7	21-30	4
05:00	5	12	12	3	0	0	0	0	0	0	0	0	0	0	0	32	16-25	24
06:00	9	23	43	21	3	0	0	0	0	0	0	0	0	0	0	99	16-25	66
07:00	22	76	128	53	5	1	0	1	0	0	0	0	1	4	291	16-25	205	
08:00	47	158	124	38	6	0	2	4	2	0	2	0	1	2	386	16-25	284	
09:00	66	148	138	31	2	0	0	0	0	0	0	0	1	6	392	16-25	289	
10:00	128	194	100	9	3	0	1	0	0	0	0	1	1	15	452	16-25	299	
11:00	89	186	120	27	4	3	0	1	0	0	0	3	1	11	445	16-25	310	
12 PM	81	190	142	36	6	0	3	2	1	0	1	2	1	9	474	16-25	336	
13:00	64	166	158	39	3	2	2	1	0	0	0	0	1	11	447	16-25	327	
14:00	79	137	124	40	5	1	1	1	1	1	0	0	0	5	395	16-25	264	
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	601	1313	1117	319	39	7	9	10	4	1	4	6	7	66	3503			
Percent	17.2%	37.5%	31.9%	9.1%	1.1%	0.2%	0.3%	0.3%	0.1%	0.0%	0.1%	0.2%	0.2%	1.9%				
AM Peak	10:00	10:00	09:00	07:00	08:00	11:00	08:00	08:00	08:00	08:00	08:00	11:00	07:00	10:00	10:00			
Vol.	128	194	138	53	6	3	2	4	2		2	3	1	15	452			
PM Peak	12:00	12:00	13:00	14:00	12:00	13:00	12:00	12:00	12:00	14:00	12:00	12:00	12:00	13:00	12:00			
Vol.	81	190	158	40	6	2	3	2	1	1	1	2	1	11	474			
Total	1045	2441	2181	651	103	19	15	16	7	3	9	10	9	118	6627			
Percent	15.8%	36.8%	32.9%	9.8%	1.6%	0.3%	0.2%	0.2%	0.1%	0.0%	0.1%	0.2%	0.1%	1.8%				

15th Percentile : 14 MPH
 50th Percentile : 19 MPH
 85th Percentile : 24 MPH
 95th Percentile : 28 MPH

Stats
 10 MPH Pace Speed : 16-25 MPH
 Number in Pace : 4669
 Percent in Pace : 70.5%
 Number of Vehicles > 25 MPH : 960
 Percent of Vehicles > 25 MPH : 14.5%
 Mean Speed(Average) : 20 MPH

Union St
Btw Front St and Grandview Parkway
Count#29

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	*	*	40	*	*	40	*	*
01:00	*	*	23	*	*	23	*	*
02:00	*	*	13	*	*	13	*	*
03:00	*	*	7	*	*	7	*	*
04:00	*	*	7	*	*	7	*	*
05:00	*	*	32	*	*	32	*	*
06:00	*	*	99	*	*	99	*	*
07:00	*	*	291	*	*	291	*	*
08:00	*	*	386	*	*	386	*	*
09:00	*	*	392	*	*	392	*	*
10:00	*	*	452	*	*	452	*	*
11:00	*	*	445	*	*	445	*	*
12:00 PM	*	*	474	*	*	474	*	*
01:00	*	*	447	*	*	447	*	*
02:00	*	409	395	*	*	402	*	*
03:00	*	462	*	*	*	462	*	*
04:00	*	502	*	*	*	502	*	*
05:00	*	492	*	*	*	492	*	*
06:00	*	330	*	*	*	330	*	*
07:00	*	317	*	*	*	317	*	*
08:00	*	270	*	*	*	270	*	*
09:00	*	185	*	*	*	185	*	*
10:00	*	100	*	*	*	100	*	*
11:00	*	57	*	*	*	57	*	*
Total	0	3124	3503	0	0		0	0
Percentage	0.0%	50.2%	56.3%	0.0%	0.0%		0.0%	0.0%
AM Peak	-	-	10:00	-	-	-	-	-
Vol.	-	-	452	-	-	-	-	-
PM Peak	-	16:00	12:00	-	-	-	-	-
Vol.	-	502	474	-	-	-	-	-
Total		3124	3503					