


MEMORANDUM

TO: Mr. Richard D. Roper, Sr.
R & R Gratuity Road, LLC
16 Flagg Road
Westford, MA 01886-2902

FROM: Mr. Jeffrey S. Dirk, P.E.*, PTOE, FITE 
Managing Partner *and*
Mr. Daniel C. LaCivita
Transportation Engineer
Vanasse & Associates, Inc.
35 New England Business Center Drive
Suite 140
Andover, MA 01810-1066
(978) 269-6830
jdirk@rdva.com

**Professional Engineer in CT, MA, ME, NH, RI and VA*

DATE: April 23, 2024

RE: 8102

SUBJECT: Transportation Impact Assessment
Proposed Residential Development – 63 Gratuity Road
Groton, Massachusetts

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of an age-restricted (55+) residential development to be located at 63 Gratuity Road in Groton, Massachusetts (hereafter referred to as the “Project”). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project along Gratuity Road and Jenkins Road.

Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE)¹ for a conventional (non-age-qualified) residential development, the Project is expected to generate approximately 164 vehicle trips on an average weekday (two-way, 24-hour volume), with 9 vehicle trips expected during the weekday morning peak-hour and 13 vehicle trips expected during the weekday evening peak-hour. For comparison, an age-qualified residential development would be expected to generate 92 vehicle trips on an average weekday and 6 to 7 vehicle trips during the weekday peak hours;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with Project-related impacts generally defined as an increase in average motorist delay of less than 1.0 seconds that resulted in a corresponding increase in vehicle queuing of up to two (2) feet (less than one (1) vehicle);

¹*Trip Generation*, 11th Edition; Institute of Transportation Engineers; Washington, DC; 2021.



3. Vehicles exiting the Project site roadways to Gratuity Road and Jenkins Road were shown to operate at a level-of-service (LOS) A during both the weekday morning and evening peak hours with negligible vehicle queuing. All movements along Gratuity Road and Jenkins Road approaching the Project site roadways were also shown to operate at LOS A with negligible vehicle queuing predicted;
4. The Jenkins Road/Hickory Drive intersection was found to have experienced one (1) reported motor vehicle crash over the five-year review period evaluated as a part of this assessment; however, given the low volume of traffic processed by the intersection, the resulting motor vehicle crash rate was found to be above the MassDOT average crash rate for similar intersections. A review of the crash details did not indicate that a specific geometric deficiency exists at the intersection; however, recommendations have been provided to enhance safety; and
5. Lines of sight at the intersections of the Project site roadways with Gratuity Road and Jenkins Road were found to exceed or could be made to exceed the recommended minimum distances for the intersections to operate in a safe and efficient manner based on the appropriate approach speed.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with the implementation of the recommendations defined herein.

The following details our assessment of the Project.

PROJECT DESCRIPTION

As proposed, the Project will entail the construction of 28 age-restricted (55+) residential units (14 duplex buildings) to be located at 63 Gratuity Road in Groton, Massachusetts. The Project site encompasses approximately 54.5± acres of land that is bounded by Gratuity Road, residential properties and areas of open and wooded space to the north; Jenkins Road, residential properties and areas of open and wooded space to the south; residential properties and areas of open and wooded space to the east; and Hazel Grove Park and fairgrounds, residential properties and areas of open and wooded space to the west. The Project site currently contains areas of open and wooded space and is bisected in an east-west direction by an intermittent stream. Figure 1 depicts the Project site location in relation to the existing roadway network.

Access to the Project site will be provided as follows:

- ***Gratuity Road Residences (10 residential units)*** – A new roadway will be constructed that will intersect south side of Gratuity Road approximately 25 feet west of the existing driveway that serves the Project site and will terminate in a cul-de-sac type configuration approximately 825 feet southwest of Gratuity Road. The existing driveway will be closed in conjunction with the Project.
- ***Jenkins Road Residences (18 residential units)*** – A new roadway will be constructed that will intersect the north side of Jenkins Road approximately 350 feet east of Hickory Drive and will terminate in a cul-de-sac type configuration approximately 575 feet north of Jenkins Road.

Off-street parking will be provided in individual garages and driveways that will accommodate a minimum of two (2) vehicles per dwelling.



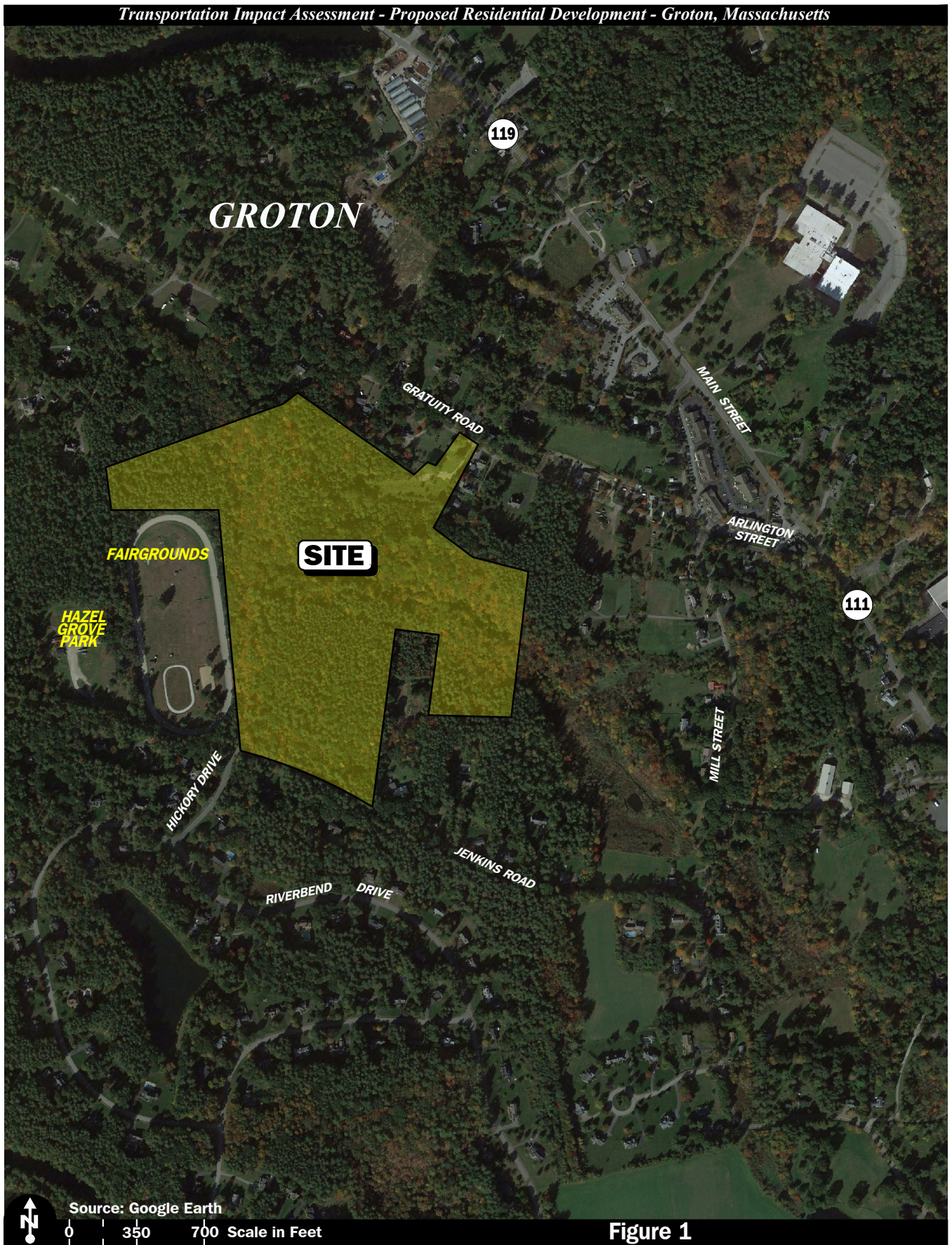


Figure 1
Site Location Map



STUDY METHODOLOGY

This study was prepared in consultation with the Massachusetts Department of Transportation (MassDOT) and the Town of Groton; was performed in accordance with MassDOT’s *Transportation Impact Assessment (TIA) Guidelines* and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports; and was conducted in three distinct stages.

The first stage involved an assessment of existing conditions in the study area and included an inventory of roadway geometrics; pedestrian and bicycle facilities; on-street parking; public transportation services; observations of traffic flow; and the collection of pedestrian, bicycle, and vehicle counts.

In the second stage of the study, future traffic conditions were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future traffic demands due to expected traffic growth independent of the Project. A seven-year time horizon was selected for analyses consistent with MassDOT guidelines. The analysis conducted in stage two identifies existing or projected future capacity, safety, and access issues, as these areas relate to the transportation infrastructure.

The third stage of the study presents and evaluates measures to address deficiencies in the transportation infrastructure, if any, identified in stage two of the study.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in February and March 2024. This inventory included the collection of traffic-volume data and vehicle travel speed measurements, as well as a review of existing pedestrian and bicycle accommodations, public transportation services, and motor vehicle crash data. The following summarizes existing conditions within the study area.

Roadways

Gratuity Road

Gratuity Road is a two-lane, local access roadway that traverses the study area in a general northwest-southeast direction between Mill Street and Fitch’s Bridge Road and is under Town jurisdiction. In the vicinity of the Project site, Gratuity Road provides an 18±-foot-wide traveled-way (paved area) that accommodates two-way travel with no pavement markings provided. A posted speed limit is not provided and, as such, the statutory or “prima facie” speed limit pursuant to MGL c.90§17 is 30 miles per hour (mph).² Sidewalks and illumination are not provided along the roadway. Land use along Gratuity Road within the study area consists of the Project site, residential properties and areas of open and wooded space.

Jenkins Road

Jenkins Road is a two-lane, local access roadway that traverses the study area in a general east-west direction and is under Town jurisdiction. In the vicinity of the Project site, Jenkins Road provides a 23-foot-wide traveled-way that accommodates two-way travel with no pavement markings provided. A posted speed limit is not provided and, as such, the statutory or “prima facie” speed limit is 30 mph. Sidewalks and illumination are not provided along the roadway. Land use along Jenkins Road within the study area consists of the Project site, residential properties and areas of open and wooded space.

²The statutory or “prima facie” speed limit is defined in M.G.L Chapter 90, Section 17, as the speed which would be deemed reasonable and proper to operate a motor vehicle.



Intersections

Table 1 summarizes existing lane use, traffic control, and pedestrian and bicycle accommodations at the study area intersections as observed in February 2024.

Table 1
INTERSECTION DESCRIPTION

Intersection	Traffic Control Type ^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Main St./ Mill St.	S	1 general-purpose travel lane provided on all approaches; Mill St. approach is under stop control	Yes; 1 to 2-feet on Main St. and 5 to 7-feet on Mill St.	Yes; a sidewalk is provided along the west side of Main St.	Yes; shared traveled-way on Main St. ^b
Main St./ Arlington St.	S	1 general-purpose travel lane provided on all approaches; Arlington St. approach is under stop control	Yes; 1 to 3-feet on Main St.	Yes; a sidewalk is provided along the west side of Main St.	Yes; shared traveled-way Main St.
Mill St./ Arlington St./ Gratuity Rd.	S (All way)	1 general-purpose travel lane provided on all approaches with northbound right-turns on Mill St. exiting prior to the intersection by way of a channelized right-turn lane; all approaches are under stop control	Yes; 1 to 2-feet on Mill St.	No	No
Mill St./ Jenkins Rd.	S	1 general-purpose travel lane provided on all approaches; the Jenkins Rd. approach diverges approaching Mill St. to provide north and south legs separated by a grassed island that are under stop control	Yes; 1-foot on Mill St.	No	No
Jenkins Rd./ Hickory Dr.	S	1 general-purpose travel lane provided on all approaches; Hickory Dr. approach is under stop control	No	Yes; a sidewalk is provided along the west side of Hickory Dr.	No

^aTS = traffic signal control; S = stop control

^bCombined shoulder and travel lane width equal to or exceed 14 feet.

Traffic Volumes

In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, turning movement counts (TMCs), and vehicle classification counts were completed in March 2024. The ATR counts were conducted on Gratuity Road west of Mill Street and on Jenkins Road at the Project site on March 6th and 7th, 2024 (Wednesday through Thursday, inclusive) in order to record weekday traffic conditions over an extended period, with weekday morning (7:00 to



9:00 AM) and evening (4:00 to 6:00 PM) peak-period TMCs performed at the study area intersections on Thursday March 7th, 2024. These time periods were selected for analysis purposes as they are representative of the peak-traffic-volume hours for both the Project and the adjacent roadway network.

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, MassDOT weekday seasonal factors for Urban Groups 4-7 (minor arterials, major and minor collectors and local roads and streets, which includes the functional classification of the study area roadways) were reviewed.³ Based on a review of this data, it was determined that traffic volumes under average-month conditions are approximately 5 percent *lower* than those during the month of March. As such, the March traffic volumes did not require adjustment as they are representative of above average-month conditions.

Based on updated guidance from MassDOT,⁴ adjustments to account for the impact on traffic volumes and trip patterns resulting from the COVID-19 pandemic for traffic counts taken on or after March 1, 2022, are *not recommended* in areas where the adjacent land uses are not predominantly office properties. As the study area roadway and intersections primarily serve residential and commercial uses, a pandemic-related traffic volume adjustment was not required.

The 2024 existing traffic volumes are summarized in Table 2, with the weekday morning and evening peak-hour traffic volumes graphically depicted on Figures 2 and 3, respectively. Note that the peak-hour traffic volumes that are presented in Table 2 were obtained from the aforementioned figures.

Table 2
2024 EXISTING TRAFFIC VOLUMES

Location/Peak Hour	AWT ^a	VPH ^c	K Factor ^d	Directional Distribution ^e
<i>Gratuity Road, west of Mill Street:</i>				
Weekday Morning (7:00 – 8:00 AM)	165	--	--	--
Weekday Evening (4:00 – 5:00 PM)	--	25	15.2	76.0% EB
	--	44	26.7	59.1% WB
<i>Jenkins Road, east of Hickory Drive:</i>				
Weekday Morning (7:00 – 8:00 AM)	188	--	--	--
Weekday Evening (4:00 – 5:00 PM)	--	34	18.1	70.6% EB
	--	20	10.6	60.0% WB

^aAverage weekday traffic in vehicles per day.

^cVehicles per hour.

^dPercent of daily traffic occurring during the peak hour.

^ePercent traveling in peak direction.

EB = eastbound; WB = westbound.

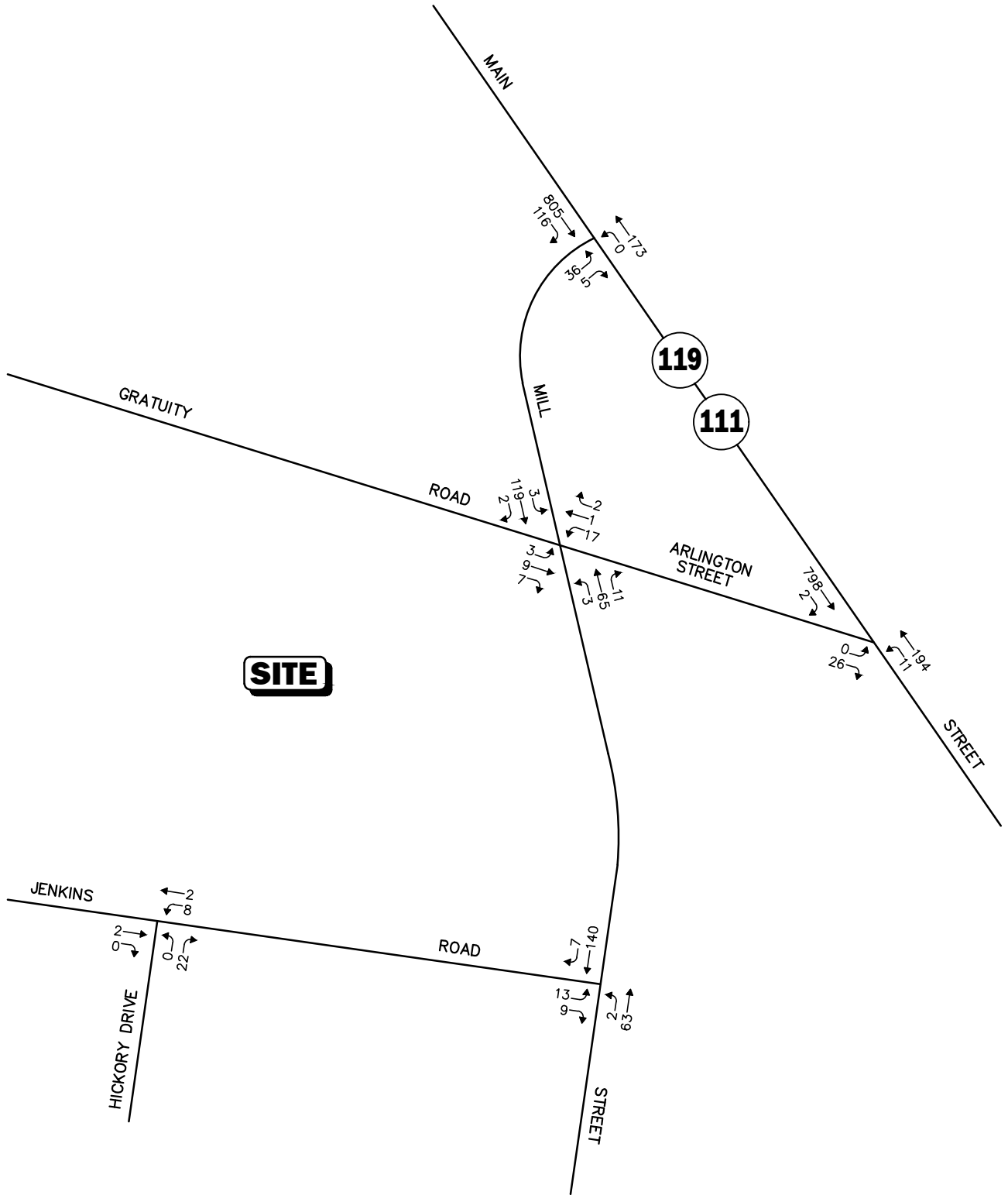
As can be seen in Table 2, Gratuity Road in the vicinity of the Project site was found to accommodate approximately 165 vehicles on an average weekday (two-way, 24-hour volume), with approximately 25 vehicles per hour (vph) during the weekday morning peak-hour and 44 vph during the weekday evening peak-hour.

Jenkins Road in the vicinity of the Project site was found to accommodate approximately 188 vehicles on an average weekday (two-way, 24 volume), with approximately 34 vph during the weekday morning peak-hour and 20 vph during the weekday evening peak-hour.

³MassDOT statewide Traffic Data Collection; 2019 Weekday Seasonal Factors, Groups U4-7.

⁴*Traffic and Safety Engineering 25% Design Submission Guidelines*; MassDOT; Revised March 31, 2022.



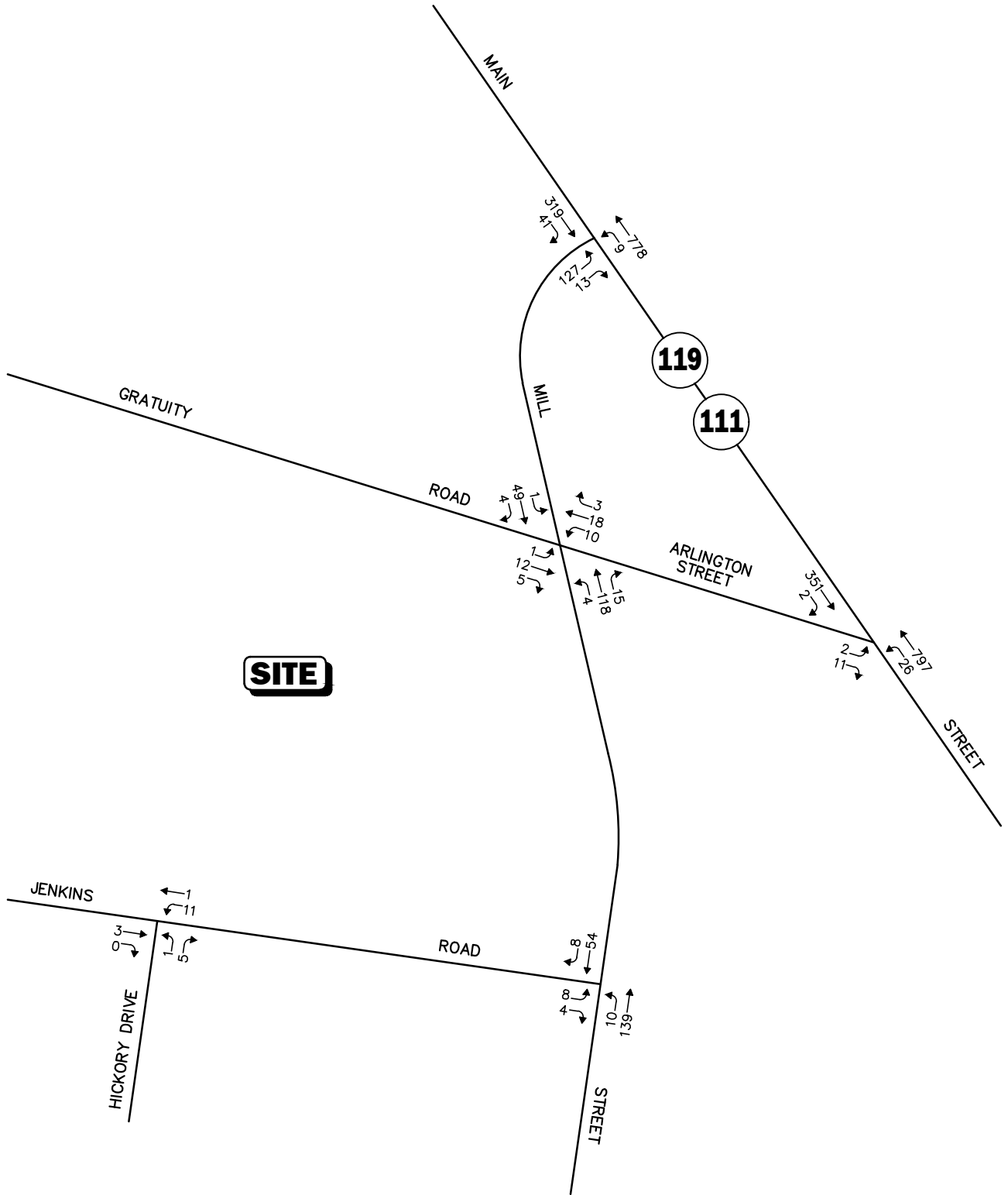


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
 Not To Scale

Figure 2

2024 Existing
 Weekday Morning
 Peak-Hour Traffic Volumes





Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
 Not To Scale

Figure 3



2024 Existing
 Weekday Evening
 Peak-Hour Traffic Volumes

Pedestrian and Bicycle Facilities

Pedestrian and bicycle counts were performed at the study area intersections in conjunction with the TMCs and a comprehensive field inventory of pedestrian and bicycle facilities within the study area was also undertaken in February 2024. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study intersections, as well as the location of existing and planned future bicycle facilities.

Pedestrian Facilities

Sidewalks are provided along the west side of Main Street and along the west side of Hickory Drive. Marked crosswalks are not provided at the study area intersections. Observed pedestrian activity along the study area roadways was found to be generally low, with four (4) or fewer pedestrians observed crossing Mill Street at the Main Street/Mill Street and at the Mill Street/Gratuity Road/Arlington Street intersections during the peak hours.

Bicycle Facilities

Formal bicycle facilities are not provided within the study area; however, Main Street generally provides sufficient width (combined travel lane and shoulder) to support bicycle travel in a shared traveled-way configuration (i.e., motor vehicles and bicyclists sharing the roadway).⁵ To the southeast of the Project site, the Nashua River Rail Trail traverses a former railroad right-of-way between Ayer, Massachusetts, and Nashua, New Hampshire, a distance of approximately 12.5 miles traveling, through the Towns of Ayer, Groton, Pepperell and the City of Nashua. The closest access to the Nashua River Rail Trail to the Project site is along Main Street, south of Arlington Street.

Observed bicycle activity along the study area roadways was found to be generally low, with three (3) bicyclists observed traveling along Arlington Street during the weekday evening peak-hour.

Public Transportation

Regularly scheduled public transportation services are not currently provided to or within the Town of Groton or in the immediate vicinity of the Project site.

Spot Speed Measurements

Vehicle travel speed measurements were performed on Gratuity Road and Jenkins Road in the vicinity of the Project site in conjunction with the ATR counts. Table 3 summarizes the vehicle travel speed measurements.

⁵A minimum combined travel lane and paved shoulder width of 14-feet is required to support bicycle travel in a shared traveled-way condition.



Table 3
VEHICLE TRAVEL SPEED MEASUREMENTS

	Gratuity Road		Jenkins Road	
	Eastbound	Westbound	Eastbound	Westbound
Mean Travel Speed (mph)	16	16	20	23
Median (50 th Percentile) Travel Speed (mph)	15	15	19	22
85 th Percentile Speed (mph)	20	18	24	28
Statutory Speed Limit (mph)	30	30	30	30

mph = miles per hour.

As can be seen in Table 3, the mean vehicle travel speed along Gratuity Road in the vicinity of the Project site were found to be 16 mph in both the east and westbound directions. The median (50th percentile) vehicle travel speed was found to be 15 mph in both the east and westbound directions. The measured 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be 20 mph in the eastbound direction and 18 mph westbound, which is below the statutory speed limit in the vicinity of the Project site (30 mph). The 85th percentile speed is used as the basis of engineering design and in the evaluation of sight distances and is often used in establishing posted speed limits.

The mean vehicle travel speeds along Jenkins Road in the vicinity of the Project site were found to be 20 mph in the eastbound direction and 23 mph westbound. The median vehicle travel speed was found to be 19 mph in the eastbound direction and 22 mph westbound. The measured 85th percentile vehicle travel speed was found to be 24 mph in the eastbound direction and 28 mph westbound, which is also below the statutory speed limit in the vicinity of the Project site (also 30 mph).

Motor Vehicle Crash Data

Motor vehicle crash information for the study area intersections was obtained from MassDOT’s IMPACT Crash Portal for the most recent five-year period available (2017 through 2021, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, severity, roadway and weather conditions, and day of occurrence, and is presented in Table 4.



Table 4
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Main St./ Mill St.	Main St./ Arlington St.	Mill St./ Arlington St./ Gratuity Rd.	Mill St./ Jenkins Rd.	Jenkins Rd./ Hickory Dr.
Traffic Control Type: ^b	U	U	U	U	U
<i>Year:</i>					
2017	2	0	0	0	0
2018	3	0	1	0	1
2019	3	0	0	0	0
2020	0	0	0	0	0
<u>2021</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	8	0	1	0	1
Average	1.60	0.00	0.20	0.00	0.20
Rate ^c	0.33	0.00	0.22	0.00	1.56
MassDOT Crash Rate: ^d	0.57/0.61	0.57/0.61	0.57/0.61	0.57/0.61	0.57/0.61
Significant? ^e	No	No	No	No	Yes
<i>Type:</i>					
Angle	4	0	0	0	0
Rear-End	2	0	0	0	0
Head-On	0	0	0	0	0
Sideswipe	0	0	0	0	0
Fixed Object	2	0	1	0	1
Pedestrian/Bicycle	0	0	0	0	0
<u>Unknown/Other</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	8	0	1	0	1
<i>Conditions:</i>					
Clear	5	0	0	0	1
Cloudy	2	0	0	0	0
Rain	1	0	1	0	0
<u>Snow/Ice</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	8	0	1	0	1
<i>Lighting:</i>					
Daylight	7	0	1	0	1
Dawn/Dusk	0	0	0	0	0
Dark (Road Lit)	1	0	0	0	0
<u>Dark (Road Unlit)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	8	0	1	0	1
<i>Day of Week:</i>					
Monday through Friday	8	0	0	0	1
Saturday	0	0	0	0	0
<u>Sunday</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	8	0	1	0	1
<i>Severity:</i>					
Property Damage Only	7	0	1	0	1
Personal Injury	1	0	0	0	0
Fatality	0	0	0	0	0
<u>Unknown</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	8	0	1	0	1

^aSource: MassDOT Safety Management/Traffic Operations Unit records, 2017 through 2021.

^bTraffic Control Type: U = unsignalized.

^cCrash rate per million vehicles entering the intersection.

^dStatewide/District crash rate.

^eThe intersection crash rate is significant if it is found to exceed the MassDOT crash rate for the MassDOT Highway Division District in which the Project is located (District 3).



As can be seen in Table 4, the study area intersections were found to have experienced an average of 1.6 or fewer reported motor vehicle crashes per year over the five-year review period and, with the exception of the Jenkins Road/Hickory Drive intersection, were found to have motor vehicle crash rates *below* the MassDOT statewide and District averages for similar intersections for the MassDOT Highway Division District in which the intersections are located (District 3). The majority of the crashes were reported to have occurred on a weekday; under clear weather conditions; during daylight; and resulted in property damage only. No (0) motor vehicle crashes were reported to have occurred in the vicinity of the proposed Project site roadways along Gratuity Road or Jenkins Road, or at the Main Street/Arlington Street and Mill Street/Jenkins Road intersections over the five-year review period.

The Jenkins Road/Hickory Drive intersection was found to have experienced one (1) reported motor vehicle crash over the five-year review period and the calculated motor vehicle crash rate was found to be *above* the MassDOT statewide and District averages for a similar intersection for the MassDOT Highway Division District in which the intersection is located (District 3) due to the low volume of traffic processed by the intersection. The reported crash involved a single vehicle that struck a fixed roadside object during daylight under clear weather conditions and resulted in property damage only. The reported crash details do not indicate a specific geometric deficiency at the intersection and driver inattentiveness was likely a contributing factor. As such, sign and pavement marking enhancements have been recommended at this intersection that will be advanced as a part of the Project subject to receipt of all necessary rights, permits and approvals (discussed in the *Recommendations* section).

A review of the MassDOT statewide High Crash Location List indicated that there are no Highway Safety Improvement Program (HSIP) eligible high crash locations in the vicinity of the Project site. In addition, no fatal motor vehicle crashes were reported to have occurred at the study area intersections over the five-year review period.

The detailed MassDOT Crash Rate Worksheets are attached.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2031, which reflects a seven-year planning horizon consistent with MassDOT guidelines. Independent of the Project, traffic volumes on the roadway network in the year 2031 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon the 2031 No-Build traffic volumes reflect 2031 Build traffic-volume conditions with the Project.

Future Traffic Growth

Future traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic; however, potential population growth and development external to the study area would not be accounted for in the resulting traffic projections.



To provide a conservative analysis framework, both procedures were used, the salient components of which are described below.

Specific Development by Others

The Town of Groton Planning Department was consulted in order to determine if there were any projects that would have an impact on future traffic volumes at the study intersections. Based on this consultation, the following projects were identified for inclusion in this assessment:

- ***Groton Farms, 500 Main Street, Groton, Massachusetts.*** This project entails the construction of 168 multifamily residential units and 32 townhouse units to be located at 500 Main Street. Traffic volumes associated with this development were obtained from the traffic study prepared for the project and were incorporated into the future conditions traffic volumes.⁶
- ***Proposed Residential Development, Hayes Woods Road, Groton, Massachusetts.*** This project entails the development of a 9-lot residential subdivision to be located off of Pepperell Road. Traffic volumes associated with this development within the study area are expected to be relatively minor and would be included in the general background traffic growth rate (discussion follows).
- ***The Village at Shepley Hill, Longley Road and Sand Hill Road, Groton, Massachusetts.*** This project entails the construction of a 28-unit age-qualified (55+) residential community to be located off of Longley Road and Sand Hill Road. Traffic volumes associated with this development within the study area are expected to be relatively minor and would be included in the general background traffic growth rate.
- ***Heritage Landing Residential Development, Cow Pond Road, Groton, Massachusetts.*** This project entails the construction of 16 single-family detached homes and 12 attached (duplex) homes to be located off of the east side of Cow Pond Road. Traffic volumes associated with this development within the study area are expected to be relatively minor and would be included in the general background traffic growth rate.
- ***Proposed Age-Restricted Multifamily Residential Development, 797 Boston Road, Groton, Massachusetts.*** This project entails the construction of 24 age-restricted (55+) multifamily residential units to be located at 797 Boston Road. Traffic volumes associated with this development within the study area are expected to be relatively minor and would be included in the general background traffic growth rate.

No other developments were identified at this time that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate.

General Background Traffic Growth

Traffic-volume data compiled by MassDOT from permanent count stations located in Groton, Pepperell and Ayer were reviewed in order to determine general traffic growth trends in the area. This data indicates that traffic volumes have fluctuated over the 11-year period between and including 2009 and 2019, with the average growth rate found to be approximately 0.59 percent. In order to provide a prudent planning condition for the Project, a higher 1.0 percent per year compounded annual background traffic growth rate

⁶*Traffic Impact and Access Study*; Proposed Mixed-Use Development, 500 Main Street, Groton, Massachusetts; Bayside Engineering; December 9, 2022.



was used in order to account for future traffic growth and presently unforeseen development within the study area.

Roadway Improvement Projects

The Town of Groton and MassDOT were contacted in order to determine if there were any planned future roadway improvement projects expected to be complete by 2031 within the study area. Based on these discussions, no roadway improvement projects aside from routine maintenance activities were identified to be planned within the study area at this time.

No-Build Traffic Volumes

The 2031 No-Build condition peak-hour traffic volumes were developed by: i) applying the 1.0 percent per year compounded annual background traffic growth rate to the 2024 Existing peak-hour traffic volumes; and ii) adding the traffic volumes associated with the identified specific development project by others (Groton Farms). The resulting 2031 No-Build weekday morning and evening peak-hour traffic volumes are shown on Figures 4 and 5, respectively.

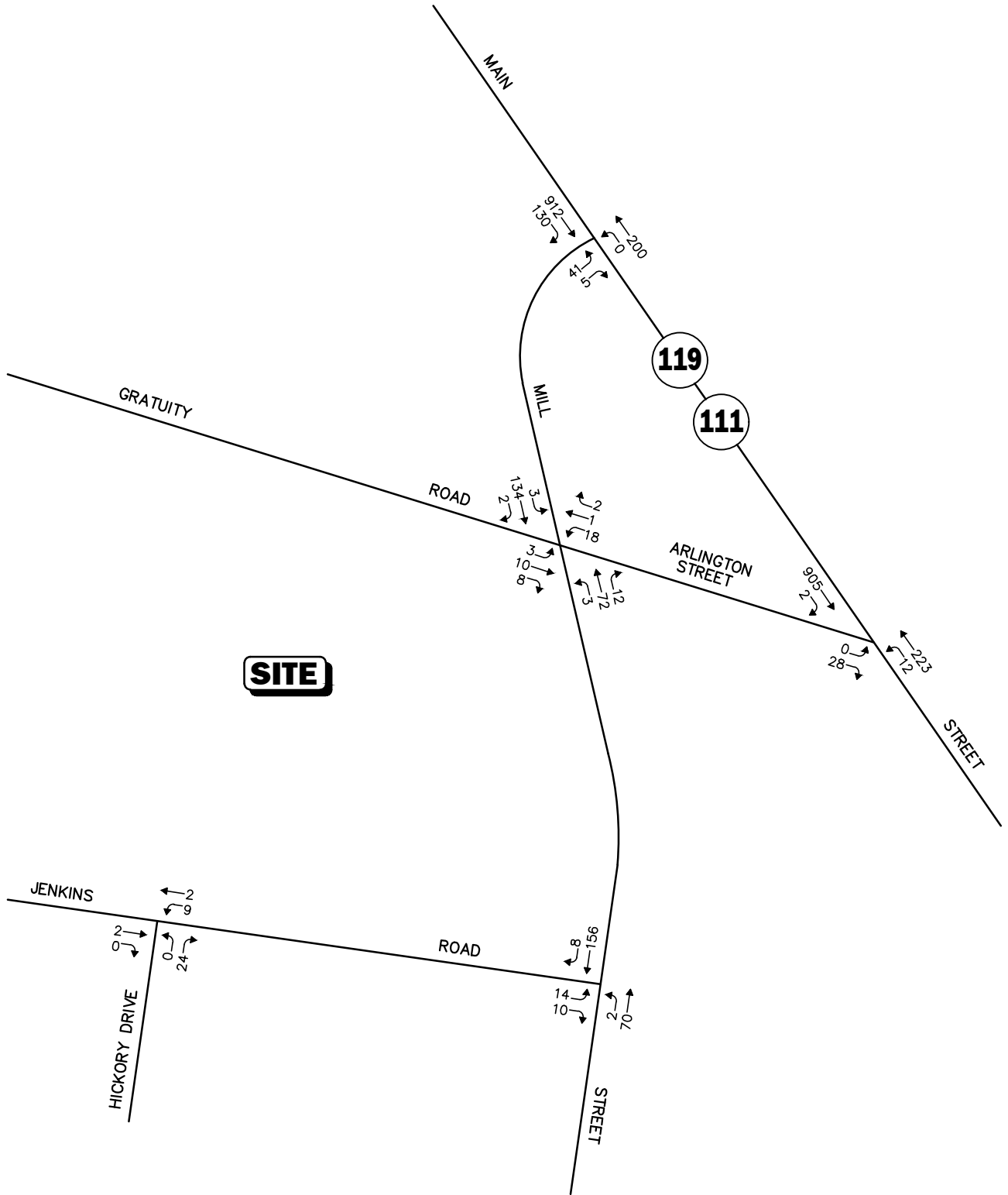
Project-Generated Traffic

Design year (2031 Build) traffic volumes for the study area roadways were determined by estimating Project-generated traffic volumes and assigning those volumes on the study roadways. The following sections describe the methodology used to develop the anticipated traffic characteristics of the Project.

As proposed the Project will entail the construction of 28 age-restricted (55+) multifamily residential units in 14 duplex buildings. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)⁷ for both conventional (non-age-qualified) and age-qualified (senior) housing were reviewed. ITE Land Use Codes (LUCs) 215, *Single-Family Attached Housing*, and 252, *Senior Adult Housing – Multifamily*, were used to assess and compare the traffic characteristics of the Project as a conventional vs. age-qualified residential development. Table 5 summarizes the trip characteristics of the Project using the aforementioned ITE LUCs.

⁷Institute of Transportation Engineers, op. cit. 1.



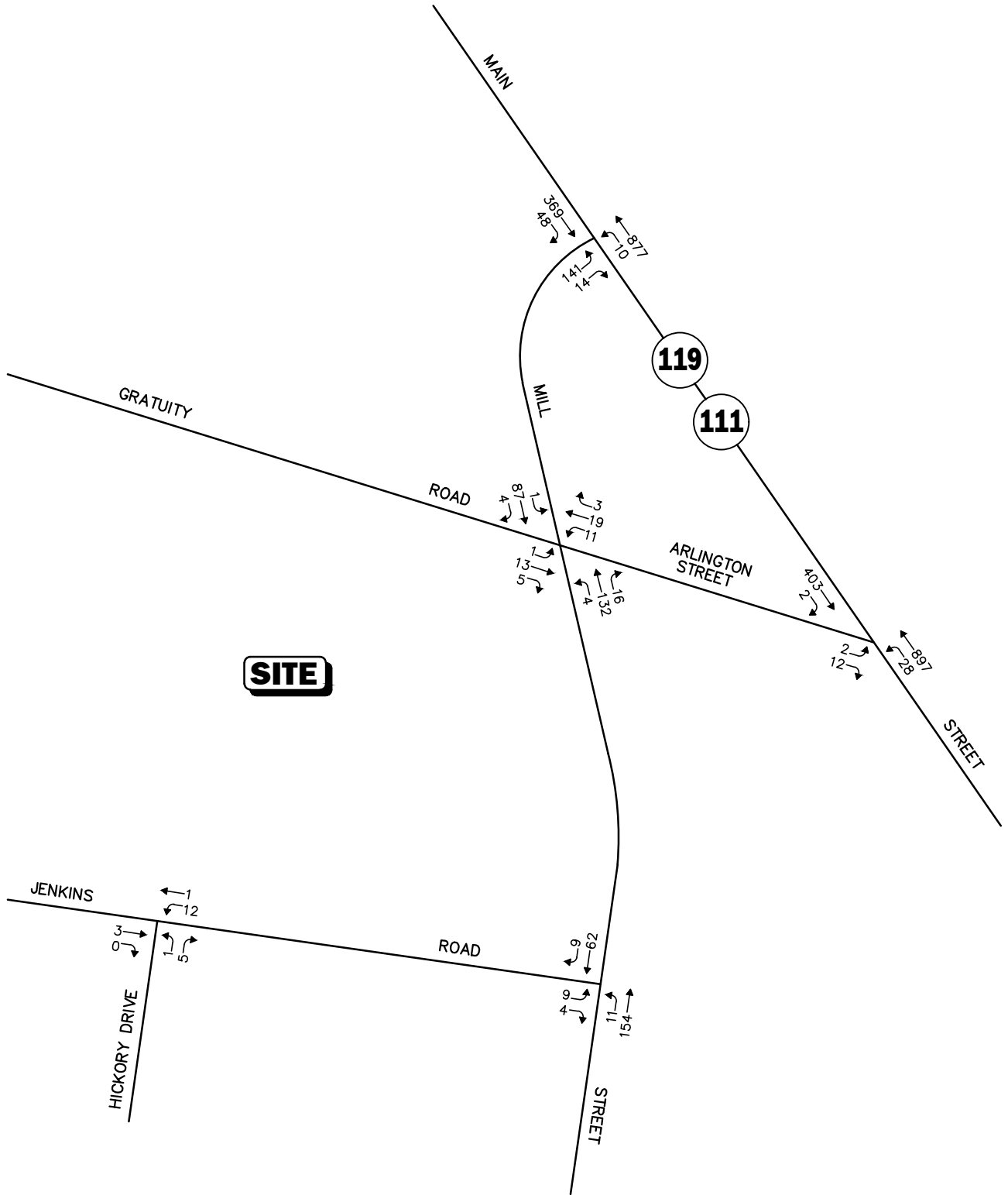


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
 Not To Scale **Figure 4**



**2031 No-Build
 Weekday Morning
 Peak-Hour Traffic Volumes**

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Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure 5



2031 No-Build
Weekday Evening
Peak-Hour Traffic Volumes

Table 5
TRIP-GENERATION SUMMARY

Time Period/Direction	(A) Single-Family Attached Housing ^a	(B) Multifamily Senior Adult Housing ^b
<i>Average Weekday Daily:</i>		
Entering	82	46
<u>Exiting</u>	<u>82</u>	<u>46</u>
Total	164	92
 <i>Weekday Morning Peak Hour:</i>		
Entering	2	2
<u>Exiting</u>	<u>7</u>	<u>4</u>
Total	9	6
 <i>Weekday Evening Peak Hour:</i>		
Entering	8	3
<u>Exiting</u>	<u>5</u>	<u>4</u>
Total	13	7

^aBased on ITE LUC 215, *Single-Family Attached Housing* (28 units).

^bBased on ITE LUC 252, *Senior Adult Housing – Multifamily* (28 units).

Project-Generated Traffic Volume Summary

As can be seen in Column A of Table 5, using the higher trip rates associated with conventional (non-age-restricted housing), the Project is expected to generate approximately 164 vehicle trips on an average weekday (two-way, 24-hour volume, or 82 vehicles entering and 82 exiting), with 9 vehicle trips (2 vehicles entering and 7 exiting) expected during the weekday morning peak-hour and 13 vehicle trips (8 vehicles entering and 5 exiting) expected during the weekday evening peak-hour.

As an age-qualified (senior) housing development (Column B of Table 5), the Project would be expected to generate approximately 92 vehicle trips on an average weekday (two-way, 24-hour volume, or 46 vehicles entering and 46 exiting), with 6 vehicle trips (2 vehicles entering and 4 exiting) expected during the weekday morning peak-hour and 7 vehicle trips (3 vehicles entering and 4 exiting) expected during the weekday evening peak-hour.

In order to provide a slightly conservative analysis condition, the higher traffic volumes associated with the conventional (non-age-qualified) residential development as shown in Column A of Table 5 were used.

Trip Distribution and Assignment

The directional distribution of generated trips to and from the Project site was determined based on a review of U.S. Census Journey-to-Work data for the Town of Groton and then refined based on a review of existing traffic patterns within the study area. The assignment of trips to Gratuity Road and Jenkins Road was developed on a proportionate basis using the number of residential units that will be accessed from each roadway. The general trip distribution for the Project is graphically depicted on Figure 6, with the additional traffic that is expected to be generated by the Project assigned on the study area roadway network as shown on Figures 7 and 8.



Legend:

- XX Entering Trips
- (XX) Exiting Trips

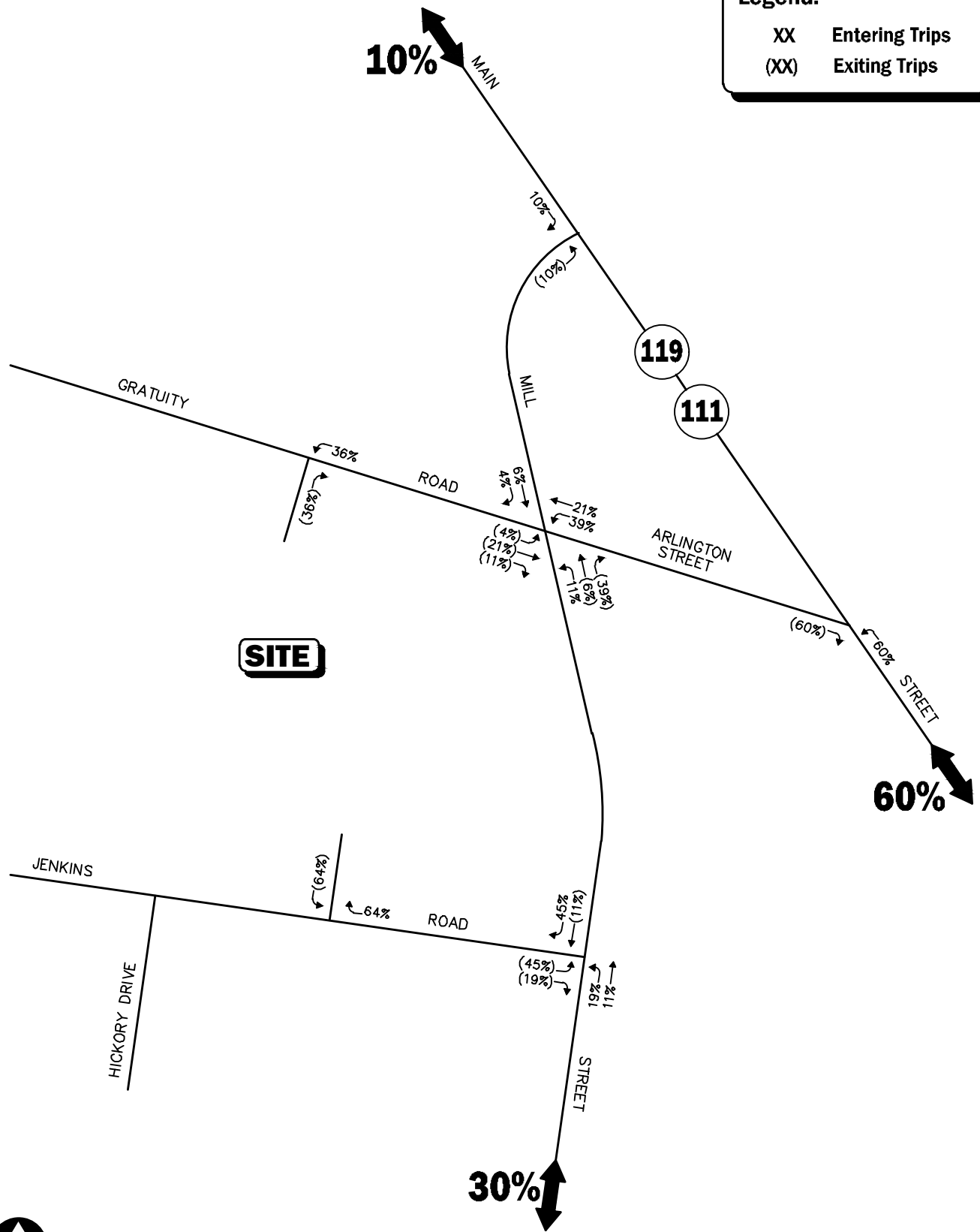
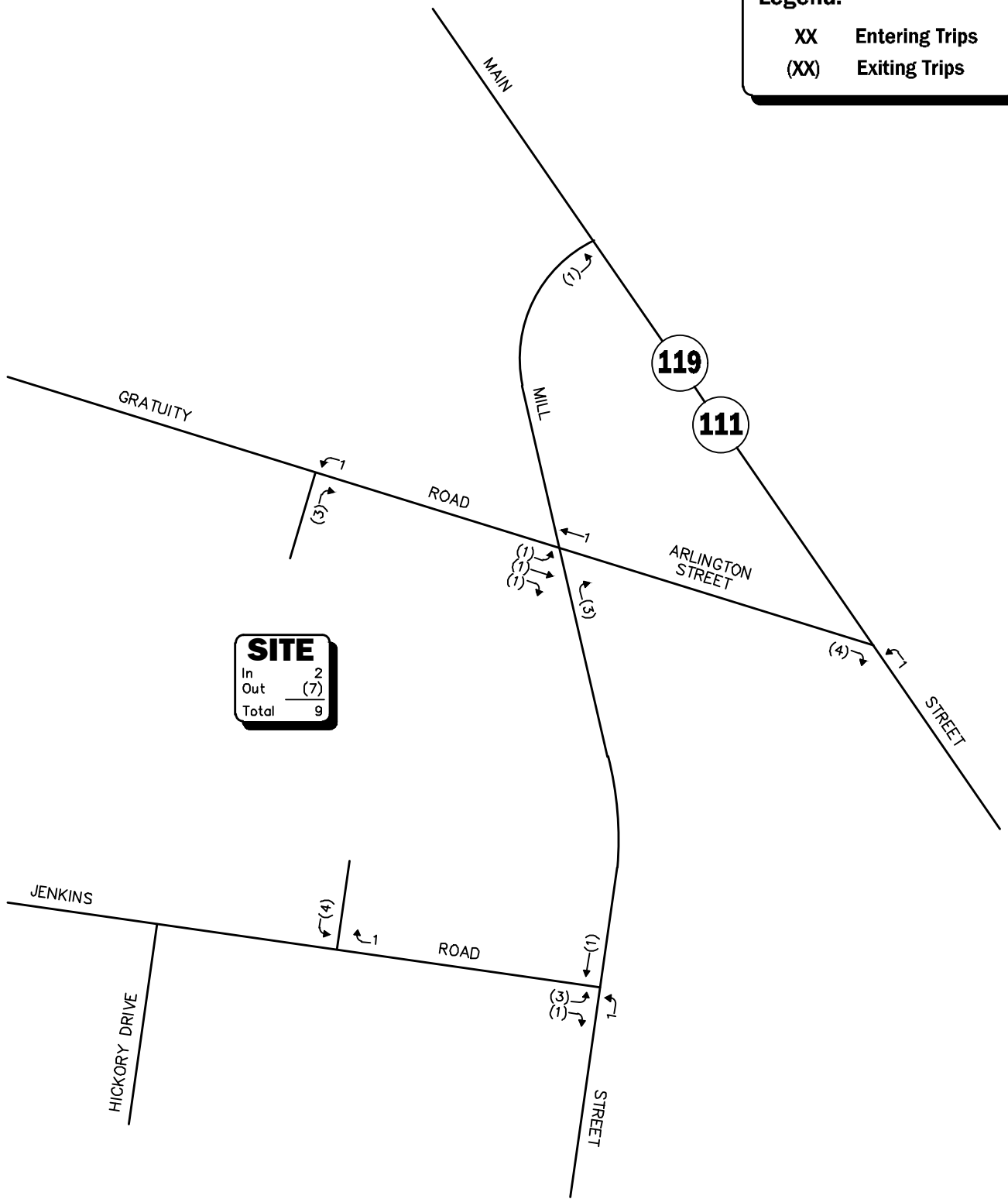


Figure 6
Trip Distribution Map



Legend:
 XX Entering Trips
 (XX) Exiting Trips



SITE	
In	2
Out	(7)
Total	9



Figure 7

Project-Generated Weekday Morning Peak-Hour Traffic Volumes

Legend:
 XX Entering Trips
 (XX) Exiting Trips

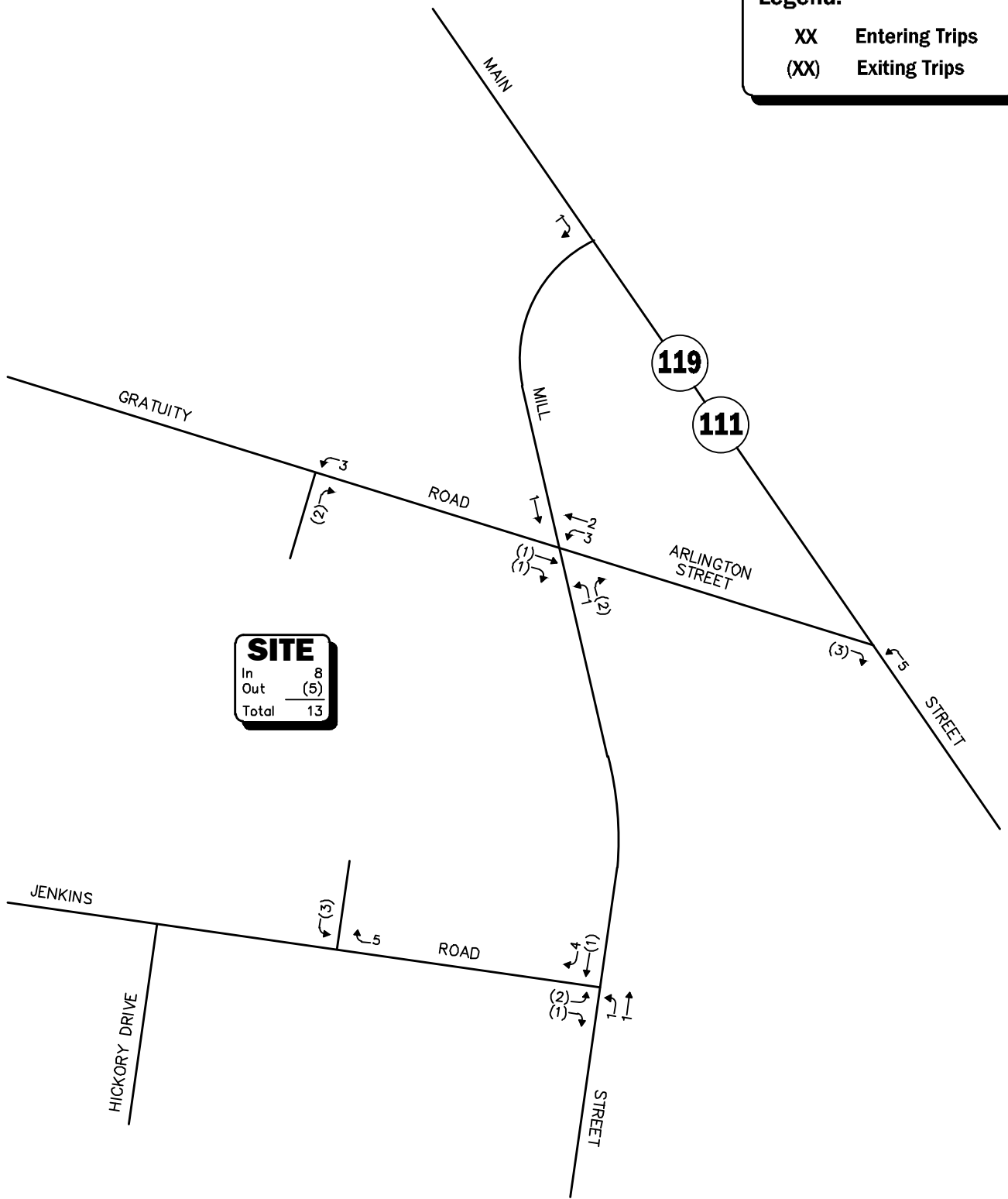


Figure 8

**Project-Generated
 Weekday Evening
 Peak-Hour Traffic Volumes**

Build Traffic Volumes

The 2031 Build condition traffic volumes consist of the 2031 No-Build traffic volumes with the addition of the traffic expected to be generated by the Project. The 2031 Build weekday morning and evening peak-hour traffic volumes are graphically depicted on Figures 9 and 10, respectively.

TRAFFIC OPERATIONS ANALYSIS

In order to assess the potential impact of the Project on the roadway network, a detailed traffic operations analysis (motorist delays, vehicle queuing and level-of-service) was performed for the study intersections. Capacity analyses provide an indication of how well transportation facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

In brief, six levels of service are defined for each type of facility. They are given letter designations ranging from A to F, with LOS “A” representing the best operating conditions and LOS “F” representing congested or constrained operations. An LOS of “E” is representative of a transportation facility that is operating at its design capacity with an LOS of “D” generally defined as the limit of “acceptable” traffic operations. Since the level-of-service of a traffic facility is a function of the flows placed upon it, such a facility may operate at a wide range of levels of service depending on the time of day, day of week, or period of the year. The Synchro® intersection capacity analysis software, which is based on the analysis methodologies and procedures presented in the *Highway Capacity Manual 6th Edition*⁸ was used to complete the level-of-service and vehicle queue analyses. The peak-hour factors (PHFs) and heavy vehicle percentages (%HV) were obtained from the 2024 TMCs for each approach and were held consistent for Existing, No-Build and Build scenarios.

Analysis Results

Level of service and vehicle queue analysis were conducted for 2024 Existing, 2031 No-Build and 2031 Build conditions at the study area intersections. The results of the intersection capacity and vehicle queue analyses are summarized in Table 6, with the detailed analysis results attached.

The following is a summary of the level of service and vehicle queue analyses for intersections within the study area. For context, we note that an LOS of “D” or better is generally defined as “acceptable” operating conditions.

Main Street at Mill Street

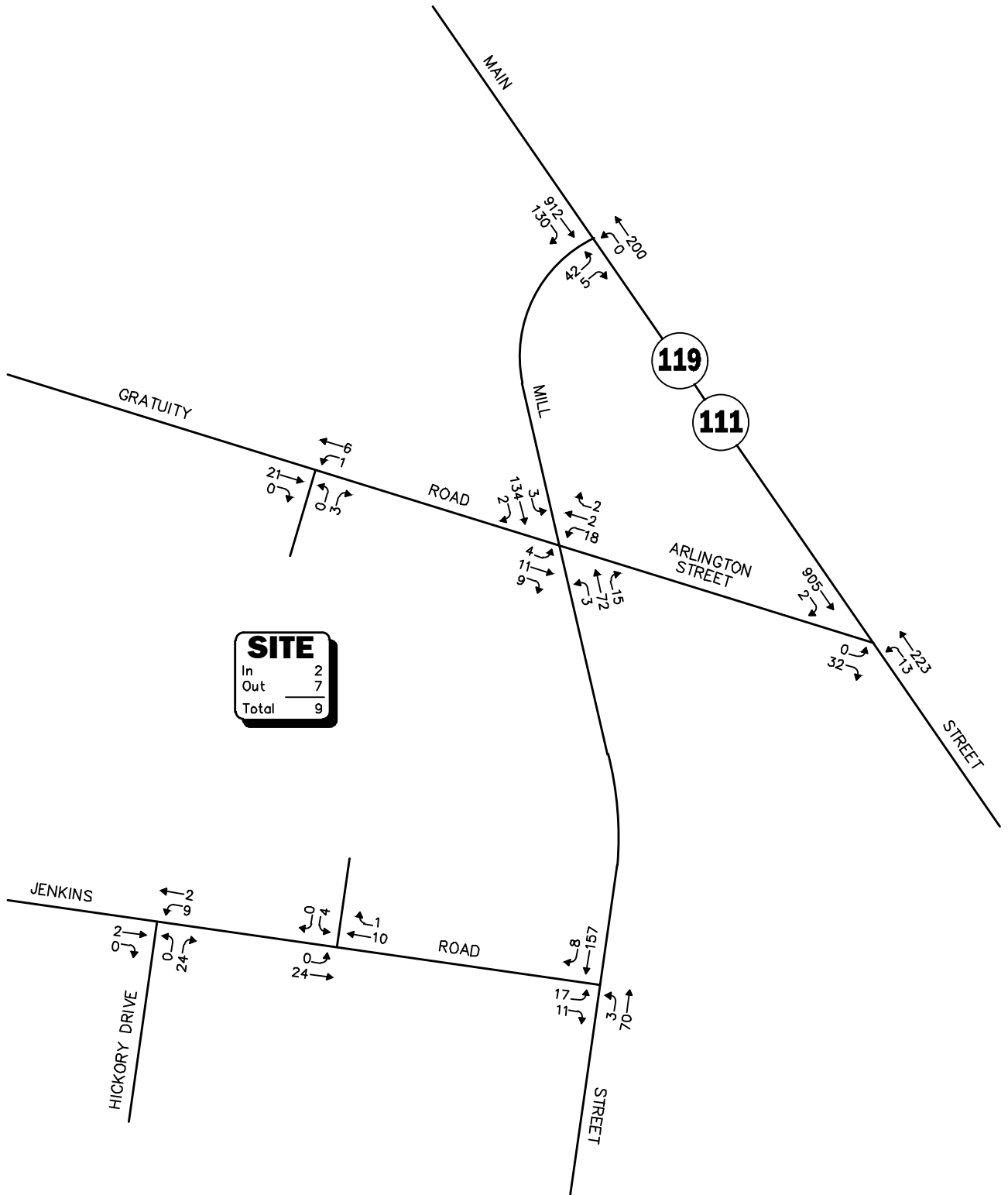
No change in level of service or vehicle queuing is predicted to occur for any movement over No-Build conditions, with Project-related impacts defined as a predicted increase in average motorist delay of less than 1.0 seconds with no (0) material increase in vehicle queuing. Independent of the Project, the Mill Street approach is currently or is predicted to operate at or over capacity (i.e., LOS “E” or “F”, respectively) during one or both peak hours.

Main Street at Arlington Street

The addition of Project-related traffic to left-turn movements from the Arlington Street eastbound approach was shown to result in an increase in average motorist delay of 0.9 seconds during the weekday morning

⁸*Highway Capacity Manual 6th Edition*, Transportation Research Board; Washington, DC; 2016.



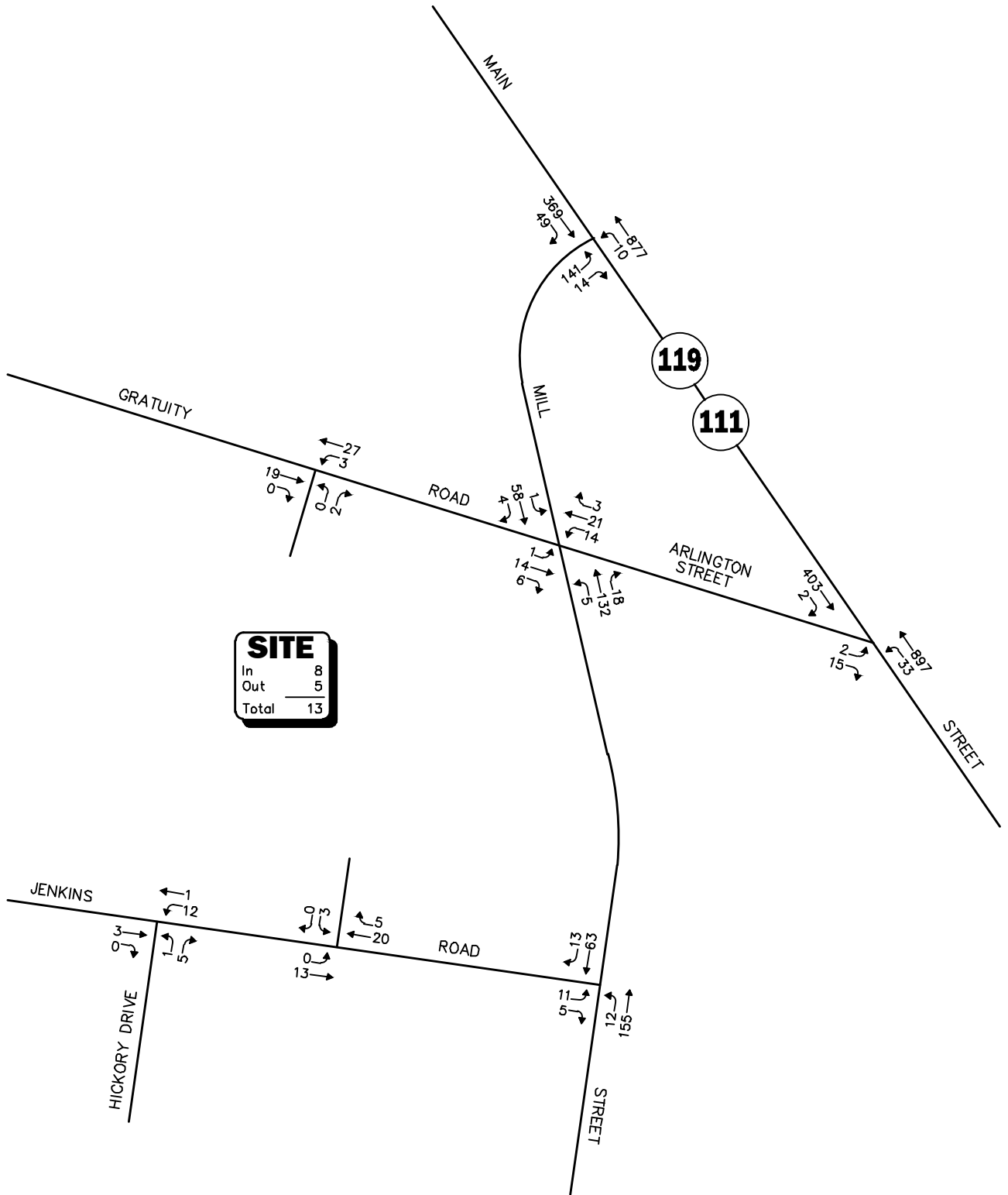


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
 Not To Scale **Figure 9**



**2031 Build
 Weekday Morning
 Peak-Hour Traffic Volumes**

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Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
 Not To Scale

Figure 10
 2031 Build
 Weekday Evening
 Peak-Hour Traffic Volumes



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peak-hour that resulted in a change in level of service from LOS C to LOS D and an increase in vehicle queuing of up to two (2) feet (less than one (1) vehicle). All movements at the intersection are predicted to continue to operate at LOS D or better with the addition of Project-related traffic.

Mill Street at Arlington Street and Gratuity Road

No change in level of service is predicted to occur for any movement over No-Build conditions, with Project-related impacts generally defined as a predicted increase in average motorist delay of less than 1.0 seconds that resulted in an increase in vehicle queuing of up to two (2) feet (less than one (1) vehicle). All movements at the intersection are predicted to continue to operate at LOS A with the addition of Project-related traffic.

Mill Street at Jenkins Road

No change in level of service is predicted to occur for any movement over No-Build conditions, with Project-related impacts generally defined as a predicted increase in average motorist delay of less than 1.0 seconds that resulted in an increase in vehicle queuing of up to two (2) feet (less than one (1) vehicle). All movements at the intersection are predicted to continue to operate at LOS B or better with the addition of Project-related traffic.

Jenkins Road at Hickory Drive

No change in level of service or vehicle queuing is predicted to occur for any movement over No-Build conditions with the addition of Project-related traffic. All movements at the intersection are predicted to continue to operate at LOS A with the addition of Project-related traffic.

Gratuity Road at Project Site Roadway

All movements at this intersection are predicted to operate at LOS A with negligible vehicle queuing.

Jenkins Road at the Project Site Roadway

All movements at this intersection are predicted to operate at LOS A with negligible vehicle queuing.



Table 6
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/Peak-Hour/Movement	2024 Existing				2031 No-Build				2031 Build			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d 95 th	V/C	Delay	LOS	Queue 95 th	V/C	Delay	LOS	Queue 95 th
Main Street at Mill Street												
<i>Weekday Morning:</i>												
Mill St. EB LT/RT	0.21	27.0	D	20	0.30	36.2	E	30	0.31	36.4	E	30
Main St. NB LT	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	B	0
<i>Weekday Evening:</i>												
Mill St. EB LT/RT	0.78	64.5	F	138	1.09	152.2	F	233	1.09	152.2	F	233
Main St. NB LT/TH	0.01	8.1	A	0	0.01	8.3	A	0	0.01	8.3	A	0
Main Street at Arlington Street												
<i>Weekday Morning:</i>												
Arlington St. EB LT/RT	0.18	20.3	C	15	0.23	24.5	C	23	0.27	25.4	D	25
Main St. NB LT	0.02	10.2	B	3	0.02	10.9	B	3	0.03	10.9	B	3
<i>Weekday Evening:</i>												
Arlington St. EB LT/RT	0.04	13.4	B	3	0.06	14.6	B	5	0.06	14.6	B	5
Main St. NB LT	0.03	8.1	A	3	0.03	8.3	A	3	0.03	8.3	A	3
Mill Street at Arlington Street and Gratuity Road												
<i>Weekday Morning:</i>												
Gratuity Rd. EB LT/TH/RT	0.04	8.2	A	3	0.05	8.3	A	5	0.06	8.3	A	5
Arlington St. WB LT/TH/RT	0.07	8.2	A	5	0.07	8.3	A	5	0.08	8.4	A	5
Mill St. NB LT/TH/RT	0.12	8.4	A	10	0.13	8.5	A	10	0.13	8.6	A	10
Mill St. SB LT/TH/RT	0.20	8.2	A	18	0.22	8.5	A	20	0.22	8.5	A	20
<i>Weekday Evening:</i>												
Gratuity Rd. EB LT/TH/RT	0.05	7.6	A	5	0.05	7.8	A	5	0.06	7.8	A	5
Arlington St. WB LT/TH/RT	0.09	8.0	A	8	0.10	8.1	A	8	0.11	8.3	A	10
Mill St. NB LT/TH/RT	0.22	8.3	A	20	0.25	8.6	A	25	0.26	8.7	A	25
Mill St. SB LT/TH/RT	0.08	7.7	A	5	0.09	7.8	A	8	0.09	7.9	A	8
Mill Street at Jenkins Road												
<i>Weekday Morning:</i>												
Jenkins Rd. EB LT/RT	0.04	9.9	A	3	0.04	10.0	B	3	0.05	10.1	B	5
Mill St. NB LT	0.00	7.6	A	0	0.00	7.6	A	0	0.00	7.6	A	0
<i>Weekday Evening:</i>												
Jenkins Rd. EB LT/RT	0.02	9.5	A	3	0.02	9.6	A	3	0.03	9.7	A	3
Mill St. NB LT	0.01	7.4	A	0	0.01	7.4	A	0	0.01	7.4	A	0

See notes at end of Table.



Table 6 (Continued)
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/Peak-Hour/Movement	2024 Existing				2031 No-Build				2031 Build			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d 95 th	V/C	Delay	LOS	Queue 95 th	V/C	Delay	LOS	Queue 95 th
Jenkins Road at Hickory Drive												
<i>Weekday Morning:</i>												
Jenkins Rd. WB LT	0.01	7.2	A	0	0.01	7.2	A	0	0.01	7.2	A	0
Hickory Dr. NB LT/RT	0.03	8.4	A	3	0.03	8.4	A	3	0.03	8.4	A	3
<i>Weekday Evening:</i>												
Jenkins Rd. WB LT	0.01	7.2	A	0	0.01	7.2	A	0	0.01	7.2	A	0
Hickory Dr. NB LT/RT	0.01	8.4	A	0	0.01	8.4	A	0	0.01	8.4	A	0
Gratuity Road at the Project Site Roadway												
<i>Weekday Morning:</i>												
Gratuity Rd. WB LT	--	--	--	--	--	--	--	--	0.00	7.3	A	0
Project Site Roadway NB LT/RT	--	--	--	--	--	--	--	--	0.00	8.4	A	0
<i>Weekday Evening:</i>												
Gratuity Rd. WB LT	--	--	--	--	--	--	--	--	0.00	7.3	A	0
Project Site Roadway NB LT/RT	--	--	--	--	--	--	--	--	0.00	8.4	A	0
Jenkins Road at the Project Site Roadway												
<i>Weekday Morning:</i>												
Jenkins Rd. EB LT	--	--	--	--	--	--	--	--	0.00	8.7	A	0
Project Site Roadway SB LT/RT	--	--	--	--	--	--	--	--	0.00	0.0	A	0
<i>Weekday Evening:</i>												
Jenkins Rd. EB LT	--	--	--	--	--	--	--	--	0.00	8.7	A	0
Project Site Roadway SB LT/RT	--	--	--	--	--	--	--	--	0.00	0.0	A	0

^aVolume to Capacity ratio.

^bAverage control delay per vehicle (in seconds).

^cLevel of service.

^dQueue length in feet.

NB = northbound; EB = eastbound; SB = southbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.



SIGHT DISTANCE ASSESSMENT

Sight distance measurements were performed at the intersections of the Project site roadways with Gratuity Road and Jenkins Road, respectively, in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)⁹ requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an oncoming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 7 presents the measured SSD and ISD at the subject intersections.

Table 7
SIGHT DISTANCE MEASUREMENTS^a

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	Desirable (ISD) ^b	Measured
<i>Gratuity Road at the Project Site Roadway</i>			
<i>Stopping Sight Distance:</i>			
Gratuity Road approaching from the east	200	--	337
Gratuity Road approaching from the west	200	--	500+
<i>Intersection Sight Distance:</i>			
Looking to the east from the Site Roadway	200	335	500+
Looking to the west from the Site Roadway	200	290	500+
<i>Jenkins Road at the Project Site Roadway</i>			
<i>Stopping Sight Distance:</i>			
Jenkins Road approaching from the east	200	--	500+
Jenkins Road approaching from the west	200	--	500+
<i>Intersection Sight Distance:</i>			
Looking to the east from the Site Roadway	200	290	500 ^c
Looking to the west from the Site Roadway	200	335	500 ^c

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on a 30 mph approach speed on Gratuity Road and Jenkins Road.

^bValues shown are the intersection sight distance for a vehicle turning right or left exiting a roadway under STOP control such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.

^cWith the selective trimming/removal of trees and vegetation located within the sight triangle area.

⁹*A Policy on Geometric Design of Highway and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.



As can be seen in Table 7, the available lines of sight to and from the Project site roadways currently exceed or can be made to exceed the recommended minimum sight distances to function in a safe (SSD) and efficient (ISD) manner based on a 30 mph approach speed along both Gratuity Road and Jenkins Road, which is consistent with the statutory speed limit (30 mph) along both roadways and is also above the 85th percentile vehicle travel speeds for measured along both roadways in the vicinity of the Project site.

SUMMARY

VAI has completed a detailed assessment of the potential impacts on the transportation infrastructure associated with the proposed construction of an age-restricted (55+) residential development to be located at 63 Gratuity Road in Groton, Massachusetts. This study has evaluated the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project along Gratuity Road and Jenkins Road. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the ITE¹⁰ for a conventional (non-age-qualified) residential development, the Project is expected to generate approximately 164 vehicle trips on an average weekday (two-way, 24-hour volume), with 9 vehicle trips expected during the weekday morning peak-hour and 13 vehicle trips expected during the weekday evening peak-hour. For comparison, an age-qualified residential development would be expected to generate 92 vehicle trips on an average weekday and 6 to 7 vehicle trips during the weekday peak hours;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with Project-related impacts generally defined as an increase in average motorist delay of less than 1.0 seconds that resulted in a corresponding increase in vehicle queuing of up to two (2) feet (less than one (1) vehicle);
3. Vehicles exiting the Project site roadways to Gratuity Road and Jenkins Road were shown to operate at LOS A during both the weekday morning and evening peak hours with negligible vehicle queuing. All movements along Gratuity Road and Jenkins Road approaching the Project site roadways were also shown to operate at LOS A with negligible vehicle queuing predicted;
4. The Jenkins Road/Hickory Drive intersection was found to have experienced one (1) reported motor vehicle crash over the five-year review period evaluated as a part of this assessment; however, given the low volume of traffic processed by the intersection, the resulting motor vehicle crash rate was found to be above the MassDOT average crash rate for a similar intersections. A review of the crash details did not indicate that a specific geometric deficiency exists at the intersection; however, recommendations have been provided to enhance safety; and
5. Lines of sight at the intersections of the Project site roadways with Gratuity Road and Jenkins Road were found to exceed or could be made to exceed the recommended minimum distances for the intersections to operate in a safe and efficient manner based on the appropriate approach speed.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with the implementation of the recommendations that follow.

¹⁰Institute of Transportation Engineers, op. cit. 1.



RECOMMENDATIONS

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified as a part of this assessment. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

Project Access

Access to the Project site will be provided by two (2) new roadways that will intersect the south side of Gratuity Road approximately 25 feet west of the existing driveway serving the Project site and will serve 10 residential units and the north side of Jenkins Road approximately 350 feet east of Hickory Drive that will serve 18 residential units, respectively. Both roadways will terminate in a cul-de-sac type configuration and the existing driveway that serves the Project site that intersects Gratuity Road will be closed in conjunction with the Project. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the Site Plans:

- The Project site roadways should be a minimum of 22 feet in width and designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle.
- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP line provided.
- Driveways to the residential units should be a minimum of 21 feet long measured between the garage door and the far edge of the sidewalk (edge closest to the residence) where a sidewalk is provided, and 23 feet measured between the garage door and the edge of the traveled-way in locations without a sidewalk.
- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices (MUTCD)*.¹¹
- Sidewalks have been provided along at least one side of the proposed roadways and extend to the intersecting public way (i.e., Gratuity Road or Jenkins Road).
- Americans with Disabilities Act (ADA)-compliant wheelchair ramps should be provided at pedestrian crossings that are to be constructed or modified in conjunction with the Project.
- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site roadways should be designed and maintained so as not to restrict lines of sight.
- Trees and vegetation located within the sight triangle area of the Project site roadway intersection with Jenkins Road should be selectively trimmed or removed and maintained in order to provide the required sight lines.
- Snow accumulations (windrows) within sight triangle areas should be promptly removed where such accumulations would impede sight lines.

¹¹*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.



Off-Site

Jenkins Road at Hickory Drive

The Jenkins Road/Hickory Drive intersection was found to have experienced one (1) reported motor vehicle crash over the five-year review period evaluated as a part of this assessment; however, given the low volume of traffic processed by the intersection, the resulting motor vehicle crash rate was found to be above the MassDOT average crash rate for similar intersections. A review of the crash details did not indicate that a specific geometric deficiency exists at the intersection. That being said, the following improvements are recommended to enhance safety at the intersection independent of the Project:

1. Replace and relocate the STOP-sign on the Hickory Drive approach adjacent to the STOP-line and add reflective red tape to the sign post;
2. Install a new, 12-inch wide, high-visibility STOP-line (thermoplastic material); and
3. Trim and maintain vegetation on the corners and approaches to the intersection.

These improvements will be completed in conjunction with the Project subject to receipt of all necessary rights, permits and approvals.

Mill Street at Jenkins Road

The Jenkins Road approach to Mill Street operates under STOP-sign control; however, a STOP-sign is not provided. In order to reinforce the regulated control at the intersection, the following enhancements are recommended independent of the Project:

1. Install STOP-signs on the on the Jenkins Road approaches (both) adjacent to the STOP-lines and add reflective red tape on the sign post;
2. Install new, 12-inch wide, high-visibility STOP-lines (thermoplastic material); and
3. Trim and maintain vegetation on the corners and approaches to the intersection.

These improvements will be completed in conjunction with the Project subject to receipt of all necessary rights, permits and approvals.

With implementation of the aforementioned recommendations, safe and efficient access will be provided to the Project site and the Project can be accommodated within the confines of the existing and improved transportation system.

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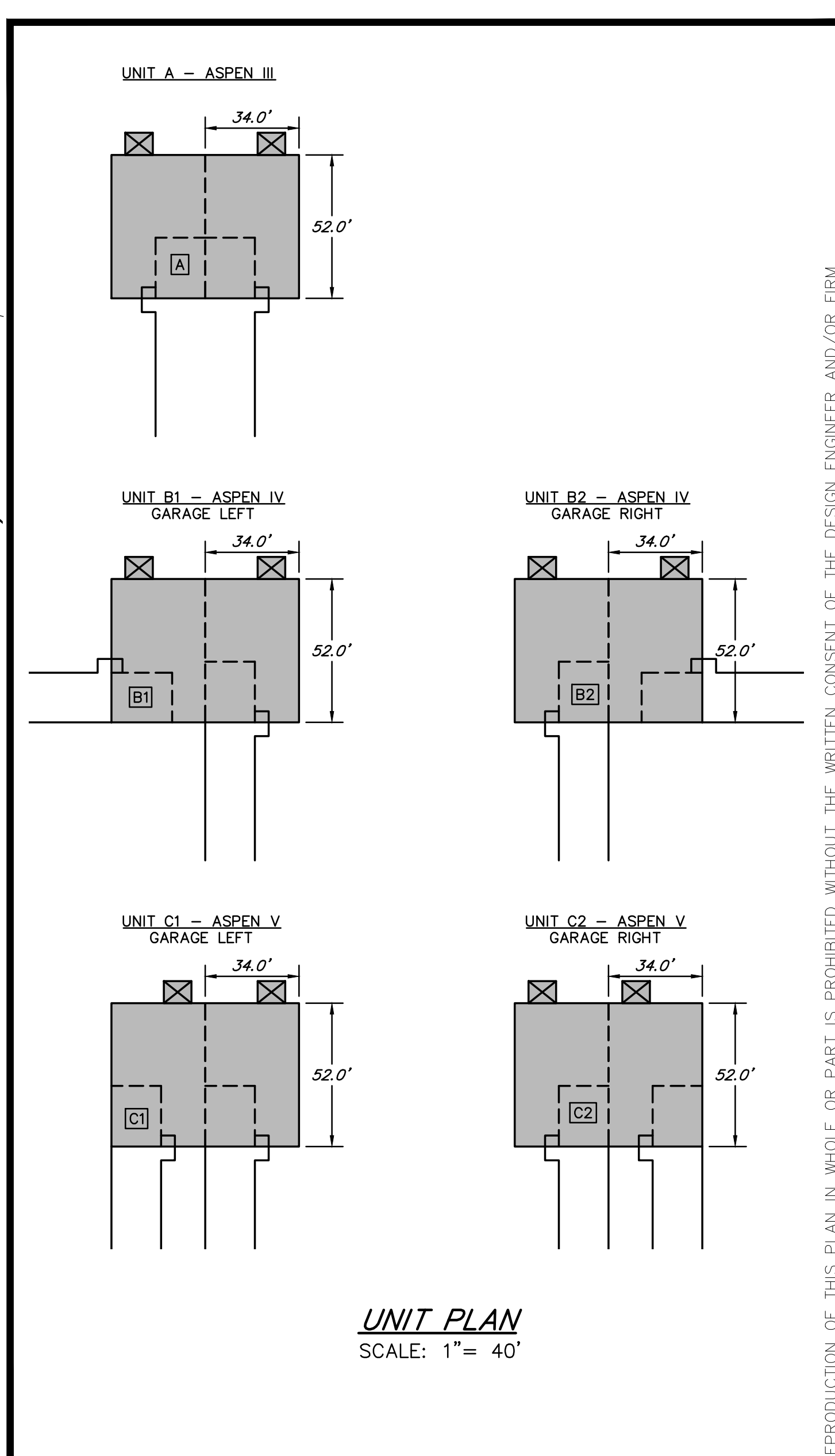
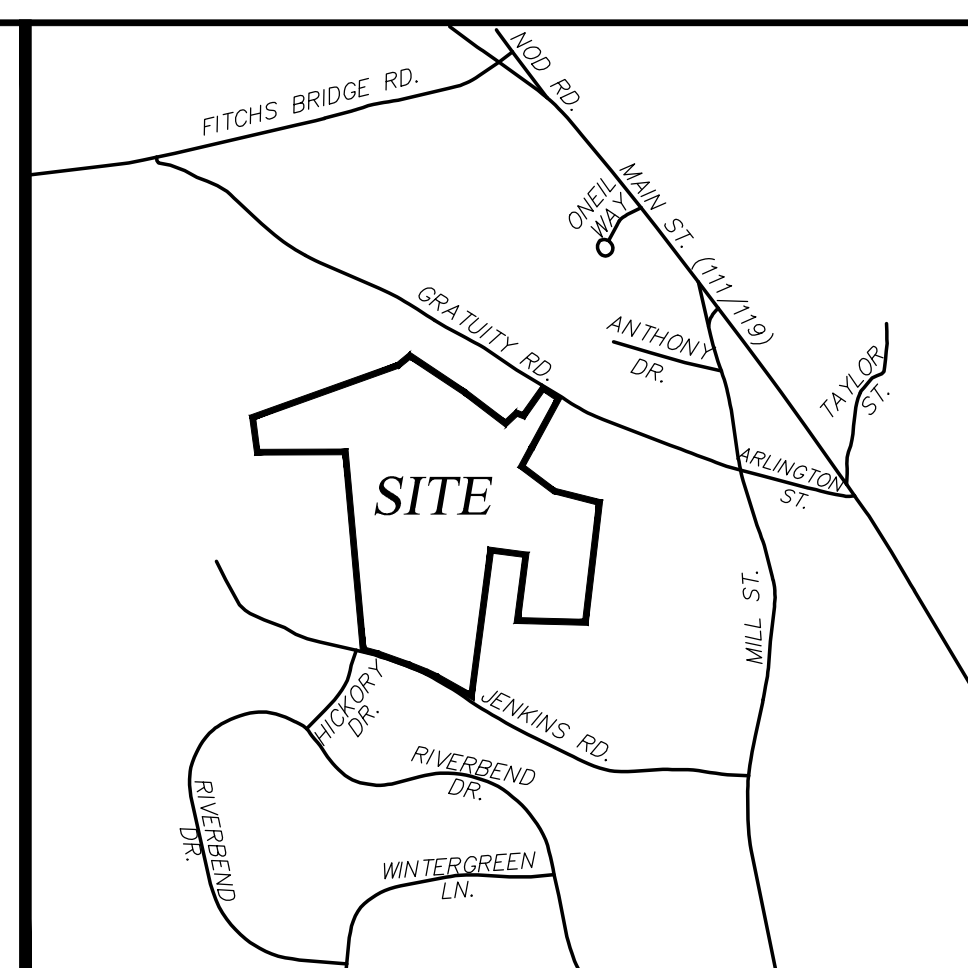
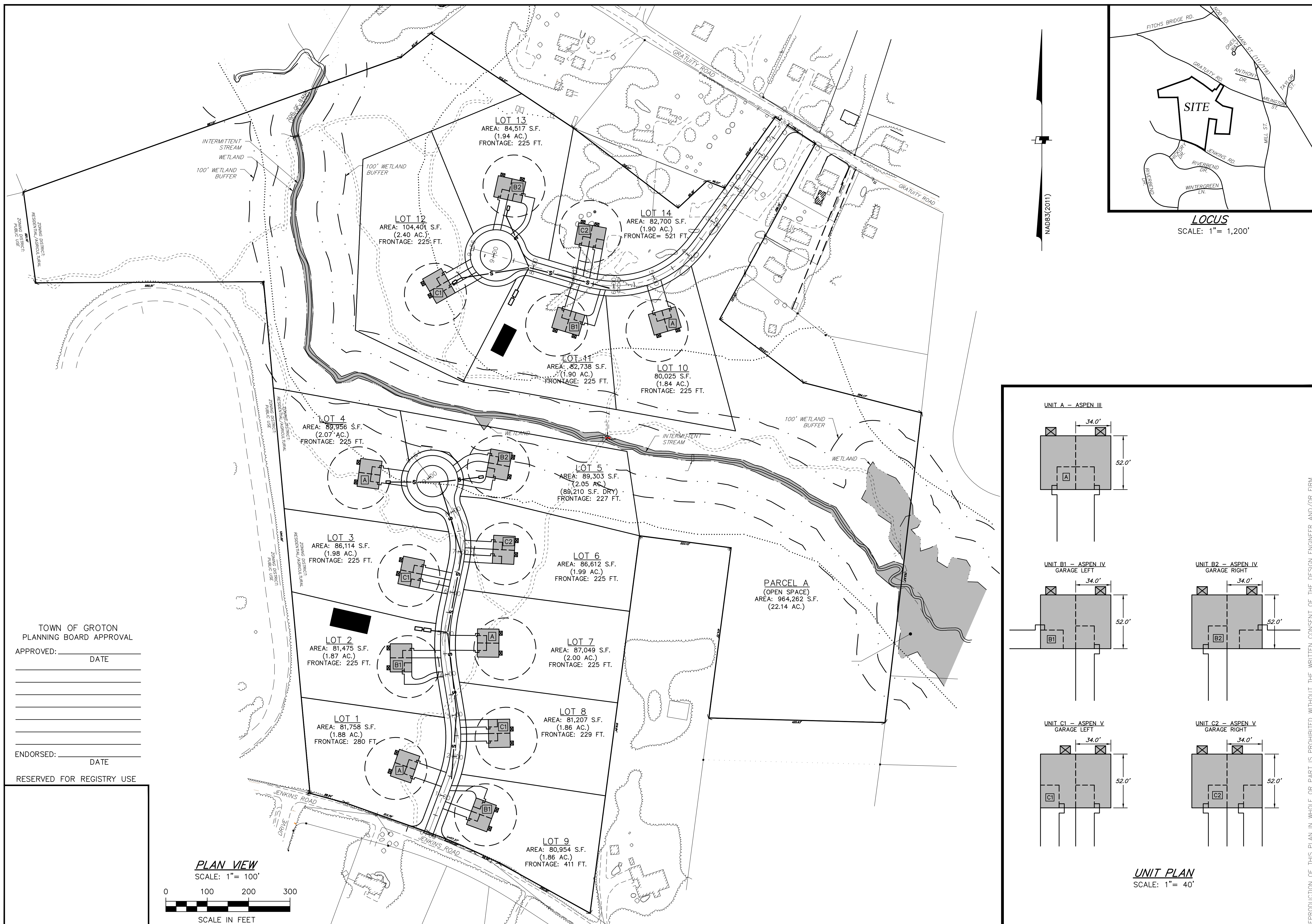
Attachments



ATTACHMENTS

PROJECT SITE PLAN
AUTOMATIC TRAFFIC RECORDER COUNT DATA
TURNING MOVEMENT COUNT DATA
SEASONAL ADJUSTMENT DATA
VEHICLE TRAVEL SPEED DATA
MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAPPING
GENERAL BACKGROUND TRAFFIC GROWTH
BACKGROUND DEVELOPMENT NETWORKS
TRIP-GENERATION CALCULATIONS
TRIP DISTRIBUTION
CAPACITY ANALYSIS WORKSHEETS

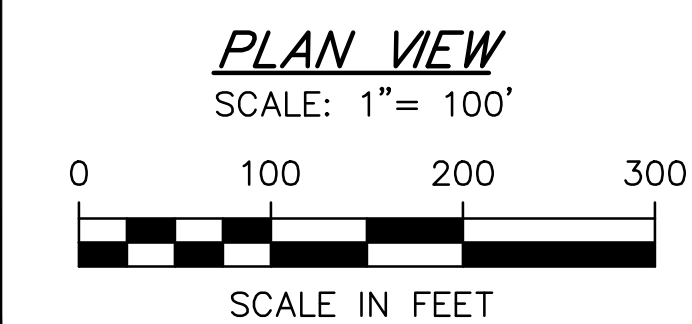
PROJECT SITE PLAN



TOWN OF GROTON
PLANNING BOARD APPROVAL
APPROVED: _____ DATE _____

ENDORSED: _____ DATE _____

RESERVED FOR REGISTRY USE



PREPARED FOR: ROUTHIER & ROPER GRATUITY ROAD, LLC 256 ATER ROAD, LITTLETON, MA 01460		DESIGN ---	DRAFT MJS	CHECK MAW
DEFINITE SUBDIVISION UNIT LAYOUT PLAN 63 GRATUITY ROAD GROTON, MA				
REPRODUCTION OF THIS PLAN IN WHOLE OR PART IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE DESIGN ENGINEER AND/OR FIRM.				
SCALE: 1" = 100'				
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JOB NO. 22-243	DWG. NO. -	SHEET LO-1	DATE REVISION BY	

AUTOMATIC TRAFFIC RECORDER COUNT DATA

Accurate Counts
978-664-2565

Location : Gratuity Road
Location : East of Mill Street
City/State: Groton, MA

Site Code: 81020001

3/6/2024 Time	EB,		Hour Totals		WB,		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			0	0				
12:15	0	0			0	1				
12:30	0	1			0	0				
12:45	0	1	0	2	0	1	0	2	0	4
1:00	0	1			0	1				
1:15	0	0			0	0				
1:30	0	3			0	5				
1:45	0	1	0	5	0	1	0	7	0	12
2:00	0	0			0	1				
2:15	0	4			0	2				
2:30	0	0			0	3				
2:45	0	0	0	4	0	1	0	7	0	11
3:00	1	2			1	1				
3:15	0	0			0	2				
3:30	1	3			1	1				
3:45	0	3	2	8	0	4	2	8	4	16
4:00	0	1			0	5				
4:15	0	1			0	1				
4:30	1	2			0	2				
4:45	0	1	1	5	0	2	0	10	1	15
5:00	0	2			0	2				
5:15	0	1			0	2				
5:30	0	0			0	1				
5:45	0	1	0	4	0	1	0	6	0	10
6:00	1	1			0	2				
6:15	1	1			2	1				
6:30	2	0			0	2				
6:45	3	3	7	5	1	0	3	5	10	10
7:00	3	0			2	2				
7:15	1	2			0	1				
7:30	3	0			0	1				
7:45	0	3	7	5	2	1	4	5	11	10
8:00	2	0			0	0				
8:15	6	0			2	1				
8:30	0	0			0	0				
8:45	1	0	9	0	2	1	4	2	13	2
9:00	3	0			1	1				
9:15	1	2			1	2				
9:30	2	0			0	0				
9:45	2	1	8	3	1	0	3	3	11	6
10:00	0	0			1	0				
10:15	1	0			1	0				
10:30	3	0			4	0				
10:45	1	0	5	0	0	0	6	0	11	0
11:00	2	1			1	0				
11:15	1	0			1	0				
11:30	1	0			1	0				
11:45	0	0	4	1	2	1	5	1	9	2
Total	43	42			27	56			70	98
Percent	50.6%	49.4%			32.5%	67.5%			41.7%	58.3%

Accurate Counts
978-664-2565

Location : Gratuity Road
Location : East of Mill Street
City/State: Groton, MA

Site Code: 81020001

3/7/2024 Time	EB,		Hour Totals		WB,		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			0	1				
12:15	1	1			0	1				
12:30	0	1			0	1				
12:45	0	0	1	2	0	0	0	3	1	5
1:00	0	3			0	0				
1:15	0	0			0	1				
1:30	0	1			0	3				
1:45	0	2	0	6	0	3	0	7	0	13
2:00	0	2			0	2				
2:15	0	1			0	2				
2:30	0	0			0	2				
2:45	0	1	0	4	1	1	1	7	1	11
3:00	1	2			0	2				
3:15	0	2			0	2				
3:30	0	2			0	5				
3:45	0	1	1	7	0	1	0	10	1	17
4:00	0	1			0	3				
4:15	0	0			0	3				
4:30	0	0			0	2				
4:45	0	1	0	2	0	3	0	11	0	13
5:00	0	2			0	4				
5:15	0	3			0	1				
5:30	1	1			0	5				
5:45	1	0	2	6	0	3	0	13	2	19
6:00	2	3			1	1				
6:15	0	2			1	2				
6:30	2	0			0	2				
6:45	1	2	5	7	1	1	3	6	8	13
7:00	1	1			0	1				
7:15	1	1			2	0				
7:30	2	1			0	2				
7:45	2	2	6	5	2	2	4	5	10	10
8:00	2	0			0	1				
8:15	5	2			1	1				
8:30	3	1			1	0				
8:45	1	0	11	3	1	2	3	4	14	7
9:00	0	1			0	0				
9:15	0	0			2	0				
9:30	0	0			1	0				
9:45	0	1	0	2	0	0	3	0	3	2
10:00	0	0			0	0				
10:15	2	0			0	0				
10:30	1	0			0	0				
10:45	0	0	3	0	3	1	3	1	6	1
11:00	1	0			0	0				
11:15	1	0			0	0				
11:30	1	0			1	0				
11:45	1	0	4	0	3	0	4	0	8	0
Total	33	44			21	67			54	111
Percent	42.9%	57.1%			23.9%	76.1%			32.7%	67.3%
Grand Total	76	86			48	123			124	209
Percent	46.9%	53.1%			28.1%	71.9%			37.2%	62.8%

ADT

ADT: 166

AADT: 166

Accurate Counts
978-664-2565

Site Code: 81020001

Location : Gratuity Road
Location : East of Mill Street
City/State: Groton, MA

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,
0:00	*	*	*	*	0	0	1	0	*	*	*	*	*	*	0	0
1:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
2:00	*	*	*	*	0	0	0	1	*	*	*	*	*	*	0	0
3:00	*	*	*	*	2	2	1	0	*	*	*	*	*	*	2	1
4:00	*	*	*	*	1	0	0	0	*	*	*	*	*	*	0	0
5:00	*	*	*	*	0	0	2	0	*	*	*	*	*	*	1	0
6:00	*	*	*	*	7	3	5	3	*	*	*	*	*	*	6	3
7:00	*	*	*	*	7	4	6	4	*	*	*	*	*	*	6	4
8:00	*	*	*	*	9	4	11	3	*	*	*	*	*	*	10	4
9:00	*	*	*	*	8	3	0	3	*	*	*	*	*	*	4	3
10:00	*	*	*	*	5	6	3	3	*	*	*	*	*	*	4	4
11:00	*	*	*	*	4	5	4	4	*	*	*	*	*	*	4	4
12:00	*	*	*	*	2	2	2	3	*	*	*	*	*	*	2	2
13:00	*	*	*	*	5	7	6	7	*	*	*	*	*	*	6	7
14:00	*	*	*	*	4	7	4	7	*	*	*	*	*	*	4	7
15:00	*	*	*	*	8	8	7	10	*	*	*	*	*	*	8	9
16:00	*	*	*	*	5	10	2	11	*	*	*	*	*	*	4	10
17:00	*	*	*	*	4	6	6	13	*	*	*	*	*	*	5	10
18:00	*	*	*	*	5	5	7	6	*	*	*	*	*	*	6	6
19:00	*	*	*	*	5	5	5	5	*	*	*	*	*	*	5	5
20:00	*	*	*	*	0	2	3	4	*	*	*	*	*	*	2	3
21:00	*	*	*	*	3	3	2	0	*	*	*	*	*	*	2	2
22:00	*	*	*	*	0	0	0	1	*	*	*	*	*	*	0	0
23:00	*	*	*	*	1	1	0	0	*	*	*	*	*	*	0	0
Total	0	0	0	0	85	83	77	88	0	0	0	0	0	0	81	84
Day	0		0		168		165		0		0		0		165	
AM Peak					8:00	10:00	8:00	7:00							8:00	7:00
Volume					9	6	11	4							10	4
PM Peak					15:00	16:00	15:00	17:00							15:00	16:00
Volume					8	10	7	13							8	10
Comb Total	0		0		168		165		0		0		0		165	

Accurate Counts
978-664-2565

Location : Jenkins Road
Location : at # 80
City/State: Groton, MA

Site Code: 81020002

3/6/2024 Time	EB,		Hour Totals		WB,		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			1	0				
12:15	0	0			0	1				
12:30	0	2			0	3				
12:45	0	0	0	2	0	2	1	6	1	8
1:00	0	2			0	2				
1:15	0	1			0	3				
1:30	0	0			0	1				
1:45	0	0	0	3	0	5	0	11	0	14
2:00	0	2			0	4				
2:15	0	0			0	3				
2:30	0	2			0	3				
2:45	0	0	0	4	0	3	0	13	0	17
3:00	0	4			0	1				
3:15	0	2			0	3				
3:30	0	2			0	5				
3:45	0	3	0	11	0	2	0	11	0	22
4:00	0	2			0	5				
4:15	0	0			0	3				
4:30	0	1			0	5				
4:45	0	1	0	4	0	1	0	14	0	18
5:00	0	0			0	2				
5:15	0	2			0	4				
5:30	0	1			0	3				
5:45	1	1	1	4	0	4	0	13	1	17
6:00	1	1			0	1				
6:15	0	1			0	3				
6:30	2	1			1	0				
6:45	1	0	4	3	2	0	3	4	7	7
7:00	1	1			0	2				
7:15	0	0			2	4				
7:30	1	1			0	2				
7:45	2	0	4	2	0	0	2	8	6	10
8:00	0	1			2	3				
8:15	3	0			4	2				
8:30	6	0			2	3				
8:45	0	1	9	2	7	1	15	9	24	11
9:00	3	0			3	2				
9:15	1	0			1	0				
9:30	0	0			1	0				
9:45	0	0	4	0	1	0	6	2	10	2
10:00	2	0			1	0				
10:15	1	0			1	0				
10:30	0	0			0	0				
10:45	0	0	3	0	4	0	6	0	9	0
11:00	0	0			1	0				
11:15	1	0			3	1				
11:30	2	0			0	1				
11:45	0	0	3	0	2	0	6	2	9	2
Total	28	35			39	93			67	128
Percent	44.4%	55.6%			29.5%	70.5%			34.4%	65.6%

Accurate Counts
978-664-2565

Location : Jenkins Road
Location : at # 80
City/State: Groton, MA

Site Code: 81020002

3/7/2024 Time	EB,		Hour Totals		WB,		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			0	0				
12:15	0	2			0	2				
12:30	0	0			0	1				
12:45	0	3	0	5	0	1	0	4	0	9
1:00	0	1			0	5				
1:15	0	3			0	4				
1:30	0	0			0	1				
1:45	0	0	0	4	0	2	0	12	0	16
2:00	0	1			0	4				
2:15	0	0			0	2				
2:30	0	1			0	2				
2:45	0	2	0	4	0	0	0	8	0	12
3:00	0	1			0	2				
3:15	0	1			0	3				
3:30	0	0			0	5				
3:45	1	0	1	2	0	5	0	15	1	17
4:00	0	2			0	4				
4:15	0	0			0	5				
4:30	0	2			0	1				
4:45	0	2	0	6	0	5	0	15	0	21
5:00	0	0			0	2				
5:15	0	1			0	2				
5:30	1	2			0	2				
5:45	0	2	1	5	0	2	0	8	1	13
6:00	1	0			0	2				
6:15	1	3			0	1				
6:30	1	2			2	3				
6:45	1	2	4	7	0	4	2	10	6	17
7:00	0	0			2	2				
7:15	0	0			0	0				
7:30	1	0			0	2				
7:45	2	0	3	0	3	1	5	5	8	5
8:00	3	0			3	1				
8:15	0	0			2	3				
8:30	3	1			0	1				
8:45	0	0	6	1	4	2	9	7	15	8
9:00	0	0			1	1				
9:15	1	0			2	3				
9:30	2	0			1	1				
9:45	1	0	4	0	2	0	6	5	10	5
10:00	0	1			0	0				
10:15	1	0			0	1				
10:30	3	0			1	0				
10:45	3	0	7	1	1	0	2	1	9	2
11:00	1	0			0	1				
11:15	1	0			1	2				
11:30	2	0			1	0				
11:45	1	0	5	0	0	0	2	3	7	3
Total	31	35			26	93			57	128
Percent	47.0%	53.0%			21.8%	78.2%			30.8%	69.2%
Grand Total	59	70			65	186			124	256
Percent	45.7%	54.3%			25.9%	74.1%			32.6%	67.4%

ADT

ADT: 190

AADT: 190

Accurate Counts
978-664-2565

Location : Jenkins Road
Location : at # 80
City/State: Groton, MA

Site Code: 81020002

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,
0:00	*	*	*	*	0	1	0	0	*	*	*	*	*	*	0	0
1:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
2:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
3:00	*	*	*	*	0	0	1	0	*	*	*	*	*	*	0	0
4:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
5:00	*	*	*	*	1	0	1	0	*	*	*	*	*	*	1	0
6:00	*	*	*	*	4	3	4	2	*	*	*	*	*	*	4	2
7:00	*	*	*	*	4	2	3	5	*	*	*	*	*	*	4	4
8:00	*	*	*	*	9	15	6	9	*	*	*	*	*	*	8	12
9:00	*	*	*	*	4	6	4	6	*	*	*	*	*	*	4	6
10:00	*	*	*	*	3	6	7	2	*	*	*	*	*	*	5	4
11:00	*	*	*	*	3	6	5	2	*	*	*	*	*	*	4	4
12:00	*	*	*	*	2	6	5	4	*	*	*	*	*	*	4	5
13:00	*	*	*	*	3	11	4	12	*	*	*	*	*	*	4	12
14:00	*	*	*	*	4	13	4	8	*	*	*	*	*	*	4	10
15:00	*	*	*	*	11	11	2	15	*	*	*	*	*	*	6	13
16:00	*	*	*	*	4	14	6	15	*	*	*	*	*	*	5	14
17:00	*	*	*	*	4	13	5	8	*	*	*	*	*	*	4	10
18:00	*	*	*	*	3	4	7	10	*	*	*	*	*	*	5	7
19:00	*	*	*	*	2	8	0	5	*	*	*	*	*	*	1	6
20:00	*	*	*	*	2	9	1	7	*	*	*	*	*	*	2	8
21:00	*	*	*	*	0	2	0	5	*	*	*	*	*	*	0	4
22:00	*	*	*	*	0	0	1	1	*	*	*	*	*	*	0	0
23:00	*	*	*	*	0	2	0	3	*	*	*	*	*	*	0	2
Total	0	0	0	0	63	132	66	119	0	0	0	0	0	0	65	123
Day	0		0		195		185		0		0		0		188	
AM Peak					8:00	8:00	10:00	8:00							8:00	8:00
Volume					9	15	7	9							8	12
PM Peak					15:00	16:00	18:00	15:00							15:00	16:00
Volume					11	14	7	15							6	14
Comb Total	0		0		195		185		0		0		0		188	

TURNING MOVEMENT COUNT DATA

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Main St From North		Main St From South		Mill St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	249	23	0	36	8	1	317
07:15 AM	207	29	0	44	8	2	290
07:30 AM	157	23	0	53	11	0	244
07:45 AM	192	41	0	40	9	2	284
Total	805	116	0	173	36	5	1135
08:00 AM	168	33	1	70	20	6	298
08:15 AM	140	23	0	66	16	3	248
08:30 AM	137	25	0	46	15	0	223
08:45 AM	151	15	1	85	9	1	262
Total	596	96	2	267	60	10	1031
Grand Total	1401	212	2	440	96	15	2166
Apprch %	86.9	13.1	0.5	99.5	86.5	13.5	
Total %	64.7	9.8	0.1	20.3	4.4	0.7	
Cars	1378	212	2	408	95	15	2110
% Cars	98.4	100	100	92.7	99	100	97.4
Trucks	23	0	0	32	1	0	56
% Trucks	1.6	0	0	7.3	1	0	2.6

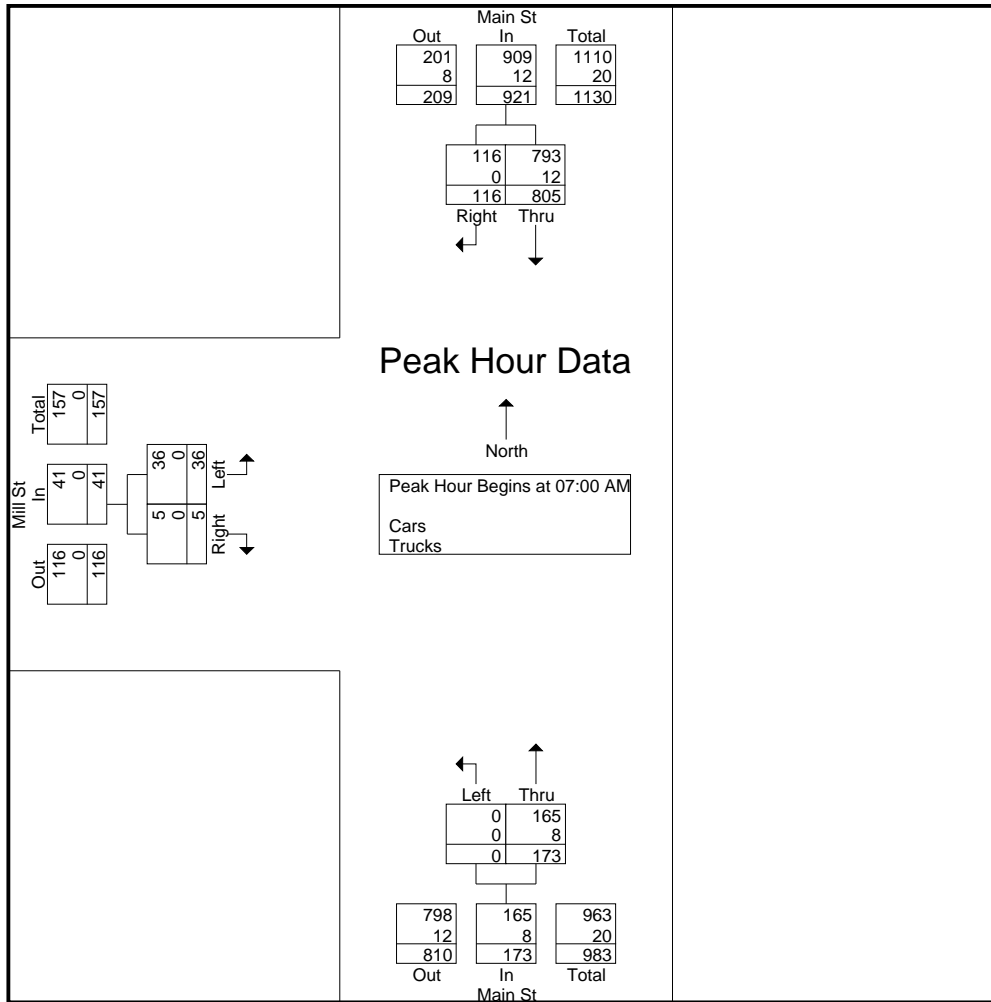
Start Time	Main St From North			Main St From South			Mill St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	249	23	272	0	36	36	8	1	9	317
07:15 AM	207	29	236	0	44	44	8	2	10	290
07:30 AM	157	23	180	0	53	53	11	0	11	244
07:45 AM	192	41	233	0	40	40	9	2	11	284
Total Volume	805	116	921	0	173	173	36	5	41	1135
% App. Total	87.4	12.6		0	100		87.8	12.2		
PHF	.808	.707	.847	.000	.816	.816	.818	.625	.932	.895
Cars	793	116	909	0	165	165	36	5	41	1115
% Cars	98.5	100	98.7	0	95.4	95.4	100	100	100	98.2
Trucks	12	0	12	0	8	8	0	0	0	20
% Trucks	1.5	0	1.3	0	4.6	4.6	0	0	0	1.8

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 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			08:00 AM			07:45 AM		
+0 mins.	249	23	272	1	70	71	9	2	11
+15 mins.	207	29	236	0	66	66	20	6	26
+30 mins.	157	23	180	0	46	46	16	3	19
+45 mins.	192	41	233	1	85	86	15	0	15
Total Volume	805	116	921	2	267	269	60	11	71
% App. Total	87.4	12.6		0.7	99.3		84.5	15.5	
PHF	.808	.707	.847	.500	.785	.782	.750	.458	.683
Cars	793	116	909	2	243	245	59	11	70
% Cars	98.5	100	98.7	100	91	91.1	98.3	100	98.6
Trucks	12	0	12	0	24	24	1	0	1
% Trucks	1.5	0	1.3	0	9	8.9	1.7	0	1.4

Accurate Counts

978-664-2565

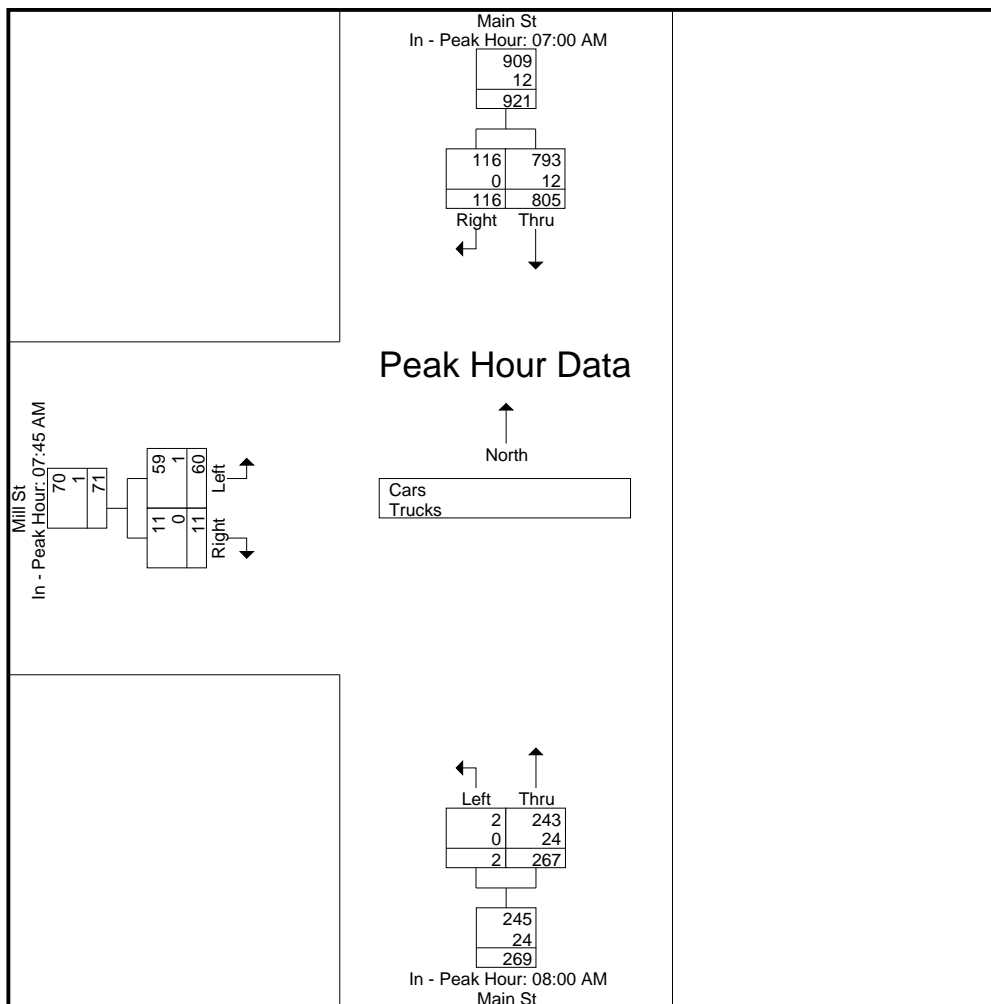
File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

Page No : 3

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Main St From North		Main St From South		Mill St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	245	23	0	35	8	1	312
07:15 AM	204	29	0	42	8	2	285
07:30 AM	157	23	0	51	11	0	242
07:45 AM	187	41	0	37	9	2	276
Total	793	116	0	165	36	5	1115
08:00 AM	165	33	1	64	20	6	289
08:15 AM	137	23	0	62	15	3	240
08:30 AM	134	25	0	42	15	0	216
08:45 AM	149	15	1	75	9	1	250
Total	585	96	2	243	59	10	995
Grand Total	1378	212	2	408	95	15	2110
Apprch %	86.7	13.3	0.5	99.5	86.4	13.6	
Total %	65.3	10	0.1	19.3	4.5	0.7	

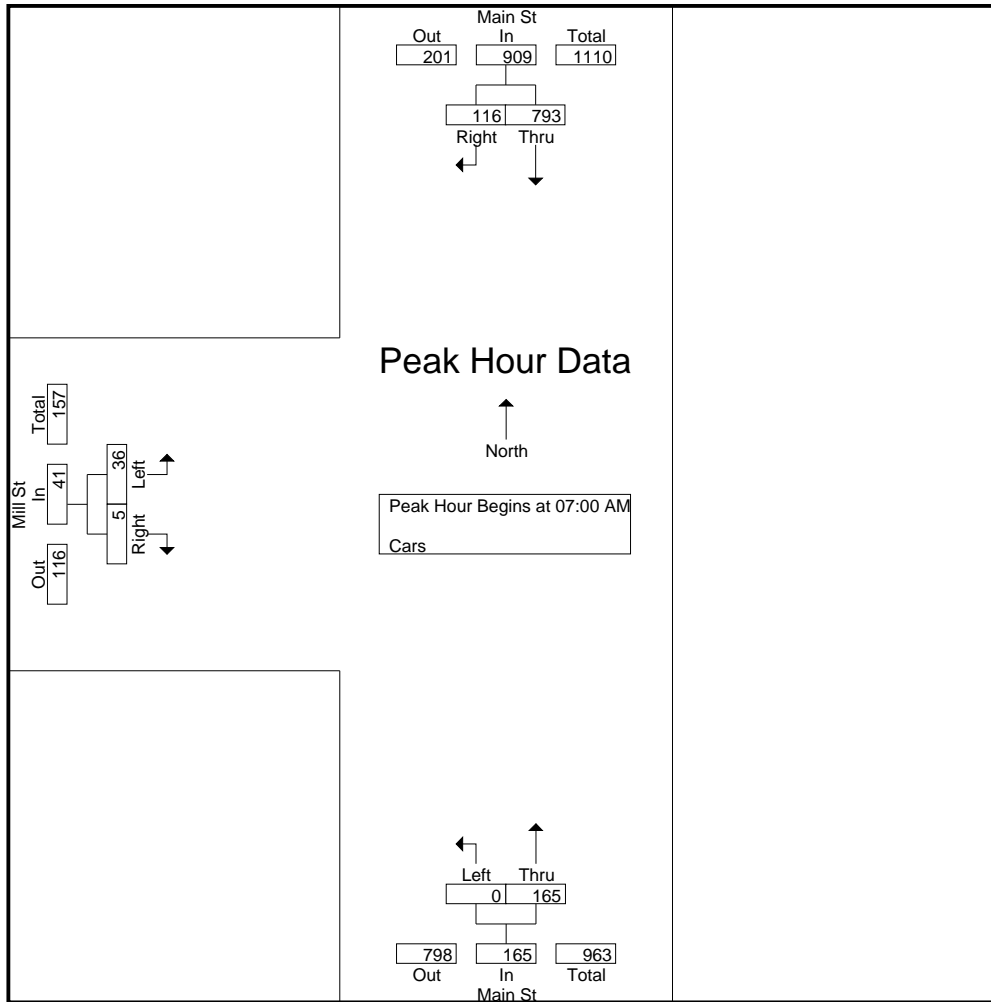
Start Time	Main St From North			Main St From South			Mill St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	245	23	268	0	35	35	8	1	9	312
07:15 AM	204	29	233	0	42	42	8	2	10	285
07:30 AM	157	23	180	0	51	51	11	0	11	242
07:45 AM	187	41	228	0	37	37	9	2	11	276
Total Volume	793	116	909	0	165	165	36	5	41	1115
% App. Total	87.2	12.8		0	100		87.8	12.2		
PHF	.809	.707	.848	.000	.809	.809	.818	.625	.932	.893

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 5



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			08:00 AM			07:45 AM		
+0 mins.	245	23	268	1	64	65	9	2	11
+15 mins.	204	29	233	0	62	62	20	6	26
+30 mins.	157	23	180	0	42	42	15	3	18
+45 mins.	187	41	228	1	75	76	15	0	15
Total Volume	793	116	909	2	243	245	59	11	70
% App. Total	87.2	12.8		0.8	99.2		84.3	15.7	
PHF	.809	.707	.848	.500	.810	.806	.738	.458	.673

Accurate Counts

978-664-2565

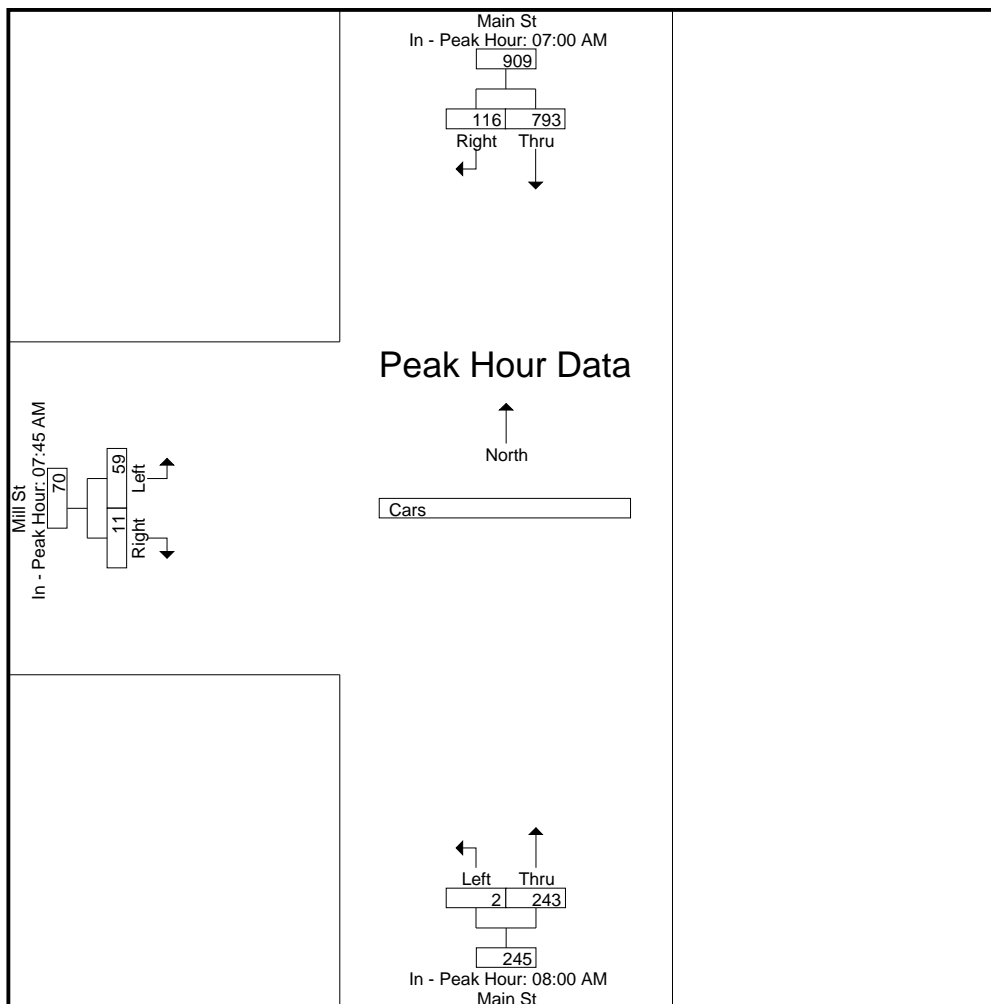
File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

Page No : 6

N/S Street : Main Street
E/W Street : Mill Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Main St From North		Main St From South		Mill St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	4	0	0	1	0	0	5
07:15 AM	3	0	0	2	0	0	5
07:30 AM	0	0	0	2	0	0	2
07:45 AM	5	0	0	3	0	0	8
Total	12	0	0	8	0	0	20
08:00 AM	3	0	0	6	0	0	9
08:15 AM	3	0	0	4	1	0	8
08:30 AM	3	0	0	4	0	0	7
08:45 AM	2	0	0	10	0	0	12
Total	11	0	0	24	1	0	36
Grand Total	23	0	0	32	1	0	56
Apprch %	100	0	0	100	100	0	
Total %	41.1	0	0	57.1	1.8	0	

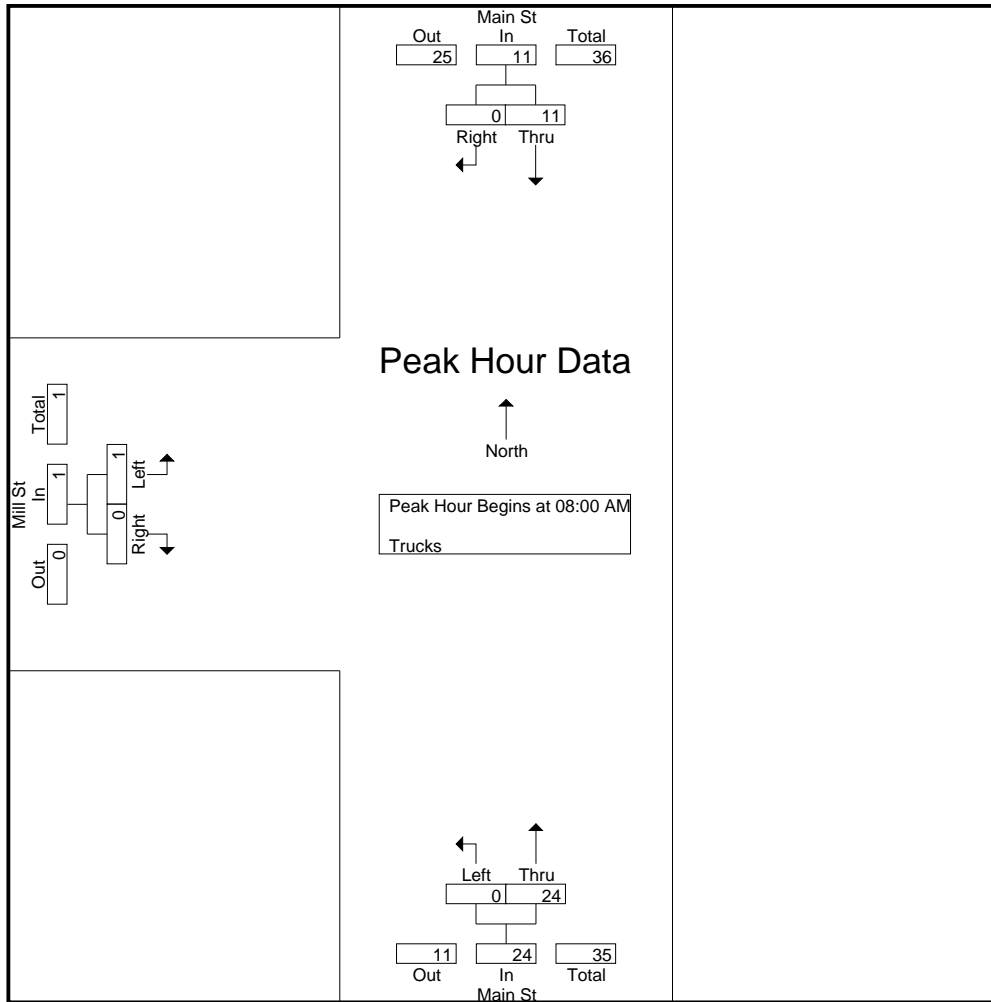
Start Time	Main St From North			Main St From South			Mill St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	3	0	3	0	6	6	0	0	0	9
08:15 AM	3	0	3	0	4	4	1	0	1	8
08:30 AM	3	0	3	0	4	4	0	0	0	7
08:45 AM	2	0	2	0	10	10	0	0	0	12
Total Volume	11	0	11	0	24	24	1	0	1	36
% App. Total	100	0		0	100		100	0		
PHF	.917	.000	.917	.000	.600	.600	.250	.000	.250	.750

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 8



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

Peak Hour for Each Approach Begins at:

	07:45 AM			08:00 AM			07:30 AM		
+0 mins.	5	0	5	0	6	6	0	0	0
+15 mins.	3	0	3	0	4	4	0	0	0
+30 mins.	3	0	3	0	4	4	0	0	0
+45 mins.	3	0	3	0	10	10	1	0	1
Total Volume	14	0	14	0	24	24	1	0	1
% App. Total	100	0		0	100		100	0	
PHF	.700	.000	.700	.000	.600	.600	.250	.000	.250

Accurate Counts

978-664-2565

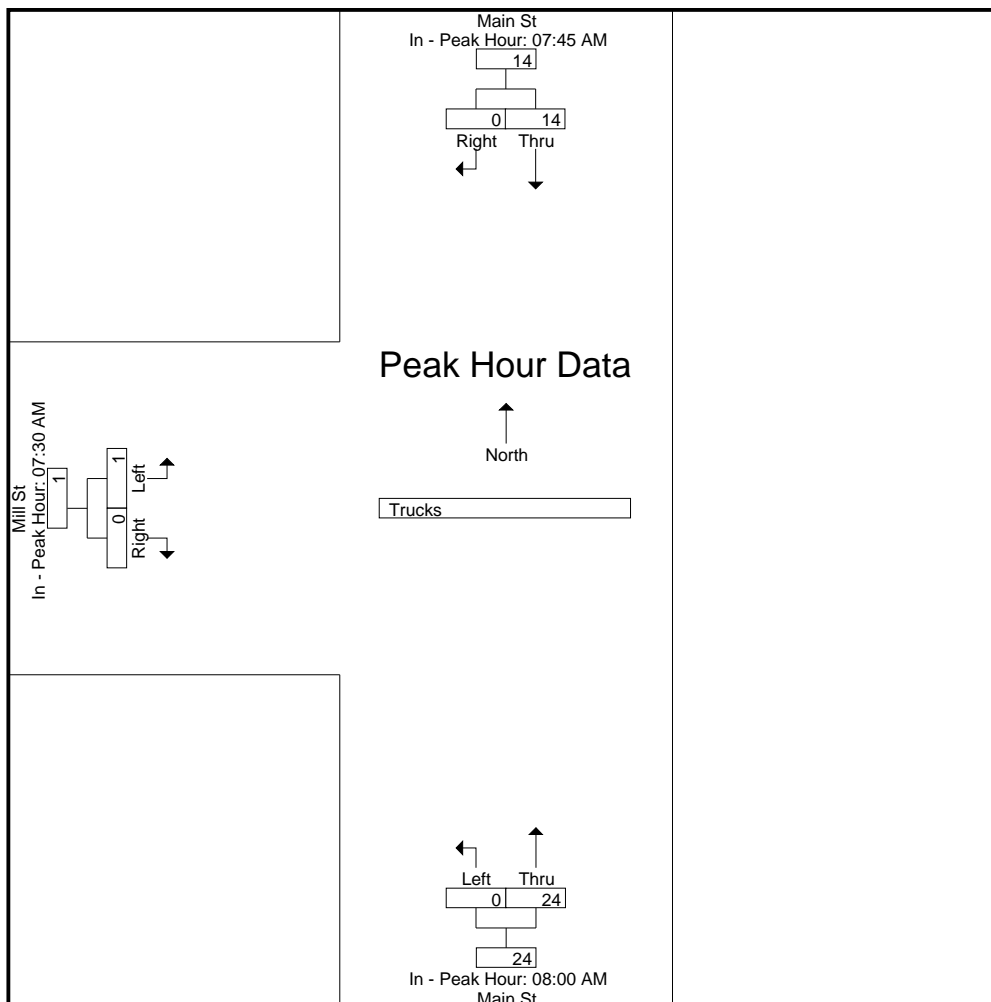
File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

Page No : 9

N/S Street : Main Street
E/W Street : Mill Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

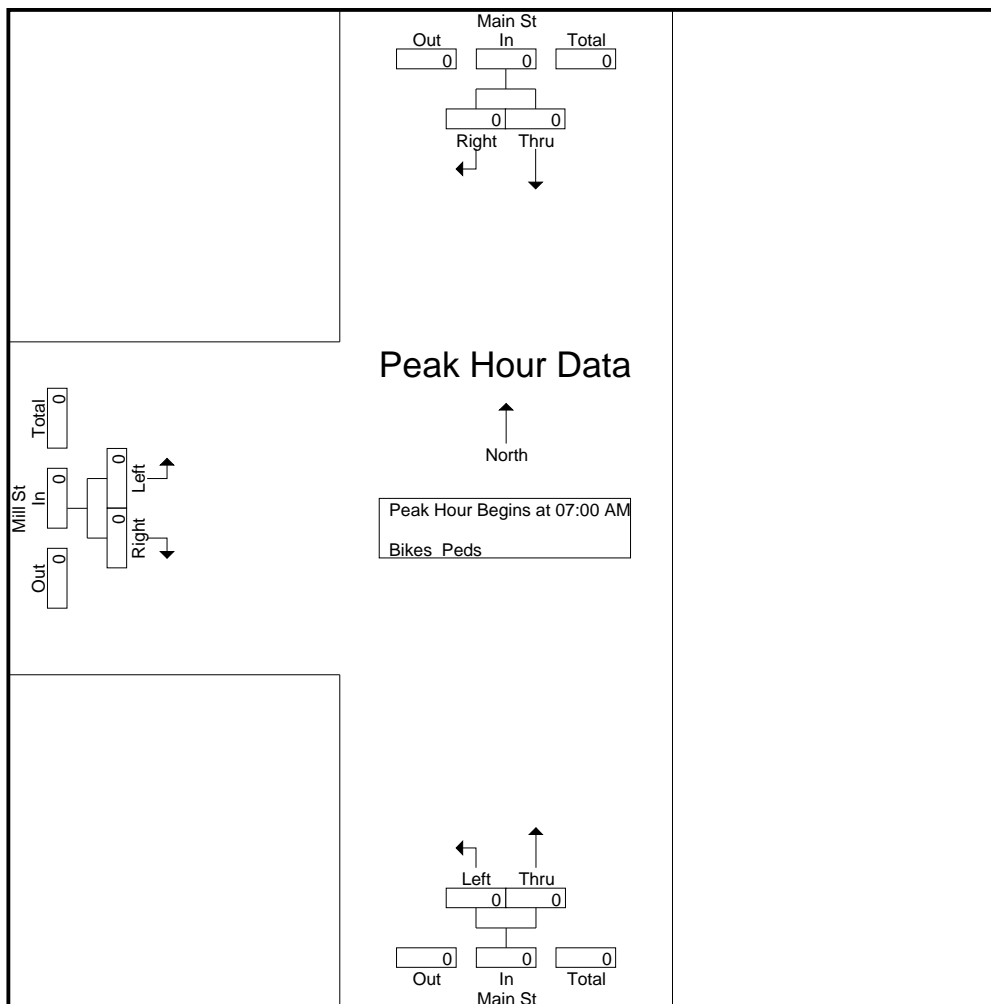
File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

Page No : 11

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy



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

Accurate Counts

978-664-2565

File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

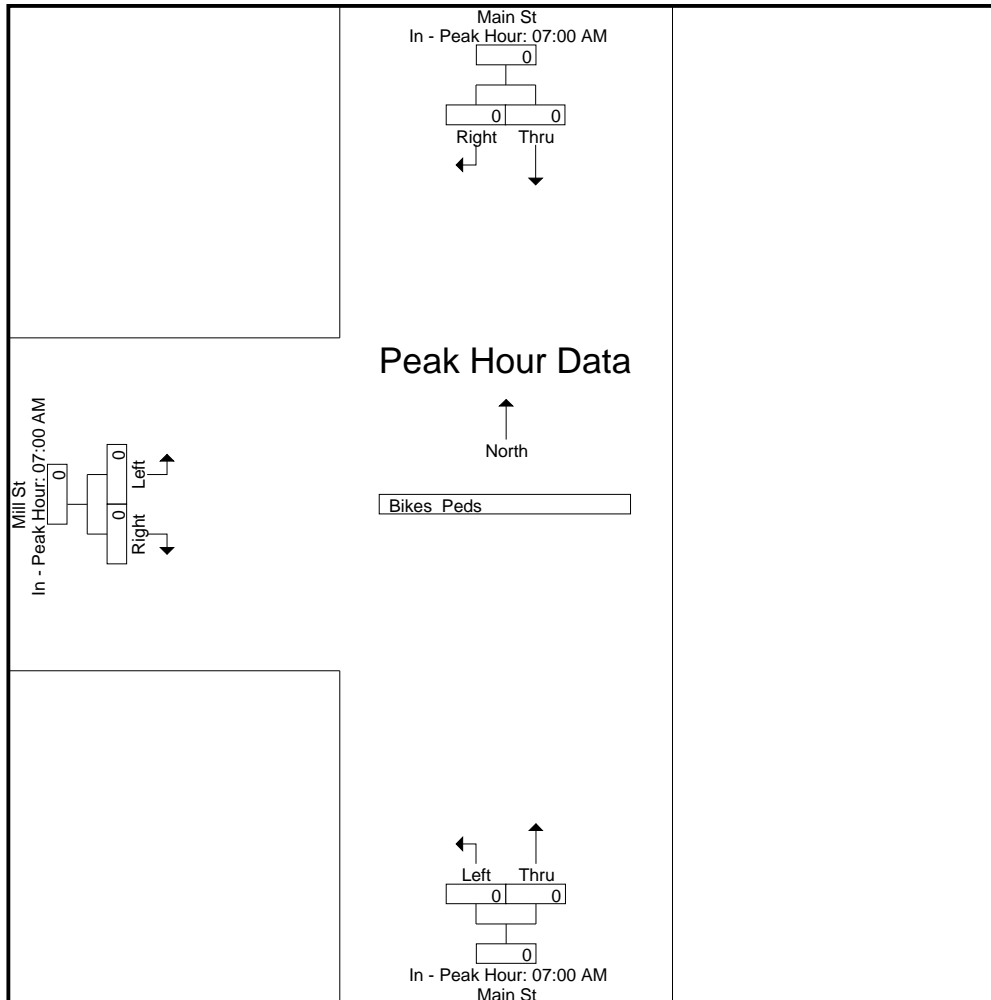
Page No : 12

N/S Street : Main Street

E/W Street : Mill Street

City/State : Groton, MA

Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Main St From North		Main St From South		Mill St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
04:00 PM	83	11	3	199	33	8	337
04:15 PM	92	7	1	208	36	1	345
04:30 PM	73	14	2	178	31	2	300
04:45 PM	71	9	3	193	27	2	305
Total	319	41	9	778	127	13	1287
05:00 PM	81	12	4	190	22	1	310
05:15 PM	80	11	0	161	38	0	290
05:30 PM	84	14	2	186	27	2	315
05:45 PM	67	11	2	172	11	0	263
Total	312	48	8	709	98	3	1178
Grand Total	631	89	17	1487	225	16	2465
Apprch %	87.6	12.4	1.1	98.9	93.4	6.6	
Total %	25.6	3.6	0.7	60.3	9.1	0.6	
Cars	624	89	17	1475	225	16	2446
% Cars	98.9	100	100	99.2	100	100	99.2
Trucks	7	0	0	12	0	0	19
% Trucks	1.1	0	0	0.8	0	0	0.8

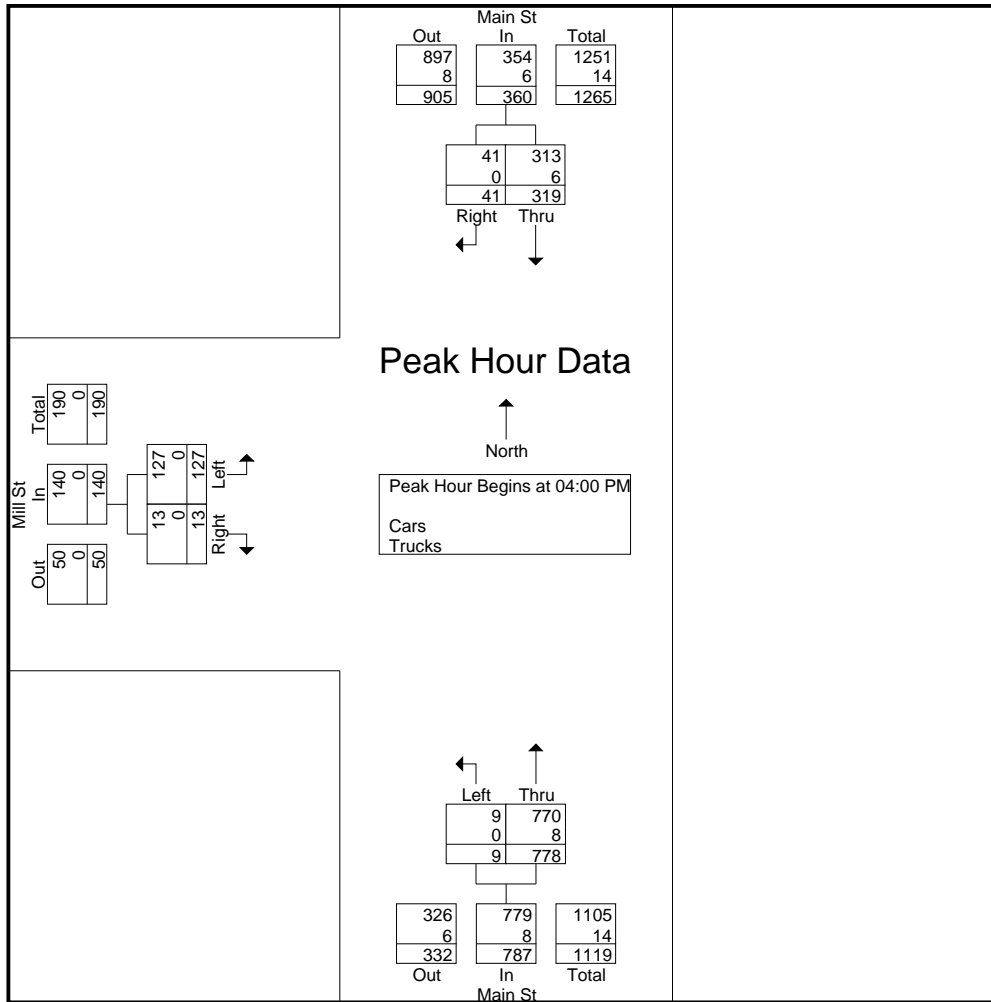
Start Time	Main St From North			Main St From South			Mill St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	83	11	94	3	199	202	33	8	41	337
04:15 PM	92	7	99	1	208	209	36	1	37	345
04:30 PM	73	14	87	2	178	180	31	2	33	300
04:45 PM	71	9	80	3	193	196	27	2	29	305
Total Volume	319	41	360	9	778	787	127	13	140	1287
% App. Total	88.6	11.4		1.1	98.9		90.7	9.3		
PHF	.867	.732	.909	.750	.935	.941	.882	.406	.854	.933
Cars	313	41	354	9	770	779	127	13	140	1273
% Cars	98.1	100	98.3	100	99.0	99.0	100	100	100	98.9
Trucks	6	0	6	0	8	8	0	0	0	14
% Trucks	1.9	0	1.7	0	1.0	1.0	0	0	0	1.1

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 2



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

Peak Hour for Each Approach Begins at:

	04:45 PM			04:00 PM			04:00 PM		
+0 mins.	71	9	80	3	199	202	33	8	41
+15 mins.	81	12	93	1	208	209	36	1	37
+30 mins.	80	11	91	2	178	180	31	2	33
+45 mins.	84	14	98	3	193	196	27	2	29
Total Volume	316	46	362	9	778	787	127	13	140
% App. Total	87.3	12.7		1.1	98.9		90.7	9.3	
PHF	.940	.821	.923	.750	.935	.941	.882	.406	.854
Cars	316	46	362	9	770	779	127	13	140
% Cars	100	100	100	100	99	99	100	100	100
Trucks	0	0	0	0	8	8	0	0	0
% Trucks	0	0	0	0	1	1	0	0	0

Accurate Counts

978-664-2565

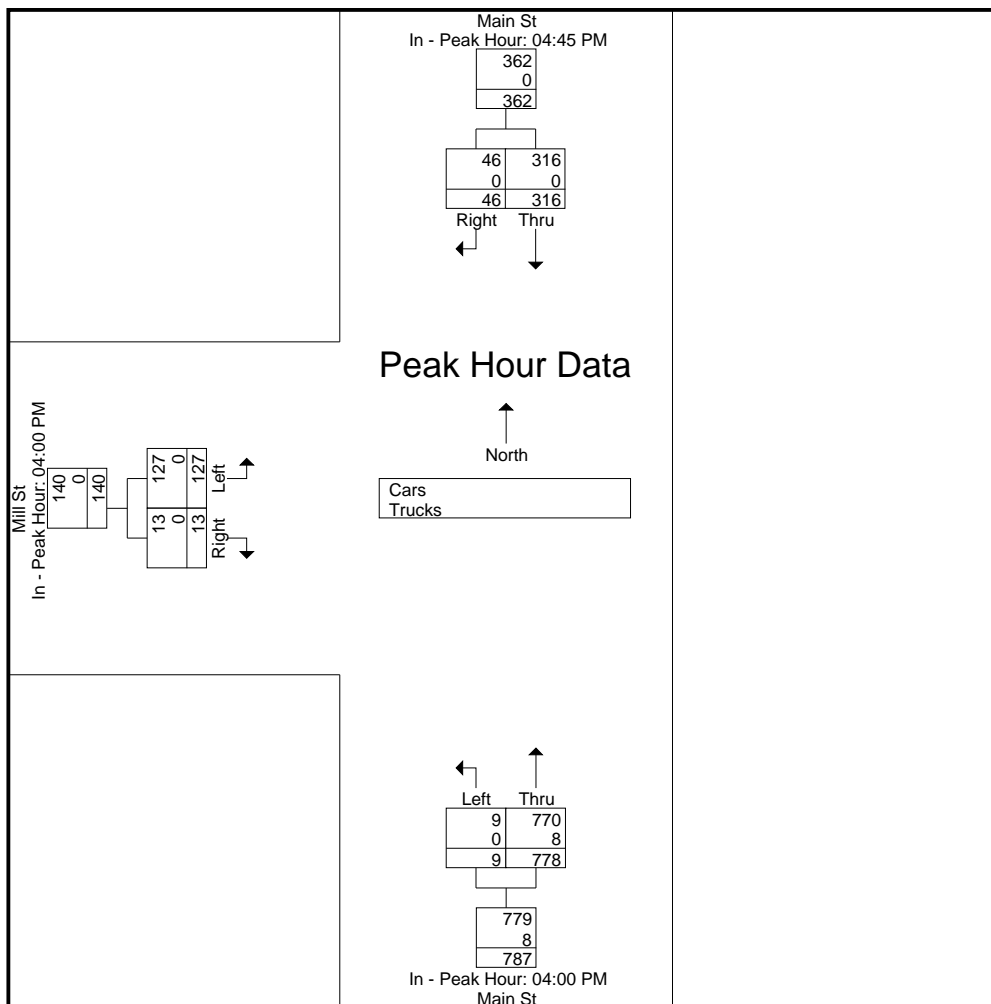
File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

Page No : 3

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Main St From North		Main St From South		Mill St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
04:00 PM	79	11	3	194	33	8	328
04:15 PM	91	7	1	208	36	1	344
04:30 PM	72	14	2	177	31	2	298
04:45 PM	71	9	3	191	27	2	303
Total	313	41	9	770	127	13	1273
05:00 PM	81	12	4	187	22	1	307
05:15 PM	80	11	0	160	38	0	289
05:30 PM	84	14	2	186	27	2	315
05:45 PM	66	11	2	172	11	0	262
Total	311	48	8	705	98	3	1173
Grand Total	624	89	17	1475	225	16	2446
Apprch %	87.5	12.5	1.1	98.9	93.4	6.6	
Total %	25.5	3.6	0.7	60.3	9.2	0.7	

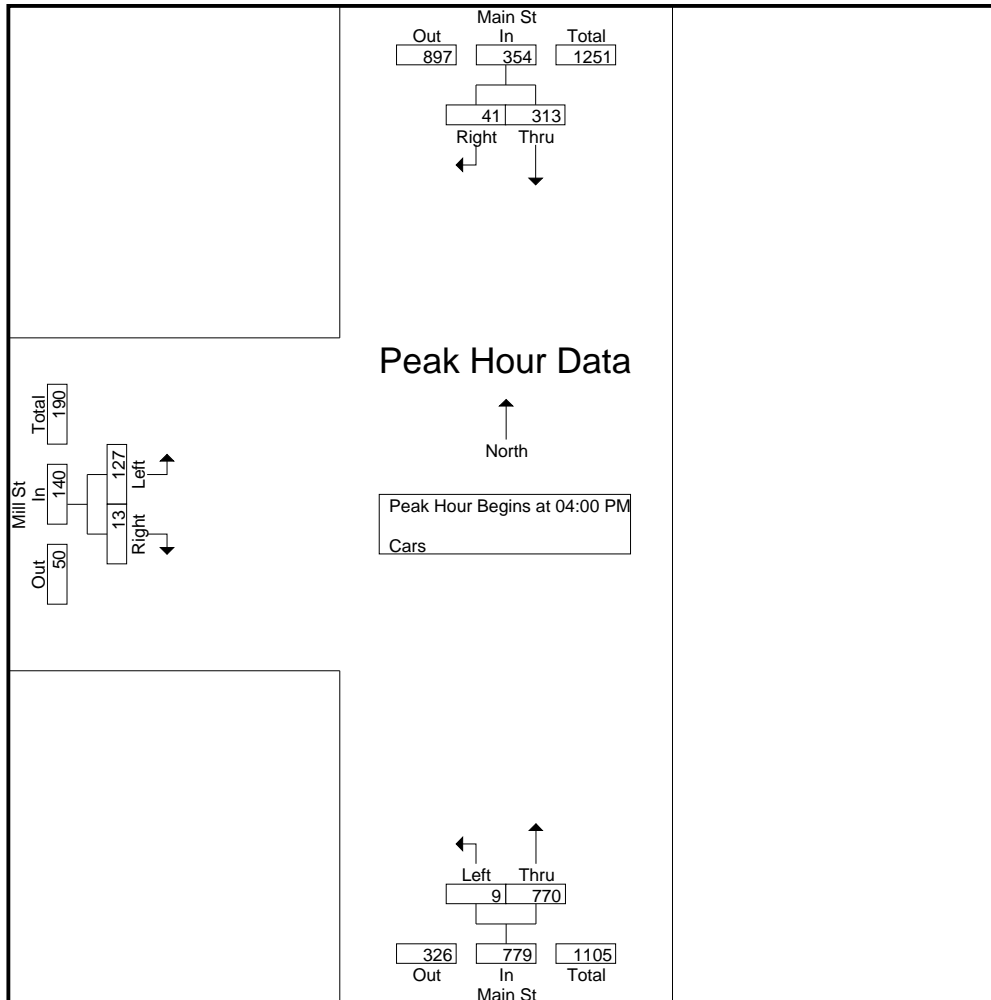
Start Time	Main St From North			Main St From South			Mill St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	79	11	90	3	194	197	33	8	41	328
04:15 PM	91	7	98	1	208	209	36	1	37	344
04:30 PM	72	14	86	2	177	179	31	2	33	298
04:45 PM	71	9	80	3	191	194	27	2	29	303
Total Volume	313	41	354	9	770	779	127	13	140	1273
% App. Total	88.4	11.6		1.2	98.8		90.7	9.3		
PHF	.860	.732	.903	.750	.925	.932	.882	.406	.854	.925

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 5



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

Peak Hour for Each Approach Begins at:

	04:45 PM			04:00 PM			04:00 PM		
+0 mins.	71	9	80	3	194	197	33	8	41
+15 mins.	81	12	93	1	208	209	36	1	37
+30 mins.	80	11	91	2	177	179	31	2	33
+45 mins.	84	14	98	3	191	194	27	2	29
Total Volume	316	46	362	9	770	779	127	13	140
% App. Total	87.3	12.7		1.2	98.8		90.7	9.3	
PHF	.940	.821	.923	.750	.925	.932	.882	.406	.854

Accurate Counts

978-664-2565

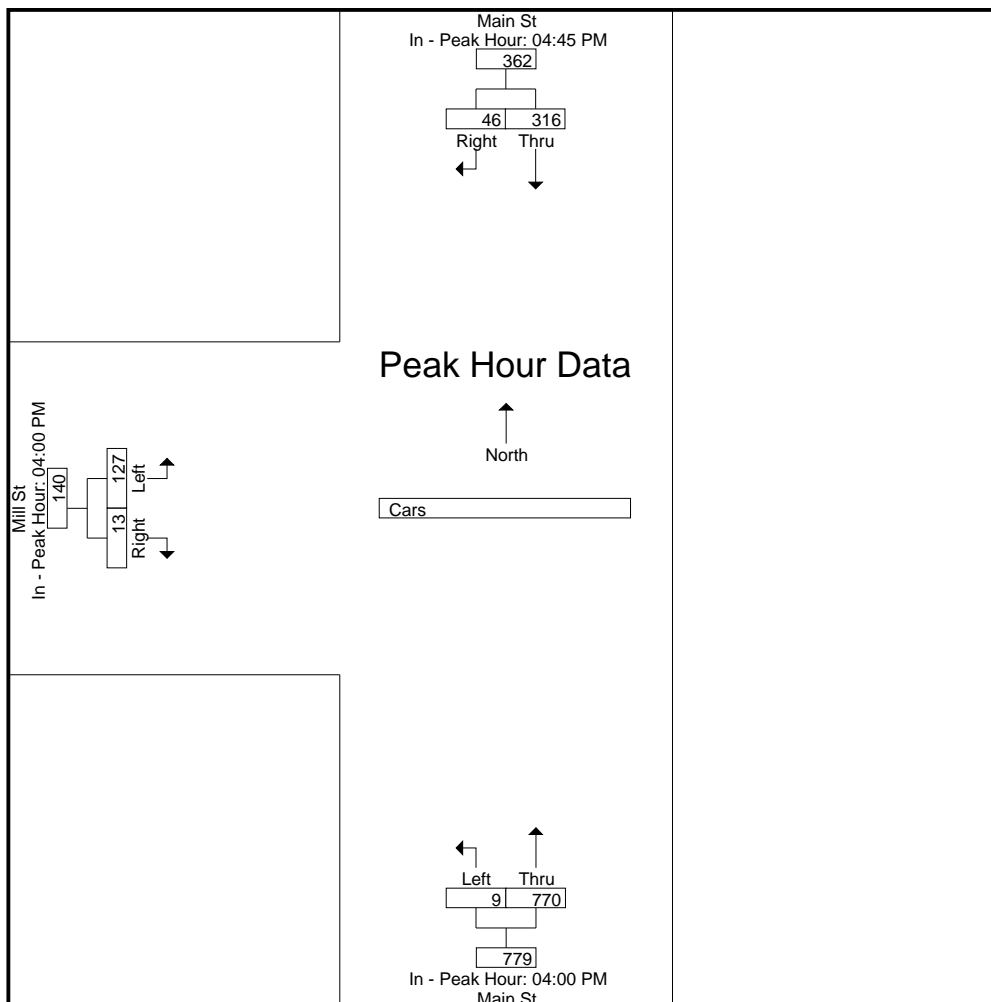
File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

Page No : 6

N/S Street : Main Street
E/W Street : Mill Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Main St From North		Main St From South		Mill St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
04:00 PM	4	0	0	5	0	0	9
04:15 PM	1	0	0	0	0	0	1
04:30 PM	1	0	0	1	0	0	2
04:45 PM	0	0	0	2	0	0	2
Total	6	0	0	8	0	0	14
05:00 PM	0	0	0	3	0	0	3
05:15 PM	0	0	0	1	0	0	1
05:30 PM	0	0	0	0	0	0	0
05:45 PM	1	0	0	0	0	0	1
Total	1	0	0	4	0	0	5
Grand Total	7	0	0	12	0	0	19
Apprch %	100	0	0	100	0	0	
Total %	36.8	0	0	63.2	0	0	

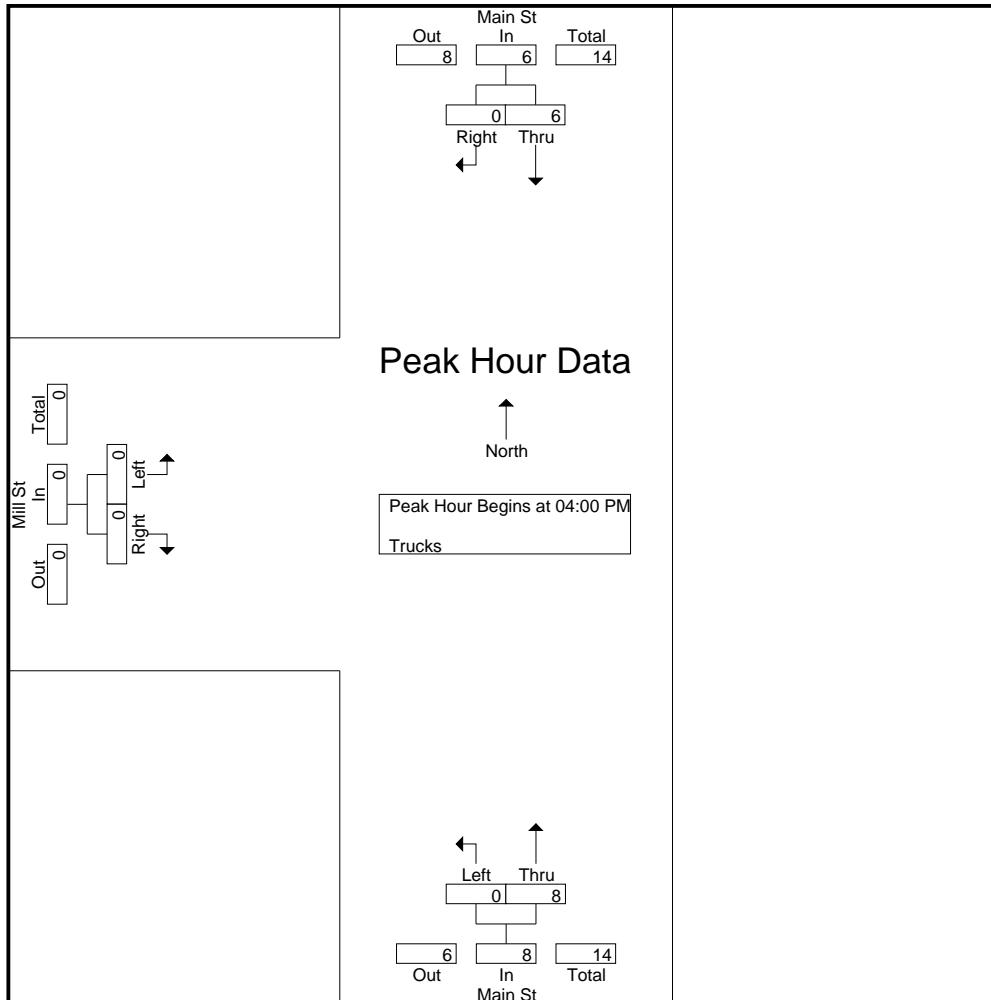
Start Time	Main St From North			Main St From South			Mill St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	4	0	4	0	5	5	0	0	0	9
04:15 PM	1	0	1	0	0	0	0	0	0	1
04:30 PM	1	0	1	0	1	1	0	0	0	2
04:45 PM	0	0	0	0	2	2	0	0	0	2
Total Volume	6	0	6	0	8	8	0	0	0	14
% App. Total	100	0		0	100		0	0		
PHF	.375	.000	.375	.000	.400	.400	.000	.000	.000	.389

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 Page No : 8



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

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	4	0	4	0	5	5	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	1	0	1	0	1	1	0	0	0
+45 mins.	0	0	0	0	2	2	0	0	0
Total Volume	6	0	6	0	8	8	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.375	.000	.375	.000	.400	.400	.000	.000	.000

Accurate Counts

978-664-2565

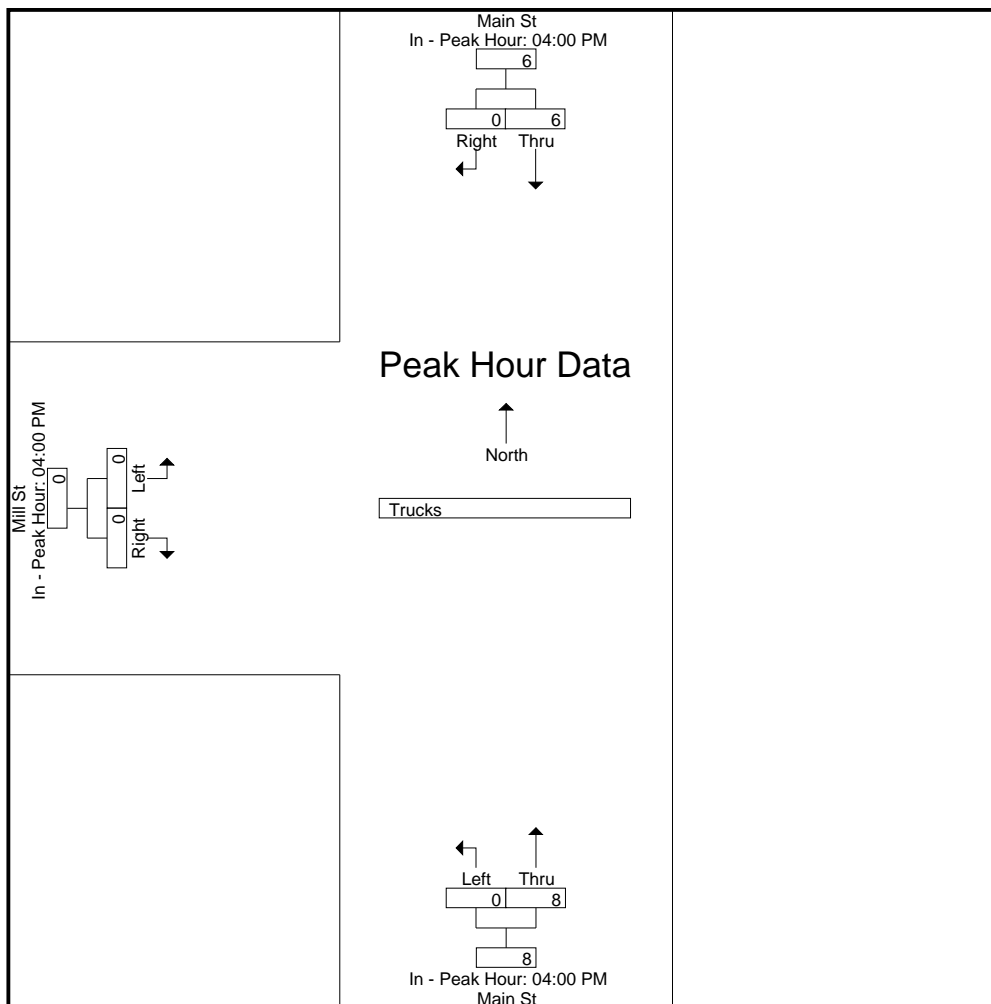
File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

Page No : 9

N/S Street : Main Street
E/W Street : Mill Street
City/State : Groton, MA
Weather : Rain / Cloudy

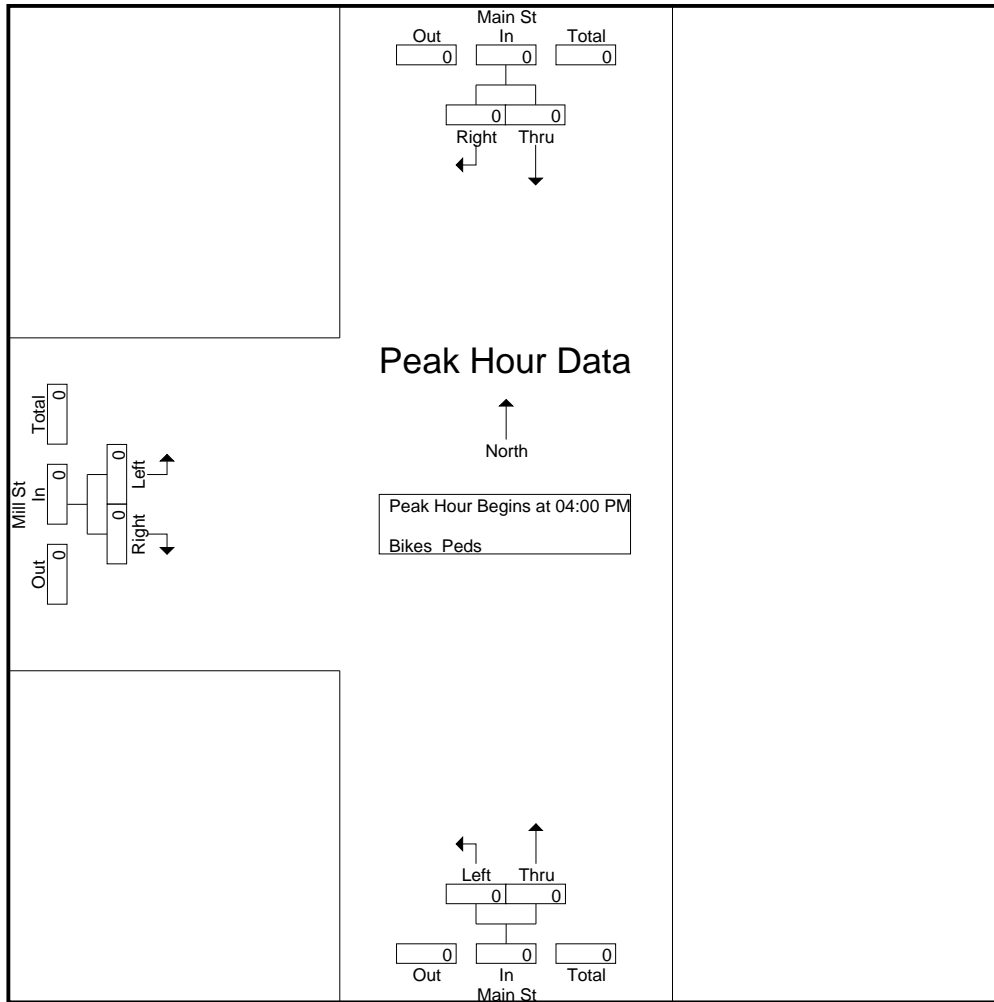


Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Mill Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020001
 Site Code : 81020001
 Start Date : 3/7/2024
 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:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

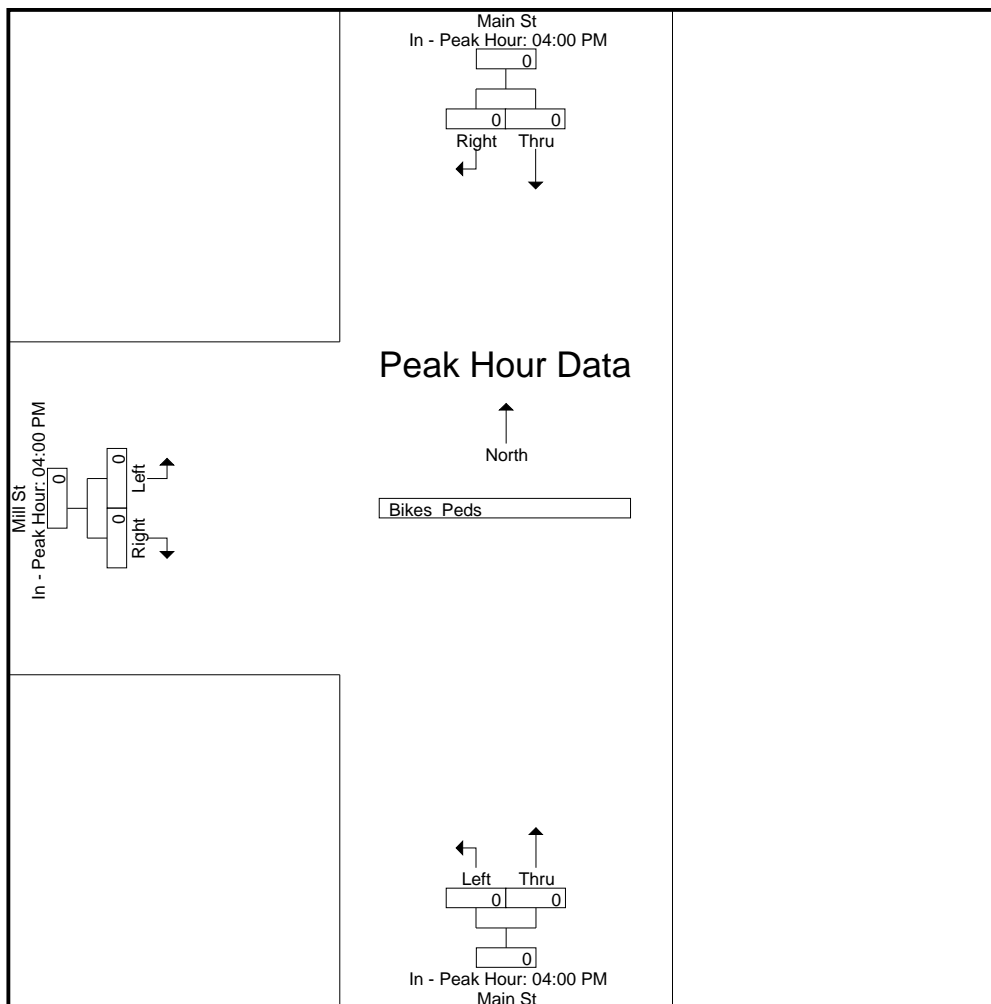
File Name : 81020001

Site Code : 81020001

Start Date : 3/7/2024

Page No : 12

N/S Street : Main Street
E/W Street : Mill Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Main St From North		Main St From South		Arlington St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	248	1	1	42	0	13	305
07:15 AM	199	0	5	46	0	4	254
07:30 AM	164	0	4	59	0	3	230
07:45 AM	187	1	1	47	0	6	242
Total	798	2	11	194	0	26	1031
08:00 AM	164	0	15	84	1	1	265
08:15 AM	138	1	2	67	0	5	213
08:30 AM	131	0	0	52	0	10	193
08:45 AM	150	1	12	89	0	8	260
Total	583	2	29	292	1	24	931
Grand Total	1381	4	40	486	1	50	1962
Apprch %	99.7	0.3	7.6	92.4	2	98	
Total %	70.4	0.2	2	24.8	0.1	2.5	
Cars	1357	4	38	453	1	47	1900
% Cars	98.3	100	95	93.2	100	94	96.8
Trucks	24	0	2	33	0	3	62
% Trucks	1.7	0	5	6.8	0	6	3.2

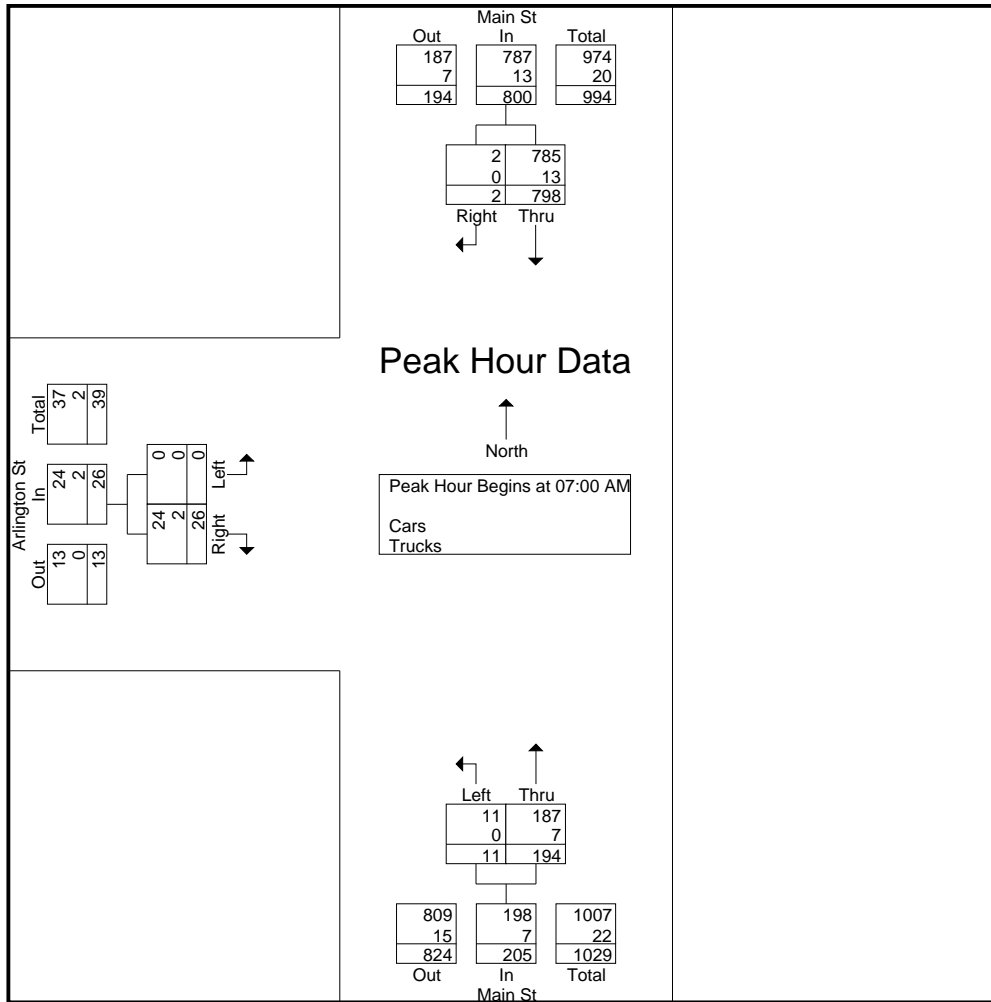
Start Time	Main St From North			Main St From South			Arlington St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	248	1	249	1	42	43	0	13	13	305
07:15 AM	199	0	199	5	46	51	0	4	4	254
07:30 AM	164	0	164	4	59	63	0	3	3	230
07:45 AM	187	1	188	1	47	48	0	6	6	242
Total Volume	798	2	800	11	194	205	0	26	26	1031
% App. Total	99.8	0.2		5.4	94.6		0	100		
PHF	.804	.500	.803	.550	.822	.813	.000	.500	.500	.845
Cars	785	2	787	11	187	198	0	24	24	1009
% Cars	98.4	100	98.4	100	96.4	96.6	0	92.3	92.3	97.9
Trucks	13	0	13	0	7	7	0	2	2	22
% Trucks	1.6	0	1.6	0	3.6	3.4	0	7.7	7.7	2.1

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 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			08:00 AM			07:00 AM		
+0 mins.	248	1	249	15	84	99	0	13	13
+15 mins.	199	0	199	2	67	69	0	4	4
+30 mins.	164	0	164	0	52	52	0	3	3
+45 mins.	187	1	188	12	89	101	0	6	6
Total Volume	798	2	800	29	292	321	0	26	26
% App. Total	99.8	0.2		9	91		0	100	
PHF	.804	.500	.803	.483	.820	.795	.000	.500	.500
Cars	785	2	787	27	266	293	0	24	24
% Cars	98.4	100	98.4	93.1	91.1	91.3	0	92.3	92.3
Trucks	13	0	13	2	26	28	0	2	2
% Trucks	1.6	0	1.6	6.9	8.9	8.7	0	7.7	7.7

Accurate Counts

978-664-2565

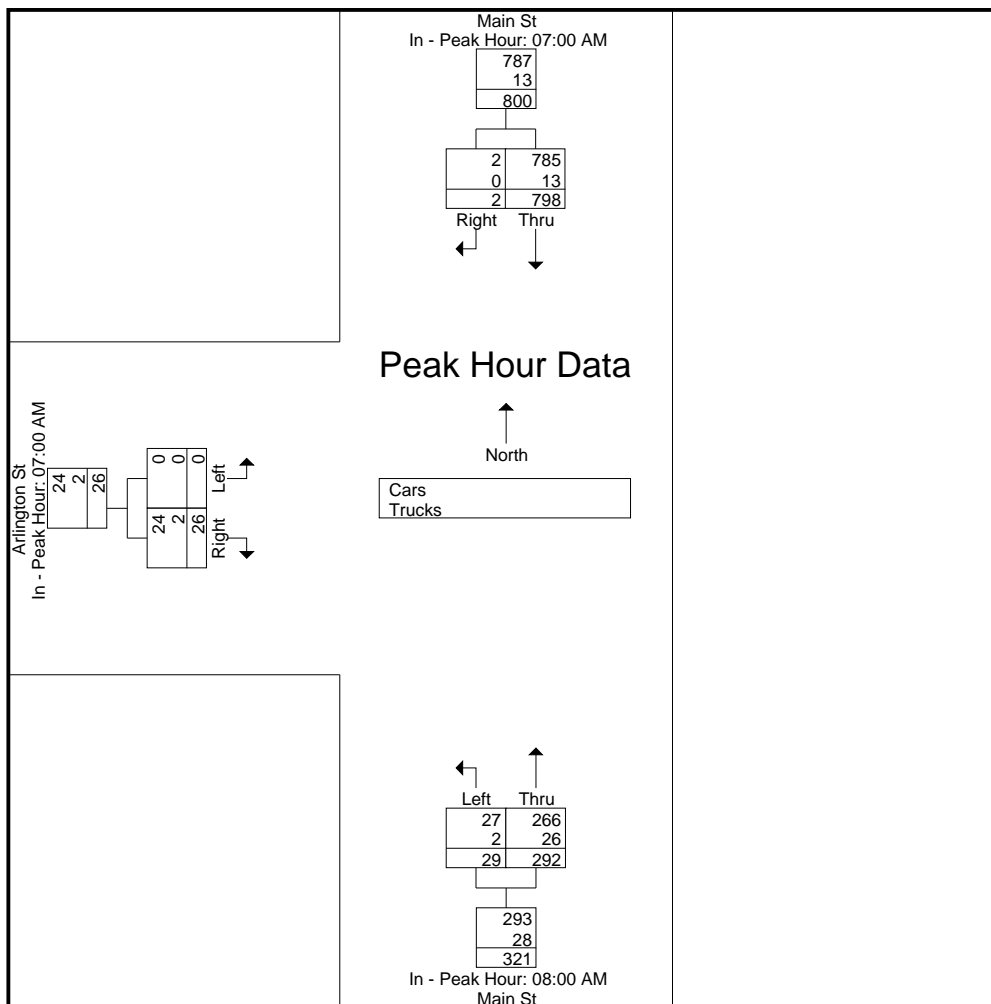
File Name : 81020002

Site Code : 81020002

Start Date : 3/7/2024

Page No : 3

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Main St From North		Main St From South			Arlington St From West			Int. Total
	Thru	Right	Left	Thru	Left	Right			
07:00 AM	244	1	1	41	0	13	300		
07:15 AM	197	0	5	44	0	3	249		
07:30 AM	162	0	4	57	0	3	226		
07:45 AM	182	1	1	45	0	5	234		
Total	785	2	11	187	0	24	1009		
08:00 AM	160	0	13	76	1	1	251		
08:15 AM	136	1	2	63	0	5	207		
08:30 AM	128	0	0	48	0	9	185		
08:45 AM	148	1	12	79	0	8	248		
Total	572	2	27	266	1	23	891		
Grand Total	1357	4	38	453	1	47	1900		
Apprch %	99.7	0.3	7.7	92.3	2.1	97.9			
Total %	71.4	0.2	2	23.8	0.1	2.5			

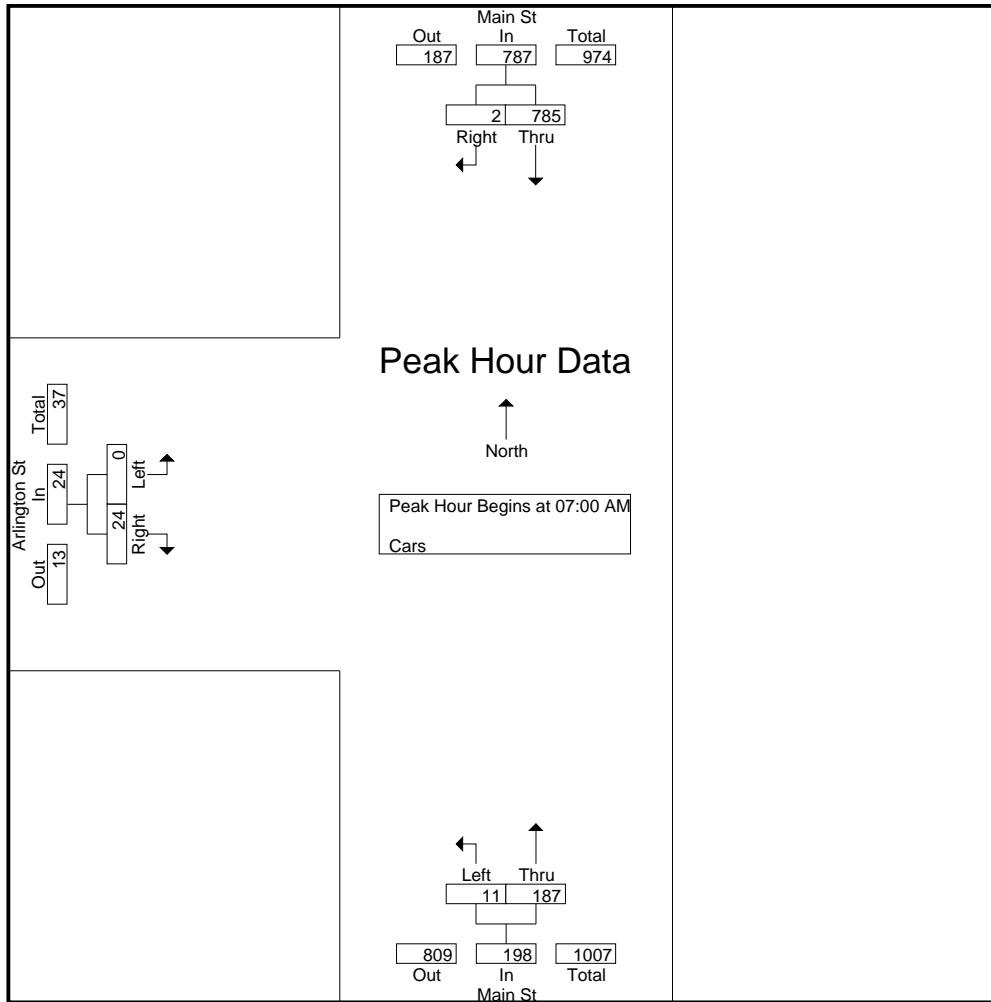
Start Time	Main St From North			Main St From South			Arlington St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	244	1	245	1	41	42	0	13	13	300
07:15 AM	197	0	197	5	44	49	0	3	3	249
07:30 AM	162	0	162	4	57	61	0	3	3	226
07:45 AM	182	1	183	1	45	46	0	5	5	234
Total Volume	785	2	787	11	187	198	0	24	24	1009
% App. Total	99.7	0.3		5.6	94.4		0	100		
PHF	.804	.500	.803	.550	.820	.811	.000	.462	.462	.841

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 5



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			08:00 AM			07:00 AM		
+0 mins.	244	1	245	13	76	89	0	13	13
+15 mins.	197	0	197	2	63	65	0	3	3
+30 mins.	162	0	162	0	48	48	0	3	3
+45 mins.	182	1	183	12	79	91	0	5	5
Total Volume	785	2	787	27	266	293	0	24	24
% App. Total	99.7	0.3		9.2	90.8		0	100	
PHF	.804	.500	.803	.519	.842	.805	.000	.462	.462

Accurate Counts

978-664-2565

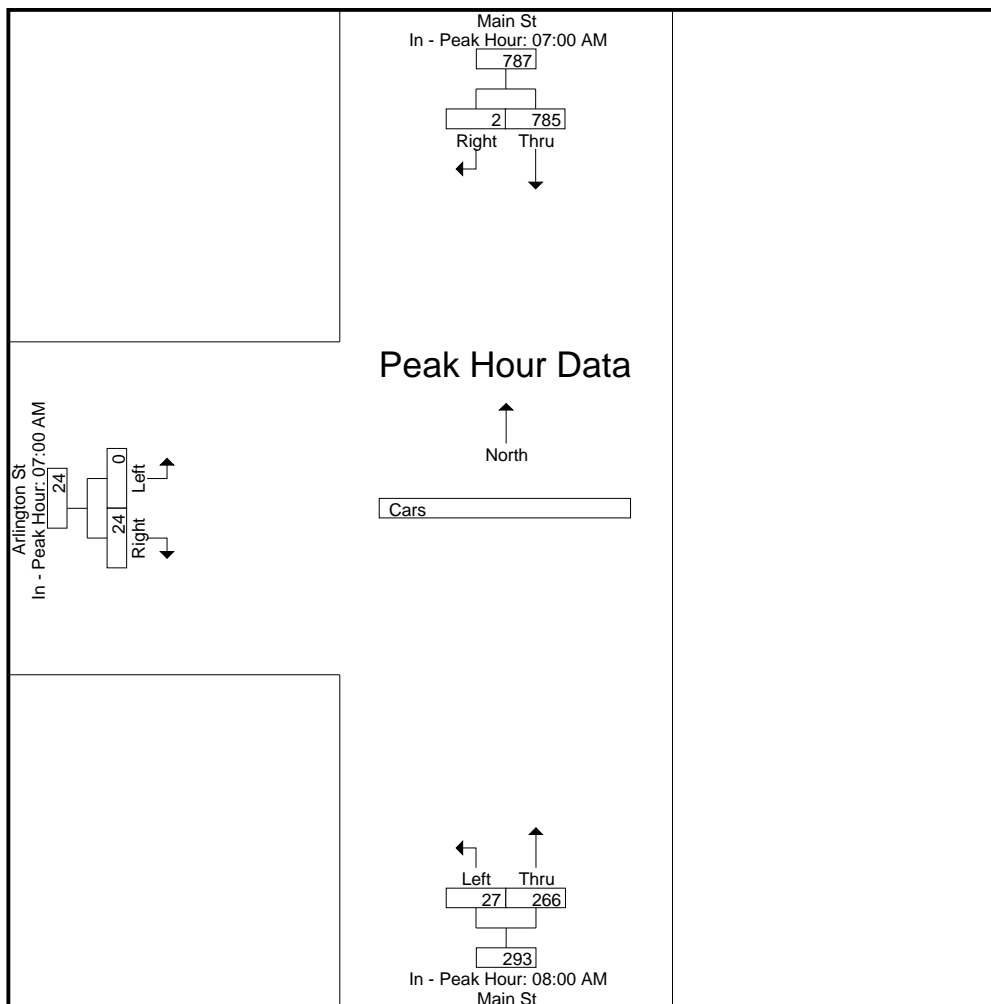
File Name : 81020002

Site Code : 81020002

Start Date : 3/7/2024

Page No : 6

N/S Street : Main Street
E/W Street : Arlington Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Main St From North		Main St From South		Arlington St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	4	0	0	1	0	0	5
07:15 AM	2	0	0	2	0	1	5
07:30 AM	2	0	0	2	0	0	4
07:45 AM	5	0	0	2	0	1	8
Total	13	0	0	7	0	2	22
08:00 AM	4	0	2	8	0	0	14
08:15 AM	2	0	0	4	0	0	6
08:30 AM	3	0	0	4	0	1	8
08:45 AM	2	0	0	10	0	0	12
Total	11	0	2	26	0	1	40
Grand Total	24	0	2	33	0	3	62
Apprch %	100	0	5.7	94.3	0	100	
Total %	38.7	0	3.2	53.2	0	4.8	

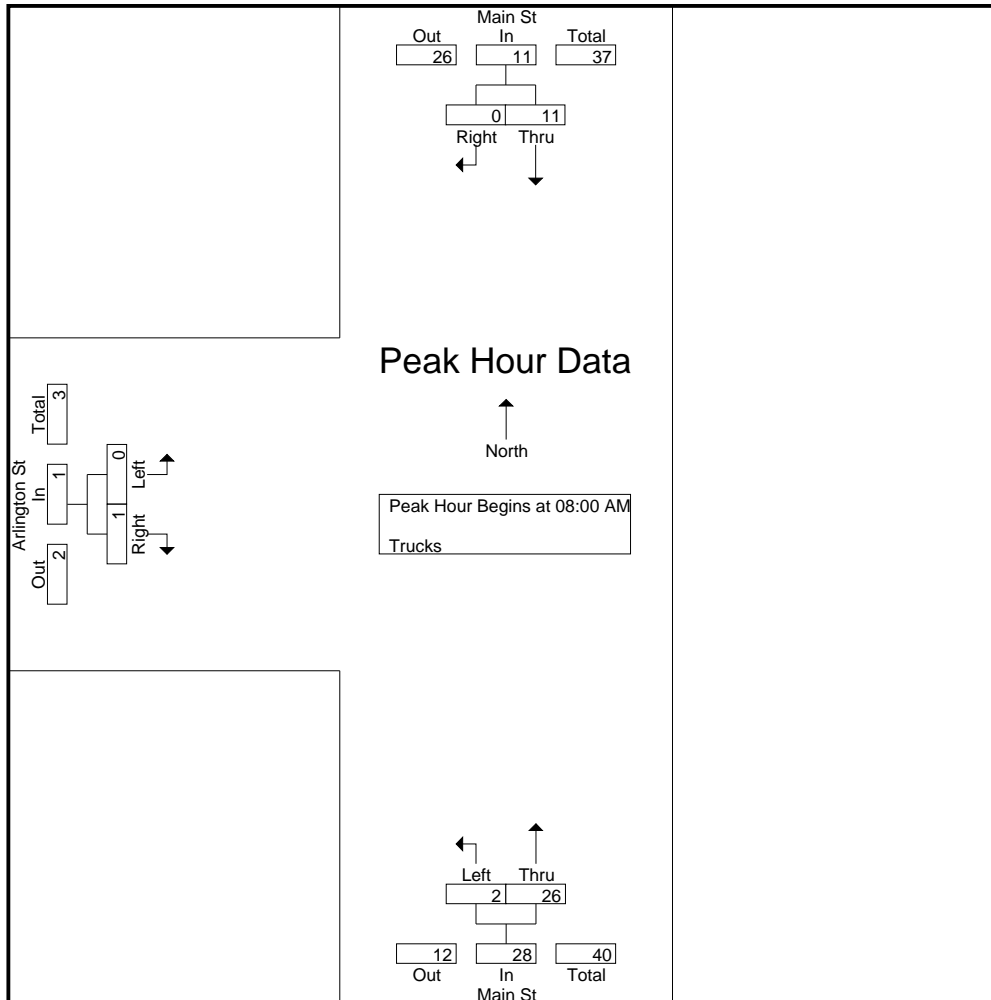
Start Time	Main St From North			Main St From South			Arlington St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	4	0	4	2	8	10	0	0	0	14
08:15 AM	2	0	2	0	4	4	0	0	0	6
08:30 AM	3	0	3	0	4	4	0	1	1	8
08:45 AM	2	0	2	0	10	10	0	0	0	12
Total Volume	11	0	11	2	26	28	0	1	1	40
% App. Total	100	0		7.1	92.9		0	100		
PHF	.688	.000	.688	.250	.650	.700	.000	.250	.250	.714

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 8



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

Peak Hour for Each Approach Begins at:

	07:45 AM			08:00 AM			07:00 AM		
+0 mins.	5	0	5	2	8	10	0	0	0
+15 mins.	4	0	4	0	4	4	0	1	1
+30 mins.	2	0	2	0	4	4	0	0	0
+45 mins.	3	0	3	0	10	10	0	1	1
Total Volume	14	0	14	2	26	28	0	2	2
% App. Total	100	0		7.1	92.9		0	100	
PHF	.700	.000	.700	.250	.650	.700	.000	.500	.500

Accurate Counts

978-664-2565

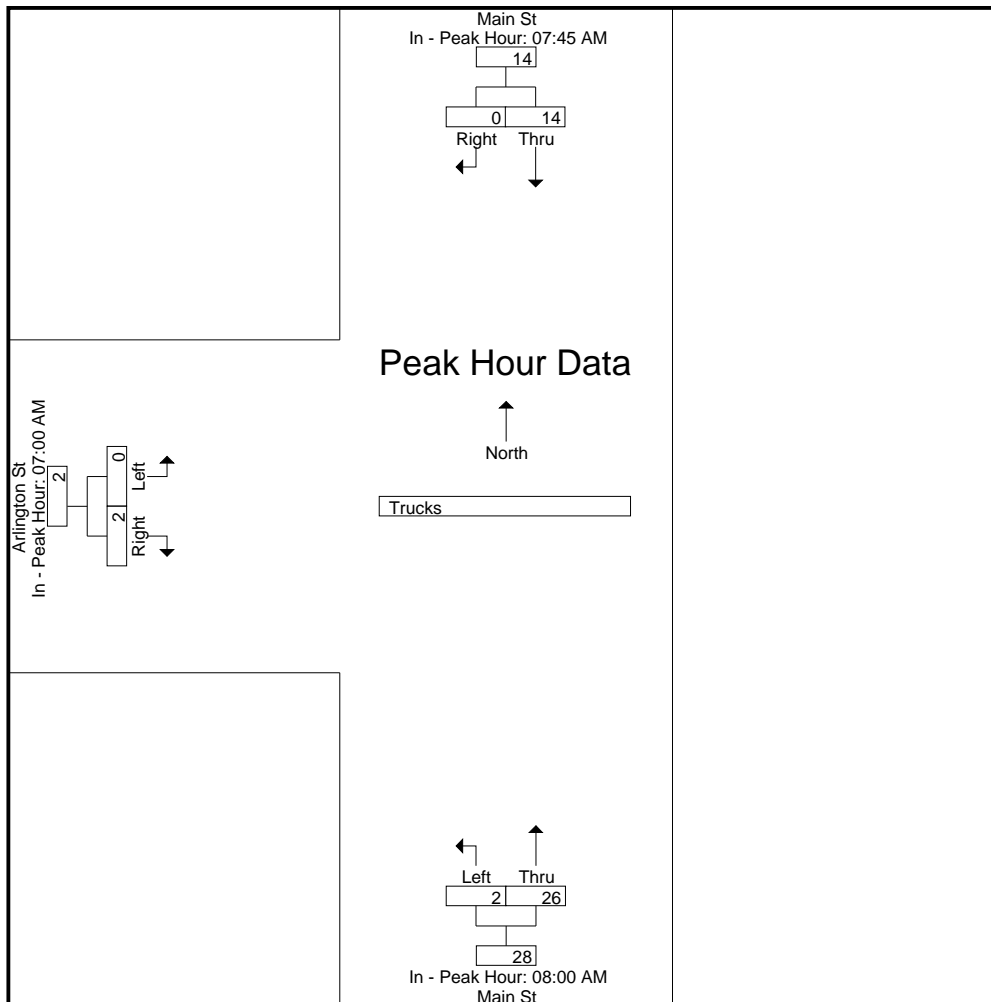
File Name : 81020002

Site Code : 81020002

Start Date : 3/7/2024

Page No : 9

N/S Street : Main Street
E/W Street : Arlington Street
City/State : Groton, MA
Weather : Rain / Cloudy

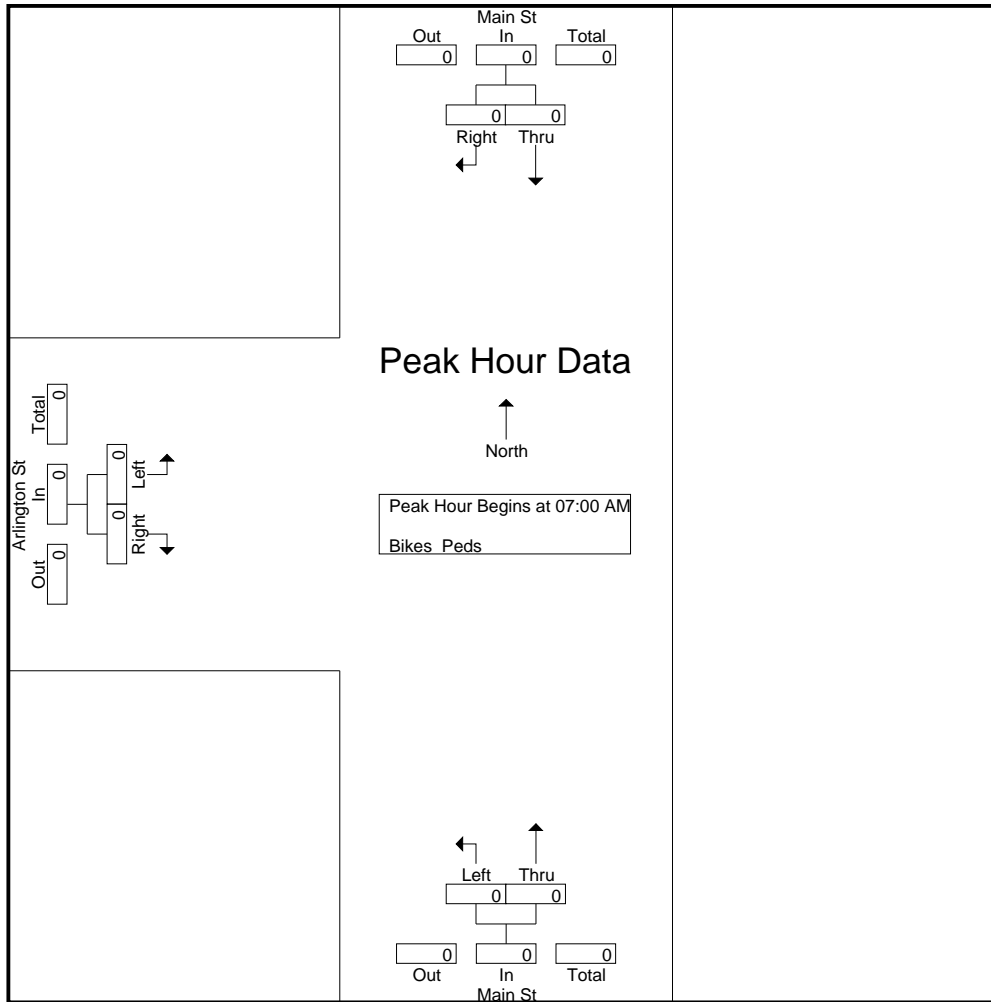


Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 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			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

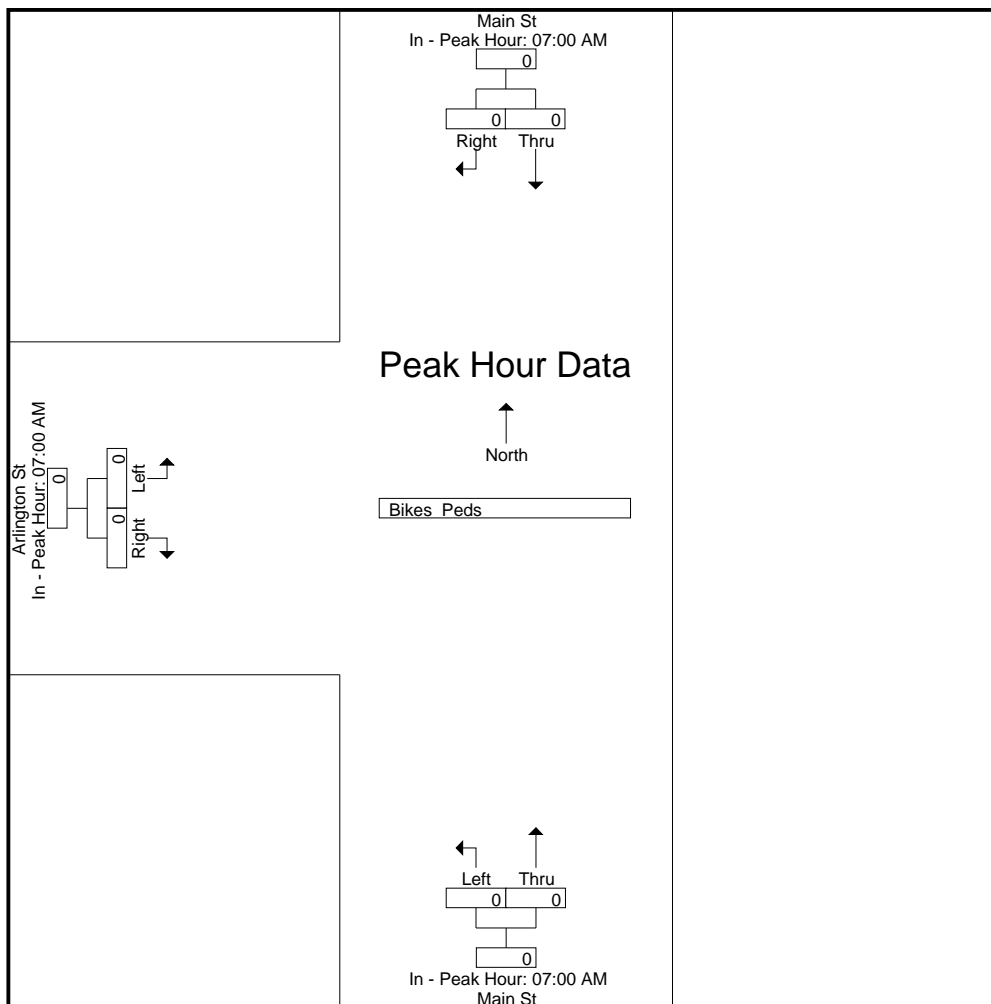
File Name : 81020002

Site Code : 81020002

Start Date : 3/7/2024

Page No : 12

N/S Street : Main Street
E/W Street : Arlington Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Main St From North		Main St From South			Arlington St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right		
04:00 PM	91	1	5	207	1	2	307	
04:15 PM	98	0	13	215	0	3	329	
04:30 PM	83	0	3	183	0	2	271	
04:45 PM	79	1	5	192	1	4	282	
Total	351	2	26	797	2	11	1189	
05:00 PM	90	1	7	191	1	7	297	
05:15 PM	89	0	2	160	1	10	262	
05:30 PM	88	1	15	192	3	5	304	
05:45 PM	71	1	5	162	0	7	246	
Total	338	3	29	705	5	29	1109	
Grand Total	689	5	55	1502	7	40	2298	
Apprch %	99.3	0.7	3.5	96.5	14.9	85.1		
Total %	30	0.2	2.4	65.4	0.3	1.7		
Cars	681	5	55	1491	7	40	2279	
% Cars	98.8	100	100	99.3	100	100	99.2	
Trucks	8	0	0	11	0	0	19	
% Trucks	1.2	0	0	0.7	0	0	0.8	

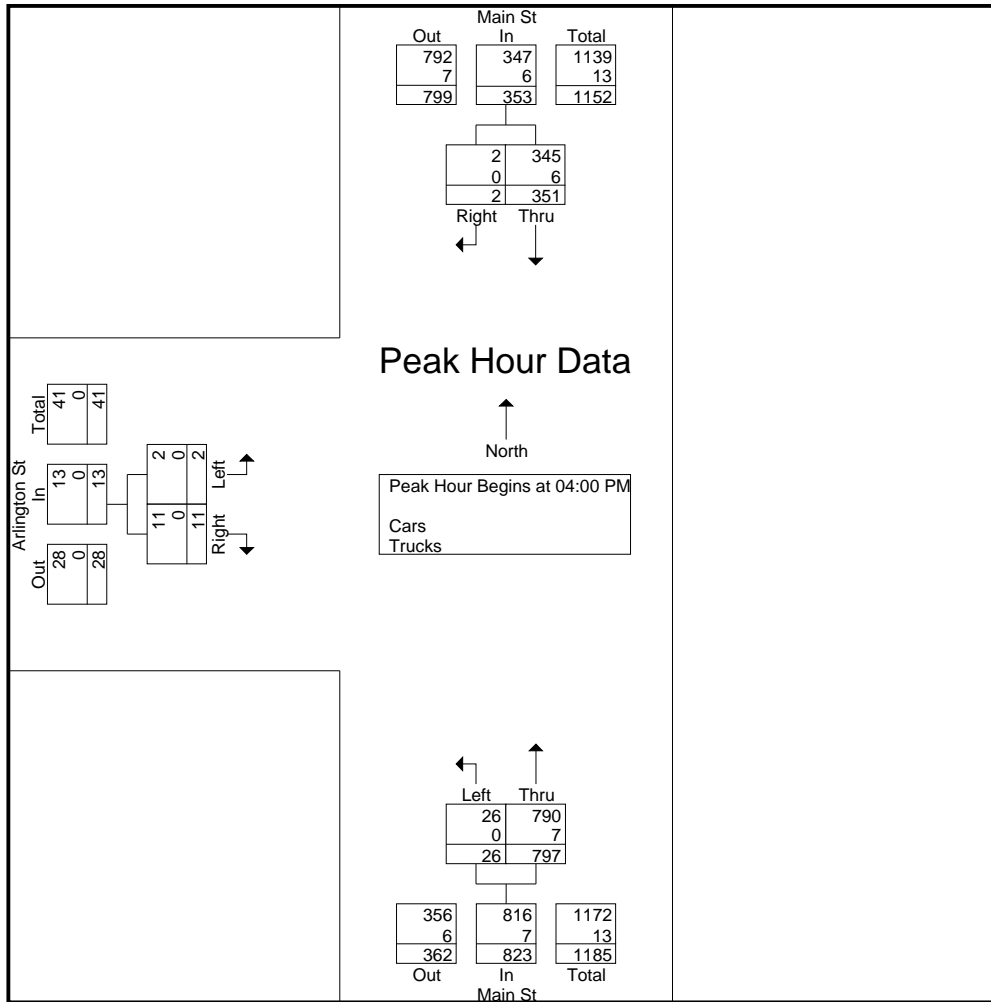
Start Time	Main St From North			Main St From South			Arlington St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	91	1	92	5	207	212	1	2	3	307
04:15 PM	98	0	98	13	215	228	0	3	3	329
04:30 PM	83	0	83	3	183	186	0	2	2	271
04:45 PM	79	1	80	5	192	197	1	4	5	282
Total Volume	351	2	353	26	797	823	2	11	13	1189
% App. Total	99.4	0.6		3.2	96.8		15.4	84.6		
PHF	.895	.500	.901	.500	.927	.902	.500	.688	.650	.903
Cars	345	2	347	26	790	816	2	11	13	1176
% Cars	98.3	100	98.3	100	99.1	99.1	100	100	100	98.9
Trucks	6	0	6	0	7	7	0	0	0	13
% Trucks	1.7	0	1.7	0	0.9	0.9	0	0	0	1.1

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 2



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

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			05:00 PM		
+0 mins.	91	1	92	5	207	212	1	7	8
+15 mins.	98	0	98	13	215	228	1	10	11
+30 mins.	83	0	83	3	183	186	3	5	8
+45 mins.	79	1	80	5	192	197	0	7	7
Total Volume	351	2	353	26	797	823	5	29	34
% App. Total	99.4	0.6		3.2	96.8		14.7	85.3	
PHF	.895	.500	.901	.500	.927	.902	.417	.725	.773
Cars	345	2	347	26	790	816	5	29	34
% Cars	98.3	100	98.3	100	99.1	99.1	100	100	100
Trucks	6	0	6	0	7	7	0	0	0
% Trucks	1.7	0	1.7	0	0.9	0.9	0	0	0

Accurate Counts

978-664-2565

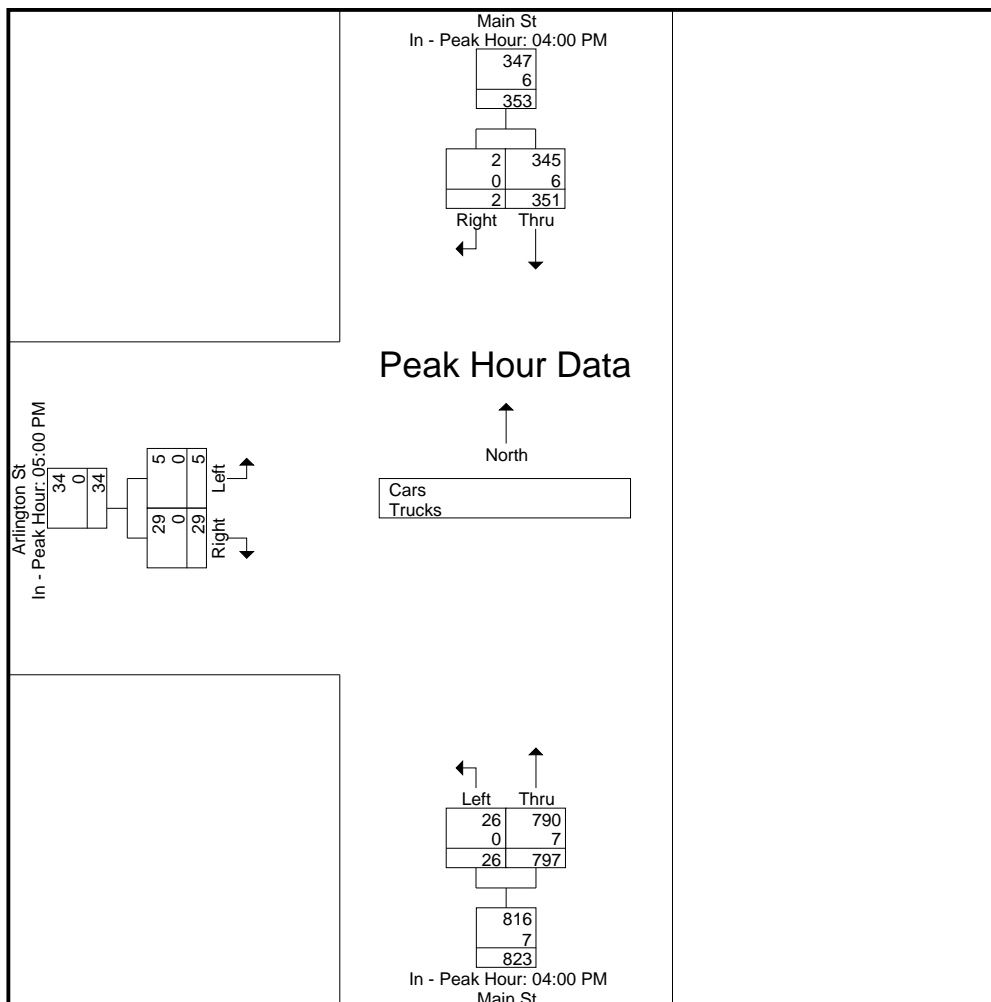
File Name : 81020002

Site Code : 81020002

Start Date : 3/7/2024

Page No : 3

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Main St From North		Main St From South			Arlington St From West			Int. Total
	Thru	Right	Left	Thru		Left	Right		
04:00 PM	87	1	5	203		1	2	299	
04:15 PM	97	0	13	215		0	3	328	
04:30 PM	82	0	3	182		0	2	269	
04:45 PM	79	1	5	190		1	4	280	
Total	345	2	26	790		2	11	1176	
05:00 PM	90	1	7	188		1	7	294	
05:15 PM	88	0	2	159		1	10	260	
05:30 PM	88	1	15	192		3	5	304	
05:45 PM	70	1	5	162		0	7	245	
Total	336	3	29	701		5	29	1103	
Grand Total	681	5	55	1491		7	40	2279	
Apprch %	99.3	0.7	3.6	96.4		14.9	85.1		
Total %	29.9	0.2	2.4	65.4		0.3	1.8		

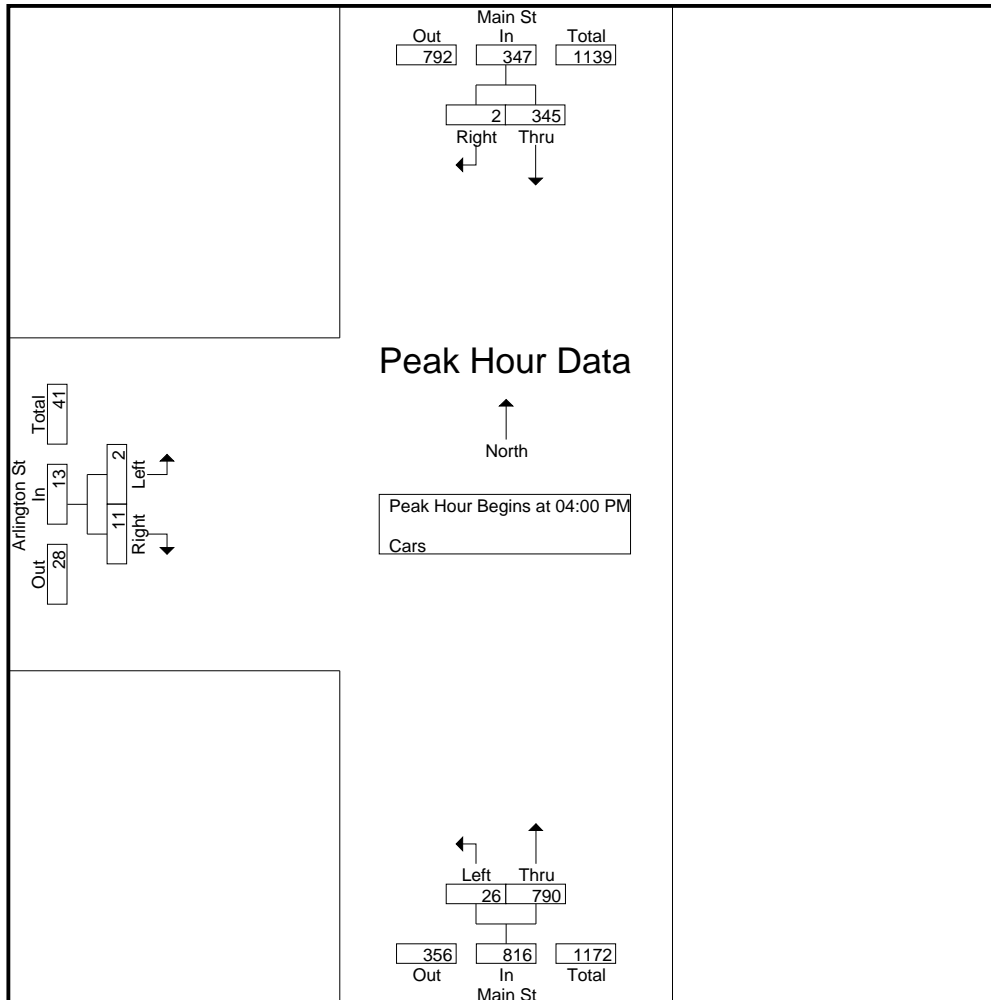
Start Time	Main St From North			Main St From South			Arlington St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	87	1	88	5	203	208	1	2	3	299
04:15 PM	97	0	97	13	215	228	0	3	3	328
04:30 PM	82	0	82	3	182	185	0	2	2	269
04:45 PM	79	1	80	5	190	195	1	4	5	280
Total Volume	345	2	347	26	790	816	2	11	13	1176
% App. Total	99.4	0.6		3.2	96.8		15.4	84.6		
PHF	.889	.500	.894	.500	.919	.895	.500	.688	.650	.896

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 5



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

Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			05:00 PM		
+0 mins.	97	0	97	5	203	208	1	7	8
+15 mins.	82	0	82	13	215	228	1	10	11
+30 mins.	79	1	80	3	182	185	3	5	8
+45 mins.	90	1	91	5	190	195	0	7	7
Total Volume	348	2	350	26	790	816	5	29	34
% App. Total	99.4	0.6		3.2	96.8		14.7	85.3	
PHF	.897	.500	.902	.500	.919	.895	.417	.725	.773

Accurate Counts

978-664-2565

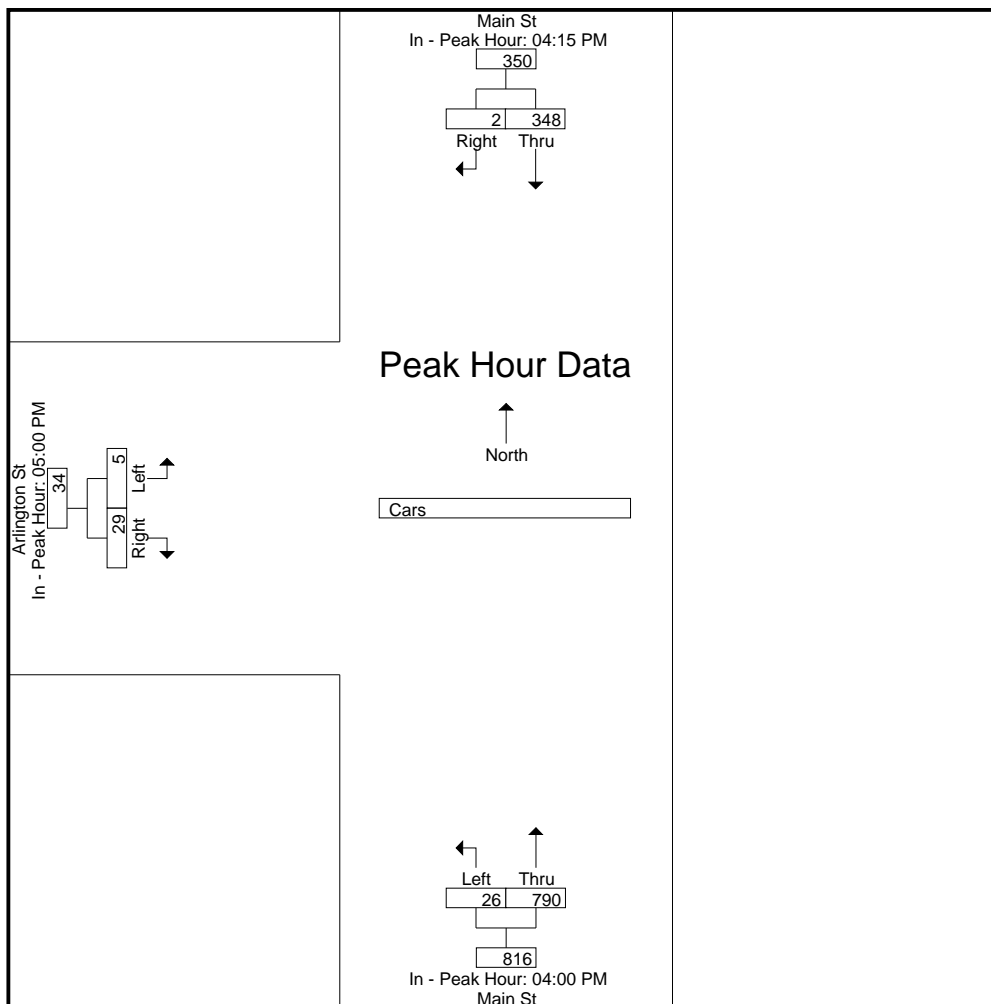
File Name : 81020002

Site Code : 81020002

Start Date : 3/7/2024

Page No : 6

N/S Street : Main Street
E/W Street : Arlington Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Main St From North		Main St From South		Arlington St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
04:00 PM	4	0	0	4	0	0	8
04:15 PM	1	0	0	0	0	0	1
04:30 PM	1	0	0	1	0	0	2
04:45 PM	0	0	0	2	0	0	2
Total	6	0	0	7	0	0	13
05:00 PM	0	0	0	3	0	0	3
05:15 PM	1	0	0	1	0	0	2
05:30 PM	0	0	0	0	0	0	0
05:45 PM	1	0	0	0	0	0	1
Total	2	0	0	4	0	0	6
Grand Total	8	0	0	11	0	0	19
Apprch %	100	0	0	100	0	0	
Total %	42.1	0	0	57.9	0	0	

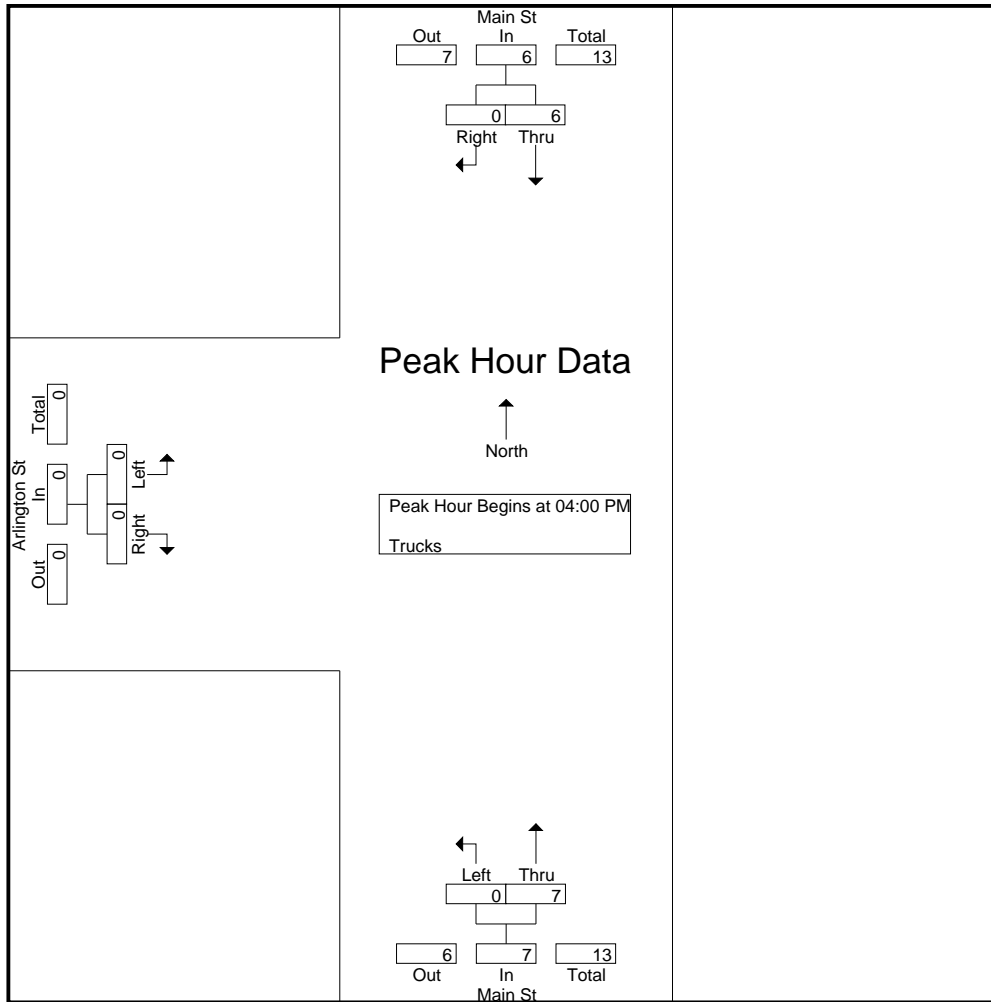
Start Time	Main St From North			Main St From South			Arlington St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	4	0	4	0	4	4	0	0	0	8
04:15 PM	1	0	1	0	0	0	0	0	0	1
04:30 PM	1	0	1	0	1	1	0	0	0	2
04:45 PM	0	0	0	0	2	2	0	0	0	2
Total Volume	6	0	6	0	7	7	0	0	0	13
% App. Total	100	0		0	100		0	0		
PHF	.375	.000	.375	.000	.438	.438	.000	.000	.000	.406

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 8



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

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	4	0	4	0	4	4	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	1	0	1	0	1	1	0	0	0
+45 mins.	0	0	0	0	2	2	0	0	0
Total Volume	6	0	6	0	7	7	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.375	.000	.375	.000	.438	.438	.000	.000	.000

Accurate Counts

978-664-2565

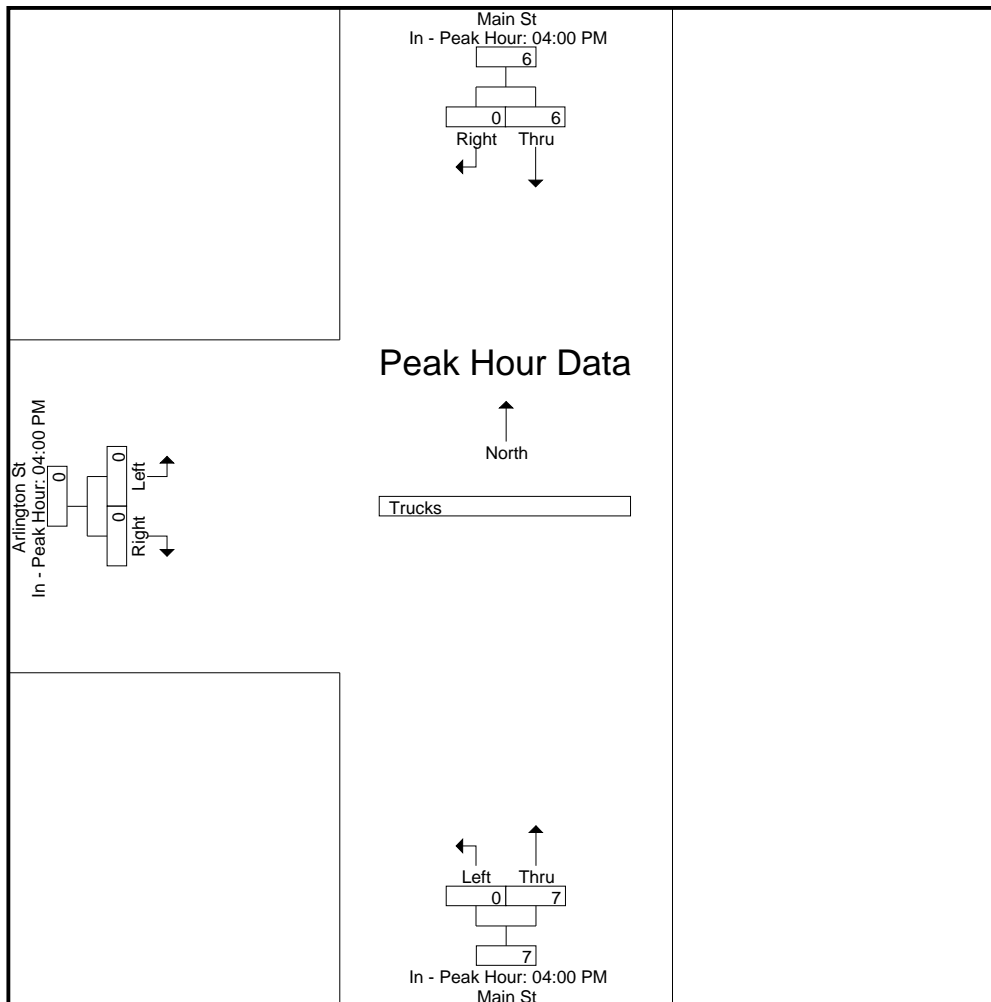
File Name : 81020002

Site Code : 81020002

Start Date : 3/7/2024

Page No : 9

N/S Street : Main Street
E/W Street : Arlington Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Main St From North			Main St From South			Arlington St From West			Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	2	0	2
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	1	1	0	1
Total	0	0	0	0	0	0	0	0	3	3	0	3
05:00 PM	0	0	0	0	0	0	0	1	0	0	1	1
05:15 PM	0	0	0	2	0	0	0	0	0	0	2	2
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	0	0	0	0
Total	0	0	0	2	0	0	0	1	0	0	3	3
Grand Total	0	0	0	2	0	0	0	1	3	3	3	6
Apprch %	0	0		100	0		0	100				
Total %	0	0		66.7	0		0	33.3		50	50	

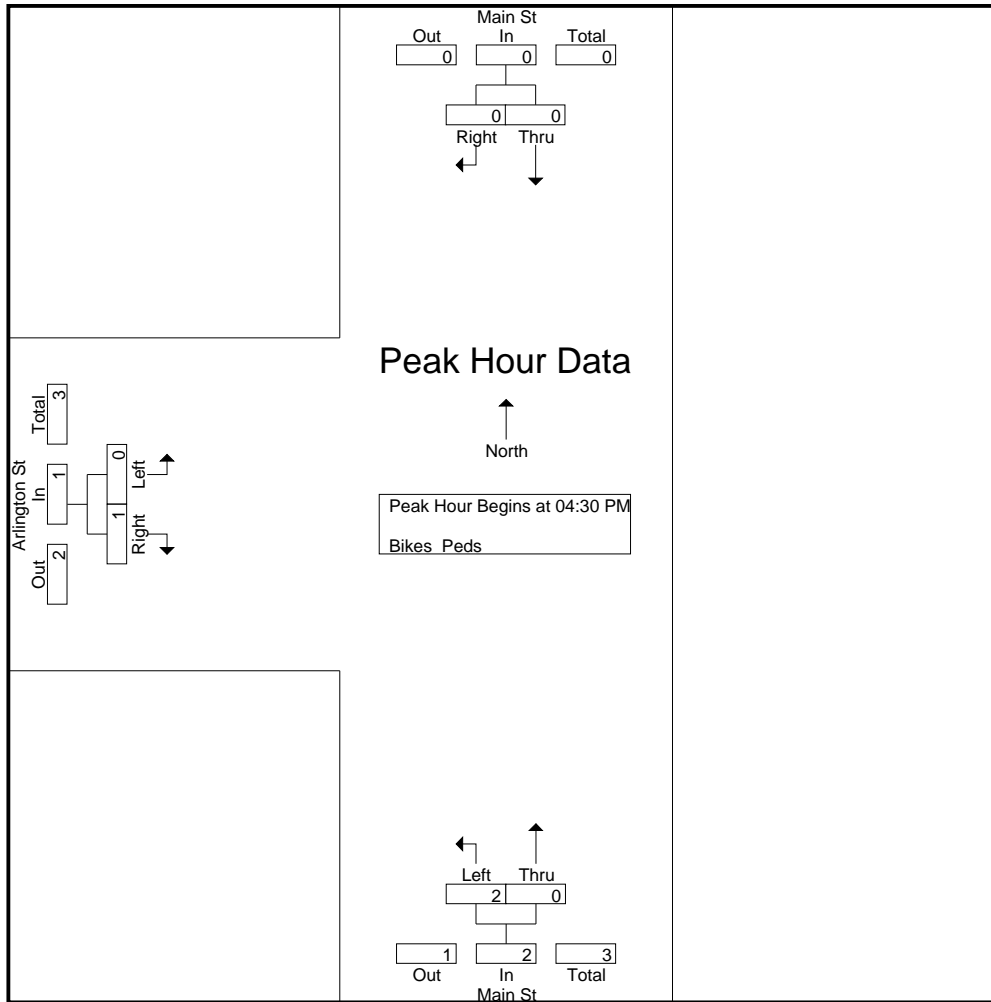
Start Time	Main St From North			Main St From South			Arlington St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	1	1	1
05:15 PM	0	0	0	2	0	2	0	0	0	2
Total Volume	0	0	0	2	0	2	0	1	1	3
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250	.375

Accurate Counts

978-664-2565

N/S Street : Main Street
 E/W Street : Arlington Street
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020002
 Site Code : 81020002
 Start Date : 3/7/2024
 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:

	04:00 PM			04:30 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	2	0	2	0	1	1
Total Volume	0	0	0	2	0	2	0	1	1
% App. Total	0	0	0	100	0	100	0	100	100
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250

Accurate Counts

978-664-2565

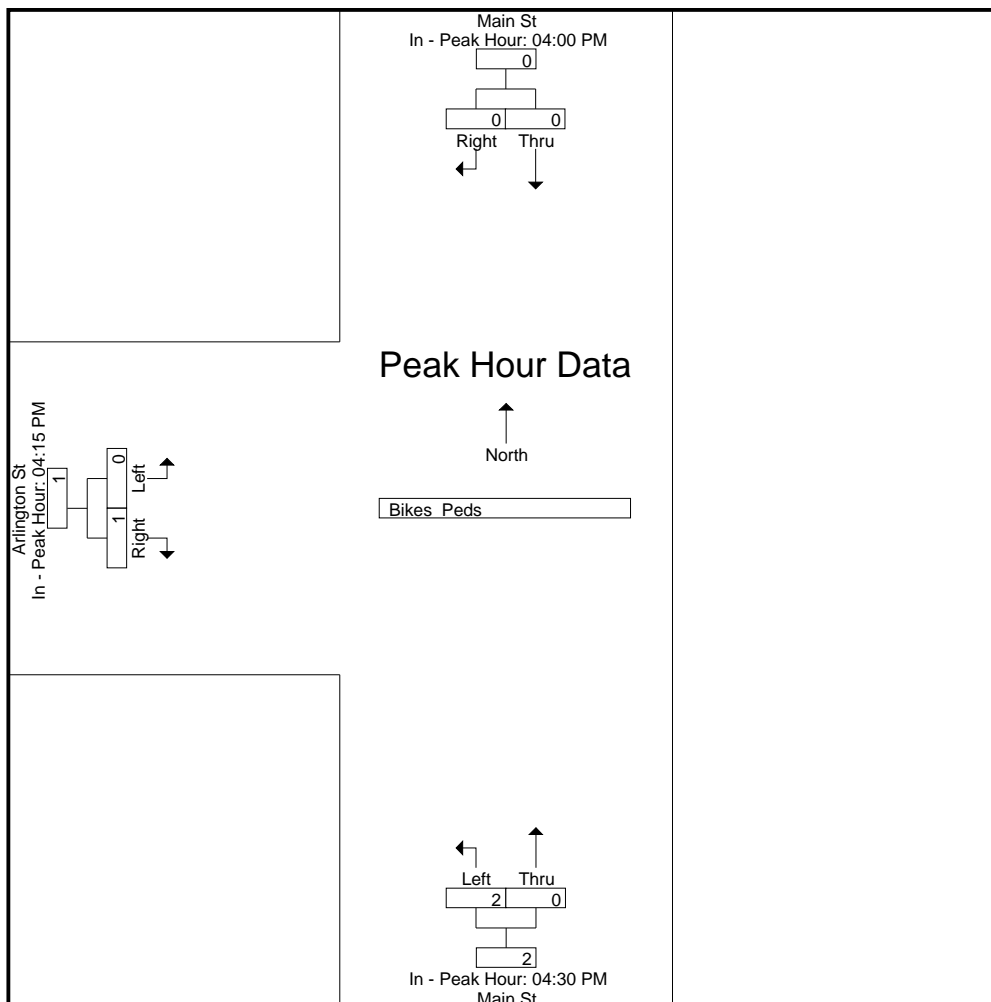
File Name : 81020002

Site Code : 81020002

Start Date : 3/7/2024

Page No : 12

N/S Street : Main Street
E/W Street : Arlington Street
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Mill St From North			Arlington St From East			Mill St From South			Gratuity Rd From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	25	0	1	0	0	0	9	9	0	3	1	48
07:15 AM	0	31	0	1	3	0	0	7	2	1	1	2	48
07:30 AM	0	22	0	4	0	0	0	11	2	0	1	1	41
07:45 AM	1	39	2	1	0	0	1	11	3	0	2	2	62
Total	1	117	2	7	3	0	1	38	16	1	7	6	199
08:00 AM	0	32	0	12	0	1	0	22	0	2	1	0	70
08:15 AM	1	23	0	3	1	1	1	17	3	1	1	2	54
08:30 AM	1	25	0	1	0	0	1	15	5	0	5	3	56
08:45 AM	0	16	0	8	5	0	1	9	7	1	2	1	50
Total	2	96	0	24	6	2	3	63	15	4	9	6	230
Grand Total	3	213	2	31	9	2	4	101	31	5	16	12	429
Apprch %	1.4	97.7	0.9	73.8	21.4	4.8	2.9	74.3	22.8	15.2	48.5	36.4	
Total %	0.7	49.7	0.5	7.2	2.1	0.5	0.9	23.5	7.2	1.2	3.7	2.8	
Cars	3	213	2	29	9	2	3	101	28	4	16	12	422
% Cars	100	100	100	93.5	100	100	75	100	90.3	80	100	100	98.4
Trucks	0	0	0	2	0	0	1	0	3	1	0	0	7
% Trucks	0	0	0	6.5	0	0	25	0	9.7	20	0	0	1.6

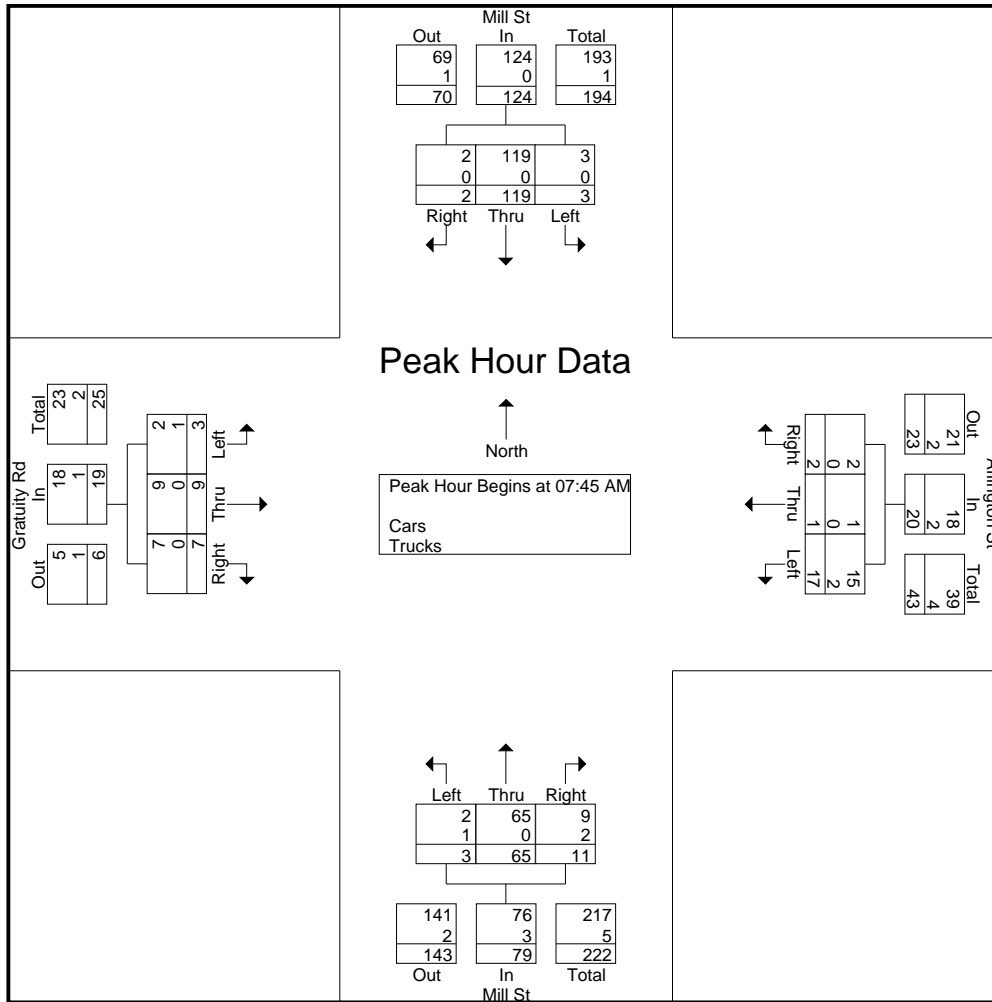
Start Time	Mill St From North				Arlington St From East				Mill St From South				Gratuity Rd From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	39	2	42	1	0	0	1	1	11	3	15	0	2	2	4	62
08:00 AM	0	32	0	32	12	0	1	13	0	22	0	22	2	1	0	3	70
08:15 AM	1	23	0	24	3	1	1	5	1	17	3	21	1	1	2	4	54
08:30 AM	1	25	0	26	1	0	0	1	1	15	5	21	0	5	3	8	56
Total Volume	3	119	2	124	17	1	2	20	3	65	11	79	3	9	7	19	242
% App. Total	2.4	96	1.6		85	5	10		3.8	82.3	13.9		15.8	47.4	36.8		
PHF	.750	.763	.250	.738	.354	.250	.500	.385	.750	.739	.550	.898	.375	.450	.583	.594	.864
Cars	3	119	2	124	15	1	2	18	2	65	9	76	2	9	7	18	236
% Cars	100	100	100	100	88.2	100	100	90.0	66.7	100	81.8	96.2	66.7	100	100	94.7	97.5
Trucks	0	0	0	0	2	0	0	2	1	0	2	3	1	0	0	1	6
% Trucks	0	0	0	0	11.8	0	0	10.0	33.3	0	18.2	3.8	33.3	0	0	5.3	2.5

Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 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:

	07:15 AM				08:00 AM				08:00 AM				07:45 AM			
+0 mins.	0	31	0	31	12	0	1	13	0	22	0	22	0	2	2	4
+15 mins.	0	22	0	22	3	1	1	5	1	17	3	21	2	1	0	3
+30 mins.	1	39	2	42	1	0	0	1	1	15	5	21	1	1	2	4
+45 mins.	0	32	0	32	8	5	0	13	1	9	7	17	0	5	3	8
Total Volume	1	124	2	127	24	6	2	32	3	63	15	81	3	9	7	19
% App. Total	0.8	97.6	1.6		75	18.8	6.2		3.7	77.8	18.5		15.8	47.4	36.8	
PHF	.250	.795	.250	.756	.500	.300	.500	.615	.750	.716	.536	.920	.375	.450	.583	.594
Cars	1	124	2	127	22	6	2	30	3	63	14	80	2	9	7	18
% Cars	100	100	100	100	91.7	100	100	93.8	100	100	93.3	98.8	66.7	100	100	94.7
Trucks	0	0	0	0	2	0	0	2	0	0	1	1	1	0	0	1
% Trucks	0	0	0	0	8.3	0	0	6.2	0	0	6.7	1.2	33.3	0	0	5.3

Accurate Counts

978-664-2565

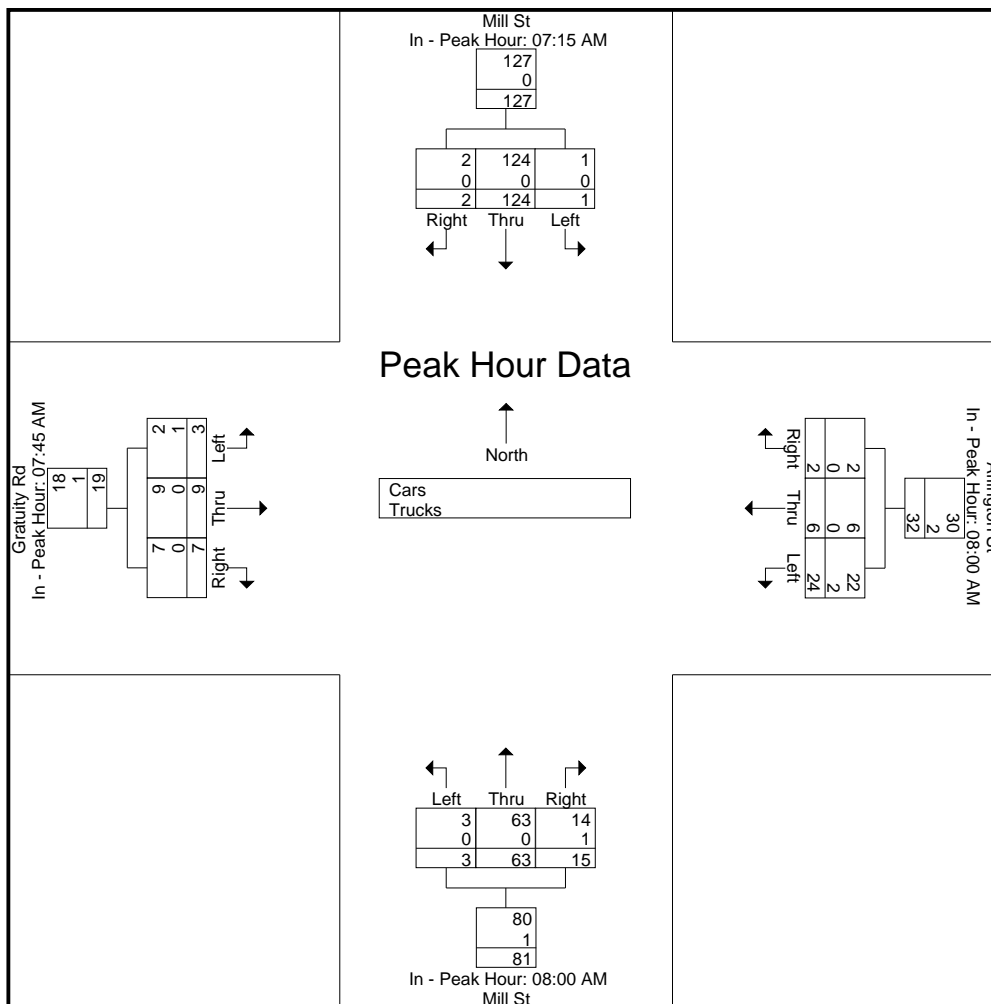
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 3

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Mill St From North			Arlington St From East			Mill St From South			Gratuity Rd From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	25	0	1	0	0	0	9	8	0	3	1	47
07:15 AM	0	31	0	1	3	0	0	7	2	1	1	2	48
07:30 AM	0	22	0	4	0	0	0	11	2	0	1	1	41
07:45 AM	1	39	2	1	0	0	0	11	2	0	2	2	60
Total	1	117	2	7	3	0	0	38	14	1	7	6	196
08:00 AM	0	32	0	11	0	1	0	22	0	2	1	0	69
08:15 AM	1	23	0	2	1	1	1	17	3	0	1	2	52
08:30 AM	1	25	0	1	0	0	1	15	4	0	5	3	55
08:45 AM	0	16	0	8	5	0	1	9	7	1	2	1	50
Total	2	96	0	22	6	2	3	63	14	3	9	6	226
Grand Total	3	213	2	29	9	2	3	101	28	4	16	12	422
Apprch %	1.4	97.7	0.9	72.5	22.5	5	2.3	76.5	21.2	12.5	50	37.5	
Total %	0.7	50.5	0.5	6.9	2.1	0.5	0.7	23.9	6.6	0.9	3.8	2.8	

Start Time	Mill St From North				Arlington St From East				Mill St From South				Gratuity Rd From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	39	2	42	1	0	0	1	0	11	2	13	0	2	2	4	60
08:00 AM	0	32	0	32	11	0	1	12	0	22	0	22	2	1	0	3	69
08:15 AM	1	23	0	24	2	1	1	4	1	17	3	21	0	1	2	3	52
08:30 AM	1	25	0	26	1	0	0	1	1	15	4	20	0	5	3	8	55
Total Volume	3	119	2	124	15	1	2	18	2	65	9	76	2	9	7	18	236
% App. Total	2.4	96	1.6		83.3	5.6	11.1		2.6	85.5	11.8		11.1	50	38.9		
PHF	.750	.763	.250	.738	.341	.250	.500	.375	.500	.739	.563	.864	.250	.450	.583	.563	.855

Accurate Counts

978-664-2565

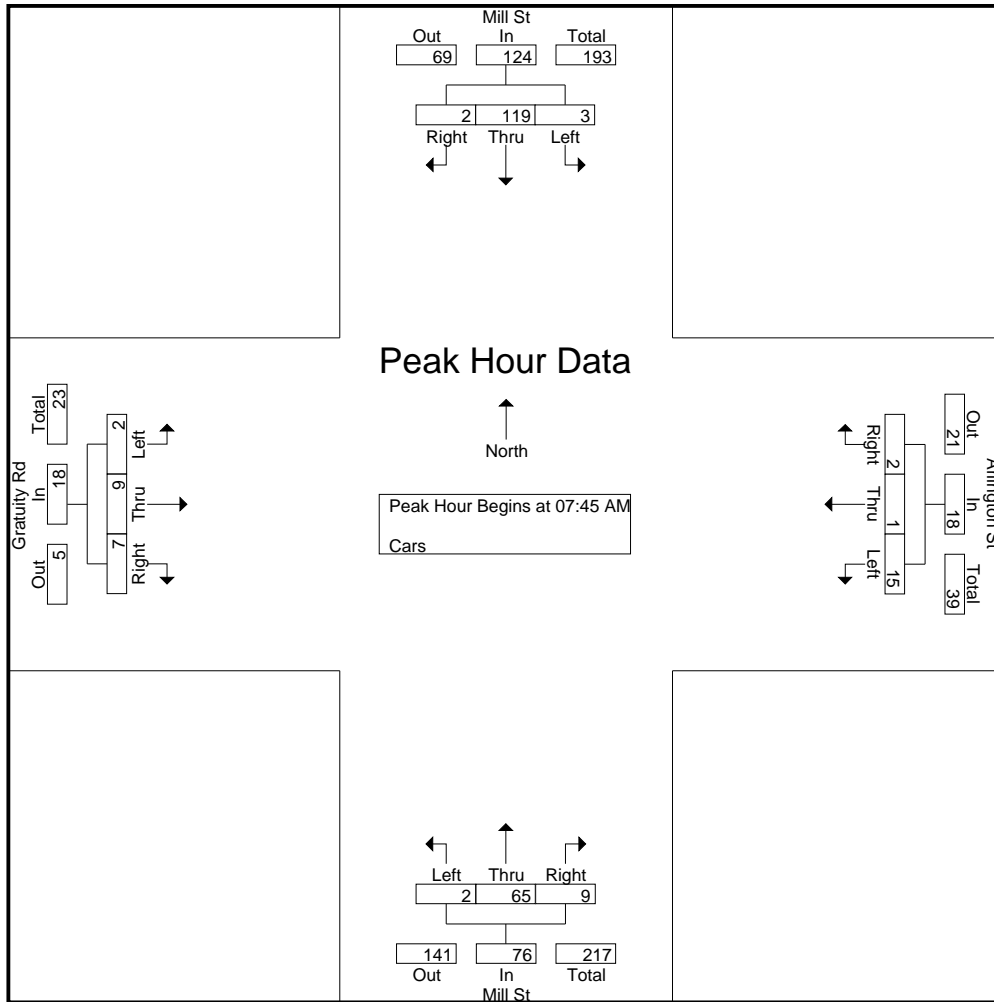
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 5

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy



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

Peak Hour for Each Approach Begins at:

	07:15 AM				08:00 AM				08:00 AM				07:45 AM			
+0 mins.	0	31	0	31	11	0	1	12	0	22	0	22	0	2	2	4
+15 mins.	0	22	0	22	2	1	1	4	1	17	3	21	2	1	0	3
+30 mins.	1	39	2	42	1	0	0	1	1	15	4	20	0	1	2	3
+45 mins.	0	32	0	32	8	5	0	13	1	9	7	17	0	5	3	8
Total Volume	1	124	2	127	22	6	2	30	3	63	14	80	2	9	7	18
% App. Total	0.8	97.6	1.6		73.3	20	6.7		3.8	78.8	17.5		11.1	50	38.9	
PHF	.250	.795	.250	.756	.500	.300	.500	.577	.750	.716	.500	.909	.250	.450	.583	.563

Accurate Counts

978-664-2565

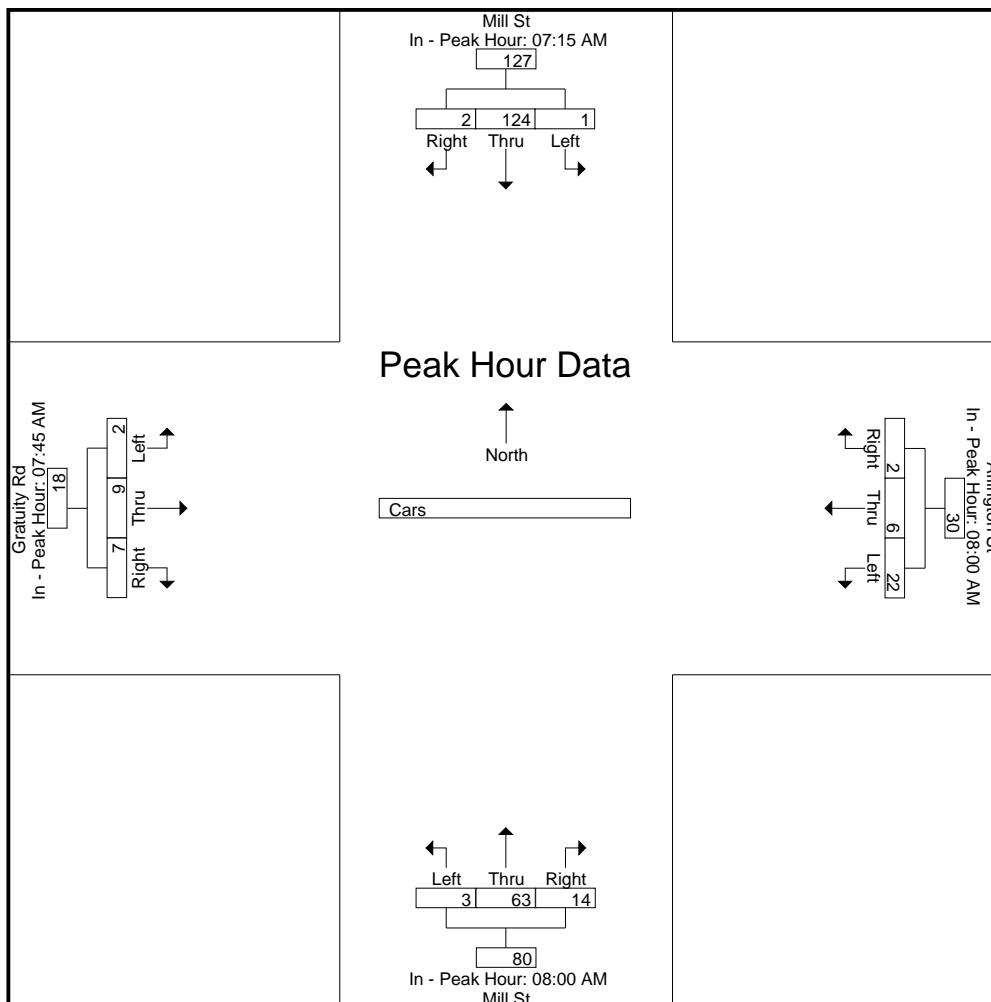
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 6

N/S Street : Mill Street
E/W Street : Arlington St / Gratuity Rd
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Mill St From North			Arlington St From East			Mill St From South			Gratuity Rd From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
07:15 AM	0	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	0
07:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	2
Total	0	0	0	0	0	0	1	0	2	0	0	0	3
08:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	1	0	0	0	0	0	1	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	0	0	0	0	1	1	0	0	4
Grand Total	0	0	0	2	0	0	1	0	3	1	0	0	7
Apprch %	0	0	0	100	0	0	25	0	75	100	0	0	
Total %	0	0	0	28.6	0	0	14.3	0	42.9	14.3	0	0	

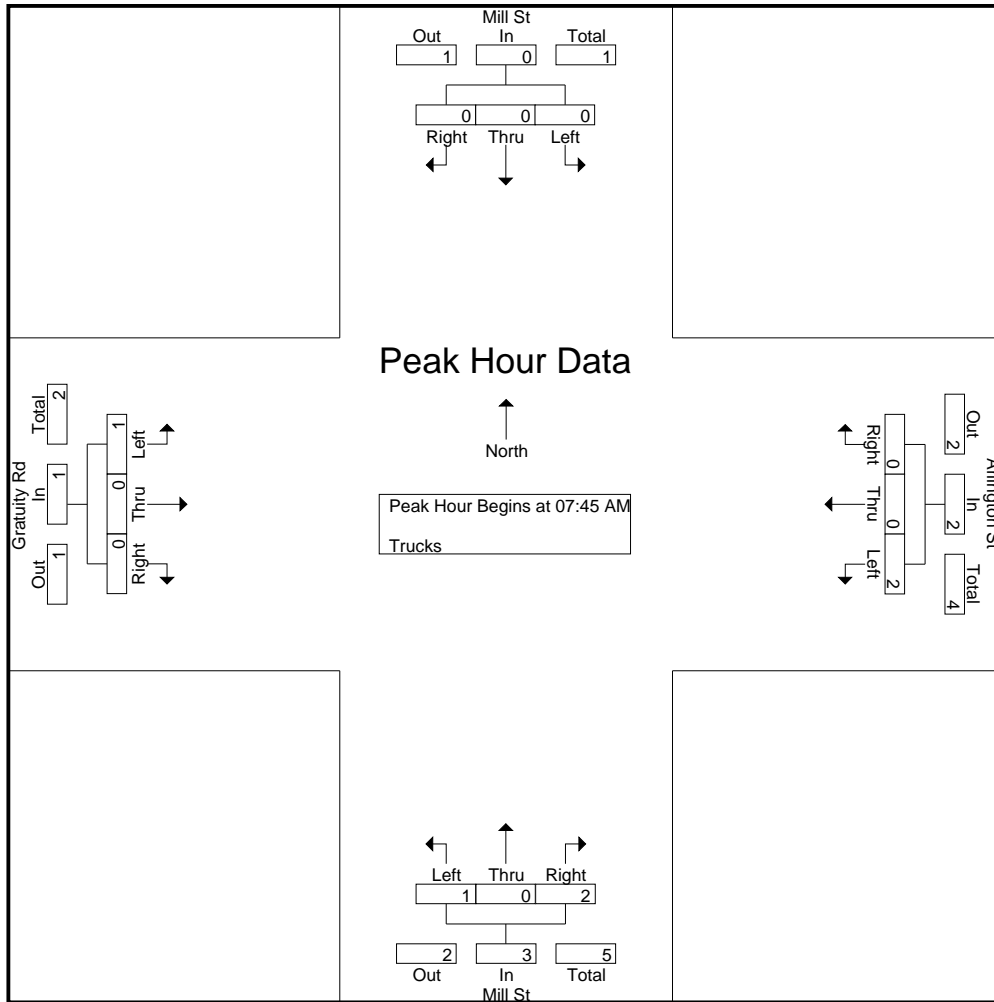
Start Time	Mill St From North				Arlington St From East				Mill St From South				Gratuity Rd From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
08:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Volume	0	0	0	0	2	0	0	2	1	0	2	3	1	0	0	1	6
% App. Total	0	0	0		100	0	0		33.3	0	66.7		100	0	0		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.250	.000	.500	.375	.250	.000	.000	.250	.750

Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 8



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				07:30 AM				07:00 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	1	1	0	1	2	1	0	0	1
Total Volume	0	0	0	0	2	0	0	2	1	0	2	3	1	0	0	1
% App. Total	0	0	0	0	100	0	0	0	33.3	0	66.7	0	100	0	0	0
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.250	.000	.500	.375	.250	.000	.000	.250

Accurate Counts

978-664-2565

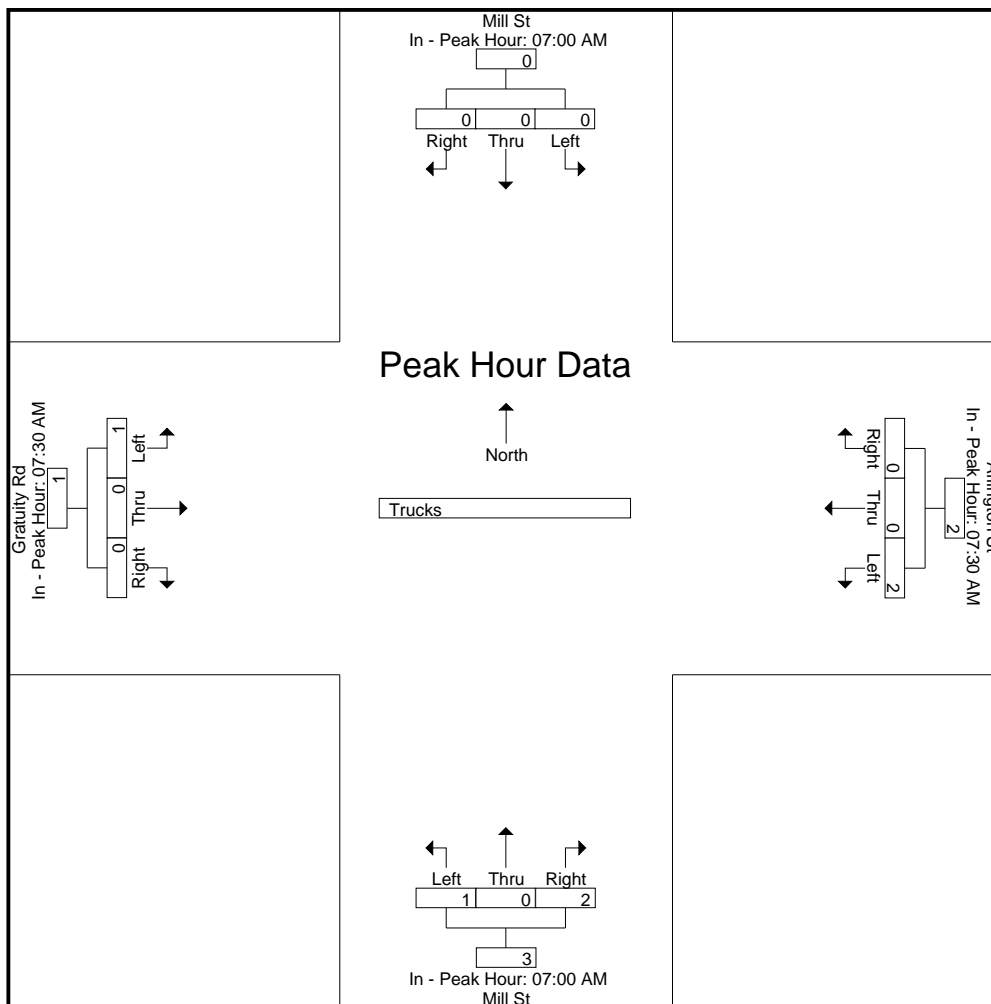
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 9

N/S Street : Mill Street
E/W Street : Arlington St / Gratuity Rd
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Mill St From North				Arlington St From East				Mill St From South				Gratuity Rd From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
07:15 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
08:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:30 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0
Total	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Grand Total	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	4	0	4
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

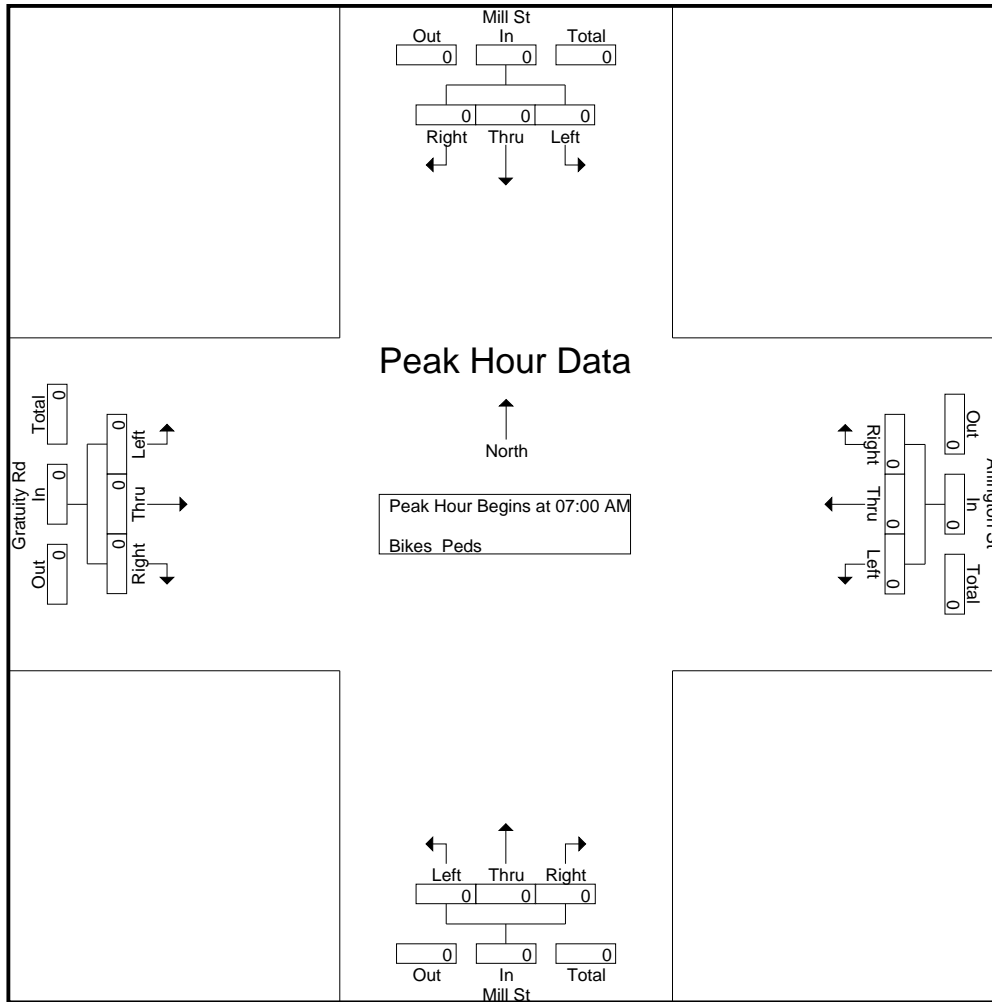
Start Time	Mill St From North				Arlington St From East				Mill St From South				Gratuity Rd From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:00 AM																		
07:00 AM	0	0	0	0	0	0	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	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	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	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 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:

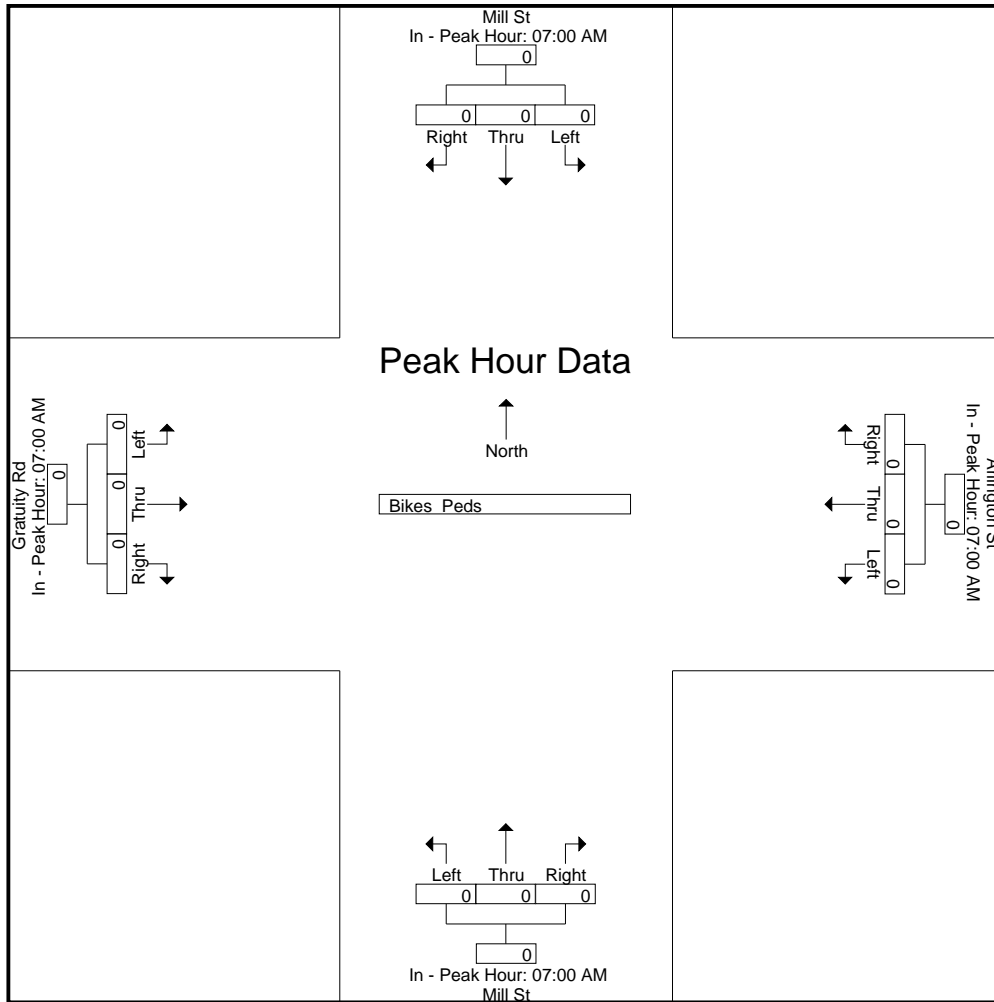
	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0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

Accurate Counts

978-664-2565

N/S Street : Mill Street
E/W Street : Arlington St / Gratuity Rd
City/State : Groton, MA
Weather : Rain / Cloudy

File Name : 81020003
Site Code : 81020003
Start Date : 3/7/2024
Page No : 12

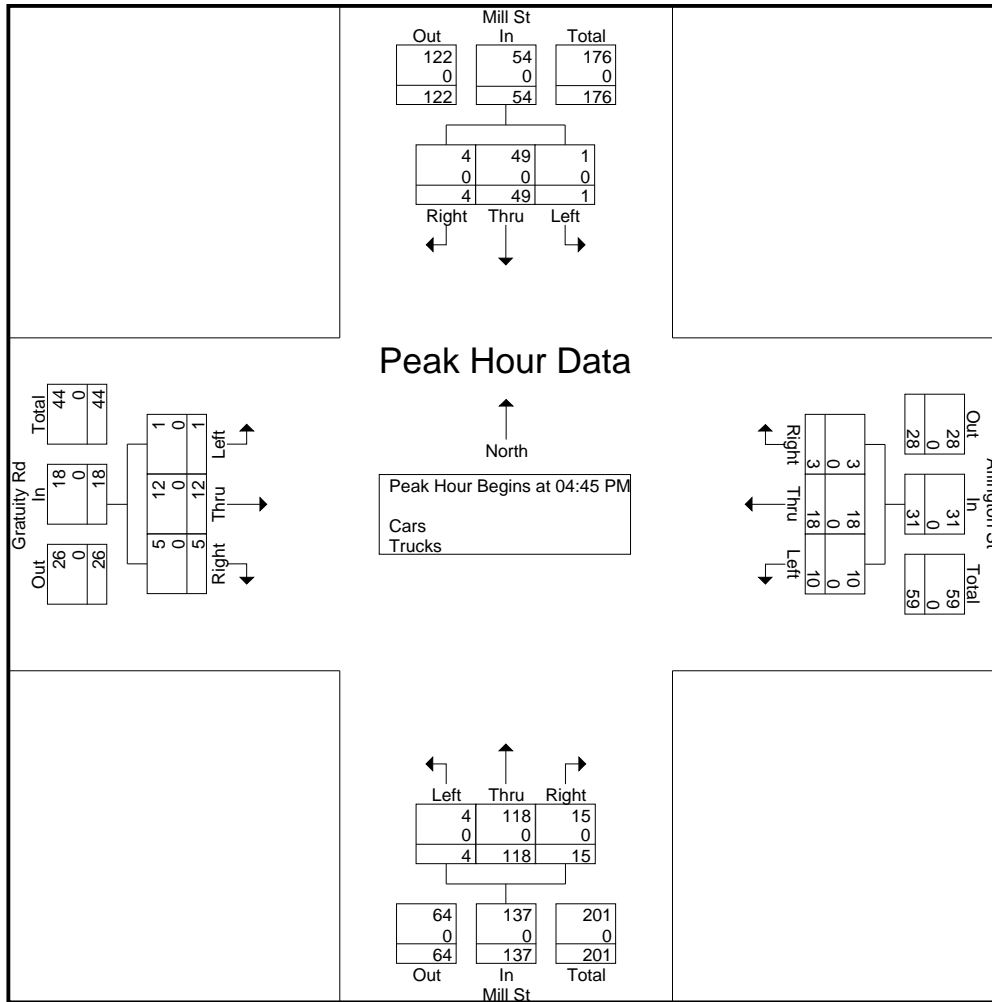


Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 2



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

Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:00 PM				04:30 PM			
+0 mins.	0	18	0	18	2	5	0	7	0	38	4	42	2	1	0	3
+15 mins.	0	11	1	12	0	1	0	1	2	36	1	39	0	3	2	5
+30 mins.	1	14	0	15	7	10	1	18	2	30	0	32	0	0	1	1
+45 mins.	0	10	1	11	5	1	0	6	2	29	5	36	1	7	2	10
Total Volume	1	53	2	56	14	17	1	32	6	133	10	149	3	11	5	19
% App. Total	1.8	94.6	3.6		43.8	53.1	3.1		4	89.3	6.7		15.8	57.9	26.3	
PHF	.250	.736	.500	.778	.500	.425	.250	.444	.750	.875	.500	.887	.375	.393	.625	.475
Cars	1	53	2	56	14	17	1	32	6	133	10	149	3	11	5	19
% Cars	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

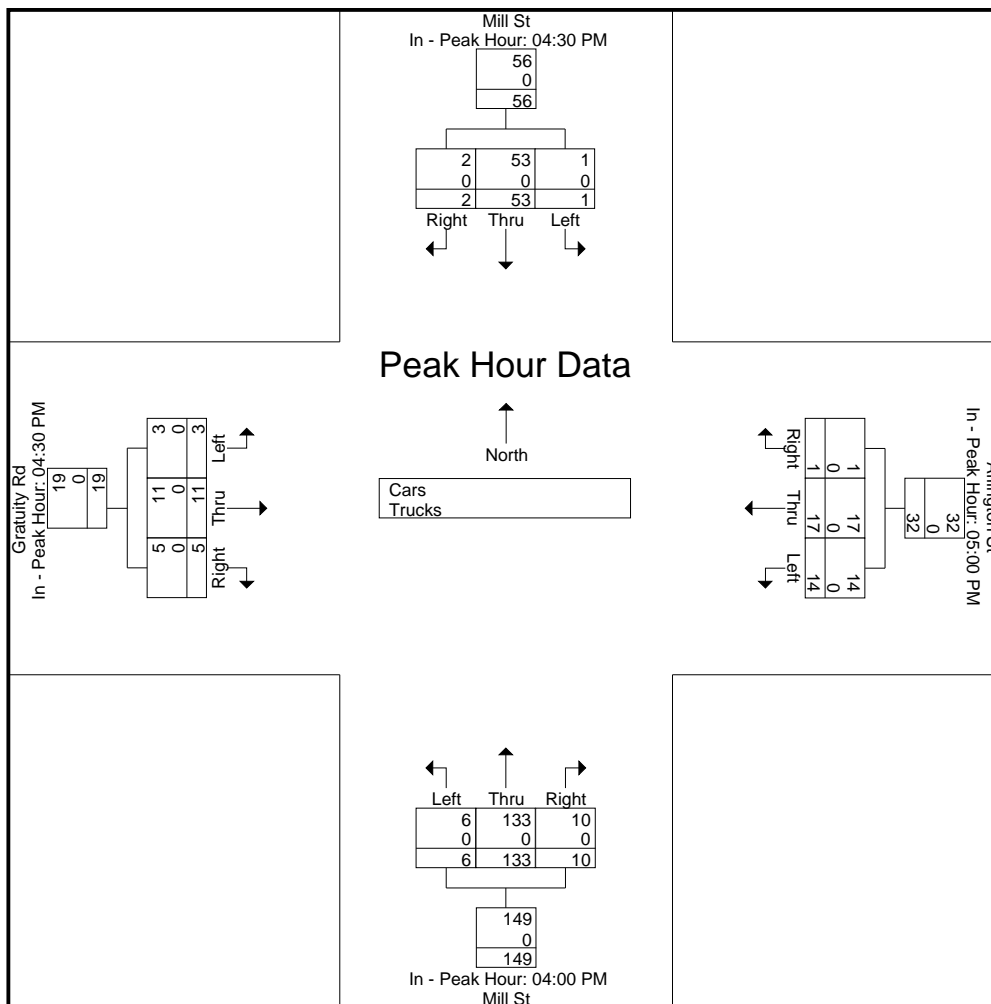
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 3

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Mill St From North			Arlington St From East			Mill St From South			Gratuity Rd From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	10	2	4	2	0	0	38	4	1	1	1	63
04:15 PM	0	6	1	10	1	1	2	36	1	0	1	2	61
04:30 PM	0	18	0	0	3	0	2	30	0	2	1	0	56
04:45 PM	0	11	1	1	2	2	2	29	5	0	3	2	58
Total	0	45	4	15	8	3	6	133	10	3	6	5	238
05:00 PM	1	14	0	2	5	0	0	22	3	0	0	1	48
05:15 PM	0	10	1	0	1	0	2	41	5	1	7	2	70
05:30 PM	0	14	2	7	10	1	0	26	2	0	2	0	64
05:45 PM	1	9	1	5	1	0	1	9	5	1	0	0	33
Total	2	47	4	14	17	1	3	98	15	2	9	3	215
Grand Total	2	92	8	29	25	4	9	231	25	5	15	8	453
Apprch %	2	90.2	7.8	50	43.1	6.9	3.4	87.2	9.4	17.9	53.6	28.6	
Total %	0.4	20.3	1.8	6.4	5.5	0.9	2	51	5.5	1.1	3.3	1.8	

Start Time	Mill St From North				Arlington St From East				Mill St From South				Gratuity Rd From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	11	1	12	1	2	2	5	2	29	5	36	0	3	2	5	58
05:00 PM	1	14	0	15	2	5	0	7	0	22	3	25	0	0	1	1	48
05:15 PM	0	10	1	11	0	1	0	1	2	41	5	48	1	7	2	10	70
05:30 PM	0	14	2	16	7	10	1	18	0	26	2	28	0	2	0	2	64
Total Volume	1	49	4	54	10	18	3	31	4	118	15	137	1	12	5	18	240
% App. Total	1.9	90.7	7.4		32.3	58.1	9.7		2.9	86.1	10.9		5.6	66.7	27.8		
PHF	.250	.875	.500	.844	.357	.450	.375	.431	.500	.720	.750	.714	.250	.429	.625	.450	.857

Accurate Counts

978-664-2565

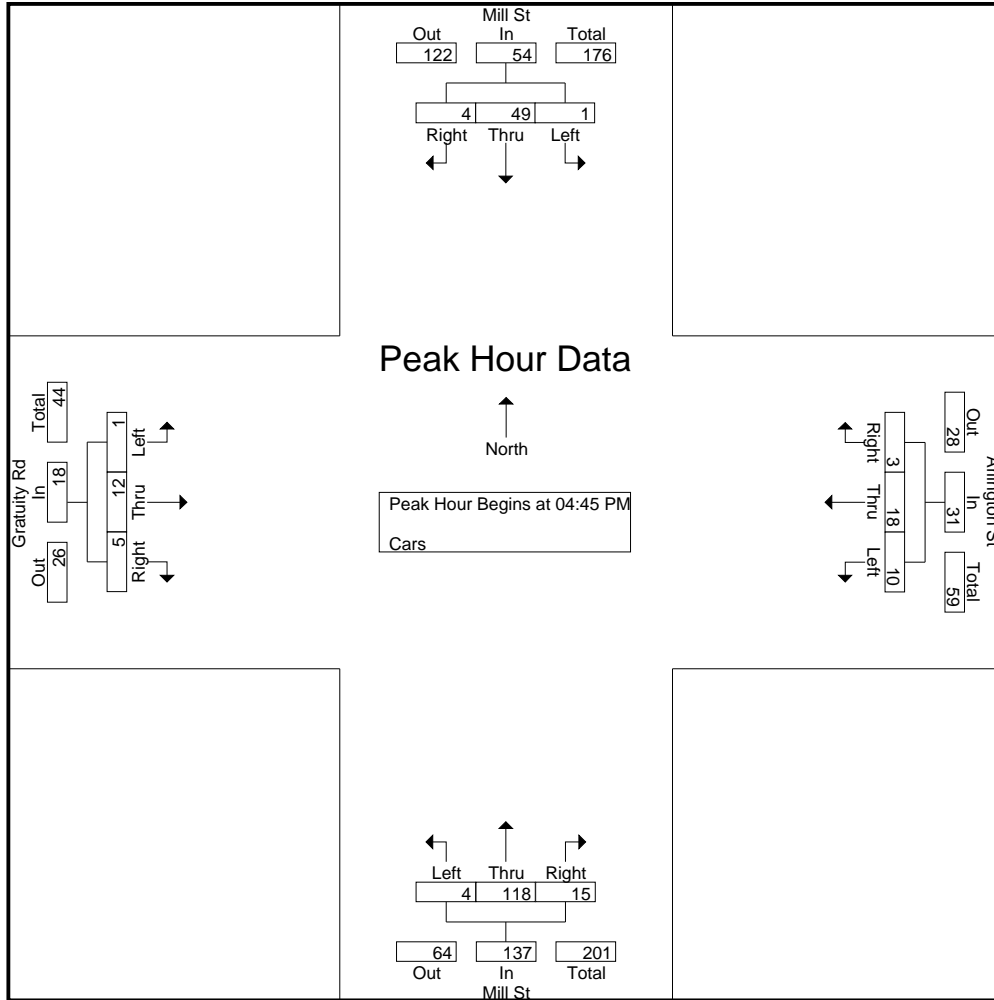
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 5

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy



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

Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:00 PM				04:30 PM			
+0 mins.	0	18	0	18	2	5	0	7	0	38	4	42	2	1	0	3
+15 mins.	0	11	1	12	0	1	0	1	2	36	1	39	0	3	2	5
+30 mins.	1	14	0	15	7	10	1	18	2	30	0	32	0	0	1	1
+45 mins.	0	10	1	11	5	1	0	6	2	29	5	36	1	7	2	10
Total Volume	1	53	2	56	14	17	1	32	6	133	10	149	3	11	5	19
% App. Total	1.8	94.6	3.6		43.8	53.1	3.1		4	89.3	6.7		15.8	57.9	26.3	
PHF	.250	.736	.500	.778	.500	.425	.250	.444	.750	.875	.500	.887	.375	.393	.625	.475

Accurate Counts

978-664-2565

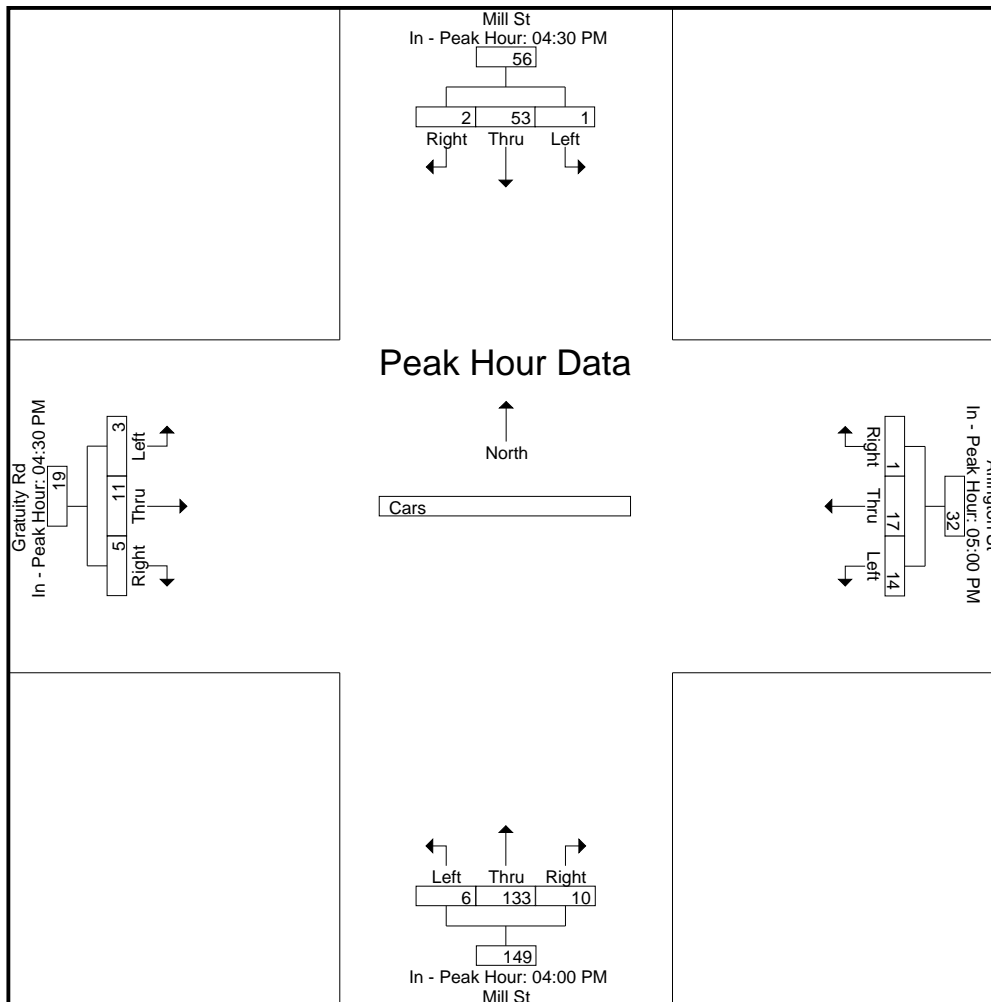
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 6

N/S Street : Mill Street
E/W Street : Arlington St / Gratuity Rd
City/State : Groton, MA
Weather : Rain / Cloudy

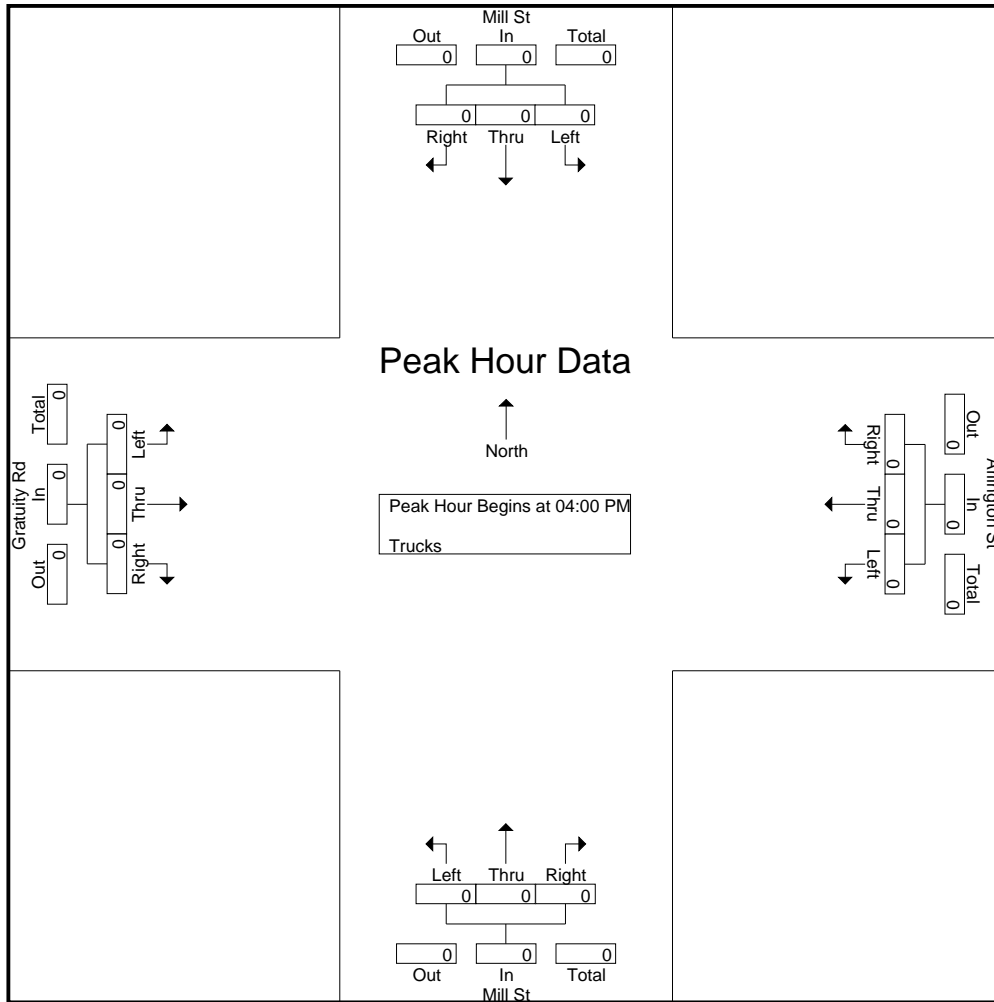


Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 8



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

Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

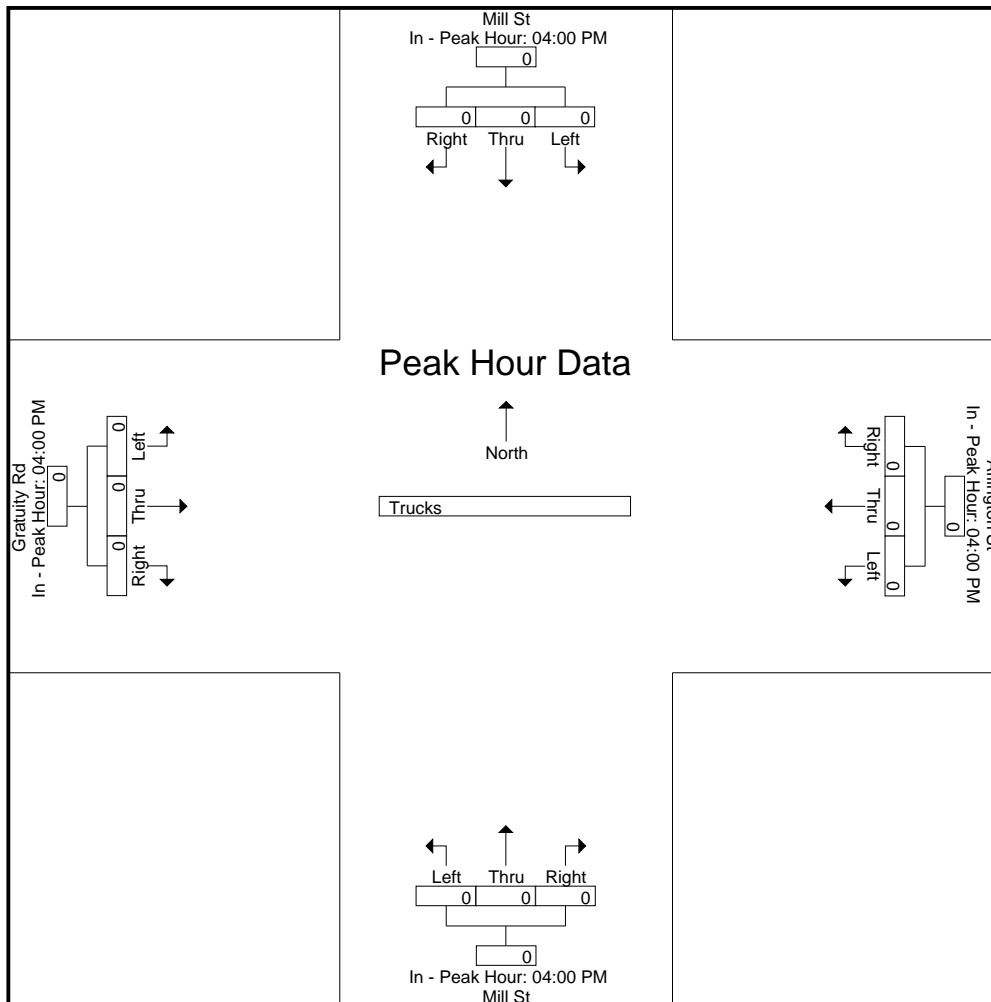
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 9

N/S Street : Mill Street
E/W Street : Arlington St / Gratuity Rd
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Mill St From North				Arlington St From East				Mill St From South				Gratuity Rd From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	4	0	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
05:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	1	2	3
Grand Total	0	0	0	2	0	2	0	0	0	0	0	3	0	0	0	0	5	2	7
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0				
Total %	0	0	0		0	100	0		0	0	0		0	0	0		71.4	28.6	

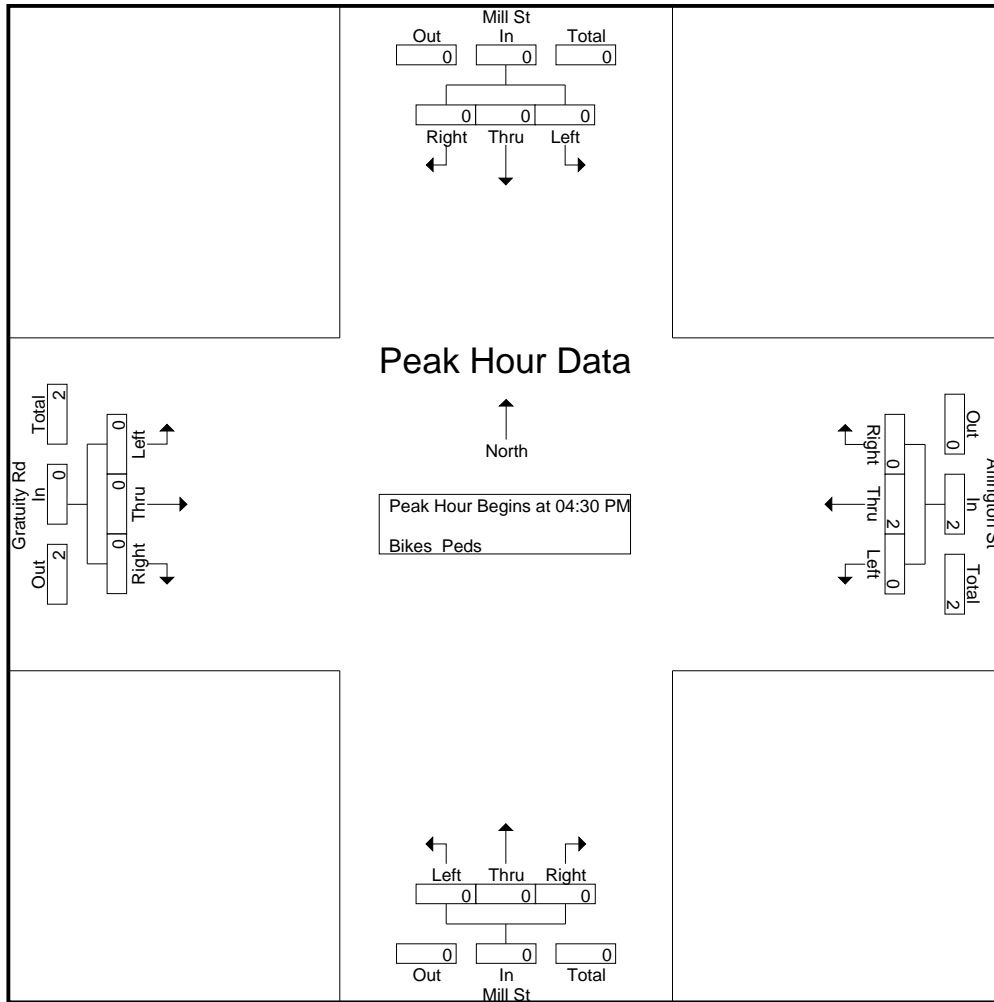
Start Time	Mill St From North				Arlington St From East				Mill St From South				Gratuity Rd From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	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	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Arlington St / Gratuity Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020003
 Site Code : 81020003
 Start Date : 3/7/2024
 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:

	04:00 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

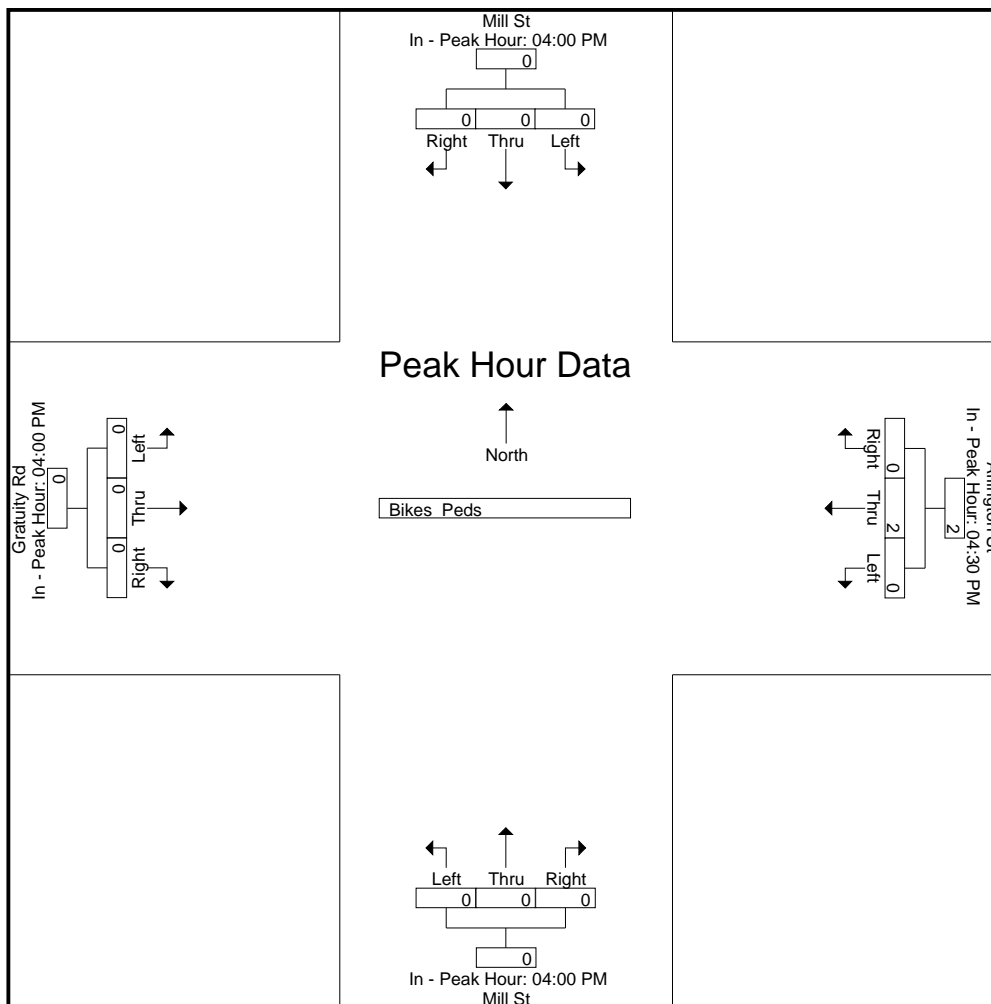
File Name : 81020003

Site Code : 81020003

Start Date : 3/7/2024

Page No : 12

N/S Street : Mill Street
E/W Street : Arlington St / Gratuity Rd
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Mill St From North		Mill St From South		Jenkins Rd From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	28	0	1	8	6	1	44
07:15 AM	31	0	1	11	0	1	44
07:30 AM	25	1	0	9	2	3	40
07:45 AM	42	3	0	12	2	0	59
Total	126	4	2	40	10	5	187
08:00 AM	41	3	1	18	3	4	70
08:15 AM	27	1	1	16	4	3	52
08:30 AM	30	0	0	17	4	2	53
08:45 AM	19	5	0	13	4	4	45
Total	117	9	2	64	15	13	220
Grand Total	243	13	4	104	25	18	407
Apprch %	94.9	5.1	3.7	96.3	58.1	41.9	
Total %	59.7	3.2	1	25.6	6.1	4.4	
Cars	241	13	4	102	23	18	401
% Cars	99.2	100	100	98.1	92	100	98.5
Trucks	2	0	0	2	2	0	6
% Trucks	0.8	0	0	1.9	8	0	1.5

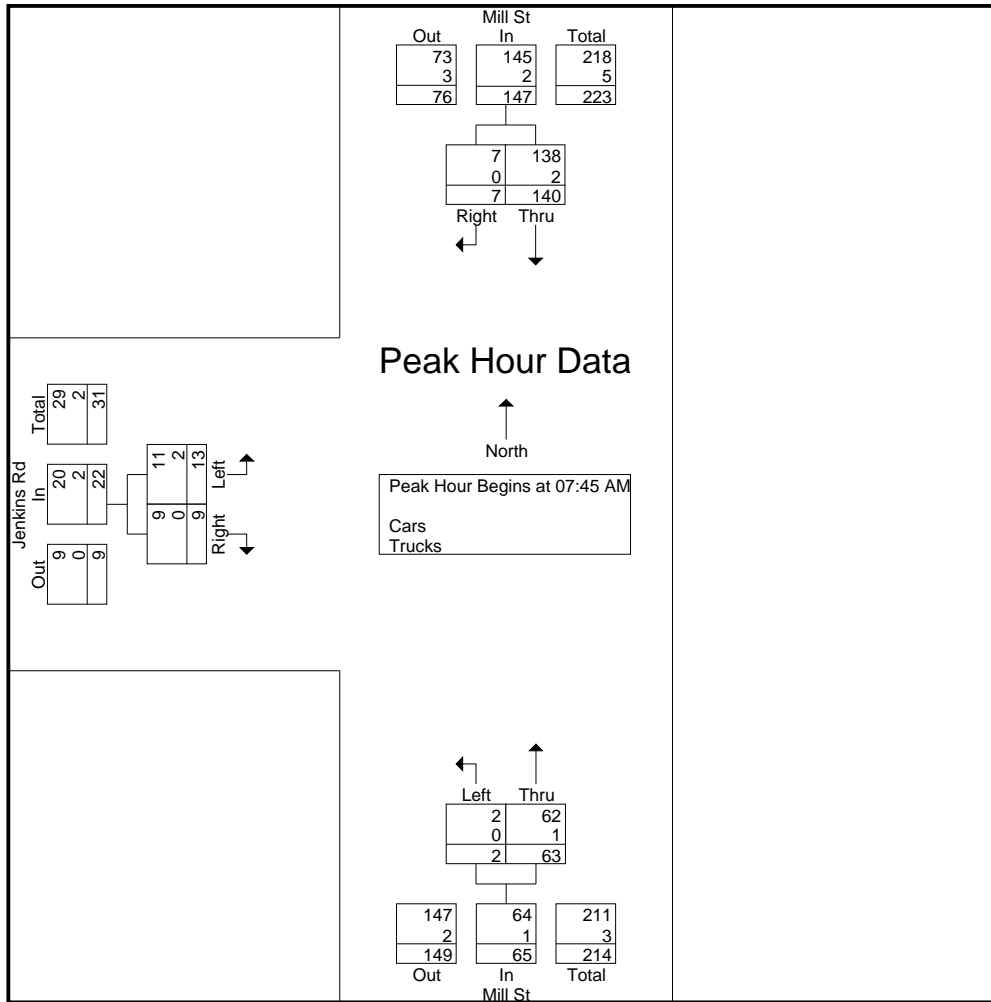
Start Time	Mill St From North			Mill St From South			Jenkins Rd From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	42	3	45	0	12	12	2	0	2	59
08:00 AM	41	3	44	1	18	19	3	4	7	70
08:15 AM	27	1	28	1	16	17	4	3	7	52
08:30 AM	30	0	30	0	17	17	4	2	6	53
Total Volume	140	7	147	2	63	65	13	9	22	234
% App. Total	95.2	4.8		3.1	96.9		59.1	40.9		
PHF	.833	.583	.817	.500	.875	.855	.813	.563	.786	.836
Cars	138	7	145	2	62	64	11	9	20	229
% Cars	98.6	100	98.6	100	98.4	98.5	84.6	100	90.9	97.9
Trucks	2	0	2	0	1	1	2	0	2	5
% Trucks	1.4	0	1.4	0	1.6	1.5	15.4	0	9.1	2.1

Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 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:

	07:45 AM			08:00 AM			08:00 AM		
+0 mins.	42	3	45	1	18	19	3	4	7
+15 mins.	41	3	44	1	16	17	4	3	7
+30 mins.	27	1	28	0	17	17	4	2	6
+45 mins.	30	0	30	0	13	13	4	4	8
Total Volume	140	7	147	2	64	66	15	13	28
% App. Total	95.2	4.8		3	97		53.6	46.4	
PHF	.833	.583	.817	.500	.889	.868	.938	.813	.875
Cars	138	7	145	2	64	66	14	13	27
% Cars	98.6	100	98.6	100	100	100	93.3	100	96.4
Trucks	2	0	2	0	0	0	1	0	1
% Trucks	1.4	0	1.4	0	0	0	6.7	0	3.6

Accurate Counts

978-664-2565

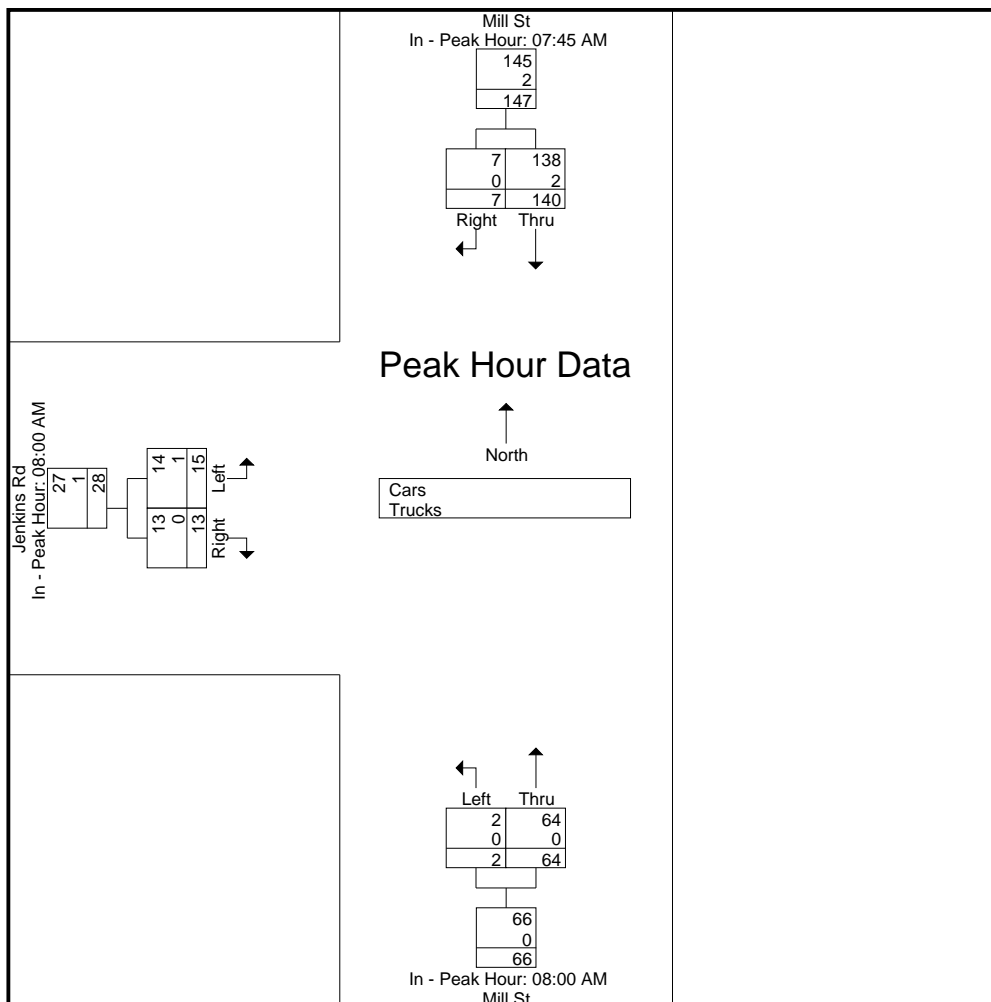
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 3

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Mill St From North		Mill St From South		Jenkins Rd From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	28	0	1	7	6	1	43
07:15 AM	31	0	1	11	0	1	44
07:30 AM	25	1	0	9	2	3	40
07:45 AM	42	3	0	11	1	0	57
Total	126	4	2	38	9	5	184
08:00 AM	40	3	1	18	3	4	69
08:15 AM	26	1	1	16	4	3	51
08:30 AM	30	0	0	17	3	2	52
08:45 AM	19	5	0	13	4	4	45
Total	115	9	2	64	14	13	217
Grand Total	241	13	4	102	23	18	401
Apprch %	94.9	5.1	3.8	96.2	56.1	43.9	
Total %	60.1	3.2	1	25.4	5.7	4.5	

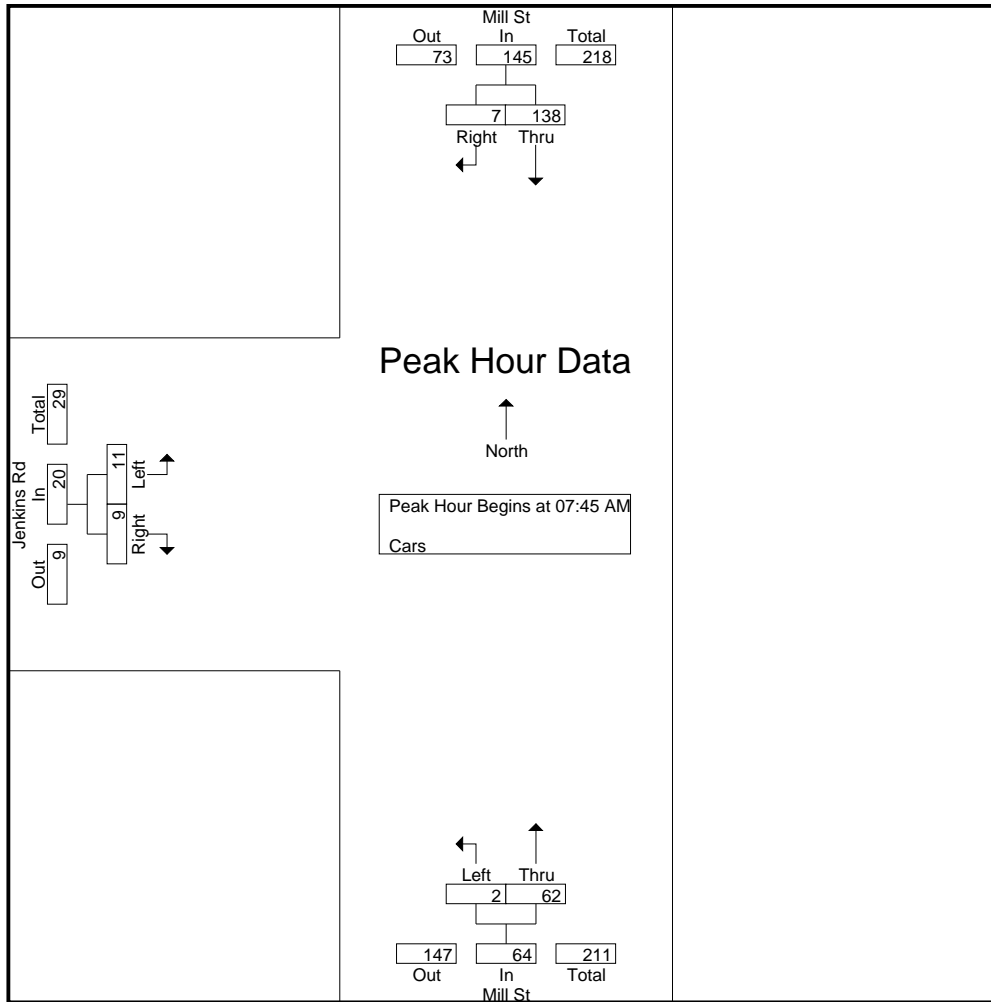
Start Time	Mill St From North			Mill St From South			Jenkins Rd From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	42	3	45	0	11	11	1	0	1	57
08:00 AM	40	3	43	1	18	19	3	4	7	69
08:15 AM	26	1	27	1	16	17	4	3	7	51
08:30 AM	30	0	30	0	17	17	3	2	5	52
Total Volume	138	7	145	2	62	64	11	9	20	229
% App. Total	95.2	4.8		3.1	96.9		55	45		
PHF	.821	.583	.806	.500	.861	.842	.688	.563	.714	.830

Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 Page No : 5



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

Peak Hour for Each Approach Begins at:

	07:15 AM			08:00 AM			08:00 AM		
+0 mins.	31	0	31	1	18	19	3	4	7
+15 mins.	25	1	26	1	16	17	4	3	7
+30 mins.	42	3	45	0	17	17	3	2	5
+45 mins.	40	3	43	0	13	13	4	4	8
Total Volume	138	7	145	2	64	66	14	13	27
% App. Total	95.2	4.8		3	97		51.9	48.1	
PHF	.821	.583	.806	.500	.889	.868	.875	.813	.844

Accurate Counts

978-664-2565

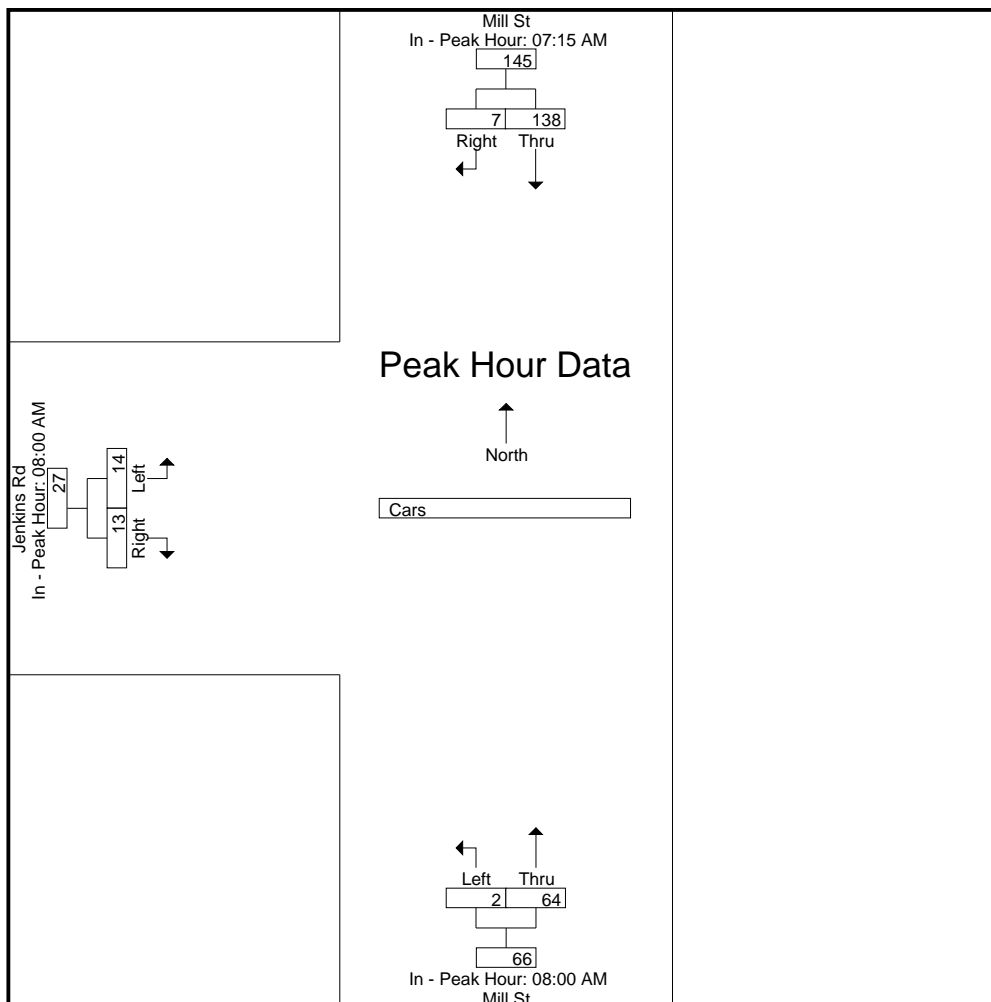
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 6

N/S Street : Mill Street
E/W Street : Jenkins Road
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Mill St From North		Mill St From South		Jenkins Rd From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	0	0	0	1	0	0	1
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0
07:45 AM	0	0	0	1	1	0	2
Total	0	0	0	2	1	0	3
08:00 AM	1	0	0	0	0	0	1
08:15 AM	1	0	0	0	0	0	1
08:30 AM	0	0	0	0	1	0	1
08:45 AM	0	0	0	0	0	0	0
Total	2	0	0	0	1	0	3
Grand Total	2	0	0	2	2	0	6
Apprch %	100	0	0	100	100	0	
Total %	33.3	0	0	33.3	33.3	0	

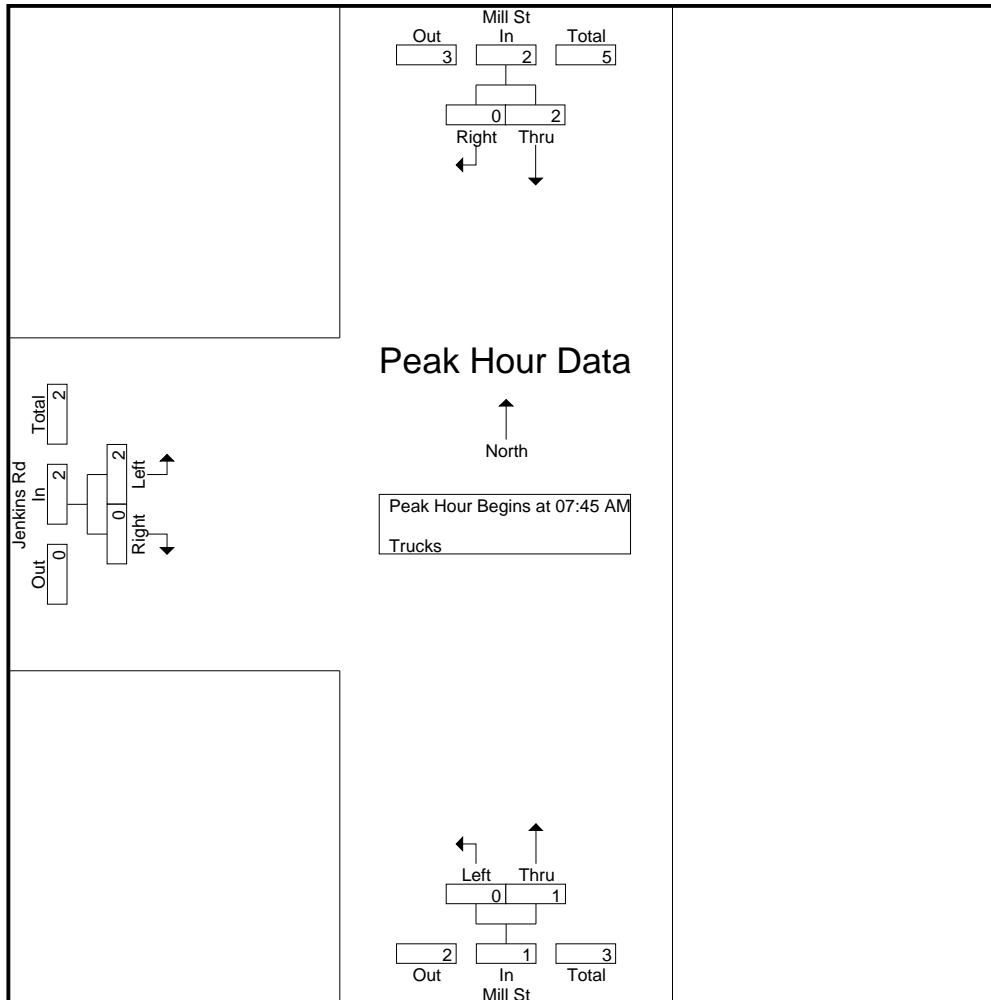
Start Time	Mill St From North			Mill St From South			Jenkins Rd From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	1	1	1	0	1	2
08:00 AM	1	0	1	0	0	0	0	0	0	1
08:15 AM	1	0	1	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	1	0	1	1
Total Volume	2	0	2	0	1	1	2	0	2	5
% App. Total	100	0		0	100		100	0		
PHF	.500	.000	.500	.000	.250	.250	.500	.000	.500	.625

Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 Page No : 8



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

Peak Hour for Each Approach Begins at:

	07:30 AM			07:00 AM			07:45 AM		
+0 mins.	0	0	0	0	1	1	1	0	1
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	1	0	1	0	0	0	0	0	0
+45 mins.	1	0	1	0	1	1	1	0	1
Total Volume	2	0	2	0	2	2	2	0	2
% App. Total	100	0		0	100		100	0	
PHF	.500	.000	.500	.000	.500	.500	.500	.000	.500

Accurate Counts

978-664-2565

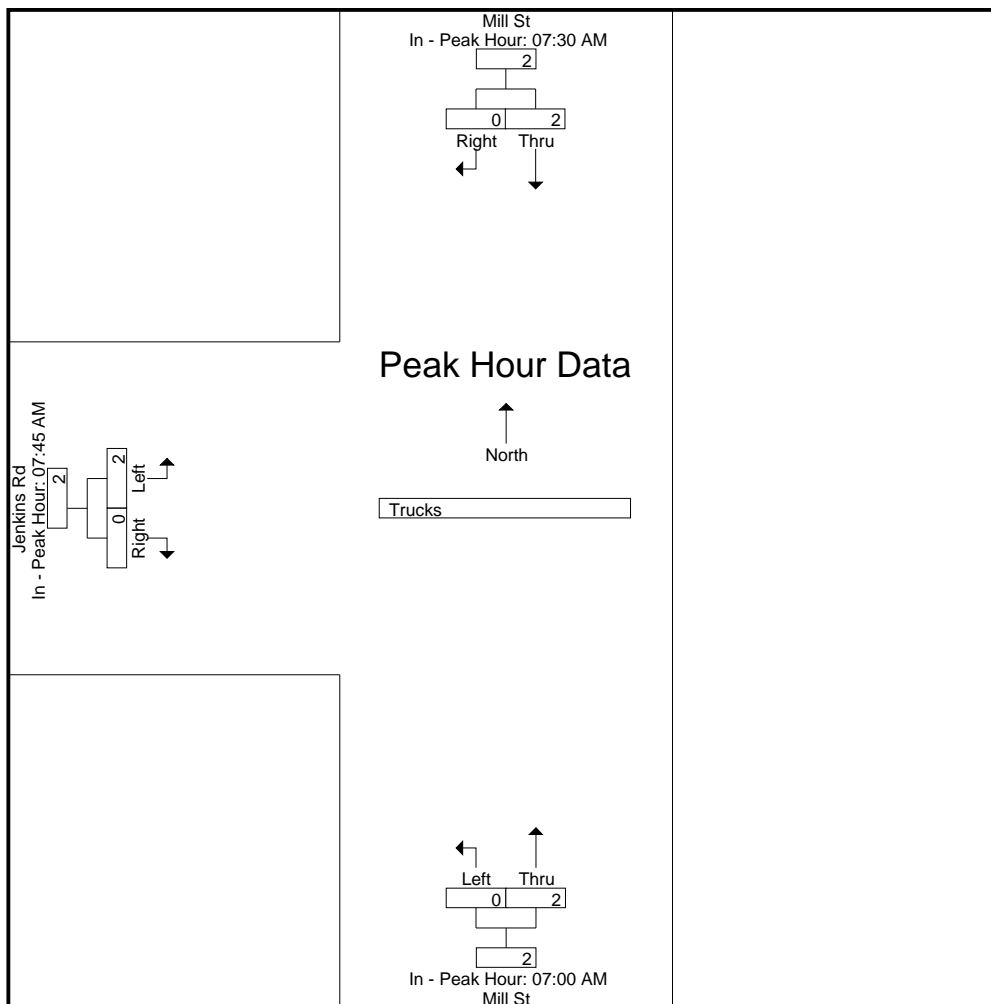
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 9

N/S Street : Mill Street
E/W Street : Jenkins Road
City/State : Groton, MA
Weather : Rain / Cloudy

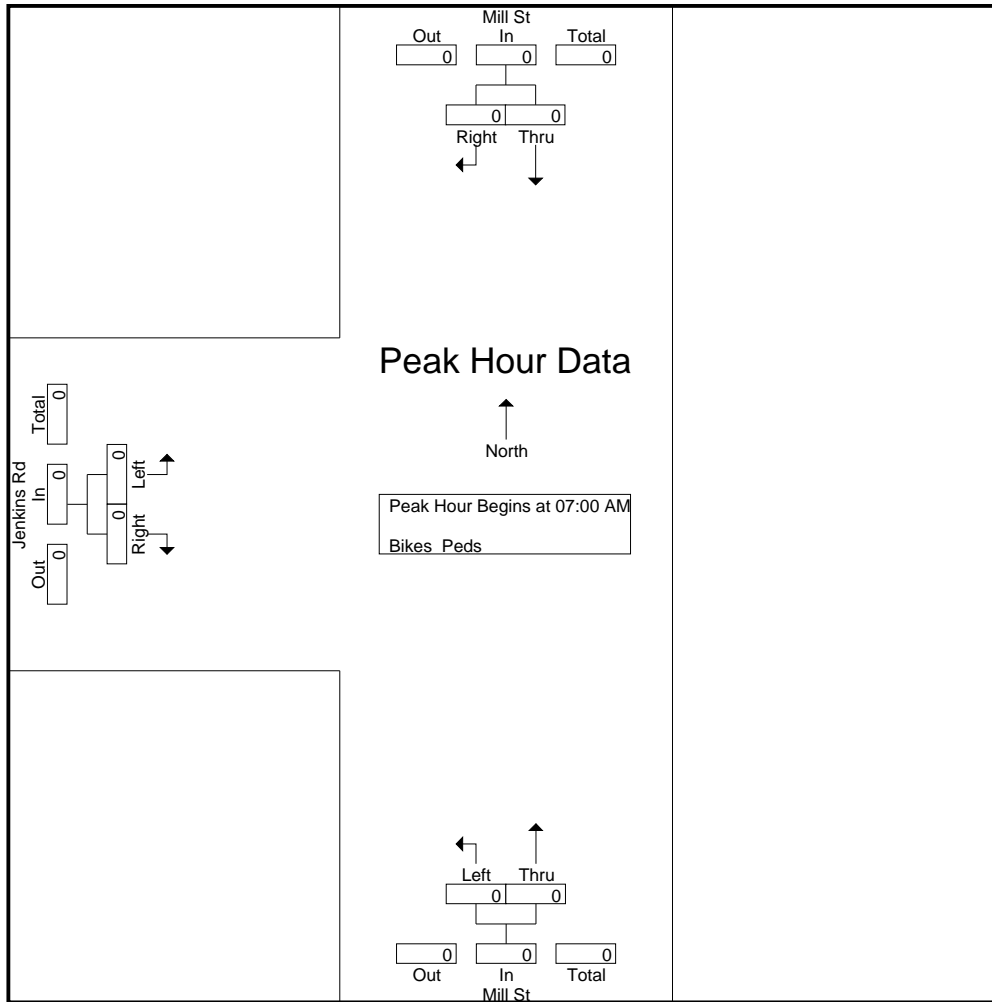


Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 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			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

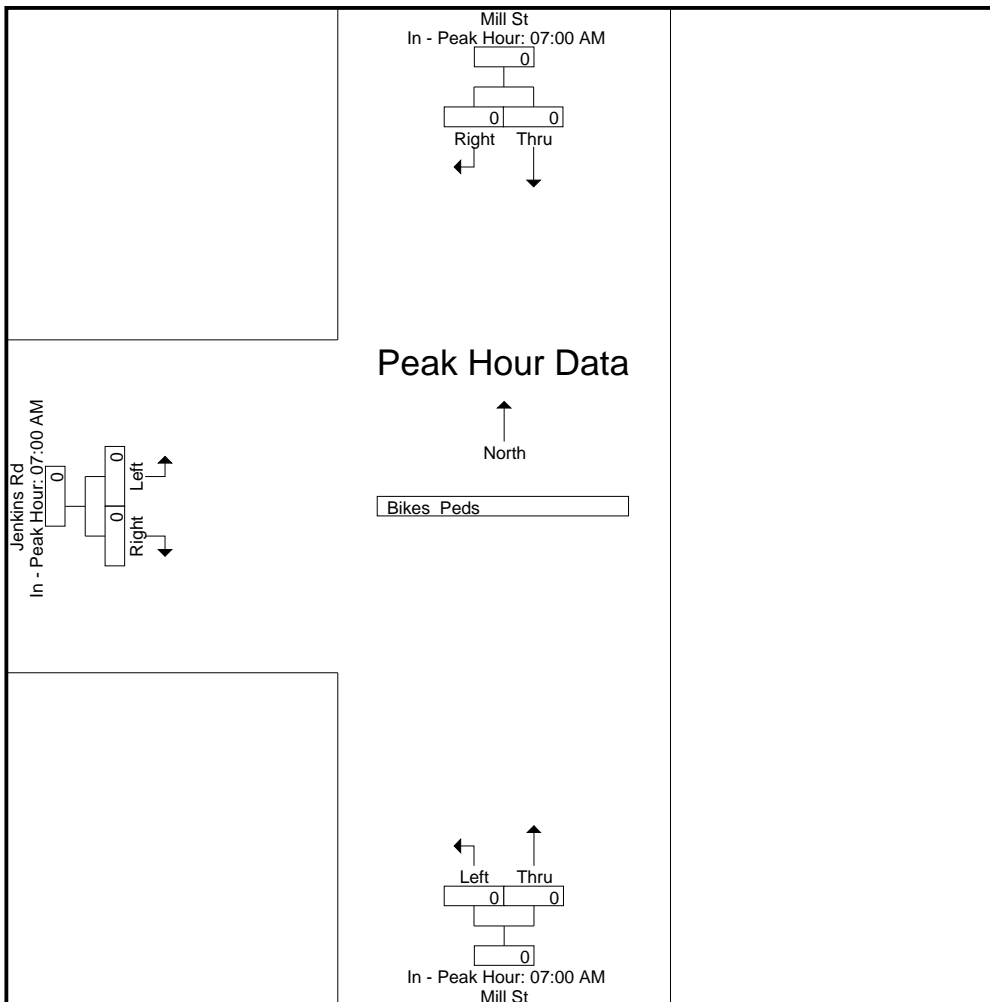
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 12

N/S Street : Mill Street
E/W Street : Jenkins Road
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

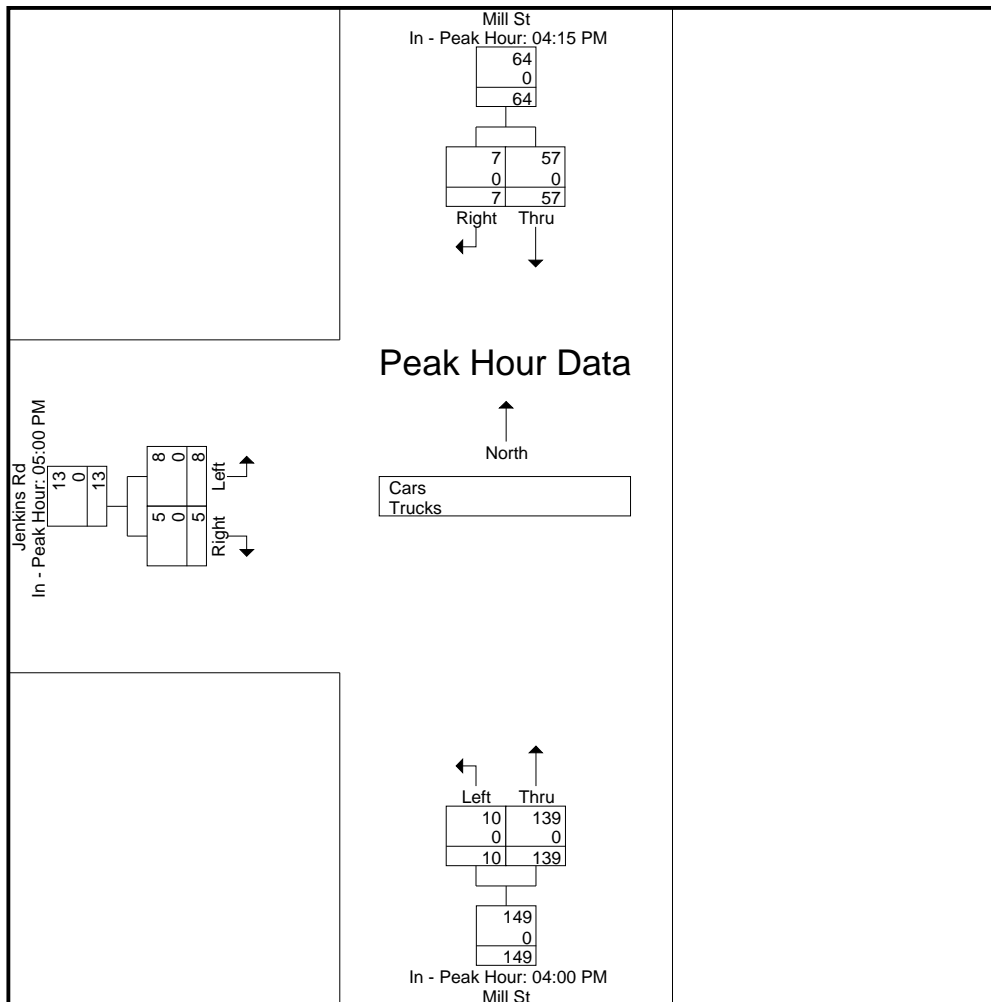
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 3

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Mill St From North		Mill St From South		Jenkins Rd From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
04:00 PM	10	4	2	37	4	0	57
04:15 PM	15	3	3	35	2	2	60
04:30 PM	17	0	1	34	1	1	54
04:45 PM	12	1	4	33	1	1	52
Total	54	8	10	139	8	4	223
05:00 PM	13	3	0	24	3	0	43
05:15 PM	12	1	2	46	3	0	64
05:30 PM	19	1	1	27	0	4	52
05:45 PM	11	2	3	12	2	1	31
Total	55	7	6	109	8	5	190
Grand Total	109	15	16	248	16	9	413
Apprch %	87.9	12.1	6.1	93.9	64	36	
Total %	26.4	3.6	3.9	60	3.9	2.2	

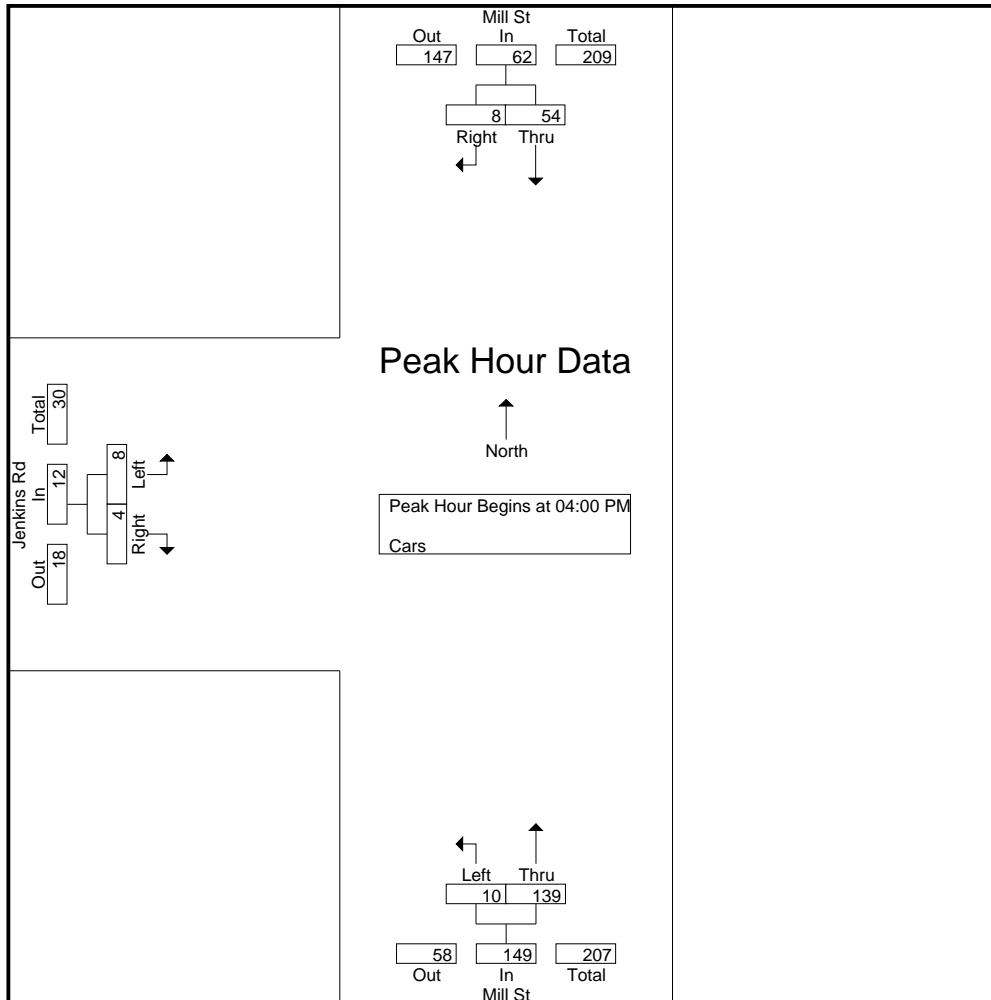
Start Time	Mill St From North			Mill St From South			Jenkins Rd From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	10	4	14	2	37	39	4	0	4	57
04:15 PM	15	3	18	3	35	38	2	2	4	60
04:30 PM	17	0	17	1	34	35	1	1	2	54
04:45 PM	12	1	13	4	33	37	1	1	2	52
Total Volume	54	8	62	10	139	149	8	4	12	223
% App. Total	87.1	12.9		6.7	93.3		66.7	33.3		
PHF	.794	.500	.861	.625	.939	.955	.500	.500	.750	.929

Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 Page No : 5



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

Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			05:00 PM		
+0 mins.	15	3	18	2	37	39	3	0	3
+15 mins.	17	0	17	3	35	38	3	0	3
+30 mins.	12	1	13	1	34	35	0	4	4
+45 mins.	13	3	16	4	33	37	2	1	3
Total Volume	57	7	64	10	139	149	8	5	13
% App. Total	89.1	10.9		6.7	93.3		61.5	38.5	
PHF	.838	.583	.889	.625	.939	.955	.667	.313	.813

Accurate Counts

978-664-2565

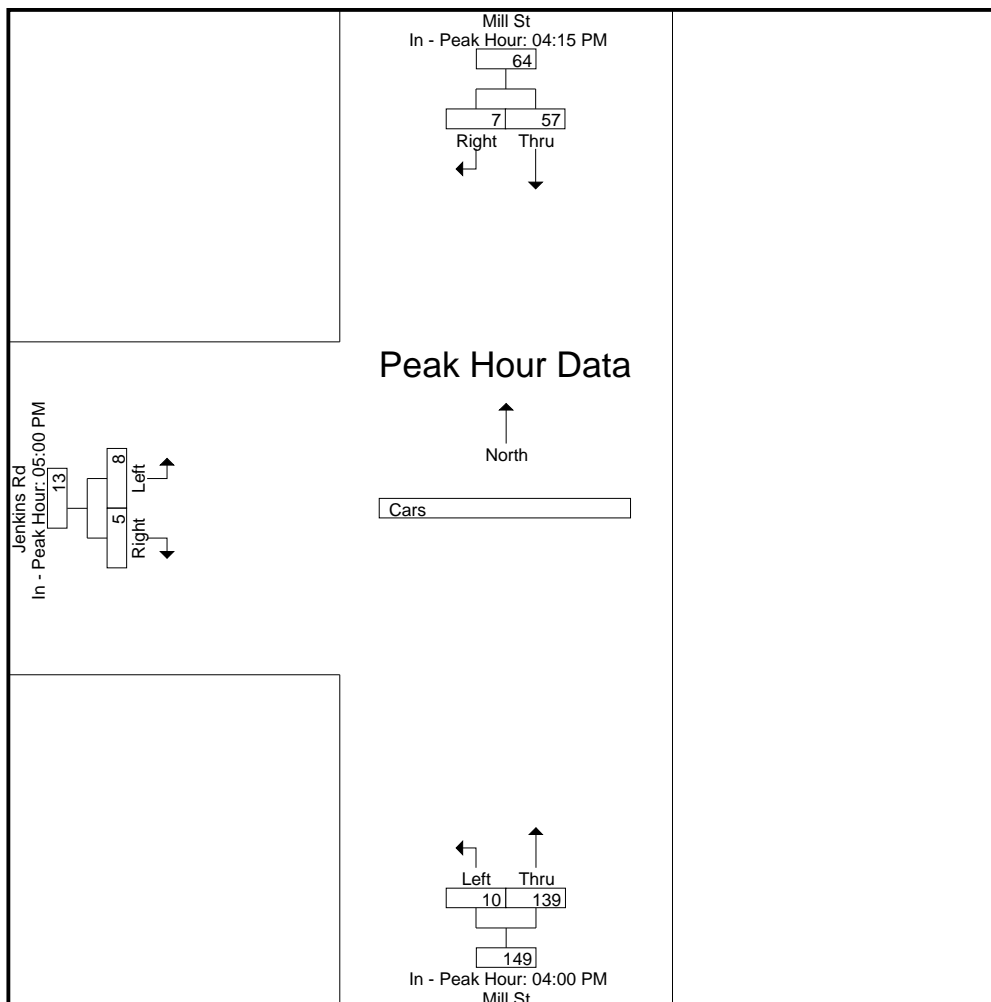
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 6

N/S Street : Mill Street
E/W Street : Jenkins Road
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

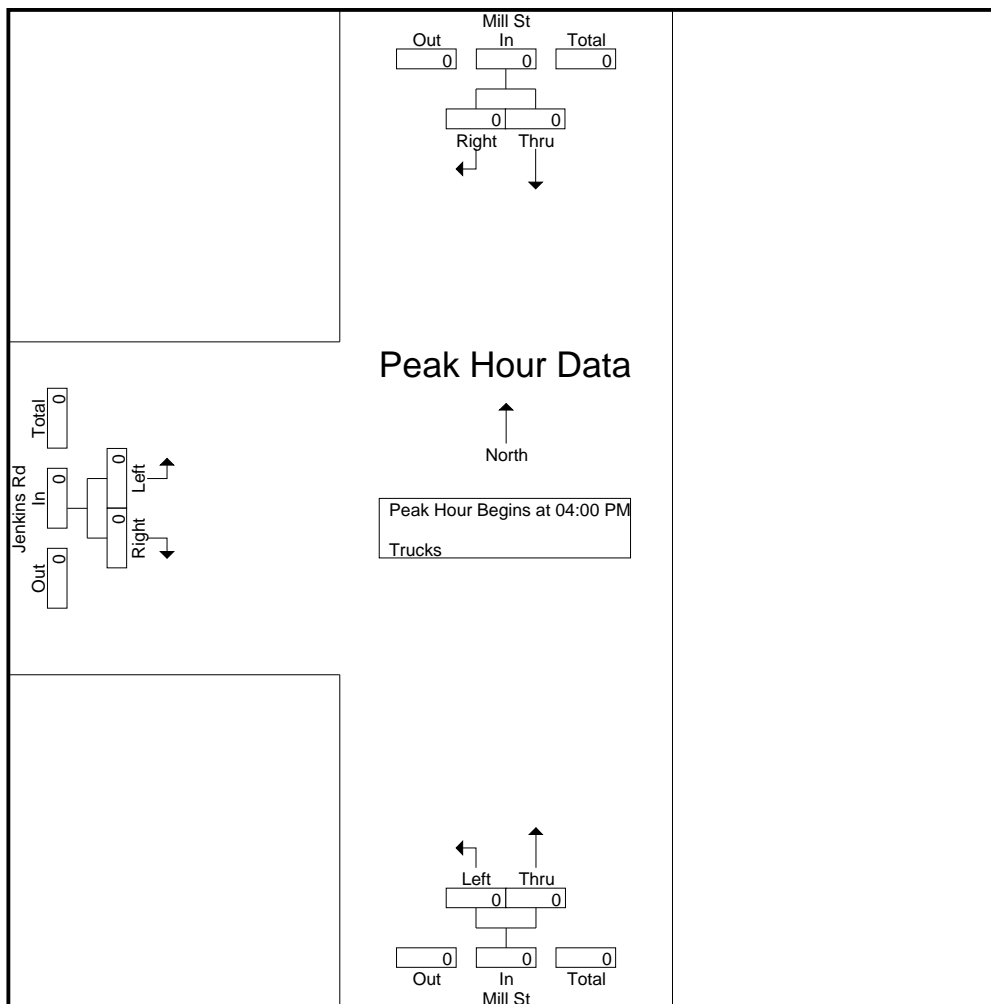
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 8

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy



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

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

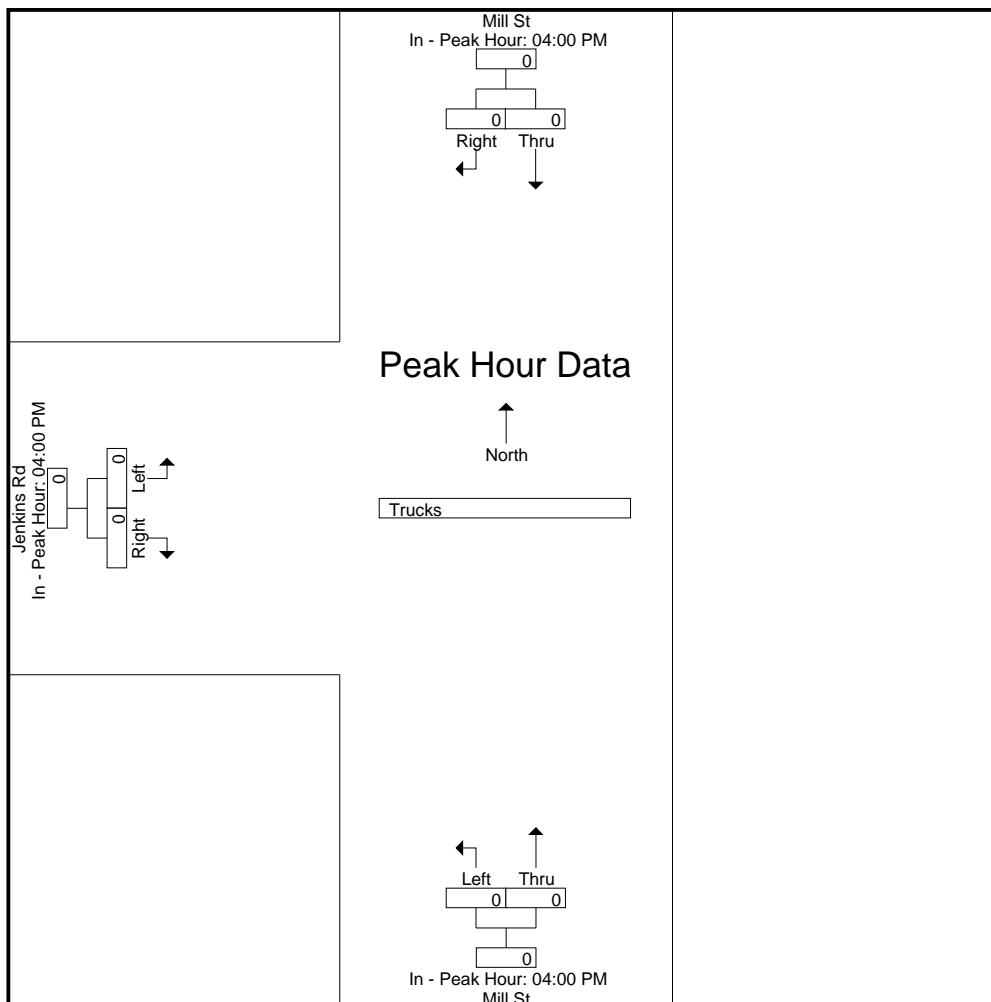
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 9

N/S Street : Mill Street
E/W Street : Jenkins Road
City/State : Groton, MA
Weather : Rain / Cloudy

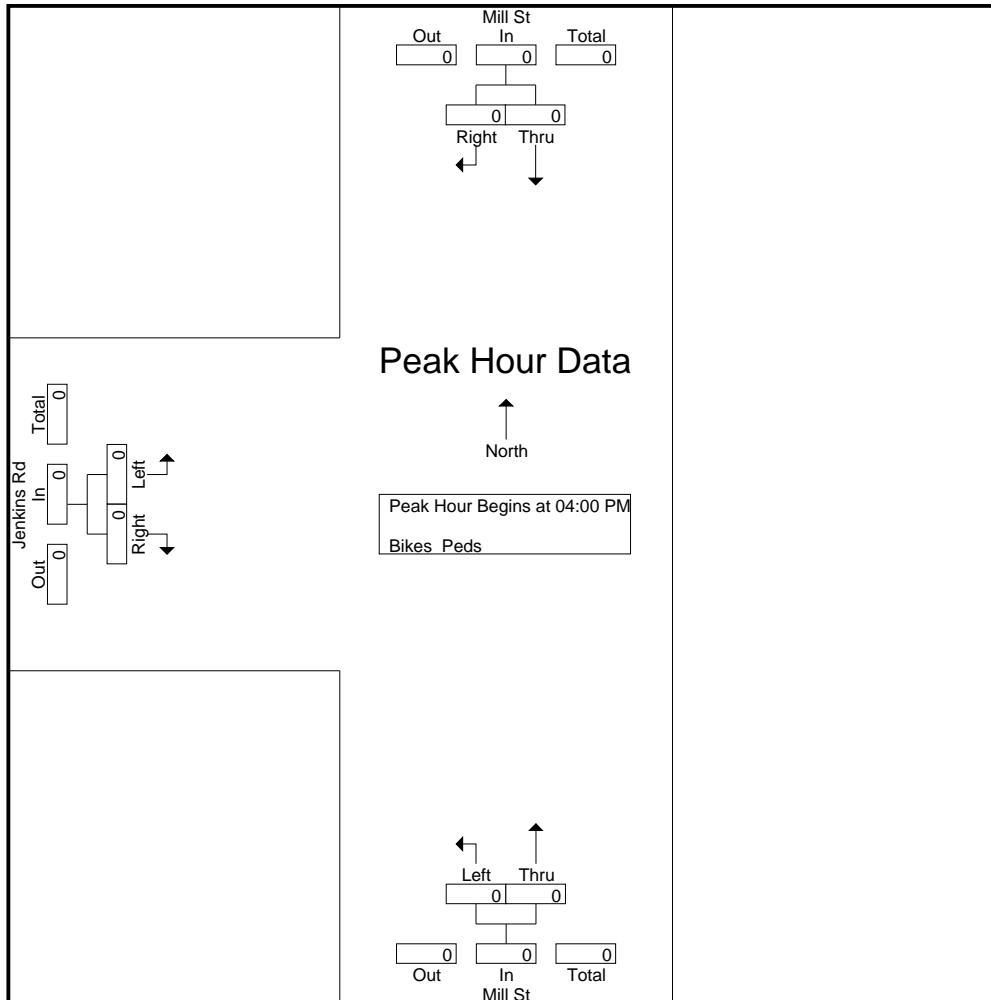


Accurate Counts

978-664-2565

N/S Street : Mill Street
 E/W Street : Jenkins Road
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020004
 Site Code : 81020004
 Start Date : 3/7/2024
 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:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

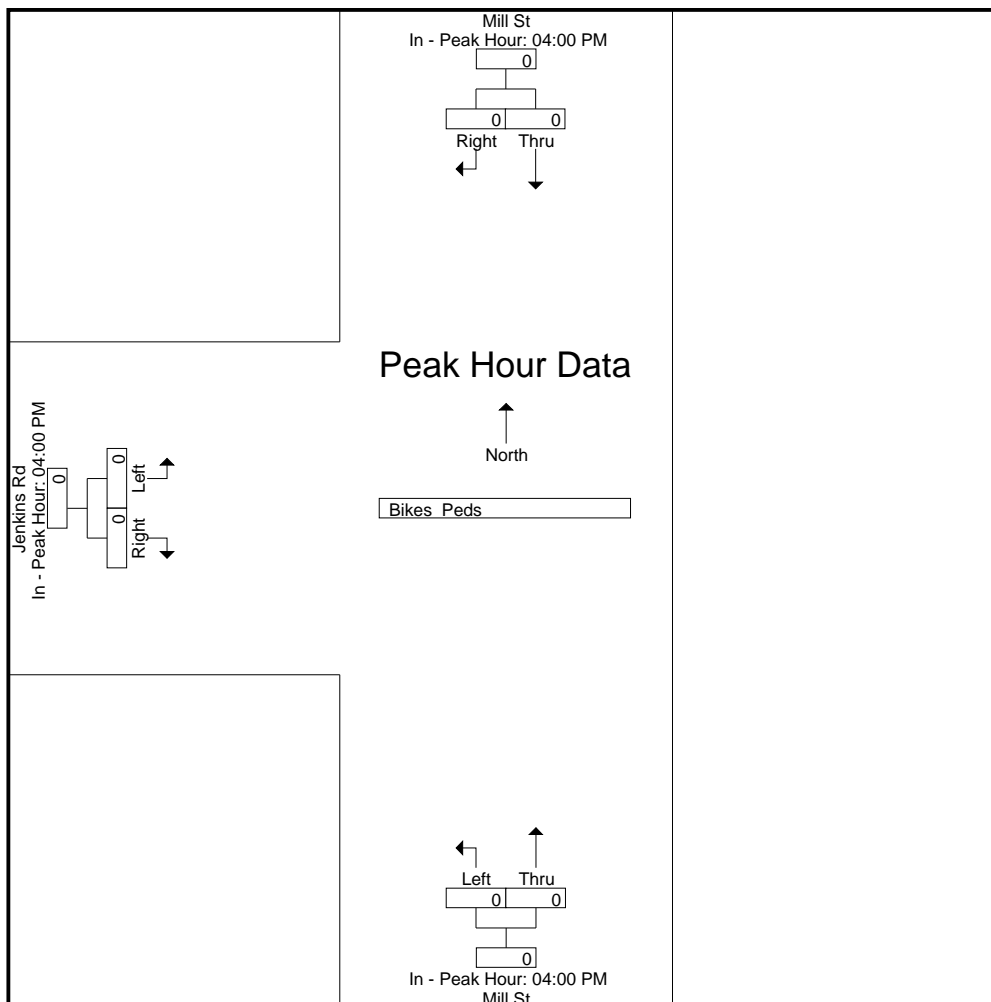
File Name : 81020004

Site Code : 81020004

Start Date : 3/7/2024

Page No : 12

N/S Street : Mill Street
E/W Street : Jenkins Road
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Jenkins Rd From East		Hickory Dr From South		Fairgrounds Rd From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	6	0	0	6
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	0	0	3	0	0	3
07:45 AM	2	1	0	3	0	0	6
Total	2	1	0	12	0	0	15
08:00 AM	5	0	0	8	0	0	13
08:15 AM	1	0	0	5	1	0	7
08:30 AM	0	1	0	6	1	0	8
08:45 AM	2	0	0	3	0	0	5
Total	8	1	0	22	2	0	33
Grand Total	10	2	0	34	2	0	48
Apprch %	83.3	16.7	0	100	100	0	
Total %	20.8	4.2	0	70.8	4.2	0	
Cars	10	2	0	32	2	0	46
% Cars	100	100	0	94.1	100	0	95.8
Trucks	0	0	0	2	0	0	2
% Trucks	0	0	0	5.9	0	0	4.2

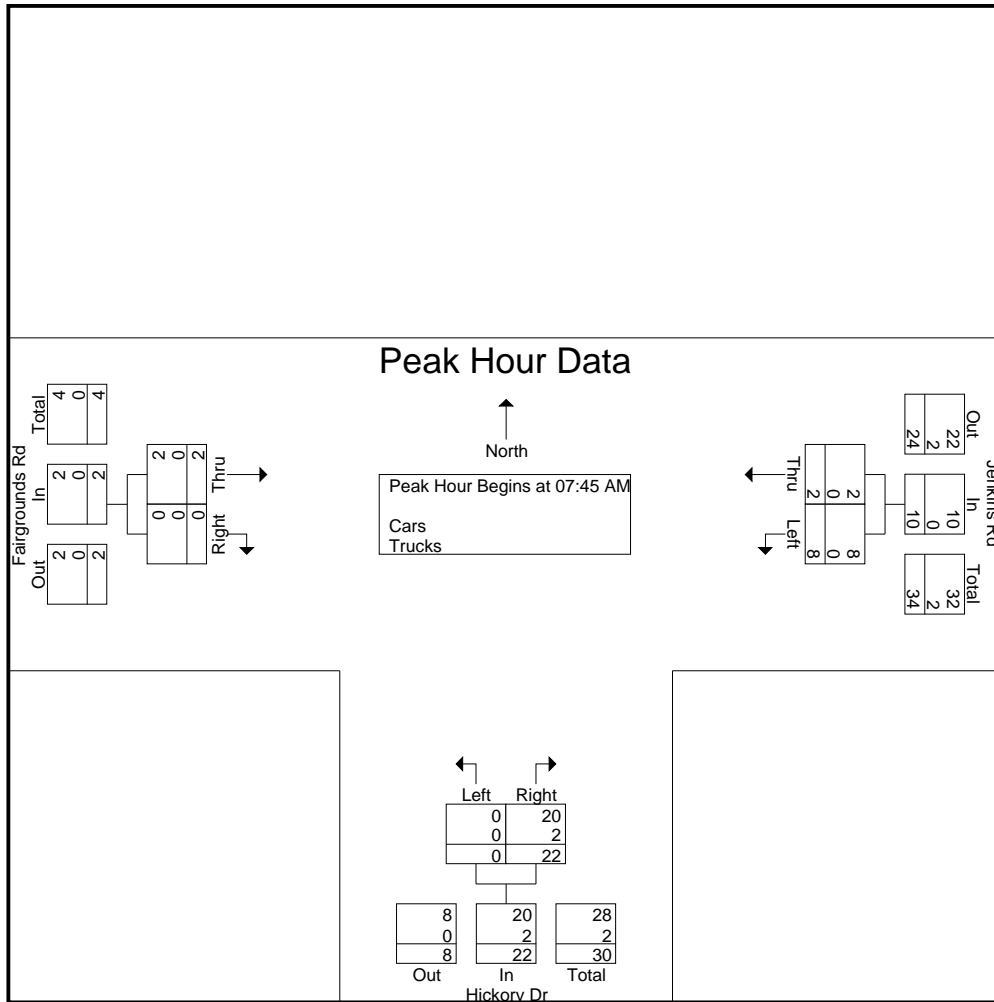
Start Time	Jenkins Rd From East			Hickory Dr From South			Fairgrounds Rd From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	2	1	3	0	3	3	0	0	0	6
08:00 AM	5	0	5	0	8	8	0	0	0	13
08:15 AM	1	0	1	0	5	5	1	0	1	7
08:30 AM	0	1	1	0	6	6	1	0	1	8
Total Volume	8	2	10	0	22	22	2	0	2	34
% App. Total	80	20		0	100		100	0		
PHF	.400	.500	.500	.000	.688	.688	.500	.000	.500	.654
Cars	8	2	10	0	20	20	2	0	2	32
% Cars	100	100	100	0	90.9	90.9	100	0	100	94.1
Trucks	0	0	0	0	2	2	0	0	0	2
% Trucks	0	0	0	0	9.1	9.1	0	0	0	5.9

Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 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:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	2	1	3	0	3	3	0	0	0
+15 mins.	5	0	5	0	8	8	0	0	0
+30 mins.	1	0	1	0	5	5	1	0	1
+45 mins.	0	1	1	0	6	6	1	0	1
Total Volume	8	2	10	0	22	22	2	0	2
% App. Total	80	20		0	100		100	0	
PHF	.400	.500	.500	.000	.688	.688	.500	.000	.500
Cars	8	2	10	0	20	20	2	0	2
% Cars	100	100	100	0	90.9	90.9	100	0	100
Trucks	0	0	0	0	2	2	0	0	0
% Trucks	0	0	0	0	9.1	9.1	0	0	0

Accurate Counts

978-664-2565

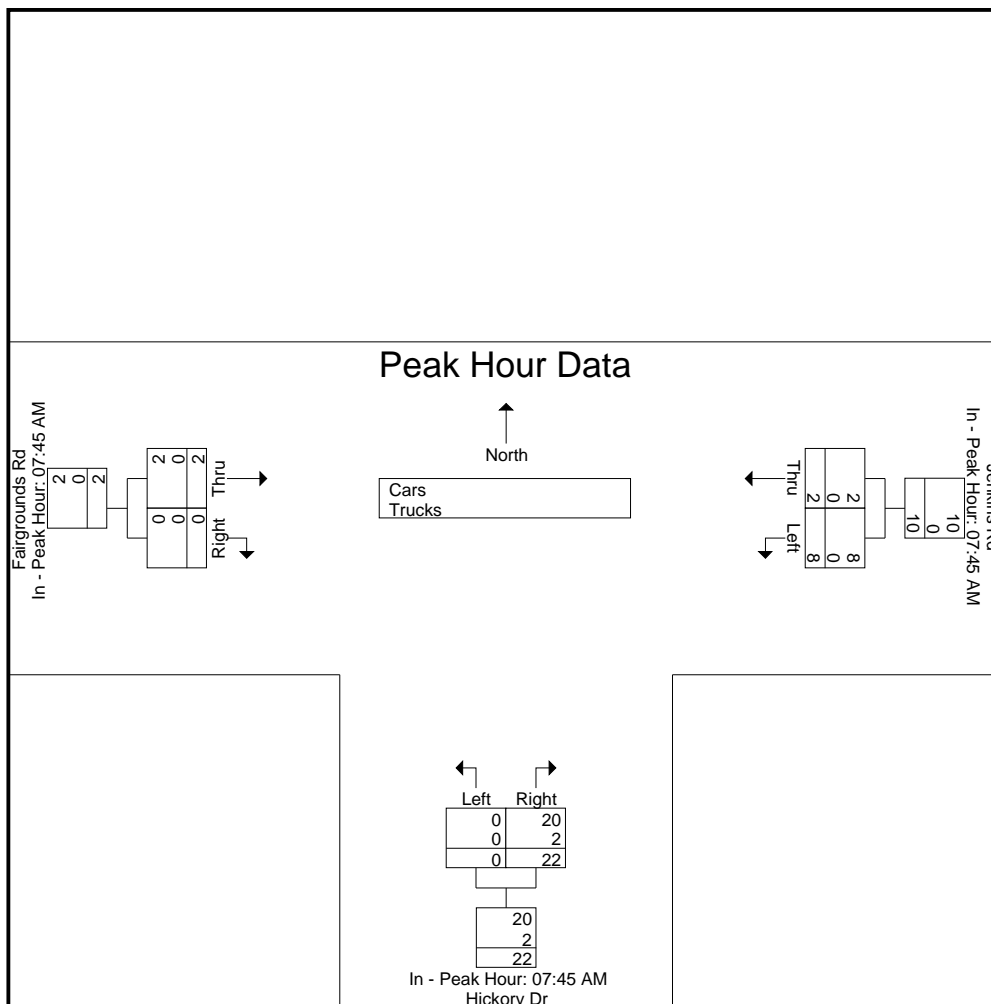
File Name : 81020005

Site Code : 81020005

Start Date : 3/7/2024

Page No : 3

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Jenkins Rd From East		Hickory Dr From South		Fairgrounds Rd From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	6	0	0	6
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	0	0	3	0	0	3
07:45 AM	2	1	0	2	0	0	5
Total	2	1	0	11	0	0	14
08:00 AM	5	0	0	8	0	0	13
08:15 AM	1	0	0	5	1	0	7
08:30 AM	0	1	0	5	1	0	7
08:45 AM	2	0	0	3	0	0	5
Total	8	1	0	21	2	0	32
Grand Total	10	2	0	32	2	0	46
Apprch %	83.3	16.7	0	100	100	0	
Total %	21.7	4.3	0	69.6	4.3	0	

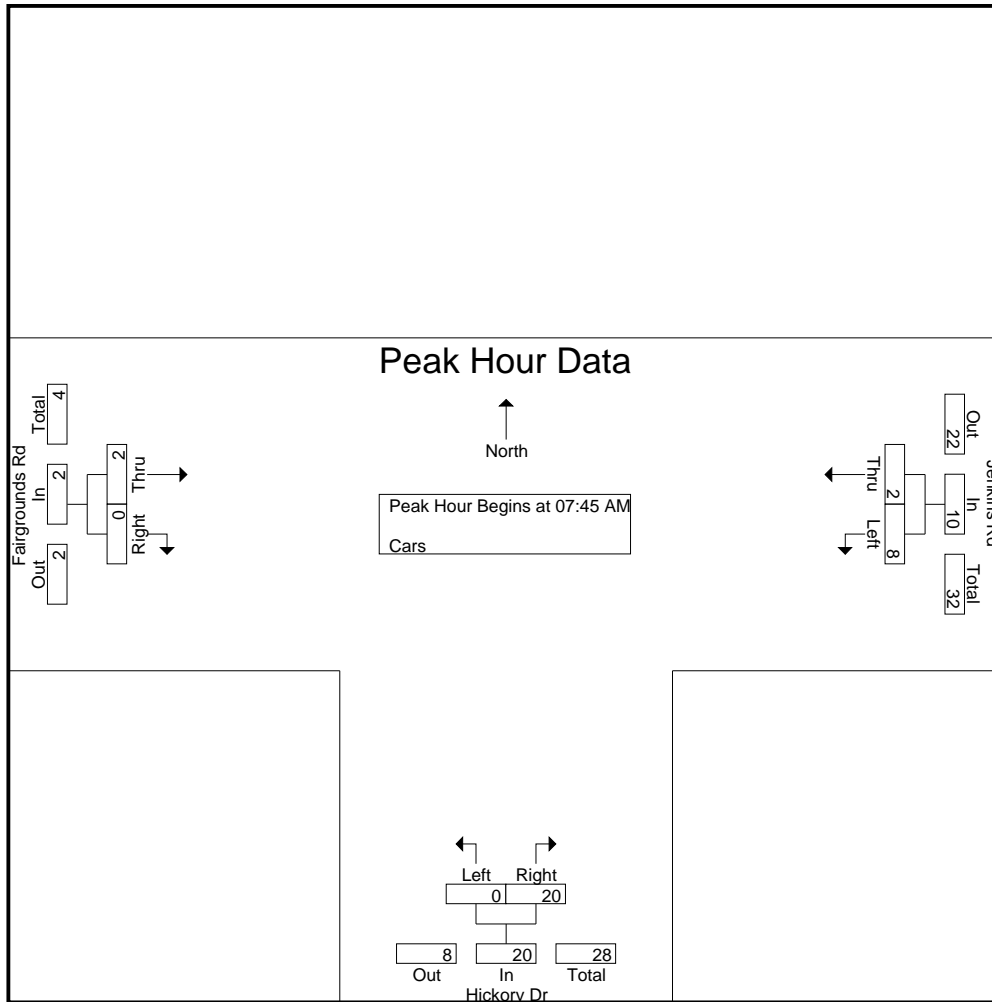
Start Time	Jenkins Rd From East			Hickory Dr From South			Fairgrounds Rd From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	2	1	3	0	2	2	0	0	0	5
08:00 AM	5	0	5	0	8	8	0	0	0	13
08:15 AM	1	0	1	0	5	5	1	0	1	7
08:30 AM	0	1	1	0	5	5	1	0	1	7
Total Volume	8	2	10	0	20	20	2	0	2	32
% App. Total	80	20		0	100		100	0		
PHF	.400	.500	.500	.000	.625	.625	.500	.000	.500	.615

Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 Page No : 5



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

Peak Hour for Each Approach Begins at:

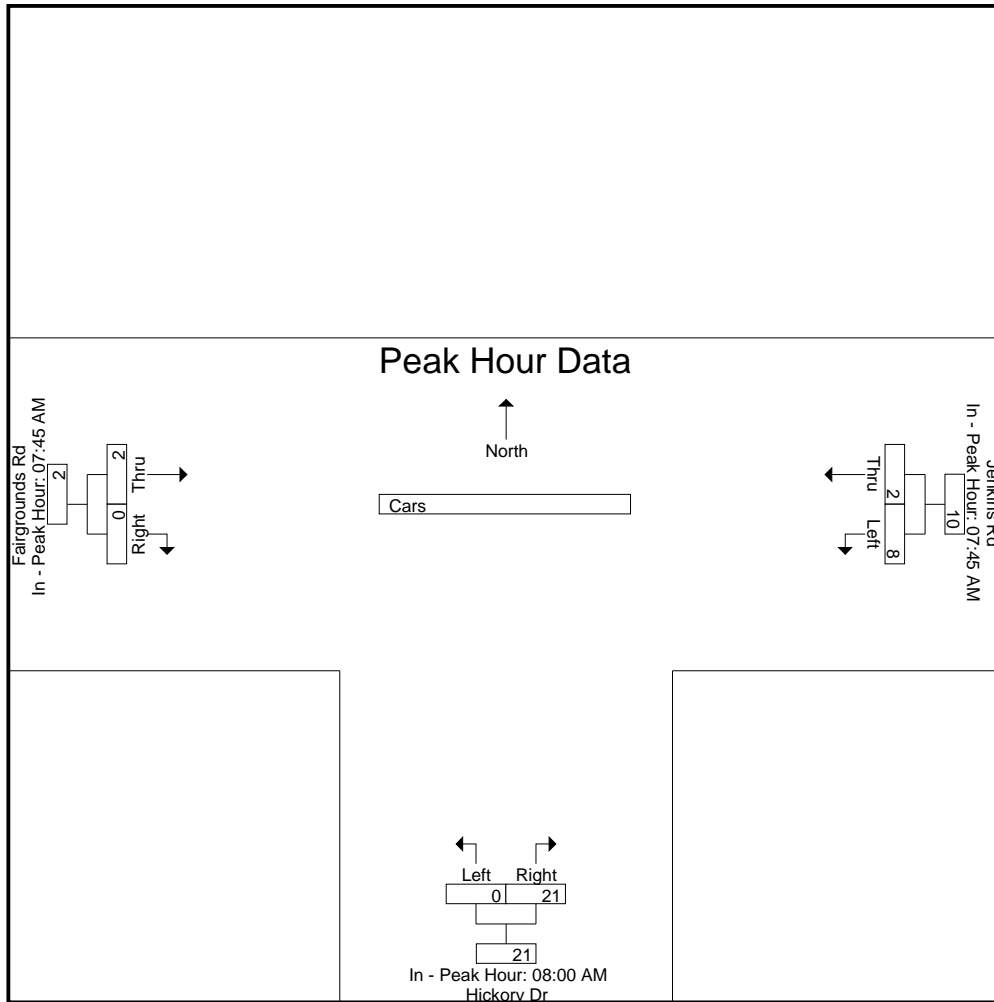
	07:45 AM			08:00 AM			07:45 AM		
+0 mins.	2	1	3	0	8	8	0	0	0
+15 mins.	5	0	5	0	5	5	0	0	0
+30 mins.	1	0	1	0	5	5	1	0	1
+45 mins.	0	1	1	0	3	3	1	0	1
Total Volume	8	2	10	0	21	21	2	0	2
% App. Total	80	20		0	100		100	0	
PHF	.400	.500	.500	.000	.656	.656	.500	.000	.500

Accurate Counts

978-664-2565

N/S Street : Hickory Drive
E/W Street : Jenkins Rd / Fairgrounds Rd
City/State : Groton, MA
Weather : Rain / Cloudy

File Name : 81020005
Site Code : 81020005
Start Date : 3/7/2024
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Jenkins Rd From East		Hickory Dr From South		Fairgrounds Rd From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0
07:45 AM	0	0	0	1	0	0	1
Total	0	0	0	1	0	0	1
08:00 AM	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0
08:30 AM	0	0	0	1	0	0	1
08:45 AM	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	1
Grand Total	0	0	0	2	0	0	2
Apprch %	0	0	0	100	0	0	
Total %	0	0	0	100	0	0	

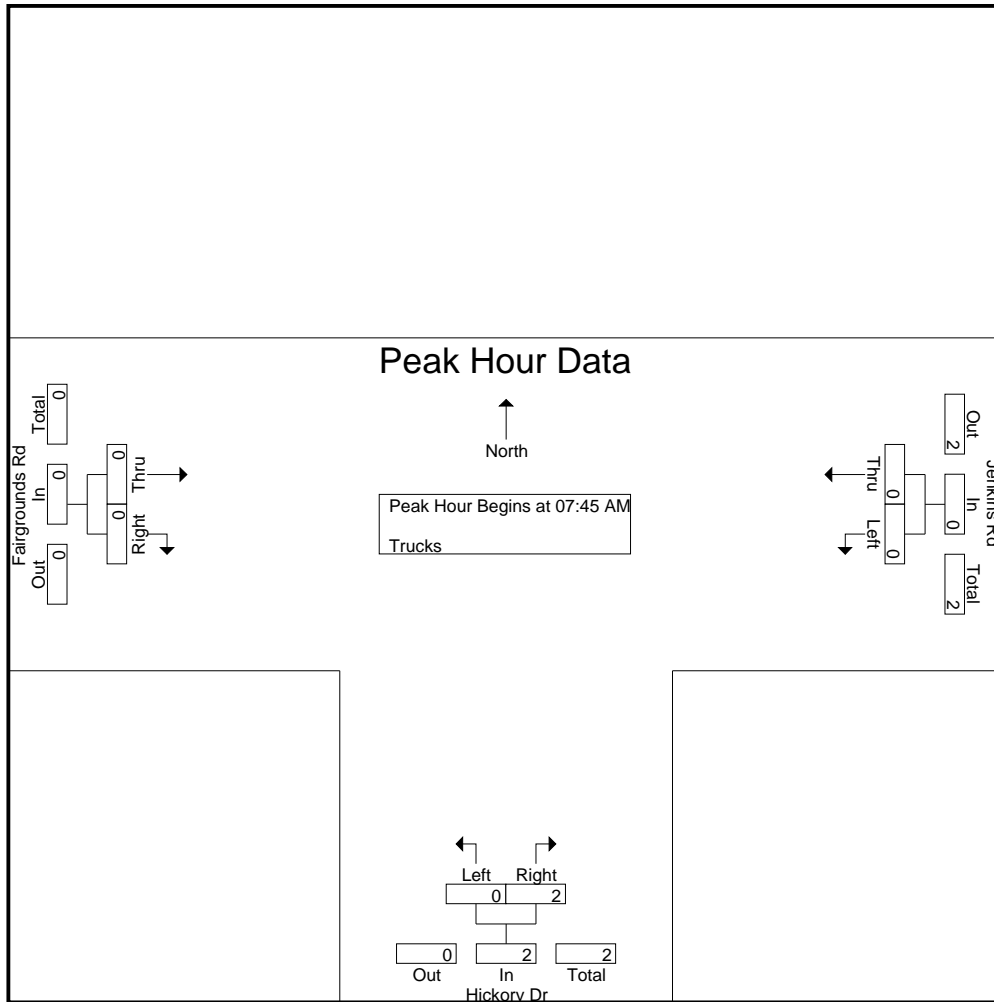
Start Time	Jenkins Rd From East			Hickory Dr From South			Fairgrounds Rd From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	1	1	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	1	1	0	0	0	1
Total Volume	0	0	0	0	2	2	0	0	0	2
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.500	.500	.000	.000	.000	.500

Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 Page No : 8



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			07:45 AM			07:00 AM		
+0 mins.	0	0	0	0	1	1	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	1	0	0	0
Total Volume	0	0	0	0	2	2	0	0	0
% App. Total	0	0	0	0	100	100	0	0	0
PHF	.000	.000	.000	.000	.500	.500	.000	.000	.000

Accurate Counts

978-664-2565

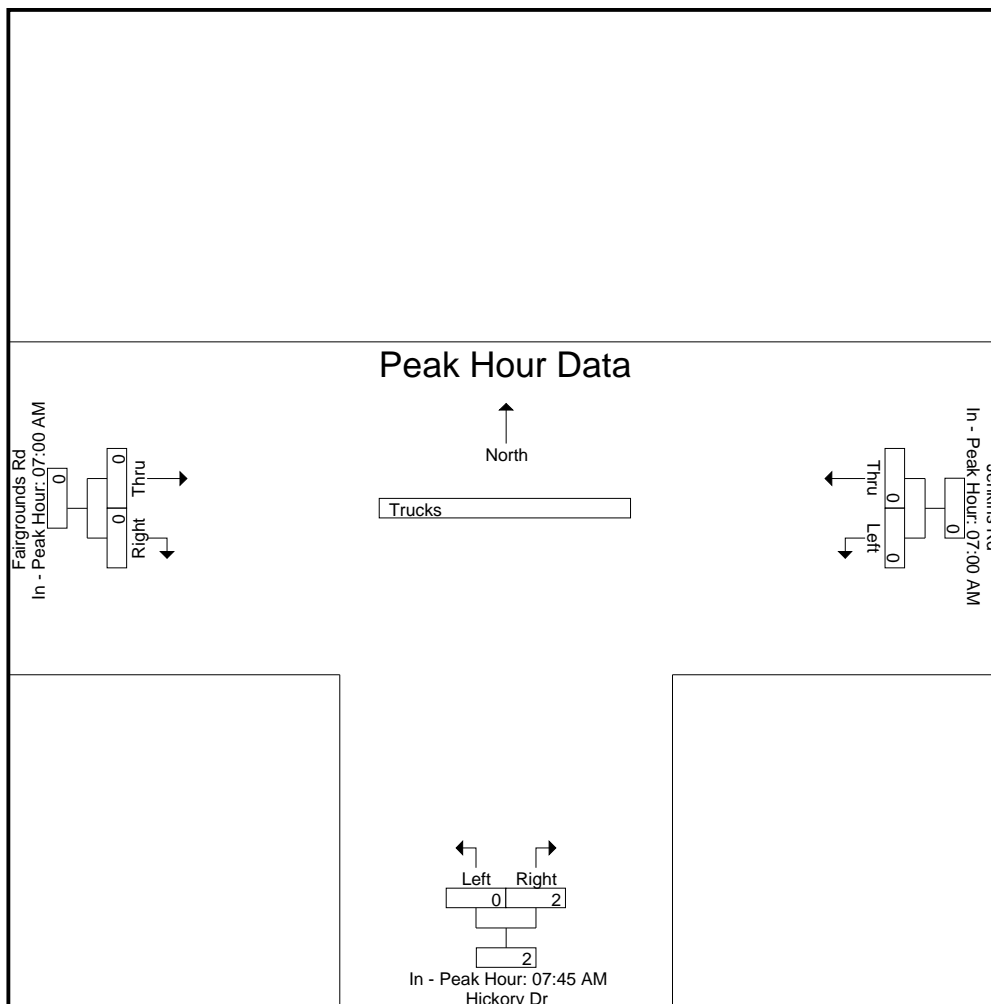
File Name : 81020005

Site Code : 81020005

Start Date : 3/7/2024

Page No : 9

N/S Street : Hickory Drive
E/W Street : Jenkins Rd / Fairgrounds Rd
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

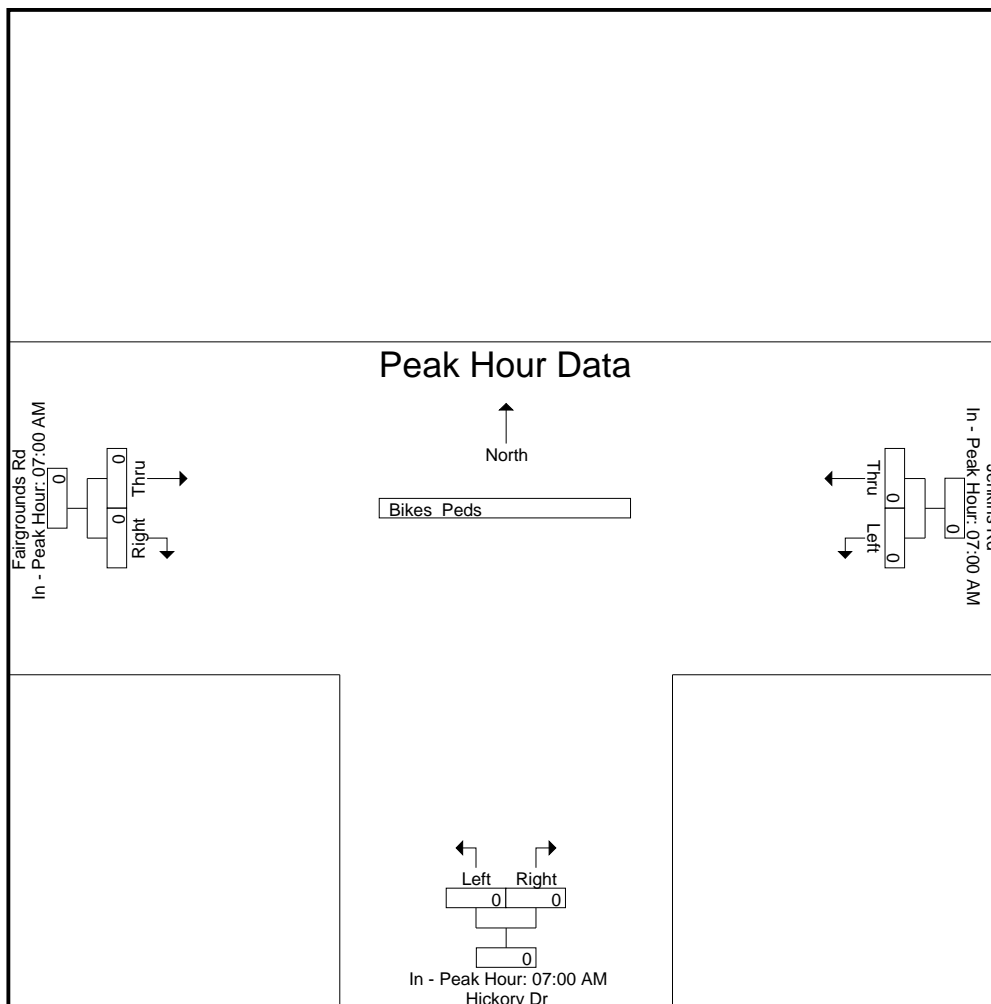
File Name : 81020005

Site Code : 81020005

Start Date : 3/7/2024

Page No : 12

N/S Street : Hickory Drive
E/W Street : Jenkins Rd / Fairgrounds Rd
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

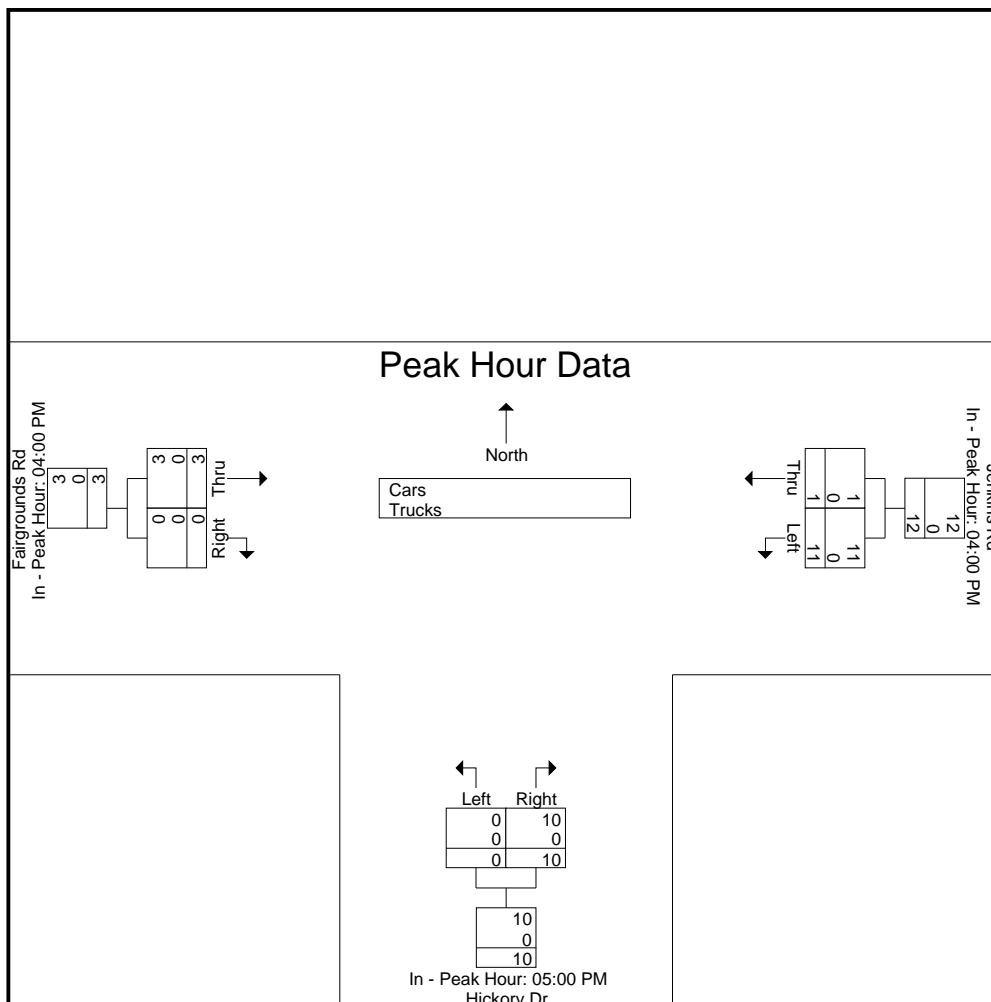
File Name : 81020005

Site Code : 81020005

Start Date : 3/7/2024

Page No : 3

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy



Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Jenkins Rd From East		Hickory Dr From South		Fairgrounds Rd From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	4	1	0	2	0	0	7
04:15 PM	3	0	1	1	2	0	7
04:30 PM	0	0	0	1	1	0	2
04:45 PM	4	0	0	1	0	0	5
Total	11	1	1	5	3	0	21
05:00 PM	3	0	0	3	0	0	6
05:15 PM	1	1	0	1	1	0	4
05:30 PM	2	0	0	3	0	0	5
05:45 PM	2	0	0	3	0	0	5
Total	8	1	0	10	1	0	20
Grand Total	19	2	1	15	4	0	41
Apprch %	90.5	9.5	6.2	93.8	100	0	
Total %	46.3	4.9	2.4	36.6	9.8	0	

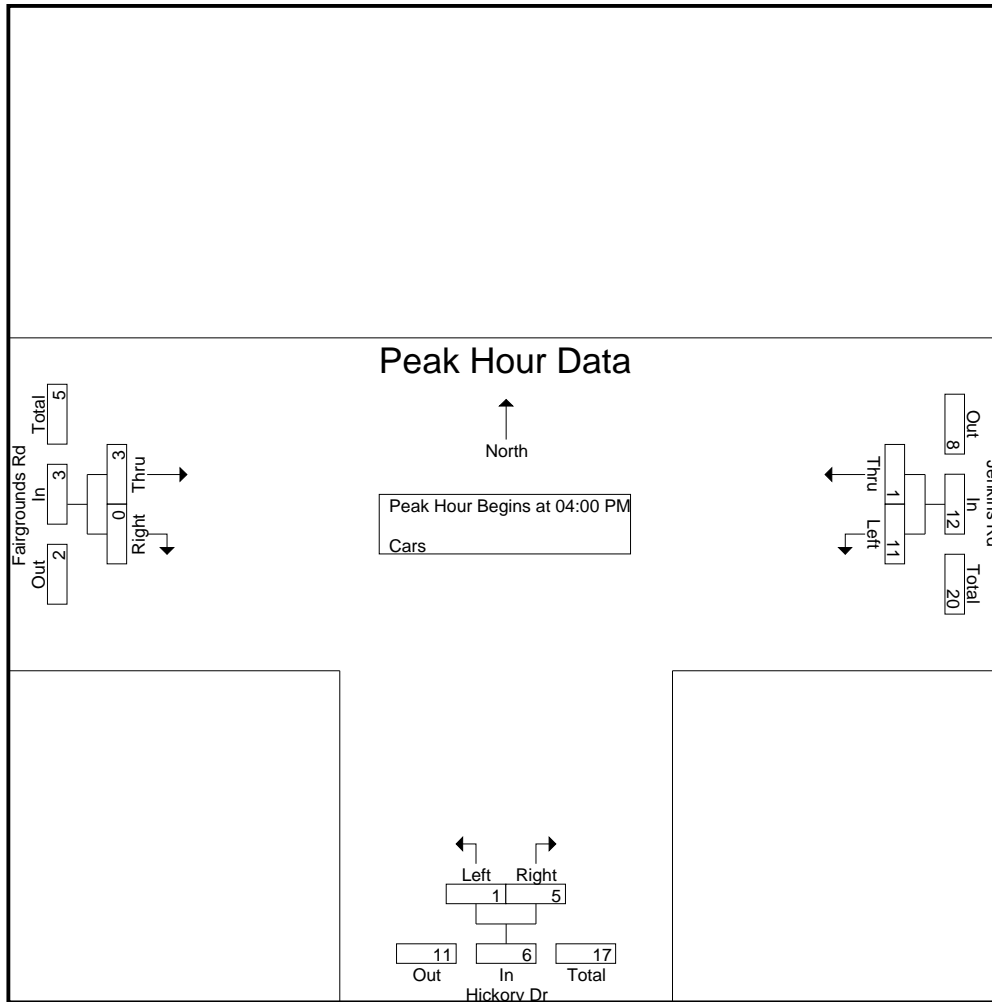
Start Time	Jenkins Rd From East			Hickory Dr From South			Fairgrounds Rd From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	4	1	5	0	2	2	0	0	0	7
04:15 PM	3	0	3	1	1	2	2	0	2	7
04:30 PM	0	0	0	0	1	1	1	0	1	2
04:45 PM	4	0	4	0	1	1	0	0	0	5
Total Volume	11	1	12	1	5	6	3	0	3	21
% App. Total	91.7	8.3		16.7	83.3		100	0		
PHF	.688	.250	.600	.250	.625	.750	.375	.000	.375	.750

Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 Page No : 5



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

Peak Hour for Each Approach Begins at:

	04:00 PM			05:00 PM			04:00 PM		
+0 mins.	4	1	5	0	3	3	0	0	0
+15 mins.	3	0	3	0	1	1	2	0	2
+30 mins.	0	0	0	0	3	3	1	0	1
+45 mins.	4	0	4	0	3	3	0	0	0
Total Volume	11	1	12	0	10	10	3	0	3
% App. Total	91.7	8.3		0	100		100	0	
PHF	.688	.250	.600	.000	.833	.833	.375	.000	.375

Accurate Counts

978-664-2565

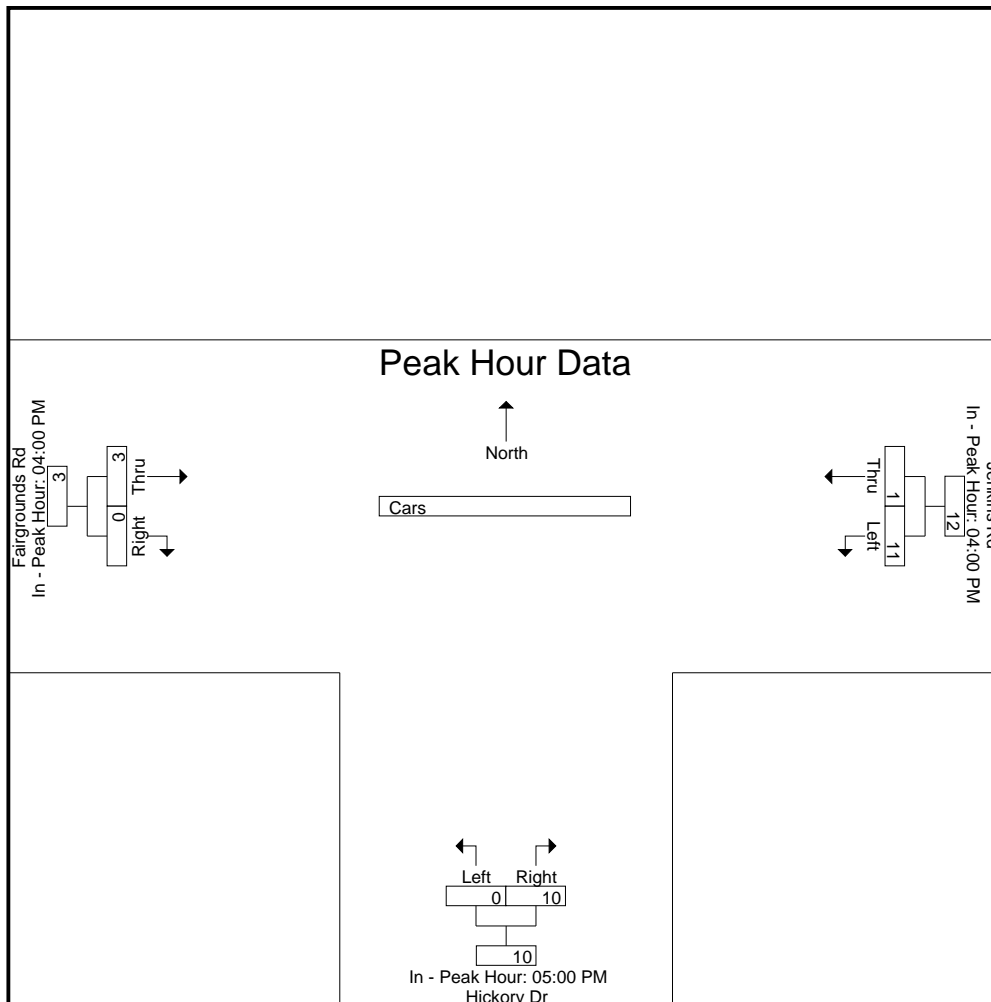
File Name : 81020005

Site Code : 81020005

Start Date : 3/7/2024

Page No : 6

N/S Street : Hickory Drive
E/W Street : Jenkins Rd / Fairgrounds Rd
City/State : Groton, MA
Weather : Rain / Cloudy

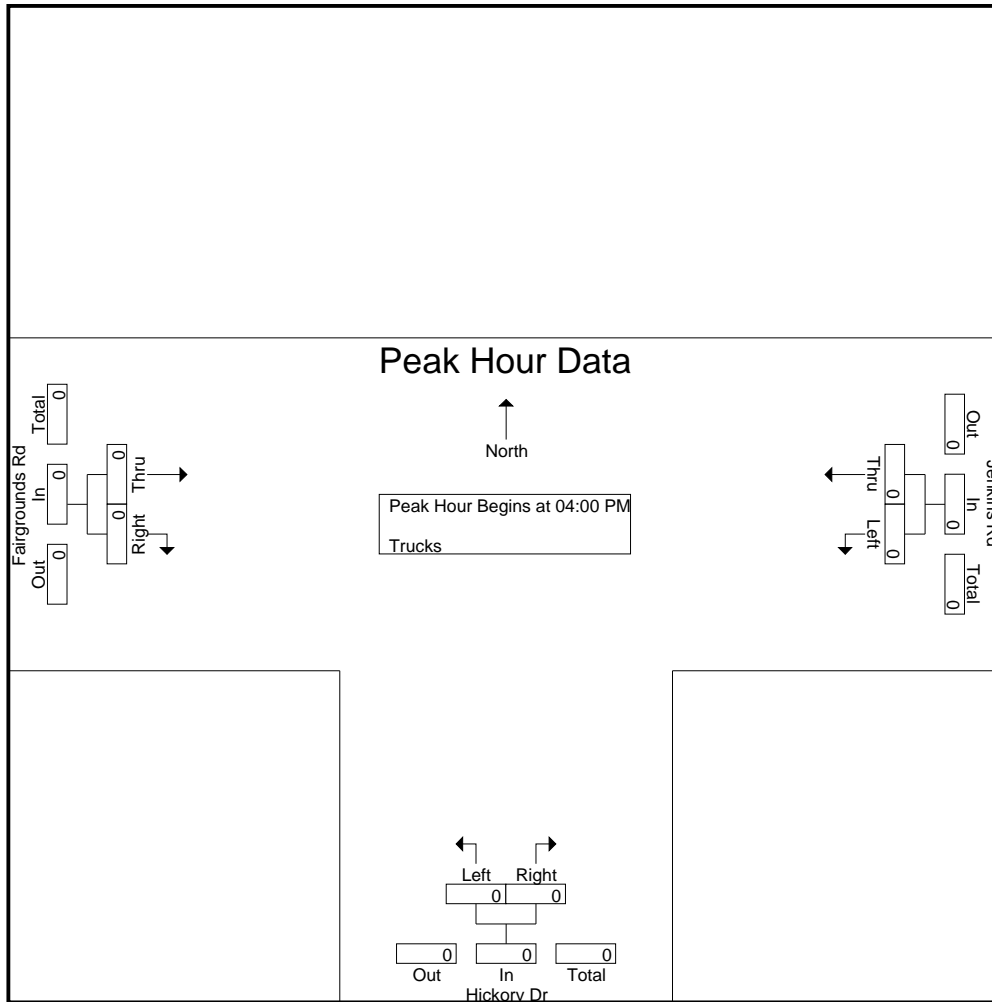


Accurate Counts

978-664-2565

N/S Street : Hickory Drive
 E/W Street : Jenkins Rd / Fairgrounds Rd
 City/State : Groton, MA
 Weather : Rain / Cloudy

File Name : 81020005
 Site Code : 81020005
 Start Date : 3/7/2024
 Page No : 8



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

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

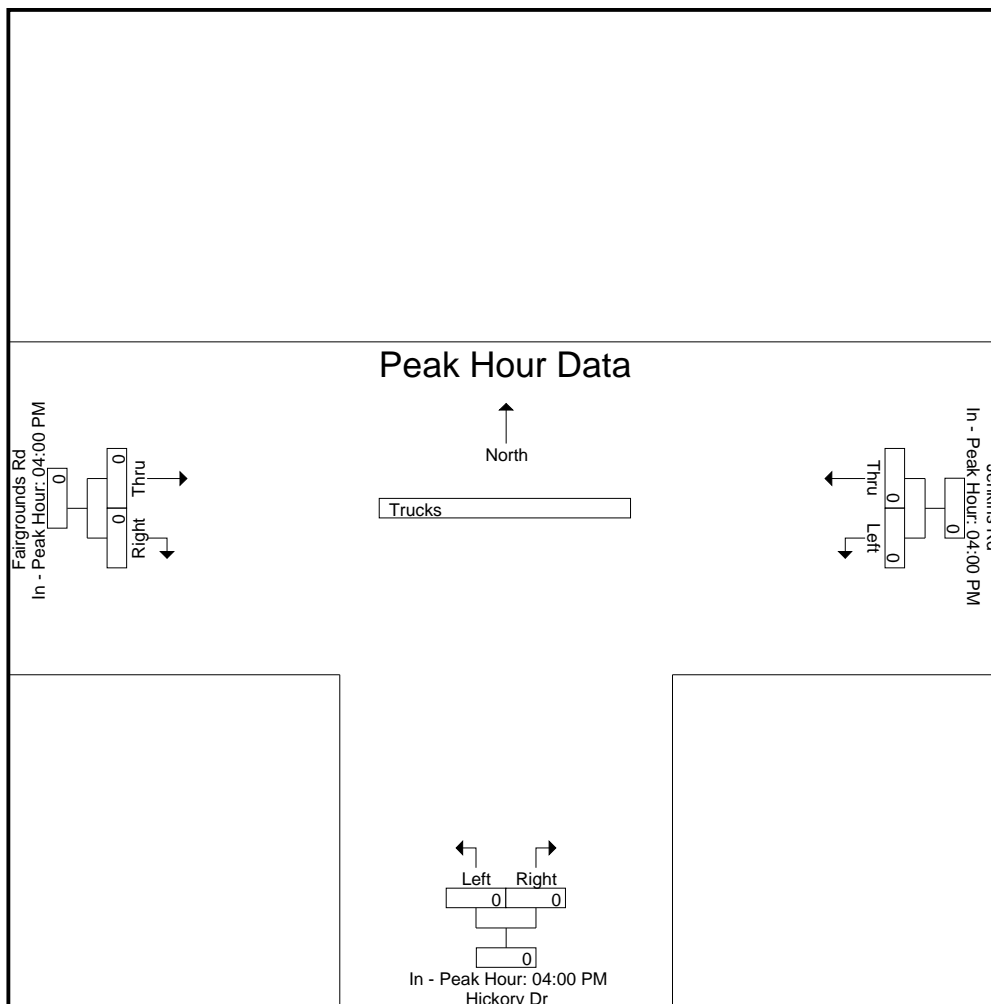
File Name : 81020005

Site Code : 81020005

Start Date : 3/7/2024

Page No : 9

N/S Street : Hickory Drive
E/W Street : Jenkins Rd / Fairgrounds Rd
City/State : Groton, MA
Weather : Rain / Cloudy



Accurate Counts

978-664-2565

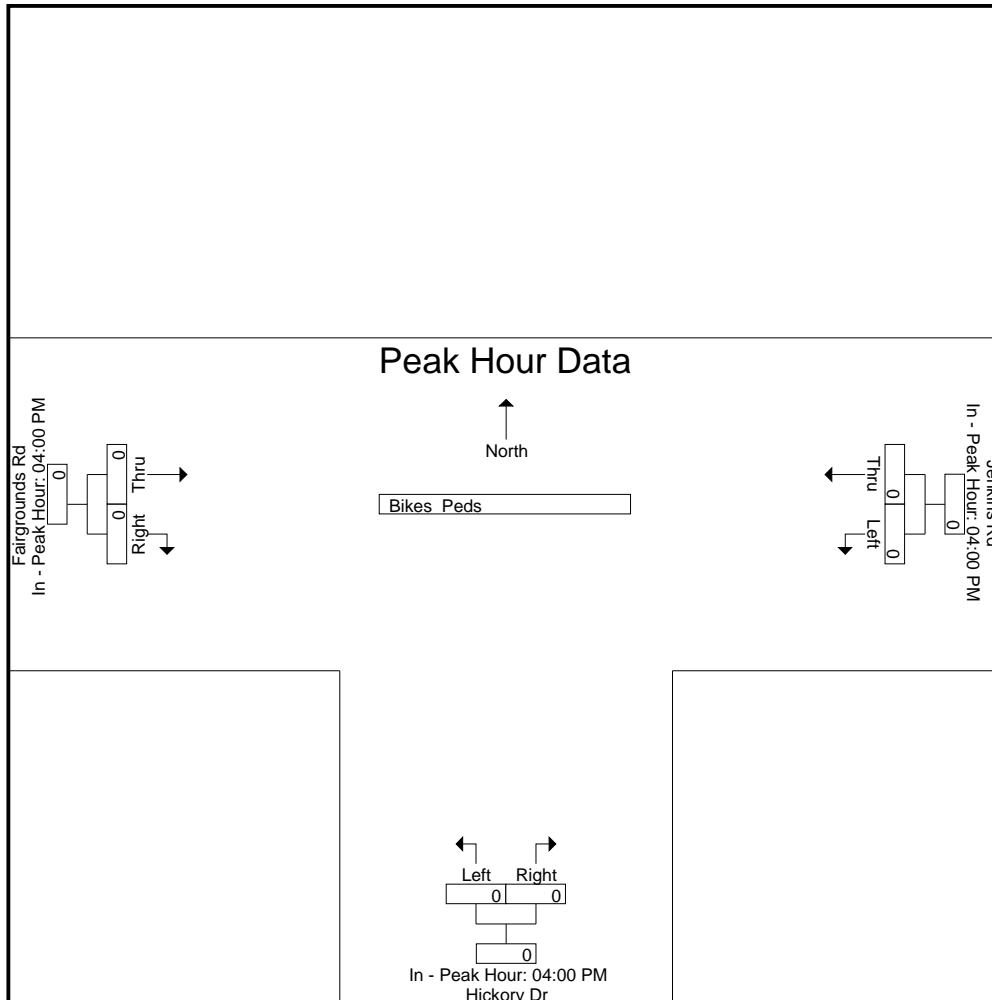
File Name : 81020005

Site Code : 81020005

Start Date : 3/7/2024

Page No : 12

N/S Street : Hickory Drive
E/W Street : Jenkins Rd / Fairgrounds Rd
City/State : Groton, MA
Weather : Rain / Cloudy



SEASONAL ADJUSTMENT DATA

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.

VEHICLE TRAVEL SPEED DATA

Accurate Counts
978-664-2565

Location : Gratuity Road
Location : East of Mill Street
City/State: Groton, MA
Direction: EB,

Site Code: 81020001

3/6/2024	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	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	1	0	1	0	0	0	0	0	0	0	2
4:00	0	0	0	0	1	0	0	0	0	0	0	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	1	3	2	0	0	1	0	0	0	0	0	7
7:00	0	0	0	1	1	2	2	0	0	1	0	0	0	0	7
8:00	0	0	0	4	0	3	1	1	0	0	0	0	0	0	9
9:00	0	0	1	2	2	1	1	0	1	0	0	0	0	0	8
10:00	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5
11:00	0	0	1	0	0	0	3	0	0	0	0	0	0	0	4
12:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
1:00	0	0	0	0	1	0	4	0	0	0	0	0	0	0	5
2:00	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
3:00	0	0	2	1	2	2	1	0	0	0	0	0	0	0	8
4:00	0	0	1	0	2	0	1	0	0	0	0	0	1	0	5
5:00	0	0	0	0	1	1	2	0	0	0	0	0	0	0	4
6:00	0	0	1	1	1	0	1	0	1	0	0	0	0	0	5
7:00	0	0	0	0	1	3	1	0	0	0	0	0	0	0	5
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	6	14	23	18	18	1	3	1	0	0	1	0	85

Percentile	15th
Speed	10
Mean Speed (Average)	15.5
10 MPH Pace Speed	10-19
Number in Pace	67
Percent in Pace	79.0%
Number > 15 MPH	42
Percent > 15 MPH	49.4%

Accurate Counts
978-664-2565

Location : Gratuity Road
Location : East of Mill Street
City/State: Groton, MA
Direction: EB,

Site Code: 81020001

3/7/2024	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	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	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	1	0	0	0	0	0	0	1
4:00	0	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	0	2
6:00	0	0	0	0	1	0	3	0	1	0	0	0	0	0	5
7:00	0	0	0	1	1	1	1	1	1	0	0	0	0	0	6
8:00	0	0	0	2	1	4	1	1	0	1	0	0	1	0	11
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	1	0	0	1	0	1	0	0	0	0	3
11:00	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4
12:00 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
1:00	0	0	1	1	1	2	1	0	0	0	0	0	0	0	6
2:00	0	0	0	0	2	2	0	0	0	0	0	0	0	0	4
3:00	0	0	0	1	2	1	1	1	0	1	0	0	0	0	7
4:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
5:00	0	0	0	1	3	1	1	0	0	0	0	0	0	0	6
6:00	0	0	1	2	2	0	0	1	1	0	0	0	0	0	7
7:00	0	0	0	1	0	1	2	1	0	0	0	0	0	0	5
8:00	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
9:00	0	0	0	0	1	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	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	3	10	20	15	13	8	3	3	1	0	1	0	77
				Percentile	15th	50th	85th	95th							
				Speed	11	15	21	25							
				Mean Speed (Average)	16.9										
				10 MPH Pace Speed	13-22										
				Number in Pace	56										
				Percent in Pace	73.0%										
				Number > 15 MPH	44										
				Percent > 15 MPH	57.1%										
Grand Total	0	0	9	24	43	33	31	9	6	4	1	0	2	0	162
Stats				Percentile	15th	50th	85th	95th							
				Speed	10	15	20	26							
				Mean Speed (Average)	16.2										
				10 MPH Pace Speed	10-19										
				Number in Pace	122										
				Percent in Pace	75.0%										
				Number > 15 MPH	86										
				Percent > 15 MPH	53.1%										

Accurate Counts
978-664-2565

Location : Gratuity Road
Location : East of Mill Street
City/State: Groton, MA
Direction: WB,

Site Code: 81020001

3/6/2024	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	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	1	0	0	1	0	0	0	0	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	0	0	0	0	0	0	0
6:00	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3
7:00	0	0	0	0	1	1	1	0	1	0	0	0	0	0	4
8:00	0	0	0	1	1	0	1	1	0	0	0	0	0	0	4
9:00	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
10:00	0	0	2	1	2	1	0	0	0	0	0	0	0	0	6
11:00	0	0	1	0	2	0	2	0	0	0	0	0	0	0	5
12:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
1:00	0	0	0	0	1	4	2	0	0	0	0	0	0	0	7
2:00	0	0	0	0	1	3	1	1	1	0	0	0	0	0	7
3:00	0	0	0	1	3	2	2	0	0	0	0	0	0	0	8
4:00	0	0	1	3	2	3	1	0	0	0	0	0	0	0	10
5:00	0	0	1	0	1	1	2	1	0	0	0	0	0	0	6
6:00	0	0	1	2	0	1	0	0	0	1	0	0	0	0	5
7:00	0	0	0	2	1	2	0	0	0	0	0	0	0	0	5
8:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
9:00	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	0	6	13	20	21	17	3	2	1	0	0	0	0	83

Percentile Speed	15th	50th	85th	95th
	11	15	18	21
Mean Speed (Average)	15.4			
10 MPH Pace Speed	10-19			
Number in Pace	67			
Percent in Pace	81.0%			
Number > 15 MPH	44			
Percent > 15 MPH	53.0%			

Accurate Counts
978-664-2565

Site Code: 81020001

Location : Gratuity Road
Location : East of Mill Street
City/State: Groton, MA
Direction: WB,

3/7/2024	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total	
Time	MPH	MPH	MPH	MPH	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	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	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	1	2	0	0	0	0	0	0	0	0	0	3	
7:00	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4	
8:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3	
9:00	0	0	1	0	1	0	0	0	1	0	0	0	0	0	3	
10:00	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3	
11:00	0	0	0	1	0	2	0	1	0	0	0	0	0	0	4	
12:00 PM	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3	
1:00	0	0	1	2	1	2	1	0	0	0	0	0	0	0	7	
2:00	0	0	0	0	1	2	3	1	0	0	0	0	0	0	7	
3:00	0	0	0	1	3	3	2	0	0	1	0	0	0	0	10	
4:00	0	0	1	2	4	3	1	0	0	0	0	0	0	0	11	
5:00	0	0	0	1	6	3	3	0	0	0	0	0	0	0	13	
6:00	0	0	1	0	3	1	0	1	0	0	0	0	0	0	6	
7:00	0	0	1	0	1	1	1	0	1	0	0	0	0	0	5	
8:00	0	0	0	0	2	2	0	0	0	0	0	0	0	0	4	
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00	0	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	0	
Total	0	0	5	10	29	23	14	3	3	1	0	0	0	0	88	
Percentile		15th		50th	85th	95th										
Speed		11		15	18	23										
Mean Speed (Average)		15.6														
10 MPH Pace Speed		12-21														
Number in Pace		70														
Percent in Pace		80.0%														
Number > 15 MPH		44														
Percent > 15 MPH		50.0%														
Grand Total	0	0	11	23	49	44	31	6	5	2	0	0	0	0	171	
Stats		Percentile		15th	50th	85th	95th									
Speed		11		15	18	22										
Mean Speed (Average)		15.5														
10 MPH Pace Speed		10-19														
Number in Pace		137														
Percent in Pace		80.0%														
Number > 15 MPH		88														
Percent > 15 MPH		51.5%														

Accurate Counts
978-664-2565

Location : Gratuity Road
Location : East of Mill Street
City/State: Groton, MA
Direction: Combined

Site Code: 81020001

3/6/2024	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	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	1	1	0	2	0	0	0	0	0	0	0	4
4:00	0	0	0	0	1	0	0	0	0	0	0	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	2	4	2	1	0	1	0	0	0	0	0	10
7:00	0	0	0	1	2	3	3	0	1	1	0	0	0	0	11
8:00	0	0	0	5	1	3	2	2	0	0	0	0	0	0	13
9:00	0	0	1	2	3	2	2	0	1	0	0	0	0	0	11
10:00	0	0	2	4	4	1	0	0	0	0	0	0	0	0	11
11:00	0	0	2	0	2	0	5	0	0	0	0	0	0	0	9
12:00 PM	0	0	0	1	0	3	0	0	0	0	0	0	0	0	4
1:00	0	0	0	0	2	4	6	0	0	0	0	0	0	0	12
2:00	0	0	0	0	5	3	1	1	1	0	0	0	0	0	11
3:00	0	0	2	2	5	4	3	0	0	0	0	0	0	0	16
4:00	0	0	2	3	4	3	2	0	0	0	0	0	1	0	15
5:00	0	0	1	0	2	2	4	1	0	0	0	0	0	0	10
6:00	0	0	2	3	1	1	1	0	1	1	0	0	0	0	10
7:00	0	0	0	2	2	5	1	0	0	0	0	0	0	0	10
8:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
9:00	0	0	0	1	2	2	1	0	0	0	0	0	0	0	6
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Total	0	0	12	27	43	39	35	4	5	2	0	0	1	0	168

Percentile	15th
Speed	10
50th	15
85th	18
95th	22
Mean Speed (Average)	15.5
10 MPH Pace Speed	10-19
Number in Pace	134
Percent in Pace	80.0%
Number > 15 MPH	86
Percent > 15 MPH	51.2%

Accurate Counts
978-664-2565

Location : Jenkins Road
Location : at # 80
City/State: Groton, MA
Direction: EB,

Site Code: 81020002

3/6/2024	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	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	0	0	0	0	0
5:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
6:00	0	0	0	0	1	1	0	1	0	1	0	0	0	0	4
7:00	0	0	0	0	1	2	1	0	0	0	0	0	0	0	4
8:00	0	0	0	0	1	1	3	1	3	0	0	0	0	0	9
9:00	0	0	0	0	1	1	1	0	1	0	0	0	0	0	4
10:00	0	0	0	0	0	1	0	1	1	0	0	0	0	0	3
11:00	0	0	0	1	1	0	0	0	1	0	0	0	0	0	3
12:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
1:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
2:00	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4
3:00	0	0	0	2	1	1	1	3	2	1	0	0	0	0	11
4:00	0	0	0	1	0	0	2	0	1	0	0	0	0	0	4
5:00	0	0	0	0	0	2	0	1	0	0	0	1	0	0	4
6:00	0	0	1	0	0	2	0	0	0	0	0	0	0	0	3
7:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
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	0	1	4	8	14	11	11	11	2	0	1	0	0	63

Percentile	15th
Speed	13
	50th
	18
	85th
	24
	95th
	26
Mean Speed (Average)	19.3
10 MPH Pace Speed	16-25
Number in Pace	44
Percent in Pace	70.0%
Number > 21 MPH	25
Percent > 21 MPH	39.7%

Accurate Counts
978-664-2565

Location : Jenkins Road
Location : at # 80
City/State: Groton, MA
Direction: WB,

Site Code: 81020002

3/6/2024	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
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	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	0	0	0	0
6:00	0	0	0	0	0	2	0	0	1	0	0	0	0	0	3
7:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
8:00	0	0	0	0	1	4	3	1	4	2	0	0	0	0	15
9:00	0	0	0	0	0	0	1	4	0	1	0	0	0	0	6
10:00	0	0	0	0	0	1	3	1	0	1	0	0	0	0	6
11:00	0	0	0	0	1	0	0	2	2	1	0	0	0	0	6
12:00 PM	0	0	0	0	0	2	1	0	2	0	0	1	0	0	6
1:00	0	0	1	0	1	0	2	3	3	1	0	0	0	0	11
2:00	0	0	0	0	0	4	1	0	4	4	0	0	0	0	13
3:00	0	0	0	0	1	1	1	5	2	0	1	0	0	0	11
4:00	0	0	0	0	0	1	6	3	1	3	0	0	0	0	14
5:00	0	0	0	0	0	1	0	2	5	3	1	0	0	1	13
6:00	0	0	0	0	1	0	1	1	0	1	0	0	0	0	4
7:00	0	0	0	0	0	0	1	2	2	2	1	0	0	0	8
8:00	0	0	0	0	0	0	1	4	2	1	1	0	0	0	9
9:00	0	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	0
11:00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
Total	0	0	1	0	5	17	23	30	28	21	5	1	0	1	132

Percentile	15th
Speed	16
	50th
	22
	85th
	28
	95th
	29
Mean Speed (Average)	23.1
10 MPH Pace Speed	19-28
Number in Pace	94
Percent in Pace	71.0%
Number > 21 MPH	86
Percent > 21 MPH	65.2%

Accurate Counts
978-664-2565

Location : Jenkins Road
Location : at # 80
City/State: Groton, MA
Direction: Combined

Site Code: 81020002

3/6/2024	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
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	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	0	0	0	0	0	1
6:00	0	0	0	0	1	3	0	1	1	1	0	0	0	0	7
7:00	0	0	0	0	1	3	2	0	0	0	0	0	0	0	6
8:00	0	0	0	0	2	5	6	2	7	2	0	0	0	0	24
9:00	0	0	0	0	1	1	2	4	1	1	0	0	0	0	10
10:00	0	0	0	0	0	2	3	2	1	1	0	0	0	0	9
11:00	0	0	0	1	2	0	0	2	3	1	0	0	0	0	9
12:00 PM	0	0	0	0	0	2	1	1	3	0	0	1	0	0	8
1:00	0	0	1	0	1	2	3	3	3	1	0	0	0	0	14
2:00	0	0	0	0	2	4	1	2	4	4	0	0	0	0	17
3:00	0	0	0	2	2	2	2	8	4	1	1	0	0	0	22
4:00	0	0	0	1	0	1	8	3	2	3	0	0	0	0	18
5:00	0	0	0	0	0	3	0	3	5	3	1	1	0	1	17
6:00	0	0	1	0	1	2	1	1	0	1	0	0	0	0	7
7:00	0	0	0	0	0	0	3	2	2	2	1	0	0	0	10
8:00	0	0	0	0	0	1	1	4	3	1	1	0	0	0	11
9:00	0	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	0
11:00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
Total	0	0	2	4	13	31	34	41	39	23	5	2	0	1	195

Percentile	15th
Speed	15
Percentile	50th
Speed	21
Percentile	85th
Speed	26
Percentile	95th
Speed	29
Mean Speed (Average)	21.9
10 MPH Pace Speed	19-28
Number in Pace	129
Percent in Pace	66.0%
Number > 21 MPH	111
Percent > 21 MPH	56.9%

MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAPPING

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Groton COUNTY DATE : 5/13/2019
 DISTRICT : 3 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Main Street
 MINOR STREET(S) : Mill Street

**INTERSECTION
 DIAGRAM
 (Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (PM) :	787	360	140			1,287

" K " FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

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

CRASH RATE CALCULATION :

0.33

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

Comments : Below MassDOT Statewide and District Average Crash Rates

Project Title & Date: 8102 - Proposed Residential Development

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Groton COUNT DATE : 5/13/2019

DISTRICT : 3 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Main Street

MINOR STREET(S) : Arlington Street

**INTERSECTION
DIAGRAM
(Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (PM) :	823	353	13			1,189
" K " FACTOR :	0.097	INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :				12,258
TOTAL # OF CRASHES :	1	# OF YEARS :	5	AVERAGE # OF CRASHES PER YEAR (A) :		0.20

CRASH RATE CALCULATION : **0.04** RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : Below MassDOT Statewide and District Average Crash Rates

Project Title & Date: 8102 - Proposed Residential Development

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Groton COUNT DATE : 5/13/2019

DISTRICT : 3 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Mill Street

MINOR STREET(S) : Arlington Street

Gratuity Road

**INTERSECTION
 DIAGRAM
 (Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (PM) :	137	54	18	31		240

"K" FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

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

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

Comments : Below MassDOT Statewide and District Average Crash Rates

Project Title & Date: 8102 - Proposed Residential Development

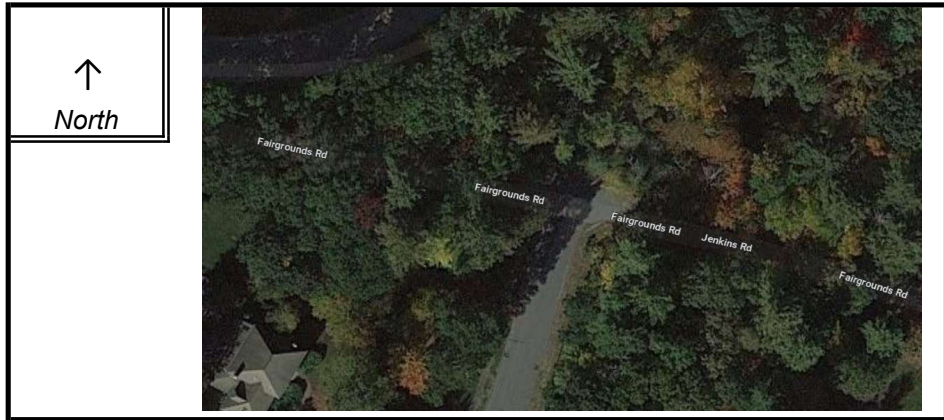
INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Groton COUNT DATE : 5/13/2019
 DISTRICT : 3 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Jenkins Road
 MINOR STREET(S) : Hickory Drive

**INTERSECTION
 DIAGRAM
 (Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM) :	22		2	10		34

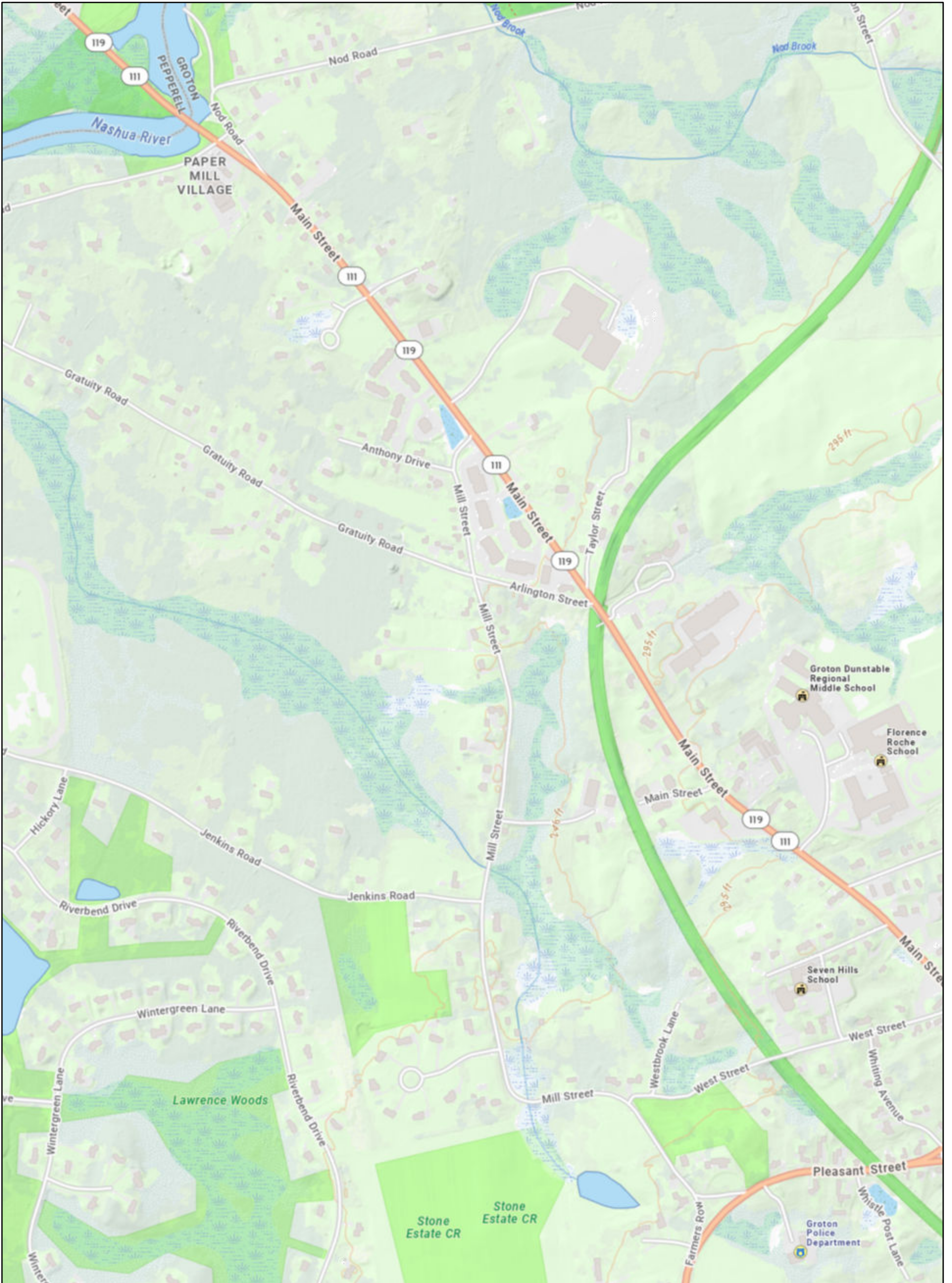
" K " FACTOR :	0.097	INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :	351
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TOTAL # OF CRASHES :	1	# OF YEARS :	5	AVERAGE # OF CRASHES PER YEAR (A) :	0.20
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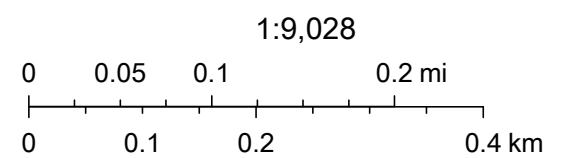
CRASH RATE CALCULATION : **1.56** RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : Above MassDOT Statewide and District Average Crash Rates
 Project Title & Date: 8102 - Proposed Residential Development

MassDOT Top Crash Locations



6/1/2023, 11:26:30 AM



GENERAL BACKGROUND TRAFFIC GROWTH

General Background Traffic Growth - Daily Traffic Volumes

CITY/TOWN	ROUTE/STREET	LOCATION	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Growth
Groton	Townsend Road	west of Pepperrell Road					3,083	3,179	3,252		4,116	4,128	4,111	1.32%
Pepperrell	Shirley Street	south of Route 119								2,025	2,059	2,065	2,057	0.53%
Ayer	Groton School Road	at Groton Town Line					5,019	5,295	5,353	5,423	4,315	4,375	4,393	-1.79%
Groton	Hollis Street	north of Route 119				4,166	4,188	4,318	4,417	4,691	4,771	4,786	4,766	1.96%
Groton	Main Street	at Pepperrell Town Line										14,275	14,332	0.40%
Groton	Pepperrell Road	at Pepperrell Town Line				1,638	1,645	1,696	1,679			1,790	1,783	0.53%
Pepperrell	River Road	north of South Street						5,564	5,508					-1.01%
Groton	Broadmeadow Road	west of Route 119				1,140	1,146	1,103	1,128	1,198	1,218	1,122	978	-1.97%
Groton	Farmers Row	south of Route 225						7,051	7,129	7,222	7,301	7,403	7,193	0.41%
Groton	Pepperrell Road	north of West Main Street					1,542	1,590	1,627	1,728	1,722			2.83%
Groton	Lowell Road	east of Route 119				4,983	5,009	5,240	5,298	5,367	5,426	5,502	5,741	2.06%
Groton	Main Street	north of Route 40				16,661	16,749	19,737	19,954	20,213	20,435	20,721	21,650	3.96%
Groton	Long Hill Road	west of Route 111						4,800	4,910	5,214	5,303	5,319	4,927	0.62%
Groton	Main Street	west of Route 119				3,054	2,845	3,239	3,275	3,318	3,348	3,395	3,409	1.74%
Groton	Townsend Road	north of West Main Street					1,688	1,740	1,780	1,890	1,688	1,693	1,686	0.13%
Groton	Main Street	south of Lowell Road				16,790	16,878	16,813	16,998	17,219	17,408	17,652	17,468	0.57%
Ayer	Old Groton Road	at Groton Town Line							3,694	3,923	3,990	4,002	3,986	1.95%
Groton	Main Street	north of Pleasant Street					12,760	13,462	13,610	13,787	12,859	13,039	13,091	0.49%
Groton	Boston Road	east of Lovers Lane				15,010	15,091	15,921	16,096	16,305	16,484	16,715	16,782	1.62%
Groton	West Main Street	east of Pepperrell Road					5,116	5,275	5,396	5,731	3,420	3,430	3,416	-4.81%
Groton	Main Street	west of School Street	14,111	13,912	13,135	13,288	13,356	14,091	14,246	14,431	15,112	15,324	15,385	0.91%
														0.59%

BACKGROUND DEVELOPMENT NETWORKS

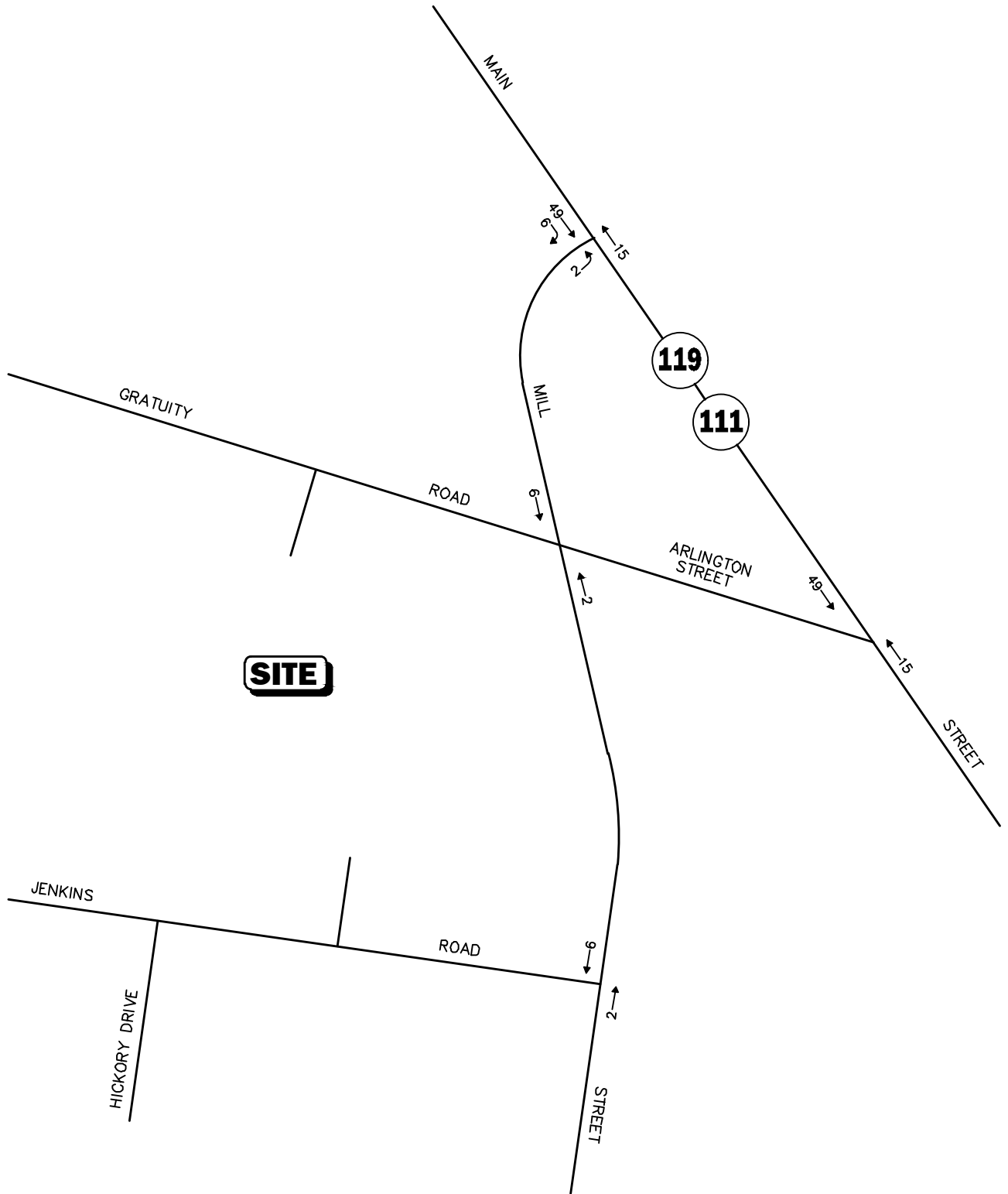


Figure A-1

Groton Farms Residential Development
500 Main Street
Weekday Morning
Peak-Hour Traffic Volumes

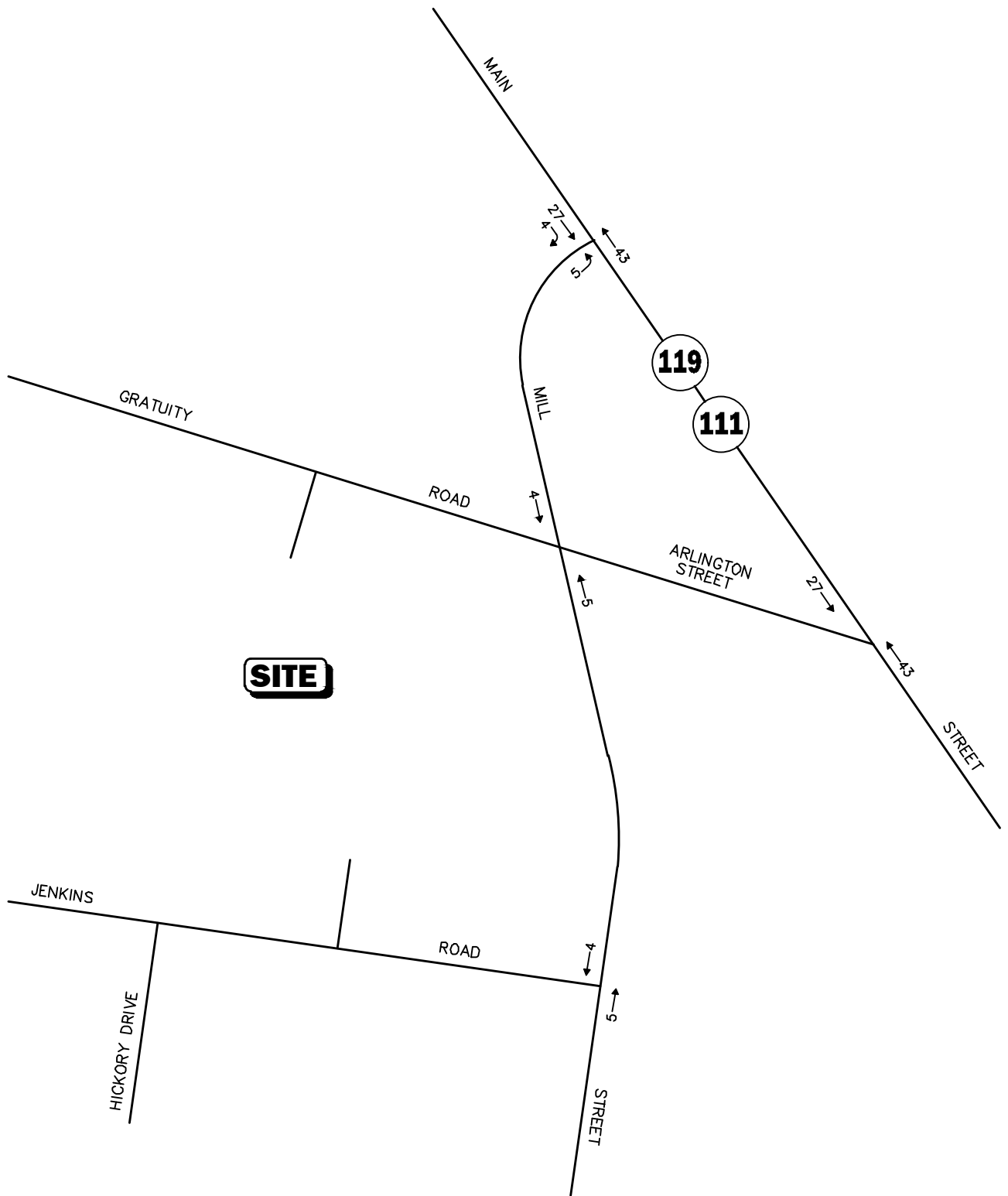


Figure A-2

Groton Farms Residential Development
500 Main Street
Weekday Evening
Peak-Hour Traffic Volumes

TRIP-GENERATION CALCUALTIONS

Graph Look Up



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Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

215

LAND USE GROUP:

(200-299) Residential

LAND USE:

215 - Single-Family Attached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday

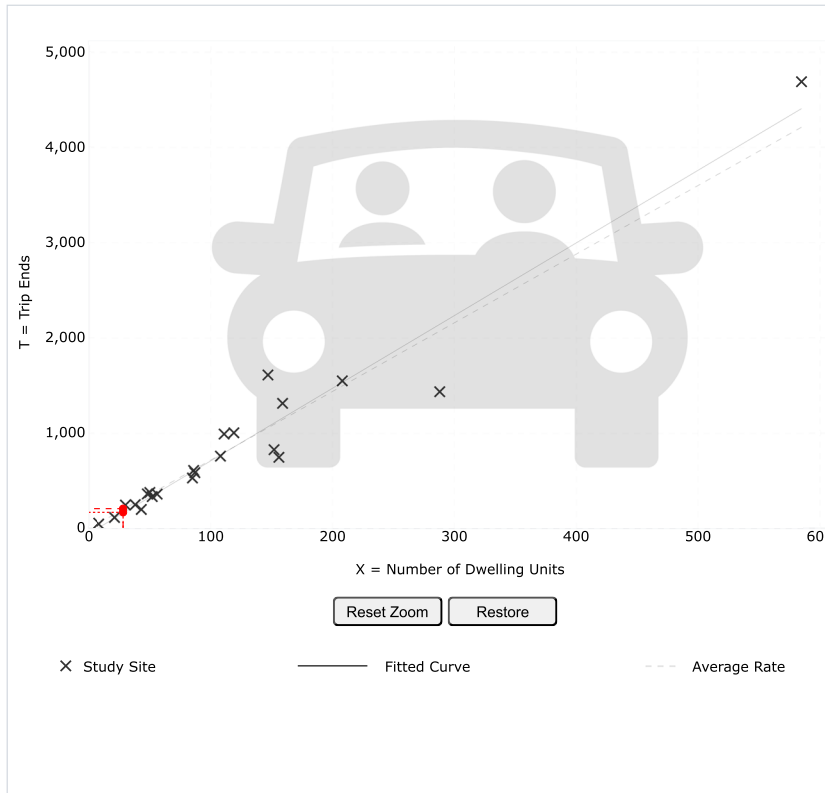
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

28 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:	Single-Family Attached Housing (215) Click for Description and Data Plots
Independent Variable:	Dwelling Units
Time Period:	Weekday
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	22
Avg. Num. of Dwelling Units:	120
Average Rate:	7.20
Range of Rates:	4.70 - 10.97
Standard Deviation:	1.61
Fitted Curve Equation:	$T = 7.62(X) - 50.48$
R²:	0.94
Directional Distribution:	50% entering, 50% exiting
Calculated Trip Ends:	Average Rate: 202 (Total), 101 (Entry), 101 (Exit) Fitted Curve: 163 (Total), 81 (Entry), 82 (Exit)

Graph Look Up



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DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

215

LAND USE GROUP:

(200-299) Residential

LAND USE :

215 - Single-Family Attached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

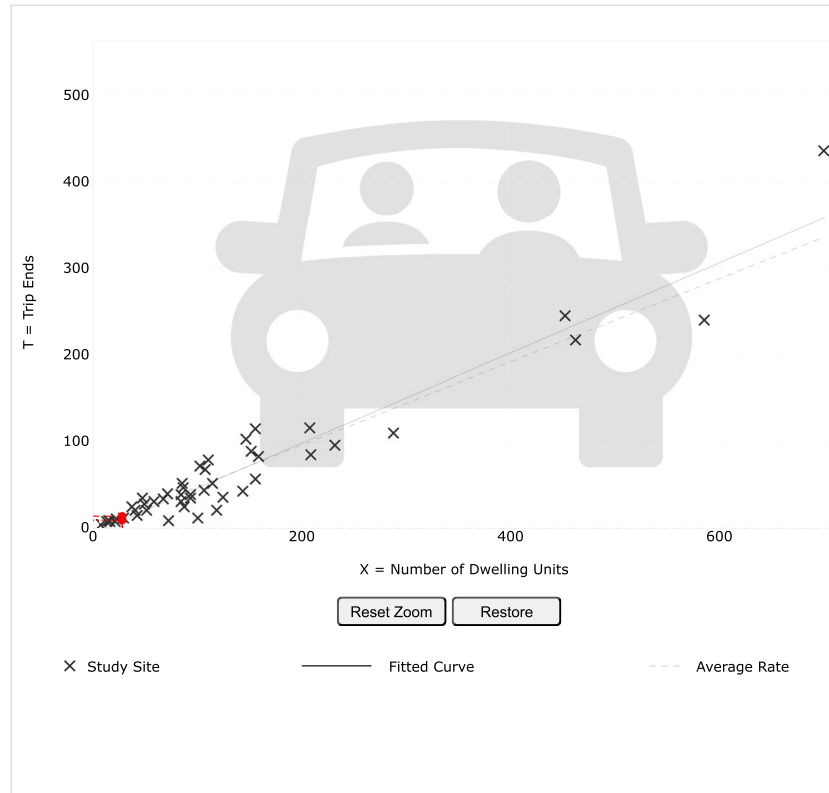
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

28 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:
Single-Family Attached Housing (215) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
46

Avg. Num. of Dwelling Units:
135

Average Rate:
0.48

Range of Rates:
0.12 - 0.74

Standard Deviation:
0.14

Fitted Curve Equation:
 $T = 0.52(X) - 5.70$

R²:
0.92

Directional Distribution:
25% entering, 75% exiting

Calculated Trip Ends:
Average Rate: 13 (Total), 3 (Entry), 10 (Exit)
Fitted Curve: 9 (Total), 2 (Entry), 7 (Exit)

Graph Look Up



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DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

215

LAND USE GROUP:

(200-299) Residential

LAND USE :

215 - Single-Family Attached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

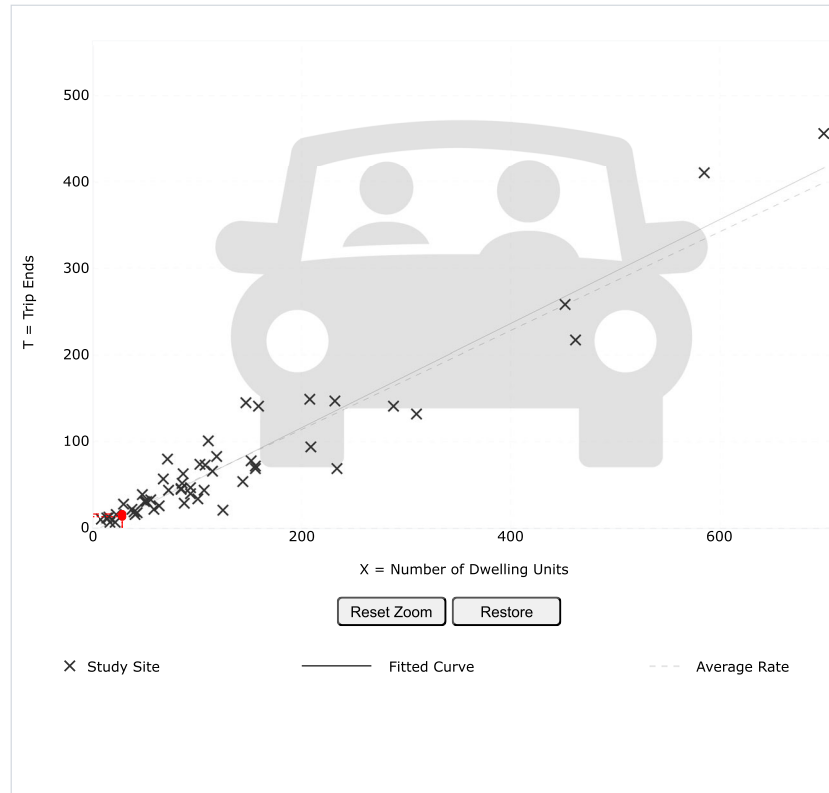
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

28 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:	Single-Family Attached Housing (215) Click for Description and Data Plots
Independent Variable:	Dwelling Units
Time Period:	Weekday Peak Hour of Adjacent Street Traffic One Hour Between 4 and 6 p.m.
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	51
Avg. Num. of Dwelling Units:	136
Average Rate:	0.57
Range of Rates:	0.17 - 1.25
Standard Deviation:	0.18
Fitted Curve Equation:	$T = 0.60(X) - 3.93$
R²:	0.91
Directional Distribution:	59% entering, 41% exiting
Calculated Trip Ends:	Average Rate: 16 (Total), 9 (Entry), 7 (Exit) Fitted Curve: 13 (Total), 8 (Entry), 5 (Exit)

Graph Look Up



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Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

252

LAND USE GROUP:

(200-299) Residential

LAND USE:

252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday

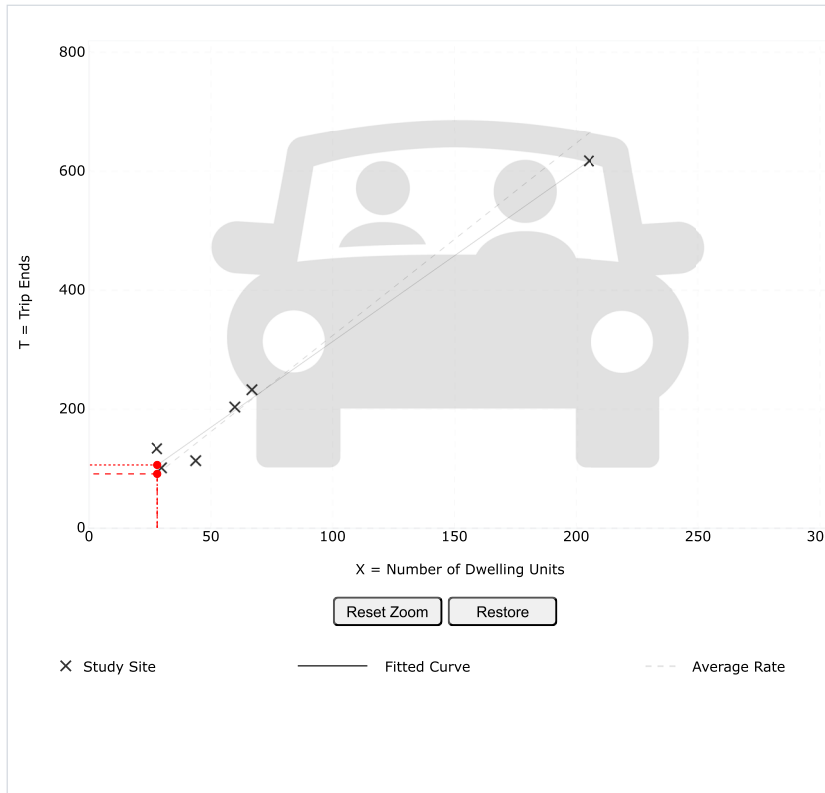
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

28 Calculate

Data Plot and Equation



X Study Site — Fitted Curve - - - Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
6

Avg. Num. of Dwelling Units:
72

Average Rate:
3.24

Range of Rates:
2.59 - 4.79

Standard Deviation:
0.53

Fitted Curve Equation:
 $T = 2.89(X) + 24.82$

R²:
0.99

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 91 (Total), 45 (Entry), 46 (Exit)
Fitted Curve: 106 (Total), 53 (Entry), 53 (Exit)

Graph Look Up



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Graph Look Up

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DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

252

LAND USE GROUP:

(200-299) Residential

LAND USE:

252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

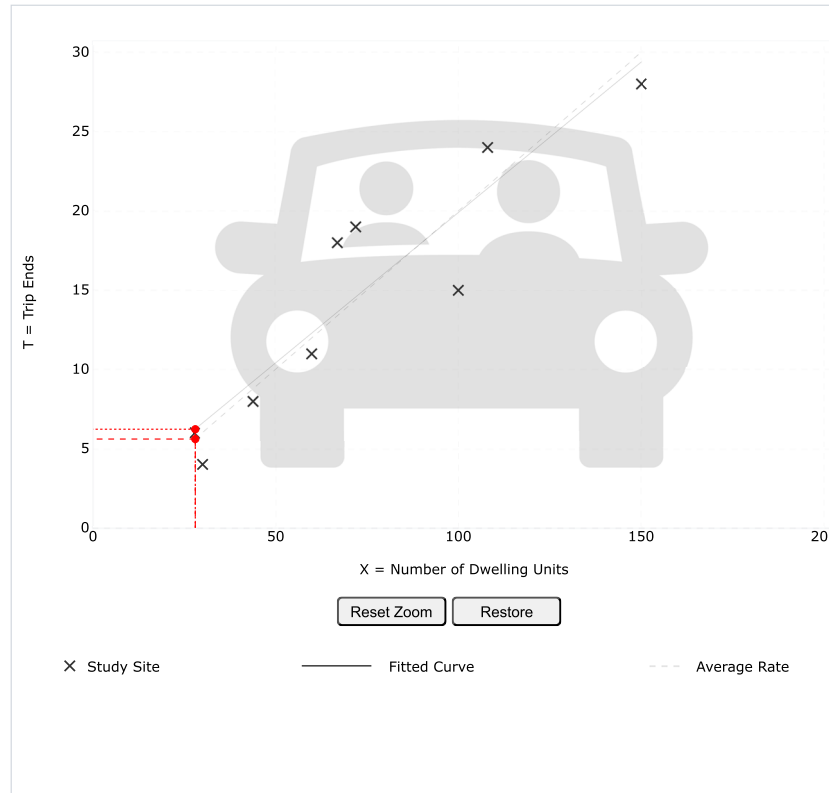
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

28 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:	Senior Adult Housing - Multifamily (252) Click for Description and Data Plots
Independent Variable:	Dwelling Units
Time Period:	Weekday Peak Hour of Adjacent Street Traffic One Hour Between 7 and 9 a.m.
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	9
Avg. Num. of Dwelling Units:	73
Average Rate:	0.20
Range of Rates:	0.13 - 0.27
Standard Deviation:	0.04
Fitted Curve Equation:	$T = 0.19(X) + 0.90$
R²:	0.85
Directional Distribution:	34% entering, 66% exiting
Calculated Trip Ends:	Average Rate: 6 (Total), 2 (Entry), 4 (Exit) Fitted Curve: 6 (Total), 2 (Entry), 4 (Exit)

Graph Look Up



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Graph Look Up

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Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

252

LAND USE GROUP:

(200-299) Residential

LAND USE:

252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

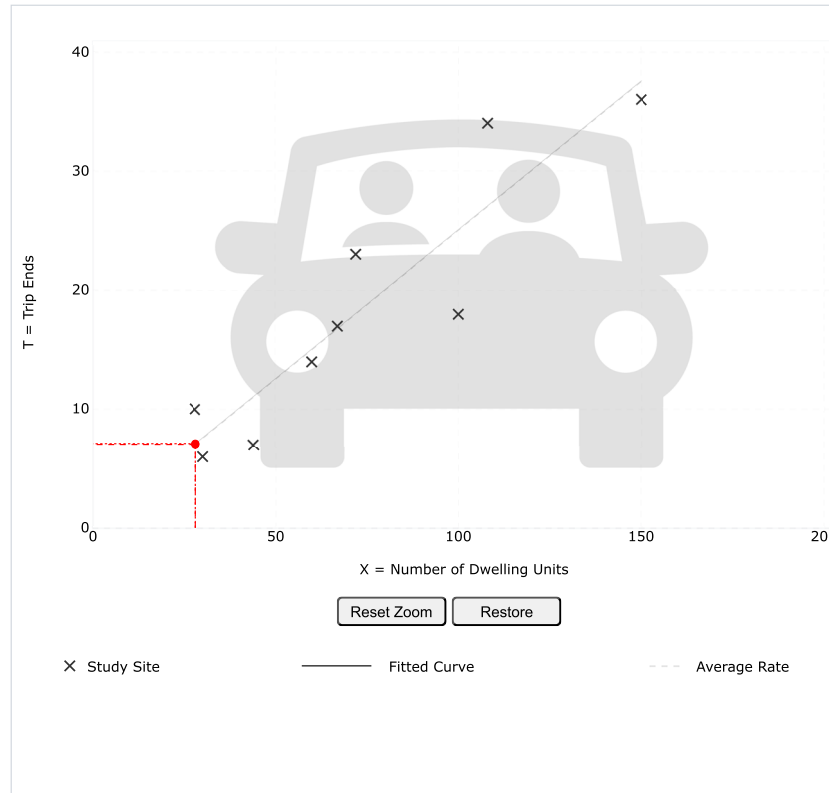
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

28 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
9

Avg. Num. of Dwelling Units:
73

Average Rate:
0.25

Range of Rates:
0.16 - 0.36

Standard Deviation:
0.06

Fitted Curve Equation:
 $T = 0.25(X) + 0.07$

R²:
0.84

Directional Distribution:
56% entering, 44% exiting

Calculated Trip Ends:
Average Rate: 7 (Total), 4 (Entry), 3 (Exit)
Fitted Curve: 7 (Total), 4 (Entry), 3 (Exit)

TRIP DISTRIBUTION

Proposed Residential Development
Groton, Massachusetts

Residence	Workplace	Number	Route 111 (North)		Route 111 (South)		Mill Street (South)	
Groton town	Groton town	1,298	30%	389	20%	260	50%	649
Groton town	Westford town	358		0	100%	358		0
Groton town	Boston city	294		0	100%	294		0
Groton town	Burlington town	290		0	100%	290		0
Groton town	Concord town	280		0	50%	140	50%	140
Groton town	Lowell city	216		0	100%	216		0
Groton town	Chelmsford town	211		0	100%	211		0
Groton town	Ayer town	191		0		0	100%	191
Groton town	Acton town	180		0	50%	90	50%	90
Groton town	Littleton town	164		0	50%	82	50%	82
Groton town	Billerica town	137		0	100%	137		0
Groton town	Waltham city	132		0	100%	132		0
Groton town	Harvard town	130		0	50%	65	50%	65
Groton town	Marlborough city	101		0	100%	101		0
Groton town	Westborough town	93		0	100%	93		0
Groton town	Woburn city	85		0	100%	85		0
Groton town	Nashua city	79	100%	79		0		0
Groton town	Merrimack town	67	100%	67		0		0
Groton town	Cambridge city	62		0	100%	62		0
Groton town	Maynard town	59		0	50%	30	50%	30
Groton town	Lexington town	58		0	100%	58		0
Groton town	Danvers town	55		0	100%	55		0
Groton town	North Andover town	50		0	100%	50		0
		4,590		535		2,808		1,247
				11.7%		61.2%		27.2%
		<u>SAY</u>		10%		60%		30%

CAPACITY ANALYSIS WORKSHEETS

Main Street at Mill Street

Main Street at Arlington Street

Mill Street at Arlington Street and Gratuity Road

Mill Street at Jenkins Road

Jenkins Road at Hickory Drive

Gratuity Road at the Project Site Roadway

Jenkins Road at the Project Site Roadway

Main Street at Mill Street

2024 Existing Weekday Morning
1: Main Street & Mill Street

04/08/2024

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	36	5	0	173	805	116
Future Vol, veh/h	36	5	0	173	805	116
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	93	93	82	82	85	85
Heavy Vehicles, %	0	0	0	5	1	0
Mvmt Flow	39	5	0	211	947	136

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1226	1015	1083	0	-	0
Stage 1	1015	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	199	292	652	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	199	292	652	-	-	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	652	-	207	-	-
HCM Lane V/C Ratio	-	-	0.213	-	-
HCM Control Delay (s)	0	-	27	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

2024 Existing Weekday Evening
1: Main Street & Mill Street

04/08/2024

Intersection						
Int Delay, s/veh	7.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	127	13	9	778	319	41
Future Vol, veh/h	127	13	9	778	319	41
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	85	85	94	94	91	91
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	149	15	10	828	351	45

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1222	374	396	0	-	0
Stage 1	374	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	200	677	1174	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	197	677	1174	-	-	-
Mov Cap-2 Maneuver	197	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	423	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	64.5	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1174	-	211	-	-
HCM Lane V/C Ratio	0.008	-	0.781	-	-
HCM Control Delay (s)	8.1	0	64.5	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	5.5	-	-

2031 No-Build Weekday Morning
1: Main Street & Mill Street

04/08/2024

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	5	0	200	912	130
Future Vol, veh/h	41	5	0	200	912	130
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	93	93	82	82	85	85
Heavy Vehicles, %	0	0	0	5	1	0
Mvmt Flow	44	5	0	244	1073	153

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1394	1150	1226	0	-	0
Stage 1	1150	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	158	244	576	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	158	244	576	-	-	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.2	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	576	-	164	-	-
HCM Lane V/C Ratio	-	-	0.302	-	-
HCM Control Delay (s)	0	-	36.2	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

2031 No-Build Weekday Evening
1: Main Street & Mill Street

04/08/2024

Intersection						
Int Delay, s/veh	17.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		T
Traffic Vol, veh/h	141	14	10	877	369	48
Future Vol, veh/h	141	14	10	877	369	48
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	85	85	94	94	91	91
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	166	16	11	933	405	53

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1387	432	458	0	0
Stage 1	432	-	-	-	-
Stage 2	955	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	~ 159	628	1114	-	-
Stage 1	659	-	-	-	-
Stage 2	377	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 156	628	1114	-	-
Mov Cap-2 Maneuver	~ 156	-	-	-	-
Stage 1	646	-	-	-	-
Stage 2	377	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	152.2	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1114	-	167	-	-
HCM Lane V/C Ratio	0.01	-	1.092	-	-
HCM Control Delay (s)	8.3	0	152.2	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	9.3	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2031 Build Weekday Morning
1: Main Street & Mill Street

04/19/2024

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	42	5	0	200	912	130
Future Vol, veh/h	42	5	0	200	912	130
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	93	93	82	82	85	85
Heavy Vehicles, %	0	0	0	5	1	0
Mvmt Flow	45	5	0	244	1073	153

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1394	1150	1226	0	-	0
Stage 1	1150	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	158	244	576	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	158	244	576	-	-	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.4	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	576	-	164	-	-
HCM Lane V/C Ratio	-	-	0.308	-	-
HCM Control Delay (s)	0	-	36.4	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

2031 Build Weekday Evening
1: Main Street & Mill Street

04/19/2024

Intersection						
Int Delay, s/veh	17.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		R
Traffic Vol, veh/h	141	14	10	877	369	49
Future Vol, veh/h	141	14	10	877	369	49
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	85	85	94	94	91	91
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	166	16	11	933	405	54

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1387	432	459	0	0
Stage 1	432	-	-	-	-
Stage 2	955	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	~ 159	628	1113	-	-
Stage 1	659	-	-	-	-
Stage 2	377	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 156	628	1113	-	-
Mov Cap-2 Maneuver	~ 156	-	-	-	-
Stage 1	645	-	-	-	-
Stage 2	377	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	152.2	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1113	-	167	-	-
HCM Lane V/C Ratio	0.01	-	1.092	-	-
HCM Control Delay (s)	8.3	0	152.2	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	9.3	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Main Street at Arlington Street

2024 Existing Weekday Morning
2: Main Street & Arlington Street

04/08/2024

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	0	26	11	194	798	2
Future Vol, veh/h	0	26	11	194	798	2
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	50	50	81	81	80	80
Heavy Vehicles, %	0	8	0	4	2	0
Mvmt Flow	0	52	14	240	998	3

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1268	1000	1001	0	-	0
Stage 1	1000	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.4	6.28	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.372	2.2	-	-	-
Pot Cap-1 Maneuver	188	287	700	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	184	287	700	-	-	-
Mov Cap-2 Maneuver	184	-	-	-	-	-
Stage 1	351	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.3	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	700	-	287	-	-
HCM Lane V/C Ratio	0.019	-	0.181	-	-
HCM Control Delay (s)	10.2	0	20.3	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

2024 Existing Weekday Evening
2: Main Street & Arlington Street

04/08/2024

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	2	11	26	797	351	2
Future Vol, veh/h	2	11	26	797	351	2
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	65	65	90	90	90	90
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	3	17	29	886	390	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1335	391	392	0	-	0
Stage 1	391	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	171	662	1178	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	163	662	1178	-	-	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	381	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1178	-	450	-	-
HCM Lane V/C Ratio	0.025	-	0.044	-	-
HCM Control Delay (s)	8.1	0	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

2031 No-Build Weekday Morning
2: Main Street & Arlington Street

04/08/2024

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	28	12	223	905	2
Future Vol, veh/h	0	28	12	223	905	2
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	50	50	81	81	80	80
Heavy Vehicles, %	0	8	0	4	2	0
Mvmt Flow	0	56	15	275	1131	3

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1438	1133	1134	0	-	0
Stage 1	1133	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.4	6.28	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.372	2.2	-	-	-
Pot Cap-1 Maneuver	148	240	623	-	-	-
Stage 1	310	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	144	240	623	-	-	-
Mov Cap-2 Maneuver	144	-	-	-	-	-
Stage 1	301	-	-	-	-	-
Stage 2	752	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.5	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	623	-	240	-	-
HCM Lane V/C Ratio	0.024	-	0.233	-	-
HCM Control Delay (s)	10.9	0	24.5	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	2	12	28	897	403	2
Future Vol, veh/h	2	12	28	897	403	2
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	65	65	90	90	90	90
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	3	18	31	997	448	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1508	449	450	0	0
Stage 1	449	-	-	-	-
Stage 2	1059	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	134	614	1121	-	-
Stage 1	647	-	-	-	-
Stage 2	336	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	126	614	1121	-	-
Mov Cap-2 Maneuver	126	-	-	-	-
Stage 1	607	-	-	-	-
Stage 2	336	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1121	-	395	-	-
HCM Lane V/C Ratio	0.028	-	0.055	-	-
HCM Control Delay (s)	8.3	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

2031 Build Weekday Morning
2: Main Street & Arlington Street

04/19/2024

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	32	13	223	905	2
Future Vol, veh/h	0	32	13	223	905	2
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	50	50	81	81	80	80
Heavy Vehicles, %	0	8	0	4	2	0
Mvmt Flow	0	64	16	275	1131	3

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1440	1133	1134	0	-	0
Stage 1	1133	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Critical Hdwy	6.4	6.28	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.372	2.2	-	-	-
Pot Cap-1 Maneuver	148	240	623	-	-	-
Stage 1	310	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	144	240	623	-	-	-
Mov Cap-2 Maneuver	144	-	-	-	-	-
Stage 1	301	-	-	-	-	-
Stage 2	751	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.4	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	623	-	240	-	-
HCM Lane V/C Ratio	0.026	-	0.267	-	-
HCM Control Delay (s)	10.9	0	25.4	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-

2031 Build Weekday Evening
2: Main Street & Arlington Street

04/19/2024

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	2	15	33	897	403	2
Future Vol, veh/h	2	15	33	897	403	2
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	65	65	90	90	90	90
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	3	23	37	997	448	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1520	449	450	0	0
Stage 1	449	-	-	-	-
Stage 2	1071	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	132	614	1121	-	-
Stage 1	647	-	-	-	-
Stage 2	332	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	122	614	1121	-	-
Mov Cap-2 Maneuver	122	-	-	-	-
Stage 1	599	-	-	-	-
Stage 2	332	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1121	-	416	-	-
HCM Lane V/C Ratio	0.033	-	0.063	-	-
HCM Control Delay (s)	8.3	0	14.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Mill Street at Arlington Street and Gratuity Road

2024 Existing Weekday Morning
3: Mill Street & Gratuity Road/Arlington Street

04/08/2024

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	9	7	17	1	2	3	65	11	3	119	2
Future Vol, veh/h	3	9	7	17	1	2	3	65	11	3	119	2
Peak Hour Factor	0.59	0.59	0.59	0.39	0.39	0.39	0.90	0.90	0.90	0.74	0.74	0.74
Heavy Vehicles, %	33	0	0	12	0	0	33	0	18	0	0	0
Mvmt Flow	5	15	12	44	3	5	3	72	12	4	161	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.2	8.4	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	16%	85%	2%
Vol Thru, %	82%	47%	5%	96%
Vol Right, %	14%	37%	10%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	19	20	124
LT Vol	3	3	17	3
Through Vol	65	9	1	119
RT Vol	11	7	2	2
Lane Flow Rate	88	32	51	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.116	0.044	0.069	0.196
Departure Headway (Hd)	4.769	4.923	4.841	4.217
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	755	729	742	856
Service Time	2.78	2.938	2.855	2.217
HCM Lane V/C Ratio	0.117	0.044	0.069	0.196
HCM Control Delay	8.4	8.2	8.2	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0.2	0.7

2024 Existing Weekday Evening
3: Mill Street & Gratuity Road/Arlington Street

04/08/2024

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	12	5	10	18	3	4	118	15	1	49	4
Future Vol, veh/h	1	12	5	10	18	3	4	118	15	1	49	4
Peak Hour Factor	0.45	0.45	0.45	0.43	0.43	0.43	0.71	0.71	0.71	0.84	0.84	0.84
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	27	11	23	42	7	6	166	21	1	58	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	8	8.3	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	6%	32%	2%
Vol Thru, %	86%	67%	58%	91%
Vol Right, %	11%	28%	10%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	137	18	31	54
LT Vol	4	1	10	1
Through Vol	118	12	18	49
RT Vol	15	5	3	4
Lane Flow Rate	193	40	72	64
Geometry Grp	1	1	1	1
Degree of Util (X)	0.219	0.049	0.09	0.077
Departure Headway (Hd)	4.084	4.394	4.517	4.317
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	864	819	797	833
Service Time	2.178	2.4	2.523	2.325
HCM Lane V/C Ratio	0.223	0.049	0.09	0.077
HCM Control Delay	8.3	7.6	8	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.2	0.3	0.2

2031 No-Build Weekday Morning
 3: Mill Street & Gratuity Road/Arlington Street

04/08/2024

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	10	8	18	1	2	3	72	12	3	134	2
Future Vol, veh/h	3	10	8	18	1	2	3	72	12	3	134	2
Peak Hour Factor	0.59	0.59	0.59	0.39	0.39	0.39	0.90	0.90	0.90	0.74	0.74	0.74
Heavy Vehicles, %	33	0	0	12	0	0	33	0	18	0	0	0
Mvmt Flow	5	17	14	46	3	5	3	80	13	4	181	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	8.3	8.5	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	14%	86%	2%
Vol Thru, %	83%	48%	5%	96%
Vol Right, %	14%	38%	10%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	21	21	139
LT Vol	3	3	18	3
Through Vol	72	10	1	134
RT Vol	12	8	2	2
Lane Flow Rate	97	36	54	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.129	0.049	0.074	0.221
Departure Headway (Hd)	4.807	4.985	4.917	4.236
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	720	730	851
Service Time	2.822	3.005	2.936	2.249
HCM Lane V/C Ratio	0.13	0.05	0.074	0.221
HCM Control Delay	8.5	8.3	8.3	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.2	0.8

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	13	5	11	19	3	4	132	16	1	57	4
Future Vol, veh/h	1	13	5	11	19	3	4	132	16	1	57	4
Peak Hour Factor	0.45	0.45	0.45	0.43	0.43	0.43	0.71	0.71	0.71	0.84	0.84	0.84
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	29	11	26	44	7	6	186	23	1	68	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	8.1	8.6	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	5%	33%	2%
Vol Thru, %	87%	68%	58%	92%
Vol Right, %	11%	26%	9%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	19	33	62
LT Vol	4	1	11	1
Through Vol	132	13	19	57
RT Vol	16	5	3	4
Lane Flow Rate	214	42	77	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.251	0.053	0.098	0.09
Departure Headway (Hd)	4.216	4.48	4.597	4.367
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	856	800	780	822
Service Time	2.216	2.503	2.618	2.383
HCM Lane V/C Ratio	0.25	0.052	0.099	0.09
HCM Control Delay	8.6	7.8	8.1	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.3	0.3

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	11	9	18	2	2	3	72	12	3	134	2
Future Vol, veh/h	4	11	9	18	2	2	3	72	12	3	134	2
Peak Hour Factor	0.59	0.59	0.59	0.39	0.39	0.39	0.90	0.90	0.90	0.74	0.74	0.74
Heavy Vehicles, %	33	0	0	12	0	0	33	0	18	0	0	0
Mvmt Flow	7	19	15	46	5	5	3	80	13	4	181	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	8.4	8.6	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	17%	82%	2%
Vol Thru, %	83%	46%	9%	96%
Vol Right, %	14%	38%	9%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	24	22	139
LT Vol	3	4	18	3
Through Vol	72	11	2	134
RT Vol	12	9	2	2
Lane Flow Rate	97	41	56	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.13	0.056	0.077	0.222
Departure Headway (Hd)	4.828	4.998	4.921	4.256
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	718	729	845
Service Time	2.844	3.02	2.942	2.27
HCM Lane V/C Ratio	0.13	0.057	0.077	0.222
HCM Control Delay	8.6	8.3	8.4	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.2	0.8

2031 Build Weekday Evening
 3: Mill Street & Gratuity Road/Arlington Street

04/19/2024

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	14	6	14	21	3	5	132	18	1	58	4
Future Vol, veh/h	1	14	6	14	21	3	5	132	18	1	58	4
Peak Hour Factor	0.45	0.45	0.45	0.43	0.43	0.43	0.71	0.71	0.71	0.84	0.84	0.84
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	31	13	33	49	7	7	186	25	1	69	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	8.3	8.7	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	5%	37%	2%
Vol Thru, %	85%	67%	55%	92%
Vol Right, %	12%	29%	8%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	21	38	63
LT Vol	5	1	14	1
Through Vol	132	14	21	58
RT Vol	18	6	3	4
Lane Flow Rate	218	47	88	75
Geometry Grp	1	1	1	1
Degree of Util (X)	0.257	0.058	0.114	0.092
Departure Headway (Hd)	4.239	4.496	4.632	4.414
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	849	798	775	814
Service Time	2.253	2.519	2.653	2.432
HCM Lane V/C Ratio	0.257	0.059	0.114	0.092
HCM Control Delay	8.7	7.8	8.3	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.4	0.3

Mill Street at Jenkins Road

2024 Existing Weekday Morning
4: Mill Street & Jenkins Road

04/08/2024

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	9	2	63	140	7
Future Vol, veh/h	13	9	2	63	140	7
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	79	79	86	86	82	82
Heavy Vehicles, %	15	0	0	1	1	0
Mvmt Flow	16	11	2	73	171	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	253	176	180	0	-	0
Stage 1	176	-	-	-	-	-
Stage 2	77	-	-	-	-	-
Critical Hdwy	6.55	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	708	872	1408	-	-	-
Stage 1	824	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	707	872	1408	-	-	-
Mov Cap-2 Maneuver	707	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	914	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1408	-	766	-	-
HCM Lane V/C Ratio	0.002	-	0.036	-	-
HCM Control Delay (s)	7.6	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

2024 Existing Weekday Evening
4: Mill Street & Jenkins Road

04/08/2024

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	4	10	139	54	8
Future Vol, veh/h	8	4	10	139	54	8
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	75	75	96	96	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	5	10	145	63	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	233	68	72	0	0
Stage 1	68	-	-	-	-
Stage 2	165	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	760	1001	1541	-	-
Stage 1	960	-	-	-	-
Stage 2	869	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	755	1001	1541	-	-
Mov Cap-2 Maneuver	755	-	-	-	-
Stage 1	953	-	-	-	-
Stage 2	869	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1541	-	822	-	-
HCM Lane V/C Ratio	0.007	-	0.019	-	-
HCM Control Delay (s)	7.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	10	2	70	156	8
Future Vol, veh/h	14	10	2	70	156	8
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	79	79	86	86	82	82
Heavy Vehicles, %	15	0	0	1	1	0
Mvmt Flow	18	13	2	81	190	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	280	195	200	0	-	0
Stage 1	195	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.55	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	683	851	1384	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	682	851	1384	-	-	-
Mov Cap-2 Maneuver	682	-	-	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.2	0
HCM LOS	B		




Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1384	-	744	-	-
HCM Lane V/C Ratio	0.002	-	0.041	-	-
HCM Control Delay (s)	7.6	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	9	4	11	154	62	9
Future Vol, veh/h	9	4	11	154	62	9
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	75	75	96	96	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	5	11	160	72	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	259	77	82	0	0
Stage 1	77	-	-	-	-
Stage 2	182	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	734	990	1528	-	-
Stage 1	951	-	-	-	-
Stage 2	854	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	728	990	1528	-	-
Mov Cap-2 Maneuver	728	-	-	-	-
Stage 1	943	-	-	-	-
Stage 2	854	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1528	-	793	-	-
HCM Lane V/C Ratio	0.007	-	0.022	-	-
HCM Control Delay (s)	7.4	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	11	3	70	157	8
Future Vol, veh/h	17	11	3	70	157	8
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	79	79	86	86	82	82
Heavy Vehicles, %	15	0	0	1	1	0
Mvmt Flow	22	14	3	81	191	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	283	196	201	0	0
Stage 1	196	-	-	-	-
Stage 2	87	-	-	-	-
Critical Hdwy	6.55	6.2	4.1	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-
Follow-up Hdwy	3.635	3.3	2.2	-	-
Pot Cap-1 Maneuver	680	850	1383	-	-
Stage 1	807	-	-	-	-
Stage 2	905	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	679	850	1383	-	-
Mov Cap-2 Maneuver	679	-	-	-	-
Stage 1	805	-	-	-	-
Stage 2	905	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1383	-	737	-	-
HCM Lane V/C Ratio	0.003	-	0.048	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

2031 Build Weekday Evening
4: Mill Street & Jenkins Road

04/19/2024

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	11	5	12	155	63	13
Future Vol, veh/h	11	5	12	155	63	13
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	75	75	96	96	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	7	13	161	73	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	268	81	88	0	0
Stage 1	81	-	-	-	-
Stage 2	187	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	726	985	1520	-	-
Stage 1	947	-	-	-	-
Stage 2	850	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	719	985	1520	-	-
Mov Cap-2 Maneuver	719	-	-	-	-
Stage 1	938	-	-	-	-
Stage 2	850	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1520	-	785	-	-
HCM Lane V/C Ratio	0.008	-	0.027	-	-
HCM Control Delay (s)	7.4	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Jenkins Road at Hickory Drive

Intersection						
Int Delay, s/veh	6.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	0	8	2	0	22
Future Vol, veh/h	2	0	8	2	0	22
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	50	50	50	50	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	0	16	4	0	32

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	4	0	40
Stage 1	-	-	-	-	4
Stage 2	-	-	-	-	36
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1631	-	977
Stage 1	-	-	-	-	1024
Stage 2	-	-	-	-	992
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1631	-	967
Mov Cap-2 Maneuver	-	-	-	-	967
Stage 1	-	-	-	-	1024
Stage 2	-	-	-	-	982

Approach	EB	WB	NB
HCM Control Delay, s	0	5.8	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1085	-	-	1631	-
HCM Lane V/C Ratio	0.029	-	-	0.01	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

2024 Existing Weekday Evening
5: Hickory Drive & Jenkins Road

04/08/2024

Intersection						
Int Delay, s/veh	5.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	0	11	1	1	5
Future Vol, veh/h	3	0	11	1	1	5
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	38	38	60	60	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	0	18	2	1	7

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	8	0	46
Stage 1	-	-	-	-	8
Stage 2	-	-	-	-	38
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1625	-	969
Stage 1	-	-	-	-	1020
Stage 2	-	-	-	-	990
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1625	-	958
Mov Cap-2 Maneuver	-	-	-	-	958
Stage 1	-	-	-	-	1020
Stage 2	-	-	-	-	979

Approach	EB	WB	NB
HCM Control Delay, s	0	6.6	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1058	-	-	1625	-
HCM Lane V/C Ratio	0.008	-	-	0.011	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	6.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	0	9	2	0	24
Future Vol, veh/h	2	0	9	2	0	24
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	50	50	50	50	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	0	18	4	0	35

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	4	0	44
Stage 1	-	-	-	-	4
Stage 2	-	-	-	-	40
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1631	-	972
Stage 1	-	-	-	-	1024
Stage 2	-	-	-	-	988
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1631	-	961
Mov Cap-2 Maneuver	-	-	-	-	961
Stage 1	-	-	-	-	1024
Stage 2	-	-	-	-	977

Approach	EB	WB	NB
HCM Control Delay, s	0	5.9	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1085	-	-	1631	-
HCM Lane V/C Ratio	0.032	-	-	0.011	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	5.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	0	12	1	1	5
Future Vol, veh/h	3	0	12	1	1	5
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	38	38	60	60	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	0	20	2	1	7

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	8	0	50
Stage 1	-	-	-	-	8
Stage 2	-	-	-	-	42
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1625	-	964
Stage 1	-	-	-	-	1020
Stage 2	-	-	-	-	986
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1625	-	952
Mov Cap-2 Maneuver	-	-	-	-	952
Stage 1	-	-	-	-	1020
Stage 2	-	-	-	-	974

Approach	EB	WB	NB
HCM Control Delay, s	0	6.7	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1056	-	-	1625	-
HCM Lane V/C Ratio	0.008	-	-	0.012	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	6.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	0	9	2	0	24
Future Vol, veh/h	2	0	9	2	0	24
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	50	50	50	50	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	0	18	4	0	35

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	4	0	44
Stage 1	-	-	-	-	4
Stage 2	-	-	-	-	40
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1631	-	972
Stage 1	-	-	-	-	1024
Stage 2	-	-	-	-	988
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1631	-	961
Mov Cap-2 Maneuver	-	-	-	-	961
Stage 1	-	-	-	-	1024
Stage 2	-	-	-	-	977

Approach	EB	WB	NB
HCM Control Delay, s	0	5.9	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1085	-	-	1631	-
HCM Lane V/C Ratio	0.032	-	-	0.011	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	5.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	0	12	1	1	5
Future Vol, veh/h	3	0	12	1	1	5
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	38	38	60	60	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	0	20	2	1	7

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	8	0	50
Stage 1	-	-	-	-	8
Stage 2	-	-	-	-	42
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1625	-	964
Stage 1	-	-	-	-	1020
Stage 2	-	-	-	-	986
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1625	-	952
Mov Cap-2 Maneuver	-	-	-	-	952
Stage 1	-	-	-	-	1020
Stage 2	-	-	-	-	974

Approach	EB	WB	NB
HCM Control Delay, s	0	6.7	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1056	-	-	1625	-
HCM Lane V/C Ratio	0.008	-	-	0.012	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Gratuity Road at the Project Site Roadway

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	21	0	1	6	0	3
Future Vol, veh/h	21	0	1	6	0	3
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	0	1	7	0	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	23	0	32
Stage 1	-	-	-	-	23
Stage 2	-	-	-	-	9
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1592	-	982
Stage 1	-	-	-	-	1000
Stage 2	-	-	-	-	1014
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1592	-	981
Mov Cap-2 Maneuver	-	-	-	-	981
Stage 1	-	-	-	-	1000
Stage 2	-	-	-	-	1013

Approach	EB	WB	NB
HCM Control Delay, s	0	1	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1054	-	-	1592	-
HCM Lane V/C Ratio	0.003	-	-	0.001	-
HCM Control Delay (s)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	19	0	3	27	0	2
Future Vol, veh/h	19	0	3	27	0	2
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	3	29	0	2

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	21	0	56
Stage 1	-	-	-	-	21
Stage 2	-	-	-	-	35
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1595	-	952
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	987
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1595	-	950
Mov Cap-2 Maneuver	-	-	-	-	950
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	985

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1056	-	-	1595	-
HCM Lane V/C Ratio	0.002	-	-	0.002	-
HCM Control Delay (s)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Jenkins Road at the Project Site Roadway

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	24	10	1	4	0
Future Vol, veh/h	0	24	10	1	4	0
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	26	11	1	4	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	12	0	-	0	38
Stage 1	-	-	-	-	12
Stage 2	-	-	-	-	26
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1607	-	-	-	974
Stage 1	-	-	-	-	1011
Stage 2	-	-	-	-	997
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1607	-	-	-	974
Mov Cap-2 Maneuver	-	-	-	-	974
Stage 1	-	-	-	-	1011
Stage 2	-	-	-	-	997

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1607	-	-	-	974
HCM Lane V/C Ratio	-	-	-	-	0.004
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2031 Build Weekday Evening
7: Jenkins Road & Project Site Driveway

04/19/2024

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	13	20	5	3	0
Future Vol, veh/h	0	13	20	5	3	0
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	14	22	5	3	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	27	0	-	0	39
Stage 1	-	-	-	-	25
Stage 2	-	-	-	-	14
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1587	-	-	-	973
Stage 1	-	-	-	-	998
Stage 2	-	-	-	-	1009
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1587	-	-	-	973
Mov Cap-2 Maneuver	-	-	-	-	973
Stage 1	-	-	-	-	998
Stage 2	-	-	-	-	1009

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1587	-	-	-	973
HCM Lane V/C Ratio	-	-	-	-	0.003
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0