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GIS MANAGER

**TOWN OF DEDHAM**  
*Commonwealth of Massachusetts*



55 RIVER STREET  
DEDHAM, MA 02026-2935

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DEPARTMENT OF INFRASTRUCTURE ENGINEERING

**INITIAL TRAFFIC EVALUATION**

TO: Transportation Advisory Committee

FROM: Jason L. Mammone, P.E., Director of Engineering

DATE: February 2, 2022

SUBJECT: Traffic Calming Request #2021-005 – Curve Street

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Purpose

The Transportation Advisory Committee (TAC), at their 12/14/21 meeting, reviewed the traffic calming request form (#2021-005) submitted by Keith Mahony of 142 Curve Street. Based upon the information provided in the form, Mr. Mahony's concerns are the speed at which vehicles travel, pedestrian/bicyclist safety, high traffic volumes, parking issues and disregard to stopping at stop signs. Based upon the Town's Traffic Calming Policy, TAC determined that this request met the eligibility criteria and warranted an initial evaluation on Curve Street and requested that the Engineering Department investigate this matter. This report summarizes the findings of the Engineering Department.

Study Area

Curve Street (Maverick Street to Washington Street):

This section of Curve Street is a north/south thickly settled residential through street with a pavement width of approximately 19 to 25 feet. This section is approximately 1,800 feet (0.34 miles) in length extending from Maverick Street to Washington Street. There is a continuous sidewalk on the easterly side of the roadway that extends for the entire length of this section of Curve Street. Many of the residents utilize Curve Street for on-street parking and during the time of our evaluation it was observed that many residents park their vehicles either partially or fully mounted onto the sidewalks forcing pedestrians into the roadway at many locations.

Curve Street is regulated by Special Speed Regulation (SSR) No. 7035 Issued by MassDOT on April 8, 1981. This SSR has established a speed limit of 20 mph for Curve Street, in its entirety, for both the northbound and southbound directions.

## Observations (Speed, Volume & Classification)

The Town of Dedham utilized a Jamar radar recorder to log the speed and volume of vehicles during the period beginning November 15, 2021 and ending November 18, 2021. The radar was installed on a utility pole in between #132 and #138 Curve Street at approximately Station 15+00 (See Attached Locus Map).

The combined average speed for both directions was found to be 23 mph for this section of Curve Street. The combined 85<sup>th</sup> percentile speed for both directions was found to be 29 mph. The 85<sup>th</sup> percentile speed is the speed at or below which 85 percent of vehicles travel and is the national standard utilized to determine if the speed on a given roadway is in excess, at or below the speed limit. Based upon the data, the 85<sup>th</sup> percentile speed is 9 mph over the speed limit with approximately 80% of the vehicles driving at speeds greater than 20 mph, approximately 40% of the vehicles driving speeds greater than 25 mph and approximately 8% driving at speeds greater than 30 mph.

The volume of traffic expressed as average daily traffic (ADT) and the speed data collected for Curve Street is shown below in the following table:

Table 1 – Traffic Data Station 15+00

<i>Direction of Traffic</i>	<i>ADT</i>	<i>Peak Hour Volume</i>	<i>Peak Volume Time</i>	<i>Speed Limit</i>	<i>85<sup>th</sup> Percentile Speed</i>	<i>Average Speed</i>
Northbound	1118 (77%)	102	3 - 4 pm	20 mph <sup>a</sup>	29 mph	24 mph
Southbound	326 (23%)	32	3 - 4 pm	20 mph <sup>a</sup>	28 mph	22 mph
Combined	1,475	134	3 - 4 pm	20 mph <sup>a</sup>	29 mph	23 mph

<sup>a</sup> – MassDOT Special Speed Regulation No. 7035 issued 4/8/81.

Curve Street appears to experience a slightly higher than normal volume of vehicles considering its location to a minor arterial roadway (Washington Street) and the volume of residential properties in the neighborhood. It appears that this section of Curve Street is likely being used as a cut-through in the northbound direction for those seeking better access to Washington Street.

## Crash Data (Traffic Collisions)

The Engineering Department analyzed crash data utilizing the most recent 2018-2021 data available from the Dedham Police Department and MassDOT to determine if the subject area was experiencing a higher-than-normal rate of accidents.

Table 2 – Crash Data

<i>Road</i>	<i>Total # of Crashes</i>	<i>Crashes Per Year</i>
Curve Street	1	0.3

The one crash did not involve a pedestrian and/or bicyclist. The incident involved a hit and run accident with a parked car. Based upon this data, there are no overriding roadway geometric safety issues.

## GIS Data (Pedestrian Generators & Residential Density)

The Engineering Department utilized our latest Geographic Information System (GIS) data to collect the types of pedestrian generators and determine the residential density located within a 1,000 foot buffer of the study area.

Pedestrian generators are those facilities that are considered points of interest that pedestrians travel to, such as parks, community centers, Town/neighborhood centers, libraries, public transit stations, churches and public schools. Based upon the available data, there are no pedestrian generators within the 1,000-foot buffer area.

Based upon the available data, the 1,000-foot buffer area has approximately 1 Apartment Building with 8 or more units, 4 Apartment Buildings with 4 to 8 units, 21 Condo Units, 5 Three-Family Dwellings, 51 Two-Family Dwellings and 302 Single-Family Dwellings.

## Scoring

According to the latest version of the Town’s Traffic Calming Policy, for a roadway to qualify for traditional traffic calming measures, the petitioned roadway must score more than 50 points utilizing the scores calculated from the 6 criteria including; Speed, Volume, Pedestrian Route, Traffic Collisions, Pedestrian Generators and Residential Density. The table below summarizes the scoring for each criterion.

Table 3 - Scoring

<b>Criteria</b>	<b>Score (Curve Street)</b>
<b>Speed</b> – Based upon how many mph the combined 85 <sup>th</sup> percentile speed is over the speed limit. 2 points awarded for each mph over the speed limit from 1 to 5 mph over the speed limit and 4 points awarded for each mph over the speed limit starting at 6 mph and greater over the speed limit	26
<b>Volume</b> – 1 point awarded for every 100 vehicles of average daily traffic (ADT)	14
<b>Pedestrian Route</b> – 10 points awarded if no continuous sidewalk exists on both sides of the roadway or 5 points awarded if there is only a continuous sidewalk on one side of the roadway	5
<b>Traffic Collisions</b> – 2 points awarded for each preventable collision in a 3-year period that occurred along the subject roadway. 8 points awarded if a collision involved a pedestrian or bicyclist.	0
<b>Pedestrian Generators</b> – 3 points awarded for every park, community center, library, public transit station or church located within 1,000 feet of the subject roadway. 10 points awarded for each public school within 1,000 feet of the subject roadway	0
<b>Residential Density</b> – 1 point awarded for every 50 dwelling units within 1,000 feet of the subject roadway	9
<b>TOTAL SCORE</b>	<b>54</b>

## Conclusion

Based upon the information presented in this evaluation, along with achieving a score over 50, this section of Curve Street is eligible for a Traffic Calming Needs Assessment.

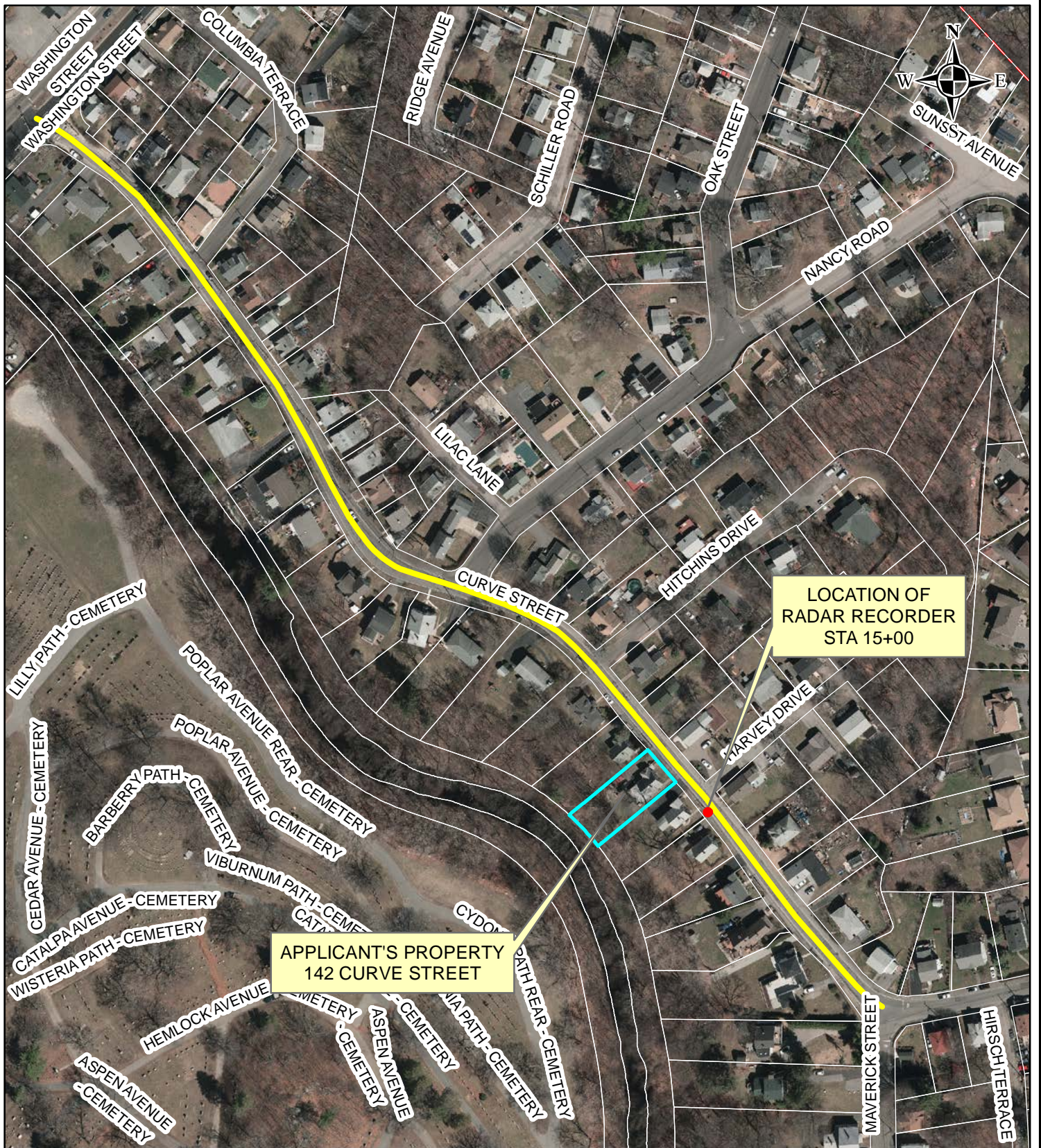
However, since the TAC has recommended traffic calming measures consisting of temporary speed humps on Colburn Street (Curve St to Maverick Street) and temporary speed cushions on Maverick Street (Colburn St to Curve St) and Curve Street (Colburn St to Maverick St), it is recommended to hold off on performing a Traffic Calming Needs Assessment until either; it is determined that funding for the temporary traffic calming measures described above is not

approved by Town Meeting, if it is determined that the temporary traffic calming measures, described above, were not efficient in reducing the vehicular speeds and/or volumes on this section of Curve Street after being in place for 6 months or the temporary traffic calming measures are removed due to the lack of support by the Primary and Affected Roadways via balloting. It is possible that the temporary traffic calming measures could have a direct effect on the speeds and volumes of vehicles that utilize this section of Curve Street.

Should any of the caveats occur as described above, we would then recommend to move forward with a Traffic Calming Needs Assessment to take a closer look at this section of Curve Street to determine what types of traffic calming measures could be implemented to mitigate the major issues of speeding and volumes while providing/maintaining safe access for pedestrians/bicyclists. It will also look at the neighboring roadways that may become affected by the installation of traffic calming measures on this section of Curve Street and develop a plan should mitigation be necessary along those roadways.

Cc: Select Board

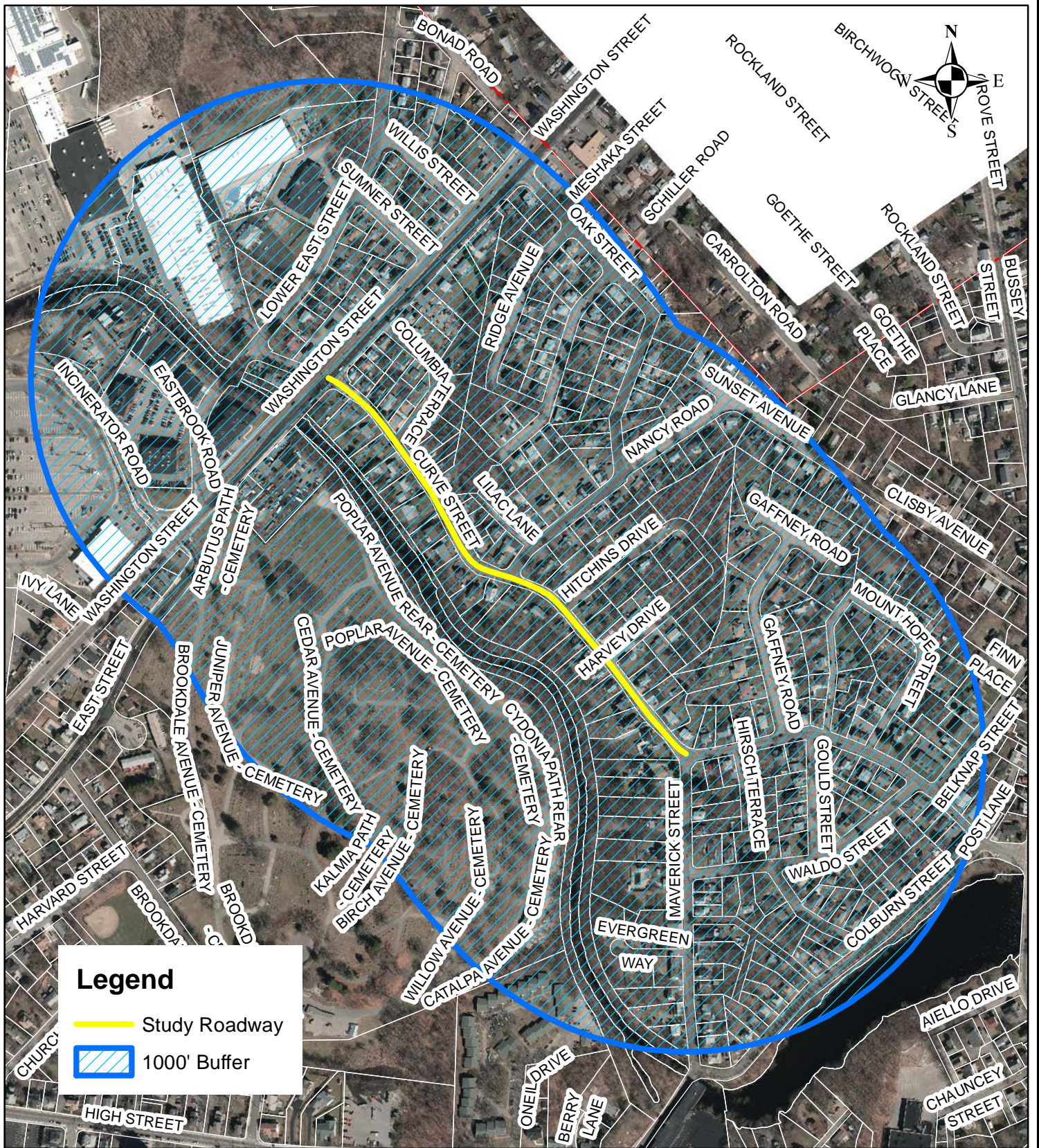
Attachments: Curve Street Locus Map  
Curve Street Neighborhood Buffer Map  
Combined Speed Statistics Report  
Traffic Volume Report



**CURVE STREET  
REQUEST #2021-005  
LOCUS MAP**



**TOWN OF DEDHAM, MASSACHUSETTS**



**BUFFER MAP  
 CURVE STREET NEIGHBORHOOD  
 DECEMBER 2021**





# Town of Dedham Engineering Department

55 River Street  
Dedham, MA 02026  
781-751-9350

Site Code: 0000007  
Station ID: 15+00  
Location 1:  
Location 2:  
Location 3:  
Location 4:  
Direction: Combined

Comment 1: On Utility Pole Between  
Comment 2: #138 & #132 Curve Street  
Comment 3:  
Comment 4:  
Latitude: 0.000000  
Longitude: 0.000000

11/15/2021	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH													
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	4	7	10	11	4	0	0	0	0	0	0	0	36
12:00 PM	3	8	43	45	9	1	0	0	0	0	0	0	109
1:00	1	7	35	42	11	2	0	0	0	0	0	0	98
2:00	12	16	46	42	11	1	1	0	0	0	0	0	129
3:00	5	8	52	50	12	2	0	0	0	0	0	0	129
4:00	5	14	48	35	10	0	0	0	0	0	0	0	112
5:00	1	22	51	35	7	2	0	0	0	0	0	0	118
6:00	5	10	41	29	4	1	0	0	0	0	0	0	90
7:00	2	6	24	12	6	1	1	0	0	0	0	0	52
8:00	0	8	14	20	3	0	0	0	0	0	0	0	45
9:00	0	3	12	11	1	1	0	0	0	0	0	0	28
10:00	1	2	7	2	0	0	0	0	0	0	0	0	12
11:00	0	1	5	4	1	0	1	0	0	0	0	0	12
Total	39	112	388	338	79	11	3	0	0	0	0	0	970



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11/16/2021	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	2	3	1	0	0	0	0	0	0	0	0	6
1:00	0	0	0	1	1	0	0	0	0	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	1	0	0	0	0	0	0	0	0	0	1
4:00	0	1	1	2	0	0	0	0	0	0	0	0	4
5:00	2	1	3	3	3	0	0	0	0	0	0	0	12
6:00	5	1	12	12	4	2	0	0	0	0	0	0	36
7:00	17	9	31	36	10	1	0	0	0	0	0	0	104
8:00	8	12	32	39	11	2	0	0	0	0	0	0	104
9:00	5	17	48	27	2	0	0	0	0	0	0	0	99
10:00	8	20	36	26	2	0	0	0	0	0	0	0	92
11:00	7	18	28	34	11	0	0	0	0	0	0	0	98
12:00 PM	5	6	46	32	7	1	0	0	0	0	0	0	97
1:00	4	7	42	28	7	1	0	0	0	0	0	0	89
2:00	7	16	39	41	7	0	0	0	0	0	0	0	110
3:00	6	11	57	43	12	2	0	0	0	0	0	0	131
4:00	1	8	52	43	8	1	1	0	0	0	0	0	114
5:00	0	20	42	34	7	0	0	0	0	0	0	0	103
6:00	2	18	33	24	5	0	0	0	0	0	0	0	82
7:00	2	9	38	22	6	0	0	0	0	0	0	0	77
8:00	0	7	14	11	2	0	0	0	0	0	0	0	34
9:00	2	2	8	12	5	0	0	0	0	0	0	0	29
10:00	3	4	10	4	3	0	0	0	0	0	0	0	24
11:00	0	0	2	1	1	0	1	0	0	0	0	0	5
<b>Total</b>	<b>84</b>	<b>189</b>	<b>578</b>	<b>476</b>	<b>114</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1453</b>





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11/17/2021	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	2
1:00	0	0	1	1	0	0	0	0	0	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	1	2	0	0	0	0	0	0	0	0	0	3
5:00	2	0	7	2	1	0	0	0	0	0	0	0	12
6:00	3	2	15	14	4	3	0	0	0	0	0	0	41
7:00	4	6	31	39	9	1	0	0	0	0	0	0	90
8:00	3	10	42	35	9	1	0	0	0	0	0	0	100
9:00	3	10	30	30	8	0	0	0	0	0	0	0	81
10:00	1	13	33	29	8	1	0	0	0	0	0	0	85
11:00	11	23	44	25	2	0	0	0	0	0	0	0	105
12:00 PM	7	18	48	23	4	2	0	0	0	0	0	0	102
1:00	5	9	58	34	6	0	0	0	0	0	0	0	112
2:00	10	19	59	39	0	0	0	0	0	0	0	0	127
3:00	9	25	50	45	11	0	0	0	0	0	0	0	140
4:00	2	29	46	27	3	1	0	0	0	0	0	0	108
5:00	11	18	55	29	4	0	0	0	0	0	0	0	117
6:00	8	24	33	29	1	0	0	0	0	0	0	0	95
7:00	0	15	37	26	2	0	0	0	0	0	0	0	80
8:00	0	8	14	6	2	1	0	0	0	0	0	0	31
9:00	2	3	13	12	5	0	0	0	0	0	0	0	35
10:00	2	2	6	6	0	0	0	0	0	0	0	0	16
11:00	0	2	5	5	1	0	0	0	0	0	0	0	13
<b>Total</b>	<b>83</b>	<b>237</b>	<b>630</b>	<b>457</b>	<b>80</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1497</b>



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11/18/2021	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	2	1	0	0	0	0	0	0	0	0	3
1:00	0	0	0	1	0	0	0	0	0	0	0	0	1
2:00	0	2	0	0	0	0	0	0	0	0	0	0	2
3:00	0	0	1	0	0	0	0	0	0	0	0	0	1
4:00	0	0	1	2	0	0	0	0	0	0	0	0	3
5:00	3	2	5	5	0	1	0	0	0	0	0	0	16
6:00	10	3	16	16	2	0	0	0	0	0	0	0	47
7:00	6	22	30	32	12	1	0	0	0	0	0	0	103
8:00	8	16	43	24	11	0	0	0	0	0	0	0	102
9:00	11	14	38	22	6	0	0	0	0	0	0	0	91
10:00	5	16	31	26	4	1	0	0	0	0	0	0	83
11:00	0	5	16	3	3	0	0	0	0	0	0	0	27
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
<b>Total</b>	<b>43</b>	<b>80</b>	<b>183</b>	<b>132</b>	<b>38</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>479</b>
<b>Grand Total</b>	<b>249</b>	<b>618</b>	<b>1779</b>	<b>1403</b>	<b>311</b>	<b>34</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4399</b>
Stats		Percentile	15th	50th	85th	95th							
		Speed	19.9	23.9	28.9	31.9							
	Mean Speed (Average)		23.4										
	10 MPH Pace Speed		20-29										
	Number in Pace		3166										
	Percent in Pace		72.0%										
	Number > 20 MPH		3532										
	Percent > 20 MPH		80.3%										



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Longitude: 0.000000

11/15/2021 Time	Monday		Tuesday		Wednesday		Thursday		Friday		Weekday Average		Saturday		Sunday	
	South, 1	North, 2	South, 1	North, 2	South, 1	North, 2	South, 1	North, 2	South, 1	North, 2	South, 1	North, 2	South, 1	North, 2	South, 1	North, 2
12:00 AM	*	*	0	6	0	2	2	1	*	*	1	3	*	*	*	*
1:00	*	*	1	1	1	1	0	1	*	*	1	1	*	*	*	*
2:00	*	*	0	0	0	0	1	1	*	*	0	0	*	*	*	*
3:00	*	*	0	1	0	0	0	1	*	*	0	1	*	*	*	*
4:00	*	*	2	2	2	1	2	1	*	*	2	1	*	*	*	*
5:00	*	*	2	10	1	11	3	13	*	*	2	11	*	*	*	*
6:00	*	*	8	28	8	33	14	33	*	*	10	31	*	*	*	*
7:00	*	*	28	76	22	68	24	79	*	*	25	74	*	*	*	*
8:00	*	*	27	77	22	78	26	76	*	*	25	77	*	*	*	*
9:00	*	*	28	71	13	68	19	72	*	*	20	70	*	*	*	*
10:00	*	*	19	73	13	72	16	67	*	*	16	71	*	*	*	*
11:00	9	27	21	77	25	80	1	26	*	*	14	52	*	*	*	*
12:00 PM	20	89	18	79	20	82	*	*	*	*	19	83	*	*	*	*
1:00	20	78	19	70	20	92	*	*	*	*	20	80	*	*	*	*
2:00	36	93	28	82	33	94	*	*	*	*	32	90	*	*	*	*
3:00	28	101	31	100	36	104	*	*	*	*	32	102	*	*	*	*
4:00	26	86	27	87	26	82	*	*	*	*	26	85	*	*	*	*
5:00	27	91	27	76	25	92	*	*	*	*	26	86	*	*	*	*
6:00	11	79	23	59	21	74	*	*	*	*	18	71	*	*	*	*
7:00	10	42	14	63	17	63	*	*	*	*	14	56	*	*	*	*
8:00	7	38	7	27	7	24	*	*	*	*	7	30	*	*	*	*
9:00	6	22	6	23	5	30	*	*	*	*	6	25	*	*	*	*
10:00	4	8	8	16	5	11	*	*	*	*	6	12	*	*	*	*
11:00	4	8	1	4	6	7	*	*	*	*	4	6	*	*	*	*
Total	208	762	345	1108	328	1169	108	371	0	0	326	1118	0	0	0	0
Day	970		1453		1497		479		0		1444		0		0	
AM Peak	11:00	11:00	7:00	8:00	11:00	11:00	8:00	7:00			7:00	8:00				
Volume	9	27	28	77	25	80	26	79			25	77				
PM Peak	2:00	3:00	3:00	3:00	3:00	3:00					2:00	3:00				
Volume	36	101	31	100	36	104					32	102				
Comb Total	970		1453		1497		479		0		1444		0		0	
ADT	ADT: 1,475		AADT: 1,475													