DATA COLLECTION REPORT

PREPARED FOR

OPEN STREETS CORVALLIS

PREPARED BY

ite@OSU

Dear Open Streets Corvallis Team,

The Oregon State University (OSU) Institute of Transportation Engineers (ITE) Student Chapter is pleased to present the Spot Speed Study and Turning Movement Counts (TMC) study conducted for the 2023 Open Streets Corvallis Demonstration Project at SW 11th St & SW Washington Ave.

Our volunteering team collected “Before” (Monday, Aug 7) and “After” (Monday, Aug 21) data for both the AM Period (7 AM – 9 AM) and PM Period (12 PM – 2 PM).

Attached is a summary of our data and results from the study. All spreadsheets used during data collection are included in the appendix.

If you have any questions or concerns, please feel free to contact us at osuitestudents@gmail.com.

Sincerely,

OSU ITE Student Chapter

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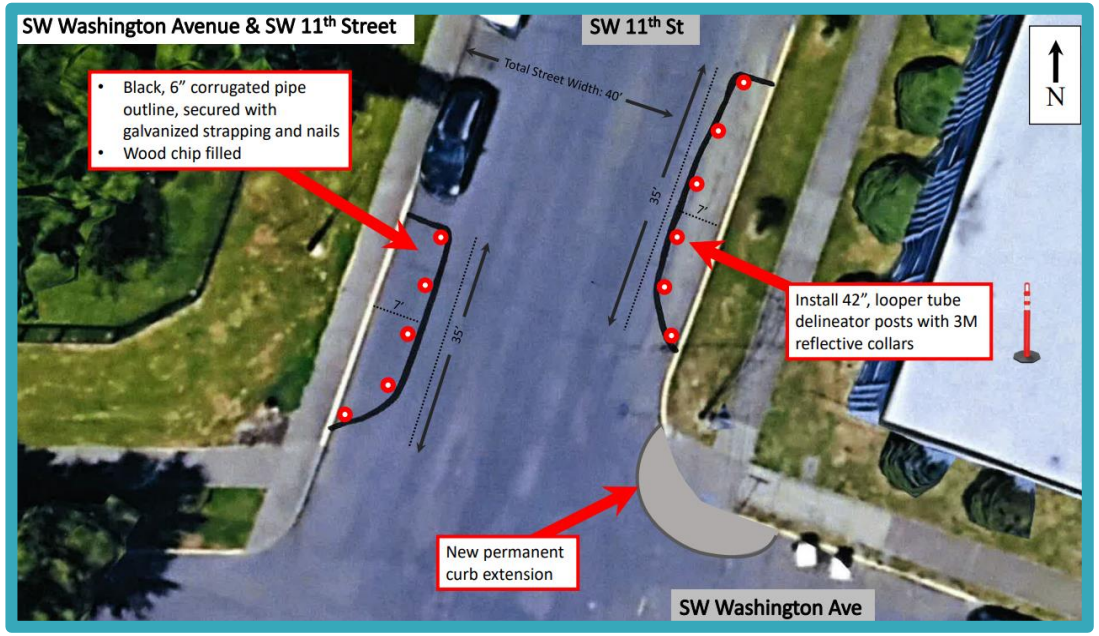
PROJECT BACKGROUND

Temporary curb extensions were installed on the northwest and northeast faces of 11th street from August 18th through September 1st for the 2023 Open Streets Corvallis Demonstration Project.



This was a great opportunity for the OSU ITE Student Chapter to perform a before and after study of the traffic speeds, volumes, and turning movements at this intersection, with and without the curb extensions.


NEIGHBORHOOD BIKEWAY
DEMONSTRATION
AUGUST 18 - SEPTEMBER 1
From August 18 to September 1, Open Streets Corvallis will demonstrate features of a Neighborhood Bikeway along 11th Street.
WHAT IS A NEIGHBORHOOD BIKEWAY?
Neighborhood Bikeways are low volume, local streets that are comfortable for bicyclists of all ages and abilities. The Neighborhood Bikeway design standards outline improvements that would slow vehicles down and encourage new cyclists. 11th Street is a future Neighborhood Bikeway and the treatments you experience along the route are a snapshot of what could exist on a Neighborhood Bikeway corridor.
WHAT YOU'LL SEE:
1 A curb extension increases pedestrian visibility to drivers and promotes slower, safer vehicle turning movements. It also shortens the travel distance and provides a waiting space for pedestrians.
2 Sharrows indicate to people on bikes that they are welcome and alerts motorists that a higher volume of cyclists may be present.
3 Future site of a speed hump. The demonstration will show chevron markings to represent a speed hump.
COMMENTS ABOUT THE DEMONSTRATION?
Contact Josh Capps, City of Corvallis Active Transportation Program Specialist, at: josh.capps@corvallisoregon.gov.
More information on Neighborhood Bikeways is available by using the search function at corvallisoregon.gov.
OPEN STREETS CORVALLIS
CORVALLIS


THIS IS A SHARROW
THIS IS A CURB EXTENSION


THIS IS A SHARROW

2

PROJECT TEAM

STUDENT VOLUNTEERS

Elsa Moreno Rangel

Shoroq Alabdali

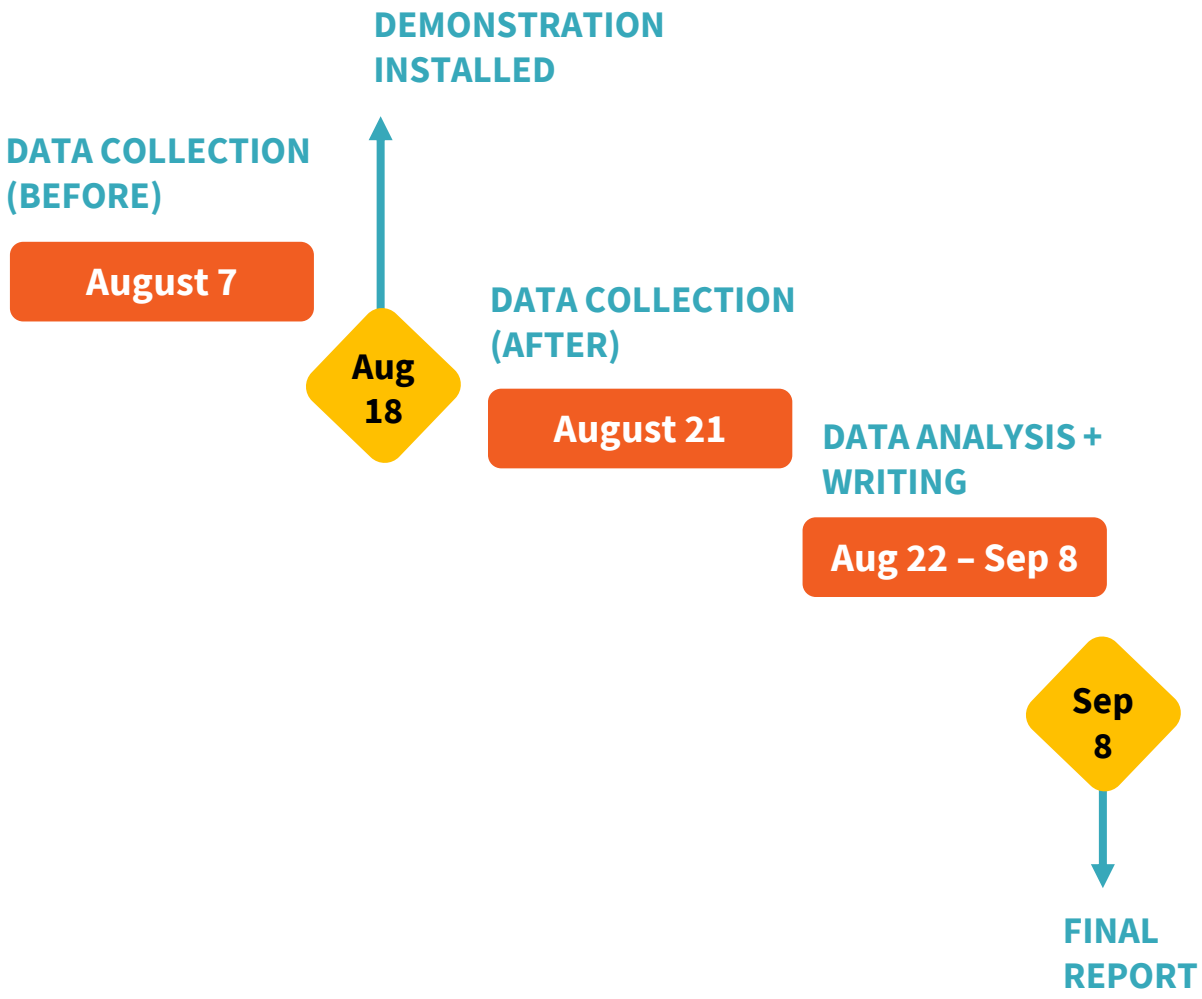
Sarah Carr

Amy Wyman

3

PROJECT TIMELINE

AUGUST 7 – SEPTEMBER 8, 2023



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METHODOLOGY

#1 - Spot Speed Study

For the spot speed study, we collected speeds from passenger cars, bicycles, heavy vehicles, and buses along 11th Street for both the AM Period and the PM Period using the spreadsheet attached in Appendix A.

#2 – Turning Movement Counts (TMC) Study

For the TMC study, we collected turning movements from passenger cars, heavy vehicles, buses, bicycles, and pedestrians in all four approaches of the intersection (11th St & Washington Ave) using the spreadsheet attached in Appendix B.

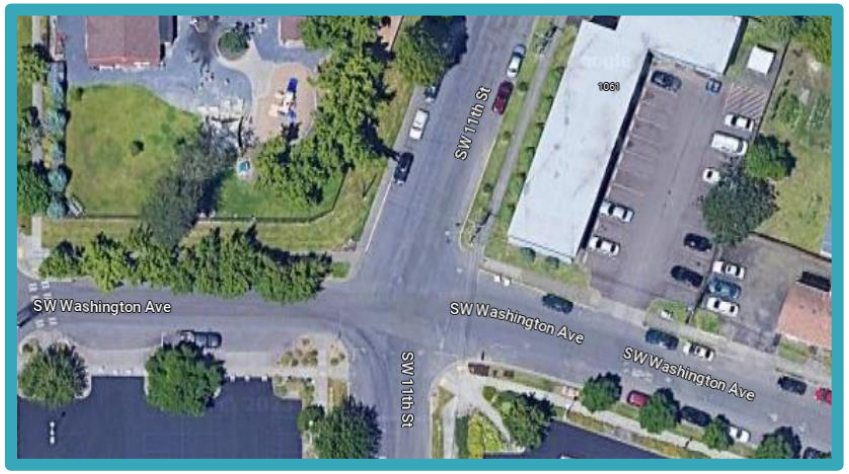

Figure 1 – Study Site

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RESULTS

5.1

SPOT SPEED STUDY

SPOT SPEED STUDY – DATA COLLECTION SETUP

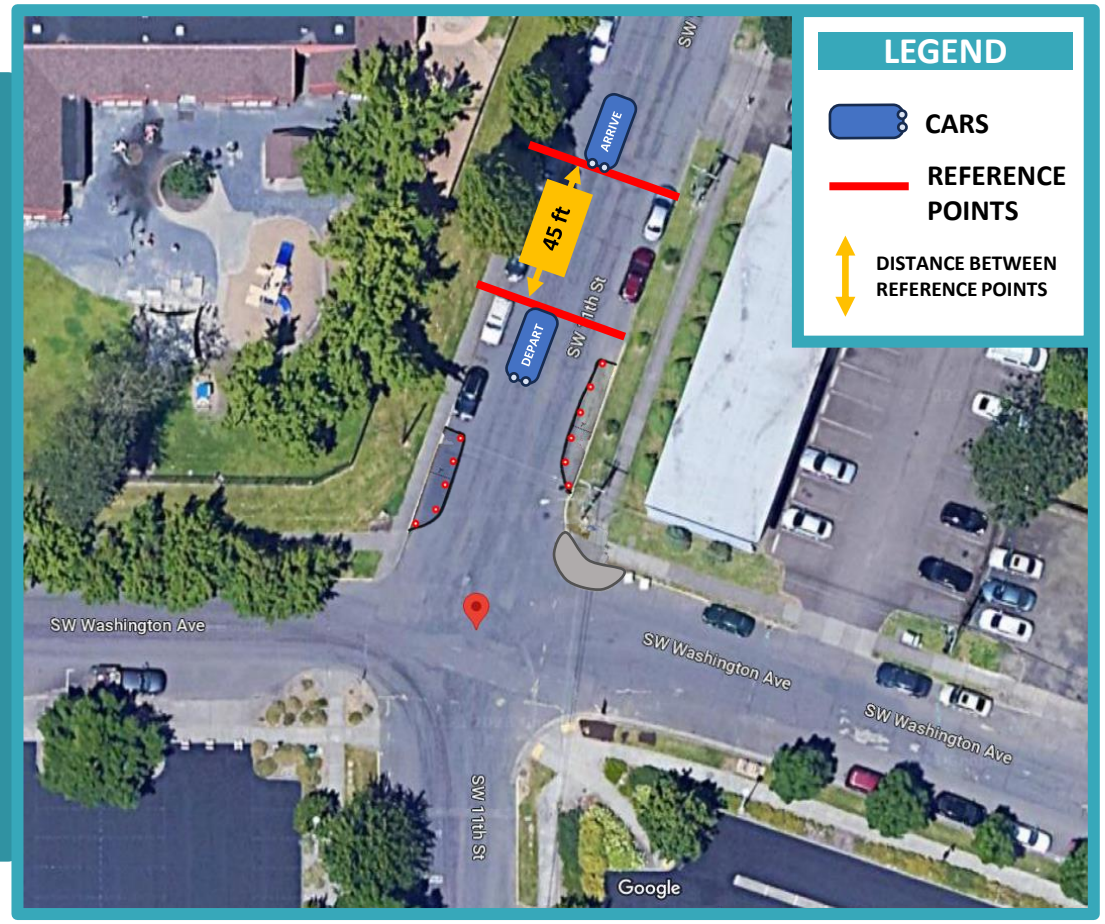


FIGURE 2 - ALONG (11TH STREET)

To record the speed of each vehicle, we measured the distance between the reference points shown in Figure 2 and typed this value on the "distance" column of the spreadsheet shown in Appendix A.

We decided not to use a speed gun during data collection to avoid influencing user behavior. Instead, we timed each user from the moment the front of their vehicle arrived at the first reference point until the back of the vehicle departed from the second reference point using a stopwatch.

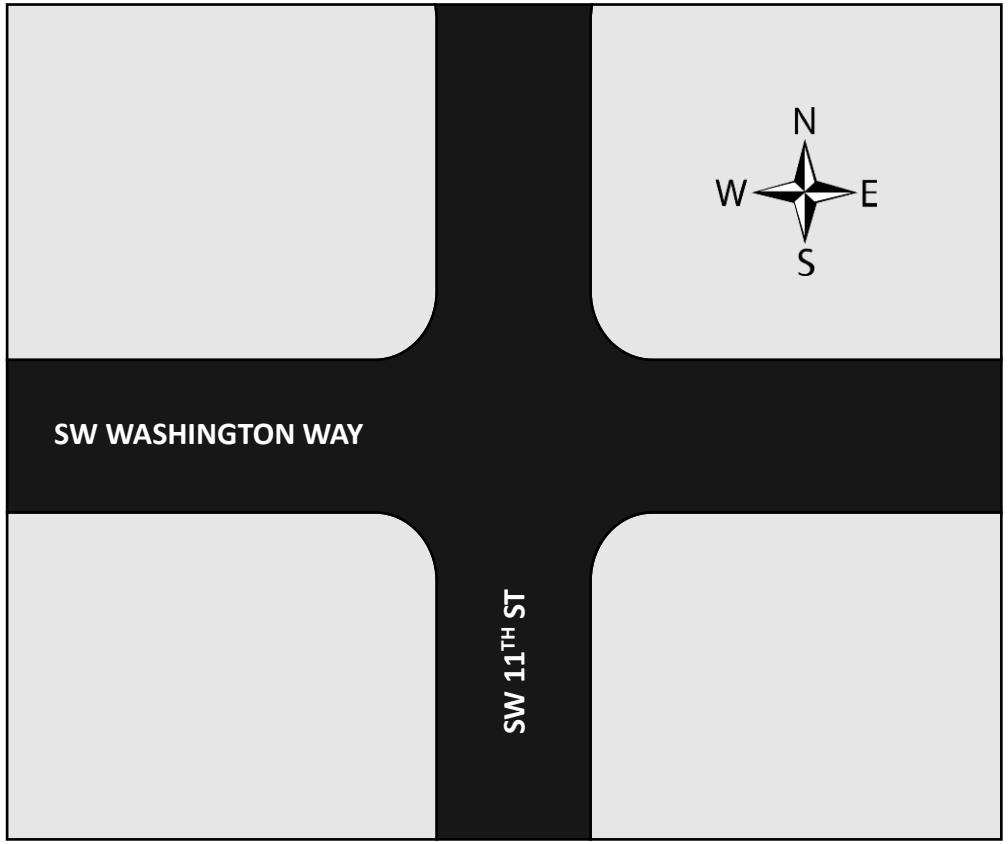
We obtained our field results in seconds, which we then converted into speed in "MPH" by using the following formula:

Speed = distance travelled / time elapsed

Limitations: For (PM period): Before & After data was collected by 2 different volunteers. It is likely that the method used by one volunteer was a bit different than the other. For example, one volunteer could have recorded the arrival or departure time too soon or too late, which resulted in our average speed being slower or faster than what was really happening in the field. Therefore, speed results for the **Before & After PM Period** may not reflect actual field conditions, and thus accurate comparison of Before & After speed data for the (PM period) cannot be made.

However, both the Before & After speed data for the AM period was collected by the same volunteer, and therefore, a more reliable comparison can be made for the **Before & After speed data from the AM period**.

SPOT SPEED STUDY – PASSENGER CARS



BEFORE

AM PERIOD

OBSERVATIONS		AVERAGE SPEED
81	FROM NORTH	23.3 MPH
98	FROM SOUTH	23.2 MPH

PM PERIOD

OBSERVATIONS		AVERAGE SPEED
118	FROM NORTH	22.5 MPH
117	FROM SOUTH	18.1 MPH

AFTER

AM PERIOD

OBSERVATIONS		AVERAGE SPEED
87	FROM NORTH	22.6 MPH
94	FROM SOUTH	21.5 MPH

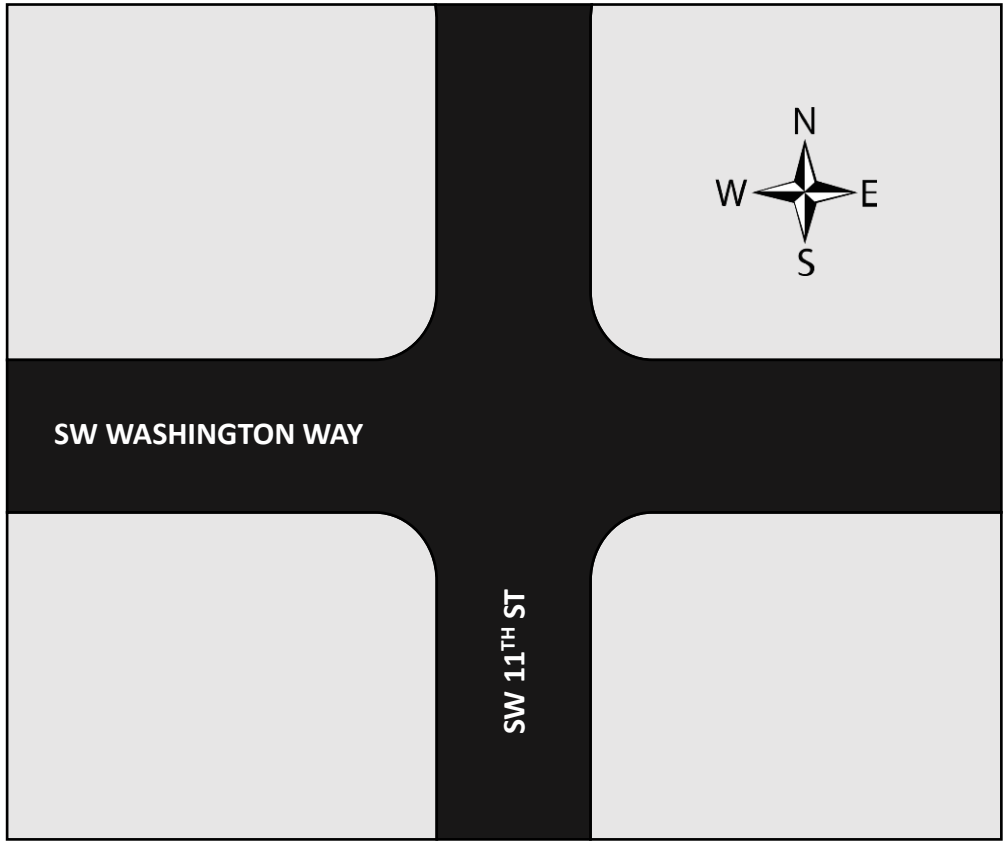
PM PERIOD

OBSERVATIONS		AVERAGE SPEED
134	FROM NORTH	23.7 MPH
102	FROM SOUTH	21.5 MPH

OBSERVATIONS FOR (AM PERIOD): SPEED DECREASED BY APROXIMATELY 1 MPH.

LIMITATIONS FOR (PM PERIOD): BEFORE & AFTER DATA WAS COLLECTED BY 2 DIFFERENT VOLUNTEERS; THEREFORE, RESULTS MAY NOT REFLECT ACTUAL FIELD CONDITIONS, AND THUS ACCURATE COMPARISON OF BEFORE & AFTER SPEED DATA FOR THE (PM PERIOD) CANNOT BE MADE.

SPOT SPEED STUDY – BICYCLES



BEFORE

AM PERIOD

2 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	21.7 MPH
5 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	22.4 MPH

PM PERIOD

6 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	16.7 MPH
4 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	8.1 MPH

AFTER

AM PERIOD

4 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	13.0 MPH
1 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	12.0 MPH

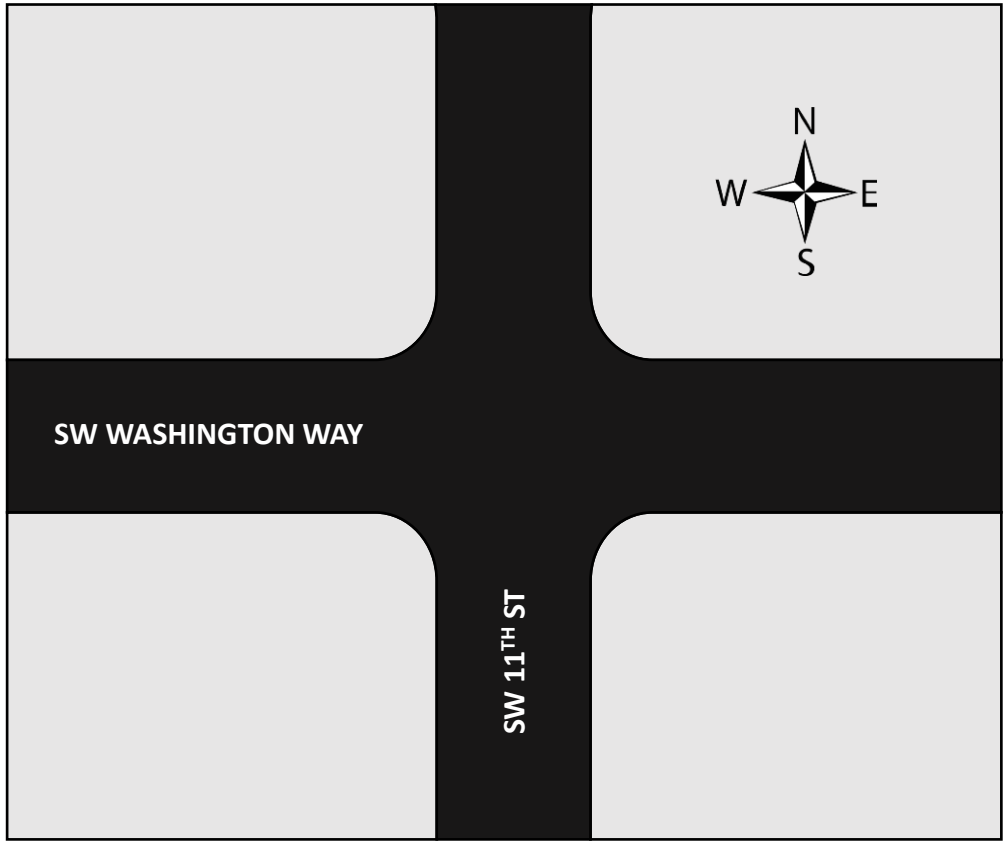
PM PERIOD

2 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	22.2 MPH
1 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	17.0 MPH

OBSERVATIONS FOR (AM PERIOD): SPEED DECREASED. HOWEVER, BECAUSE THERE WAS VERY LITTLE BICYCLE OBSERVATIONS IN GENERAL, SPEED DATA OBTAINED MAY NOT ACCURATELY REPRESENT THE AVERAGE SPEED OF ALL BICYCLE USERS.

LIMITATIONS FOR (PM PERIOD): BEFORE & AFTER DATA WAS COLLECTED BY 2 DIFFERENT VOLUNTEERS; THEREFORE, RESULTS MAY NOT REFLECT ACTUAL FIELD CONDITIONS, AND THUS ACCURATE COMPARISON OF BEFORE & AFTER SPEED DATA FOR THE (PM PERIOD) CANNOT BE MADE.

SPOT SPEED STUDY – HEAVY VEHICLES



BEFORE

AM PERIOD

1 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	7.9 MPH
1 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	14.2 MPH

PM PERIOD

0 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	N/A
1 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	4.6 MPH

AFTER

AM PERIOD

1 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	7.9 MPH
0 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	N/A

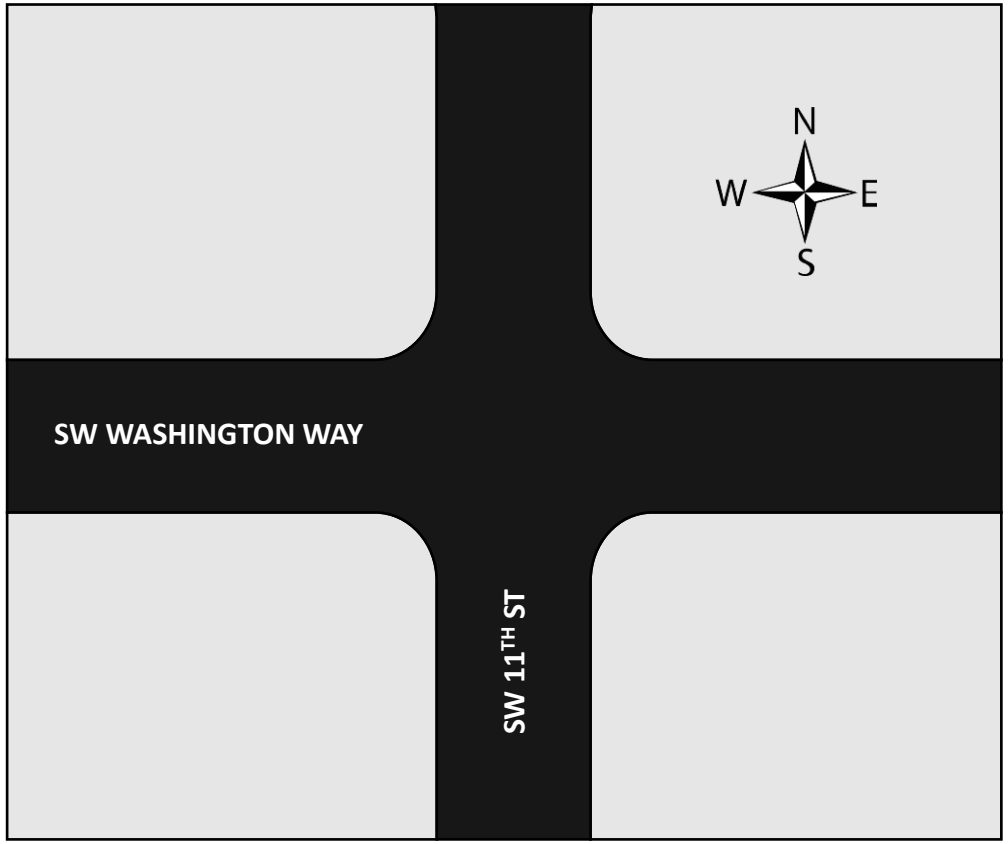
PM PERIOD

1 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	16.1 MPH
0 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	N/A

OBSERVATIONS BECAUSE THERE WAS VERY LITTLE HEAVY VEHICLE OBSERVATIONS IN GENERAL, SPEED DATA OBTAINED MAY NOT ACCURATELY REPRESENT THE AVERAGE SPEED OF ALL HEAVY VEHICLES.

LIMITATIONS FOR (PM PERIOD): BEFORE & AFTER DATA WAS COLLECTED BY 2 DIFFERENT VOLUNTEERS; THEREFORE, RESULTS MAY NOT REFLECT ACTUAL FIELD CONDITIONS, AND THUS ACCURATE COMPARISON OF BEFORE & AFTER SPEED DATA FOR THE (PM PERIOD) CANNOT BE MADE.

SPOT SPEED STUDY – BUS



BEFORE

AM PERIOD

0 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	N/A
0 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	N/A

PM PERIOD

0 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	N/A
0 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	N/A

AFTER

AM PERIOD

0 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	N/A
0 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	N/A

PM PERIOD

0 OBSERVATIONS	AVERAGE SPEED
FROM NORTH	N/A
0 OBSERVATIONS	AVERAGE SPEED
FROM SOUTH	N/A

OBSERVATIONS	**NO BUSES WERE RECORDED IN THE OBSERVATIONS.**
LIMITATIONS	**NO BUSES WERE RECORDED IN THE OBSERVATIONS.**

5.2

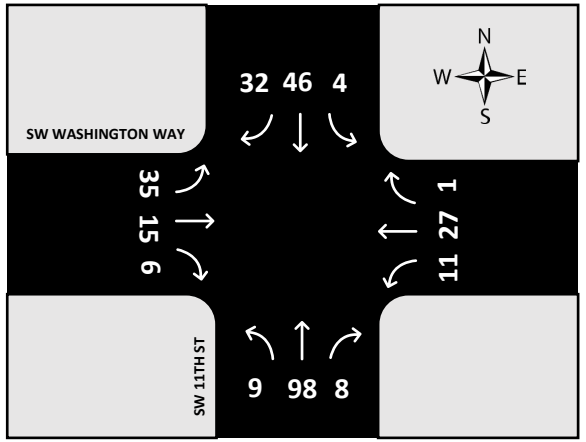
TURNING MOVEMENT COUNTS (TMC) STUDY

TMC STUDY – PASENGER CARS

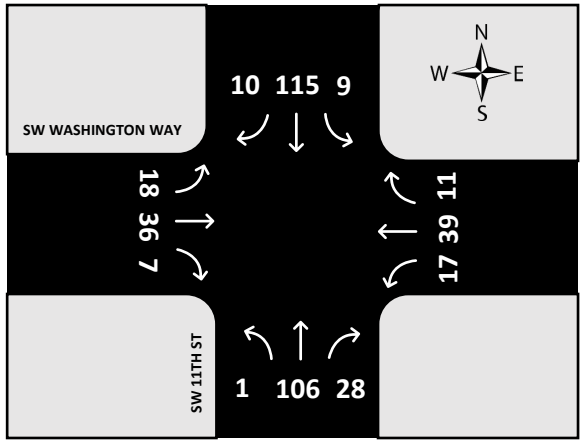
NUMBERS REPRESENT THE SUM OF TURNING MOVEMENTS IN THE FULL 2 HOURS OF EACH AM & PM PERIOD.

BEFORE

AM PERIOD | 7 AM–9 AM

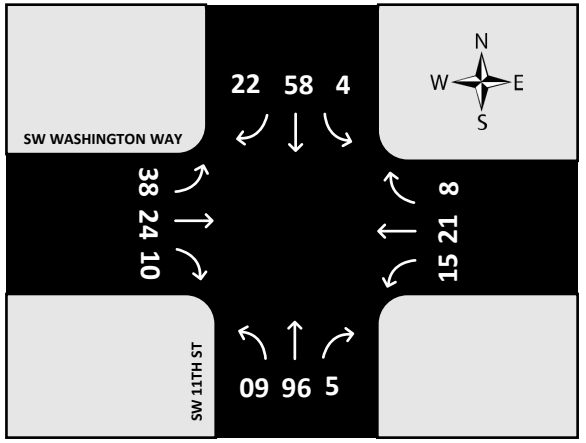


PM PERIOD | 12 PM–2 PM

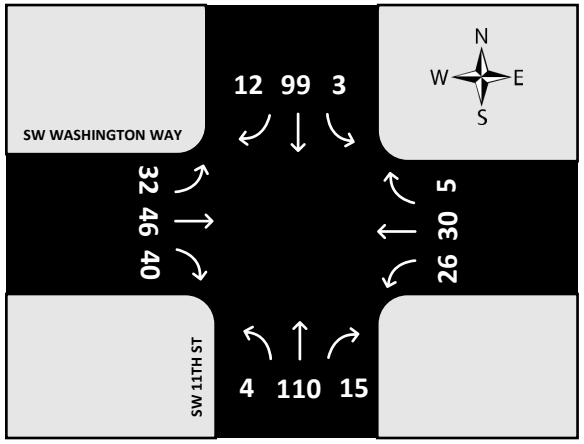


AFTER

AM PERIOD | 7 AM–9 AM



PM PERIOD | 12 PM–2 PM

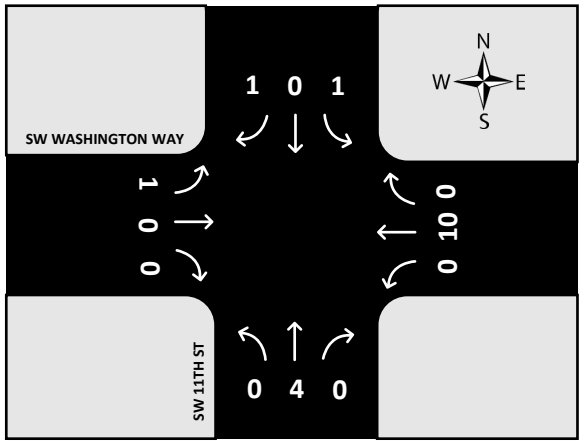


TMC STUDY – BICYCLES

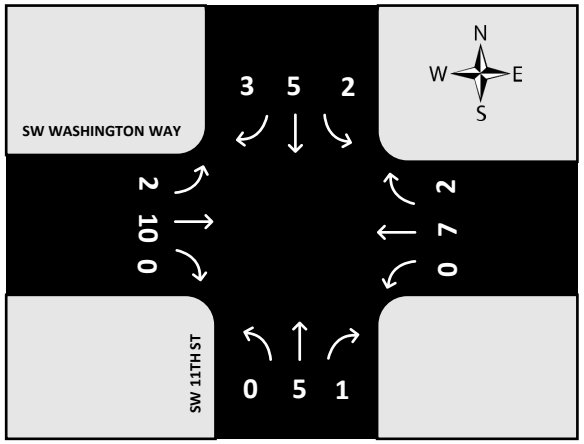
NUMBERS REPRESENT THE SUM OF TURNING MOVEMENTS IN THE FULL 2 HOURS OF EACH AM & PM PERIOD.

BEFORE

AM PERIOD | 7 AM–9 AM

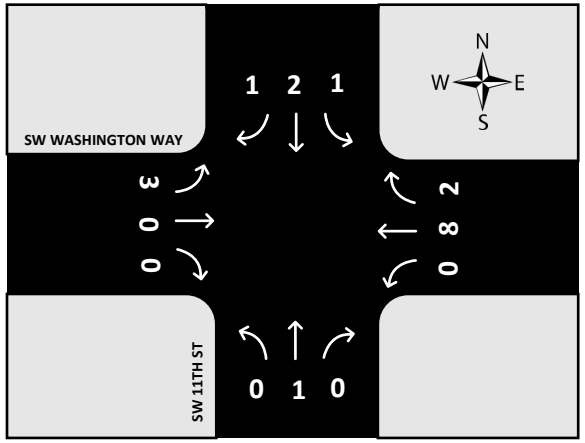


PM PERIOD | 12 PM–2 PM

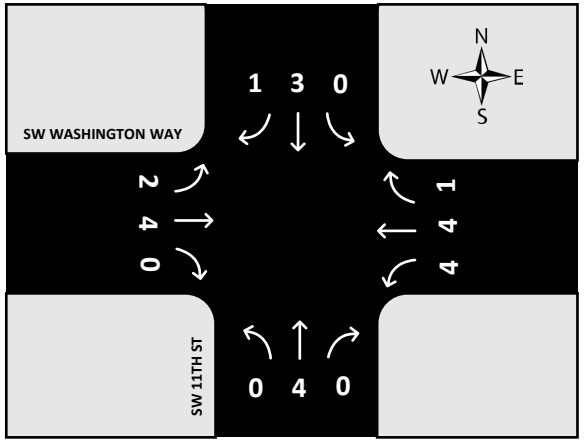


AFTER

AM PERIOD | 7 AM–9 AM



PM PERIOD | 12 PM–2 PM

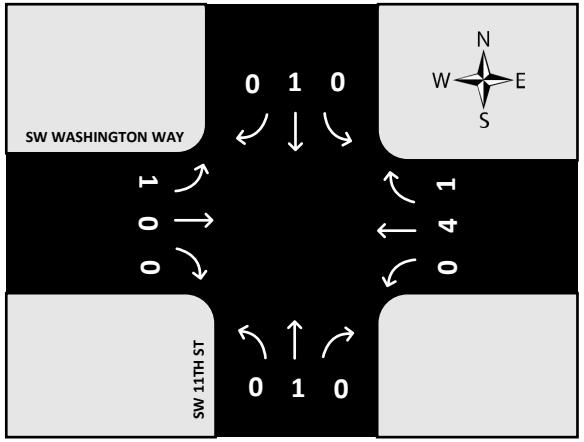


TMC STUDY – HEAVY VEHICLES

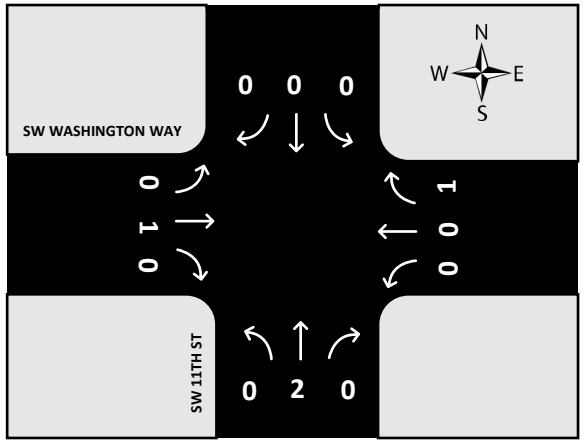
NUMBERS REPRESENT THE SUM OF TURNING MOVEMENTS IN THE FULL 2 HOURS OF EACH AM & PM PERIOD.

BEFORE

AM PERIOD | 7 AM–9 AM

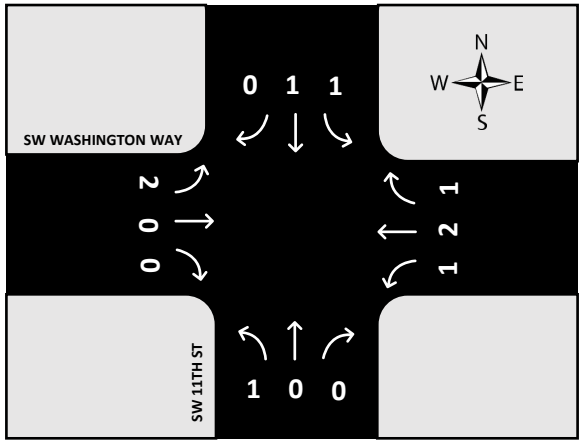


PM PERIOD | 12 PM–2 PM

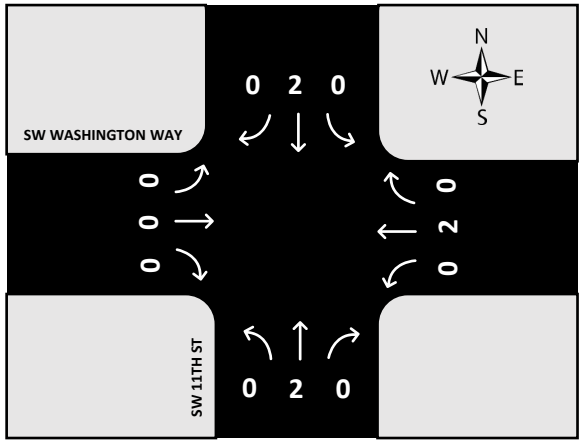


AFTER

AM PERIOD | 7 AM–9 AM



PM PERIOD | 12 PM–2 PM

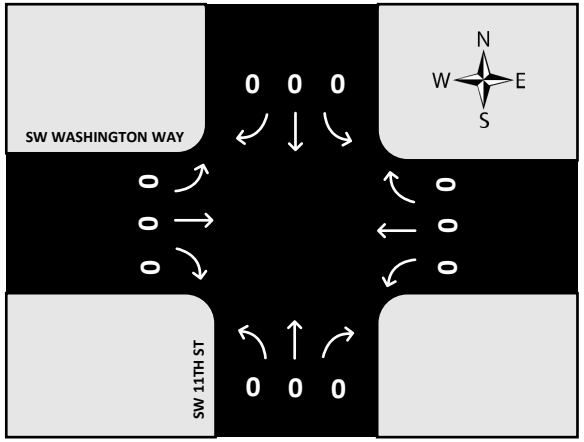


TMC STUDY – BUS

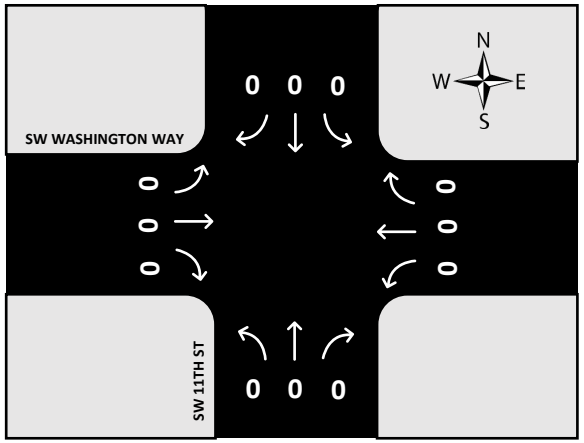
NUMBERS REPRESENT THE SUM OF TURNING MOVEMENTS IN THE FULL 2 HOURS OF EACH AM & PM PERIOD.

BEFORE

AM PERIOD | 7 AM–9 AM

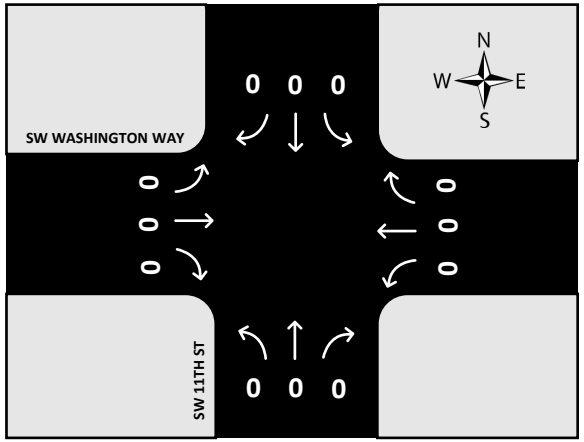


PM PERIOD | 12 PM–2 PM

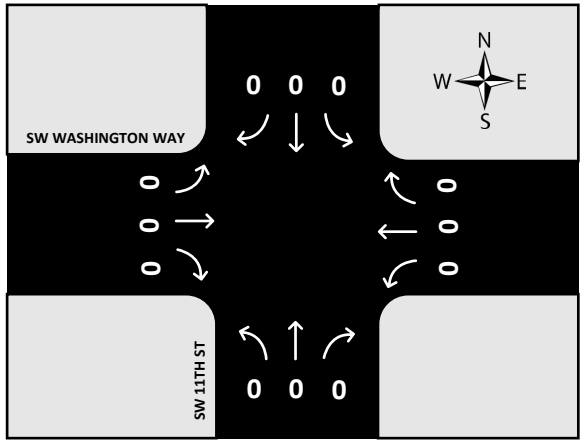


AFTER

AM PERIOD | 7 AM–9 AM



PM PERIOD | 12 PM–2 PM

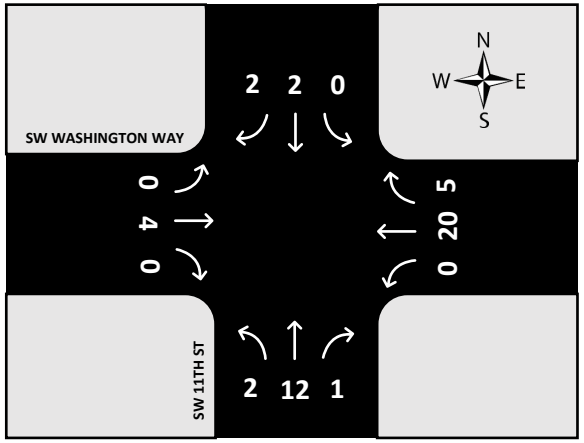


TMC STUDY – PEDESTRIANS

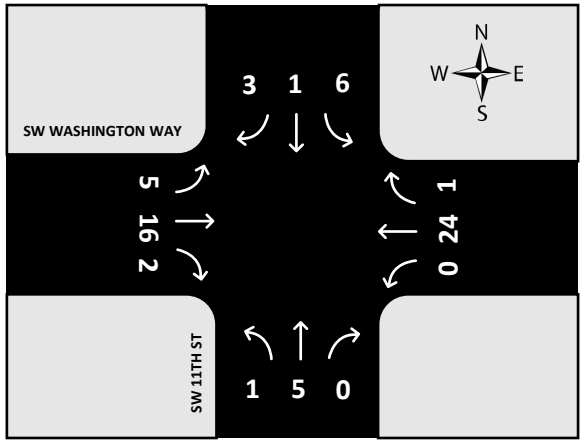
NUMBERS REPRESENT THE SUM OF TURNING MOVEMENTS IN THE FULL 2 HOURS OF EACH AM & PM PERIOD.

BEFORE

AM PERIOD | 7 AM–9 AM

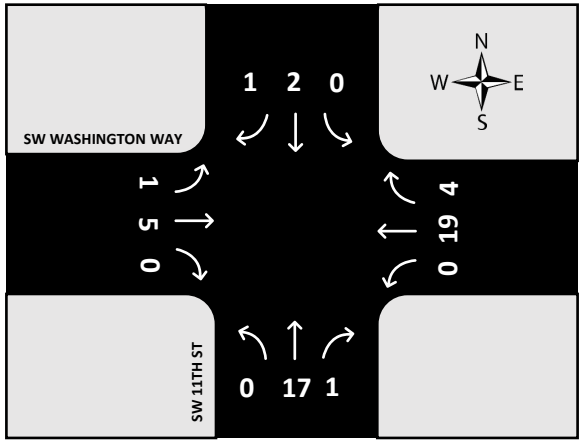


PM PERIOD | 12 PM–2 PM

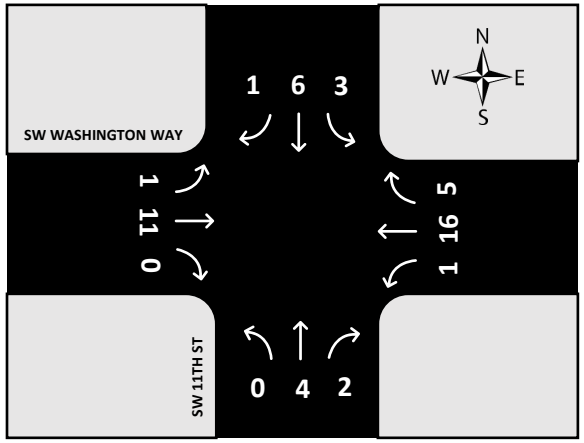


AFTER

AM PERIOD | 7 AM–9 AM



PM PERIOD | 12 PM–2 PM



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CONCLUSION

This report shows the results obtained from the Spot Speed Study and Turning Movement Counts (TMC) study conducted for the 2023 Open Streets Corvallis Demonstration Project at SW 11th St & SW Washington Ave.

This data contains information regarding the speeds and volumes experienced at the intersection before and after the demonstration was installed.

Attached in the appendix are the spreadsheets containing the data collected. Appendix A shows the data from the Spot Speed Study and Appendix B shows the data from the Turning Movement Counts (TMC) study.

Limitations of the data: Passenger cars were the most common vehicle type in the study, and therefore, it is easier to compare before & after data more accurately than other vehicle types with fewer observations. Additionally, the AM speed data for both the before and after periods was collected by the same volunteer. However, because two different volunteers collected the PM speed data (one person the “Before” and the second person the “After”, it is likely that the methods used by one volunteer were a little different than the other, and therefore, the before and after speed data is a bit far from each other. For the PM period, it looks like the speed increased, instead of decreasing as seen in the AM period, and we think this may be caused by human error rather than a result from the curb extension.

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ACKNOWLEDGEMENTS

The OSU ITE Student Chapter would like to thank our faculty advisor and mentor, Dr. David Hurwitz, for providing us with technical guidance for data collection procedures and overall project success.

We would also like to thank OSU Transportation Services and the City of Corvallis for inviting our student chapter to volunteer with data collection at this year's Open Streets Corvallis Demonstration Project and for providing our students with this wonderful technical experience opportunity.

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APENDICES

APENDIX A

SPOT SPEED STUDY

"BEFORE"
(AM & PM PERIODS)

BEFORE (AM & PM PERIODS) FROM NORTH

SPOT SPEED STUDY | BEFORE - AM PERIOD (7-9 AM) | FROM NORTH					
Observation number	Distance between reference points (obtain from field)	Date	Time that it took the vehicle to pass along the reference points.	Speed obtained from v = d/t	Passenger car, heavy vehicle, bus, ped, bike
#	DISTANCE (ft)	DATE	TRAVEL TIME (seconds)	SPEED (mph)	VEHICLE TYPE
1	45	8/7/2023	3.86	7.9	Heavy Vehicle
2	45	8/7/2023	1.01	30.4	Passenger Car
3	45	8/7/2023	1.60	19.2	Passenger Car
4	45	8/7/2023	1.15	26.7	Passenger Car
5	45	8/7/2023	1.25	24.5	Passenger Car
6	45	8/7/2023	1.38	22.2	Passenger Car
7	45	8/7/2023	1.15	26.7	Passenger Car
8	45	8/7/2023	1.10	27.9	Passenger Car
9	45	8/7/2023	4.40	7.0	Passenger Car
10	45	8/7/2023	1.83	16.8	Bike
11	45	8/7/2023	1.60	19.2	Passenger Car
12	45	8/7/2023	1.50	20.4	Passenger Car
13	45	8/7/2023	1.45	21.2	Passenger Car
14	45	8/7/2023	1.60	19.2	Passenger Car
15	45	8/7/2023	1.80	17.0	Passenger Car
16	45	8/7/2023	2.05	15.0	Passenger Car
17	45	8/7/2023	1.30	23.6	Passenger Car
18	45	8/7/2023	1.15	26.7	Bike
19	45	8/7/2023	1.45	21.2	Passenger Car
20	45	8/7/2023	1.70	18.0	Passenger Car
21	45	8/7/2023	1.43	21.5	Passenger Car
22	45	8/7/2023	1.15	26.7	Passenger Car
23	45	8/7/2023	1.20	25.6	Passenger Car
24	45	8/7/2023	1.05	29.2	Passenger Car
25	45	8/7/2023	1.15	26.7	Passenger Car
26	45	8/7/2023	0.98	31.3	Passenger Car
27	45	8/7/2023	1.50	20.4	Passenger Car
28	45	8/7/2023	1.58	19.4	Passenger Car
29	45	8/7/2023	1.53	20.0	Passenger Car
30	45	8/7/2023	1.98	15.5	Passenger Car
31	45	8/7/2023	1.95	15.7	Passenger Car
32	45	8/7/2023	1.18	26.0	Passenger Car
33	45	8/7/2023	1.71	17.9	Passenger Car
34	45	8/7/2023	0.90	34.1	Passenger Car
35	45	8/7/2023	1.03	29.8	Passenger Car
36	45	8/7/2023	1.46	21.0	Passenger Car
37	45	8/7/2023	2.83	10.8	Passenger Car
38	45	8/7/2023	1.90	16.1	Passenger Car
39	45	8/7/2023	2.66	11.5	Passenger Car
40	45	8/7/2023	1.35	22.7	Passenger Car
41	45	8/7/2023	1.45	21.2	Passenger Car
42	45	8/7/2023	1.15	26.7	Passenger Car
43	45	8/7/2023	1.70	18.0	Passenger Car
44	45	8/7/2023	3.16	9.7	Passenger Car
45	45	8/7/2023	1.05	29.2	Passenger Car
46	45	8/7/2023	1.13	27.1	Passenger Car
47	45	8/7/2023	0.86	35.7	Passenger Car
48	45	8/7/2023	0.80	38.3	Passenger Car
49	45	8/7/2023	1.05	29.2	Passenger Car
50	45	8/7/2023	2.11	14.5	Passenger Car
51	45	8/7/2023	1.35	22.7	Passenger Car
52	45	8/7/2023	0.90	34.1	Passenger Car
53	45	8/7/2023	1.30	23.6	Passenger Car
54	45	8/7/2023	1.06	28.9	Passenger Car
55	45	8/7/2023	2.25	13.6	Passenger Car
56	45	8/7/2023	1.30	23.6	Passenger Car
57	45	8/7/2023	1.43	21.5	Passenger Car
58	45	8/7/2023	1.50	20.4	Passenger Car
59	45	8/7/2023	1.70	18.0	Passenger Car
60	45	8/7/2023	1.50	20.4	Passenger Car
61	45	8/7/2023	1.68	18.3	Passenger Car
62	45	8/7/2023	1.40	21.9	Passenger Car
63	45	8/7/2023	0.70	43.8	Passenger Car
64	45	8/7/2023	1.05	29.2	Passenger Car
65	45	8/7/2023	1.10	27.9	Passenger Car
66	45	8/7/2023	1.68	18.3	Passenger Car
67	45	8/7/2023	1.26	24.3	Passenger Car
68	45	8/7/2023	1.30	23.6	Passenger Car
69	45	8/7/2023	1.05	29.2	Passenger Car
70	45	8/7/2023	1.88	16.3	Passenger Car
71	45	8/7/2023	1.03	29.8	Passenger Car
72	45	8/7/2023	1.28	24.0	Passenger Car
73	45	8/7/2023	0.83	37.0	Passenger Car
74	45	8/7/2023	1.95	15.7	Passenger Car
75	45	8/7/2023	1.15	26.7	Passenger Car
76	45	8/7/2023	1.52	20.2	Passenger Car
77	45	8/7/2023	1.30	23.6	Passenger Car
78	45	8/7/2023	1.13	27.1	Passenger Car
79	45	8/7/2023	1.21	25.4	Passenger Car
80	45	8/7/2023	1.50	20.4	Passenger Car
81	45	8/7/2023	1.06	28.9	Passenger Car
82	45	8/7/2023	1.15	26.7	Passenger Car
83	45	8/7/2023	1.20	25.6	Passenger Car
84	45	8/7/2023	1.15	26.7	Passenger Car

AVERAGE SPEEDS	
PASSENGER CAR	23.3
HEAVY VEHICLE	7.9
BUS	N/A
BIKE	21.7

SPOT SPEED STUDY | BEFORE - PM PERIOD (12-2 PM) | FROM NORTH					
Observation number	Distance between reference points (obtain from field)	Date	Time that it took the vehicle to pass along the reference points.	Speed obtained from v = d/t	Passenger car, heavy vehicle, bus, ped, bike
#	DISTANCE (ft)	DATE	TRAVEL TIME (seconds)	SPEED (mph)	VEHICLE TYPE
1	45	8/7/2023	0.58	52.9	Passenger Car
2	45	8/7/2023	1.15	26.7	Passenger Car
3	45	8/7/2023	1.16	26.4	Passenger Car
4	45	8/7/2023	1.13	27.1	Bike
5	45	8/7/2023	1.00	30.7	Passenger Car
6	45	8/7/2023	1.56	19.7	Passenger Car
7	45	8/7/2023	0.70	43.8	Passenger Car
8	45	8/7/2023	1.11	27.6	Passenger Car
9	45	8/7/2023	0.96	32.0	Passenger Car
10	45	8/7/2023	2.10	14.6	Passenger Car
11	45	8/7/2023	1.21	25.4	Passenger Car
12	45	8/7/2023	1.65	18.6	Passenger Car
13	45	8/7/2023	2.40	12.8	Bike
14	45	8/7/2023	1.51	20.3	Passenger Car
15	45	8/7/2023	1.30	23.6	Passenger Car
16	45	8/7/2023	1.25	24.5	Passenger Car
17	45	8/7/2023	1.21	25.4	Passenger Car
18	45	8/7/2023	1.23	24.9	Passenger Car
19	45	8/7/2023	2.76	11.1	Bike
20	45	8/7/2023	1.43	21.5	Passenger Car
21	45	8/7/2023	1.43	21.5	Passenger Car
22	45	8/7/2023	1.41	21.8	Passenger Car
23	45	8/7/2023	1.01	30.4	Passenger Car
24	45	8/7/2023	1.50	20.4	Passenger Car
25	45	8/7/2023	2.50	12.3	Passenger Car
26	45	8/7/2023	1.25	24.5	Passenger Car
27	45	8/7/2023	1.96	15.7	Passenger Car
28	45	8/7/2023	1.02	30.1	Passenger Car
29	45	8/7/2023	1.11	27.6	Passenger Car
30	45	8/7/2023	1.46	21.0	Passenger Car
31	45	8/7/2023	1.23	24.9	Passenger Car
32	45	8/7/2023	1.10	27.9	Passenger Car
33	45	8/7/2023	1.38	22.2	Passenger Car
34	45	8/7/2023	1.11	27.6	Passenger Car
35	45	8/7/2023	1.83	16.8	Passenger Car
36	45	8/7/2023	1.30	23.6	Passenger Car
37	45	8/7/2023	1.46	21.0	Passenger Car
38	45	8/7/2023	1.06	28.9	Passenger Car
39	45	8/7/2023	1.17	26.2	Passenger Car
40	45	8/7/2023	1.16	26.4	Passenger Car
41	45	8/7/2023	1.05	29.2	Passenger Car
42	45	8/7/2023	2.39	12.8	Bike
43	45	8/7/2023	1.33	23.1	Passenger Car
44	45	8/7/2023	1.15	26.7	Passenger Car
45	45	8/7/2023	1.02	30.1	Passenger Car
46	45	8/7/2023	1.04	29.5	Passenger Car
47	45	8/7/2023	1.16	26.4	Passenger Car
48	45	8/7/2023	1.13	27.1	Passenger Car
49	45	8/7/2023	1.15	26.7	Passenger Car
50	45	8/7/2023	1.30	23.6	Passenger Car
51	45	8/7/2023	1.24	24.7	Passenger Car
52	45	8/7/2023	1.53	20.0	Passenger Car
53	45	8/7/2023	1.16	26.4	Passenger Car
54	45	8/7/2023	1.12	27.4	Passenger Car
55	45	8/7/2023	1.11	27.6	Passenger Car
56	45	8/7/2023	1.48	20.7	Passenger Car
57	45	8/7/2023	1.14	26.9	Passenger Car
58	45	8/7/2023	1.18	26.0	Passenger Car
59	45	8/7/2023	1.20	25.6	Passenger Car
60	45	8/7/2023	1.40	21.9	Passenger Car
61	45	8/7/2023	1.08	28.4	Passenger Car
62	45	8/7/2023	1.12	27.4	Passenger Car
63	45	8/7/2023	1.33	23.1	Passenger Car
64	45	8/7/2023	1.11	27.6	Passenger Car
65	45	8/7/2023	1.14	26.9	Passenger Car
66	45	8/7/2023	1.12	27.4	Passenger Car
67	45	8/7/2023	1.10	27.9	Passenger Car
68	45	8/7/2023	1.26	24.3	Passenger Car
69	45	8/7/2023	1.06	28.9	Passenger Car
70	45	8/7/2023	1.31	23.4	Passenger Car
71	45	8/7/2023	1.25	24.5	Passenger Car
72	45	8/7/2023	0.75	40.9	Passenger Car
73	45	8/7/2023	1.68	18.3	Passenger Car
74	45	8/7/2023	1.55	19.8	Passenger Car
75	45	8/7/2023	1.46	21.0	Passenger Car
76	45	8/7/2023	1.98	15.5	Passenger Car
77	45	8/7/2023	1.12	27.4	Passenger Car
78	45	8/7/2023	1.25	24.5	Passenger Car
79	45	8/7/2023	3.58	8.6	Passenger Car
80	45	8/7/2023	2.03	15.1	Passenger Car
81	45	8/7/2023	1.26	24.3	Bike
82	45	8/7/2023	1.43	21.5	Passenger Car
83	45	8/7/2023	1.21	25.4	Passenger Car
84	45	8/7/2023	1.30	23.6	Passenger Car
85	45	8/7/2023	2.06	14.9	Passenger Car
86	45	8/7/2023	1.25	24.5	Passenger Car
87	45	8/7/2023	2.15	14.3	Passenger Car
88	45	8/7/2023	2.24	13.7	Passenger Car
89	45	8/7/2023	2.13	14.4	Passenger Car
90	45	8/7/2023	2.15	14.3	Passenger Car
91	45	8/7/2023	2.18	14.1	Passenger Car
92	45	8/7/2023	2.18	14.1	Passenger Car
93	45	8/7/2023	1.21	25.4	Passenger Car
94	45	8/7/2023	5.71	5.4	Passenger Car
95	45	8/7/2023	1.40	21.9	Passenger Car
96	45	8/7/2023	3.19	9.6	Passenger Car
97	45	8/7/2023	2.18	14.1	Passenger Car
98	45	8/7/2023	2.16	14.2	Passenger Car
99	45	8/7/2023	1.48	20.7	Passenger Car
100	45	8/7/2023	1.50	20.4	Passenger Car
101	45	8/7/2023	1.80	17.0	Passenger Car
102	45	8/7/2023	2.21	13.9	Passenger Car
103	45	8/7/2023	1.38	22.2	Passenger Car
104	45	8/7/2023	1.26	24.3	Passenger Car
105	45	8/7/2023	1.48	20.7	Passenger Car
106	45	8/7/2023	1.38	22.2	Passenger Car
107	45	8/7/2023	1.61	19.1	Passenger Car
108	45	8/7/2023	2.21	13.9	Passenger Car
109	45	8/7/2023	3.41	9.0	Passenger Car
110	45	8/7/2023	2.50	12.3	Bike
111	45	8/7/2023	2.50	12.3	Passenger Car
112	45	8/7/2023	2.13	14.4	Passenger Car
113	45	8/7/2023	2.12	14.5	Passenger Car
114	45	8/7/2023	1.26	24.3	Passenger Car
115	45	8/7/2023	2.61	11.8	Passenger Car
116	45	8/7/2023	1.43	21.5	Passenger Car
117	45	8/7/2023	1.43	21.5	Passenger Car
118	45	8/7/2023	1.53	20.0	Passenger Car
119	45	8/7/2023	2.15	14.3	Passenger Car
120	45	8/7/2023	1.28	24.0	Passenger Car
121	45	8/7/2023	1.33	23.1	Passenger Car
122	45	8/7/2023	1.44	21.3	Passenger Car
123	45	8/7/2023	1.55	19.8	Passenger Car
124	45	8/7/2023	1.66	18.5	Passenger Car

AVERAGE SPEEDS	
PASSENGER CAR	22.5
HEAVY VEHICLE	N/A
BUS	N/A
BIKE	16.7

BEFORE (AM & PM PERIODS) FROM SOUTH

SPOT SPEED STUDY | BEFORE - AM PERIOD (7-9 AM) | FROM SOUTH					
Observation number	Distance between reference points (obtain from field)	Date	Time that it took the vehicle to pass along the reference points.	Speed obtained from v = d/t	Passenger car, heavy vehicle, bus, ped, bike
#	DISTANCE (ft)	DATE	TRAVEL TIME (seconds)	SPEED (mph)	VEHICLE TYPE
1	45	8/7/2023	1.26	24.3	Passenger Car
2	45	8/7/2023	1.11	27.6	Passenger Car
3	45	8/7/2023	1.25	24.5	Passenger Car
4	45	8/7/2023	1.6	19.2	Passenger Car
5	45	8/7/2023	2.28	13.5	Bike
6	45	8/7/2023	1.2	25.6	Passenger Car
7	45	8/7/2023	0.98	31.3	Passenger Car
8	45	8/7/2023	1.1	27.9	Passenger Car
9	45	8/7/2023	1.8	17.0	Passenger Car
10	45	8/7/2023	1.18	26.0	Passenger Car
11	45	8/7/2023	1.9	16.1	Passenger Car
12	45	8/7/2023	1.6	19.2	Passenger Car
13	45	8/7/2023	1.06	28.9	Passenger Car
14	45	8/7/2023	1.91	16.1	Passenger Car
15	45	8/7/2023	1.5	20.4	Passenger Car
16	45	8/7/2023	0.98	31.3	Passenger Car
17	45	8/7/2023	1.2	25.6	Passenger Car
18	45	8/7/2023	1.23	24.9	Passenger Car
19	45	8/7/2023	1.4	21.9	Passenger Car
20	45	8/7/2023	1.43	21.5	Passenger Car
21	45	8/7/2023	0.81	37.9	Bike
22	45	8/7/2023	1.05	29.2	Bike
23	45	8/7/2023	1.38	22.2	Passenger Car
24	45	8/7/2023	1.8	17.0	Passenger Car
25	45	8/7/2023	1.05	29.2	Passenger Car
26	45	8/7/2023	1.11	27.6	Passenger Car
27	45	8/7/2023	1.25	24.5	Passenger Car
28	45	8/7/2023	1.25	24.5	Passenger Car
29	45	8/7/2023	1.21	25.4	Passenger Car
30	45	8/7/2023	1.03	29.8	Passenger Car
31	45	8/7/2023	1.9	16.1	Passenger Car
32	45	8/7/2023	1.6	19.2	Passenger Car
33	45	8/7/2023	1.4	21.9	Passenger Car
34	45	8/7/2023	1.3	23.6	Passenger Car
35	45	8/7/2023	1.88	16.3	Passenger Car
36	45	8/7/2023	1.48	20.7	Passenger Car
37	45	8/7/2023	1.15	26.7	Passenger Car
38	45	8/7/2023	1.7	18.0	Passenger Car
39	45	8/7/2023	1.83	16.8	Passenger Car
40	45	8/7/2023	1.9	16.1	Passenger Car
41	45	8/7/2023	1.21	25.4	Passenger Car
42	45	8/7/2023	1.3	23.6	Passenger Car
43	45	8/7/2023	1.36	22.6	Passenger Car
44	45	8/7/2023	1.7	18.0	Bike
45	45	8/7/2023	1.58	19.4	Passenger Car
46	45	8/7/2023	1.56	19.7	Passenger Car
47	45	8/7/2023	1.05	29.2	Passenger Car
48	45	8/7/2023	1.98	15.5	Passenger Car
49	45	8/7/2023	1.3	23.6	Passenger Car
50	45	8/7/2023	1.13	27.1	Passenger Car
51	45	8/7/2023	1.85	16.6	Passenger Car
52	45	8/7/2023	1.08	28.4	Passenger Car
53	45	8/7/2023	1.15	26.7	Passenger Car
54	45	8/7/2023	1.35	22.7	Passenger Car
55	45	8/7/2023	0.9	34.1	Passenger Car
56	45	8/7/2023	1.66	18.5	Passenger Car
57	45	8/7/2023	1.13	27.1	Passenger Car
58	45	8/7/2023	0.95	32.3	Passenger Car
59	45	8/7/2023	1.38	22.2	Passenger Car
60	45	8/7/2023	1.4	21.9	Passenger Car
61	45	8/7/2023	1.15	26.7	Passenger Car
62	45	8/7/2023	1.33	23.1	Passenger Car
63	45	8/7/2023	1.08	28.4	Passenger Car
64	45	8/7/2023	1.2	25.6	Passenger Car
65	45	8/7/2023	1.71	17.9	Passenger Car
66	45	8/7/2023	1.16	26.4	Passenger Car
67	45	8/7/2023	1.28	24.0	Passenger Car
68	45	8/7/2023	1.15	26.7	Passenger Car
69	45	8/7/2023	1.76	17.4	Passenger Car
70	45	8/7/2023	1.95	15.7	Passenger Car
71	45	8/7/2023	1.33	23.1	Passenger Car
72	45	8/7/2023	1.34	22.9	Passenger Car
73	45	8/7/2023	2.03	15.1	Passenger Car
74	45	8/7/2023	1.33	23.1	Passenger Car
75	45	8/7/2023	1.36	22.6	Passenger Car
76	45	8/7/2023	1.38	22.2	Passenger Car
77	45	8/7/2023	1.56	19.7	Passenger Car
78	45	8/7/2023	1.36	22.6	Passenger Car
79	45	8/7/2023	1	30.7	Passenger Car
80	45	8/7/2023	1.55	19.8	Passenger Car
81	45	8/7/2023	1.2	25.6	Passenger Car
82	45	8/7/2023	1.23	24.9	Passenger Car
83	45	8/7/2023	1.21	25.4	Passenger Car
84	45	8/7/2023	1.3	23.6	Passenger Car
85	45	8/7/2023	1.35	22.7	Passenger Car
86	45	8/7/2023	1.13	27.1	Passenger Car
87	45	8/7/2023	1.35	22.7	Passenger Car
88	45	8/7/2023	1.1	27.9	Passenger Car
89	45	8/7/2023	1.2	25.6	Passenger Car
90	45	8/7/2023	2.28	13.5	Bike
91	45	8/7/2023	1.3	23.6	Passenger Car
92	45	8/7/2023	1.47	20.9	Passenger Car
93	45	8/7/2023	2	15.3	Passenger Car
94	45	8/7/2023	0.86	35.7	Passenger Car
95	45	8/7/2023	2.16	14.2	Heavy Vehicle
96	45	8/7/2023	1.71	17.9	Passenger Car
97	45	8/7/2023	1.18	26.0	Passenger Car
98	45	8/7/2023	1.19	25.8	Passenger Car
99	45	8/7/2023	1.34	22.9	Passenger Car
100	45	8/7/2023	1.4	21.9	Passenger Car
101	45	8/7/2023	1.3	23.6	Passenger Car
102	45	8/7/2023	2.45	12.5	Passenger Car
103	45	8/7/2023	1.4	21.9	Passenger Car
104	45	8/7/2023	1.46	21.0	Passenger Car

AVERAGE SPEEDS	
PASSENGER CAR	23.2
HEAVY VEHICLE	14.2
BUS	N/A
BIKE	22.4

SPOT SPEED STUDY | BEFORE - PM PERIOD (12-2 PM) | FROM SOUTH					
Observation number	Distance between reference points (obtain from field)	Date	Time that it took the vehicle to pass along the reference points.	Speed obtained from v = d/t	Passenger car, heavy vehicle, bus, ped, bike
#	DISTANCE (ft)	DATE	TRAVEL TIME (seconds)	SPEED (mph)	VEHICLE TYPE
1	45	8/7/2023	0.96	32.0	Passenger Car
2	45	8/7/2023	1.21	25.4	Passenger Car
3	45	8/7/2023	0.9	34.1	Passenger Car
4	45	8/7/2023	1.34	22.9	Passenger Car
5	45	8/7/2023	2.06	14.9	Passenger Car
6	45	8/7/2023	1.7	18.0	Passenger Car
7	45	8/7/2023	0.71	43.2	Passenger Car
8	45	8/7/2023	1.13	27.1	Passenger Car
9	45	8/7/2023	2.25	13.6	Passenger Car
10	45	8/7/2023	2.1	14.6	Passenger Car
11	45	8/7/2023	2.16	14.2	Passenger Car
12	45	8/7/2023	1.01	30.4	Passenger Car
13	45	8/7/2023	3.08	10.0	Passenger Car
14	45	8/7/2023	1.9	16.1	Passenger Car
15	45	8/7/2023	2.06	14.9	Passenger Car
16	45	8/7/2023	1.65	18.6	Passenger Car
17	45	8/7/2023	1.35	22.7	Passenger Car
18	45	8/7/2023	1.36	22.6	Passenger Car
19	45	8/7/2023	1.56	19.7	Passenger Car
20	45	8/7/2023	1.35	22.7	Passenger Car
21	45	8/7/2023	1.35	22.7	Passenger Car
22	45	8/7/2023	1.35	22.7	Passenger Car
23	45	8/7/2023	1.63	18.8	Passenger Car
24	45	8/7/2023	2.61	11.8	Passenger Car
25	45	8/7/2023	2.48	12.4	Passenger Car
26	45	8/7/2023	2.16	14.2	Passenger Car
27	45	8/7/2023	3.21	9.6	Passenger Car
28	45	8/7/2023	1.43	21.5	Passenger Car
29	45	8/7/2023	1.33	23.1	Passenger Car
30	45	8/7/2023	1.46	21.0	Passenger Car
31	45	8/7/2023	1.5	20.4	Passenger Car
32	45	8/7/2023	1.21	25.4	Passenger Car
33	45	8/7/2023	2.03	15.1	Passenger Car
34	45	8/7/2023	2.28	13.5	Passenger Car
35	45	8/7/2023	2.25	13.6	Passenger Car
36	45	8/7/2023	1.76	17.4	Passenger Car
37	45	8/7/2023	3.13	9.8	Passenger Car
38	45	8/7/2023	2.14	14.3	Passenger Car
39	45	8/7/2023	1.58	19.4	Passenger Car
40	45	8/7/2023	3.13	9.8	Passenger Car
41	45	8/7/2023	2.46	12.5	Passenger Car
42	45	8/7/2023	2.01	15.3	Passenger Car
43	45	8/7/2023	3.41	9.0	Passenger Car
44	45	8/7/2023	3.36	9.1	Passenger Car
45	45	8/7/2023	2.33	13.2	Passenger Car
46	45	8/7/2023	1.81	16.9	Passenger Car
47	45	8/7/2023	2.35	13.1	Passenger Car
48	45	8/7/2023	1.81	16.9	Passenger Car
49	45	8/7/2023	2.08	14.7	Passenger Car
50	45	8/7/2023	2.28	13.5	Passenger Car
51	45	8/7/2023	1.53	20.0	Passenger Car
52	45	8/7/2023	1.13	27.1	Passenger Car
53	45	8/7/2023	1.18	26.0	Passenger Car
54	45	8/7/2023	1.33	23.1	Passenger Car
55	45	8/7/2023	1.38	22.2	Passenger Car
56	45	8/7/2023	3.81	8.1	Bike
57	45	8/7/2023	1.02	30.1	Passenger Car
58	45	8/7/2023	1.04	29.5	Passenger Car
59	45	8/7/2023	1.12	27.4	Passenger Car
60	45	8/7/2023	1.83	16.8	Passenger Car
61	45	8/7/2023	1.66	18.5	Passenger Car
62	45	8/7/2023	1.24	24.7	Passenger Car
63	45	8/7/2023	1.3	23.6	Passenger Car
64	45	8/7/2023	4.41	7.0	Bike
65	45	8/7/2023	2.06	14.9	Passenger Car
66	45	8/7/2023	2.51	12.2	Passenger Car
67	45	8/7/2023	1.35	22.7	Passenger Car
68	45	8/7/2023	1.05	29.2	Passenger Car
69	45	8/7/2023	1.18	26.0	Passenger Car
70	45	8/7/2023	1.02	30.1	Passenger Car
71	45	8/7/2023	3.95	7.8	Passenger Car
72	45	8/7/2023	1.08	28.4	Passenger Car
73	45	8/7/2023	1.1	27.9	Passenger Car
74	45	8/7/2023	1.56	19.7	Passenger Car
75	45	8/7/2023	1.65	18.6	Passenger Car
76	45	8/7/2023	5.78	5.3	Passenger Car
77	45	8/7/2023	6.7	4.6	Heavy Vehicle
78	45	8/7/2023	2.3	13.3	Passenger Car
79	45	8/7/2023	1.05	29.2	Passenger Car
80	45	8/7/2023	2.75	11.2	Passenger Car
81	45	8/7/2023	2.15	14.3	Passenger Car
82	45	8/7/2023	1.7	18.0	Passenger Car
83	45	8/7/2023	3.03	10.1	Passenger Car
84	45	8/7/2023	1.18	26.0	Passenger Car
85	45	8/7/2023	1.31	23.4	Passenger Car
86	45	8/7/2023	2.84	10.8	Passenger Car
87	45	8/7/2023	2.52	12.2	Passenger Car
88	45	8/7/2023	2.73	11.2	Passenger Car
89	45	8/7/2023	2.15	14.3	Passenger Car
90	45	8/7/2023	2.8	11.0	Passenger Car
91	45	8/7/2023	1.07	28.7	Passenger Car
92	45	8/7/2023	3.15	9.7	Passenger Car
93	45	8/7/2023	2.12	14.5	Passenger Car
94	45	8/7/2023	2.14	14.3	Passenger Car
95	45	8/7/2023	3.3	9.3	Passenger Car
96	45	8/7/2023	2.11	14.5	Passenger Car
97	45	8/7/2023	5.16	5.9	Bike
98	45	8/7/2023	4.16	7.4	Passenger Car
99	45	8/7/2023	1.88	16.3	Passenger Car
100	45	8/7/2023	2.7	11.4	Bike
101	45	8/7/2023	3.06	10.0	Passenger Car
102	45	8/7/2023	2.13	14.4	Passenger Car
103	45	8/7/2023	2.05	15.0	Passenger Car
104	45	8/7/2023	2.25	13.6	Passenger Car
105	45	8/7/2023	1.95	15.7	Passenger Car
106	45	8/7/2023	1.8	17.0	Passenger Car
107	45	8/7/2023	1.08	28.4	Passenger Car
108	45	8/7/2023	2.24	13.7	Passenger Car
109	45	8/7/2023	2.15	14.3	Passenger Car
110	45	8/7/2023	2.08	14.7	Passenger Car
111	45	8/7/2023	2.05	15.0	Passenger Car
112	45	8/7/2023	2.1	14.6	Passenger Car
113	45	8/7/2023	2.03	15.1	Passenger Car
114	45	8/7/2023	2.15	14.3	Passenger Car
115	45	8/7/2023	2.13	14.4	Passenger Car
116	45	8/7/2023	2.01	15.3	Passenger Car
117	45	8/7/2023	1.48	20.7	Passenger Car
118	45	8/7/2023	1.21	25.4	Passenger Car
119	45	8/7/2023	1.2	25.6	Passenger Car
120	45	8/7/2023	2.5	12.3	Passenger Car
121	45	8/7/2023	1.86	16.5	Passenger Car
122	45	8/7/2023	2.05	15.0	Passenger Car

AVERAGE SPEEDS	
PASSENGER CAR	18.1
HEAVY VEHICLE	4.6
BUS	N/A
BIKE	8.1

SPOT SPEED STUDY

"AFTER"
(AM & PM PERIODS)

AFTER (AM & PM PERIODS) FROM NORTH

SPOT SPEED STUDY | AFTER - AM PERIOD (7-9 AM) | FROM NORTH					
Observation number	Distance between reference points (obtain from field)	Date	Time that it took the vehicle to pass along the reference points.	Speed obtained from v = d/t	Passenger car, heavy vehicle, bus, ped, bike
#	DISTANCE (ft)	DATE	TRAVEL TIME (seconds)	SPEED (mph)	VEHICLE TYPE
1	45	8/21/2023	1.98	15.5	Passenger Car
2	45	8/21/2023	1.08	28.4	Passenger Car
3	45	8/21/2023	1.55	19.8	Passenger Car
4	45	8/21/2023	1.15	26.7	Passenger Car
5	45	8/21/2023	1.26	24.3	Passenger Car
6	45	8/21/2023	1.06	28.9	Passenger Car
7	45	8/21/2023	1.38	22.2	Passenger Car
8	45	8/21/2023	2.88	10.7	Bike
9	45	8/21/2023	1.46	21.0	Passenger Car
10	45	8/21/2023	1.53	20.0	Passenger Car
11	45	8/21/2023	1.46	21.0	Passenger Car
12	45	8/21/2023	1.31	23.4	Passenger Car
13	45	8/21/2023	1.71	17.9	Passenger Car
14	45	8/21/2023	2.00	15.3	Passenger Car
15	45	8/21/2023	3.86	7.9	Heavy Vehicle
16	45	8/21/2023	1.06	28.9	Passenger Car
17	45	8/21/2023	1.57	19.5	Passenger Car
18	45	8/21/2023	1.86	16.5	Passenger Car
19	45	8/21/2023	2.05	15.0	Passenger Car
20	45	8/21/2023	0.86	35.7	Passenger Car
21	45	8/21/2023	1.56	19.7	Passenger Car
22	45	8/21/2023	1.35	22.7	Passenger Car
23	45	8/21/2023	1.25	24.5	Passenger Car
24	45	8/21/2023	1.26	24.3	Passenger Car
25	45	8/21/2023	1.16	26.4	Passenger Car
26	45	8/21/2023	1.26	24.3	Passenger Car
27	45	8/21/2023	1.11	27.6	Passenger Car
28	45	8/21/2023	1.23	24.9	Passenger Car
29	45	8/21/2023	1.01	30.4	Passenger Car
30	45	8/21/2023	1.43	21.5	Passenger Car
31	45	8/21/2023	1.06	28.9	Passenger Car
32	45	8/21/2023	2.15	14.3	Bike
33	45	8/21/2023	1.33	23.1	Passenger Car
34	45	8/21/2023	1.33	23.1	Passenger Car
35	45	8/21/2023	1.33	23.1	Passenger Car
36	45	8/21/2023	1.33	23.1	Passenger Car
37	45	8/21/2023	1.63	18.8	Passenger Car
38	45	8/21/2023	1.73	17.7	Passenger Car
39	45	8/21/2023	1.15	26.7	Passenger Car
40	45	8/21/2023	1.11	27.6	Passenger Car
41	45	8/21/2023	1.50	20.4	Passenger Car
42	45	8/21/2023	3.36	9.1	Passenger Car
43	45	8/21/2023	1.35	22.7	Passenger Car
44	45	8/21/2023	1.45	21.2	Passenger Car
45	45	8/21/2023	1.30	23.6	Passenger Car
46	45	8/21/2023	1.06	28.9	Passenger Car
47	45	8/21/2023	0.95	32.3	Passenger Car
48	45	8/21/2023	1.28	24.0	Passenger Car
49	45	8/21/2023	1.06	28.9	Passenger Car
50	45	8/21/2023	1.65	18.6	Passenger Car
51	45	8/21/2023	6.35	4.8	Passenger Car
52	45	8/21/2023	1.36	22.6	Passenger Car
53	45	8/21/2023	1.08	28.4	Passenger Car
54	45	8/21/2023	0.98	31.3	Passenger Car
55	45	8/21/2023	1.01	30.4	Passenger Car
56	45	8/21/2023	0.95	32.3	Passenger Car
57	45	8/21/2023	1.36	22.6	Passenger Car
58	45	8/21/2023	1.23	24.9	Passenger Car
59	45	8/21/2023	1.63	18.8	Passenger Car
60	45	8/21/2023	1.38	22.2	Passenger Car
61	45	8/21/2023	1.31	23.4	Passenger Car
62	45	8/21/2023	1.46	21.0	Passenger Car
63	45	8/21/2023	1.20	25.6	Passenger Car
64	45	8/21/2023	0.90	34.1	Passenger Car
65	45	8/21/2023	1.46	21.0	Passenger Car
66	45	8/21/2023	1.71	17.9	Passenger Car
67	45	8/21/2023	1.36	22.6	Passenger Car
68	45	8/21/2023	1.78	17.2	Passenger Car
69	45	8/21/2023	1.86	16.5	Passenger Car
70	45	8/21/2023	1.13	27.1	Passenger Car
71	45	8/21/2023	1.11	27.6	Passenger Car
72	45	8/21/2023	1.75	17.5	Passenger Car
73	45	8/21/2023	1.77	17.3	Passenger Car
74	45	8/21/2023	1.16	26.4	Passenger Car
75	45	8/21/2023	1.55	19.8	Passenger Car
76	45	8/21/2023	1.10	27.9	Passenger Car
77	45	8/21/2023	2.15	14.3	Passenger Car
78	45	8/21/2023	1.38	22.2	Passenger Car
79	45	8/21/2023	1.63	18.8	Passenger Car
80	45	8/21/2023	1.42	21.6	Passenger Car
81	45	8/21/2023	2.28	13.5	Bike
82	45	8/21/2023	2.28	13.5	Bike
83	45	8/21/2023	1.63	18.8	Passenger Car
84	45	8/21/2023	1.23	24.9	Passenger Car
85	45	8/22/2023	1.40	21.9	Passenger Car
86	45	8/23/2023	2.18	14.1	Passenger Car
87	45	8/24/2023	2.00	15.3	Passenger Car
88	45	8/25/2023	1.61	19.1	Passenger Car
89	45	8/26/2023	1.81	16.9	Passenger Car
90	45	8/27/2023	1.43	21.5	Passenger Car
91	45	8/28/2023	1.36	22.6	Passenger Car
92	45	8/29/2023	1.35	22.7	Passenger Car

AVERAGE SPEEDS	
PASSENGER CAR	22.6
HEAVY VEHICLE	7.9
BUS	N/A
BIKE	13.0

SPOT SPEED STUDY | AFTER - PM PERIOD (12-2 PM) | FROM NORTH					
Observation number	Distance between reference points (obtain from field)	Date	Time that it took the vehicle to pass along the reference points.	Speed obtained from v = d/t	Passenger car, heavy vehicle, bus, ped, bike
#	DISTANCE (ft)	DATE	TRAVEL TIME (seconds)	SPEED (mph)	VEHICLE TYPE
1	45	8/21/2023	1.29	23.8	Passenger Car
2	45	8/21/2023	1.30	23.6	Passenger Car
3	45	8/21/2023	1.51	20.3	Passenger Car
4	45	8/21/2023	1.46	21.0	Passenger Car
5	45	8/21/2023	1.23	24.9	Passenger Car
6	45	8/21/2023	1.50	20.4	Passenger Car
7	45	8/21/2023	1.40	21.9	Passenger Car
8	45	8/21/2023	1.71	17.9	Passenger Car
9	45	8/21/2023	1.21	25.4	Passenger Car
10	45	8/21/2023	1.88	16.3	Passenger Car
11	45	8/21/2023	1.55	19.8	Passenger Car
12	45	8/21/2023	1.50	20.4	Passenger Car
13	45	8/21/2023	1.31	23.4	Passenger Car
14	45	8/21/2023	1.46	21.0	Passenger Car
15	45	8/21/2023	1.85	16.6	Passenger Car
16	45	8/21/2023	1.31	23.4	Passenger Car
17	45	8/21/2023	2.81	10.9	Passenger Car
18	45	8/21/2023	1.31	23.4	Passenger Car
19	45	8/21/2023	1.23	24.9	Passenger Car
20	45	8/21/2023	1.16	26.4	Passenger Car
21	45	8/21/2023	1.01	30.4	Passenger Car
22	45	8/21/2023	0.93	33.0	Passenger Car
23	45	8/21/2023	1.06	28.9	Passenger Car
24	45	8/21/2023	1.08	28.4	Passenger Car
25	45	8/21/2023	1.01	30.4	Passenger Car
26	45	8/21/2023	1.15	26.7	Passenger Car
27	45	8/21/2023	1.63	18.8	Passenger Car
28	45	8/21/2023	1.75	17.5	Passenger Car
29	45	8/21/2023	1.33	23.1	Passenger Car
30	45	8/21/2023	1.70	18.0	Passenger Car
31	45	8/21/2023	1.70	18.0	Passenger Car
32	45	8/21/2023	1.32	23.2	Passenger Car
33	45	8/21/2023	1.30	23.6	Passenger Car
34	45	8/21/2023	1.71	17.9	Passenger Car
35	45	8/21/2023	1.18	26.0	Passenger Car
36	45	8/21/2023	1.11	27.6	Passenger Car
37	45	8/21/2023	1.26	24.3	Passenger Car
38	45	8/21/2023	1.23	24.9	Passenger Car
39	45	8/21/2023	1.25	24.5	Passenger Car
40	45	8/21/2023	1.21	25.4	Passenger Car
41	45	8/21/2023	1.66	18.5	Passenger Car
42	45	8/21/2023	1.47	20.9	Passenger Car
43	45	8/21/2023	1.53	20.0	Passenger Car
44	45	8/21/2023	1.46	21.0	Passenger Car
45	45	8/21/2023	1.35	22.7	Passenger Car
46	45	8/21/2023	1.30	23.6	Passenger Car
47	45	8/21/2023	0.96	32.0	Passenger Car
48	45	8/21/2023	1.11	27.6	Passenger Car
49	45	8/21/2023	1.86	16.5	Passenger Car
50	45	8/21/2023	1.43	21.5	Passenger Car
51	45	8/21/2023	1.40	21.9	Passenger Car
52	45	8/21/2023	0.76	40.4	Passenger Car
53	45	8/21/2023	1.50	20.4	Passenger Car
54	45	8/21/2023	1.68	18.3	Passenger Car
55	45	8/21/2023	1.28	24.0	Passenger Car
56	45	8/21/2023	1.43	21.5	Passenger Car
57	45	8/21/2023	1.21	25.4	Passenger Car
58	45	8/21/2023	1.40	21.9	Passenger Car
59	45	8/21/2023	1.41	21.8	Passenger Car
60	45	8/21/2023	1.78	17.2	Passenger Car
61	45	8/21/2023	1.16	26.4	Passenger Car
62	45	8/21/2023	1.18	26.0	Passenger Car
63	45	8/21/2023	1.45	21.2	Passenger Car
64	45	8/21/2023	1.33	23.1	Passenger Car
65	45	8/21/2023	1.51	20.3	Passenger Car
66	45	8/21/2023	1.68	18.3	Passenger Car
67	45	8/21/2023	0.80	38.3	Passenger Car
68	45	8/21/2023	1.33	23.1	Passenger Car
69	45	8/21/2023	1.38	22.2	Bike
70	45	8/21/2023	1.38	22.2	Bike
71	45	8/21/2023	1.40	21.9	Passenger Car
72	45	8/21/2023	1.71	17.9	Passenger Car
73	45	8/21/2023	1.33	23.1	Passenger Car
74	45	8/21/2023	1.43	21.5	Passenger Car
75	45	8/21/2023	0.85	36.1	Passenger Car
76	45	8/21/2023	1.21	25.4	Passenger Car
77	45	8/21/2023	1.26	24.3	Passenger Car
78	45	8/21/2023	2.11	14.5	Passenger Car
79	45	8/21/2023	1.55	19.8	Passenger Car
80	45	8/21/2023	1.40	21.9	Passenger Car
81	45	8/21/2023	1.35	22.7	Passenger Car
82	45	8/21/2023	1.18	26.0	Passenger Car
83	45	8/21/2023	0.93	33.0	Passenger Car
84	45	8/21/2023	1.16	26.4	Passenger Car
85	45	8/21/2023	0.96	32.0	Passenger Car
86	45	8/21/2023	1.78	17.2	Passenger Car
87	45	8/21/2023	1.16	26.4	Passenger Car
88	45	8/21/2023	1.15	26.7	Passenger Car
89	45	8/21/2023	1.46	21.0	Passenger Car
90	45	8/21/2023	0.51	60.1	Passenger Car
91	45	8/21/2023	1.06	28.9	Passenger Car
92	45	8/21/2023	1.38	22.2	Passenger Car
93	45	8/21/2023	1.55	19.8	Passenger Car
94	45	8/21/2023	1.44	21.3	Passenger Car
95	45	8/21/2023	1.41	21.8	Passenger Car
96	45	8/21/2023	1.26	24.3	Passenger Car
97	45	8/21/2023	1.26	24.3	Passenger Car
98	45	8/21/2023	1.90	16.1	Heavy Vehicle
99	45	8/21/2023	1.36	22.6	Passenger Car
100	45	8/21/2023	1.50	20.4	Passenger Car
101	45	8/21/2023	0.98	31.3	Passenger Car
102	45	8/21/2023	1.45	21.2	Passenger Car
103	45	8/21/2023	1.25	24.5	Passenger Car
104	45	8/21/2023	1.50	20.4	Passenger Car
105	45	8/21/2023	0.98	31.3	Passenger Car
106	45	8/21/2023	2.15	14.3	Passenger Car
107	45	8/21/2023	1.06	28.9	Passenger Car
108	45	8/21/2023	1.08	28.4	Passenger Car
109	45	8/21/2023	1.15	26.7	Passenger Car
110	45	8/21/2023	1.58	19.4	Passenger Car
111	45	8/21/2023	1.15	26.7	Passenger Car
112	45	8/21/2023	1.38	22.2	Passenger Car
113	45	8/21/2023	1.05	29.2	Passenger Car
114	45	8/21/2023	2.10	14.6	Passenger Car
115	45	8/21/2023	1.43	21.5	Passenger Car
116	45	8/21/2023	1.45	21.2	Passenger Car
117	45	8/21/2023	1.16	26.4	Passenger Car
118	45	8/21/2023	1.46	21.0	Passenger Car
119	45	8/21/2023	1.39	22.1	Passenger Car
120	45	8/21/2023	1.55	19.8	Passenger Car
121	45	8/21/2023	1.31	23.4	Passenger Car
122	45	8/21/2023	1.48	20.7	Passenger Car
123	45	8/21/2023	1.15	26.7	Passenger Car
124	45	8/21/2023	1.47	20.9	Passenger Car
125	45	8/21/2023	1.08	28.4	Passenger Car
126	45	8/21/2023	1.16	26.4	Passenger Car
127	45	8/21/2023	1.15	26.7	Passenger Car
128	45	8/21/2023	1.50	20.4	Passenger Car
129	45	8/21/2023	1.85	16.6	Passenger Car
130	45	8/21/2023	1.10	27.9	Passenger Car
131	45	8/21/2023	1.23	24.9	Passenger Car
132	45	8/21/2023	1.08	28.4	Passenger Car
133	45	8/21/2023	1.63	18.8	Passenger Car
134	45	8/21/2023	1.50	20.4	Passenger Car
135	45	8/21/2023	0.96	32.0	Passenger Car
136	45	8/21/2023	1.36	22.6	Passenger Car
137	45	8/21/2023	0.98	31.3	Passenger Car

AVERAGE SPEEDS	
PASSENGER CAR	23.7
HEAVY VEHICLE	16.1
BUS	N/A
BIKE	22.2

AFTER (AM & PM PERIODS) FROM SOUTH

SPOT SPEED STUDY | AFTER - AM PERIOD (7-9 AM) | FROM SOUTH					
Observation number	Distance between reference points (obtain from field)	Date	Time that it took the vehicle to pass along the reference points.	Speed obtained from v = d/t	Passenger car, heavy vehicle, bus, ped, bike
#	DISTANCE (ft)	DATE	TRAVEL TIME (seconds)	SPEED (mph)	VEHICLE TYPE
1	45	8/21/2023	1.10	27.9	Passenger Car
2	45	8/21/2023	1.35	22.7	Passenger Car
3	45	8/21/2023	1.48	20.7	Passenger Car
4	45	8/21/2023	1.40	21.9	Passenger Car
5	45	8/21/2023	1.65	18.6	Passenger Car
6	45	8/21/2023	1.15	26.7	Passenger Car
7	45	8/21/2023	2.66	11.5	Passenger Car
8	45	8/21/2023	1.16	26.4	Passenger Car
9	45	8/21/2023	0.96	32.0	Passenger Car
10	45	8/21/2023	1.18	26.0	Passenger Car
11	45	8/21/2023	1.46	21.0	Passenger Car
12	45	8/21/2023	1.73	17.7	Passenger Car
13	45	8/21/2023	1.93	15.9	Passenger Car
14	45	8/21/2023	0.96	32.0	Passenger Car
15	45	8/21/2023	1.28	24.0	Passenger Car
16	45	8/21/2023	1.40	21.9	Passenger Car
17	45	8/21/2023	1.50	20.4	Passenger Car
18	45	8/21/2023	1.21	25.4	Passenger Car
19	45	8/21/2023	1.41	21.8	Passenger Car
20	45	8/21/2023	3.18	9.6	Passenger Car
21	45	8/21/2023	1.08	28.4	Passenger Car
22	45	8/21/2023	1.56	19.7	Passenger Car
23	45	8/21/2023	2.11	14.5	Passenger Car
24	45	8/21/2023	1.56	19.7	Passenger Car
25	45	8/21/2023	1.83	16.8	Passenger Car
26	45	8/21/2023	1.38	22.2	Passenger Car
27	45	8/21/2023	1.60	19.2	Passenger Car
28	45	8/21/2023	1.58	19.4	Passenger Car
29	45	8/21/2023	1.33	23.1	Passenger Car
30	45	8/21/2023	2.10	14.6	Passenger Car
31	45	8/21/2023	2.06	14.9	Passenger Car
32	45	8/21/2023	1.71	17.9	Passenger Car
33	45	8/21/2023	1.40	21.9	Passenger Car
34	45	8/21/2023	1.15	26.7	Passenger Car
35	45	8/21/2023	2.53	12.1	Passenger Car
36	45	8/21/2023	1.43	21.5	Passenger Car
37	45	8/21/2023	2.00	15.3	Passenger Car
38	45	8/21/2023	1.65	18.6	Passenger Car
39	45	8/21/2023	2.00	15.3	Passenger Car
40	45	8/21/2023	1.85	16.6	Passenger Car
41	45	8/21/2023	1.85	16.6	Passenger Car
42	45	8/21/2023	1.68	18.3	Passenger Car
43	45	8/21/2023	1.81	16.9	Passenger Car
44	45	8/21/2023	1.20	25.6	Passenger Car
45	45	8/21/2023	1.76	17.4	Passenger Car
46	45	8/21/2023	1.71	17.9	Passenger Car
47	45	8/21/2023	1.71	17.9	Passenger Car
48	45	8/21/2023	1.33	23.1	Passenger Car
49	45	8/21/2023	1.26	24.3	Passenger Car
50	45	8/21/2023	1.88	16.3	Passenger Car
51	45	8/21/2023	1.75	17.5	Passenger Car
52	45	8/21/2023	1.36	22.6	Passenger Car
53	45	8/21/2023	1.50	20.4	Passenger Car
54	45	8/21/2023	1.43	21.5	Passenger Car
55	45	8/21/2023	1.46	21.0	Passenger Car
56	45	8/21/2023	1.51	20.3	Passenger Car
57	45	8/21/2023	1.05	29.2	Passenger Car
58	45	8/21/2023	1.18	26.0	Passenger Car
59	45	8/21/2023	1.21	25.4	Passenger Car
60	45	8/21/2023	1.05	29.2	Passenger Car
61	45	8/21/2023	1.13	27.1	Passenger Car
62	45	8/21/2023	1.75	17.5	Passenger Car
63	45	8/21/2023	1.23	24.9	Passenger Car
64	45	8/21/2023	1.35	22.7	Passenger Car
65	45	8/21/2023	1.34	22.9	Passenger Car
66	45	8/21/2023	1.75	17.5	Passenger Car
67	45	8/21/2023	1.18	26.0	Passenger Car
68	45	8/21/2023	1.45	21.2	Passenger Car
69	45	8/21/2023	1.95	15.7	Passenger Car
70	45	8/21/2023	2.10	14.6	Passenger Car
71	45	8/21/2023	1.13	27.1	Passenger Car
72	45	8/21/2023	2.56	12.0	Bike
73	45	8/21/2023	0.80	38.3	Passenger Car
74	45	8/21/2023	1.38	22.2	Passenger Car
75	45	8/21/2023	1.31	23.4	Passenger Car
76	45	8/21/2023	1.51	20.3	Passenger Car
77	45	8/21/2023	1.58	19.4	Passenger Car
78	45	8/21/2023	0.90	34.1	Passenger Car
79	45	8/21/2023	1.26	24.3	Passenger Car
80	45	8/21/2023	1.45	21.2	Passenger Car
81	45	8/21/2023	1.53	20.0	Passenger Car
82	45	8/21/2023	1.28	24.0	Passenger Car
83	45	8/21/2023	1.98	15.5	Passenger Car
84	45	8/21/2023	1.42	21.6	Passenger Car
85	45	8/21/2023	1.50	20.4	Passenger Car
86	45	8/21/2023	1.58	19.4	Passenger Car
87	45	8/21/2023	1.16	26.4	Passenger Car
88	45	8/21/2023	1.95	15.7	Passenger Car
89	45	8/21/2023	1.63	18.8	Passenger Car
90	45	8/21/2023	1.38	22.2	Passenger Car
91	45	8/21/2023	1.53	20.0	Passenger Car
92	45	8/21/2023	1.81	16.9	Passenger Car
93	45	8/21/2023	1.68	18.3	Passenger Car
94	45	8/21/2023	1.86	16.5	Passenger Car
95	45	8/21/2023	0.55	55.8	Passenger Car

AVERAGE SPEEDS	
PASSENGER CAR	21.5
HEAVY VEHICLE	N/A
BUS	N/A
BIKE	12.0

SPOT SPEED STUDY | AFTER - PM PERIOD (12-2 PM) | FROM SOUTH					
Observation number	Distance between reference points (obtain from field)	Date	Time that it took the vehicle to pass along the reference points.	Speed obtained from v = d/t	Passenger car, heavy vehicle, bus, ped, bike
#	DISTANCE (ft)	DATE	TRAVEL TIME (seconds)	SPEED (mph)	VEHICLE TYPE
1	45	8/21/2023	1.46	21.0	Passenger Car
2	45	8/21/2023	1.31	23.4	Passenger Car
3	45	8/21/2023	1.68	18.3	Passenger Car
4	45	8/21/2023	1.50	20.4	Passenger Car
5	45	8/21/2023	1.30	23.6	Passenger Car
6	45	8/21/2023	1.93	15.9	Passenger Car
7	45	8/21/2023	1.65	18.6	Passenger Car
8	45	8/21/2023	1.53	20.0	Passenger Car
9	45	8/21/2023	1.55	19.8	Passenger Car
10	45	8/21/2023	0.81	37.9	Passenger Car
11	45	8/21/2023	1.35	22.7	Passenger Car
12	45	8/21/2023	2.96	10.4	Passenger Car
13	45	8/21/2023	1.70	18.0	Passenger Car
14	45	8/21/2023	1.75	17.5	Passenger Car
15	45	8/21/2023	1.30	23.6	Passenger Car
16	45	8/21/2023	1.90	16.1	Passenger Car
17	45	8/21/2023	1.95	15.7	Passenger Car
18	45	8/21/2023	1.30	23.6	Passenger Car
19	45	8/21/2023	1.25	24.5	Passenger Car
20	45	8/21/2023	1.40	21.9	Passenger Car
21	45	8/21/2023	1.11	27.6	Passenger Car
22	45	8/21/2023	1.41	21.8	Passenger Car
23	45	8/21/2023	1.06	28.9	Passenger Car
24	45	8/21/2023	1.16	26.4	Passenger Car
25	45	8/21/2023	1.33	23.1	Passenger Car
26	45	8/21/2023	0.96	32.0	Passenger Car
27	45	8/21/2023	1.38	22.2	Passenger Car
28	45	8/21/2023	1.53	20.0	Passenger Car
29	45	8/21/2023	2.03	15.1	Passenger Car
30	45	8/21/2023	1.08	28.4	Passenger Car
31	45	8/21/2023	1.88	16.3	Passenger Car
32	45	8/21/2023	1.36	22.6	Passenger Car
33	45	8/21/2023	1.20	25.6	Passenger Car
34	45	8/21/2023	1.70	18.0	Passenger Car
35	45	8/21/2023	1.25	24.5	Passenger Car
36	45	8/21/2023	1.29	23.8	Passenger Car
37	45	8/21/2023	1.30	23.6	Passenger Car
38	45	8/21/2023	1.25	24.5	Passenger Car
39	45	8/21/2023	1.76	17.4	Passenger Car
40	45	8/21/2023	1.80	17.0	Bike
41	45	8/21/2023	1.33	23.1	Passenger Car
42	45	8/21/2023	1.40	21.9	Passenger Car
43	45	8/21/2023	1.65	18.6	Passenger Car
44	45	8/21/2023	1.80	17.0	Passenger Car
45	45	8/21/2023	1.33	23.1	Passenger Car
46	45	8/21/2023	1.50	20.4	Passenger Car
47	45	8/21/2023	1.96	15.7	Passenger Car
48	45	8/21/2023	1.53	20.0	Passenger Car
49	45	8/21/2023	1.16	26.4	Passenger Car
50	45	8/21/2023	1.30	23.6	Passenger Car
51	45	8/21/2023	1.43	21.5	Passenger Car
52	45	8/21/2023	1.30	23.6	Passenger Car
53	45	8/21/2023	1.18	26.0	Passenger Car
54	45	8/21/2023	1.25	24.5	Passenger Car
55	45	8/21/2023	1.71	17.9	Passenger Car
56	45	8/21/2023	1.50	20.4	Passenger Car
57	45	8/21/2023	1.61	19.1	Passenger Car
58	45	8/21/2023	2.98	10.3	Passenger Car
59	45	8/21/2023	1.51	20.3	Passenger Car
60	45	8/21/2023	3.55	8.6	Passenger Car
61	45	8/21/2023	1.20	25.6	Passenger Car
62	45	8/21/2023	1.93	15.9	Passenger Car
63	45	8/21/2023	1.35	22.7	Passenger Car
64	45	8/21/2023	1.90	16.1	Passenger Car
65	45	8/21/2023	1.05	29.2	Passenger Car
66	45	8/21/2023	1.23	24.9	Passenger Car
67	45	8/21/2023	1.25	24.5	Passenger Car
68	45	8/21/2023	1.30	23.6	Passenger Car
69	45	8/21/2023	1.25	24.5	Passenger Car
70	45	8/21/2023	1.10	27.9	Passenger Car
71	45	8/21/2023	1.80	17.0	Passenger Car
72	45	8/21/2023	1.90	16.1	Passenger Car
73	45	8/21/2023	1.80	17.0	Passenger Car
74	45	8/21/2023	1.28	24.0	Passenger Car
75	45	8/21/2023	1.08	28.4	Passenger Car
76	45	8/21/2023	1.85	16.6	Passenger Car
77	45	8/21/2023	1.80	17.0	Passenger Car
78	45	8/21/2023	0.68	45.1	Passenger Car
79	45	8/21/2023	1.55	19.8	Passenger Car
80	45	8/21/2023	1.50	20.4	Passenger Car
81	45	8/21/2023	1.31	23.4	Passenger Car
82	45	8/21/2023	1.19	25.8	Passenger Car
83	45	8/21/2023	2.13	14.4	Passenger Car
84	45	8/21/2023	1.35	22.7	Passenger Car
85	45	8/21/2023	2.31	13.3	Passenger Car
86	45	8/21/2023	1.36	22.6	Passenger Car
87	45	8/21/2023	1.76	17.4	Passenger Car
88	45	8/21/2023	2.06	14.9	Passenger Car
89	45	8/21/2023	1.88	16.3	Passenger Car
90	45	8/21/2023	1.41	21.8	Passenger Car
91	45	8/21/2023	1.53	20.0	Passenger Car
92	45	8/21/2023	1.33	23.1	Passenger Car
93	45	8/21/2023	1.50	20.4	Passenger Car
94	45	8/21/2023	1.31	23.4	Passenger Car
95	45	8/21/2023	1.25	24.5	Passenger Car
96	45	8/21/2023	1.28	24.0	Passenger Car
97	45	8/21/2023	1.66	18.5	Passenger Car
98	45	8/21/2023	1.78	17.2	Passenger Car
99	45	8/21/2023	1.20	25.6	Passenger Car
100	45	8/21/2023	1.35	22.7	Passenger Car
101	45	8/21/2023	1.23	24.9	Passenger Car
102	45	8/21/2023	1.36	22.6	Passenger Car
103	45	8/21/2023	1.78	17.2	Passenger Car

AVERAGE SPEEDS	
PASSENGER CAR	21.5
HEAVY VEHICLE	N/A
BUS	N/A
BIKE	17.0

B

APENDIX B

TMC STUDY

"BEFORE"
(AM & PM PERIODS)

BEFORE | PASSENGER CAR

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	4	2	6	0	2	1	3	1	1	0	2	4	1	0	5
7:15 AM - 7:30 AM	0	4	2	6	0	6	1	7	2	3	0	5	1	2	0	3
7:30 AM - 7:45 AM	1	4	4	9	0	9	0	9	2	0	1	3	3	1	0	4
7:45 AM - 8:00 AM	1	1	9	11	3	17	3	23	1	5	0	6	4	0	1	5
8:00 AM - 8:15 AM	1	3	2	6	4	11	1	16	3	7	0	10	7	4	2	13
8:15 AM - 8:30 AM	0	6	2	8	0	15	0	15	0	2	0	2	7	1	1	9
8:30 AM - 8:45 AM	0	13	6	19	0	16	2	18	2	5	0	7	4	3	2	9
8:45 AM - 9:00 AM	1	11	5	17	2	22	0	24	0	4	0	4	5	3	0	8
GRAND TOTAL	**4**	**46**	**32**	**82**	**9**	**98**	**8**	**115**	**11**	**27**	**1**	**39**	**35**	**15**	**6**	**56**
PM PERIOD																
12:00 PM - 12:15 PM	2	14	2	18	1	15	3	19	3	9	2	14	3	9	0	12
12:15 PM - 12:30 PM	0	19	2	21	0	11	4	15	3	3	0	6	0	3	2	5
12:30 PM - 12:45 PM	0	10	3	13	0	14	3	17	2	5	2	9	2	3	2	7
12:45 PM - 1:00 PM	2	20	1	23	0	14	4	18	3	9	1	13	1	3	0	4
1:00 PM - 1:15 PM	4	20	1	25	0	20	1	21	1	1	3	5	2	5	0	7
1:15 PM - 1:30 PM	0	12	0	12	0	10	4	14	1	4	0	5	5	3	1	9
1:30 PM - 1:45 PM	0	12	1	13	0	10	4	14	0	4	1	5	2	5	0	7
1:45 PM - 2:00 PM	1	8	0	9	0	12	5	17	4	4	2	10	3	5	2	10
GRAND TOTAL	**9**	**115**	**10**	**134**	**1**	**106**	**28**	**135**	**17**	**39**	**11**	**67**	**18**	**36**	**7**	**61**

BEFORE | BIKE

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	1	1	0	1	0	1	0	1	0	1	1	0	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	1	0	1	0	3	0	3	0	0	0	0
GRAND TOTAL	**1**	**0**	**1**	**2**	**0**	**4**	**0**	**4**	**0**	**10**	**0**	**10**	**1**	**0**	**0**	**1**
PM PERIOD																
12:00 PM - 12:15 PM	0	1	1	2	0	0	1	1	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
12:30 PM - 12:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	1	0	1	0	1	0	1	0	3	1	4	0	2	0	2
1:00 PM - 1:15 PM	0	0	1	1	0	1	0	1	0	2	0	2	0	4	0	4
1:15 PM - 1:30 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	2	0	2
1:30 PM - 1:45 PM	0	1	0	1	0	1	0	1	0	1	0	1	1	1	0	2
1:45 PM - 2:00 PM	0	1	1	2	0	1	0	1	0	1	1	2	1	0	0	1
GRAND TOTAL	**2**	**5**	**3**	**10**	**0**	**5**	**1**	**6**	**0**	**7**	**2**	**9**	**2**	**10**	**0**	**12**

BEFORE | HEAVY VEHICLE

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
GRAND TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**4**	**1**	**5**	**1**	**0**	**0**	**1**
PM PERIOD																
12:00 PM - 12:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1:00 PM - 1:15 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0
1:15 PM - 1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM - 1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**1**

BEFORE | BUS

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PM PERIOD																
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM - 1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM - 1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM - 1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BEFORE | PEDESTRIAN

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	3	0	3	0	4	1	5	0	1	0	1
7:30 AM - 7:45 AM	0	1	0	1	1	0	1	2	0	3	1	4	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	1	0	1	0	3	1	4	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	1	0	0	1	0	0	2	2	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	4	0	4	0	2	0	2	0	1	0	1
8:30 AM - 8:45 AM	0	1	2	3	0	2	0	2	0	6	0	6	0	2	0	2
8:45 AM - 9:00 AM	0	0	0	0	0	2	0	2	0	2	0	2	0	0	0	0
GRAND TOTAL	**0**	**2**	**2**	**4**	**2**	**12**	**1**	**15**	**0**	**20**	**5**	**25**	**0**	**4**	**0**	**4**
PM PERIOD																
12:00 PM - 12:15 PM	2	0	0	2	0	0	0	0	0	5	0	5	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	3	3	0	6
12:30 PM - 12:45 PM	0	0	0	0	0	1	0	1	0	7	0	7	0	1	1	2
12:45 PM - 1:00 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	1
1:00 PM - 1:15 PM	1	0	1	2	0	1	0	1	0	1	0	1	0	2	1	3
1:15 PM - 1:30 PM	1	0	2	3	0	0	0	0	0	1	0	1	0	4	0	4
1:30 PM - 1:45 PM	2	1	0	3	0	2	0	2	0	4	0	4	2	3	0	5
1:45 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	3	1	4	0	2	0	2
GRAND TOTAL	**6**	**1**	**3**	**10**	**1**	**5**	**0**	**6**	**0**	**24**	**1**	**25**	**5**	**16**	**2**	**23**

TMC STUDY

"AFTER"
(AM & PM PERIODS)

AFTER | PASSENGER CAR

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	4	0	4	0	8	0	8	0	1	0	1	1	2	0	3
7:15 AM - 7:30 AM	0	6	0	6	1	4	0	5	1	2	1	4	1	1	1	3
7:30 AM - 7:45 AM	0	4	0	4	1	12	2	15	2	4	1	7	1	4	1	6
7:45 AM - 8:00 AM	1	8	4	13	6	12	1	19	4	7	0	11	5	1	1	7
8:00 AM - 8:15 AM	1	8	5	14	1	21	1	23	0	2	1	3	3	1	0	4
8:15 AM - 8:30 AM	1	8	8	17	0	16	1	17	0	2	2	4	7	6	2	15
8:30 AM - 8:45 AM	1	9	3	13	0	9	0	9	4	3	2	9	8	4	3	15
8:45 AM - 9:00 AM	0	11	2	13	0	14	0	14	4	0	1	5	12	5	2	19
GRAND TOTAL	**4**	**58**	**22**	**84**	**9**	**96**	**5**	**110**	**15**	**21**	**8**	**44**	**38**	**24**	**10**	**72**
PM PERIOD																
12:00 PM - 12:15 PM	1	10	1	12	2	16	1	19	6	4	1	11	8	7	1	16
12:15 PM - 12:30 PM	0	12	3	15	0	8	6	14	4	3	1	8	1	3	0	4
12:30 PM - 12:45 PM	1	13	1	15	0	17	4	21	2	4	0	6	1	2	1	4
12:45 PM - 1:00 PM	0	17	3	20	0	18	2	20	4	4	1	9	4	2	0	6
1:00 PM - 1:15 PM	0	16	3	19	0	12	1	13	4	3	1	8	5	5	0	10
1:15 PM - 1:30 PM	0	10	0	10	1	14	1	16	1	4	1	6	0	4	0	4
1:30 PM - 1:45 PM	0	12	0	12	0	11	0	11	5	4	0	9	1	2	2	5
1:45 PM - 2:00 PM	1	9	1	11	1	14	0	15	0	4	2	6	6	5	1	12
GRAND TOTAL	**3**	**99**	**12**	**114**	**4**	**110**	**15**	**129**	**26**	**30**	**7**	**63**	**26**	**30**	**5**	**61**

AFTER | BIKE

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
7:15 AM - 7:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	2
8:15 AM - 8:30 AM	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	3	0	3	1	0	0	1
8:45 AM - 9:00 AM	0	2	0	2	0	0	0	0	0	1	1	2	0	0	0	0
GRAND TOTAL	**1**	**2**	**1**	**4**	**0**	**1**	**0**	**1**	**0**	**8**	**2**	**10**	**3**	**0**	**0**	**3**
PM PERIOD																
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	2	0	3
12:15 PM - 12:30 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1:00 PM - 1:15 PM	0	0	1	1	0	1	0	1	0	0	1	1	1	0	0	1
1:15 PM - 1:30 PM	0	1	0	1	0	0	0	0	2	0	0	2	0	0	0	0
1:30 PM - 1:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0
1:45 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1
GRAND TOTAL	**0**	**3**	**1**	**4**	**0**	**4**	**0**	**4**	**4**	**4**	**1**	**9**	**2**	**4**	**0**	**6**

AFTER | HEAVY VEHICLE

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
7:30 AM - 7:45 AM	0	1	0	1	1	0	0	1	0	2	0	2	1	0	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM - 8:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**1**	**1**	**0**	**2**	**1**	**0**	**0**	**1**	**1**	**2**	**1**	**4**	**2**	**0**	**0**	**2**
PM PERIOD																
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM - 1:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM - 1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM - 1:45 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0
1:45 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**

AFTER | BUS

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PM PERIOD																
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM - 1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM - 1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM - 1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

AFTER | PEDESTRIAN

TIME	FROM NORTH				FROM SOUTH				FROM EAST				FROM WEST			
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
AM PERIOD																
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	3	0	3	0	1	2	3	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	1	1	2	0	1	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	1	1	2	0	0	1	1	0	1	0	1
8:00 AM - 8:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	1	2	0	3
8:15 AM - 8:30 AM	0	0	1	1	0	2	0	2	0	1	0	1	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	5	0	5	0	3	0	3	0	0	0	0
8:45 AM - 9:00 AM	0	2	0	2	0	4	0	4	0	11	0	11	0	1	0	1
GRAND TOTAL	**0**	**2**	**1**	**3**	**0**	**17**	**1**	**18**	**0**	**19**	**4**	**23**	**1**	**5**	**0**	**6**
PM PERIOD																
12:00 PM - 12:15 PM	0	1	0	1	0	0	1	1	0	5	0	5	0	0	0	0
12:15 PM - 12:30 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	3	0	3
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	2
12:45 PM - 1:00 PM	1	2	0	3	0	1	0	1	0	3	2	5	1	3	0	4
1:00 PM - 1:15 PM	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0
1:15 PM - 1:30 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	1	0	1
1:30 PM - 1:45 PM	0	2	0	2	0	1	0	1	0	0	1	1	0	1	0	1
1:45 PM - 2:00 PM	2	1	0	3	0	1	1	2	0	4	0	4	0	2	0	2
GRAND TOTAL	**3**	**6**	**1**	**10**	**0**	**4**	**2**	**6**	**1**	**16**	**5**	**22**	**2**	**11**	**0**	**13**