



MEMORANDUM

TO: Peter Rice, Director of Public Works

FROM: Deborah Finnigan, PE

SUBJECT: On-Street Bicycle Facility Improvements Evaluation
Middle Street (Cabot Street to Lincoln Avenue), Portsmouth, New

DATE: Hampshire May 10, 2022

WSP has performed an independent engineering evaluation and review of the Middle Street corridor from Cabot Street to Lincoln Avenue. The City Council approved a directive on March 15, 2021, to complete an assessment to determine the feasibility of the existing configuration.

CONDITION INVENTORY AND ENGINEERING EVALUATION

WSP evaluated bid plans, the revised plans, crash data, bicycle counts, parked vehicle counts, speed data, and existing conditions/photographs.

STUDY CORRIDOR CONDITIONS

The post-construction layout of the study corridor was a defined bicycle lane heading inbound from Andrew Jarvis Drive to Highland Street, then shared lane markings to Islington Street/Congress Street. The outbound side of Middle Street shared lane markings from Islington Street/Congress Street to Highland Street, then from Highland to Andrew Jarvis Drive, had a defined curbside bicycle lane, buffer zone, and defined parking spaces. The project also included bollards to help define the edge bicycle lane buffer.

Some of the bollards were removed from the roadway in 2019.

In 2021, additional modifications to the study corridor were completed, including covering pavement markings, adding a crosswalk and Rectangular Rapid Flashing Beacons (RRFB), and additional signs. See Figure 1.

The existing layout of the study corridor is a defined bicycle lane with a buffer zone heading inbound from Andrew Jarvis Drive to Highland Street, then shared lane markings to Islington Street/Congress Street without bollards. On the outbound side of Middle Street from Islington Street/Congress Street to Lincoln Avenue, there aren't defined parking, bicycle lanes with a buffer, or shared lane pavement markings due to being previously covered with black paint, and no bollards are present, from Lincoln Avenue to Andrew Jarvis Drive there is bike lane with a buffer, and from Andrew Jarvis Drive there is a bike lane without a buffer until Highland Avenue.



Figure 1: Middle Street looking inbound

CRASH DATA

The Portsmouth Police Department supplied crash data for the study corridor from April 15 to October 14, 2020. The information is as follows:

- 1) Middle Street at Wibird Street – hit and run between two vehicles.
- 2) Middle Street at Wibird Street – involved two vehicles, one turning from Wibird Street onto Middle Street and struck by a vehicle on Middle Street.
- 3) Middle Street at Cass Street – involved two vehicles, hit and run
- 4) Middle Street at Aldrich Road – a vehicle hit a parked car.

The accident data provided shows that no reported pedestrian or bicycle involved accidents after the bollards were removed.

PARKING COUNTS

The City provided vehicle parking counts for the study corridor. The undefined spaces not signed for no parking or drop off/pick up were counted starting August 4, 2021, and ending on August 31, 2021, and the following time periods were counted 9:00 am 1:00 pm, and 5:00 pm. See the Appendix for the data.

The percent occupancy for parking spaces for the am period was between 45 and 53, the mid-day period was between 29 and 58, and the afternoon period was between 13 and 47.

BICYCLE COUNTS

The City provided 2021 bicycle counts from May 24, 2021, to September 23, 2021. The counts were taken from the camera at Cass Street facing north. See Figure 2 for the seven-day averages for the weeks counted.

The data shows there are between 53 and 96 bicycles on average for this section of the study corridor.

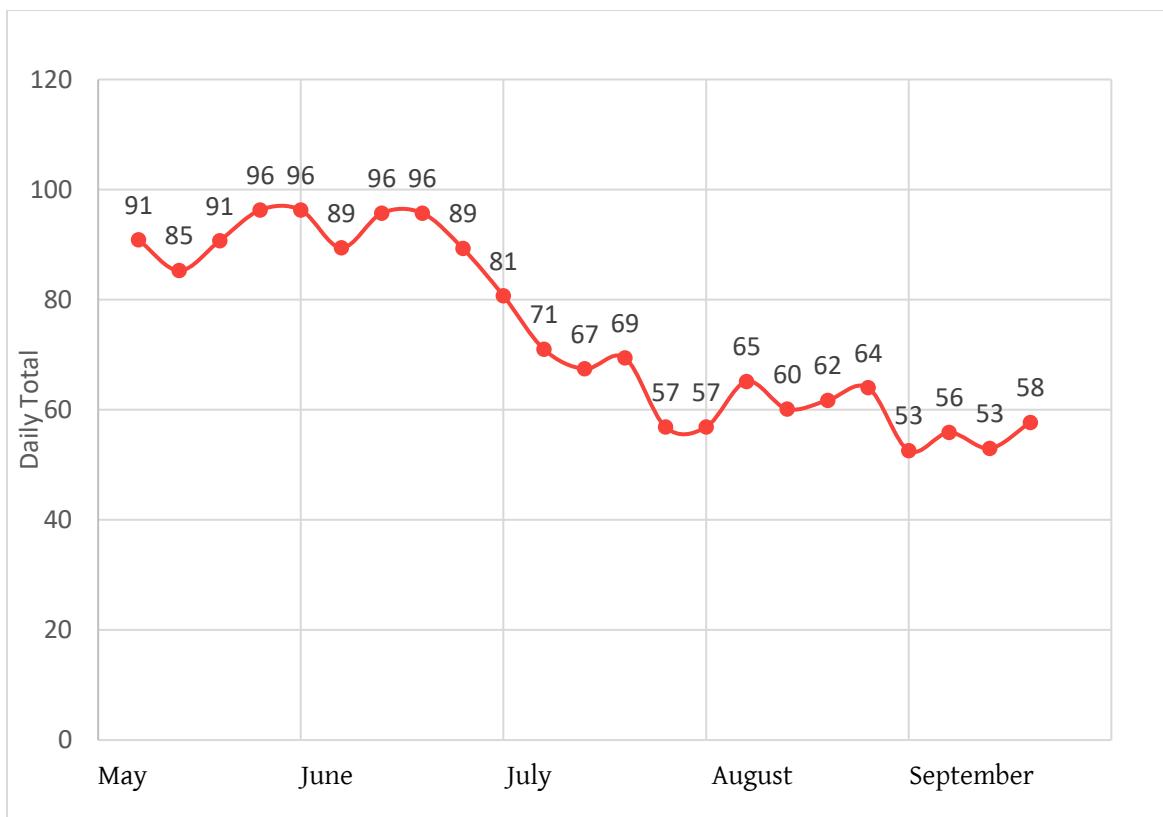


Figure 2: 2021 Middle Street at Cass Street – Bicycle Counts

VEHICLE SPEED

The City supplied the average and 85th percentile (85th percentile speed is the speed at which 85 percent of all vehicles travel at or slower) vehicle speed data for various locations along the study corridor. These studies were performed before and after construction, including the bollards, and when the bollards were removed, a speed study was done at the intersection of Aldrich Road and Middle Street only.

The average speed near the intersection of Aldrich Road and Middle Street:

1. Before construction, 29 mph outbound and 29 mph inbound.
2. After construction, 27 mph outbound and 28 mph inbound.
3. After the bollards were removed, 29 mph outbound and 28 mph inbound.

The 85th percentile speed near the intersection of Aldrich Road and Middle Street:

1. Before construction, 32 mph outbound and 32 mph inbound.
2. After construction, 31 mph outbound and 32 mph inbound.
3. After the bollards were removed, 33 mph outbound and 32 mph inbound.

ASSESSMENT AND RECOMMENDATION OF THE STUDY CORRIDOR

The study corridor has been in the current configuration (parking on the curb and a wide travel lane for the outbound side of the roadway without defined bicycle accommodations for more than six months). There has been a minor increase in speed (1 to 2 mph) since removing the bollards, no known bicycle or pedestrian accidents have occurred, and the residents and business owners have expressed minimal concerns since the revisions were made.

WSP recommendations are described below and are presented in Figures 3 and 4. The recommendations are as follows:

1. The existing parking, no parking, and drop-off area in the study corridor remain in its current location next to the sidewalk. The parking spaces, no parking, and drop-off areas shall be defined with an edge line and an end line or crosshatching.
2. WSP recommends installing a shared lane marking due to the current roadway configuration that has been in place for more than six months and the number of cyclists using the corridor. The shared lane markings will be placed at least 11 feet from the curb face due to the parking lane being present and the 85th percentile speed is under 35 mph.
 - a. The above recommendation is due to the 85th percentile speed being less than 35 mph and the posted speed being 25 mph. These values fall between the two defined bicycle pavement marking scenarios (under 25 mph, use shared lane markings, and over 35 mph, use a bike lane with a buffer if there is room). This information is from the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide.
3. Install additional bicycles and vehicles sharing the road warning signs. Also, remove the existing signs (bicycle symbol (W11-1) and an arrow (W16-7p)) at Cabot Street, and install them at Lincoln Avenue facing the outbound traffic, as shown in Figure 3.



Figure 3: Lincoln Avenue to Cass Street Recommendations



Figure4: Cass Street to Cabot Recommendations

MIDDLE STREET CORRIDOR

APPENDIX

- 1. PARKED VEHICLE COUNTS**
- 2. SPEED DATA SUMMARY**
- 3. VOLUME DATA**

APPENDIX

1. PARKED VEHICLE COUNTS

MIDDLE STREET BIKE LANE - PARKED VEHICLE COUNTS

August, 2021

	8.4.21	9a	9a	9a	1p	1p	1p	5p	5p	5p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	23	15	61%		no count	0%		no count	0%
	8.5.21	9a	9a	9a	130p	130p	130p	5p	5p	5p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	24	14	63%	15	23	39%	5	33	13%
	8.6.21	5a	5a	5a	11a	11a	11a	4p	4p	4p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	24	14	63%		no count	0%		no count	0%
	8.7.21	5a	5a	5a	230p	230p	230p	6p	6p	6p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	18	20	47%	20	18	53%		no count	0%
	8.8.21	5a	5a	5a	1230p	1230p	1230p	615p	615p	615p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	17	21	45%	11	27	29%		no count	0%
	8.9.21	5a	5a	5a	1130p	1130p	1130p	4p	4p	4p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	20	18	53%		no count	0%		no count	0%
	8.10.21	5a	5a	5a	12p	12p	12p	4p	4p	4p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	22	16	58%		no count	0%		no count	0%
	8.11.21	5a	5a	5a	1215p	1215p	1215p	6p	6p	6p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	21	17	55%		no count	0%		no count	0%
	8.12.21	4a	4a	4a	130p	130p	130p	7p	7p	7p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	22	16	58%		no count	0%		no count	0%
	8.13.21	4a	4a	4a	1p	1p	1p	5p	5p	5p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	24	14	63%	14	24	37%	15	23	39%
	8.14.21	4a	4a	4a	1245p	1245p	1245p	715p	715p	715p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	22	16	58%	20	18	53%	6	32	16%

	8.15.21	4a	4a	4a	1p	1p	1p	445p	445p	445p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	22	16	58%	14	24	37%	16	22	42%
	8.17.21	4a	4a	4a	1130a	1130a	1130a	530p	530p	530p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	21	17	55%	15	23	39%	16	22	42%
	8.17.21	5am	5am	5am	1215p	1215p	1215p	4p	4p	4p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	23	15	61%	15	23	39%	16	22	42%
	8.18.21	5am	5am	5am	-	-	-	-	-	-
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	19	19	50%		no count	0%		no count	0%
	8.19.21	5am	5am	5am	145p	145p	145p	530p	530p	530p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	24	14	63%	17	21	45%	18	20	47%
	8.20.21	5am	5am	5am	12p	12p	12p	630p	630p	630p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	21	17	55%	12	26	32%	13	25	34%
	8.21.21	5am	5am	5am	1230p	1230p	1230p	7p	7p	7p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	24	14	63%	13	25	34%	15	23	39%
	8.22.21	5am	5am	5am	130p	130p	130p	5p	5p	5p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	24	14	63%	15	23	39%	17	21	45%
	8.23.21	5am	5am	5am	12p	12p	12p	6p	6p	6p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	22	16	58%	17	21	45%	23	15	61%
	8.24.21	5am	5am	5am	1p	1p	1p	5p	5p	5p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	24	14	63%	22	16	58%	20	18	53%
	8.25.21	5am	5am	5am	145p	145p	145p	7p	7p	7p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	25	13	66%	16	22	42%	13	25	34%
	8.26.21	5am	5am	5am	1230p	1230p	1230p	5p	5p	5p
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ
MS Bike Lane	38	22	16	58%	18	20	47%	18	20	47%

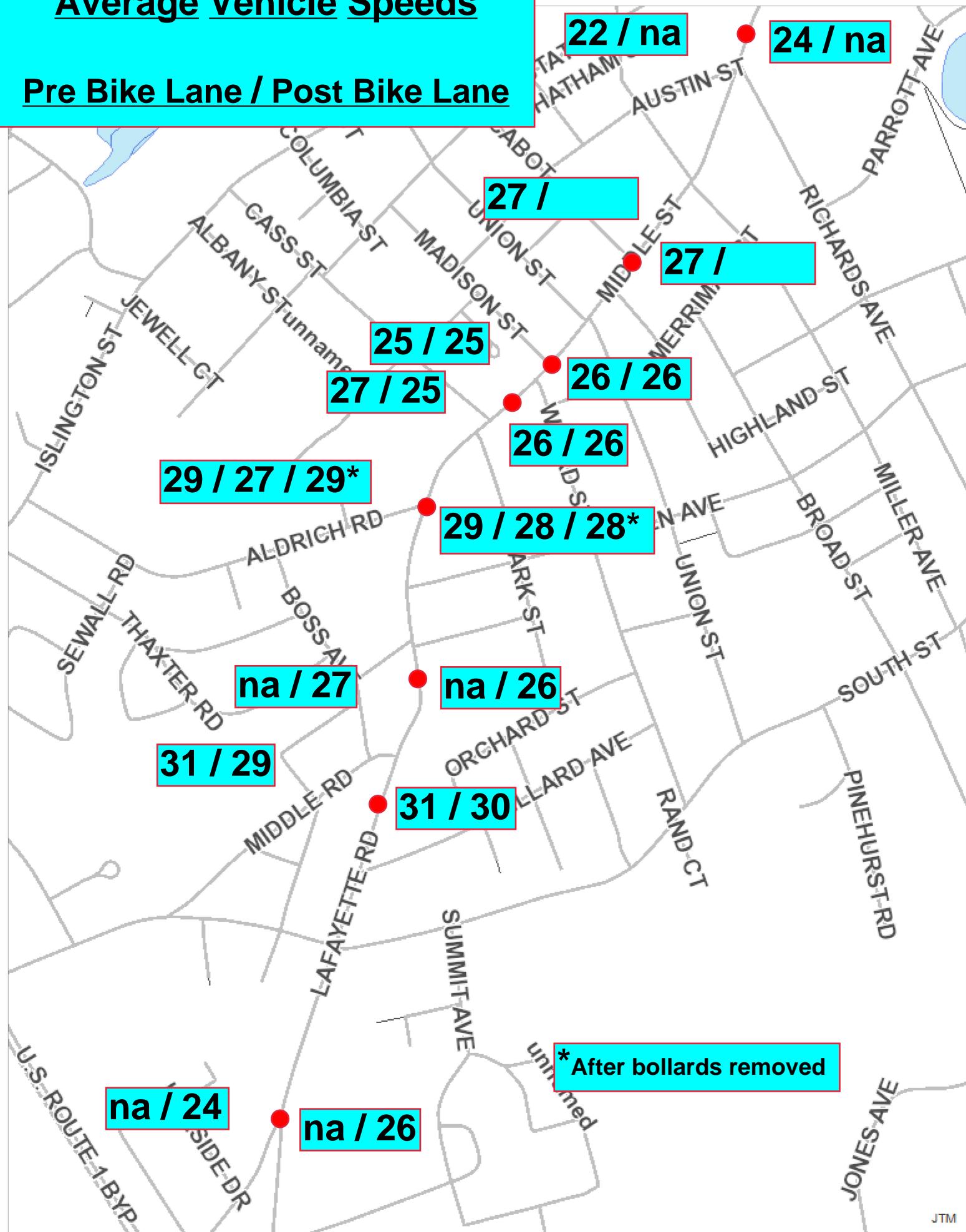
	8.27.21	5am	5am	5am	2p	2p	2p	6p	6p	6p	
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	
MS Bike Lane		38	18	20	47%	12	26	32%	10	28	26%
	8.28.21	5am	5am	5am	11a	11a	11a	715p	715p	715p	
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	
MS Bike Lane		38	23	15	61%	12	26	32%	14	24	37%
	8.30.21	5am	5am	5am	130p	130p	130p	630p	630p	630p	
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	
MS Bike Lane		38	18	20	47%		no count	0%		no count	0%
	8.31.21	5am	5am	5am	12p	12p	12p	6p	6p	6p	
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	
MS Bike Lane		38	20	18	53%	14	24	37%	14	24	37%
	-	5am	5am	5am	12p	12p	12p	4p	4p	4p	
	INVENTORY	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	Cars	Open Sp	% Occ	
MS Bike Lane		38		no count	0%		no count	0%		no count	0%

APPENDIX

2.SPEED DATA SUMMARY

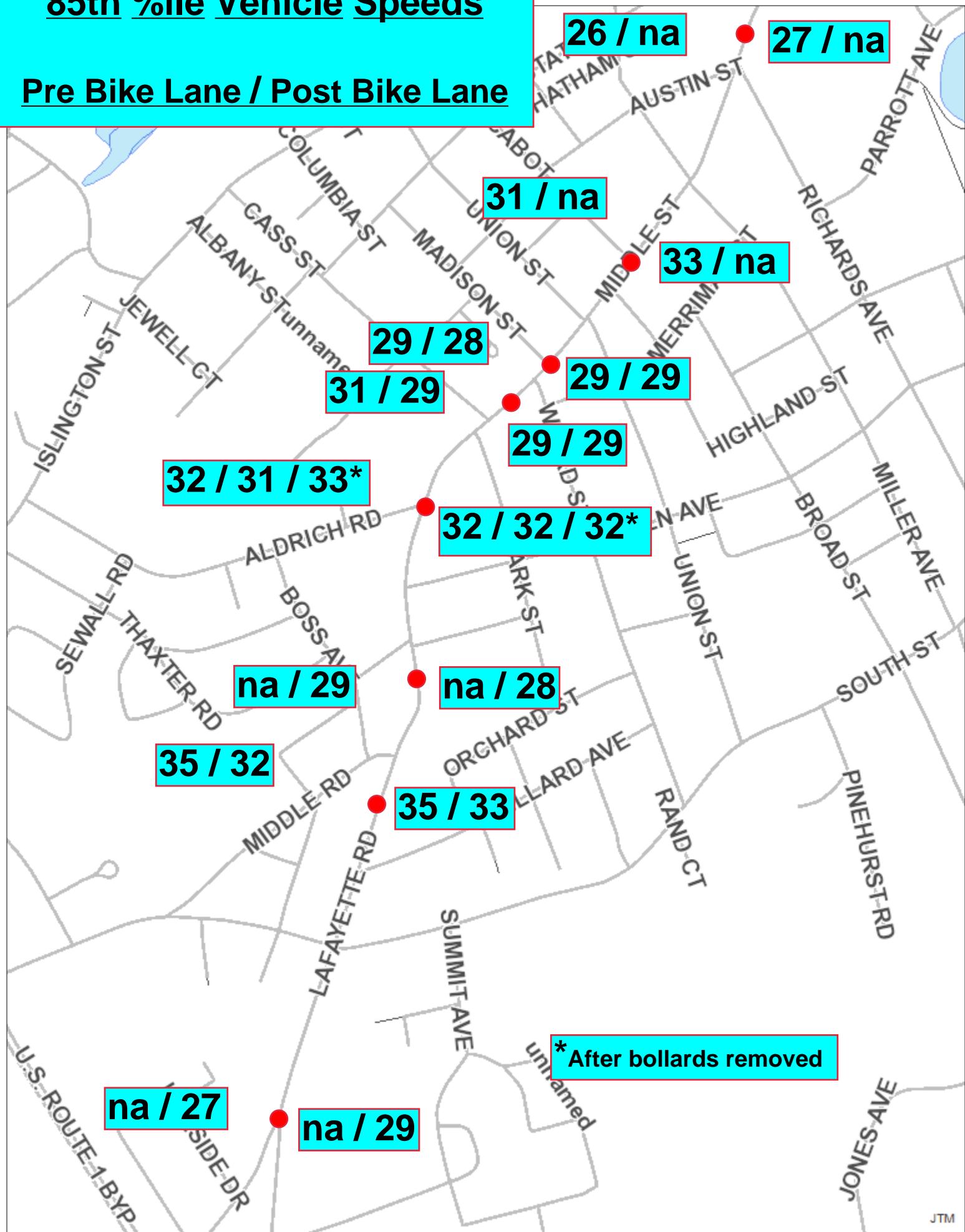
Average Vehicle Speeds

Pre Bike Lane / Post Bike Lane



85th %ile Vehicle Speeds

Pre Bike Lane / Post Bike Lane



APPENDIX

3. VOLUME DATA



City of Portsmouth
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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

6/7/2021	6/7/2021	6/8/2021	6/9/2021	6/10/2021	6/11/2021	Weekday Average	6/12/2021	6/13/2021
Time	Outbound , Lane 1	Inbound, Lane 2						
12:00 AM	*	*	*	*	*	*	16	19
1:00	*	*	*	*	*	*	16	9
2:00	*	*	*	*	*	*	8	9
3:00	*	*	*	*	*	*	6	7
4:00	*	*	*	*	*	*	6	19
5:00	*	*	*	*	*	*	32	62
6:00	*	*	*	*	*	*	85	90
7:00	*	*	*	*	*	*	166	228
8:00	*	*	*	*	*	*	332	458
9:00	*	*	*	*	*	*	272	382
10:00	*	*	*	*	*	*	290	451
11:00	*	*	*	*	*	*	346	431
12:00 PM	*	*	*	*	*	*	365	568
1:00	*	*	*	*	*	*	336	572
2:00	*	*	*	*	316	456	354	465
3:00	*	*	*	*	424	521	385	517
4:00	*	*	*	*	399	455	378	519
5:00	*	*	*	*	379	536	391	499
6:00	*	*	*	*	282	438	238	431
7:00	*	*	*	*	244	332	236	334
8:00	*	*	*	*	205	215	183	249
9:00	*	*	*	*	167	163	175	164
10:00	*	*	*	*	99	97	98	99
11:00	*	*	*	*	65	53	81	66
Total Day	0	0	0	0	2580	3266	4795	6648
AM Peak Volume					5846	11443	11434	9554
PM Peak Volume					3:00	5:00	5:00	1:00
					424	536	391	572
					404	404	572	302
					458	458	460	460
					327	327	250	250
					424	424	416	416



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End Date: 6/14/2021

6/14/2021		6/14/2021		6/15/2021		6/16/2021		6/17/2021		6/18/2021		Weekday Average		6/19/2021		6/20/2021		
Time	Outbound , Lane 1	Inbound, Lane 2																
12:00 AM	20	17	*	*	*	*	*	*	*	*	*	*	20	17	*	*	*	*
1:00	13	14	*	*	*	*	*	*	*	*	*	*	13	14	*	*	*	*
2:00	7	6	*	*	*	*	*	*	*	*	*	*	7	6	*	*	*	*
3:00	4	4	*	*	*	*	*	*	*	*	*	*	4	4	*	*	*	*
4:00	7	14	*	*	*	*	*	*	*	*	*	*	7	14	*	*	*	*
5:00	53	43	*	*	*	*	*	*	*	*	*	*	53	43	*	*	*	*
6:00	69	111	*	*	*	*	*	*	*	*	*	*	69	111	*	*	*	*
7:00	181	216	*	*	*	*	*	*	*	*	*	*	181	216	*	*	*	*
8:00	345	445	*	*	*	*	*	*	*	*	*	*	345	445	*	*	*	*
9:00	272	385	*	*	*	*	*	*	*	*	*	*	272	385	*	*	*	*
10:00	130	160	*	*	*	*	*	*	*	*	*	*	130	160	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	1101	1415	0	0	0	0	0	0	0	0	1101	1415	0	0	0	0	0	0
AM Peak Volume	8:00	8:00									8:00	8:00						
PM Peak Volume	345	445									345	445						
Comb Total ADT	2516	0									5846	11443	13950	9554				
ADT	2516	0									7879	7879						



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DPW

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End Date: 6/14/2021

6/7/2021	6/7/2021	6/8/2021	6/9/2021	6/10/2021	6/11/2021	Weekday Average	6/12/2021	6/13/2021
Time	Outbound , Lane 1	Inbound, Lane 2						
12:00 AM	*	*	*	*	*	*	16	19
1:00	*	*	*	*	*	*	16	9
2:00	*	*	*	*	*	*	8	9
3:00	*	*	*	*	*	*	6	7
4:00	*	*	*	*	*	*	6	19
5:00	*	*	*	*	*	*	32	62
6:00	*	*	*	*	*	*	85	90
7:00	*	*	*	*	*	*	166	228
8:00	*	*	*	*	*	*	332	458
9:00	*	*	*	*	*	*	272	382
10:00	*	*	*	*	*	*	290	451
11:00	*	*	*	*	*	*	346	431
12:00 PM	*	*	*	*	*	*	365	568
1:00	*	*	*	*	*	*	336	572
2:00	*	*	*	*	316	456	354	465
3:00	*	*	*	*	424	521	385	517
4:00	*	*	*	*	399	455	378	519
5:00	*	*	*	*	379	536	391	499
6:00	*	*	*	*	282	438	238	431
7:00	*	*	*	*	244	332	236	334
8:00	*	*	*	*	205	215	183	249
9:00	*	*	*	*	167	163	175	164
10:00	*	*	*	*	99	97	98	99
11:00	*	*	*	*	65	53	81	66
Total Day	0	0	0	0	2580	3266	4795	6648
AM Peak Volume					5846	11443	11434	9554
PM Peak Volume					3:00	5:00	5:00	1:00
					424	536	391	572
					404	404	572	302
					458	458	458	327
					424	424	424	424



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6/14/2021		6/14/2021		6/15/2021		6/16/2021		6/17/2021		6/18/2021		Weekday Average		6/19/2021		6/20/2021		
Time	Outbound , Lane 1	Inbound, Lane 2																
12:00 AM	20	17	*	*	*	*	*	*	*	*	*	*	20	17	*	*	*	*
1:00	13	14	*	*	*	*	*	*	*	*	*	*	13	14	*	*	*	*
2:00	7	6	*	*	*	*	*	*	*	*	*	*	7	6	*	*	*	*
3:00	4	4	*	*	*	*	*	*	*	*	*	*	4	4	*	*	*	*
4:00	7	14	*	*	*	*	*	*	*	*	*	*	7	14	*	*	*	*
5:00	53	43	*	*	*	*	*	*	*	*	*	*	53	43	*	*	*	*
6:00	69	111	*	*	*	*	*	*	*	*	*	*	69	111	*	*	*	*
7:00	181	216	*	*	*	*	*	*	*	*	*	*	181	216	*	*	*	*
8:00	345	445	*	*	*	*	*	*	*	*	*	*	345	445	*	*	*	*
9:00	272	385	*	*	*	*	*	*	*	*	*	*	272	385	*	*	*	*
10:00	130	160	*	*	*	*	*	*	*	*	*	*	130	160	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	1101	1415	0	0	0	0	0	0	0	0	1101	1415	0	0	0	0	0	0
AM Peak Volume	8:00	8:00									8:00	8:00						
PM Peak Volume	345	445									345	445						
Comb Total ADT	2516	0									5846	11443	13950	9554				
ADT	2516	0									7879	7879						



City of Portsmouth
DPW

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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

Direction: Outbound, Lane 1

6/10/2021	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
	12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	2:00	0	0	1	0	2	0	15	64	99	107	26	2	0	0	316
	3:00	0	0	0	0	2	7	20	72	165	114	41	3	0	0	424
	4:00	0	0	0	1	1	2	25	92	136	112	23	6	1	0	399
	5:00	0	0	0	0	0	1	13	80	140	107	34	4	0	0	379
	6:00	0	0	0	1	1	2	26	38	103	74	34	3	0	0	282
	7:00	0	0	0	0	1	1	10	38	61	87	35	6	3	2	244
	8:00	0	0	0	0	0	4	3	29	79	62	19	8	1	0	205
	9:00	0	0	0	0	3	0	7	28	64	51	13	1	0	0	167
	10:00	0	0	0	0	1	0	2	14	33	24	17	6	1	1	99
	11:00	0	0	0	0	0	0	0	3	14	21	18	6	2	1	65
	Total	0	0	1	2	11	17	121	458	894	759	260	45	8	4	2580

Percentile Speed	15th	50th	85th	95th
Mean Speed (Average)	22.9	26	29.7	31.6
10 MPH Pace Speed	26.5			
Number in Pace	21-30			
Percent in Pace	2202			
Number > 45 MPH	84.8%			
Percent > 45 MPH	5			
	0.2%			



City of Portsmouth
DPW

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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

Direction: Outbound, Lane 1

6/11/2021	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
Time															
12:00 AM	0	0	0	0	0	0	0	2	3	2	7	1	0	1	16
1:00	0	0	0	0	0	0	1	2	2	6	2	2	1	0	16
2:00	0	0	0	1	0	0	0	0	4	1	0	2	0	0	8
3:00	0	0	0	0	0	0	0	1	1	2	2	0	0	0	6
4:00	0	0	0	0	0	0	1	2	1	1	1	0	0	0	6
5:00	0	0	0	0	0	1	0	3	5	12	6	4	1	0	32
6:00	0	0	0	0	1	0	5	11	19	27	17	2	2	1	85
7:00	0	0	0	0	0	0	9	22	45	47	32	10	0	1	166
8:00	0	0	0	0	0	6	21	62	100	91	43	5	3	1	332
9:00	0	0	0	0	2	2	16	40	100	79	26	6	1	0	272
10:00	0	0	0	0	0	5	12	45	118	71	32	7	0	0	290
11:00	0	0	1	0	2	9	22	62	125	88	25	6	2	4	346
12:00 PM	0	0	0	0	1	6	28	55	119	110	35	8	3	0	365
1:00	0	0	1	0	1	3	23	67	117	101	21	2	0	0	336
2:00	0	0	1	0	1	8	24	62	127	94	28	8	1	0	354
3:00	0	0	0	0	0	7	16	68	132	118	36	7	1	0	385
4:00	0	0	0	0	1	3	19	63	132	116	32	12	0	0	378
5:00	0	0	0	1	1	3	21	65	142	109	36	9	2	2	391
6:00	0	0	0	0	0	0	2	46	98	62	24	4	2	0	238
7:00	0	0	0	1	0	3	15	41	66	64	38	6	2	0	236
8:00	0	0	0	0	0	1	5	35	73	54	13	2	0	0	183
9:00	0	0	1	0	3	1	2	26	62	49	27	3	1	0	175
10:00	0	0	0	0	0	1	3	10	26	33	22	3	0	0	98
11:00	0	0	1	0	0	0	5	9	21	20	17	6	1	1	81
Total	0	0	5	3	13	59	250	799	1638	1357	522	115	23	11	4795

Percentile	15th	50th	85th	95th
Speed	22.9	26	29.7	32.2
Mean Speed (Average)	26.6			
10 MPH Pace Speed	21-30			
Number in Pace	3989			
Percent in Pace	82.5%			
Number > 45 MPH	11			
Percent > 45 MPH	0.2%			



City of Portsmouth
DPW

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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

Direction: Outbound, Lane 1

6/12/2021	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
Time															
12:00 AM	0	0	0	0	0	0	2	2	15	18	15	4	1	1	58
1:00	0	0	0	1	0	0	0	2	6	18	14	4	0	0	45
2:00	0	0	0	0	0	1	0	0	0	5	4	1	0	0	11
3:00	0	0	0	0	0	1	1	2	4	1	0	1	1	0	11
4:00	0	0	0	0	0	0	0	1	2	2	3	0	0	0	8
5:00	0	0	0	0	0	1	1	2	4	4	1	1	0	0	14
6:00	0	0	0	1	1	0	3	7	19	21	8	1	1	0	62
7:00	0	0	0	0	0	1	3	15	33	26	9	5	2	0	94
8:00	0	0	1	0	2	3	12	20	58	59	26	6	1	0	188
9:00	0	0	0	0	1	14	10	40	66	63	19	12	1	0	226
10:00	0	0	1	0	1	3	16	56	100	68	29	6	1	1	282
11:00	0	0	0	0	0	2	22	46	112	81	36	2	3	0	304
12:00 PM	0	0	0	0	2	2	28	37	96	102	30	4	1	0	302
1:00	0	0	0	0	0	4	23	47	104	64	28	4	3	0	277
2:00	0	0	0	0	0	4	23	44	98	80	41	10	2	0	302
3:00	0	0	4	0	1	5	21	46	89	91	35	3	1	0	296
4:00	0	0	0	0	1	1	17	52	93	71	31	0	0	0	266
5:00	0	0	1	2	0	0	12	36	104	59	35	8	1	1	259
6:00	0	0	0	0	2	0	12	32	56	64	22	5	4	0	197
7:00	0	0	0	0	2	0	13	32	75	88	21	3	2	1	237
8:00	0	0	0	0	0	2	12	26	79	62	11	6	0	0	198
9:00	0	0	0	0	1	2	14	26	57	40	22	6	3	1	172
10:00	0	0	0	0	0	0	1	11	38	51	25	7	3	1	137
11:00	0	0	0	0	0	0	4	9	28	28	22	9	0	0	100
Total	0	0	7	4	14	46	250	591	1336	1166	487	108	31	6	4046

Percentile	15th	50th	85th	95th
Speed	22.9	26.6	30.3	32.2
Mean Speed (Average)	26.6			
10 MPH Pace Speed	21-30			
Number in Pace	3242			
Percent in Pace	80.3%			
Number > 45 MPH	6			
Percent > 45 MPH	0.1%			



Direction: Outbound, Lane 1

6/13/2021	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total	
	12:00 AM	0	0	0	0	0	0	1	6	13	12	9	3	2	1	47	
	1:00	0	0	0	0	0	0	0	1	10	26	10	3	2	0	52	
	2:00	0	0	0	0	0	0	0	1	6	3	6	2	2	0	20	
	3:00	0	0	0	0	0	0	0	1	2	9	0	1	1	0	14	
	4:00	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	
	5:00	0	0	0	0	0	0	0	0	2	3	2	0	0	0	7	
	6:00	0	0	0	0	0	0	2	4	4	5	8	6	1	1	31	
	7:00	0	0	0	0	0	0	1	5	12	20	23	3	2	0	77	
	8:00	0	0	0	0	0	2	2	8	15	32	42	12	4	1	0	118
	9:00	0	0	0	0	0	0	1	6	25	78	57	22	3	0	0	192
	10:00	0	0	1	0	1	1	10	25	75	63	30	13	2	1	222	
	11:00	0	0	0	0	0	0	3	18	39	93	68	25	4	0	0	250
	12:00 PM	0	0	1	0	0	0	7	14	23	93	85	36	6	6	0	271
	1:00	0	0	0	1	0	1	15	51	74	56	40	9	2	1	250	
	2:00	0	0	0	1	1	3	12	30	79	63	41	10	3	0	243	
	3:00	0	0	0	0	5	6	22	74	118	77	22	1	2	0	327	
	4:00	0	0	0	1	1	4	16	59	91	67	26	2	2	0	269	
	5:00	0	0	0	0	2	2	10	51	98	77	37	3	1	1	282	
	6:00	0	0	0	0	2	0	8	31	101	43	28	5	1	0	219	
	7:00	0	0	0	0	0	0	1	8	19	54	49	24	8	3	0	166
	8:00	0	0	0	0	3	1	8	29	63	45	21	7	0	1	178	
	9:00	0	0	1	0	0	4	13	25	46	46	15	6	1	0	157	
	10:00	0	0	0	1	1	0	10	8	22	10	12	2	0	0	66	
	11:00	0	0	0	0	0	0	0	3	9	11	11	1	2	0	37	
Total		0	0	3	4	18	39	188	532	1184	944	446	97	36	6	3497	

Percentile	15th	50th	85th	95th
Speed	22.9	26.6	30.3	32.8
Mean Speed (Average)	26.7			
10 MPH Pace Speed	21-30			
Number in Pace	2781			
Percent in Pace	80.1%			
Number > 45 MPH	5			
Percent > 45 MPH	0.1%			



City of Portsmouth
DPW

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File Name: Middle Street at Cass 6.14.2021
Date Printed: 6/25/2021
Start Date: 6/10/2021
End Date: 6/14/2021

Direction: Outbound, Lane 1

6/14/2021	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
	12:00 AM	0	0	0	0	0	0	0	2	5	7	2	3	1	0	20
	1:00	0	0	0	0	0	0	1	0	1	4	3	3	1	0	13
	2:00	0	0	0	0	0	0	0	2	1	2	0	0	2	0	7
	3:00	0	0	0	0	0	0	0	0	2	0	1	0	1	0	4
	4:00	0	0	0	0	0	0	0	1	1	2	3	0	0	0	7
	5:00	0	0	0	0	1	0	1	2	6	13	18	9	3	0	53
	6:00	0	0	0	0	0	1	1	3	12	16	15	13	4	4	69
	7:00	0	0	0	0	0	0	4	6	32	49	58	21	10	1	181
	8:00	0	0	0	0	0	1	0	8	65	110	110	46	5	0	345
	9:00	0	0	0	0	0	1	1	14	42	103	78	29	4	0	272
	10:00	0	0	0	0	1	1	4	2	19	45	43	13	2	0	130
	11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
	11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
Total		0	0	0	2	4	11	36	181	346	337	140	34	10	0	1101

Percentile 15th 50th 85th 95th
Speed 22.9 27.2 30.3 33.5

Mean Speed (Average)

10 MPH Pace Speed

Number in Pace

Percent in Pace

Number > 45 MPH

Percent > 45 MPH

Grand Total	0	0	16	15	60	172	845	2561	5398	4563	1855	399	108	27	16019
-------------	---	---	----	----	----	-----	-----	------	------	------	------	-----	-----	----	-------

Stats Percentile 15th 50th 85th 95th
Speed 22.9 26.6 29.7 32.2

Mean Speed (Average)

10 MPH Pace Speed

Number in Pace

Percent in Pace

Number > 45 MPH

Percent > 45 MPH



Direction: Inbound, Lane 2

Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	0	0	2	2	4	5	21	60	169	123	60	10	0	0	456
3:00	0	0	0	2	4	7	17	59	173	175	71	10	3	0	521
4:00	0	0	0	2	4	8	25	39	158	137	62	13	7	0	455
5:00	0	0	0	3	4	9	32	65	194	150	69	9	1	0	536
6:00	0	0	0	2	4	7	18	53	131	144	65	10	4	0	438
7:00	0	0	0	0	3	4	16	35	106	95	61	9	2	1	332
8:00	0	0	0	0	0	5	4	21	63	77	31	13	1	0	215
9:00	0	0	0	1	0	0	8	23	32	62	28	6	3	0	163
10:00	0	0	0	0	0	4	9	10	27	28	13	2	4	0	97
11:00	0	0	0	0	0	1	3	4	12	17	9	1	5	1	53
Total	0	0	2	12	23	50	153	369	1065	1008	469	83	30	2	3266

Percentile Speed	15th 22.9	50th 26.6	85th 30.3	95th 32.2
Mean Speed (Average)	26.9			
10 MPH Pace Speed	23-32			
Number in Pace	2676			
Percent in Pace	81.5%			
Number > 45 MPH	3			
Percent > 45 MPH	0.1%			



City of Portsmouth
DPW

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File Name: Middle Street at Cass 6.14.2021
Date Printed: 6/25/2021
Start Date: 6/10/2021
End Date: 6/14/2021

Direction: Inbound, Lane 2

Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	0	0	0	0	0	0	1	2	4	7	3	1	0	1	19
1:00	0	0	0	0	0	0	2	0	3	1	2	1	0	0	9
2:00	0	0	0	0	0	0	0	0	3	6	0	0	0	0	9
3:00	0	0	0	0	0	0	0	0	2	3	0	1	1	0	7
4:00	0	0	0	0	0	0	0	2	2	4	7	2	2	0	19
5:00	0	0	0	0	0	0	3	0	5	21	19	8	4	2	62
6:00	0	0	0	0	0	0	5	2	27	25	22	7	1	1	90
7:00	0	0	1	2	2	1	9	13	65	81	50	1	2	1	228
8:00	0	0	0	0	1	9	16	44	160	169	49	9	1	0	458
9:00	0	0	1	0	0	3	14	33	113	138	66	10	3	1	382
10:00	0	0	0	0	2	1	21	46	152	140	72	13	1	3	451
11:00	0	0	0	0	3	5	15	56	157	125	56	10	4	0	431
12:00 PM	0	0	2	4	8	7	40	83	214	161	40	8	1	0	568
1:00	0	0	0	3	2	7	27	62	225	177	57	11	1	0	572
2:00	0	0	0	1	5	10	21	74	164	132	50	7	1	0	465
3:00	0	0	0	2	0	14	28	54	160	178	59	18	4	0	517
4:00	0	0	0	0	7	9	20	66	200	142	65	9	0	1	519
5:00	0	0	0	0	9	10	32	55	159	151	73	8	2	0	499
6:00	0	0	0	2	3	3	11	51	131	134	80	13	2	1	431
7:00	0	0	0	0	1	6	16	34	111	106	51	9	0	0	334
8:00	0	0	0	0	0	7	19	26	73	70	49	4	1	0	249
9:00	0	0	0	0	0	1	7	17	56	50	20	7	4	2	164
10:00	0	0	0	0	0	1	10	10	27	39	11	0	1	0	99
11:00	0	0	0	0	0	0	2	5	25	22	9	1	2	0	66
Total	0	0	4	14	43	94	319	735	2238	2082	910	158	38	13	6648

Percentile Speed	15th 23.5	50th 26.6	85th 30.3	95th 32.2
Mean Speed (Average)	27.0			
10 MPH Pace Speed	23-32			
Number in Pace	5487			
Percent in Pace	82.3%			
Number > 45 MPH	12			
Percent > 45 MPH	0.2%			



City of Portsmouth
DPW

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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

Direction: Inbound, Lane 2

6/12/2021	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
	12:00 AM	0	0	0	0	0	1	2	0	10	15	8	4	0	0	40
	1:00	0	0	0	0	0	0	0	1	3	9	4	0	0	1	18
	2:00	0	0	0	0	0	0	2	0	4	4	2	1	0	3	16
	3:00	0	0	0	0	0	0	3	7	8	3	1	0	0	0	22
	4:00	0	0	0	0	0	0	0	1	1	1	2	0	1	0	6
	5:00	0	0	0	0	0	0	0	5	10	6	9	5	0	0	35
	6:00	0	0	0	0	0	1	4	3	10	8	17	3	2	0	48
	7:00	0	0	0	0	0	0	1	3	4	27	27	10	1	0	96
	8:00	0	0	0	1	1	3	5	20	68	67	35	13	2	0	215
	9:00	0	0	0	1	5	2	14	33	113	101	49	4	0	1	323
	10:00	0	0	0	5	2	10	20	36	177	132	57	10	1	0	450
	11:00	0	0	0	1	2	9	21	59	172	134	53	8	1	0	460
	12:00 PM	0	0	1	1	1	4	21	47	163	119	60	13	6	1	437
	1:00	0	0	2	2	3	4	28	47	162	126	70	6	3	0	453
	2:00	0	0	1	1	0	3	17	34	155	153	80	9	4	1	458
	3:00	0	0	0	0	2	8	22	60	118	156	61	13	2	0	442
	4:00	0	0	0	2	5	5	18	35	103	116	79	15	5	1	384
	5:00	0	0	0	1	0	5	15	32	101	140	71	14	3	0	382
	6:00	0	0	1	1	2	6	8	34	103	131	61	13	3	0	363
	7:00	0	0	0	0	3	2	13	18	77	98	63	13	5	3	295
	8:00	0	0	0	0	2	4	7	20	44	53	54	13	1	0	198
	9:00	0	0	0	0	0	1	12	19	71	52	15	5	1	0	176
	10:00	0	0	1	0	0	3	5	8	40	36	16	2	2	0	113
	11:00	0	0	0	0	0	1	2	9	26	14	23	3	0	0	78
	Total	0	0	6	16	28	73	242	532	1766	1701	913	177	43	11	5508

Percentile	15th	50th	85th	95th
Speed	23.5	27.2	30.3	32.8
Mean Speed (Average)	27.3			
10 MPH Pace Speed	23-32			
Number in Pace	4550			
Percent in Pace	82.5%			
Number > 45 MPH	11			
Percent > 45 MPH	0.2%			



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DPW

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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

Direction: Inbound, Lane 2

6/13/2021 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total	
12:00 AM	0	0	0	0	0	1	1	2	14	16	8	4	1	0	47	
1:00	0	0	0	0	0	1	0	3	8	4	6	5	1	1	29	
2:00	0	0	0	0	0	0	0	0	6	3	1	0	0	0	10	
3:00	0	0	0	0	0	0	1	0	3	2	3	1	1	0	11	
4:00	0	0	0	0	0	0	0	1	1	1	1	0	0	0	4	
5:00	0	0	0	0	0	1	0	1	0	1	7	3	1	0	14	
6:00	0	0	0	0	0	0	0	1	1	8	7	3	2	0	29	
7:00	0	0	0	0	0	1	1	3	5	27	23	20	9	0	89	
8:00	0	0	0	0	0	1	0	5	15	50	59	40	8	1	179	
9:00	0	0	0	0	0	3	4	14	17	82	83	56	8	1	269	
10:00	0	0	0	0	1	2	2	12	21	98	112	58	18	3	327	
11:00	0	0	0	0	0	1	2	2	12	39	133	107	77	12	1	416
12:00 PM	0	0	0	0	0	4	6	9	58	156	115	61	11	3	1	424
1:00	0	0	0	0	0	3	2	19	32	110	139	63	12	1	0	381
2:00	0	0	0	1	2	2	15	28	95	97	71	13	3	1	328	
3:00	0	0	1	1	4	11	24	43	94	109	52	14	4	1	358	
4:00	0	0	0	0	4	6	11	46	125	109	62	10	0	0	373	
5:00	0	0	1	0	3	6	13	33	98	99	48	14	1	0	316	
6:00	0	0	0	0	1	4	20	30	90	101	51	8	3	0	308	
7:00	0	0	0	0	1	7	10	28	68	73	38	8	2	1	236	
8:00	0	0	0	0	0	2	5	16	66	64	32	7	5	0	197	
9:00	0	0	0	1	1	1	2	17	56	34	17	2	3	0	134	
10:00	0	0	0	0	0	2	0	4	26	24	6	1	0	0	63	
11:00	0	0	0	0	0	0	1	0	6	7	6	5	0	0	25	
Total	0	0	2	4	32	70	199	439	1421	1395	787	174	37	7	4567	

Percentile Speed	15th 23.5	50th 27.2	85th 30.3	95th 32.8
Mean Speed (Average)	27.4			
10 MPH Pace Speed	23-32			
Number in Pace	3712			
Percent in Pace	81.8%			
Number > 45 MPH	8			
Percent > 45 MPH	0.2%			



City of Portsmouth
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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

Direction: Inbound, Lane 2



Direction: Combined

6/10/2021 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	0	0	3	2	6	5	36	124	268	230	86	12	0	0	772
3:00	0	0	0	2	6	14	37	131	338	289	112	13	3	0	945
4:00	0	0	0	3	5	10	50	131	294	249	85	19	8	0	854
5:00	0	0	0	3	4	10	45	145	334	257	103	13	1	0	915
6:00	0	0	0	3	5	9	44	91	234	218	99	13	4	0	720
7:00	0	0	0	0	4	5	26	73	167	182	96	15	5	3	576
8:00	0	0	0	0	0	9	7	50	142	139	50	21	2	0	420
9:00	0	0	0	1	3	0	15	51	96	113	41	7	3	0	330
10:00	0	0	0	0	1	4	11	24	60	52	30	8	5	1	196
11:00	0	0	0	0	0	1	3	7	26	38	27	7	7	2	118
Total	0	0	3	14	34	67	274	827	1959	1767	729	128	38	6	5846

Percentile Speed	15th 22.9	50th 26.6	85th 30.3	95th 32.2
Mean Speed (Average)	26.7			
10 MPH Pace Speed	21-30			
Number in Pace	4804			
Percent in Pace	81.7%			
Number > 45 MPH	8			
Percent > 45 MPH	0.1%			

File Name: Middle Street at Cass 6.14.2021
Date Printed: 6/25/2021
Start Date: 6/10/2021
End Date: 6/14/2021

Direction: Combined

6/11/2021	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
	12:00 AM	0	0	0	0	0	0	1	4	7	9	10	2	0	2	35
	1:00	0	0	0	0	0	0	3	2	5	7	4	3	1	0	25
	2:00	0	0	0	1	0	0	0	0	7	7	0	2	0	0	17
	3:00	0	0	0	0	0	0	0	1	3	5	2	1	0	0	13
	4:00	0	0	0	0	0	0	1	4	3	5	8	2	2	0	25
	5:00	0	0	0	0	0	1	3	3	10	33	25	12	5	2	94
	6:00	0	0	0	0	1	0	10	13	46	52	39	9	3	2	175
	7:00	0	0	1	2	2	1	18	35	110	128	82	11	2	2	394
	8:00	0	0	0	0	1	15	37	106	260	260	92	14	4	1	790
	9:00	0	0	1	0	2	5	30	73	213	217	92	16	4	1	654
	10:00	0	0	0	0	2	6	33	91	270	211	104	20	1	3	741
	11:00	0	0	1	0	5	14	37	118	282	213	81	16	6	4	777
	12:00 PM	0	0	2	4	9	13	68	138	333	271	75	16	4	0	933
	1:00	0	0	1	3	3	10	50	129	342	278	78	13	1	0	908
	2:00	0	0	1	1	6	18	45	136	291	226	78	15	2	0	819
	3:00	0	0	0	2	0	21	44	122	292	296	95	25	5	0	902
	4:00	0	0	0	0	8	12	39	129	332	258	97	21	0	1	897
	5:00	0	0	0	1	10	13	53	120	301	260	109	17	4	2	890
	6:00	0	0	0	2	3	3	13	97	229	196	104	17	4	1	669
	7:00	0	0	0	1	1	9	31	75	177	170	89	15	2	0	570
	8:00	0	0	0	0	0	8	24	61	146	124	62	6	1	0	432
	9:00	0	0	1	0	3	2	9	43	118	99	47	10	5	2	339
	10:00	0	0	0	0	0	2	13	20	53	72	33	3	1	0	197
	11:00	0	0	1	0	0	0	7	14	46	42	26	7	3	1	147
	Total	0	0	9	17	56	153	569	1534	3876	3439	1432	273	61	24	11443

Percentile 15th 50th 85th 95th
Speed 22.9 26.6 30.3 32.2
Mean Speed (Average) 26.8
10 MPH Pace Speed 22-31
Number in Pace 9345
Percent in Pace 81.2%
Number > 45 MPH 22
Percent > 45 MPH 0.2%



Direction: Combined

Time	6/12/2021	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	0	0	0	0	0	1	4	2	25	33	23	8	1	1	98	
1:00	0	0	0	0	1	0	0	0	3	9	27	18	4	0	1	63
2:00	0	0	0	0	0	0	1	2	0	4	9	6	2	0	3	27
3:00	0	0	0	0	0	0	1	4	9	12	4	1	1	0	0	33
4:00	0	0	0	0	0	0	0	0	2	3	3	5	0	1	0	14
5:00	0	0	0	0	0	0	1	1	7	14	10	10	6	0	0	49
6:00	0	0	0	0	1	1	1	7	10	29	29	25	4	3	0	110
7:00	0	0	0	0	0	0	2	6	19	60	53	32	15	3	0	190
8:00	0	0	1	1	3	6	17	40	126	126	61	19	3	0	403	
9:00	0	0	0	0	1	6	16	24	73	179	164	68	16	1	1	549
10:00	0	0	1	5	3	13	36	92	277	200	86	16	2	1	732	
11:00	0	0	0	1	2	11	43	105	284	215	89	10	4	0	764	
12:00 PM	0	0	1	1	3	6	49	84	259	221	90	17	7	1	739	
1:00	0	0	2	2	3	8	51	94	266	190	98	10	6	0	730	
2:00	0	0	1	1	0	7	40	78	253	233	121	19	6	1	760	
3:00	0	0	4	0	3	13	43	106	207	247	96	16	3	0	738	
4:00	0	0	0	2	6	6	35	87	196	187	110	15	5	1	650	
5:00	0	0	1	3	0	5	27	68	205	199	106	22	4	1	641	
6:00	0	0	1	1	4	6	20	66	159	195	83	18	7	0	560	
7:00	0	0	0	0	5	2	26	50	152	186	84	16	7	4	532	
8:00	0	0	0	0	2	6	19	46	123	115	65	19	1	0	396	
9:00	0	0	0	0	1	3	26	45	128	92	37	11	4	1	348	
10:00	0	0	1	0	0	3	6	19	78	87	41	9	5	1	250	
11:00	0	0	0	0	0	1	6	18	54	42	45	12	0	0	178	
Total	0	0	13	20	42	119	492	1123	3102	2867	1400	285	74	17	9554	

Percentile	15th	50th	85th	95th
Speed	22.9	26.6	30.3	32.8
Mean Speed (Average)	27.0			
10 MPH Pace Speed	23-32			
Number in Pace	7728			
Percent in Pace	80.9%			
Number > 45 MPH	17			
Percent > 45 MPH	0.2%			



City of Portsmouth
DPW

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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

Direction: Combined

6/13/2021	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total	
	12:00 AM	0	0	0	0	0	1	2	8	27	28	17	7	3	1	94	
	1:00	0	0	0	0	0	1	0	4	18	30	16	8	3	1	81	
	2:00	0	0	0	0	0	0	0	1	12	6	7	2	2	0	30	
	3:00	0	0	0	0	0	0	1	1	5	11	3	2	2	0	25	
	4:00	0	0	0	0	0	0	0	1	1	2	1	0	0	1	6	
	5:00	0	0	0	0	0	1	0	1	0	3	10	5	1	0	21	
	6:00	0	0	0	0	0	0	2	5	5	13	15	13	4	3	60	
	7:00	0	0	0	0	0	1	2	8	17	47	46	31	12	2	0	166
	8:00	0	0	0	0	0	3	2	13	30	82	101	52	12	2	0	297
	9:00	0	0	0	0	0	3	5	20	42	160	140	78	11	1	461	
	10:00	0	0	1	1	3	3	22	46	173	175	88	31	5	1	549	
	11:00	0	0	0	0	1	15	50	78	226	175	102	16	2	1	666	
	12:00 PM	0	0	1	0	4	13	23	81	249	200	97	17	9	1	695	
	1:00	0	0	0	1	3	3	34	83	184	195	103	21	3	1	631	
	2:00	0	0	0	2	3	5	27	58	174	160	112	23	6	1	571	
	3:00	0	0	1	1	9	17	46	117	212	186	74	15	6	1	685	
	4:00	0	0	0	1	5	10	27	105	216	176	88	12	2	0	642	
	5:00	0	0	1	0	5	8	23	84	196	176	85	17	2	1	598	
	6:00	0	0	0	0	3	4	28	61	191	144	79	13	4	0	527	
	7:00	0	0	0	0	1	8	18	47	122	122	62	16	5	1	402	
	8:00	0	0	0	0	3	3	13	45	129	109	53	14	5	1	375	
	9:00	0	0	1	1	1	5	15	42	102	80	32	8	4	0	291	
	10:00	0	0	0	1	1	2	10	12	48	34	18	3	0	0	129	
	11:00	0	0	0	0	0	0	1	3	15	18	17	6	2	0	62	
Total		0	0	5	8	50	109	387	971	2605	2339	1233	271	73	13	8064	

Percentile	15th	50th	85th	95th
Speed	22.9	26.6	30.3	32.8
Mean Speed (Average)	27.1			
10 MPH Pace Speed	23-32			
Number in Pace	6445			
Percent in Pace	80.5%			
Number > 45 MPH	13			
Percent > 45 MPH	0.2%			



City of Portsmouth
DPW

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File Name: Middle Street at Cass 6.14.2021

Date Printed: 6/25/2021

Start Date: 6/10/2021

End Date: 6/14/2021

Direction: Combined