

TRAFFIC-IMPACT AND ACCESS STUDY

**HERITAGE LANDING
GROTON, MASSACHUSETTS**

January 12, 2024

DEFCON 1, LLC

TEPP LLC

TRANSPORTATION ENGINEERING, PLANNING AND POLICY

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TRANSPORTATION ENGINEERING, PLANNING AND POLICY

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SUMMARY

PROJECT DESCRIPTION

TEPP LLC has prepared this traffic-impact and access study (TIAS) regarding the proposed Heritage Landing residential development on the east side of Cow Pond Brook Road in the Town of Groton, Massachusetts.

The project provides:

- 16 single-family-detached dwelling units
- 12 duplex dwelling units
- Rosie Lane, which is a proposed unsignalized driveway along the east side of Cow Pond Brook Road about four-tenths mile north of Hoyt's Wharf Road

STUDY APPROACH

The TIAS study area consists of the following unsignalized intersections:

- Lowell Road/Cow Pond Brook Road (qualitative and quantitative assessment)
- Cow Pond Brook Road/Hoyt's Wharf Road (qualitative assessment)
- Cow Pond Brook Road/proposed Rosie Lane (qualitative and quantitative assessment)

This TIAS analyzes traffic operations for the following time periods:

- weekday AM-street-peak hour
- weekday PM-street-peak hour
- Saturday midday-peak hour

The analysis is under the following conditions:

- 2023 existing
- 2030 no build (with background-traffic growth)
- 2030 build (with background-traffic growth and the proposed redevelopment)

Differences in traffic operations between the no-build and build conditions approximate traffic impacts of the proposed development.

SIGHT DISTANCES

Available sight distances are adequate for the following unsignalized intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/proposed Rosie Lane

CRASH HISTORY

The following locations did not show significant crash history:

- Lowell Road/Cow Pond Brook Road intersection
- Cow Pond Brook Road/Hoyt's Wharf Road intersection
- Cow Pond Brook Road other locations

TRIP GENERATION

Calculated total vehicle-trips for the proposed development are:

- weekday daily, 228 (total of in and out)
- weekday AM-street-peak hour, 20 (5 in and 15 out)
- weekday PM-street-peak hour, 25 (15 in and 10 out)
- Saturday daily 267 (total of in and out)
- Saturday site-peak hour, 30 (16 in and 14 out)

CAPACITY ANALYSIS

TEPP LLC conducted capacity analysis of relevant study-area intersections under the following conditions:

- 2023 existing
- 2029 no build
- 2030 build

The analysis includes the following peak hours:

- weekday AM-street-peak hour
- weekday PM-street-peak hour
- Saturday midday-peak hour

The analysis described above shows:

- low-to-moderate delays for the Lowell Road/Cow Pond Brook Road intersection
- low delays for the Cow Pond Brook Road/Rosie Lane intersection

This analysis shows insignificant or minor project impacts to overall area traffic operations.

POTENTIAL ENHANCEMENTS

The applicant is willing to assist the Town of Groton with potential enhancements for the following intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/Hoyt's Wharf Road

The enhancements at either intersection could include:

- refreshed STOP regulatory signs
- new or refreshed Stop Ahead warning signs
- new or refreshed intersection warning signs
- new or refreshed new or refreshed double-yellow center lines on the pavement
- new or refreshed stop lines on the pavement
- illumination

For the Cow Pond Brook Road/Hoyt's Wharf Road intersection, enhancements could also include new ALL-WAY plaques for the STOP signs.

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INTRODUCTION

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- 2030 no build (with background-traffic growth)
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Differences in traffic operations between the no-build and build conditions approximate traffic impacts of the proposed development.



Figure 1. Site location.

EXISTING CONDITIONS**INTRODUCTION**

Existing conditions include:

- physical conditions of the transportation network, roads, and intersections
- traffic volumes
- other relevant information

PHYSICAL CONDITIONS**INTRODUCTION**

Figure 1 shows the transportation network. The TIAS study area consists of the following un-signalized intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/Hoyt's Wharf Road
- Cow Pond Brook Road/proposed Rosie Lane

LOWELL ROAD

Lowell Road in the study area:

- is overall oriented approximately east-west
- is an arterial highway also known as Massachusetts Route 40
- to/from the west, connects with Groton center
- to/from the east, connects with the Town of Westford, Massachusetts and U.S. Route 3, a freeway of regional importance
- has a curvilinear horizontal alignment
- has minor grades
- a two-lane undivided divided cross-section
- has asphaltic cement concrete pavement in overall good condition

- has utility poles along the north side or south side, depending on location
- has a posted speed limit of 35 miles per hour (mph)
- has nearby residential land uses
- is under Town jurisdiction

COW POND BROOK ROAD

Cow Pond Brook Road in the study area:

- is overall oriented approximately north-south
- is a local or collector street
- to/from the south, terminates at Lowell Road
- to/from the north, is gated
- has a curvilinear horizontal alignment
- has minor grades
- a two-lane undivided divided cross-section
- has asphaltic cement concrete pavement in overall good condition
- has utility poles along the west side or east side, depending on location
- has a posted speed limit of 25 mph
- has nearby residential, recreational, and governmental land uses as well as undeveloped land
- is under Town jurisdiction

LOWELL ROAD/COW POND BROOK ROAD INTERSECTION

This intersection:

- has a three-legged configuration
- has Lowell Road as the major east-west street and Cow Pond Brook Road as the minor north leg
- has one-lane approaches
- has a STOP sign on the Cow Pond Brook Road southbound approach
- has nearby residential land uses and undeveloped land
- is under Town jurisdiction

COW POND BROOK ROAD/HOYT'S WHARF ROAD INTERSECTION

The intersection:

- has a skewed four-legged configuration
- has Cow Pond Brook Road as the major north-south street and Hoyts' Wharf Road as the east-west street
- has one-lane approaches
- is under all-way STOP sign control
- has nearby undeveloped land
- is under Town jurisdiction

TRAFFIC VOLUMES

TRAFFIC COUNTS

TEPP LLC obtained automatic traffic recorder (ATR) counts on:

- Cow Pond Brook Road north of Lowell Road from Saturday, September 9, 2023, through Sunday, September 17, 2023, for all hours
- Cow Pond Brook Road north of Hoyt's Wharf Road from Thursday, October 5, 2023, through Sunday, October 8, 2023, for all hours
- Cow Pond Brook Road near proposed Rosie Lane from Saturday, September 9, 2023, through Sunday, September 17, 2023, for all hours

TEPP LLC obtained turning movement counts (TMCs) at the Lowell Road/Cow Pond Brook Road intersection on:

- Tuesday, September 12, 2023, from 7:00 to 9:00 AM
- Tuesday, September 12, 2023, from 4:00 to 6:00 AM
- Thursday, October 5, 2023, from 3:00 to 6:00 PM
- Saturday, September 9, 2023, from 10:00 AM to 2:00 PM

The traffic-count data are in Appendix B.

MONTHLY VARIATION

As shown in Appendix C, the Massachusetts Department of Transportation (MassDOT) reported September and October with volumes greater-than-average month.¹ TEPP LLC Conservatively did not reduce the ATR or TMC volumes.

RESULTS

Table 1 and Figure 2 show 2023 existing traffic volumes.

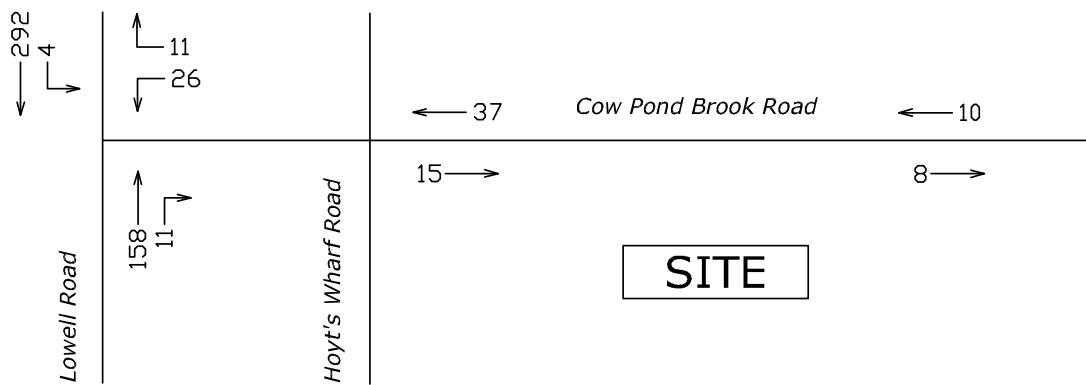
Table 1. 2023 existing traffic volumes.

Location and Time Period	Vehicles ^a	K-factor ^b	Percent Direction
Cow Pond Brook Road North of Lowell Road			
Weekday Daily	838	---	---
Weekday AM-Street-Peak Hour	52	6.2	71 Southbound
Weekday PM-Street-Peak Hour	98	11.7	67 Northbound
Saturday Daily	2,444	---	---
Saturday Midday-Peak Hour	407	16.7	59 Southbound
Cow Pond Brook Road North of Hoyt's Wharf Road			
Weekday Daily	769	---	---
Weekday AM-Street-Peak Hour	52	6.8	71 Southbound
Weekday PM-Street-Peak Hour	98	12.7	67 Northbound
Saturday Daily	1,004	---	---
Saturday Midday-Peak Hour	407	40.5	59 Southbound
Cow Pond Brook Road Near Proposed Rosie Lane			
Weekday Daily	556	---	---
Weekday AM-Street-Peak Hour	18	3.2	56 Southbound
Weekday PM-Street-Peak Hour	21	3.8	76 Southbound
Saturday Daily	2,400	---	---
Saturday Midday-Peak Hour	449	18.7	60 Southbound

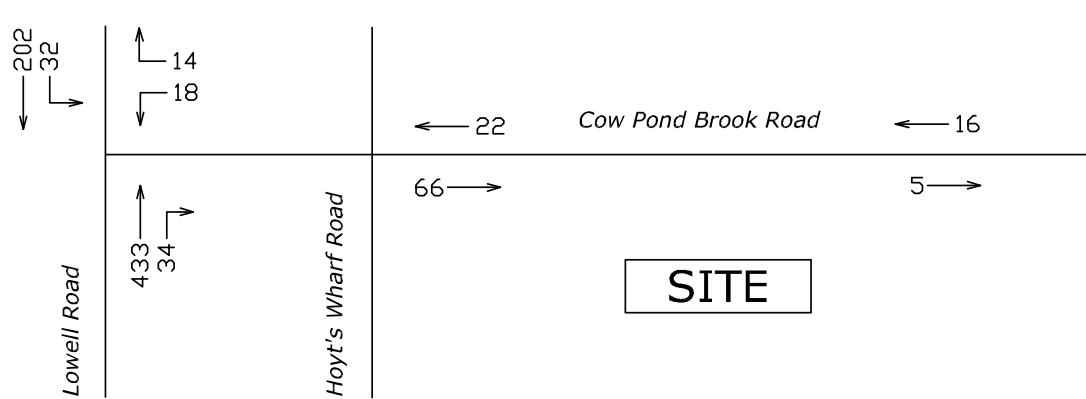
^a Two-way-total volumes.

^b K = hour volume as a percent of daily volume.

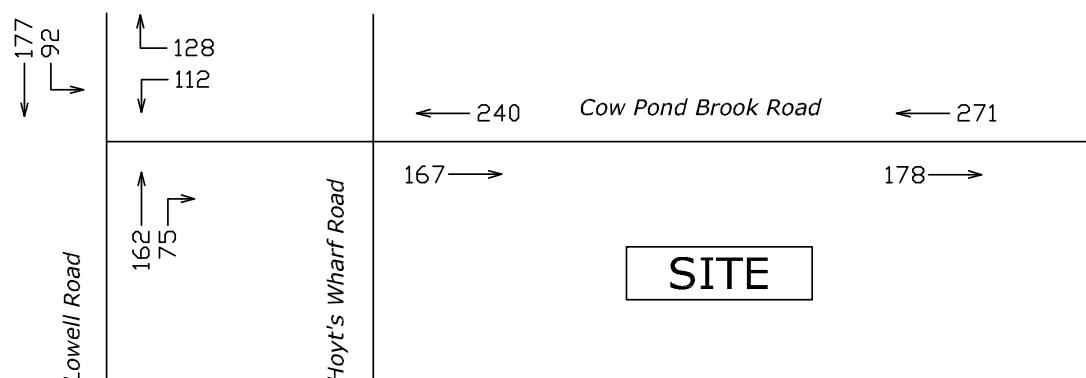
¹ MassDOT, Statewide Traffic Data Collection, 2019 Weekday Seasonal Factors, Factor Group U4-U7.



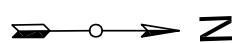
Weekday AM-Street-Peak-Hour



Weekday PM-Street-Peak-Hour



Saturday Midday-Peak Hour



Not to Scale

Figure 2. 2023 existing traffic volumes.

Cow Pond Brook Road north of Lowell Road showed about:

- 838 weekday-daily vehicles, total of both directions
- 2,440 Saturday-daily vehicles, total of both directions

Cow Pond Brook Road north of Hoyt's Wharf Road showed about:

- 769 weekday-daily vehicles, total of both directions
- 1,004 Saturday-daily vehicles, total of both directions

Cow Pond Brook Road near proposed Rosie Lane showed about:

- 556 weekday-daily vehicles, total of both directions
- 2,400 Saturday-daily vehicles, total of both directions

Differences in daily volumes may reflect different dates of data collection.

VEHICLE SPEEDS

The ATRs collected vehicle speeds on:

- Cow Pond Brook Road north of Lowell Road from Saturday, September 9, 2023, through Sunday, September 17, 2023
- Cow Pond Brook Road north of Hoyt's Wharf Road from Thursday, October 5, 2023, through Sunday, October 8, 2023
- Cow Pond Brook Road near proposed Rosie Lane from Saturday, September 9, 2023, through Sunday, September 17, 2023

The data are in Appendix D and are summarized in Table 2.

Table 2 indicates that on Cow Pond Brook Road north of Lowell Road:

- the speed limit was 25 mph
- the eastbound mean speed was 30 mph and the 85th percentile speed was 32 mph
- the westbound mean speed was 30 mph and the 85th percentile speed was 34 mph

Table 2 indicates that on Cow Pond Brook Road north of Hoyt's Wharf Road:

Table 2. Vehicle speeds.

Location and Direction	Speeds (mph)		
	Limit	Mean	85 th Percentile
Cow Pond Brook Road North of Lowell Road ^a			
Northbound	25	30	32
Southbound	25	30	34
Cow Pond Brook Road North of Lowell Road ^b			
Northbound	25	35	40
Southbound	25	27	31
Cow Pond Brook Road Near Proposed Rosie Lane ^a			
Northbound	25	31	34
Southbound	25	35	44

^a Mean and 8th percentile from ATR conducted from Saturday, September 9, 2023, through Sunday, September 17, 2023.

^b Mean and 8th percentile from ATR conducted from Thursday, October 5, 2023, through Sunday, October 8, 2023.

- the speed limit was 25 mph
- the eastbound mean speed was 35 mph and the 85th percentile speed was 40 mph
- the westbound mean speed was 27 mph and the 85th percentile speed was 31 mph

Table 2 indicates that on Cow Pond Brook Road near proposed Rosie Lane:

- the speed limit was 25 mph
- the eastbound mean speed was 31 mph and the 85th percentile speed was 34 mph
- the westbound mean speed was 35 mph and the 85th percentile speed was 44 mph

SIGHT DISTANCES

TEPP LLC analyzed sight distances for the following unsignalized intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/proposed Rosie Lane

The American Association of State Highway and Transportation Officials (AASHTO) has established authoritative policy for sight distances at unsignalized intersections in terms of:

- stopping sight distance (SSD)
- optional intersection sight distance (ISD)²

SSD:³

- provides for safety
- enables a driver, on the major road, to perceive and react accordingly to a vehicle entering the major road from a minor road
- is conservative because it encompasses a wide range of brake-reaction times and deceleration rates

Optional ISD:⁴

- is ordinarily greater than SSD and may enhance traffic operations
- is not required for safety

Table 3 shows relevant available sight distances that are adequate for the following unsignalized intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/proposed Rosie Lane

CRASH HISTORY

TEPP LLC obtained crash data, for January 1, 2016, through December 31, 2020, from the Massachusetts Department of Transportation (MassDOT) for the following locations:

- Lowell Road/Cow Pond Brook Road intersection
- Cow Pond Brook Road/Hoyt's Wharf Road intersection
- Cow Pond Brook Road other locations

² AASHTO, *A Policy on Geometric Design of Highways and Streets*, 7th Edition (Washington, DC, 2018), pages 9-35 to 9-36.

³ AASHTO, pages 3-2 to 3-6.

⁴ AASHTO, pages 9-35 to 9-59.

Table 3. Sight distances.

Location and View	Available Sight Distance (ft) ^a	Speeds (mph)		
		Limit	SSD For	ISD For
Lowell Road/Cow Pond Brook Road Intersection				
Lowell Road to/from West	600	35	50+	45+
Lowell Road to/from East	450	35	50+	40+
Cow Pond Brook Road/Proposed Rosie Lane Intersection				
Cow Pond Brook Road to/from South	700+	25	50+	45+
Cow Pond Brook Road to/from North	500+	25	50+	45+

^a With appropriate routine roadside maintenance.

Table 4 is a summary of crash history. MassDOT crash-rate worksheets are in Appendix E.

For the Lowell Road/Cow Pond Brook Road intersection:

- 1 crash was reported
- the severity was property-damage only
- the crash rate was below MassDOT averages

For the Cow Pond Brook Road/Hoyt's Wharf Road intersection:

- 1 crash was reported
- the severity was non-fatal injury
- the crash rate was below MassDOT averages

For Cow Pond Brook Road other locations, no crash was reported.

PEDESTRIANS, BICYCLES, AND TRANSIT

PEDESTRIANS

Very low pedestrian volumes were observed. Pedestrians may walk near the edge of the vehicular travelway or shoulder area.

Table 4. Crash history.

	Locations, Crash Numbers, and Rates		
	Lowell Road/ Cow Pond Brook Road Intersection	Cow/Pond Brook Road/Hoyt's Wharf Road Intersection	Cow Pond Brook Road Other Locations
Years			
2016	0	0	0
2017	0	1	0
2018	0	0	0
2019	0	0	0
<u>2020</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	1	1	0
Average Per Year	0.20	0.20	0.00
Crash Rates			
This Location	0.07	0.50	---
MassDOT District 3 Average ^a	0.61	0.61	---
MassDOT State Average ^a	0.57	0.57	---
Severity			
Non-Fatal Injury	0	1	0
Property-Damage Only	1	0	0
Type			
Angle	1	0	0
Single-Vehicle	0	1	0
Road Surface			
Dry	1	0	0
Snow	0	1	
Weather			
Clear	1	0	0
Snow	0	1	0
Light			
Daylight	1	0	0
Dark—Road Not Lighted	0	1	0

Source: MassDOT Crash Portal, accessed December 27, 2023.

^a From <https://www.mass.gov/service-details/intersection-and-roadway-crash-rate-data-for-analysis>, accessed May 2, 2023. MEV = 1,000,000 entering vehicles.

BICYCLES

Very low bicycle volumes were observed. Bicycles and other vehicles may share travel lanes.

TRANSIT

Scheduled public transit service is not available in or near the study area.

The Massachusetts Bay Transportation Authority provides commuter-rail service on the Fitchburg Line. The service connects the Cities of Fitchburg and Boston, Massachusetts. The station at 70 Main Street in the Town of Ayer, Massachusetts is the Ayer Station is a driving distance of about 10 miles, or 20 minutes, southwest of the site.

FUTURE CONDITIONS**INTRODUCTION**

Future conditions include:

- planned road improvements independent of the proposed development
- future no-build traffic volumes, with background-traffic growth and without the proposed development
- future build traffic volumes, with background-traffic growth and with the proposed development

PLANNED ROAD IMPROVEMENTS

No significant planned road improvement in the study area independent of the project applies to this TIAS.

BACKGROUND-TRAFFIC GROWTH

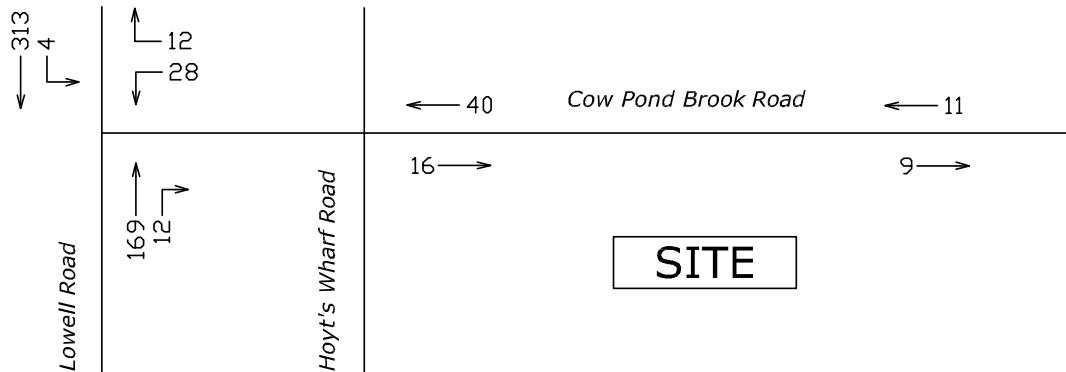
Background-traffic growth:

- is independent of the proposed project
- is related to changes in land development in the immediate area and regional changes in population, economic development, and in travel patterns
- may consider two factors, a general traffic-growth rate and specific planned land developments in the immediate area

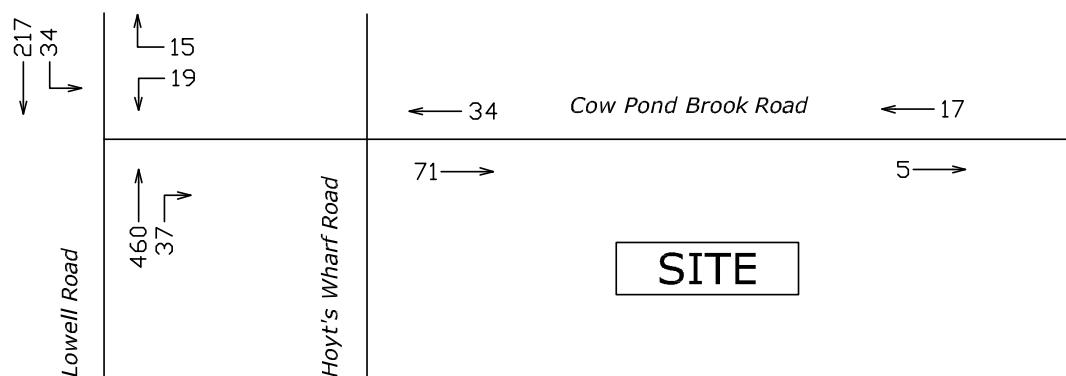
Background this growth for this TIAS reflects a 1.0-percent annual traffic-growth rate that yields about 7.2-percent growth between 2023 and 2030.

NO-BUILD TRAFFIC VOLUMES

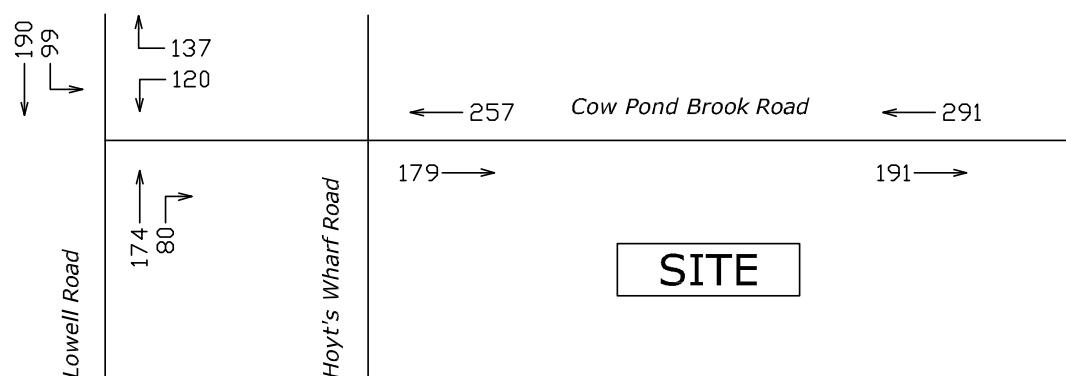
The background-traffic growth described above was applied to 2023 existing traffic volumes. Figure 3 shows resulting 2030 no-build traffic volumes.



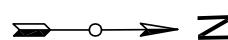
Weekday AM-Street-Peak-Hour



Weekday PM-Street-Peak-Hour



Saturday Midday-Peak Hour



Not to Scale

Figure 3. 2030 no-build traffic volumes.

TRIP GENERATION

The Institute of Transportation Engineers (ITE) publishes trip-generation information in the authoritative *Trip Generation Manual*.⁵ This information is based on empirical data for a variety of land uses including:

- land use 210, single-family-detached housing, based on dwelling units⁶
- land use 215, single-family-detached housing, based on dwelling units⁷

As Table 5 shows, calculated vehicle-trips for the proposed development are:

- weekday daily, 228 (total of in and out)
- weekday AM-street-peak hour, 20 (5 in and 15 out)
- weekday PM-street-peak hour, 25 (15 in and 10 out)
- Saturday daily 267 (total of in and out)
- Saturday site-peak hour, 30 (16 in and 14 out)

TRIP DISTRIBUTION AND NETWORK ASSIGNMENT

Trip distribution and network assignment of vehicle trips to and from the site may consider such factors as existing site distribution, travel patterns, population, regional land development, and site accessibility.

Table 6 shows approximate trip distribution and network assignment:

Figure 4 shows site trips due to the project.

BUILD TRAFFIC VOLUMES

Changes in site traffic volumes were superimposed on the no-build traffic volumes to estimate build traffic volumes. Figure 5 shows the resulting 2030 build traffic volumes.

⁵ ITE, *Trip Generation Manual*, 11th Edition (Washington DC, September 2021).

⁶ ITE, *Trip Generation Manual*, Volume 3, pages 218 to 236.

⁷ ITE, *Trip Generation Manual*, Volume 3, pages 237 to 251.

Table 5. Calculated trip generation.

Land Use	Daily	Weekday Vehicle-Trips						Saturday Vehicle-Trips			
		AM-Street-Peak Hour			PM-Street-Peak Hour			Daily	Site-Peak Hour		
		Total	In	Out	Total	In	Out		Total	In	Out
Single-Family ^a	187	14	4	10	18	11	7	162	23	13	10
Duplex ^b	41	6	1	5	7	4	3	105	7	3	4
Total	228	20	5	15	25	15	10	267	30	16	14

^a ITE, *Trip Generation Manual*. Land use 210, single-family-detached housing, 16 dwelling units.

^b ITE, *Trip Generation Manual*. Land use 215, single-family-attached housing, 12 dwelling units.

Table 6. Trip distribution and network assignment.

Road and Direction (To/From)	Percent
Lowell Road to/from East	70
Lowell Road to/from West	30
<u>Cow Pond Brook Road to/from North</u>	<u>0</u>
Total	100

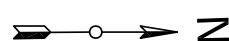
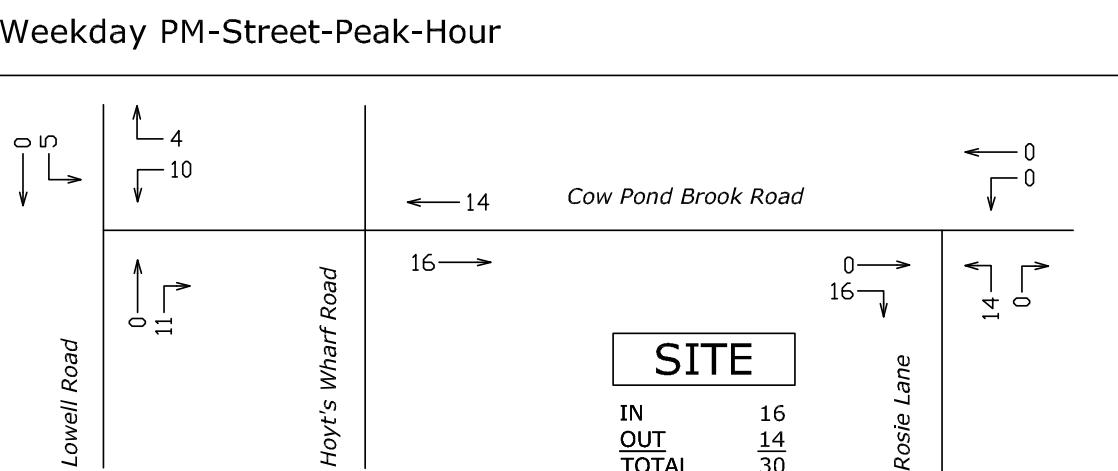
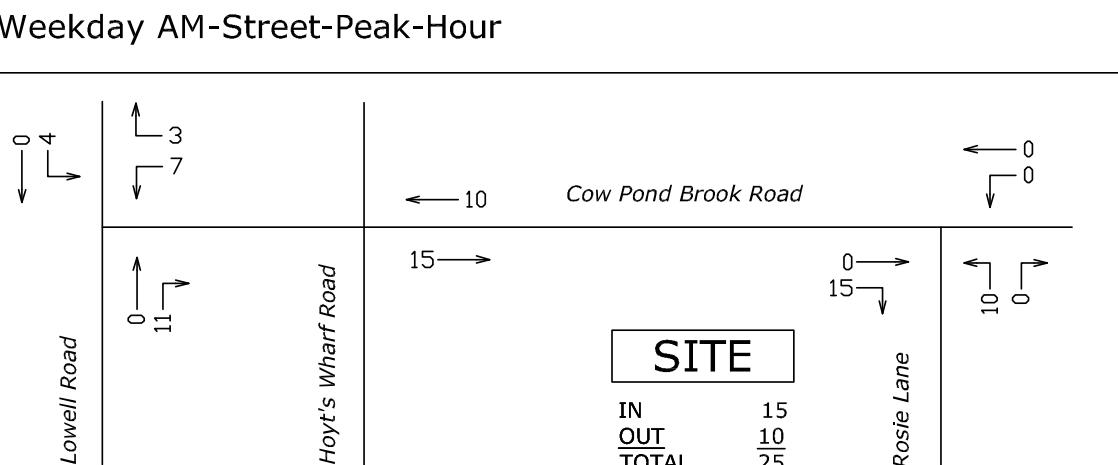
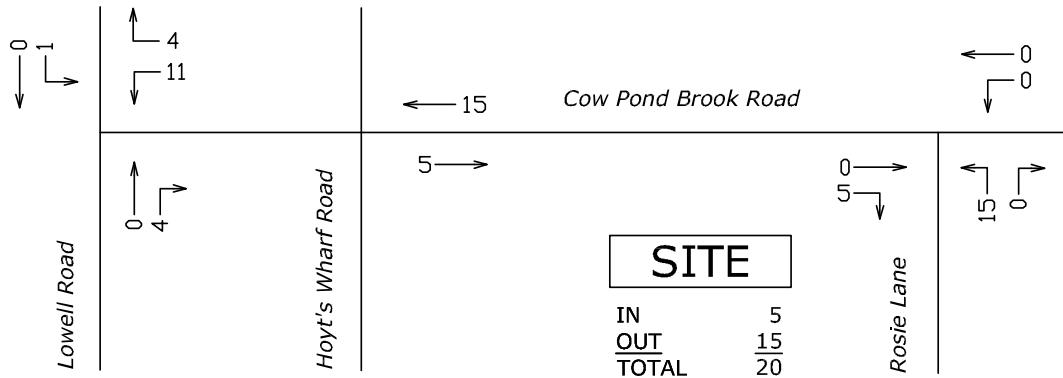
TRAFFIC-VOLUME CHANGES

Table 7 presents calculated traffic-volume changes due to the proposed project for the:

- weekday AM-street-peak hour
- weekday PM-street-peak hour
- Saturday midday-peak hour

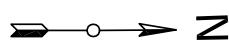
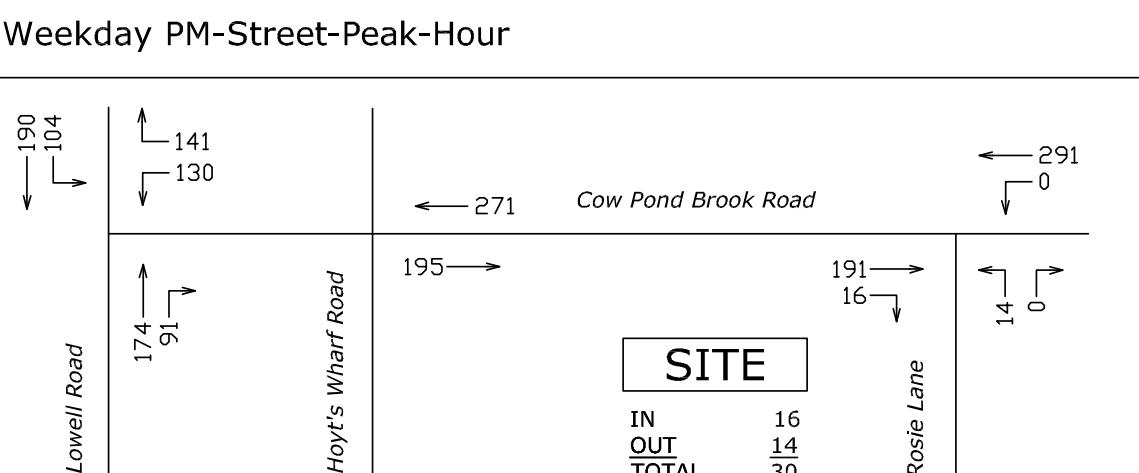
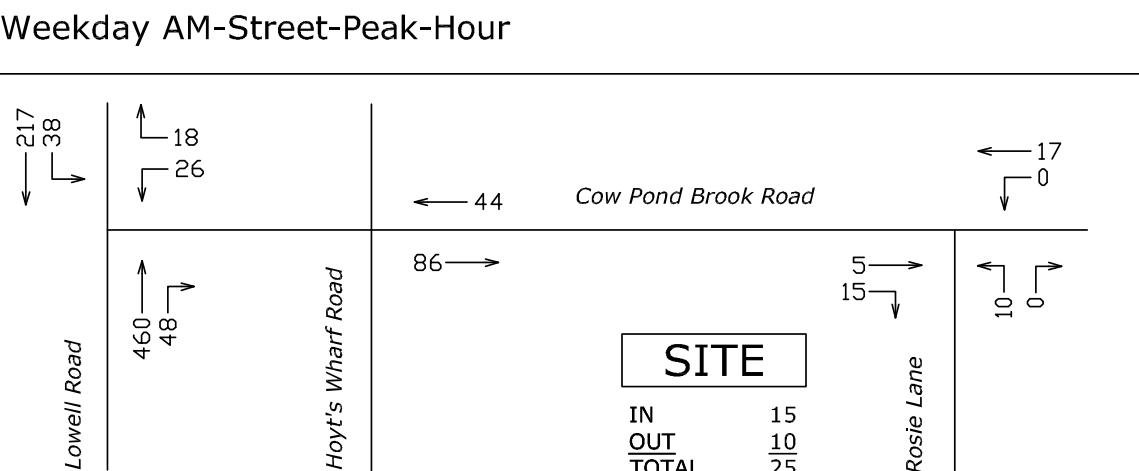
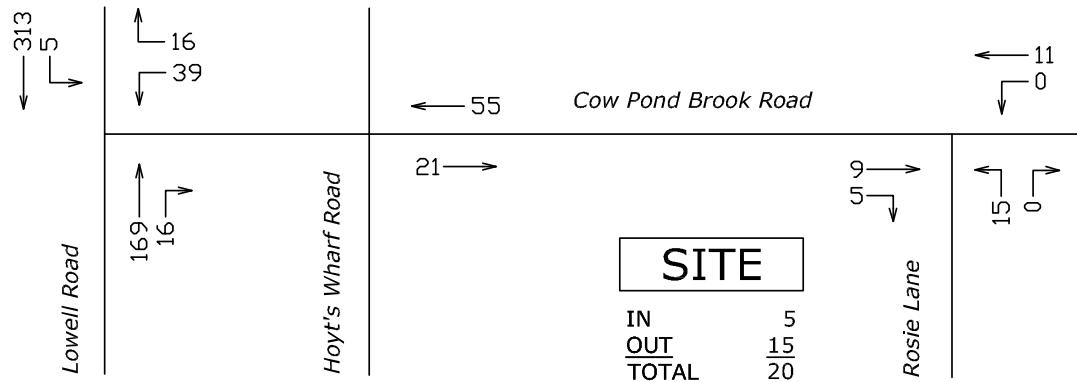
The tabulated increases:

- on Lowell Road west of Cow Pond Brook Road, are 5 to 9 vph
- on Lowell Road east of Cow Pond Brook Road, are 15 to 21 vph
- on Cow Pond Brook Road south of the site, are 20 to 30 vph



Not to Scale

Figure 4. Site trips.



Not to Scale

Figure 5. 2030 build traffic volumes.

Table 7. Traffic-volume changes.

Location and Hour	Traffic Volumes ^a		
	2030 No-Build	2030 Build	Change
Lowell Road West of Cow Pond Brook Road			
Weekday AM-Street-Peak Hour	498	503	5
Weekday PM-Street-Peak Hour	726	733	7
Saturday Midday-Peak Hour	600	609	9
Lowell Road East of Cow Pond Brook Road			
Weekday AM-Street-Peak Hour	522	537	15
Weekday PM-Street-Peak Hour	733	751	18
Saturday Midday-Peak Hour	564	585	21
Cow Pond Brook Road South of Site			
Weekday AM-Street-Peak Hour	20	40	20
Weekday PM-Street-Peak Hour	22	47	25
Saturday Midday-Peak Hour	482	512	30

^a Two-way-total volumes in vph.

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CAPACITY ANALYSIS

INTRODUCTION

This TIAS has quantified existing, future-no-build and future-build traffic volumes. Capacity analysis indicates quality of traffic operations. Comparing build conditions to no-build conditions indicates impacts of the proposed alterations on quality of traffic operations.

CAPACITY ANALYSIS

Capacity analysis:

- indicates the quality of traffic operations for transportation facilities
- used methods of the Transportation Research Board (TRB)⁸
- used Synchro 11 software.

Method inputs include:

- intersection geometry
- traffic control, such as YIELD sign, two-way STOP sign, all-way STOP sign, roundabout, or signal (including phasing, timing, and progression)
- traffic volumes
- vehicle composition, such as passenger cars and trucks

Method outputs include:

- LOS based on delays in Table 8
- V/C ratios
- vehicle queues

⁸ TRB, *Highway Capacity Manual 2000* (Washington DC 2000), *Highway Capacity Manual 2010* (Washington DC, 2010), and *Highway Capacity Manual, 6th Edition* (Washington DC, 2016).

Table 8. Level-of-service criteria for intersections.

Level of Service	Control Delay (seconds/vehicle)	
	Unsignalized Intersections ^a	Signalized Intersections
A	≤ 10.0	≤ 10.0
B	$>10.0 \text{ and } \leq 15.0$	$>10.0 \text{ and } \leq 20.0$
C	$>15.0 \text{ and } \leq 25.0$	$>20.0 \text{ and } \leq 35.0$
D	$>25.0 \text{ and } \leq 35.0$	$>35.0 \text{ and } \leq 55.0$
E	$>35.0 \text{ and } \leq 50.0$	$>55.0 \text{ and } \leq 80.0$
F	>50	>80

From TRB, *Highway Capacity Manual 2010* (Washington DC, 2010).

^a For YIELD sign, two-way STOP sign, or all-way STOP sign, control delay defines LOS. For roundabout approaches and overall intersection, control delay defines LOS. For roundabout lanes with V/C ratio ≤ 1.0 , control delay defines LOS. For roundabout lanes with V/C ratio > 1.0 , LOS is F regardless of control delay.

The six LOS are designated A to F. LOS A represents the best or highest operating conditions. LOS F is the lowest but does not necessarily connote failure.

LOS is a function of traffic volumes and traffic control. Because these volumes can vary, LOS of a transportation facility can differ by time of day, day of the week, or month. For example, a transportation facility with a low LOS during peak hours may have a high LOS during other hours.

The methods are all approximate. In particular, the method for two-way STOP-sign control can be conservative, with observed delays and queuing shorter than those calculated.

RESULTS

Table 9 show computed LOS, delays, V/C ratios, and/or queues at relevant study-area intersections under the following conditions:

- 2023 existing
- 2029 no build
- 2030 build

The analysis includes the following peak hours:

Table 9. Capacity-analysis summary.

Location, Time Period, and Lane Group	2023 Existing				2030 No Build				2030 Build			
	LOS ^a	Delay ^b	V/C ^c	Queue ^d	LOS	Delay	V/C	Queue	LOS	Delay	V/C	Queue
Lowell Road/Cow Pond Brook Road Unsignalized Intersection—Weekday AM-Street-Peak Hour												
Lowell Road EB L	A	7.6	0.003	0.0	A	7.6	0.003	0.0	A	7.7	0.004	0.0
Cow Pond Brook Road SB LR	B	12.1	0.095	0.3	B	12.5	0.107	0.4	B	13.0	0.148	0.5
Lowell Road/Cow Pond Brook Road Unsignalized Intersection —Weekday PM-Street-Peak Hour												
Lowell Road EB L	A	8.5	0.038	0.1	A	8.6	0.042	0.1	A	8.7	0.047	0.1
Cow Pond Brook Road SB LR	B	14.8	0.098	0.3	C	15.6	0.111	0.4	C	16.6	0.150	0.5
Lowell Road/Cow Pond Brook Road Unsignalized Intersection —Saturday Midday-Peak Hour												
Lowell Road EB L	A	8.0	0.090	0.3	A	8.1	0.098	0.3	A	8.1	0.104	0.3
Cow Pond Brook Road SB LR	C	21.5	0.599	3.9	D	26.4	0.682	5.1	D	31.3	0.744	6.2
Lowell Road/Cow Pond Brook Road Unsignalized Intersection —Hypothetical Saturday Midday-Peak Hour												
Lowell Road EB L	A	8.1	0.099	0.3	A	8.2	0.109	0.4	A	8.2	0.115	0.4
Cow Pond Brook Road SB LR	D	25.7	0.680	5.1	D	34.3	0.779	6.9	E	43.0	8.848	8.5
Cow Pond Brook Road/Proposed Rosie Lane Unsignalized Intersection—Weekday AM-Street-Peak Hour												
Cow Pond Brook Road SB L	---	---	---	---	---	---	---	---	A	0.0	0.000	0.0
Rosie Lane WB LR	---	---	---	---	---	---	---	---	A	8.7	0.017	0.1
Cow Pond Brook Road/Proposed Rosie Lane Unsignalized Intersection —Weekday PM-Street-Peak Hour												
Cow Pond Brook Road SB L	---	---	---	---	---	---	---	---	A	0.0	0.000	0.0
Rosie Lane WB LR	---	---	---	---	---	---	---	---	A	8.7	0.011	0.0
Cow Pond Brook Road/Proposed Rosie Lane Unsignalized Intersection—Saturday Midday-Peak Hour												
Cow Pond Brook Road SB L	---	---	---	---	---	---	---	---	A	0.0	0.000	0.0
Rosie Lane WB LR	---	---	---	---	---	---	---	---	B	12.4	0.031	0.1
Cow Pond Brook Road/Proposed Rosie Lane Unsignalized Intersection—Hypothetical Saturday Midday-Peak Hour												
Cow Pond Brook Road SB L	---	---	---	---	---	---	---	---	A	0.0	0.000	0.0
Rosie Lane WB LR	---	---	---	---	---	---	---	---	B	13.0	0.033	0.1

EB = eastbound, WB = westbound, SB = southbound, NB = northbound, U = U-turn, L = left turn, T = through movement, R = right turn.

^a LOS = level of service.

^b Delay = average delay in seconds per vehicle.

^c V/C = volume/capacity ratio.

^d For signalized intersection, 50th percentile queue in ft/95th percentile queue in ft. For unsignalized intersections, 95th percentile queue in vehicles.

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- weekday AM-street-peak hour
- weekday PM-street-peak hour
- Saturday midday-peak hour

Reports that give detail and explanation are in Appendix F.

The analysis described above shows:

- low-to-moderate delays for the Lowell Road/Cow Pond Brook Road intersection
- low delays for the Cow Pond Brook Road/Rosie Lane intersection

This analysis shows insignificant or minor project impacts to overall area traffic operations.

Table 9 and Appendix F also show a hypothetical Saturday midday-peak hour. This analysis incorporates a hypothetical 10 percent increase to existing and no-build traffic volumes along Cow Pond Brook Road.

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CONCLUSION

PROJECT DESCRIPTION

This TIAS regards the proposed Heritage Landing residential development on the east side of Cow Pond Brook Road in the Town of Groton, Massachusetts.

The project provides:

- 16 single-family-detached dwelling units
- 12 duplex dwelling units
- Rosie Lane, which is a proposed unsignalized driveway along the east side of Cow Pond Brook Road about four-tenths mile north of Hoyt's Wharf Road

SIGHT DISTANCES

Available sight distances are adequate for the following unsignalized intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/proposed Rosie Lane

CRASH HISTORY

The following locations did not show significant crash history:

- Lowell Road/Cow Pond Brook Road intersection
- Cow Pond Brook Road/Hoyt's Wharf Road intersection
- Cow Pond Brook Road other locations

TRIP GENERATION

Calculated vehicle-trips for the proposed development are:

- weekday daily, 228 (total of in and out)
- weekday AM-street-peak hour, 20 (5 in and 15 out)
- weekday PM-street-peak hour, 25 (15 in and 10 out)

- Saturday daily 267 (total of in and out)
- Saturday site-peak hour, 30 (16 in and 14 out)

CAPACITY ANALYSIS

TEPP LLC conducted capacity analysis of relevant study-area intersections under the following conditions:

- 2023 existing
- 2029 no build
- 2030 build

The analysis includes the following peak hours:

- weekday AM-street-peak hour
- weekday PM-street-peak hour
- Saturday midday-peak hour

The analysis described above shows:

- low-to-moderate delays for the Lowell Road/Cow Pond Brook Road intersection
- low delays for the Cow Pond Brook Road/Rosie Lane intersection

This analysis shows insignificant or minor project impacts to overall area traffic operations.

POTENTIAL ENHANCEMENTS

The applicant is willing to assist the Town of Groton with potential enhancements for the following intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/Hoyt's Wharf Road

The enhancements at either intersection could include:

- refreshed STOP regulatory signs
- new or refreshed Stop Ahead warning signs
- new or refreshed intersection warning signs

- new or refreshed double-yellow center lines on the pavement
- new or refreshed stop lines on the pavement
- illumination

For the Cow Pond Brook Road/Hoyt's Wharf Road intersection, enhancements could also include new ALL-WAY plaques for the STOP signs.

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APPENDIX

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Appendix A: Project Plan

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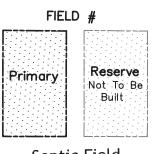
NHESP Mitigation Tabulation

	Square Feet	Acres
Total Parcel Area	631,600 S.F.	14.5 Acres
Less Neutral		
Septic Areas – A,B,C	21,257 S.F.	0.49 Acres
SMF – 1	14,492 S.F.	0.33 Acres
Subtotal Net Area	595,900 S.F.	13.68 Acres
Open Space Restricted Area Required	397,300 S.F.	9.12 Acres
Open Space Restricted Area Provided	*398,100 S.F.	9.14 Acres
Developed Area (Maximum)	198,600 S.F.	4.56 Acres
Developed Area (Actual)	*197,000 S.F.	4.52 Acres

*NHESP Mitigation Ratio

Septic Systems Allocations

FIELD	# OF UNITS	UNITS
A	8	1, 2, 3, 4, 25, 26, 27, 28
B	6	5, 6, 21, 22, 23, 24
C	8	7, 8, 9, 10, 11, 12, 13, 14
D	6	15, 16, 17, 18, 19, 20



Typical Unit Dimensions

PRELIMINARY UTILITY NOTES:

- LITIGATION UTILITY NOTES.**

 1. WATER SERVICE TO BE GROTON MUNICIPAL WATER BY EXTENSION OF AN 8" CEMENT LINED DUGOUT TAP INTO THE EXISTING TAPINGS.
 2. SEWER SERVICES TO BE VIA PRIVATE, ON-SITE, SEPTIC SYSTEMS AS SHOWN HEREON WITH VARIOUS SYSTEMS SERVING MULTIPLE UNITS AS SHOWN.
 3. FOR SEPTIC SYSTEM LOADING COMPUTATIONS AND ASSOCIATED CREDIT LAND, SEE SEPARATE DOCUMENTS ON FILE WITH THE TOWN OF GROTON AND MASS DEP.
 4. ALL UTILITIES FOR ELECTRICITY, TELEPHONE, CABLE, FIOS, AND OTHER SHALL BE UNDERGROUND. FINAL DESIGN TO BE DEVELOPED BY RESPECTIVE UTILITIES AND SUBMITTED TO THE GROTON BOARD OF APPEALS AND BUILDING INSPECTOR AT LEAST 2 WEEKS PRIOR TO CONSTRUCTION.
 5. DRAINAGE SYSTEMS SHALL CONSIST OF CONVENTIONAL DEEP SUMP CATCH BASINS, TO A PIPED SYSTEM USING MIN. SIZE 12" DIAMETER HDPE PIPES DIRECTED TO STORMWATER FACILITIES WITH PRE-TREATMENT SYSTEMS AND INFILTRATION BASINS AS GENERALLY SHOWN HEREIN. THE STORMWATER SYSTEM WILL COMPLY WITH MASS DEP STORMWATER STANDARDS UTILIZING CONVENTIONAL BEST MANAGEMENT PRACTICES AND GENERALLY ACCEPTED ENGINEERING STANDARDS. ALL WORK IS INTENDED TO BE OUTSIDE OF THE 100' BUFFER ZONE TO THE VEGETATED WETLAND AREAS.
 6. BASED ON A LETTER FROM NHESP, DATED 8-23-2021, THE PROJECT SITE IS WITHIN A MAPPED AREA FOR BLANDING'S TURTLE (*Emydoidea blandingii*), A "THREATENED" SPECIES PROTECTED UNDER THE MASSACHUSETTS ENDANGERED SPECIES ACT (MESA, M.G.L. c. 139A) AND ITS IMPLEMENTING REGULATIONS (327 CMR 10.00). THE APPLICANT IS PRESENTLY IN DISCUSSIONS WITH NHESP FOR MITIGATION AND OTHER IMPROVEMENTS IN ANTICIPATION OF AN APPLICATION UNDER MESA.

ZONING NOTES:

ZONING NOTES:

1. TOTAL PARCEL AREA = 14.5 ACRES
 2. BUILDING COVERAGE = 7.7%
 3. IMPERVIOUS COVERAGE = 13.6%
 4. BUILDING SEPARATION / OFFSET = 25' MINIMUM

Heritage Landing" 248 Lot 42

OND BROOK ROAD

BOSTON, MASSACHUSETTS

ED FOR:

N-1-HG

roadway Road

, MA 01826

25, 2023

MEISNER BREM CORPORATION

202 MAIN STREET, SALEM, NH 03079 (603) 893-3301
BY: IJA/PDM BY: JAR/KDM JOB NUMBER: 2944 3 of 5

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Appendix B: Traffic Counts

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Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA

Site Code: 16610001

9/4/2023	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	*	*	*	*	3	1	1	0	2	0
1:00	*	*	*	*	*	*	*	*	*	*	2	2	3	0	2	1
2:00	*	*	*	*	*	*	*	*	*	*	0	0	1	0	0	0
3:00	*	*	*	*	*	*	*	*	*	*	0	2	0	0	0	1
4:00	*	*	*	*	*	*	*	*	*	*	1	0	0	1	0	0
5:00	*	*	*	*	*	*	*	*	*	*	2	4	1	1	2	2
6:00	*	*	*	*	*	*	*	*	*	*	8	4	2	2	5	3
7:00	*	*	*	*	*	*	*	*	*	*	52	20	5	7	28	14
8:00	*	*	*	*	*	*	*	*	*	*	200	44	21	14	110	29
9:00	*	*	*	*	*	*	*	*	*	*	179	105	7	11	93	58
10:00	*	*	*	*	*	*	*	*	*	*	147	124	9	22	78	73
11:00	*	*	*	*	*	*	*	*	*	*	151	218	19	29	85	124
12:00 PM	*	*	*	*	*	*	*	*	*	*	110	115	29	12	70	64
1:00	*	*	*	*	*	*	*	*	*	*	91	194	15	20	53	107
2:00	*	*	*	*	*	*	*	*	*	*	66	129	35	40	50	84
3:00	*	*	*	*	*	*	*	*	*	*	83	88	10	11	46	50
4:00	*	*	*	*	*	*	*	*	*	*	72	69	8	10	40	40
5:00	*	*	*	*	*	*	*	*	*	*	12	46	7	7	10	26
6:00	*	*	*	*	*	*	*	*	*	*	14	48	8	3	11	26
7:00	*	*	*	*	*	*	*	*	*	*	7	7	12	6	10	6
8:00	*	*	*	*	*	*	*	*	*	*	3	2	4	1	4	2
9:00	*	*	*	*	*	*	*	*	*	*	10	2	2	1	6	2
10:00	*	*	*	*	*	*	*	*	*	*	2	0	4	0	3	0
11:00	*	*	*	*	*	*	*	*	*	*	2	3	0	2	1	2
Total Day	0	0	0	0	0	0	0	0	0	0	1217	1227	203	200	709	714
AM Peak Volume											8:00 200	11:00 218	8:00 21	11:00 29	8:00 110	11:00 124
PM Peak Volume											12:00 PM 110	1:00 194	2:00 35	2:00 40	12:00 PM 70	1:00 107

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA

Site Code: 16610001

9/11/2023	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	0	0	1	0	2	0	2	0	2	0	1	3	1	2	1	1
1:00	0	0	1	0	1	1	0	1	2	0	2	1	3	3	1	1
2:00	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:00	0	1	1	1	1	1	1	0	3	3	3	2	0	0	1	1
5:00	3	7	2	4	3	4	2	7	0	6	0	4	0	0	1	5
6:00	15	15	14	19	19	22	18	18	14	24	3	2	2	2	12	15
7:00	13	36	14	37	18	40	22	50	23	41	28	15	6	8	18	32
8:00	13	25	12	24	29	53	16	26	29	38	131	37	37	13	38	31
9:00	19	17	14	21	36	29	27	39	27	39	109	91	23	17	36	36
10:00	10	11	12	13	35	35	40	38	36	32	101	66	27	37	37	33
11:00	14	18	16	13	48	44	36	33	27	20	172	215	42	35	51	54
12:00 PM	12	19	20	16	17	25	32	34	50	50	105	77	22	27	37	35
1:00	20	14	22	24	27	24	31	33	38	47	69	186	20	18	32	49
2:00	26	19	28	10	30	28	40	35	39	41	121	108	34	36	45	40
3:00	23	26	19	28	37	39	40	44	37	44	66	60	22	13	35	36
4:00	21	19	21	15	27	20	58	26	88	41	27	113	16	35	37	38
5:00	20	6	26	20	25	15	83	30	113	31	19	19	11	13	42	19
6:00	21	10	27	16	23	8	35	50	29	84	15	14	13	10	23	27
7:00	8	7	18	16	17	10	14	56	17	68	4	11	8	3	12	24
8:00	11	3	13	5	3	4	12	6	9	4	9	3	6	3	9	4
9:00	5	3	6	0	13	6	10	0	7	6	5	3	1	2	7	3
10:00	2	1	4	3	1	1	1	2	4	4	8	1	1	1	3	2
11:00	2	0	1	0	0	0	1	0	4	2	1	1	2	0	2	0
Total	258	257	293	285	412	410	523	529	598	625	999	1032	297	278	480	486
Day	515		578		822		1052		1223		2031		575		966	
AM Peak	9:00	7:00	11:00	7:00	11:00	8:00	10:00	7:00	10:00	7:00	11:00	11:00	11:00	10:00	11:00	11:00
Volume	19	36	16	37	48	53	40	50	36	41	172	215	42	37	51	54
PM Peak	2:00	3:00	2:00	3:00	3:00	3:00	5:00	7:00	5:00	6:00	2:00	1:00	2:00	2:00	2:00	1:00
Volume	26	26	28	28	37	39	83	56	113	84	121	186	34	36	45	49
Comb Total	515		578		822		1052		1223		4475		978		2389	
ADT	ADT: 1,072		AADT: 1,072													

Accurate Counts

978-664-2565

Location : Cow Pond Brook Road
 Location : North of Hoyts Wharf Road
 City/State: Groton, MA

Site Code: 166100A2

10/2/2023	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	0	0	1	1	1	1	1	2	1	1
1:00	*	*	*	*	*	*	0	0	0	0	0	0	2	1	0	0
2:00	*	*	*	*	*	*	0	0	1	1	0	0	0	1	0	0
3:00	*	*	*	*	*	*	0	0	0	0	0	0	2	1	0	0
4:00	*	*	*	*	*	*	1	0	3	0	1	0	0	0	1	0
5:00	*	*	*	*	*	*	3	2	4	4	1	2	1	2	2	2
6:00	*	*	*	*	*	*	14	3	14	3	3	1	1	0	8	2
7:00	*	*	*	*	*	*	16	14	18	17	19	13	0	1	13	11
8:00	*	*	*	*	*	*	14	21	27	25	29	23	28	2	24	18
9:00	*	*	*	*	*	*	27	20	28	28	50	46	10	6	29	25
10:00	*	*	*	*	*	*	22	25	39	37	58	61	3	19	30	36
11:00	*	*	*	*	*	*	28	23	46	39	64	60	34	16	43	34
12:00 PM	*	*	*	*	*	*	28	24	35	35	60	63	17	8	35	32
1:00	*	*	*	*	*	*	37	40	36	49	67	66	10	16	38	43
2:00	*	*	*	*	*	*	22	26	45	35	61	64	30	44	40	42
3:00	*	*	*	*	*	*	27	30	30	48	56	54	16	8	32	35
4:00	*	*	*	*	*	*	63	24	38	27	21	32	6	9	32	23
5:00	*	*	*	*	*	*	48	15	21	11	4	7	5	29	20	16
6:00	*	*	*	*	*	*	20	63	5	29	5	3	4	5	8	25
7:00	*	*	*	*	*	*	4	41	1	3	1	2	1	1	2	12
8:00	*	*	*	*	*	*	1	0	1	2	1	0	1	0	1	0
9:00	*	*	*	*	*	*	0	0	2	2	0	1	2	2	1	1
10:00	*	*	*	*	*	*	0	0	0	0	2	1	1	1	1	0
11:00	*	*	*	*	*	*	0	0	0	0	0	0	0	0	0	0
Total Day	0	0	0	0	0	0	375	371	395	396	504	500	175	174	361	358
AM Peak Volume							11:00	10:00	11:00	11:00	11:00	10:00	11:00	10:00	11:00	10:00
PM Peak Volume							28	25	46	39	64	61	34	19	43	36
Comb Total ADT	0	0	0	0	0	0	746	746	791	791	1004	1004	349	349	719	719
ADT	ADT: 722		AADT: 722													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA

Site Code: 16610002

9/4/2023	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	*	*	*	*	1	0	0	0	0	0
1:00	*	*	*	*	*	*	*	*	*	*	1	2	0	0	0	1
2:00	*	*	*	*	*	*	*	*	*	*	0	0	1	0	0	0
3:00	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0
4:00	*	*	*	*	*	*	*	*	*	*	1	0	0	1	0	0
5:00	*	*	*	*	*	*	*	*	*	*	2	2	1	0	2	1
6:00	*	*	*	*	*	*	*	*	*	*	4	4	3	3	4	4
7:00	*	*	*	*	*	*	*	*	*	*	36	16	3	1	20	8
8:00	*	*	*	*	*	*	*	*	*	*	184	44	13	4	98	24
9:00	*	*	*	*	*	*	*	*	*	*	190	119	2	4	96	62
10:00	*	*	*	*	*	*	*	*	*	*	157	126	2	7	80	66
11:00	*	*	*	*	*	*	*	*	*	*	178	271	5	9	92	140
12:00 PM	*	*	*	*	*	*	*	*	*	*	125	84	4	2	64	43
1:00	*	*	*	*	*	*	*	*	*	*	81	201	4	4	42	102
2:00	*	*	*	*	*	*	*	*	*	*	59	121	21	22	40	72
3:00	*	*	*	*	*	*	*	*	*	*	91	67	0	1	46	34
4:00	*	*	*	*	*	*	*	*	*	*	84	40	2	2	43	21
5:00	*	*	*	*	*	*	*	*	*	*	5	59	1	1	3	30
6:00	*	*	*	*	*	*	*	*	*	*	1	35	1	1	1	18
7:00	*	*	*	*	*	*	*	*	*	*	1	2	2	1	2	2
8:00	*	*	*	*	*	*	*	*	*	*	1	1	0	1	0	1
9:00	*	*	*	*	*	*	*	*	*	*	1	1	1	1	1	1
10:00	*	*	*	*	*	*	*	*	*	*	1	0	0	0	0	0
11:00	*	*	*	*	*	*	*	*	*	*	0	1	0	0	0	0
Total Day	0	0	0	0	0	0	0	0	0	0	1204	1196	66	65	634	630
AM Peak Volume											9:00	11:00	8:00	11:00	8:00	11:00
PM Peak Volume											190	271	13	9	98	140
											12:00 PM	1:00	2:00	2:00	12:00 PM	1:00
											125	201	21	22	64	102

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA

Site Code: 16610002

9/11/2023		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
Time		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM		0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0
1:00		0	0	0	0	0	1	0	1	0	0	2	1	1	0	0	1
2:00		0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
3:00		0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0
4:00		0	0	0	0	0	0	1	0	3	2	4	2	0	0	1	1
5:00		3	1	2	0	4	2	3	3	1	1	0	2	0	0	2	1
6:00		15	5	16	8	15	4	16	5	14	3	2	0	2	1	11	4
7:00		8	9	8	10	19	19	16	17	24	17	28	14	5	2	15	13
8:00		6	8	8	5	30	28	14	6	21	21	157	35	19	5	36	15
9:00		8	3	8	5	36	27	22	24	37	35	144	113	6	5	37	30
10:00		8	8	7	7	34	32	35	34	29	26	134	72	2	11	36	27
11:00		10	7	10	8	44	46	29	30	27	20	217	264	6	12	49	55
12:00 PM		4	6	7	12	12	21	24	29	36	47	129	78	6	7	31	29
1:00		7	7	10	11	18	16	27	30	39	39	89	235	4	4	28	49
2:00		12	11	12	4	20	22	31	24	28	29	131	125	5	3	34	31
3:00		7	17	5	16	23	28	32	41	23	31	65	55	2	3	22	27
4:00		0	5	4	7	4	11	49	18	94	27	23	116	2	2	25	27
5:00		2	1	7	6	1	1	76	16	90	24	10	15	4	4	27	10
6:00		3	4	5	6	5	4	20	58	26	101	5	4	5	6	10	26
7:00		2	1	3	5	3	4	4	66	8	73	1	4	3	1	3	22
8:00		3	3	1	1	3	2	1	1	0	1	0	2	1	1	1	2
9:00		0	1	0	0	1	2	0	0	1	0	2	2	0	0	1	1
10:00		1	1	0	0	0	0	1	1	1	2	0	0	0	0	0	1
11:00		0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0
Total Day		99	98	114	111	273	270	404	405	504	500	1144	1142	73	68	369	372
AM Peak Volume	6:00	7:00	6:00	7:00	11:00	11:00	10:00	10:00	9:00	9:00	11:00	11:00	8:00	11:00	11:00	11:00	11:00
PM Peak Volume	2:00	3:00	2:00	3:00	3:00	3:00	5:00	7:00	4:00	6:00	2:00	1:00	12:00 PM	12:00 PM	2:00	1:00	
Comb Total ADT	197		225		543		809		1004		4686		272		2005		
ADT	ADT: 860		AADT: 860														

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : Near Site Driveway
City/State: Groton, MA

Site Code: 166100A1

10/2/2023	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	0	0	1	1	0	0	1	1	0	0
1:00	*	*	*	*	*	*	0	0	0	0	0	0	2	1	0	0
2:00	*	*	*	*	*	*	0	0	1	1	0	0	0	1	0	0
3:00	*	*	*	*	*	*	0	0	0	0	0	0	2	1	0	0
4:00	*	*	*	*	*	*	1	0	3	0	1	0	0	0	1	0
5:00	*	*	*	*	*	*	3	2	4	4	1	2	1	2	2	2
6:00	*	*	*	*	*	*	14	3	14	3	3	1	1	0	8	2
7:00	*	*	*	*	*	*	14	12	16	15	18	12	0	1	12	10
8:00	*	*	*	*	*	*	14	18	27	26	28	23	18	1	22	17
9:00	*	*	*	*	*	*	26	20	27	26	47	44	4	5	26	24
10:00	*	*	*	*	*	*	22	24	36	36	56	58	2	16	29	34
11:00	*	*	*	*	*	*	28	22	45	39	63	59	3	5	35	31
12:00 PM	*	*	*	*	*	*	27	25	33	32	59	59	7	5	32	30
1:00	*	*	*	*	*	*	34	38	33	43	66	64	8	5	35	38
2:00	*	*	*	*	*	*	22	25	41	34	59	65	3	6	31	32
3:00	*	*	*	*	*	*	25	28	29	44	54	52	5	6	28	32
4:00	*	*	*	*	*	*	57	22	34	27	22	32	2	4	29	21
5:00	*	*	*	*	*	*	49	16	13	9	2	6	3	2	17	8
6:00	*	*	*	*	*	*	18	62	3	18	3	2	3	4	7	22
7:00	*	*	*	*	*	*	2	39	2	3	0	1	1	1	1	11
8:00	*	*	*	*	*	*	0	0	1	2	0	0	1	0	0	0
9:00	*	*	*	*	*	*	0	0	2	2	0	0	2	2	1	1
10:00	*	*	*	*	*	*	0	0	0	0	1	1	1	0	0	0
11:00	*	*	*	*	*	*	0	0	0	0	0	0	0	0	0	0
Total Day	0	0	0	0	0	0	356	356	365	365	483	481	70	70	316	315
AM Peak Volume							11:00 28	10:00 24	11:00 45	11:00 39	11:00 63	11:00 59	8:00 18	10:00 16	11:00 35	10:00 34
PM Peak Volume							4:00 57	6:00 62	2:00 41	3:00 44	1:00 66	2:00 65	1:00 8	2:00 6	1:00 35	1:00 38
Comb Total ADT	0	ADT: 636	0	AADT: 636	0		712	712	730	730	964	964	140	140	631	631

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Route 40
 City/State : Groton, MA
 Weather : Cloudy

File Name : 16610001
 Site Code : 16610001
 Start Date : 9/12/2023
 Page No : 1

Groups Printed- Cars - Trucks

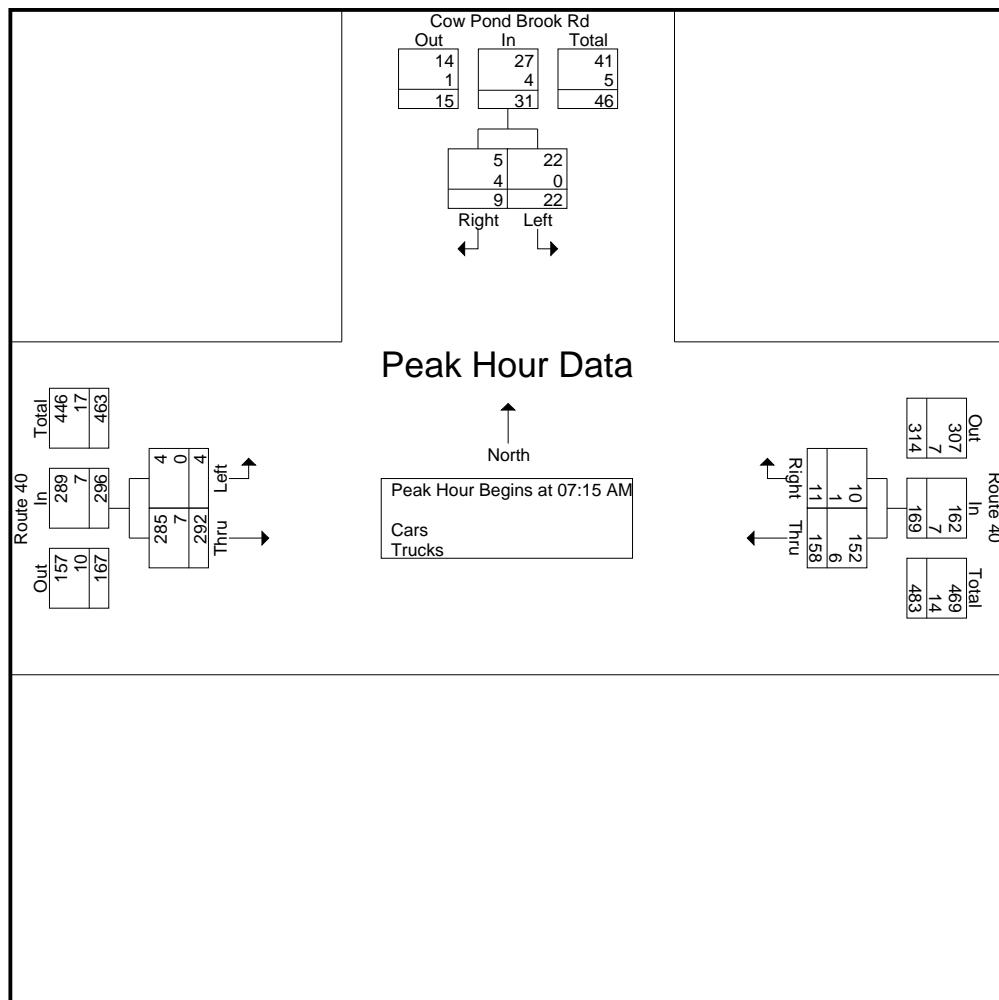
		Cow Pond Brook Rd From North		Route 40 From East		Route 40 From West		
Start Time		Left	Right	Thru	Right	Left	Thru	Int. Total
07:00 AM		10	2	17	2	0	62	93
07:15 AM		6	5	39	1	0	84	135
07:30 AM		7	2	45	6	2	60	122
07:45 AM		5	1	39	3	0	78	126
Total		28	10	140	12	2	284	476
08:00 AM		4	1	35	1	2	70	113
08:15 AM		8	0	37	1	2	71	119
08:30 AM		4	3	28	2	0	68	105
08:45 AM		3	0	26	1	1	74	105
Total		19	4	126	5	5	283	442
Grand Total		47	14	266	17	7	567	918
Apprch %		77	23	94	6	1.2	98.8	
Total %		5.1	1.5	29	1.9	0.8	61.8	
Cars		47	10	255	14	6	555	887
% Cars		100	71.4	95.9	82.4	85.7	97.9	96.6
Trucks		0	4	11	3	1	12	31
% Trucks		0	28.6	4.1	17.6	14.3	2.1	3.4

		Cow Pond Brook Rd From North			Route 40 From East			Route 40 From West			
Start Time		Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 07:15 AM											
07:15 AM		6	5	11	39	1	40	0	84	84	135
07:30 AM		7	2	9	45	6	51	2	60	62	122
07:45 AM		5	1	6	39	3	42	0	78	78	126
08:00 AM		4	1	5	35	1	36	2	70	72	113
Total Volume		22	9	31	158	11	169	4	292	296	496
% App. Total		71	29		93.5	6.5		1.4	98.6		
PHF		.786	.450	.705	.878	.458	.828	.500	.869	.881	.919
Cars		22	5	27	152	10	162	4	285	289	478
% Cars		100	55.6	87.1	96.2	90.9	95.9	100	97.6	97.6	96.4
Trucks		0	4	4	6	1	7	0	7	7	18
% Trucks		0	44.4	12.9	3.8	9.1	4.1	0	2.4	2.4	3.6

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Route 40
 City/State : Groton, MA
 Weather : Cloudy

File Name : 16610001
 Site Code : 16610001
 Start Date : 9/12/2023
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM		07:15 AM		07:15 AM	
+0 mins.	10	2	12	39	1	40
+15 mins.	6	5	11	45	6	51
+30 mins.	7	2	9	39	3	42
+45 mins.	5	1	6	35	1	36
Total Volume	28	10	38	158	11	169
% App. Total	73.7	26.3		93.5	6.5	
PHF	.700	.500	.792	.878	.458	.828
Cars	28	6	34	152	10	162
% Cars	100	60	89.5	96.2	90.9	95.9
Trucks	0	4	4	6	1	7
% Trucks	0	40	10.5	3.8	9.1	4.1

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Route 40
 City/State : Groton, MA
 Weather : Cloudy

File Name : 16610001
 Site Code : 16610001
 Start Date : 9/12/2023
 Page No : 10

Groups Printed- Bikes Peds

	Cow Pond Brook Rd From North			Route 40 From East			Route 40 From West						
	Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Excl. Total	Incl. Total	Int. Total
07:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM		0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM		0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM		0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM		0	0	0	0	0	0	0	0	1	1	0	1
08:15 AM		0	0	1	0	0	0	0	1	0	1	1	2
08:30 AM		0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM		0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	1	0	0	0	0	1	1	2	1	3
Grand Total		0	0	1	0	0	0	0	1	1	2	1	3
Apprch %		0	0		0	0		0	100				
Total %		0	0		0	0		0	100		66.7	33.3	

**Cow Pond Brook Rd
From North**

**Route 40
From East**

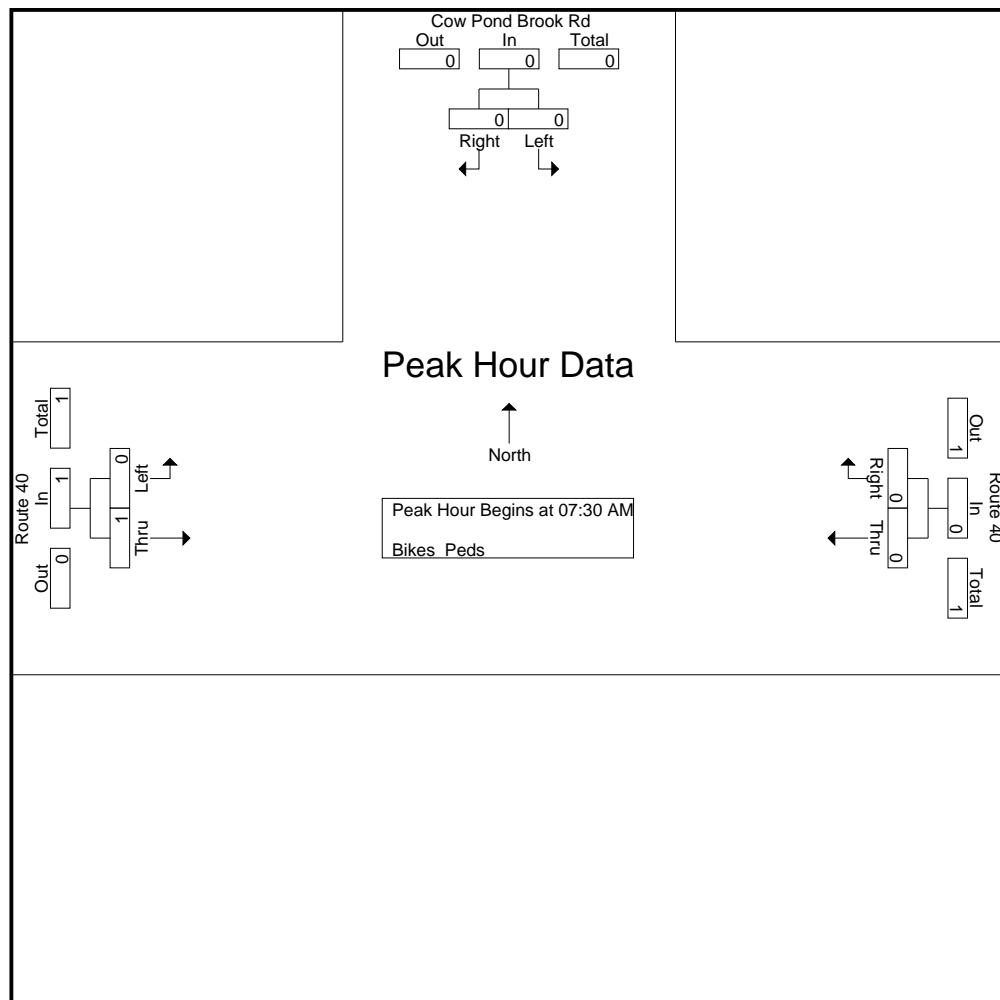
**Route 40
From West**

Start Time	Cow Pond Brook Rd From North			Route 40 From East			Route 40 From West					
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 07:30 AM												
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	1	1	1	1
Total Volume	0	0	0	0	0	0	0	1	1	1	1	1
% App. Total	0	0		0	0		0	100				
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250		.250

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Route 40
 City/State : Groton, MA
 Weather : Cloudy

File Name : 16610001
 Site Code : 16610001
 Start Date : 9/12/2023
 Page No : 11



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	1	1	1
% App. Total	0	0	0	0	0	0	0	100	100	100
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Route 40
 City/State : Groton, MA
 Weather : Cloudy

File Name : 16610001
 Site Code : 16610001
 Start Date : 9/12/2023
 Page No : 1

Groups Printed- Cars - Trucks

		Cow Pond Brook Rd From North		Route 40 From East		Route 40 From West		
Start Time		Left	Right	Thru	Right	Left	Thru	Int. Total
04:00 PM		1	4	93	5	0	46	149
04:15 PM		1	0	100	5	1	48	155
04:30 PM		4	2	78	2	0	51	137
04:45 PM		2	0	80	6	1	61	150
Total		8	6	351	18	2	206	591
05:00 PM		1	1	91	7	0	48	148
05:15 PM		4	2	59	8	2	37	112
05:30 PM		5	0	74	8	0	32	119
05:45 PM		7	1	67	2	0	37	114
Total		17	4	291	25	2	154	493
Grand Total		25	10	642	43	4	360	1084
Apprch %		71.4	28.6	93.7	6.3	1.1	98.9	
Total %		2.3	0.9	59.2	4	0.4	33.2	
Cars		25	10	638	41	4	356	1074
% Cars		100	100	99.4	95.3	100	98.9	99.1
Trucks		0	0	4	2	0	4	10
% Trucks		0	0	0.6	4.7	0	1.1	0.9

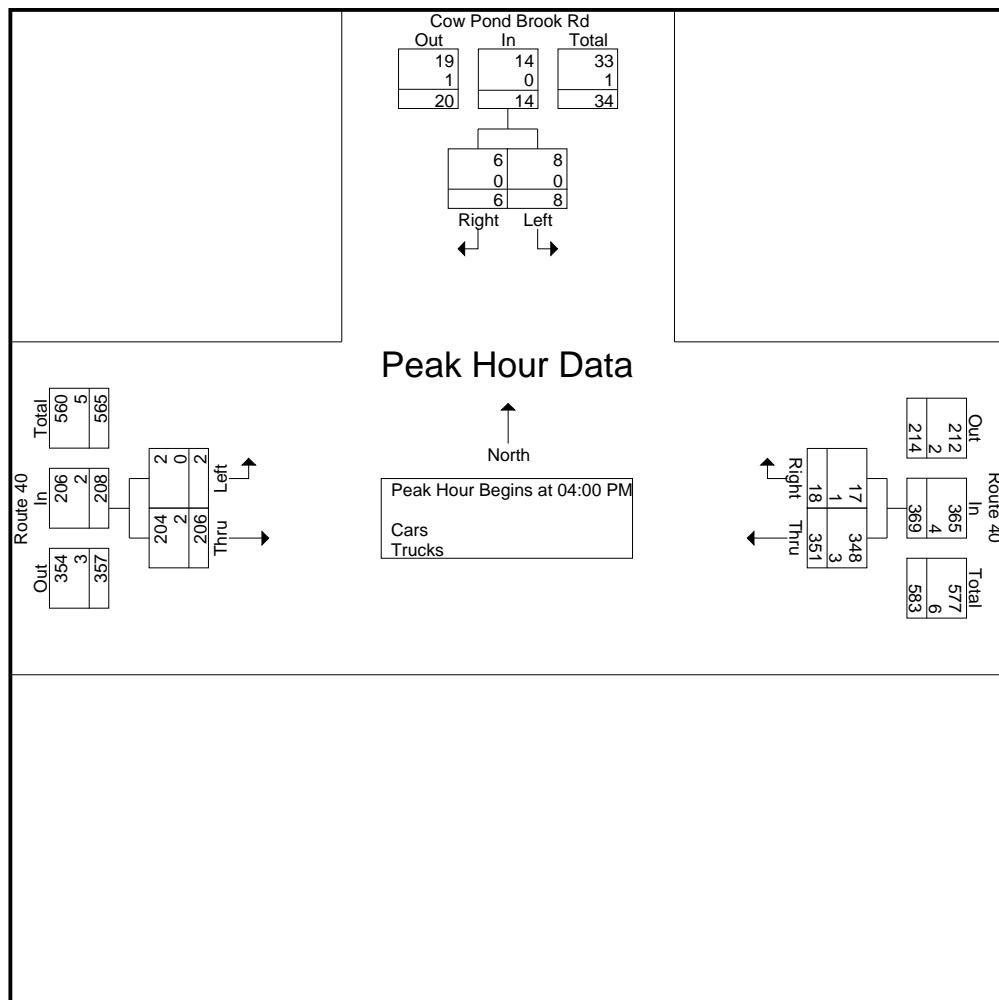
		Cow Pond Brook Rd From North			Route 40 From East			Route 40 From West			
Start Time		Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 04:00 PM											
04:00 PM		1	4	5	93	5	98	0	46	46	149
04:15 PM		1	0	1	100	5	105	1	48	49	155
04:30 PM		4	2	6	78	2	80	0	51	51	137
04:45 PM		2	0	2	80	6	86	1	61	62	150
Total Volume		8	6	14	351	18	369	2	206	208	591
% App. Total		57.1	42.9		95.1	4.9		1	99		
PHF		.500	.375	.583	.878	.750	.879	.500	.844	.839	.953
Cars		8	6	14	348	17	365	2	204	206	585
% Cars		100	100	100	99.1	94.4	98.9	100	99.0	99.0	99.0
Trucks		0	0	0	3	1	4	0	2	2	6
% Trucks		0	0	0	0.9	5.6	1.1	0	1.0	1.0	1.0

Accurate Counts

978-664-2565

N/S Street : Cow Pond Brook Road
E/W Street : Route 40
City/State : Groton, MA
Weather : Cloudy

File Name : 16610001
Site Code : 16610001
Start Date : 9/12/2023
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour Analysis From 04:00 AM to 05:00 AM

Peak Hour for Each Approach Begins at:	05:00 PM		04:00 PM		04:15 PM				
+0 mins.	1	1	2	93	5	98	1	48	49
+15 mins.	4	2	6	100	5	105	0	51	51
+30 mins.	5	0	5	78	2	80	1	61	62
+45 mins.	7	1	8	80	6	86	0	48	48
Total Volume	17	4	21	351	18	369	2	208	210
% App. Total	81	19		95.1	4.9		1	99	
PHF	.607	.500	.656	.878	.750	.879	.500	.852	.847
Cars	17	4	21	348	17	365	2	207	209
% Cars	100	100	100	99.1	94.4	98.9	100	99.5	99.5
Trucks	0	0	0	3	1	4	0	1	1
% Trucks	0	0	0	0.9	5.6	1.1	0	0.5	0.5

Accurate Counts

978-664-2565

N/S Street : Cow Pond Brook Road
E/W Street : Route 40
City/State : Groton, MA
Weather : Cloudy

File Name : 16610001
Site Code : 16610001
Start Date : 9/12/2023
Page No : 10

	Groups Printed- Bikes Peds											
	Cow Pond Brook Rd From North			Route 40 From East			Route 40 From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Excl. Total	Incl. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	1	1	0	1
Total	0	0	0	0	0	0	0	0	1	1	0	1
Grand Total	0	0	0	0	0	0	0	0	1	1	0	1
Apprch %	0	0	0	0	0	0	0	0				
Total %									100	0		

Accurate Counts

978-664-2565

N/S Street : Cow Pond Brook Road

E/W Street : Route 40

City/State : Groton, MA

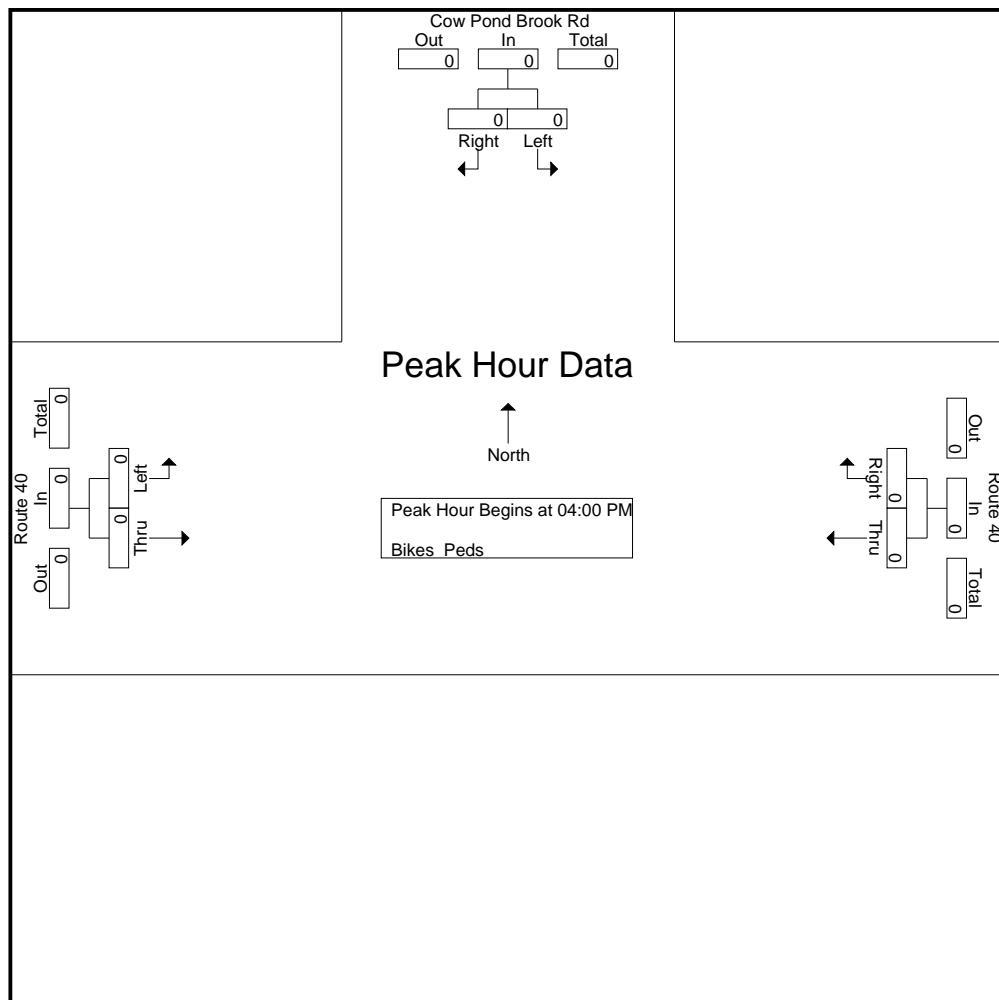
Weather : Cloudy

File Name : 16610001

Site Code : 16610001

Start Date : 9/12/2023

Page No : 11



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Lowell Road
 City/State : Groton, MA
 Weather : Clear

File Name : 16610001
 Site Code : 16610001
 Start Date : 10/5/2023
 Page No : 1

Groups Printed- Cars - Trucks

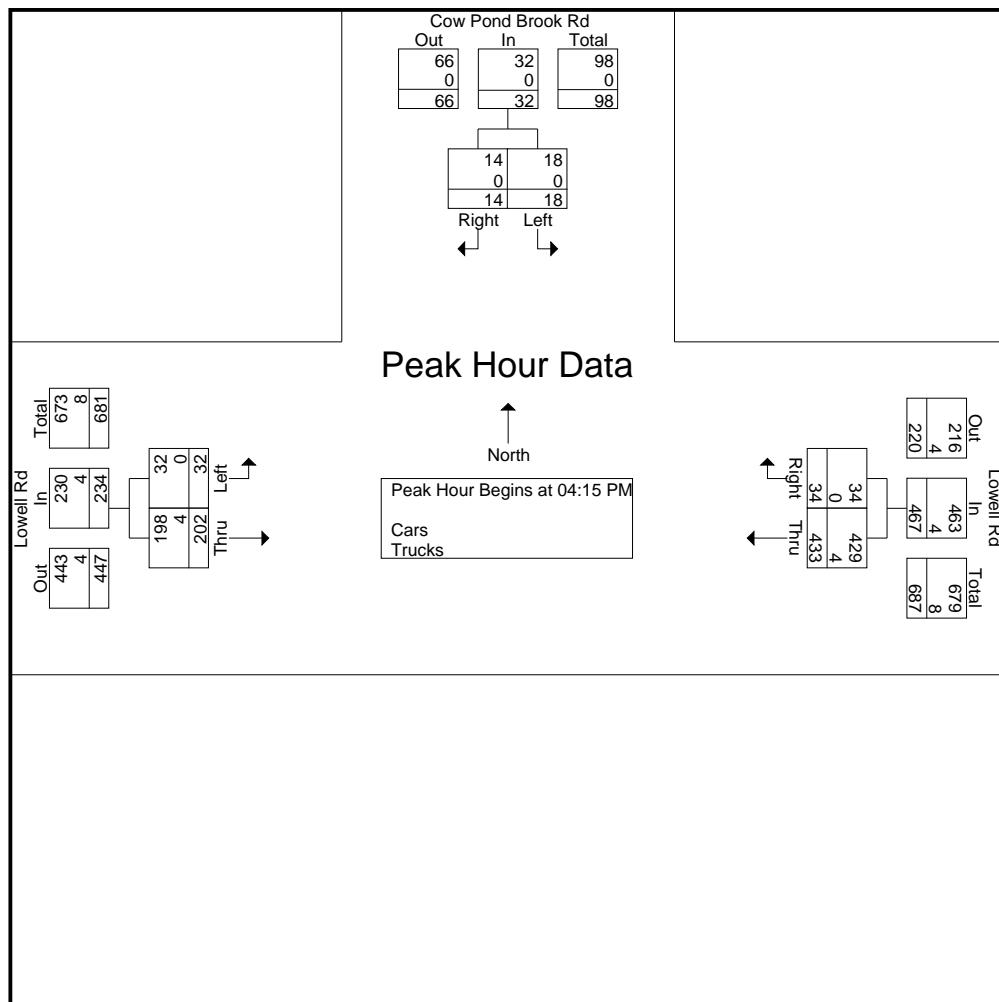
		Cow Pond Brook Rd From North		Lowell Rd From East		Lowell Rd From West		
Start Time		Left	Right	Thru	Right	Left	Thru	Int. Total
03:00 PM		1	1	62	5	3	36	108
03:15 PM		2	7	65	4	6	44	128
03:30 PM		2	10	82	4	3	27	128
03:45 PM		3	2	100	5	4	48	162
Total		8	20	309	18	16	155	526
04:00 PM		3	5	100	3	5	47	163
04:15 PM		4	6	106	6	5	50	177
04:30 PM		6	3	117	8	6	48	188
04:45 PM		1	3	109	13	19	56	201
Total		14	17	432	30	35	201	729
05:00 PM		7	2	101	7	2	48	167
05:15 PM		4	1	93	3	3	52	156
05:30 PM		5	3	86	7	5	33	139
05:45 PM		3	1	82	11	13	53	163
Total		19	7	362	28	23	186	625
Grand Total		41	44	1103	76	74	542	1880
Apprch %		48.2	51.8	93.6	6.4	12	88	
Total %		2.2	2.3	58.7	4	3.9	28.8	
Cars		41	43	1095	74	73	535	1861
% Cars		100	97.7	99.3	97.4	98.6	98.7	99
Trucks		0	1	8	2	1	7	19
% Trucks		0	2.3	0.7	2.6	1.4	1.3	1

		Cow Pond Brook Rd From North			Lowell Rd From East			Lowell Rd From West			
Start Time		Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 04:15 PM											
04:15 PM		4	6	10	106	6	112	5	50	55	177
04:30 PM		6	3	9	117	8	125	6	48	54	188
04:45 PM		1	3	4	109	13	122	19	56	75	201
05:00 PM		7	2	9	101	7	108	2	48	50	167
Total Volume		18	14	32	433	34	467	32	202	234	733
% App. Total		56.2	43.8		92.7	7.3		13.7	86.3		
PHF		.643	.583	.800	.925	.654	.934	.421	.902	.780	.912
Cars		18	14	32	429	34	463	32	198	230	725
% Cars		100	100	100	99.1	100	99.1	100	98.0	98.3	98.9
Trucks		0	0	0	4	0	4	0	4	4	8
% Trucks		0	0	0	0.9	0	0.9	0	2.0	1.7	1.1

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Lowell Road
 City/State : Groton, MA
 Weather : Clear

File Name : 16610001
 Site Code : 16610001
 Start Date : 10/5/2023
 Page No : 2



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

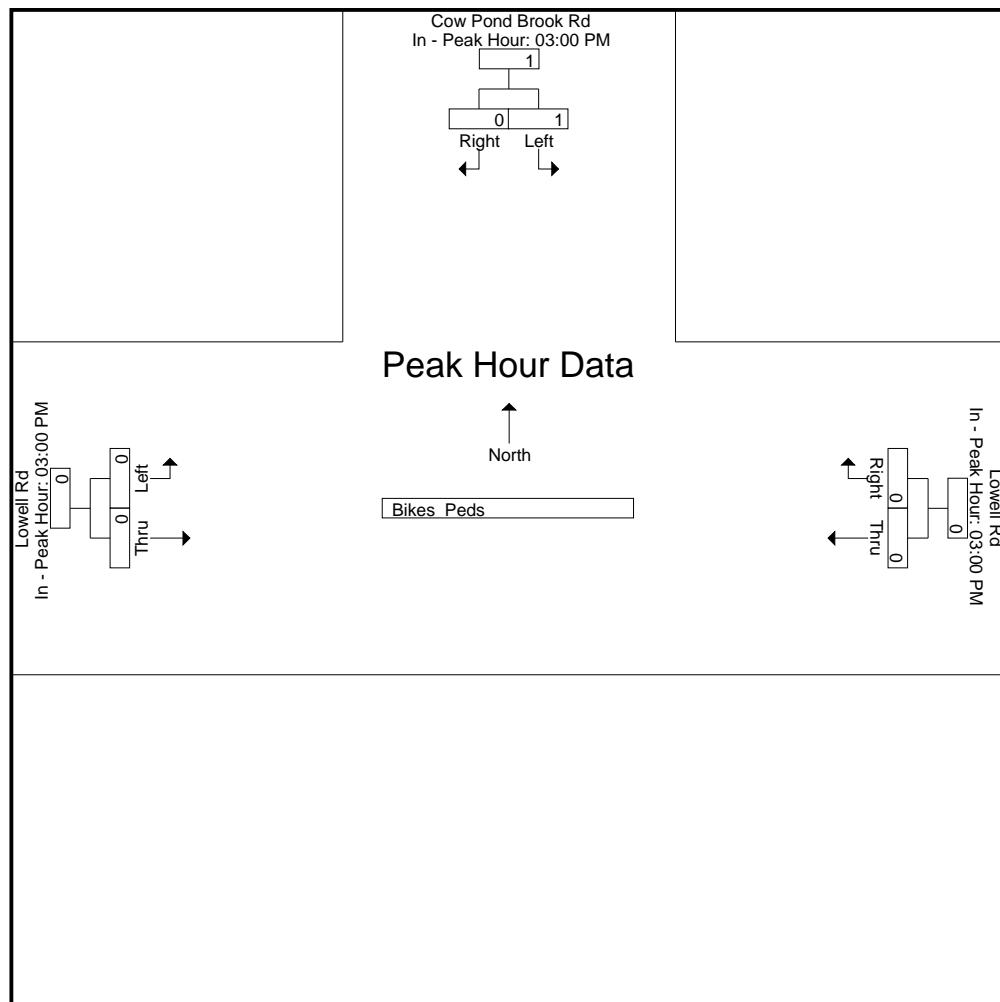
Peak Hour for Each Approach Begins at:

	03:30 PM		04:15 PM		04:00 PM	
+0 mins.	2	10	12	106	6	112
+15 mins.	3	2	5	117	8	125
+30 mins.	3	5	8	109	13	122
+45 mins.	4	6	10	101	7	108
Total Volume	12	23	35	433	34	467
% App. Total	34.3	65.7		92.7	7.3	
PHF	.750	.575	.729	.925	.654	.934
Cars	12	22	34	429	34	463
% Cars	100	95.7	97.1	99.1	100	99.1
Trucks	0	1	1	4	0	4
% Trucks	0	4.3	2.9	0.9	0	0.9

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
E/W Street : Lowell Road
City/State : Groton, MA
Weather : Clear

File Name : 16610001
Site Code : 16610001
Start Date : 10/5/2023
Page No : 12



Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Route 40
 City/State : Groton, MA
 Weather : Clear

File Name : 166100S1
 Site Code : 16610001
 Start Date : 9/9/2023
 Page No : 1

Groups Printed- Cars - Trucks

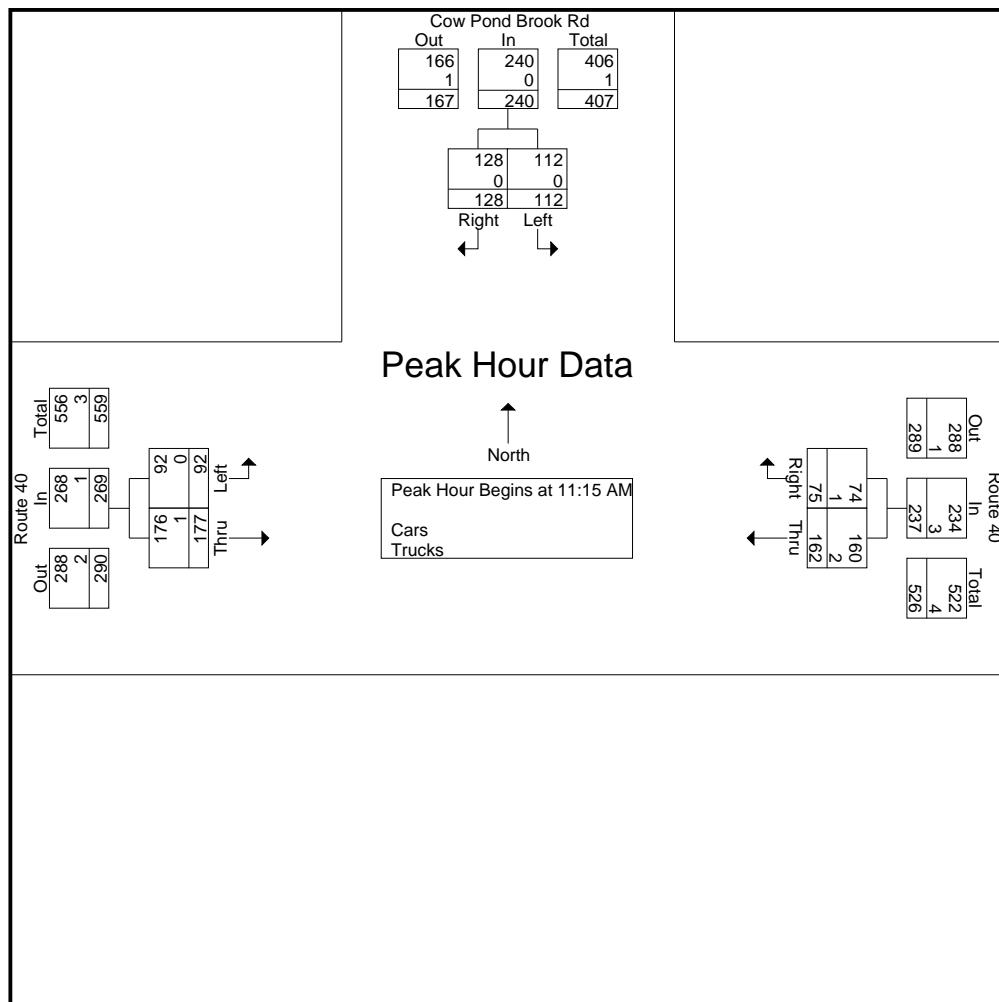
		Cow Pond Brook Rd From North		Route 40 From East		Route 40 From West		
Start Time		Left	Right	Thru	Right	Left	Thru	Int. Total
10:00 AM		14	12	23	27	21	31	128
10:15 AM		31	27	29	21	29	32	169
10:30 AM		9	14	35	13	15	31	117
10:45 AM		6	11	45	6	14	26	108
Total		60	64	132	67	79	120	522
11:00 AM		12	19	49	9	17	46	152
11:15 AM		33	45	37	21	18	30	184
11:30 AM		20	21	31	21	24	62	179
11:45 AM		41	38	44	22	31	42	218
Total		106	123	161	73	90	180	733
12:00 PM		18	24	50	11	19	43	165
12:15 PM		8	16	40	9	13	32	118
12:30 PM		10	18	52	9	22	36	147
12:45 PM		6	18	47	9	18	38	136
Total		42	76	189	38	72	149	566
01:00 PM		7	33	38	14	11	46	149
01:15 PM		43	61	46	9	19	42	220
01:30 PM		22	16	52	11	6	40	147
01:45 PM		5	11	39	11	10	29	105
Total		77	121	175	45	46	157	621
Grand Total		285	384	657	223	287	606	2442
Apprch %		42.6	57.4	74.7	25.3	32.1	67.9	
Total %		11.7	15.7	26.9	9.1	11.8	24.8	
Cars		285	382	650	222	286	603	2428
% Cars		100	99.5	98.9	99.6	99.7	99.5	99.4
Trucks		0	2	7	1	1	3	14
% Trucks		0	0.5	1.1	0.4	0.3	0.5	0.6

		Cow Pond Brook Rd From North		Route 40 From East		Route 40 From West					
Start Time		Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 11:15 AM											
11:15 AM		33	45	78	37	21	58	18	30	48	184
11:30 AM		20	21	41	31	21	52	24	62	86	179
11:45 AM		41	38	79	44	22	66	31	42	73	218
12:00 PM		18	24	42	50	11	61	19	43	62	165
Total Volume		112	128	240	162	75	237	92	177	269	746
% App. Total		46.7	53.3		68.4	31.6		34.2	65.8		
PHF		.683	.711	.759	.810	.852	.898	.742	.714	.782	.856
Cars		112	128	240	160	74	234	92	176	268	742
% Cars		100	100	100	98.8	98.7	98.7	100	99.4	99.6	99.5
Trucks		0	0	0	2	1	3	0	1	1	4
% Trucks		0	0	0	1.2	1.3	1.3	0	0.6	0.4	0.5

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Route 40
 City/State : Groton, MA
 Weather : Clear

File Name : 166100S1
 Site Code : 16610001
 Start Date : 9/9/2023
 Page No : 2



Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:15 AM			11:15 AM			11:00 AM		
+0 mins.	33	45	78	37	21	58	17	46	63
+15 mins.	20	21	41	31	21	52	18	30	48
+30 mins.	41	38	79	44	22	66	24	62	86
+45 mins.	18	24	42	50	11	61	31	42	73
Total Volume	112	128	240	162	75	237	90	180	270
% App. Total	46.7	53.3		68.4	31.6		33.3	66.7	
PHF	.683	.711	.759	.810	.852	.898	.726	.726	.785
Cars	112	128	240	160	74	234	90	178	268
% Cars	100	100	100	98.8	98.7	98.7	100	98.9	99.3
Trucks	0	0	0	2	1	3	0	2	2
% Trucks	0	0	0	1.2	1.3	1.3	0	1.1	0.7

Accurate Counts

978-664-2565

N/S Street : Cow Pond Brook Road

E/W Street : Route 40

City/State : Groton, MA

Weather : Clear

File Name : 166100S1

Site Code : 16610001

Start Date : 9/9/2023

Page No : 10

Groups Printed- Bikes Peds

	Cow Pond Brook Rd From North			Route 40 From East			Route 40 From West					
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Excl. Total	Incl. Total	Int. Total
10:00 AM	1	0	1	0	29	0	0	0	0	1	30	31
10:15 AM	0	0	0	3	0	0	0	0	1	1	3	4
10:30 AM	2	0	0	0	0	0	0	0	0	0	2	2
10:45 AM	1	0	0	0	0	0	0	0	0	0	1	1
Total	4	0	1	3	29	0	0	0	1	2	36	38
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	1	0	0	0	0	0	1	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	1	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	1	0	0	0	0	0	0	0	0	0	1	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	1	1
Grand Total	5	0	1	3	30	0	0	0	1	2	38	40
Apprch %	100	0		9.1	90.9		0	0				
Total %	13.2	0		7.9	78.9		0	0		5	95	

Cow Pond Brook Rd From North

Route 40 From East

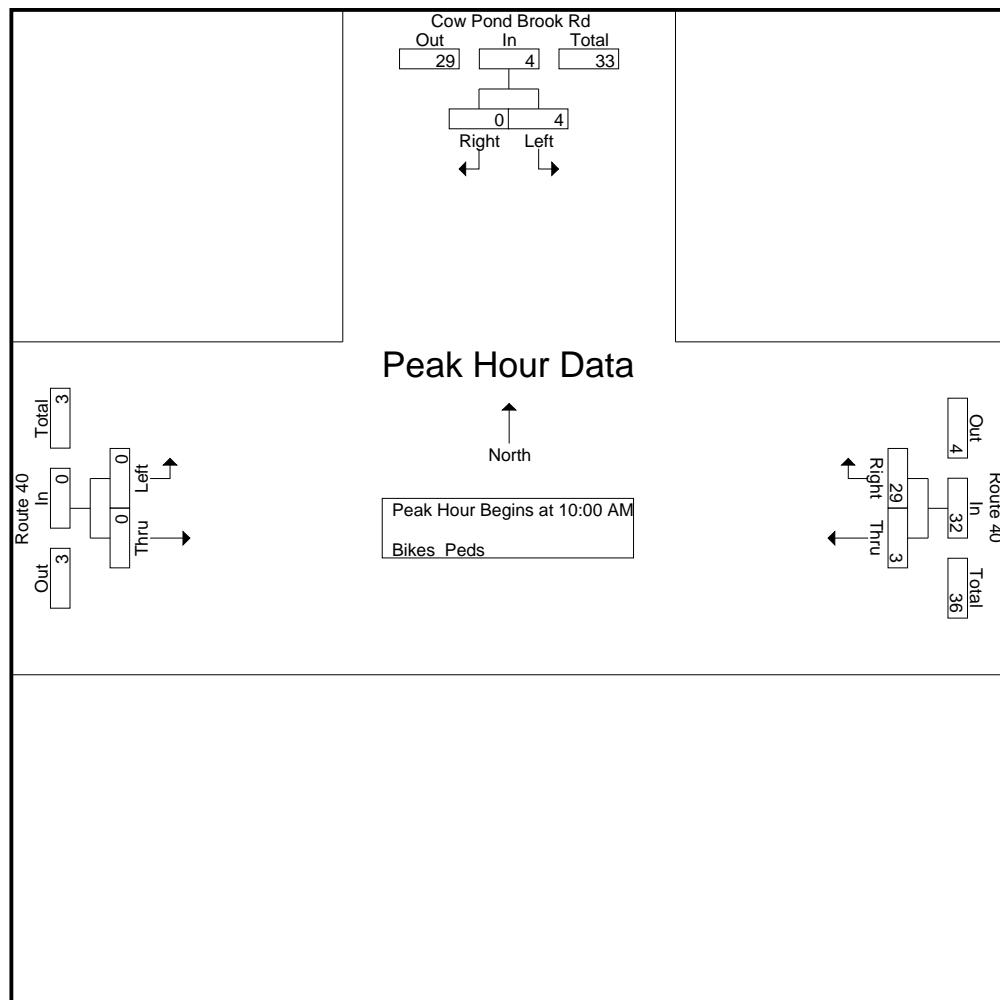
Route 40 From West

Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 10:00 AM										
10:00 AM	1	0	1	0	29	29	0	0	0	30
10:15 AM	0	0	0	3	0	3	0	0	0	3
10:30 AM	2	0	2	0	0	0	0	0	0	2
10:45 AM	1	0	1	0	0	0	0	0	0	1
Total Volume	4	0	4	3	29	32	0	0	0	36
% App. Total	100	0		9.4	90.6		0	0		
PHF	.500	.000	.500	.250	.250	.276	.000	.000	.000	.300

Accurate Counts
978-664-2565

N/S Street : Cow Pond Brook Road
 E/W Street : Route 40
 City/State : Groton, MA
 Weather : Clear

File Name : 166100S1
 Site Code : 16610001
 Start Date : 9/9/2023
 Page No : 11



Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	10:00 AM			10:00 AM			10:00 AM		
+0 mins.	1	0	1	0	29	29	0	0	0
+15 mins.	0	0	0	3	0	3	0	0	0
+30 mins.	2	0	2	0	0	0	0	0	0
+45 mins.	1	0	1	0	0	0	0	0	0
Total Volume	4	0	4	3	29	32	0	0	0
% App. Total	100	0		9.4	90.6		0	0	
PHF	.500	.000	.500	.250	.250	.276	.000	.000	.000

Appendix C: Traffic-Volume Adjustments

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Massachusetts Highway Department
Statewide Traffic Data Collection
2019 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.22	1.14	1.12	1.06	1.00	0.96	0.87	0.85	0.96	0.99	1.04	1.12	0.85
R2	0.95	0.96	0.98	0.97	0.97	0.93	0.97	0.94	0.96	0.90	0.92	0.93	0.96
R3	1.15	1.06	1.07	1.00	0.89	0.88	0.89	0.89	0.95	0.92	1.02	1.01	0.97
R4-R7	1.09	1.09	1.11	1.02	0.96	0.92	0.89	0.89	0.99	0.98	1.09	1.13	0.98
U1-Boston	1.03	1.01	0.98	0.94	0.94	0.92	0.95	0.93	0.94	0.94	0.97	1.04	0.96
U1-Essex	1.09	1.06	1.03	0.99	0.94	0.90	0.88	0.86	0.93	0.94	0.99	1.06	0.93
U1-Southeast	1.06	1.05	1.01	0.97	0.95	0.93	0.93	0.90	0.94	0.94	0.98	1.04	0.98
U1-West	1.19	1.14	1.09	0.95	0.92	0.89	0.89	0.86	0.91	0.95	0.97	1.07	0.84
U1-Worcester	1.02	1.04	0.97	0.94	0.93	0.91	0.95	0.91	0.93	0.92	0.95	1.10	0.88
U2	1.01	1.00	0.94	0.93	0.91	0.89	0.93	0.90	0.90	0.91	0.94	1.02	0.99
U3	1.06	1.03	0.98	0.94	0.93	0.91	0.95	0.91	0.92	0.93	0.97	1.00	0.98
U4-U7	1.01	1.00	0.95	0.92	0.88	0.86	0.92	0.91	0.92	0.94	0.99	1.04	0.99
Rec - East	1.04	1.16	1.12	0.98	0.92	0.88	0.77	0.81	0.94	1.02	1.08	1.12	0.99
Rec - West	1.30	1.23	1.32	1.18	0.95	0.82	0.70	0.69	0.97	0.96	1.16	1.15	0.98

Round off:

0-999 = 10

>1000 = 100

U = Urban

R = Rural

1 - Interstate

2 - Freeway and Expressway

3 - Other Principal Arterial

4 - Minor Arterial

5 - Major Collector

6 - Minor Collector

7 - Local Road and Street

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations

7014, 7079, 7080, 7090, 7091, 7092, 7093, 7094, 7095, 7096, 7097, 7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations

1066, 1067, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1113, 1114, 1116, 2196, 2197 and 2198.

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Appendix D: Vehicle Speeds

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Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA
Direction: NB

Site Code: 16610001

9/9/2023	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	0	1	1	0	1	0	0	3
1:00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
6:00	0	0	0	0	0	1	0	1	0	5	1	0	0	0	8
7:00	0	0	0	0	0	1	2	8	20	15	4	1	1	1	52
8:00	0	0	0	0	0	0	6	28	81	52	25	6	2	2	200
9:00	0	0	0	0	0	1	8	35	73	43	15	3	1	1	179
10:00	0	0	0	1	1	1	3	11	34	40	34	21	1	0	147
11:00	2	0	0	0	0	1	3	10	28	61	28	14	4	0	151
12:00 PM	0	0	0	0	0	0	6	17	32	36	14	4	1	1	110
1:00	1	1	0	0	0	0	2	12	25	38	10	2	0	0	91
2:00	0	0	0	0	0	1	5	9	16	24	9	2	0	0	66
3:00	0	0	0	0	0	0	5	14	29	26	6	3	0	0	83
4:00	0	0	0	0	0	3	3	11	15	30	8	2	0	0	72
5:00	0	0	0	0	0	0	1	0	3	6	2	0	0	0	12
6:00	0	0	0	0	0	0	0	5	4	5	0	0	0	0	14
7:00	0	0	0	0	0	0	1	3	1	1	0	1	0	0	7
8:00	0	0	0	0	0	1	0	2	0	0	0	0	0	0	3
9:00	0	0	0	0	0	0	0	0	1	2	5	1	1	0	10
10:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
11:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Total	3	1	0	1	1	2	14	60	212	404	353	131	30	5	1217
Percentile Speed			15th	50th	85th	95th									
Mean Speed (Average)			29.7												
10 MPH Pace Speed			24-33												
Number in Pace			1010												
Percent in Pace			83.0%												
Number > 30 MPH			519												
Percent > 30 MPH			42.6%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA
Direction: NB

Site Code: 16610001

9/10/2023	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	0	1	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
2:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
7:00	0	0	0	0	0	1	0	0	2	1	0	1	0	0	5
8:00	0	0	0	0	0	0	0	5	2	8	3	3	0	0	21
9:00	0	0	0	0	0	0	0	0	0	3	2	2	0	0	7
10:00	0	0	0	0	0	0	0	1	3	3	1	1	0	0	9
11:00	0	0	0	0	0	0	1	0	1	9	7	1	0	0	19
12:00 PM	0	0	0	0	0	0	0	0	3	14	8	2	1	1	29
1:00	0	0	0	0	1	0	1	1	3	4	2	2	1	0	15
2:00	0	0	0	0	0	1	1	6	4	19	2	2	0	0	35
3:00	0	0	0	0	0	0	0	0	2	3	4	1	0	0	10
4:00	0	0	0	0	0	0	1	0	1	1	3	2	0	0	8
5:00	0	0	0	0	0	0	0	1	0	3	3	0	0	0	7
6:00	0	0	0	0	0	0	0	1	1	3	2	0	1	0	8
7:00	0	0	0	0	0	0	0	0	5	5	2	0	0	0	12
8:00	0	0	0	0	0	0	0	1	1	1	0	1	0	0	4
9:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
10:00	0	0	0	0	0	0	0	0	1	1	1	0	1	0	4
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	2	4	16	31	81	44	19	4	1	203
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	29.2													
	10 MPH Pace Speed	24-33													
	Number in Pace	162													
	Percent in Pace	79.8%													
	Number > 30 MPH	68													
	Percent > 30 MPH	33.5%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: NB

Site Code: 16610001

9/11/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	1	0	1	1	0	0	0	3
6:00	0	0	0	0	0	0	0	0	4	6	5	0	0	0	15
7:00	0	0	0	0	0	0	0	1	7	2	2	1	0	0	13
8:00	0	0	0	0	0	0	0	1	4	5	3	0	0	0	13
9:00	1	0	0	0	0	0	2	1	6	4	5	0	0	0	19
10:00	0	0	0	0	1	0	0	0	4	0	4	1	0	0	10
11:00	0	0	0	0	0	0	0	2	1	4	5	0	1	1	14
12:00 PM	0	0	0	0	0	0	1	2	0	3	6	0	0	0	12
1:00	0	0	0	0	0	0	0	1	2	6	8	2	1	0	20
2:00	0	0	0	0	0	0	0	1	5	8	5	5	2	0	26
3:00	0	0	0	0	0	1	1	0	6	7	5	2	1	0	23
4:00	0	0	0	0	0	0	0	0	3	5	9	3	0	1	21
5:00	0	0	0	0	0	0	0	1	3	13	2	1	0	0	20
6:00	0	0	0	0	0	0	0	1	5	5	7	1	2	0	21
7:00	0	0	0	0	0	0	0	2	2	2	2	0	0	0	8
8:00	0	0	0	0	0	0	1	3	4	3	0	0	0	0	11
9:00	0	0	0	0	0	1	0	0	1	0	3	0	0	0	5
10:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
11:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
Total	1	0	0	0	1	2	5	17	57	76	73	17	7	2	258
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	29.5													
	10 MPH Pace Speed	24-33													
	Number in Pace	212													
	Percent in Pace	82.2%													
	Number > 30 MPH	99													
	Percent > 30 MPH	38.4%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: NB

Site Code: 16610001

9/12/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
6:00	0	0	0	0	0	0	0	0	4	5	4	0	1	0	14
7:00	0	0	0	0	0	0	0	0	1	7	5	1	0	0	14
8:00	0	0	0	0	0	0	0	0	4	6	2	0	0	0	12
9:00	0	0	0	1	0	1	0	1	1	5	4	0	1	0	14
10:00	0	1	0	0	0	0	0	2	1	5	2	0	1	0	12
11:00	0	0	0	0	0	0	2	2	1	7	4	0	0	0	16
12:00 PM	0	0	0	0	0	0	1	1	3	9	3	3	0	0	20
1:00	0	0	0	0	0	0	1	1	5	4	7	3	1	0	22
2:00	0	0	0	0	0	0	0	1	7	9	7	4	0	0	28
3:00	0	0	0	0	0	0	0	1	3	8	4	1	1	1	19
4:00	0	0	0	0	0	0	0	2	5	8	3	3	0	0	21
5:00	0	0	0	0	0	0	1	2	2	7	6	6	1	1	26
6:00	0	0	0	0	0	0	1	2	4	6	10	3	1	0	27
7:00	0	0	0	0	0	0	0	0	2	8	6	2	0	0	18
8:00	0	0	0	0	0	0	1	2	2	5	2	0	1	0	13
9:00	0	0	0	0	0	0	0	1	1	3	1	0	0	0	6
10:00	0	0	0	0	0	0	0	0	2	2	0	0	0	0	4
11:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	1	0	1	0	1	7	20	48	106	71	28	8	2	293
	Percentile Speed		15th 26	50th 29	85th 33	95th 35									
Mean Speed (Average)			29.6												
10 MPH Pace Speed			24-33												
Number in Pace			234												
Percent in Pace			79.9%												
Number > 30 MPH			109												
Percent > 30 MPH			37.2%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA
Direction: NB

Site Code: 16610001

9/13/2023	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	0	0	2	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00	0	0	0	0	0	0	0	0	1	1	0	1	0	0	3
6:00	0	0	0	0	0	0	0	0	0	8	9	0	0	2	19
7:00	0	0	0	0	0	0	0	2	4	7	3	1	0	1	18
8:00	0	0	0	0	0	0	0	3	8	8	7	2	1	0	29
9:00	0	1	0	0	0	1	0	6	13	11	3	1	0	0	36
10:00	0	0	0	0	0	0	0	4	9	11	9	2	0	0	35
11:00	0	0	0	0	0	0	0	2	8	21	14	3	0	0	48
12:00 PM	0	0	0	0	0	0	1	7	5	3	0	1	0	17	
1:00	0	0	0	0	0	1	4	1	8	7	5	1	0	0	27
2:00	0	0	0	0	0	0	0	0	6	10	11	1	1	1	30
3:00	0	0	0	0	0	1	0	8	13	10	4	1	0	0	37
4:00	0	0	0	0	0	0	0	0	1	11	10	4	0	1	27
5:00	0	0	0	0	0	0	0	1	3	8	10	1	1	1	25
6:00	0	0	0	0	1	1	0	5	7	8	0	1	0	0	23
7:00	0	0	0	1	0	0	1	4	6	3	2	0	0	0	17
8:00	0	0	0	0	1	0	0	1	0	0	1	0	0	0	3
9:00	0	0	0	0	0	0	0	0	3	3	6	1	0	0	13
10:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	2	4	18	76	143	122	31	8	6	412
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	30.7													
	10 MPH Pace Speed	24-33													
	Number in Pace	351													
	Percent in Pace	85.2%													
	Number > 30 MPH	167													
	Percent > 30 MPH	40.5%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA
Direction: NB

Site Code: 16610001

9/14/2023	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	0	1	1	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
3:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
6:00	0	0	0	0	0	0	0	0	5	5	3	3	2	0	18
7:00	0	0	0	0	1	0	0	6	4	8	3	0	0	0	22
8:00	0	0	0	0	0	0	0	0	2	9	4	1	0	0	16
9:00	0	0	0	0	0	0	1	1	6	14	3	1	1	0	27
10:00	0	0	0	0	0	0	1	2	5	20	11	1	0	0	40
11:00	0	0	0	0	0	0	0	1	7	11	13	4	0	0	36
12:00 PM	0	0	0	0	0	0	1	2	6	10	6	6	1	0	32
1:00	0	0	0	0	0	0	1	1	6	4	15	4	0	0	31
2:00	0	0	0	0	0	0	1	1	6	11	12	5	3	1	40
3:00	0	0	0	0	0	1	0	1	7	16	12	3	0	0	40
4:00	0	1	0	0	0	1	1	2	5	19	23	5	0	1	58
5:00	0	0	0	0	0	1	0	1	10	28	28	10	4	1	83
6:00	0	0	0	0	0	0	0	2	7	12	12	2	0	0	35
7:00	0	0	0	0	0	0	0	1	6	1	6	0	0	0	14
8:00	0	0	0	0	0	0	0	0	2	5	4	1	0	0	12
9:00	0	0	0	0	0	0	0	0	2	4	3	1	0	0	10
10:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	1	0	0	1	3	7	22	89	180	158	47	12	3	523
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	29.9													
	10 MPH Pace Speed	24-33													
	Number in Pace	442													
	Percent in Pace	84.5%													
	Number > 30 MPH	220													
	Percent > 30 MPH	42.1%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: NB

Site Code: 16610001

9/15/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	1	0	2	0	0	3
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	5	5	1	2	1	0	14
7:00	0	0	0	1	0	0	0	1	3	11	6	0	1	0	23
8:00	0	0	0	0	0	0	0	2	9	11	3	4	0	0	29
9:00	0	0	0	0	0	0	0	2	9	10	5	1	0	0	27
10:00	0	0	0	0	0	0	1	0	8	17	10	0	0	0	36
11:00	0	0	0	0	0	0	1	1	8	8	8	1	0	0	27
12:00 PM	0	0	0	0	0	0	0	5	5	16	15	7	2	0	50
1:00	0	0	0	0	0	0	1	5	11	11	8	1	1	1	38
2:00	0	0	0	0	0	0	1	7	12	17	1	1	0	0	39
3:00	0	1	0	0	0	0	1	1	6	15	7	5	0	1	37
4:00	0	0	0	0	2	0	1	5	14	31	27	7	1	0	88
5:00	0	0	0	0	0	0	2	7	17	36	34	11	5	1	113
6:00	0	0	0	0	0	0	0	2	8	7	9	2	1	0	29
7:00	0	0	0	0	0	1	1	0	4	6	3	2	0	0	17
8:00	0	0	0	0	0	1	0	0	3	3	1	1	0	0	9
9:00	0	0	0	0	0	0	0	0	1	2	4	0	0	0	7
10:00	0	0	0	1	0	0	0	0	0	2	0	0	1	0	4
11:00	0	0	0	0	0	0	0	1	0	1	1	0	0	0	4
Total	0	1	0	2	2	2	7	29	112	205	166	55	14	3	598
	Percentile Speed		15th 26	50th 29	85th 32	95th 34									
	Mean Speed (Average)		29.6												
	10 MPH Pace Speed		24-33												
	Number in Pace		500												
	Percent in Pace		83.6%												
	Number > 30 MPH		238												
	Percent > 30 MPH		39.8%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: NB

Site Code: 16610001

9/16/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1:00	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3
7:00	0	0	0	0	0	1	0	2	6	9	9	1	0	0	28
8:00	0	0	0	0	0	0	0	4	20	51	42	11	1	2	131
9:00	0	0	0	0	0	0	3	1	23	43	32	7	0	0	109
10:00	0	1	0	0	0	0	1	3	17	32	33	13	1	0	101
11:00	0	1	0	0	0	0	2	8	34	67	46	11	3	0	172
12:00 PM	0	0	0	0	0	1	0	1	15	40	34	10	3	1	105
1:00	0	0	0	0	0	0	0	5	11	32	20	1	0	0	69
2:00	0	0	0	0	0	0	0	7	19	42	38	12	3	0	121
3:00	0	0	0	0	0	0	1	3	11	17	25	9	0	0	66
4:00	0	0	0	0	0	1	1	3	2	7	6	5	2	0	27
5:00	0	0	0	1	0	0	0	2	3	4	6	3	0	0	19
6:00	0	0	0	0	0	0	0	1	3	5	5	0	1	0	15
7:00	0	0	0	0	0	0	1	0	1	0	1	1	0	0	4
8:00	0	0	0	0	0	0	0	0	2	3	2	2	0	0	9
9:00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
10:00	0	0	1	0	0	0	0	1	2	1	2	1	0	0	8
11:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	2	1	1	1	3	10	43	174	356	303	88	14	3	999
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	29.5													
	10 MPH Pace Speed	24-33													
	Number in Pace	861													
	Percent in Pace	86.2%													
	Number > 30 MPH	408													
	Percent > 30 MPH	40.8%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA
Direction: NB

Site Code: 16610001

9/17/2023	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	0	0	0	0	0	1	0	1
1:00	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
7:00	0	0	0	0	0	0	0	1	2	3	0	0	0	0	6
8:00	0	0	0	0	0	2	3	7	5	16	4	0	0	0	37
9:00	0	1	0	1	0	0	3	4	4	5	5	0	0	0	23
10:00	0	0	0	0	0	3	7	2	5	7	3	0	0	0	27
11:00	0	0	0	0	0	2	4	4	6	16	9	1	0	0	42
12:00 PM	0	0	0	0	0	4	2	0	8	5	2	1	0	0	22
1:00	0	0	0	0	0	2	1	1	8	6	2	0	0	0	20
2:00	0	0	0	0	1	2	1	4	12	7	6	1	0	0	34
3:00	0	0	1	0	0	1	2	2	3	9	4	0	0	0	22
4:00	0	0	0	0	0	0	0	0	7	7	1	1	0	0	16
5:00	0	0	0	0	0	0	0	2	1	5	2	1	0	0	11
6:00	0	0	0	0	0	0	0	1	5	3	3	0	1	0	13
7:00	0	0	0	0	0	0	0	0	3	2	3	0	0	0	8
8:00	0	0	0	0	0	0	0	0	0	3	1	1	1	0	6
9:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Total	0	1	1	1	0	1	16	28	36	79	88	39	7	0	297
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	24	30	33	35										
	10 MPH Pace Speed	28.8													
	Number in Pace	26-35													
	Percent in Pace	218													
	Number > 30 MPH	73.4%													
	Percent > 30 MPH	134													
	Grand Total	45.1%													
Stats	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	26	29	32	35										
	10 MPH Pace Speed	29.7													
	Number in Pace	24-33													
	Percent in Pace	3988													
	Number > 30 MPH	83.1%													
	Percent > 30 MPH	1962													
		40.9%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: SB

Site Code: 16610001

9/9/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	1	1	1	0	1	0	4
6:00	0	0	0	0	0	0	1	1	0	0	0	2	0	0	4
7:00	0	0	0	0	0	0	1	1	3	6	1	7	1	0	20
8:00	0	0	0	0	0	0	1	1	6	17	12	3	2	2	44
9:00	0	0	0	0	0	1	3	10	25	30	24	9	2	1	105
10:00	0	0	1	0	3	5	4	6	24	31	34	12	4	0	124
11:00	3	18	13	10	6	13	12	25	36	43	29	6	2	2	218
12:00 PM	0	0	0	0	0	1	3	4	28	38	24	15	2	0	115
1:00	1	6	11	7	12	8	10	27	33	32	29	12	3	3	194
2:00	0	0	0	1	3	3	7	13	23	27	31	12	5	4	129
3:00	0	0	0	0	1	0	3	5	9	26	24	13	4	3	88
4:00	0	0	0	0	1	0	0	7	8	13	25	8	6	1	69
5:00	2	2	2	1	2	2	2	6	8	4	7	5	2	1	46
6:00	0	1	1	1	3	3	4	6	9	9	8	3	0	0	48
7:00	0	0	0	0	0	0	0	2	0	0	2	0	3	0	7
8:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
9:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3
Total	6	27	28	20	31	36	52	116	216	279	253	108	38	17	1227
Percentile Speed			15th	50th	85th	95th									
Mean Speed (Average)			28.0												
10 MPH Pace Speed			24-33												
Number in Pace			784												
Percent in Pace			63.9%												
Number > 30 MPH			416												
Percent > 30 MPH			33.9%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: SB

Site Code: 16610001

9/10/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
6:00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
7:00	0	0	0	0	0	0	0	0	0	3	3	1	0	0	7
8:00	0	0	0	0	0	1	1	0	0	4	3	3	2	0	14
9:00	0	0	0	0	0	0	0	0	1	2	5	2	1	0	11
10:00	0	0	0	0	0	4	1	1	2	4	6	4	0	0	22
11:00	0	0	0	0	0	0	1	0	1	7	13	5	0	2	29
12:00 PM	0	0	0	0	0	0	0	0	2	2	3	1	3	1	12
1:00	0	0	0	1	1	0	1	0	3	3	3	5	3	0	20
2:00	0	0	0	0	0	1	5	2	6	9	10	5	2	0	40
3:00	0	0	0	0	0	0	0	1	1	3	4	0	2	0	11
4:00	0	0	0	0	0	0	0	0	0	0	1	4	4	1	10
5:00	0	0	0	0	0	0	0	1	1	1	1	0	3	0	7
6:00	0	0	0	0	0	0	0	0	0	1	1	1	0	0	3
7:00	0	0	0	0	0	0	0	0	2	2	1	1	0	0	6
8:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
9:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Total	0	0	0	1	1	6	9	5	21	43	57	33	20	4	200
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	32.3													
	10 MPH Pace Speed	26-35													
	Number in Pace	140													
	Percent in Pace	70.0%													
	Number > 30 MPH	114													
	Percent > 30 MPH	57.0%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA
Direction: SB

Site Code: 16610001

9/11/2023	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	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00	0	0	0	0	0	0	1	1	1	2	2	0	0	0	7
6:00	0	0	0	0	1	1	3	1	1	3	2	1	2	15	
7:00	0	0	0	0	0	0	0	1	12	11	9	3	0	36	
8:00	0	0	0	0	0	0	2	3	8	5	4	2	1	25	
9:00	0	0	0	1	0	1	1	1	5	3	4	1	0	17	
10:00	0	1	0	0	0	0	0	2	5	2	1	0	0	11	
11:00	0	0	0	1	1	0	0	0	1	6	1	4	3	1	18
12:00 PM	0	0	0	0	0	0	0	3	9	5	1	1	0	19	
1:00	0	0	0	1	1	0	0	2	1	4	2	3	0	14	
2:00	0	0	0	0	0	2	0	3	5	6	0	3	0	19	
3:00	0	0	0	0	1	0	0	1	3	6	8	5	1	1	26
4:00	0	0	0	0	0	1	1	0	4	3	3	6	0	1	19
5:00	0	0	0	0	0	0	0	0	0	1	0	4	0	1	6
6:00	0	0	0	0	0	0	0	0	3	3	0	2	2	0	10
7:00	0	0	0	0	0	0	1	1	2	1	1	0	0	0	7
8:00	0	0	0	0	0	0	0	1	1	0	0	1	0	0	3
9:00	0	0	0	0	0	0	1	0	0	1	0	0	1	0	3
10:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	2	4	2	8	9	31	70	54	45	24	7	257
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	32.9													
	10 MPH Pace Speed	26-35													
	Number in Pace	179													
	Percent in Pace	69.6%													
	Number > 30 MPH	130													
	Percent > 30 MPH	50.6%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA
Direction: SB

Site Code: 16610001

9/12/2023	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	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:00	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4
6:00	0	0	0	0	1	1	3	4	2	2	3	2	1	1	19
7:00	0	0	0	0	1	1	2	2	8	8	8	5	2	2	37
8:00	0	0	0	0	0	0	0	1	8	11	2	2	0	24	
9:00	0	0	1	0	0	0	0	0	2	9	5	3	1	0	21
10:00	0	0	0	0	0	1	1	4	1	2	3	0	1	1	13
11:00	0	1	1	0	0	0	0	0	2	1	4	2	1	1	13
12:00 PM	0	0	0	0	0	0	0	0	0	5	5	4	1	1	16
1:00	0	0	0	0	1	0	1	3	4	5	8	2	0	24	
2:00	0	0	0	0	0	0	0	1	3	2	4	0	0	10	
3:00	0	0	0	0	1	0	1	0	2	4	8	8	3	1	28
4:00	0	0	0	0	0	0	0	0	2	5	4	2	0	2	15
5:00	0	0	0	0	0	0	1	1	3	6	5	3	0	1	20
6:00	0	0	0	0	1	0	0	1	0	3	4	3	3	1	16
7:00	0	0	0	0	0	0	1	1	6	2	3	1	1	1	16
8:00	0	0	0	0	0	0	0	0	1	0	2	1	0	1	5
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	1	0	0	1	0	1	0	3
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	2	0	2	3	6	11	33	64	72	56	22	13	285
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	35.4													
	10 MPH Pace Speed	26-35													
	Number in Pace	202													
	Percent in Pace	70.9%													
	Number > 30 MPH	163													
	Percent > 30 MPH	57.2%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: SB

Site Code: 16610001

9/13/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH											
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4
6:00	0	0	0	0	2	1	1	6	2	3	3	2	2	2	22
7:00	0	0	0	0	0	0	0	0	2	12	14	4	5	3	40
8:00	0	0	1	0	0	2	0	4	7	10	17	11	1	0	53
9:00	0	0	0	0	0	1	0	0	5	9	6	6	1	1	29
10:00	0	1	0	0	0	0	0	2	4	12	9	5	1	1	35
11:00	0	0	0	0	0	0	1	4	2	13	11	8	3	2	44
12:00 PM	0	0	0	0	0	0	3	1	7	7	5	1	1	1	25
1:00	0	0	0	0	0	1	1	0	7	9	4	0	2	2	24
2:00	0	0	0	0	0	0	0	0	2	11	7	4	4	0	28
3:00	0	0	0	0	0	1	0	1	8	8	10	8	2	1	39
4:00	0	0	0	0	0	0	0	1	3	5	5	5	1	0	20
5:00	0	0	0	0	0	0	0	0	1	5	2	3	4	0	15
6:00	0	0	0	0	0	0	0	0	0	4	2	0	2	0	8
7:00	0	0	0	0	0	0	1	1	2	4	2	0	0	0	10
8:00	0	0	0	0	0	0	0	1	1	1	0	0	0	1	4
9:00	0	0	0	0	0	0	0	1	2	2	1	0	0	0	6
10:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	6	4	20	46	115	108	68	27	14	410
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	34.0													
	10 MPH Pace Speed	26-35													
	Number in Pace	306													
	Percent in Pace	74.6%													
	Number > 30 MPH	217													
	Percent > 30 MPH	52.9%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: SB

Site Code: 16610001

9/14/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH											
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	1	1	0	3	1	0	1	7
6:00	0	0	0	0	0	1	2	0	4	1	2	2	3	3	18
7:00	0	0	0	0	0	1	1	4	7	14	9	9	2	3	50
8:00	0	0	0	0	0	0	1	0	5	4	6	2	6	2	26
9:00	0	0	0	0	0	0	1	0	4	16	12	4	0	2	39
10:00	0	0	0	0	0	0	1	0	4	6	13	8	4	2	38
11:00	0	0	0	0	0	3	2	1	3	5	10	4	2	3	33
12:00 PM	0	0	0	1	0	2	1	3	2	9	6	5	2	3	34
1:00	0	0	0	0	0	1	1	1	7	8	6	7	2	0	33
2:00	0	0	0	0	1	1	0	3	5	4	10	4	7	0	35
3:00	0	0	0	0	0	2	1	0	8	13	10	5	2	3	44
4:00	0	0	0	0	0	0	0	0	1	10	5	8	2	0	26
5:00	1	0	0	0	0	1	1	5	1	4	11	5	1	0	30
6:00	0	0	0	0	0	1	2	3	9	13	15	5	2	0	50
7:00	0	0	0	0	0	1	1	8	13	17	14	2	0	0	56
8:00	0	0	0	0	0	0	1	0	2	1	1	0	0	1	6
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	15	16	29	78	126	133	71	35	23	529
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	34.4													
	10 MPH Pace Speed	24-33													
	Number in Pace	359													
	Percent in Pace	67.9%													
	Number > 30 MPH	262													
	Percent > 30 MPH	49.5%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: SB

Site Code: 16610001

9/15/2023													Total	
	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	
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	2	1
5:00	0	0	0	0	0	0	0	1	0	1	1	3	0	6
6:00	0	0	0	0	1	3	2	2	2	7	5	1	1	24
7:00	0	0	0	0	0	2	3	6	9	12	4	4	1	41
8:00	0	0	0	0	0	0	6	3	7	13	7	1	1	38
9:00	0	0	0	0	0	1	4	4	10	12	5	3	0	39
10:00	0	0	0	0	1	0	1	6	7	7	6	2	2	32
11:00	0	0	0	0	0	2	1	6	6	4	1	0	0	20
12:00 PM	0	0	0	0	1	1	2	5	17	12	9	2	1	50
1:00	0	0	0	0	0	0	2	3	12	13	16	1	0	47
2:00	0	0	0	0	0	1	3	5	12	12	6	1	1	41
3:00	0	1	0	0	2	2	4	7	9	7	7	1	4	44
4:00	0	1	0	0	1	0	1	7	7	13	8	2	1	41
5:00	0	0	0	0	0	1	1	4	6	10	6	1	2	31
6:00	0	0	1	0	2	1	7	6	14	29	13	7	3	1
7:00	0	0	0	3	1	5	6	12	16	9	10	5	1	68
8:00	0	0	0	0	0	1	0	1	1	0	1	0	0	4
9:00	0	0	0	0	0	1	0	3	0	1	1	0	0	6
10:00	0	0	1	0	0	0	0	0	1	0	1	0	1	4
11:00	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Total	0	2	2	3	3	12	28	49	95	144	148	97	26	16
	Percentile Speed	15th	50th	85th	95th									
		24	29	34	37									
Mean Speed (Average)		31.7												
10 MPH Pace Speed		26-35												
Number in Pace		421												
Percent in Pace		67.4%												
Number > 30 MPH		287												
Percent > 30 MPH		45.9%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Lowell Road
 City/State: Groton, MA
 Direction: SB

Site Code: 16610001

9/16/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3
1:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	0	0	0	0	0	1	1	0	2	0	0	0	0	4
6:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
7:00	0	0	0	0	0	0	0	0	1	3	3	5	2	1	15
8:00	0	0	0	0	0	0	3	2	3	12	10	7	0	0	37
9:00	1	9	6	3	6	4	5	12	16	15	6	6	2	0	91
10:00	0	0	0	2	0	0	2	5	7	23	15	9	2	1	66
11:00	3	6	13	9	15	15	24	50	40	12	11	1	1	1	215
12:00 PM	0	0	0	0	0	2	3	15	26	15	8	7	1	1	77
1:00	0	8	10	3	8	6	22	23	33	31	29	10	3	0	186
2:00	0	0	0	0	0	0	5	11	21	33	25	8	4	1	108
3:00	0	0	0	0	0	0	0	5	9	13	20	7	6	0	60
4:00	0	0	0	1	10	1	11	9	23	29	21	5	3	0	113
5:00	0	0	0	0	0	0	2	1	1	4	6	3	1	1	19
6:00	0	0	0	0	0	1	0	0	2	1	7	3	0	0	14
7:00	0	0	0	0	0	0	0	1	6	1	0	3	0	0	11
8:00	0	0	0	0	0	0	1	0	0	1	0	1	0	0	3
9:00	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3
10:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	4	23	29	18	39	27	69	100	187	234	174	87	32	9	1032
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	26.7													
	10 MPH Pace Speed	23-32													
	Number in Pace	626													
	Percent in Pace	60.7%													
	Number > 30 MPH	302													
	Percent > 30 MPH	29.3%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Lowell Road
City/State: Groton, MA
Direction: SB

Site Code: 16610001

9/17/2023	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	0	1	1	0	0	0	0	2
1:00	0	0	0	0	0	1	0	0	0	1	0	1	0	0	3
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
7:00	0	0	0	0	0	1	0	0	2	2	3	0	0	0	8
8:00	0	0	0	0	2	0	0	1	1	6	3	0	0	0	13
9:00	0	0	0	0	2	1	2	0	3	6	3	0	0	0	17
10:00	0	1	0	0	2	0	0	11	5	13	4	1	0	0	37
11:00	0	0	0	0	1	1	0	0	2	9	9	8	4	1	35
12:00 PM	0	0	0	1	0	4	2	2	3	5	7	1	1	1	27
1:00	0	0	0	1	0	1	0	0	1	3	6	5	1	0	18
2:00	0	0	0	0	0	1	2	2	3	6	10	8	2	2	36
3:00	0	0	1	1	0	0	1	0	2	1	5	2	0	0	13
4:00	0	0	0	0	0	0	2	1	8	8	8	7	1	0	35
5:00	0	0	0	0	0	0	1	1	0	2	7	0	2	0	13
6:00	0	0	0	1	0	0	1	0	1	3	1	2	1	0	10
7:00	0	0	0	0	0	0	0	1	0	1	1	0	0	0	3
8:00	0	0	0	0	0	0	0	0	1	1	0	0	1	0	3
9:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
10:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	4	1	14	11	9	34	55	81	49	14	4	278
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	30.7													
	10 MPH Pace Speed	26-35													
	Number in Pace	196													
	Percent in Pace	70.5%													
	Number > 30 MPH	148													
	Percent > 30 MPH	53.2%													
Grand Total	11	56	63	49	82	121	203	348	741	1130	1080	614	238	107	4843
Stats	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	30.4													
	10 MPH Pace Speed	24-33													
	Number in Pace	3147													
	Percent in Pace	65.0%													
	Number > 30 MPH	2039													
	Percent > 30 MPH	42.1%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Hoyts Wharf Road
 City/State: Groton, MA
 Direction: NB

Site Code: 166100A2

10/5/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00	0	0	1	2	0	0	0	0	0	0	0	0	0	3
6:00	0	0	0	2	5	5	2	0	0	0	0	0	0	14
7:00	0	0	2	4	6	1	3	0	0	0	0	0	0	16
8:00	0	0	0	2	9	1	2	0	0	0	0	0	0	14
9:00	0	0	0	6	14	5	2	0	0	0	0	0	0	27
10:00	0	0	1	1	13	6	1	0	0	0	0	0	0	22
11:00	0	0	0	4	9	8	5	2	0	0	0	0	0	28
12:00 PM	0	0	0	7	7	8	4	2	0	0	0	0	0	28
1:00	0	0	0	4	14	15	3	1	0	0	0	0	0	37
2:00	0	0	0	2	7	7	5	0	1	0	0	0	0	22
3:00	0	0	2	4	9	9	3	0	0	0	0	0	0	27
4:00	0	0	0	5	22	29	7	0	0	0	0	0	0	63
5:00	0	0	2	3	25	15	2	0	0	1	0	0	0	48
6:00	0	0	0	2	9	3	5	1	0	0	0	0	0	20
7:00	0	0	1	0	3	0	0	0	0	0	0	0	0	4
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	9	48	153	113	44	6	1	1	0	0	0	375
Percentile Speed			15th	50th	85th	95th								
Mean Speed (Average)			34.7											
10 MPH Pace Speed			30-39		34	39	43							
Number in Pace			265											
Percent in Pace			70.7%											
Number > 30 MPH			318											
Percent > 30 MPH			84.8%											

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Hoyts Wharf Road
 City/State: Groton, MA
 Direction: NB

Site Code: 166100A2

10/6/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	1	0	2	0	0	0	0	0	0	3
5:00	0	0	0	2	0	0	0	1	1	0	0	0	0	4
6:00	0	0	1	0	6	7	0	0	0	0	0	0	0	14
7:00	0	0	0	1	11	2	3	1	0	0	0	0	0	18
8:00	0	0	0	5	11	6	5	0	0	0	0	0	0	27
9:00	1	0	3	7	11	5	1	0	0	0	0	0	0	28
10:00	0	3	2	7	8	16	2	1	0	0	0	0	0	39
11:00	0	0	0	15	10	15	5	1	0	0	0	0	0	46
12:00 PM	0	0	1	6	13	10	4	1	0	0	0	0	0	35
1:00	0	0	2	7	13	11	3	0	0	0	0	0	0	36
2:00	0	1	0	9	16	15	4	0	0	0	0	0	0	45
3:00	0	0	1	1	12	10	6	0	0	0	0	0	0	30
4:00	0	0	2	4	8	11	9	4	0	0	0	0	0	38
5:00	0	0	0	1	5	9	4	2	0	0	0	0	0	21
6:00	0	0	1	3	0	1	0	0	0	0	0	0	0	5
7:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9:00	0	0	0	0	0	1	1	0	0	0	0	0	0	2
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	4	14	69	126	119	50	11	1	0	0	0	0	395
	Percentile Speed		15th	50th	85th	95th								
	Mean Speed (Average)		34.3											
	10 MPH Pace Speed		30-39											
	Number in Pace		244											
	Percent in Pace		61.8%											
	Number > 30 MPH		307											
	Percent > 30 MPH		77.7%											

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : North of Hoyts Wharf Road
City/State: Groton, MA
Direction: NB

Site Code: 166100A2

10/7/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	0	0	1	0	0	0	1	0	1	0	0	0	0	3
7:00	0	0	0	3	9	5	2	0	0	0	0	0	0	19
8:00	0	0	1	2	13	11	2	0	0	0	0	0	0	29
9:00	0	0	2	11	18	14	5	0	0	0	0	0	0	50
10:00	0	0	1	10	29	12	5	1	0	0	0	0	0	58
11:00	0	1	0	8	23	24	6	2	0	0	0	0	0	64
12:00 PM	0	0	0	6	18	22	14	0	0	0	0	0	0	60
1:00	0	0	3	8	27	21	7	1	0	0	0	0	0	67
2:00	0	0	1	7	20	20	9	4	0	0	0	0	0	61
3:00	0	1	0	8	11	25	11	0	0	0	0	0	0	56
4:00	0	0	0	3	5	11	1	0	1	0	0	0	0	21
5:00	0	0	0	0	1	3	0	0	0	0	0	0	0	4
6:00	0	0	1	1	1	0	0	0	1	0	1	0	0	5
7:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	12	67	179	169	63	8	3	0	1	0	0	504
Percentile Speed				15th	50th	85th	95th							
Mean Speed (Average)				30	35	40	42							
10 MPH Pace Speed														
Number in Pace				346										
Percent in Pace				68.7%										
Number > 30 MPH				423										
Percent > 30 MPH				83.9%										

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Hoyts Wharf Road
 City/State: Groton, MA
 Direction: NB

Site Code: 166100A2

10/8/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	0	1	0	0	1	0	0	0	0	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1
6:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	2	3	12	10	1	0	0	0	0	0	28
9:00	0	0	0	1	4	2	2	1	0	0	0	0	0	10
10:00	1	0	0	2	0	0	0	0	0	0	0	0	0	3
11:00	0	0	0	4	4	13	11	2	0	0	0	0	0	34
12:00 PM	0	0	0	2	3	7	3	1	0	0	1	0	0	17
1:00	0	0	0	3	1	2	4	0	0	0	0	0	0	10
2:00	0	0	0	3	4	9	11	3	0	0	0	0	0	30
3:00	1	0	0	1	6	4	4	0	0	0	0	0	0	16
4:00	1	0	0	0	3	0	2	0	0	0	0	0	0	6
5:00	0	0	0	1	2	2	0	0	0	0	0	0	0	5
6:00	0	0	0	0	2	1	0	1	0	0	0	0	0	4
7:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9:00	0	0	0	0	0	0	2	0	0	0	0	0	0	2
10:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	2	22	35	53	50	9	0	0	1	0	0	175
Percentile Speed			15th	50th	85th	95th								
Mean Speed (Average)			30	37	42	45								
10 MPH Pace Speed			36.7											
Number in Pace			35-44											
Percent in Pace			103											
Number > 30 MPH			58.9%											
Percent > 30 MPH			148											
Grand Total	4	6	37	206	493	454	207	34	5	1	2	0	0	1449
Percentile Speed			15th	50th	85th	95th								
Mean Speed (Average)			29	35	40	44								
10 MPH Pace Speed			34.9											
Number in Pace			30-39											
Percent in Pace			942											
Number > 30 MPH			65.0%											
Percent > 30 MPH			1196											

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Hoyts Wharf Road
 City/State: Groton, MA
 Direction: SB

Site Code: 166100A2

10/5/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
6:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
7:00	0	1	5	5	3	0	0	0	0	0	0	0	0	14
8:00	0	1	8	9	3	0	0	0	0	0	0	0	0	21
9:00	0	0	3	12	5	0	0	0	0	0	0	0	0	20
10:00	0	1	2	15	5	2	0	0	0	0	0	0	0	25
11:00	0	0	4	15	4	0	0	0	0	0	0	0	0	23
12:00 PM	0	2	7	5	8	1	1	0	0	0	0	0	0	24
1:00	0	0	7	23	9	1	0	0	0	0	0	0	0	40
2:00	0	0	5	16	5	0	0	0	0	0	0	0	0	26
3:00	0	0	3	17	10	0	0	0	0	0	0	0	0	30
4:00	0	0	5	12	7	0	0	0	0	0	0	0	0	24
5:00	0	0	3	5	7	0	0	0	0	0	0	0	0	15
6:00	0	8	26	22	7	0	0	0	0	0	0	0	0	63
7:00	0	0	12	25	4	0	0	0	0	0	0	0	0	41
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	15	92	181	78	4	1	0	0	0	0	0	0	371
	Percentile Speed		15th	50th	85th	95th								
	Mean Speed (Average)		27.1											
	10 MPH Pace Speed		20-29											
	Number in Pace		270											
	Percent in Pace		72.8%											
	Number > 30 MPH		83											
	Percent > 30 MPH		22.4%											

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Hoyts Wharf Road
 City/State: Groton, MA
 Direction: SB

Site Code: 166100A2

10/6/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	1	2	0	0	1	0	0	0	0	0	0	0	4
6:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
7:00	0	0	7	9	1	0	0	0	0	0	0	0	0	17
8:00	0	0	6	14	4	1	0	0	0	0	0	0	0	25
9:00	0	3	8	13	4	0	0	0	0	0	0	0	0	28
10:00	0	3	11	16	7	0	0	0	0	0	0	0	0	37
11:00	1	1	10	25	2	0	0	0	0	0	0	0	0	39
12:00 PM	0	5	10	15	4	1	0	0	0	0	0	0	0	35
1:00	0	2	15	21	11	0	0	0	0	0	0	0	0	49
2:00	0	1	9	18	5	2	0	0	0	0	0	0	0	35
3:00	0	0	14	23	10	1	0	0	0	0	0	0	0	48
4:00	0	0	5	9	12	1	0	0	0	0	0	0	0	27
5:00	0	0	4	5	2	0	0	0	0	0	0	0	0	11
6:00	0	0	5	17	7	0	0	0	0	0	0	0	0	29
7:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
8:00	0	0	1	0	1	0	0	0	0	0	0	0	0	2
9:00	0	0	1	0	1	0	0	0	0	0	0	0	0	2
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	18	111	186	73	7	0	0	0	0	0	0	0	396
Percentile Speed				15th	50th	85th	95th							
Mean Speed (Average)				23	27	31	33							
10 MPH Pace Speed				26.7										
Number in Pace				20-29										
Percent in Pace				294										
Number > 30 MPH				74.2%										
Percent > 30 MPH				80										
				20.2%										

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Hoyts Wharf Road
 City/State: Groton, MA
 Direction: SB

Site Code: 166100A2

10/7/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
6:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:00	0	0	6	4	3	0	0	0	0	0	0	0	0	13
8:00	0	0	5	14	3	1	0	0	0	0	0	0	0	23
9:00	0	1	11	28	5	1	0	0	0	0	0	0	0	46
10:00	0	0	15	33	13	0	0	0	0	0	0	0	0	61
11:00	0	0	8	34	17	1	0	0	0	0	0	0	0	60
12:00 PM	1	0	10	32	19	1	0	0	0	0	0	0	0	63
1:00	1	1	9	42	13	0	0	0	0	0	0	0	0	66
2:00	0	3	9	27	25	0	0	0	0	0	0	0	0	64
3:00	0	0	6	23	22	3	0	0	0	0	0	0	0	54
4:00	0	0	5	15	12	0	0	0	0	0	0	0	0	32
5:00	1	0	1	2	2	1	0	0	0	0	0	0	0	7
6:00	0	0	2	1	0	0	0	0	0	0	0	0	0	3
7:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
10:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	8	89	256	136	8	0	0	0	0	0	0	0	500
Percentile Speed				15th	50th	85th	95th							
Mean Speed (Average)				24	28	32	33							
10 MPH Pace Speed				27.9										
Number in Pace				25-34										
Percent in Pace				391										
Number > 30 MPH				78.2%										
Percent > 30 MPH				144										
				28.8%										

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : North of Hoyts Wharf Road
 City/State: Groton, MA
 Direction: SB

Site Code: 166100A2

10/8/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2
1:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	1	0	1	0	0	0	0	0	0	0	0	0	0	2
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00	0	1	0	1	0	0	0	0	0	0	0	0	0	2
9:00	0	0	1	4	1	0	0	0	0	0	0	0	0	6
10:00	1	0	4	12	2	0	0	0	0	0	0	0	0	19
11:00	0	0	2	7	6	1	0	0	0	0	0	0	0	16
12:00 PM	0	1	0	4	3	0	0	0	0	0	0	0	0	8
1:00	0	0	3	7	4	2	0	0	0	0	0	0	0	16
2:00	0	0	10	25	9	0	0	0	0	0	0	0	0	44
3:00	0	0	1	5	2	0	0	0	0	0	0	0	0	8
4:00	0	0	0	6	3	0	0	0	0	0	0	0	0	9
5:00	0	0	2	19	8	0	0	0	0	0	0	0	0	29
6:00	0	0	2	1	2	0	0	0	0	0	0	0	0	5
7:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	2	0	0	0	0	0	0	0	0	2
10:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	3	30	94	42	3	0	0	0	0	0	0	0	174

Percentile Speed 15th 24 50th 28 85th 31 95th 33

Mean Speed (Average)

10 MPH Pace Speed 25-34

Number in Pace 136

Percent in Pace 78.2%

Number > 30 MPH 45

Percent > 30 MPH 25.9%

Grand Total	6	44	322	717	329	22	1	0	0	0	0	0	0	1441
				Percentile Speed	15th 23	50th 27	85th 31	95th 33						
				Mean Speed (Average)	27.3									
				10 MPH Pace Speed	25-34									
				Number in Pace	1046									
				Percent in Pace	72.6%									
				Number > 30 MPH	352									
				Percent > 30 MPH	24.4%									

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: NB

Site Code: 16610002

9/9/2023	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	0	0	0	1	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
6:00	0	0	0	0	0	0	0	0	1	1	0	2	0	0	4
7:00	0	0	0	0	1	0	1	2	3	16	10	2	1	0	36
8:00	0	0	0	0	0	0	1	9	40	73	39	17	5	0	184
9:00	0	0	0	1	0	1	15	20	68	49	23	10	2	1	190
10:00	0	0	1	1	2	3	16	21	40	41	22	7	3	0	157
11:00	1	1	0	0	0	6	26	50	50	31	12	1	0	0	178
12:00 PM	0	0	1	0	0	0	6	20	39	39	13	6	1	0	125
1:00	0	1	0	1	0	2	4	12	21	23	8	8	1	0	81
2:00	0	0	0	1	0	0	0	2	23	18	12	3	0	0	59
3:00	0	0	0	0	0	1	0	8	27	30	13	6	5	1	91
4:00	0	0	0	0	0	0	3	11	11	32	19	6	2	0	84
5:00	0	0	0	0	0	0	0	1	0	1	1	2	0	0	5
6:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
7:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
9:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	2	2	4	3	13	72	157	324	357	173	73	21	2	1204
Percentile Speed					15th 23	50th 27	85th 31	95th 34							
Mean Speed (Average)					27.2										
10 MPH Pace Speed					23-32										
Number in Pace					906										
Percent in Pace					75.2%										
Number > 30 MPH					269										
Percent > 30 MPH					22.3%										

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: NB

Site Code: 16610002

9/10/2023	> 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 - > 39												Total	
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	15 MPH	18 MPH	21 MPH	24 MPH	27 MPH	30 MPH	33 MPH	36 MPH	39 MPH	
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	1	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6:00	0	0	0	0	0	0	1	1	1	0	0	0	0	3
7:00	0	0	0	0	0	0	0	0	2	1	0	0	0	3
8:00	0	0	0	0	1	0	1	0	5	4	1	1	0	13
9:00	0	0	0	0	0	0	0	0	2	0	0	0	0	2
10:00	0	0	0	0	0	0	0	1	0	1	0	0	0	2
11:00	0	0	0	0	0	0	0	1	2	0	0	0	0	5
12:00 PM	0	0	0	0	0	0	0	1	0	1	1	1	0	4
1:00	0	0	0	0	0	1	0	0	1	1	0	1	0	4
2:00	0	0	0	0	0	4	1	6	8	2	0	0	0	21
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	1	0	0	2
5:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6:00	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7:00	0	0	0	0	0	0	0	1	1	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	1	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	5	3	15	22	13	2	4	1
	Percentile Speed	15th	50th	85th	95th									66
	Mean Speed (Average)	29.9												
	10 MPH Pace Speed	23-32												
	Number in Pace	51												
	Percent in Pace	77.3%												
	Number > 30 MPH	20												
	Percent > 30 MPH	30.3%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: NB

Site Code: 16610002

9/11/2023	> 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 - > 39												Total	
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	15 MPH	18 MPH	21 MPH	24 MPH	27 MPH	30 MPH	33 MPH	36 MPH	39 MPH	
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	2	0	0	0	1	0	0	3
6:00	0	0	0	0	0	0	2	2	2	6	2	0	1	15
7:00	0	0	0	0	0	1	2	1	3	0	1	0	0	8
8:00	0	0	0	0	0	0	0	0	3	3	0	0	0	6
9:00	0	0	0	0	1	0	3	1	1	2	0	0	0	8
10:00	1	0	0	0	1	0	1	0	1	1	3	0	0	8
11:00	0	0	0	0	0	1	0	1	1	5	2	0	0	10
12:00 PM	0	0	0	0	0	0	1	0	1	1	0	1	0	4
1:00	0	0	0	0	0	0	0	0	3	4	0	0	0	7
2:00	0	0	0	0	0	0	1	3	5	2	0	1	0	12
3:00	0	0	0	0	0	1	2	0	2	0	1	1	0	7
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	1	1	0	0	2
6:00	0	0	0	0	0	0	0	0	0	0	0	2	1	3
7:00	0	0	0	0	0	0	0	0	0	0	1	1	0	2
8:00	0	0	0	0	0	1	0	0	1	1	0	0	0	3
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	2	6	12	9	28	27	7	5	1
	Percentile Speed	15th	50th	85th	95th									99
	Mean Speed (Average)	29.2												
	10 MPH Pace Speed	23-32												
	Number in Pace	68												
	Percent in Pace	68.7%												
	Number > 30 MPH	40												
	Percent > 30 MPH	40.4%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: NB

Site Code: 16610002

9/12/2023	> 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 - > 39												Total		
	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		
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00	0	0	0	0	0	0	1	0	0	0	0	1	0	2	
6:00	0	0	0	0	0	1	2	2	4	6	0	0	1	16	
7:00	0	0	0	0	0	0	0	3	1	1	2	1	0	8	
8:00	0	0	0	0	0	0	0	1	3	2	2	0	0	8	
9:00	0	0	0	0	0	1	1	2	3	0	0	1	0	8	
10:00	0	0	0	0	0	0	1	1	0	1	3	1	0	7	
11:00	0	1	0	0	0	1	0	1	4	2	0	1	0	10	
12:00 PM	0	0	1	0	1	0	0	0	1	0	1	2	1	7	
1:00	0	0	0	0	0	0	1	0	3	2	3	1	0	10	
2:00	0	0	0	0	0	0	0	1	2	4	1	3	1	12	
3:00	0	0	0	0	0	0	0	1	0	1	1	2	0	5	
4:00	0	1	0	0	0	0	0	1	0	2	0	0	0	4	
5:00	0	0	0	0	0	0	1	0	1	1	1	3	0	7	
6:00	0	0	0	0	0	1	0	1	0	2	1	0	0	5	
7:00	0	0	0	1	0	0	0	1	0	1	0	0	0	3	
8:00	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	2	1	1	1	1	6	9	17	29	20	19	6	2	114
	Percentile Speed	15th	50th	85th	95th										
		23	29	34	37										
Mean Speed (Average)		30.2													
10 MPH Pace Speed		26-35													
Number in Pace		74													
Percent in Pace		64.9%													
Number > 30 MPH		47													
Percent > 30 MPH		41.2%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: NB

Site Code: 16610002

9/13/2023	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	0	0	0	1	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	1	1	1	0	0	1	4
6:00	0	0	0	0	0	0	0	0	1	6	4	3	1	0	15
7:00	0	0	0	0	0	0	0	0	2	5	9	1	0	2	19
8:00	0	0	0	1	0	1	0	3	3	8	7	4	3	0	30
9:00	0	1	0	0	0	0	0	2	9	8	9	6	1	0	36
10:00	0	0	0	0	0	0	1	1	7	10	11	4	0	0	34
11:00	0	0	0	0	0	0	0	3	9	14	10	7	1	0	44
12:00 PM	0	0	1	0	0	0	0	3	2	2	3	1	0	0	12
1:00	0	0	0	0	0	0	1	1	7	2	5	2	0	0	18
2:00	0	0	0	0	0	1	0	1	3	3	10	2	0	0	20
3:00	0	0	0	0	0	0	0	0	5	7	4	6	1	0	23
4:00	0	0	0	0	0	0	0	0	0	1	1	2	0	0	4
5:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
6:00	0	0	0	0	0	0	0	1	0	1	0	1	1	1	5
7:00	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
8:00	0	0	0	0	0	0	1	1	0	0	1	0	0	0	3
9:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	1	0	2	4	17	44	73	73	42	11	4	273
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	31.1													
	10 MPH Pace Speed	24-33													
	Number in Pace	203													
	Percent in Pace	74.4%													
	Number > 30 MPH	130													
	Percent > 30 MPH	47.6%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: NB

Site Code: 16610002

9/14/2023	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	0	0	0	1	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
6:00	0	0	0	0	0	1	0	0	3	5	2	0	3	2	16
7:00	0	0	0	0	0	0	0	2	2	5	4	3	0	0	16
8:00	0	0	0	0	0	0	0	1	5	3	3	0	2	0	14
9:00	0	0	0	0	0	0	0	3	1	8	7	2	1	0	22
10:00	0	0	0	0	0	0	1	3	12	10	5	3	1	0	35
11:00	0	0	0	0	0	0	0	4	5	9	4	3	4	0	29
12:00 PM	0	0	0	0	0	0	1	3	5	6	6	3	0	0	24
1:00	0	0	0	0	0	0	0	4	0	13	4	4	2	0	27
2:00	0	0	0	0	0	0	0	4	6	10	7	3	1	0	31
3:00	0	0	0	0	0	0	0	0	5	15	8	4	0	0	32
4:00	0	0	0	0	0	0	1	4	5	18	12	8	1	0	49
5:00	0	0	0	0	0	0	0	1	12	20	27	12	4	0	76
6:00	0	0	0	0	0	0	0	2	1	6	6	3	2	0	20
7:00	0	0	0	0	0	0	0	0	2	1	1	0	0	0	4
8:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	3	31	67	131	98	49	21	3	404
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	30.3													
	10 MPH Pace Speed	24-33													
	Number in Pace	312													
	Percent in Pace	77.2%													
	Number > 30 MPH	171													
	Percent > 30 MPH	42.3%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: NB

Site Code: 16610002

9/15/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
5:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
6:00	0	0	0	0	0	1	1	2	3	2	2	2	1	14	
7:00	0	1	0	0	0	1	4	4	4	6	3	0	1	24	
8:00	0	0	0	0	0	0	2	4	9	3	3	0	0	21	
9:00	0	0	0	0	0	2	2	4	18	6	4	0	1	37	
10:00	0	0	0	0	0	1	2	7	6	10	3	0	0	29	
11:00	0	0	0	0	0	0	5	6	9	6	1	0	0	27	
12:00 PM	0	0	0	0	1	0	2	6	9	11	6	1	0	36	
1:00	0	0	0	0	0	1	4	5	10	8	11	0	0	39	
2:00	0	0	0	0	0	0	2	4	11	7	4	0	0	28	
3:00	0	0	0	0	1	0	3	2	7	5	4	0	1	23	
4:00	0	0	0	0	0	3	6	10	29	26	14	3	3	94	
5:00	0	0	0	0	0	3	2	11	27	26	16	4	1	90	
6:00	0	0	0	1	0	0	0	5	5	9	3	3	0	26	
7:00	0	0	0	0	0	0	1	1	3	2	1	0	0	8	
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
10:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
11:00	0	0	0	0	0	0	0	1	0	0	0	0	1	2	
Total	0	1	0	1	0	2	12	37	73	150	128	76	14	10	504
		Percentile Speed	15th	50th	85th	95th									
		Mean Speed (Average)	31.6												
		10 MPH Pace Speed	26-35												
		Number in Pace	378												
		Percent in Pace	75.0%												
		Number > 30 MPH	228												
		Percent > 30 MPH	45.2%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: NB

Site Code: 16610002

9/16/2023	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	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	2	1	1	0	0	4
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
7:00	0	0	0	0	0	0	0	1	2	10	11	4	0	0	28
8:00	0	0	0	0	0	0	0	2	17	36	66	25	8	3	157
9:00	0	0	0	0	1	1	2	3	13	52	50	17	5	0	144
10:00	0	0	0	0	0	0	0	1	24	52	40	12	4	1	134
11:00	1	0	1	0	0	0	0	8	35	62	71	33	5	1	217
12:00 PM	0	0	0	1	2	3	0	3	17	28	39	27	8	1	129
1:00	0	0	0	0	0	0	0	4	17	25	30	11	2	0	89
2:00	0	1	1	0	0	0	0	2	13	43	47	16	7	1	131
3:00	0	0	0	1	0	0	0	5	14	12	16	13	3	1	65
4:00	0	0	0	0	0	0	0	1	0	10	7	4	1	0	23
5:00	0	0	1	1	0	0	1	0	2	2	1	2	0	0	10
6:00	0	0	1	0	0	1	0	0	1	1	0	1	0	0	5
7:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	4	3	3	5	3	32	156	337	380	167	44	8	1144
	Percentile Speed		15th	50th	85th	95th									
	Mean Speed (Average)		30.7												
	10 MPH Pace Speed		26-35												
	Number in Pace		936												
	Percent in Pace		81.8%												
	Number > 30 MPH		599												
	Percent > 30 MPH		52.4%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: NB

Site Code: 16610002

9/17/2023	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	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
7:00	0	0	0	0	1	0	0	0	0	1	1	2	0	0	5
8:00	0	0	0	0	1	1	1	1	2	1	3	6	1	2	19
9:00	0	1	0	0	0	0	1	1	0	1	1	1	0	0	6
10:00	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2
11:00	0	0	0	1	0	0	0	0	0	2	2	1	0	0	6
12:00 PM	0	0	0	0	0	0	0	1	1	1	2	1	0	0	6
1:00	0	0	0	0	1	0	0	0	1	1	1	0	0	0	4
2:00	0	0	0	0	0	0	0	1	0	1	2	0	0	0	5
3:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
4:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
5:00	0	0	0	0	0	0	0	0	1	1	1	1	0	0	4
6:00	0	0	0	0	0	0	0	1	1	1	2	0	0	0	5
7:00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
8:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	3	2	2	6	10	12	15	15	3	3	73

	Percentile	15th	50th	85th	95th
Speed	22		30	35	38
Mean Speed (Average)	33.0				
10 MPH Pace Speed	26-35				
Number in Pace	45				
Percent in Pace	61.6%				
Number > 30 MPH	36				
Percent > 30 MPH	49.3%				

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 16610002

9/9/2023					> 12 -	> 15 -	> 18 -	> 21 -	> 24 -	> 27 -	> 30 -	> 33 -	> 36 -	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	15 MPH	18 MPH	21 MPH	24 MPH	27 MPH	30 MPH	33 MPH	36 MPH	39 MPH	MPH	
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
6:00	0	0	0	0	0	1	2	0	0	0	0	0	0	1	4
7:00	0	0	0	0	0	0	0	1	2	4	4	4	1	16	
8:00	0	0	0	0	0	0	3	0	10	11	11	4	5	44	
9:00	0	1	0	3	1	7	13	11	21	16	24	12	7	3	119
10:00	0	0	0	0	1	6	11	4	24	32	31	10	5	2	126
11:00	1	1	0	1	17	19	37	53	60	51	16	13	2	0	271
12:00 PM	0	0	0	0	0	1	3	6	12	26	17	15	3	1	84
1:00	0	0	0	0	1	8	20	32	55	47	24	10	2	2	201
2:00	0	0	0	0	0	1	3	17	22	24	19	18	12	5	121
3:00	0	0	0	0	0	1	0	0	13	7	18	15	7	6	67
4:00	0	0	0	0	0	0	1	2	3	7	9	7	6	5	40
5:00	0	0	0	0	0	0	0	0	10	12	22	7	7	1	59
6:00	0	0	0	1	0	0	1	1	3	8	13	7	1	0	35
7:00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	1	2	0	5	20	43	90	131	226	242	209	132	61	34	1196
		Percentile Speed		15th	50th	85th	95th								
		Mean Speed (Average)		30.9											
		10 MPH Pace Speed		24-33											
		Number in Pace		721											
		Percent in Pace		60.3%											
		Number > 30 MPH		436											
		Percent > 30 MPH		36.5%											

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 16610002

9/10/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	1	0	0	1	0	0	1	3
7:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:00	0	0	0	0	0	0	2	0	0	0	0	1	1	0	4
9:00	0	0	0	0	0	0	0	0	1	0	2	0	0	1	4
10:00	0	0	0	0	0	0	0	0	0	2	1	2	1	1	7
11:00	0	0	0	0	0	0	0	1	1	0	0	3	3	1	9
12:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
1:00	0	0	0	0	0	0	0	0	1	1	0	0	0	2	4
2:00	0	0	0	0	0	0	1	0	7	7	1	2	2	2	22
3:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
6:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	3	3	11	10	8	10	9	11	65
	Percentile Speed	15th 25	50th 32	85th 40	95th 42										
Mean Speed (Average)		50.0													
10 MPH Pace Speed		24-33													
Number in Pace		32													
Percent in Pace		49.2%													
Number > 30 MPH		38													
Percent > 30 MPH		58.5%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : at Proposed Driveway
City/State: Groton, MA
Direction: SB

Site Code: 16610002

9/11/2023	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	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6:00	0	0	0	0	0	0	0	1	2	0	1	1	0	0	5
7:00	0	0	0	0	0	0	1	0	2	3	2	1	0	0	9
8:00	0	0	0	0	0	0	0	0	3	1	2	1	1	0	8
9:00	0	0	0	0	0	1	0	0	0	0	1	1	0	0	3
10:00	0	0	0	1	1	1	0	0	1	2	1	0	0	0	8
11:00	0	0	0	0	0	0	2	0	2	0	0	2	1	0	7
12:00 PM	0	0	0	0	0	0	0	1	2	1	0	2	0	0	6
1:00	0	0	0	0	0	0	0	2	2	2	1	0	0	0	7
2:00	0	0	0	0	1	0	3	0	1	6	0	0	0	0	11
3:00	0	0	0	0	1	0	1	1	1	4	4	5	0	0	17
4:00	0	0	0	0	0	1	1	1	1	0	0	1	0	0	5
5:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6:00	0	0	0	0	0	0	0	0	1	0	0	1	1	1	4
7:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8:00	0	0	0	0	0	1	0	0	0	2	0	0	0	0	3
9:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	1	3	4	9	11	14	25	14	13	3	98
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	33.1													
	10 MPH Pace Speed	26-35													
	Number in Pace	57													
	Percent in Pace	58.2%													
	Number > 30 MPH	55													
	Percent > 30 MPH	56.1%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 16610002

9/12/2023													Total	
	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	
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	1	0	4	0	0	1	1	0	1	8
7:00	0	0	0	0	0	1	1	3	3	2	0	0	0	10
8:00	0	0	0	0	0	0	0	1	2	2	0	0	0	5
9:00	0	0	0	0	0	0	0	1	1	1	1	1	0	5
10:00	0	0	0	0	0	2	0	0	1	1	3	0	0	7
11:00	0	0	0	0	1	0	2	3	0	1	0	0	1	8
12:00 PM	0	0	0	0	0	0	0	0	1	6	3	2	0	12
1:00	0	0	0	0	1	0	0	0	3	5	0	0	2	11
2:00	0	0	0	0	0	0	1	0	0	0	1	2	0	4
3:00	0	0	0	1	0	0	0	0	3	6	3	2	1	16
4:00	0	0	0	0	0	0	1	1	1	3	1	0	0	7
5:00	0	0	0	0	0	0	0	3	2	0	0	0	1	6
6:00	0	0	0	0	0	0	1	0	2	2	0	1	0	6
7:00	0	0	0	1	0	0	2	1	1	0	0	0	0	5
8:00	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	1	3	3	12	13	20	30	14	8	111
	Percentile Speed	15th	50th	85th	95th									
	Mean Speed (Average)	35.3												
	10 MPH Pace Speed	24-33												
	Number in Pace	68												
	Percent in Pace	61.3%												
	Number > 30 MPH	58												
	Percent > 30 MPH	52.3%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 16610002

9/13/2023	> 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 - > 39												Total		
	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		
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
2:00	0	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	0	
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00	0	0	0	0	0	0	0	1	0	0	0	0	1	0	
6:00	0	0	0	0	0	1	2	1	0	0	0	0	0	4	
7:00	0	0	0	0	0	0	1	1	5	7	4	1	0	19	
8:00	0	0	0	0	0	0	0	4	9	8	2	1	4	28	
9:00	0	0	0	0	0	0	2	2	4	7	6	6	0	27	
10:00	0	1	1	0	1	0	0	4	5	7	10	1	2	32	
11:00	0	0	0	0	0	0	2	6	13	10	12	3	0	46	
12:00 PM	0	0	0	0	0	2	2	1	6	7	3	0	0	21	
1:00	0	0	0	0	0	0	0	4	4	3	2	2	1	16	
2:00	0	0	0	0	0	0	2	2	6	3	4	4	1	22	
3:00	0	0	0	0	0	1	3	2	1	7	8	3	3	28	
4:00	0	0	0	0	0	0	0	0	3	4	1	2	1	11	
5:00	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
6:00	0	0	0	0	0	0	0	1	2	0	0	1	0	4	
7:00	0	0	0	0	0	0	3	1	0	0	0	0	0	4	
8:00	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
9:00	0	0	0	0	0	0	0	1	1	0	0	0	0	2	
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	1	1	0	0	1	4	19	30	60	63	54	25	12	270
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	35.5													
	10 MPH Pace Speed	26-35													
	Number in Pace	186													
	Percent in Pace	68.9%													
	Number > 30 MPH	154													
	Percent > 30 MPH	57.0%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 16610002

9/14/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH											
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	2	0	0	0	0	0	0	3
6:00	0	0	0	0	0	0	0	1	1	1	0	1	0	1	5
7:00	0	1	0	0	0	0	0	1	3	3	6	3	0	0	17
8:00	0	0	0	0	0	0	0	0	0	1	2	2	0	1	6
9:00	0	0	0	0	0	0	0	4	6	5	5	3	1	0	24
10:00	0	0	0	0	0	0	0	1	5	12	5	8	2	1	34
11:00	0	0	0	0	0	0	1	3	4	6	7	4	2	3	30
12:00 PM	0	0	0	1	0	0	0	1	4	9	6	6	1	1	29
1:00	0	0	0	0	0	1	0	3	4	4	7	9	2	0	30
2:00	0	0	0	0	0	0	0	3	3	8	5	3	2	0	24
3:00	0	0	0	0	0	0	0	1	3	9	12	10	4	2	41
4:00	0	0	0	0	0	0	0	0	3	3	6	4	2	0	18
5:00	0	0	0	0	0	0	0	1	3	5	3	2	1	1	16
6:00	0	0	0	0	0	0	0	1	12	14	18	10	2	1	58
7:00	0	0	0	0	0	0	2	6	16	25	14	2	1	0	66
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	2	3	28	69	106	96	67	20	12	405
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	33.1													
	10 MPH Pace Speed	25-34													
	Number in Pace	293													
	Percent in Pace	72.3%													
	Number > 30 MPH	195													
	Percent > 30 MPH	48.1%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 16610002

9/15/2023					> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
Time															
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	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	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
6:00	0	0	0	0	0	1	1	0	1	0	0	0	0	0	3
7:00	0	0	0	0	0	0	2	4	5	5	1	0	0	0	17
8:00	0	0	0	0	0	0	0	0	3	7	6	2	3	0	21
9:00	0	0	0	0	0	0	4	8	11	7	5	0	0	0	35
10:00	0	0	0	0	0	0	2	5	5	6	7	1	0	0	26
11:00	0	0	0	0	0	0	2	2	6	5	4	1	0	0	20
12:00 PM	0	0	0	0	2	1	0	8	12	12	9	1	2	47	
1:00	0	0	0	0	0	1	4	6	8	8	10	1	1	1	39
2:00	0	0	0	0	0	0	2	2	9	8	5	2	1	1	29
3:00	0	0	0	0	0	1	1	3	4	4	8	6	3	1	31
4:00	0	0	0	0	1	0	3	2	1	8	5	5	2	27	
5:00	0	0	0	0	0	0	1	5	7	7	4	0	0	0	24
6:00	0	0	0	0	0	0	4	14	31	37	11	2	2	2	101
7:00	0	0	1	1	3	3	5	5	15	17	17	5	1	0	73
8:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
11:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	1	1	3	7	9	34	78	125	136	75	21	10	500
	Percentile Speed	15th	50th	85th	95th										
	Mean Speed (Average)	31.7													
	10 MPH Pace Speed	24-33													
	Number in Pace	363													
	Percent in Pace	72.6%													
	Number > 30 MPH	242													
	Percent > 30 MPH	48.4%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 16610002

9/16/2023	> 12 - MPH												Total	
	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	15 MPH	18 MPH	21 MPH	24 MPH	27 MPH	30 MPH	33 MPH	36 MPH	39 MPH	
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	1	0	0	1	0	0	0	0	2
4:00	0	0	0	0	0	0	0	0	0	0	0	1	0	2
5:00	0	0	0	0	0	0	0	2	0	0	0	0	0	2
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	1	0	4	3	2	3	1
8:00	0	0	0	0	0	0	1	1	2	7	10	6	6	35
9:00	0	0	0	0	0	0	0	8	28	34	26	16	1	0
10:00	0	0	0	0	0	0	1	2	14	15	20	15	5	0
11:00	0	0	1	0	0	1	11	38	58	75	46	24	10	0
12:00 PM	0	0	0	0	0	1	0	3	7	21	18	15	8	5
1:00	0	0	0	0	0	0	2	10	47	75	68	25	6	235
2:00	0	0	1	0	0	0	0	4	20	32	46	18	3	125
3:00	0	0	0	0	0	0	0	2	3	8	21	16	3	55
4:00	0	0	0	0	1	0	0	2	9	28	47	23	3	116
5:00	0	0	0	1	0	1	0	0	3	3	4	1	2	0
6:00	0	0	1	0	1	0	0	1	0	0	0	1	0	4
7:00	0	0	0	0	0	0	0	1	0	3	0	0	0	4
8:00	0	0	0	0	0	0	0	0	1	1	0	0	0	2
9:00	0	0	0	0	0	0	0	0	0	1	0	0	1	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	3	1	2	4	15	75	194	307	310	163	51	17
	Percentile Speed	15th	50th	85th	95th									1142
	Mean Speed (Average)	31.2												
	10 MPH Pace Speed	24-33												
	Number in Pace	862												
	Percent in Pace	75.5%												
	Number > 30 MPH	541												
	Percent > 30 MPH	47.4%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : at Proposed Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 16610002

9/17/2023		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	0	0	0	0	0	0	0	
1:00		0	0	0	0	0	0	0	0	1	0	0	0	0	1	
2:00		0	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	0	
4:00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00		0	1	0	0	0	0	0	0	0	0	0	0	0	1	
7:00		0	0	0	0	0	1	0	1	0	0	0	0	0	2	
8:00		0	0	0	0	1	0	0	0	1	2	1	0	0	5	
9:00		0	1	0	0	0	0	1	1	0	1	0	0	0	5	
10:00		0	0	0	0	1	1	0	0	0	1	3	3	2	0	
11:00		0	0	1	0	0	0	0	1	1	1	3	1	3	12	
12:00 PM		0	0	0	0	0	0	0	1	2	1	2	1	0	7	
1:00		0	0	0	0	0	0	0	0	2	1	1	0	0	4	
2:00		0	0	0	0	0	0	0	0	1	1	0	0	0	3	
3:00		0	0	0	0	0	0	0	0	0	2	1	0	0	3	
4:00		0	0	0	0	0	0	0	0	1	1	0	0	0	2	
5:00		0	0	0	0	0	0	0	0	2	0	1	0	0	4	
6:00		0	0	0	0	0	0	0	1	0	4	1	0	0	6	
7:00		0	0	0	0	0	0	1	0	0	0	0	0	0	1	
8:00		0	0	0	0	0	0	0	0	0	0	0	0	1	0	
9:00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total		0	2	1	0	2	2	2	7	9	16	13	5	7	2	68
		Percentile Speed	15th	50th	85th	95th										
		Mean Speed (Average)	30.9													
		10 MPH Pace Speed	23-32													
		Number in Pace	40													
		Percent in Pace	58.8%													
		Number > 30 MPH	27													
		Percent > 30 MPH	39.7%													
Grand Total		1	6	6	10	29	65	133	318	641	900	890	534	215	107	3855
Stats		Percentile Speed	15th	50th	85th	95th										
		Mean Speed (Average)	32.1													
		10 MPH Pace Speed	24-33													
		Number in Pace	2602													
		Percent in Pace	67.5%													
		Number > 30 MPH	1746													
		Percent > 30 MPH	45.3%													

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : Near Site Driveway
 City/State: Groton, MA
 Direction: NB

Site Code: 166100A1

10/5/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00	0	0	1	2	0	0	0	0	0	0	0	0	0	3
6:00	0	0	0	1	8	3	2	0	0	0	0	0	0	14
7:00	0	0	1	4	7	0	1	0	1	0	0	0	0	14
8:00	0	0	0	7	2	5	0	0	0	0	0	0	0	14
9:00	0	0	1	11	10	4	0	0	0	0	0	0	0	26
10:00	0	1	1	6	11	3	0	0	0	0	0	0	0	22
11:00	0	0	0	8	15	3	2	0	0	0	0	0	0	28
12:00 PM	0	0	1	9	11	6	0	0	0	0	0	0	0	27
1:00	0	0	0	6	21	5	2	0	0	0	0	0	0	34
2:00	0	0	0	1	14	6	1	0	0	0	0	0	0	22
3:00	0	0	2	6	12	4	1	0	0	0	0	0	0	25
4:00	0	0	2	10	32	11	2	0	0	0	0	0	0	57
5:00	0	1	3	11	26	7	1	0	0	0	0	0	0	49
6:00	0	0	0	1	11	6	0	0	0	0	0	0	0	18
7:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	12	84	182	63	12	0	1	0	0	0	0	356
Percentile Speed				15th	50th	85th	95th							
Mean Speed (Average)				28	32	36	39							
10 MPH Pace Speed				25-34										
Number in Pace				263										
Percent in Pace				73.9%										
Number > 35 MPH				76										
Percent > 35 MPH				21.3%										

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : Near Site Driveway
 City/State: Groton, MA
 Direction: NB

Site Code: 166100A1

10/6/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	1	0	2	0	0	0	0	0	0	0	3
5:00	0	0	1	1	0	0	1	0	1	0	0	0	0	4
6:00	0	0	1	1	8	4	0	0	0	0	0	0	0	14
7:00	0	0	0	3	8	4	0	1	0	0	0	0	0	16
8:00	0	2	8	10	5	2	0	0	0	0	0	0	0	27
9:00	0	1	1	13	11	1	0	0	0	0	0	0	0	27
10:00	0	0	4	8	13	9	2	0	0	0	0	0	0	36
11:00	0	0	1	11	26	6	1	0	0	0	0	0	0	45
12:00 PM	0	0	5	7	16	4	1	0	0	0	0	0	0	33
1:00	0	0	0	13	15	5	0	0	0	0	0	0	0	33
2:00	0	0	2	14	20	5	0	0	0	0	0	0	0	41
3:00	0	0	0	10	13	4	2	0	0	0	0	0	0	29
4:00	0	0	4	6	12	10	2	0	0	0	0	0	0	34
5:00	0	0	0	2	7	4	0	0	0	0	0	0	0	13
6:00	0	0	2	0	1	0	0	0	0	0	0	0	0	3
7:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9:00	0	1	0	0	0	1	0	0	0	0	0	0	0	2
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	31	100	157	62	9	1	1	0	0	0	0	365
Percentile Speed				15th	50th	85th	95th							
Mean Speed (Average)				31.4										
10 MPH Pace Speed				25-34										
Number in Pace				254										
Percent in Pace				69.6%										
Number > 35 MPH				73										
Percent > 35 MPH				20.0%										

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : Near Site Driveway
City/State: Groton, MA
Direction: NB

Site Code: 166100A1

10/7/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
6:00	0	0	0	1	0	1	0	1	0	0	0	0	0	3
7:00	0	0	0	8	6	3	1	0	0	0	0	0	0	18
8:00	0	0	0	7	16	5	0	0	0	0	0	0	0	28
9:00	0	0	2	17	20	7	1	0	0	0	0	0	0	47
10:00	0	1	1	15	30	7	2	0	0	0	0	0	0	56
11:00	1	0	3	14	31	14	0	0	0	0	0	0	0	63
12:00 PM	0	0	1	14	31	13	0	0	0	0	0	0	0	59
1:00	0	0	6	22	28	10	0	0	0	0	0	0	0	66
2:00	0	0	0	17	23	17	2	0	0	0	0	0	0	59
3:00	0	0	1	9	26	16	2	0	0	0	0	0	0	54
4:00	0	0	0	3	11	5	3	0	0	0	0	0	0	22
5:00	0	0	0	1	0	1	0	0	0	0	0	0	0	2
6:00	0	0	0	1	0	0	1	0	0	1	0	0	0	3
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	14	130	223	100	12	1	0	1	0	0	0	483
Percentile Speed				15th	50th	85th	95th							
Mean Speed (Average)				28	32	36	39							
10 MPH Pace Speed				32.2										
Number in Pace				25-34										
Percent in Pace				349										
Number > 35 MPH				72.3%										
Percent > 35 MPH				114										
				23.6%										

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : Near Site Driveway
 City/State: Groton, MA
 Direction: NB

Site Code: 166100A1

10/8/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	1	0	0	0	1	0	0	0	0	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	1	0	6	7	4	0	0	0	0	0	0	18
9:00	0	0	1	0	2	1	0	0	0	0	0	0	0	4
10:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2
11:00	0	0	0	0	2	1	0	0	0	0	0	0	0	3
12:00 PM	0	0	0	3	2	2	0	0	0	0	0	0	0	7
1:00	0	1	1	2	2	2	0	0	0	0	0	0	0	8
2:00	0	0	1	0	2	0	0	0	0	0	0	0	0	3
3:00	0	0	1	2	0	2	0	0	0	0	0	0	0	5
4:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
5:00	0	0	0	0	3	0	0	0	0	0	0	0	0	3
6:00	0	0	0	2	0	0	1	0	0	0	0	0	0	3
7:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:00	0	0	0	0	1	0	1	0	0	0	0	0	0	2
10:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	9	15	21	17	6	0	0	0	0	0	0	70

Percentile Speed 15th 25 50th 32 85th 38 95th 41

Mean Speed (Average)

10 MPH Pace Speed 29-38

Number in Pace 38

Percent in Pace 54.3%

Number > 35 MPH 23

Percent > 35 MPH 32.9%

Grand Total	1	9	66	329	583	242	39	2	2	1	0	0	0	1274
				Percentile Speed	15th 28	50th 32	85th 36	95th 39						
				Mean Speed (Average)	31.9									
				10 MPH Pace Speed	25-34									
				Number in Pace	902									
				Percent in Pace	70.8%									
				Number > 35 MPH	286									
				Percent > 35 MPH	22.4%									

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : Near Site Driveway
City/State: Groton, MA
Direction: SB

Site Code: 166100A1

10/5/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
6:00	0	2	0	0	0	0	1	0	0	0	0	0	0	3
7:00	0	0	1	3	4	3	1	0	0	0	0	0	0	12
8:00	0	0	1	1	8	5	3	0	0	0	0	0	0	18
9:00	0	0	0	4	10	5	1	0	0	0	0	0	0	20
10:00	0	0	2	1	9	7	3	1	1	0	0	0	0	24
11:00	0	0	0	5	6	8	3	0	0	0	0	0	0	22
12:00 PM	0	0	0	6	5	5	7	2	0	0	0	0	0	25
1:00	0	0	0	4	15	14	1	4	0	0	0	0	0	38
2:00	0	0	0	2	6	11	5	1	0	0	0	0	0	25
3:00	0	0	0	1	8	12	7	0	0	0	0	0	0	28
4:00	0	0	0	5	8	4	4	1	0	0	0	0	0	22
5:00	0	0	0	1	8	6	1	0	0	0	0	0	0	16
6:00	0	0	2	16	37	6	1	0	0	0	0	0	0	62
7:00	0	0	1	8	13	15	1	1	0	0	0	0	0	39
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	8	58	137	101	39	10	1	0	0	0	0	356
Percentile Speed				15th	50th	85th	95th							
Mean Speed (Average)				29	34	40	44							
10 MPH Pace Speed				34.4										
Number in Pace				30-39										
Percent in Pace				237										
Number > 35 MPH				66.6%										
Percent > 35 MPH				151										
				42.4%										

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : Near Site Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 166100A1

10/6/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	3	0	0	0	0	1	0	0	0	0	0	4
6:00	0	0	1	1	0	0	0	1	0	0	0	0	0	3
7:00	0	0	0	2	6	4	3	0	0	0	0	0	0	15
8:00	0	0	3	3	11	5	3	0	1	0	0	0	0	26
9:00	0	3	1	7	8	4	3	0	0	0	0	0	0	26
10:00	0	1	1	6	13	11	4	0	0	0	0	0	0	36
11:00	0	0	0	6	16	11	6	0	0	0	0	0	0	39
12:00 PM	0	0	4	4	11	10	1	2	0	0	0	0	0	32
1:00	0	1	1	7	11	13	10	0	0	0	0	0	0	43
2:00	0	0	1	4	13	12	2	2	0	0	0	0	0	34
3:00	0	0	1	5	12	20	5	1	0	0	0	0	0	44
4:00	0	1	1	1	7	9	6	2	0	0	0	0	0	27
5:00	0	1	2	1	2	2	1	0	0	0	0	0	0	9
6:00	0	0	1	4	7	3	2	0	0	1	0	0	0	18
7:00	0	0	1	1	0	0	1	0	0	0	0	0	0	3
8:00	0	0	0	0	1	0	1	0	0	0	0	0	0	2
9:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	7	21	52	120	105	49	9	1	1	0	0	0	365
	Percentile Speed		15th	50th	85th	95th								
	Mean Speed (Average)		34.2											
	10 MPH Pace Speed		30-39											
	Number in Pace		224											
	Percent in Pace		61.4%											
	Number > 35 MPH		165											
	Percent > 35 MPH		45.2%											

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
Location : Near Site Driveway
City/State: Groton, MA
Direction: SB

Site Code: 166100A1

10/7/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	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	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
6:00	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:00	0	1	0	3	3	3	2	0	0	0	0	0	0	12
8:00	0	0	0	1	14	5	3	0	0	0	0	0	0	23
9:00	0	0	1	6	18	12	7	0	0	0	0	0	0	44
10:00	0	0	1	5	24	14	12	2	0	0	0	0	0	58
11:00	0	0	2	3	15	21	16	1	1	0	0	0	0	59
12:00 PM	0	0	2	3	16	22	14	2	0	0	0	0	0	59
1:00	0	0	0	7	18	27	12	0	0	0	0	0	0	64
2:00	0	0	2	3	15	28	15	1	1	0	0	0	0	65
3:00	0	0	0	2	11	23	12	2	2	0	0	0	0	52
4:00	0	0	0	4	6	13	6	2	1	0	0	0	0	32
5:00	0	0	0	0	2	1	1	2	0	0	0	0	0	6
6:00	0	0	0	0	0	1	1	0	0	0	0	0	0	2
7:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	10	38	142	171	101	12	5	1	0	0	0	481
Percentile Speed		15th	50th	85th	95th									
Mean Speed (Average)		36.4												
10 MPH Pace Speed		30-39												
Number in Pace		310												
Percent in Pace		64.4%												
Number > 35 MPH		290												
Percent > 35 MPH		60.3%												

Accurate Counts
978-664-2565

Location : Cow Pond Brook Road
 Location : Near Site Driveway
 City/State: Groton, MA
 Direction: SB

Site Code: 166100A1

10/8/2023	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
Time														
12:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
9:00	0	0	0	1	2	2	0	0	0	0	0	0	0	5
10:00	0	1	0	5	8	1	1	0	0	0	0	0	0	16
11:00	1	0	1	1	1	0	1	0	0	0	0	0	0	5
12:00 PM	0	0	1	2	1	1	0	0	0	0	0	0	0	5
1:00	0	0	0	1	2	1	1	0	0	0	0	0	0	5
2:00	0	0	0	3	2	1	0	0	0	0	0	0	0	6
3:00	0	0	1	3	1	0	1	0	0	0	0	0	0	6
4:00	0	0	0	1	2	1	0	0	0	0	0	0	0	4
5:00	0	0	0	0	2	0	0	0	0	0	0	0	0	2
6:00	0	0	0	0	1	0	2	0	0	0	0	1	0	4
7:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	1	1	0	0	0	0	0	2
10:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	4	20	25	9	8	1	0	0	0	1	0	70

Percentile Speed 15th 26 50th 32 85th 40 95th 42

Mean Speed (Average)

10 MPH Pace Speed

Number in Pace

Percent in Pace

Number > 35 MPH

Percent > 35 MPH

Grand Total	1	11	43	168	424	386	197	32	7	2	0	1	0	1272
Percentile Speed	15th	29	50th	35	85th	41	95th	44						

Mean Speed (Average)

10 MPH Pace Speed

Number in Pace

Percent in Pace

Number > 35 MPH

Percent > 35 MPH

Appendix E: Crash-Rate Worksheets

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INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Groton MA COUNT DATE : 2023

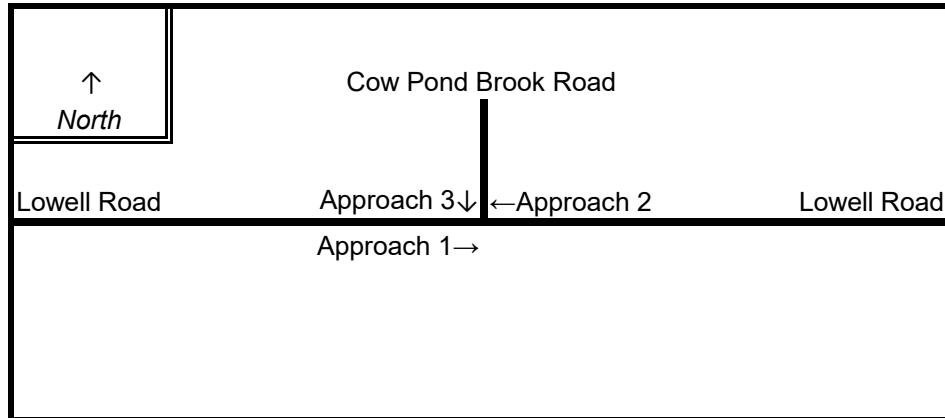
DISTRICT : 3 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Lowell Road

MINOR STREET(S) : Cow Pond Brook Road

**INTERSECTION
DIAGRAM
(Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	Eastbound	Westbound	Southbound			
PEAK HOURLY VOLUMES (AM/PM) :	234	467	32			733

" K " FACTOR : 0.090 INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME : 8,144

TOTAL # OF CRASHES : 1 # OF YEARS : 5 AVERAGE # OF CRASHES PER YEAR (A) : 0.20

CRASH RATE CALCULATION : 0.07 RATE =
$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : _____

Project Title & Date: 1661 Defcon 1, LLC--Groton MA 01-02-2024



INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Groton MA COUNT DATE : 2023

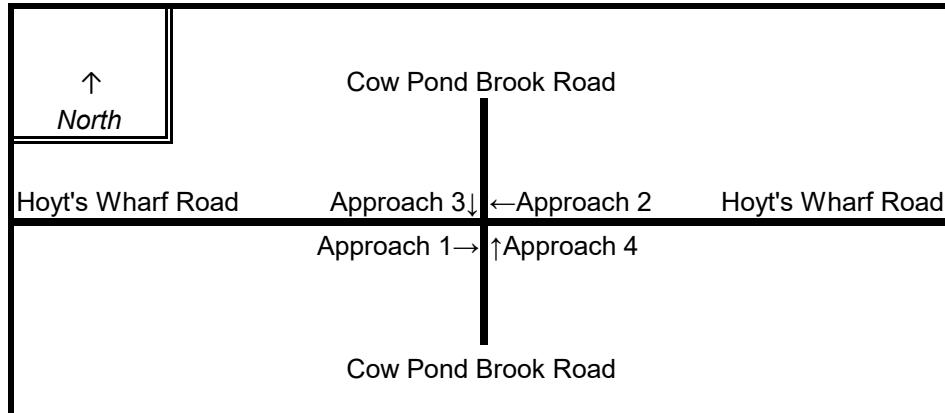
DISTRICT : 3 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Cow Pond Brook Road

MINOR STREET(S) : Hoyt's Wharf Road

**INTERSECTION
DIAGRAM
(Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	Eastbound	Westbound	Southbound	Northbound		
PEAK HOURLY VOLUMES (AM/PM) :	0	0	32	66		98

" K " FACTOR : 0.090 INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME : 1,089

TOTAL # OF CRASHES : 1 # OF YEARS : 5 AVERAGE # OF CRASHES PER YEAR (A) : 0.20

CRASH RATE CALCULATION : 0.50 RATE =
$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : Peak-hour volumes do not include Hoyt's Wharf Road approaches.

Project Title & Date: 1661 Defcon 1, LLC--Groton MA 01-02-2024

Appendix F: Synchro Reports

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Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	292	158	11	26	11
Future Vol, veh/h	4	292	158	11	26	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	83	83	70	70
Heavy Vehicles, %	0	2	4	9	0	44
Mvmt Flow	5	332	190	13	37	16

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	203	0	-
Stage 1	-	-	197
Stage 2	-	-	342
Critical Hdwy	4.1	-	6.4 6.64
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5 3.696
Pot Cap-1 Maneuver	1381	-	507 748
Stage 1	-	-	841
Stage 2	-	-	724
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1381	-	505 748
Mov Cap-2 Maneuver	-	-	505
Stage 1	-	-	838
Stage 2	-	-	724

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.1
HCM LOS		B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1381	-	-	-	559
HCM Lane V/C Ratio	0.003	-	-	-	0.095
HCM Control Delay (s)	7.6	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	202	433	34	18	14
Future Vol, veh/h	32	202	433	34	18	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	93	93	80	80
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	41	259	466	37	23	18

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	503	0	-	0	826	485
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1072	-	-	-	345	586
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	725	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1072	-	-	-	329	586
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	725	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1072	-	-	-	407
HCM Lane V/C Ratio	0.038	-	-	-	0.098
HCM Control Delay (s)	8.5	0	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection

Int Delay, s/veh 8.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	92	177	162	75	112	128
Future Vol, veh/h	92	177	162	75	112	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	90	90	76	76
Heavy Vehicles, %	0	1	1	1	0	0
Mvmt Flow	118	227	180	83	147	168

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	263	0	-	0	685 222
Stage 1	-	-	-	-	222 -
Stage 2	-	-	-	-	463 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1313	-	-	-	417 823
Stage 1	-	-	-	-	820 -
Stage 2	-	-	-	-	638 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1313	-	-	-	374 823
Mov Cap-2 Maneuver	-	-	-	-	374 -
Stage 1	-	-	-	-	736 -
Stage 2	-	-	-	-	638 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	21.5
HCM LOS		C	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1313	-	-	-	527
HCM Lane V/C Ratio	0.09	-	-	-	0.599
HCM Control Delay (s)	8	0	-	-	21.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	3.9

Intersection

Int Delay, s/veh 10.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	177	162	83	123	141
Future Vol, veh/h	101	177	162	83	123	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	90	90	76	76
Heavy Vehicles, %	0	1	1	1	0	0
Mvmt Flow	129	227	180	92	162	186

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	272	0	-	0	711 226
Stage 1	-	-	-	-	226 -
Stage 2	-	-	-	-	485 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1303	-	-	-	403 818
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	623 -
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver	1303	-	-	-	357 818
Mov Cap-2 Maneuver	-	-	-	-	357 -
Stage 1	-	-	-	-	724 -
Stage 2	-	-	-	-	623 -

Approach	EB	WB	SB	
HCM Control Delay, s	2.9	0	25.7	
HCM LOS			D	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1303	-	-	-	511
HCM Lane V/C Ratio	0.099	-	-	-	0.68
HCM Control Delay (s)	8.1	0	-	-	25.7
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.3	-	-	-	5.1

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	313	169	16	39	16
Future Vol, veh/h	5	313	169	16	39	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	83	83	70	70
Heavy Vehicles, %	0	2	4	9	0	44
Mvmt Flow	6	356	204	19	56	23

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	223	0	-	0	582	214
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	368	-
Critical Hdwy	4.1	-	-	-	6.4	6.64
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.696
Pot Cap-1 Maneuver	1358	-	-	-	479	731
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	704	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1358	-	-	-	476	731
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	704	-

Approach	EB	WB	SB			
HCM Control Delay, s	0.1	0	13			
HCM LOS			B			

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1358	-	-	-	530	
HCM Lane V/C Ratio	0.004	-	-	-	0.148	
HCM Control Delay (s)	7.7	0	-	-	13	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

Intersection

Int Delay, s/veh 3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B	B			
Traffic Vol, veh/h	15	0	9	5	0	11
Future Vol, veh/h	15	0	9	5	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	0	10	6	0	12

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	25	13	0	0	16
Stage 1	13	-	-	-	-
Stage 2	12	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	991	1067	-	-	1602
Stage 1	1010	-	-	-	-
Stage 2	1011	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	991	1067	-	-	1602
Mov Cap-2 Maneuver	991	-	-	-	-
Stage 1	1010	-	-	-	-
Stage 2	1011	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	991	1602	-
HCM Lane V/C Ratio	-	-	0.017	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	217	460	48	26	18
Future Vol, veh/h	38	217	460	48	26	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	93	93	80	80
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	49	278	495	52	33	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	547	0	-	0	897 521
Stage 1	-	-	-	-	521 -
Stage 2	-	-	-	-	376 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1033	-	-	-	313 559
Stage 1	-	-	-	-	600 -
Stage 2	-	-	-	-	699 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1033	-	-	-	295 559
Mov Cap-2 Maneuver	-	-	-	-	295 -
Stage 1	-	-	-	-	566 -
Stage 2	-	-	-	-	699 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1033	-	-	-	366
HCM Lane V/C Ratio	0.047	-	-	-	0.15
HCM Control Delay (s)	8.7	0	-	-	16.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B	B			
Traffic Vol, veh/h	10	0	5	15	0	17
Future Vol, veh/h	10	0	5	15	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	6	17	0	19

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	34	15	0	0	23
Stage 1	15	-	-	-	-
Stage 2	19	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	979	1065	-	-	1592
Stage 1	1008	-	-	-	-
Stage 2	1004	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	979	1065	-	-	1592
Mov Cap-2 Maneuver	979	-	-	-	-
Stage 1	1008	-	-	-	-
Stage 2	1004	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	979	1592	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection

Int Delay, s/veh 11.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	104	190	174	91	130	141
Future Vol, veh/h	104	190	174	91	130	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	90	90	76	76
Heavy Vehicles, %	0	1	1	1	0	0
Mvmt Flow	133	244	193	101	171	186

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	294	0	-
Stage 1	-	-	244
Stage 2	-	-	510
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1279	-	-
Stage 1	-	-	801
Stage 2	-	-	607
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1279	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	705
Stage 2	-	-	607

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	31.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1279	-	-	-	479
HCM Lane V/C Ratio	0.104	-	-	-	0.744
HCM Control Delay (s)	8.1	0	-	-	31.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.3	-	-	-	6.2

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B	A			
Traffic Vol, veh/h	14	0	191	16	0	291
Future Vol, veh/h	14	0	191	16	0	291
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	0	212	18	0	323

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	544	221	0	0	230
Stage 1	221	-	-	-	-
Stage 2	323	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	500	819	-	-	1338
Stage 1	816	-	-	-	-
Stage 2	734	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	500	819	-	-	1338
Mov Cap-2 Maneuver	500	-	-	-	-
Stage 1	816	-	-	-	-
Stage 2	734	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	500	1338	-
HCM Lane V/C Ratio	-	-	0.031	-	-
HCM Control Delay (s)	-	-	12.4	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection

Int Delay, s/veh 16.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	114	190	174	99	142	155
Future Vol, veh/h	114	190	174	99	142	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	90	90	76	76
Heavy Vehicles, %	0	1	1	1	0	0
Mvmt Flow	146	244	193	110	187	204

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	303	0	-
Stage 1	-	-	248
Stage 2	-	-	536
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1269	-	-
Stage 1	-	-	798
Stage 2	-	-	591
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1269	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	692
Stage 2	-	-	591

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	43
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1269	-	-	-	461
HCM Lane V/C Ratio	0.115	-	-	-	0.848
HCM Control Delay (s)	8.2	0	-	-	43
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.4	-	-	-	8.5

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	B	A			
Traffic Vol, veh/h	14	0	210	16	0	320
Future Vol, veh/h	14	0	210	16	0	320
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	0	233	18	0	356

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	598	242	0	0	251
Stage 1	242	-	-	-	-
Stage 2	356	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	465	797	-	-	1314
Stage 1	798	-	-	-	-
Stage 2	709	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	465	797	-	-	1314
Mov Cap-2 Maneuver	465	-	-	-	-
Stage 1	798	-	-	-	-
Stage 2	709	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	465	1314	-
HCM Lane V/C Ratio	-	-	0.033	-	-
HCM Control Delay (s)	-	-	13	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	313	169	12	28	12
Future Vol, veh/h	4	313	169	12	28	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	83	83	70	70
Heavy Vehicles, %	0	2	4	9	0	44
Mvmt Flow	5	356	204	14	40	17

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	218	0	-
Stage 1	-	-	211
Stage 2	-	-	366
Critical Hdwy	4.1	-	6.4 6.64
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5 3.696
Pot Cap-1 Maneuver	1364	-	482 734
Stage 1	-	-	829
Stage 2	-	-	706
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1364	-	480 734
Mov Cap-2 Maneuver	-	-	480
Stage 1	-	-	825
Stage 2	-	-	706

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.5
HCM LOS		B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1364	-	-	-	536
HCM Lane V/C Ratio	0.003	-	-	-	0.107
HCM Control Delay (s)	7.6	0	-	-	12.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	217	460	37	19	15
Future Vol, veh/h	34	217	460	37	19	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	93	93	80	80
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	44	278	495	40	24	19

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	535	0	-	0	881 515
Stage 1	-	-	-	-	515 -
Stage 2	-	-	-	-	366 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1043	-	-	-	320 564
Stage 1	-	-	-	-	604 -
Stage 2	-	-	-	-	706 -
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver	1043	-	-	-	304 564
Mov Cap-2 Maneuver	-	-	-	-	304 -
Stage 1	-	-	-	-	574 -
Stage 2	-	-	-	-	706 -

Approach	EB	WB	SB	
HCM Control Delay, s	1.2	0	15.6	
HCM LOS			C	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1043	-	-	-	382
HCM Lane V/C Ratio	0.042	-	-	-	0.111
HCM Control Delay (s)	8.6	0	-	-	15.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection

Int Delay, s/veh 10.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	99	190	174	80	120	137
Future Vol, veh/h	99	190	174	80	120	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	90	90	76	76
Heavy Vehicles, %	0	1	1	1	0	0
Mvmt Flow	127	244	193	89	158	180

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	282	0	-	0	736 238
Stage 1	-	-	-	-	238 -
Stage 2	-	-	-	-	498 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1292	-	-	-	389 806
Stage 1	-	-	-	-	806 -
Stage 2	-	-	-	-	615 -
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver	1292	-	-	-	345 806
Mov Cap-2 Maneuver	-	-	-	-	345 -
Stage 1	-	-	-	-	714 -
Stage 2	-	-	-	-	615 -

Approach	EB	WB	SB	
HCM Control Delay, s	2.8	0	26.4	
HCM LOS			D	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1292	-	-	-	496
HCM Lane V/C Ratio	0.098	-	-	-	0.682
HCM Control Delay (s)	8.1	0	-	-	26.4
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.3	-	-	-	5.1

Intersection

Int Delay, s/veh 13.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	109	190	174	88	132	151
Future Vol, veh/h	109	190	174	88	132	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	90	90	76	76
Heavy Vehicles, %	0	1	1	1	0	0
Mvmt Flow	140	244	193	98	174	199

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	291	0	-	0	766 242
Stage 1	-	-	-	-	242 -
Stage 2	-	-	-	-	524 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1282	-	-	-	374 802
Stage 1	-	-	-	-	803 -
Stage 2	-	-	-	-	598 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1282	-	-	-	327 802
Mov Cap-2 Maneuver	-	-	-	-	327 -
Stage 1	-	-	-	-	702 -
Stage 2	-	-	-	-	598 -

Approach	EB	WB	SB	
HCM Control Delay, s	3	0	34.3	
HCM LOS			D	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1282	-	-	-	478
HCM Lane V/C Ratio	0.109	-	-	-	0.779
HCM Control Delay (s)	8.2	0	-	-	34.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.9

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
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Lane Configurations	W	B				
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2
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Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
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HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

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