

# Transportation Impact Study

Proposed Residential Development  
Brookline, New Hampshire

*Prepared for:*

Fieldstone Land Consultants  
Milford, New Hampshire

January 2024

*Prepared by:*

 **Vanasse &  
Associates inc**  
Transportation Engineers & Planners

35 New England Business Center Drive  
Suite 140  
Andover, MA 01810

# CONTENTS

---

EXECUTIVE SUMMARY .....	1
INTRODUCTION.....	3
Description of Project.....	3
Study Methodology .....	3
EXISTING CONDITIONS .....	5
Geometry .....	5
Existing Traffic Volumes .....	6
Pedestrian and Bicycle Facilities.....	7
Public Transportation .....	7
Vehicle Speeds .....	8
Motor Vehicle Crash Data.....	8
FUTURE CONDITIONS .....	10
Background Traffic Growth .....	10
Future Traffic Volumes – Build Condition .....	14
SIGHT DISTANCE EVALUATION.....	16
TRAFFIC OPERATIONS ANALYSIS .....	18
Methodology .....	18
Analysis Results .....	20
CONCLUSIONS AND RECOMMENDATIONS.....	22
Recommendations .....	22
Conclusions .....	22

## FIGURES

---

No.	Title
1	Site Location Map
2	Existing Intersection Lane Use, Travel Lane Width, and Pedestrian Facilities
3	2024 Existing Peak-Month Peak-Hour Traffic Volumes
4	2025 Opening Year No-Build Peak-Month Peak-Hour Traffic Volumes
5	2035 Design Year No-Build Peak-Month Peak-Hour Traffic Volumes
6	Trip-Distribution Map
7	Project-Generated Peak-Hour Traffic Volumes
8	2025 Opening Year Build Peak-Month Peak-Hour Traffic Volumes
9	2035 Design Year Build Peak-Month Peak-Hour Traffic Volumes

## **TABLES**

---

No.	Title
1	2024 Existing Roadway Traffic-Volume Summary
2	Observed Vehicle Speeds (In Miles Per Hour)
3	Motor Vehicle Crash Data Summary
4	Proposed Site Trip-Generation Summary
5	Trip Distribution Summary
6	Peak-Hour Traffic-Volume Increases
7	Sight Distance Analysis
8	Level-of-Service Criteria for Unsignalized Intersections
9	Unsignalized Intersection Capacity Analysis Summary

## **EXECUTIVE SUMMARY**

---

### **DESCRIPTION OF PROJECT**

Vanasse & Associates, Inc. (VAI) has conducted this Traffic Impact Study (TIS) to identify traffic impacts associated with a proposed residential development to be located off New Hampshire Route 13 (NH Route 13) in Brookline, New Hampshire. The purpose of this TIS is to review existing and future traffic conditions in the vicinity of the site, determine the traffic impact of the proposed Project at key intersections expected to experience increased traffic levels from the Project, and review the need for improvements to mitigate the Project's traffic impact.

### **FACILITY AND PROJECT BACKGROUND**

The site is bounded by residential properties and areas of open and wooded space to the north and south, areas of open and wooded space to the east, and residential and NH Route 13 to the west. The proposed Project will consist of the construction of a mixed housing development that will be composed of 40 workforce housing units and 58 senior housing units. Access to the site will be provided via a full-access roadway intersecting the east side of NH Route 13 approximately opposite the driveway to 224 NH Route 13.

### **EXISTING CONDITIONS**

A comprehensive field inventory was conducted to collect existing roadway geometrics, traffic volumes, operating characteristics, speed limits, and sight distances, as well as land use information. Traffic volumes were collected in March 2021 at the intersections expected to receive the traffic impact from the Project. The study area locations are listed below:

- NH Route 13 at Quimby Road
- NH Route 13 at Milford Street (New Hampshire Route 130 (NH Route 130)) and Quimby Road

Traffic volumes were adjusted to 2024 conditions using a background growth rate of 1 percent per year and also adjusted for peak-month conditions per New Hampshire Department of Transportation (NHDOT) guidelines for TISs and for pre-COVID-19 conditions.

## **FUTURE CONDITIONS**

The 2024 traffic volumes within the study area were projected to 2025 and 2035 future-year conditions, to reflect a ten-year planning horizon consistent with State traffic study guidelines. These conditions incorporate traffic growth (1 percent per year) due to general background traffic increases, since research into potential development in the area did not reveal any increases to traffic-volume conditions at the study area intersections as a result of development projects.

## **PROJECT-GENERATED TRAFFIC**

The proposed Project will entail the construction of a mixed housing development that will be composed of 40 workforce housing units and 58 senior housing units. The Project is expected to generate 564 vehicle trips (282 entering and 282 exiting) on an average weekday, with 39 vehicle trips (9 entering and 30 exiting) during the weekday morning peak hour. During the weekday evening peak hour, the Project is expected to generate 48 vehicle trips (30 entering and 18 exiting).

## **RECOMMENDATIONS**

The following recommendations are offered with respect to the design and operation of the Project site driveway:

- The driveway should be placed under STOP-sign (*Manual on Uniform Traffic Control Devices* (MUTCD)<sup>1</sup> R1-1) control, with a painted STOP-bar included.
- All signs and other pavement markings to be installed within the Project site shall conform to the applicable standards of the current MUTCD.
- Signs and landscaping adjacent to the Project site driveway should be designed and maintained so as not to restrict lines of sight.
- Snow windrows within sight triangle areas of the Project site driveways should be promptly removed where such accumulations would impede sightlines.

## **CONCLUSIONS**

As documented in this study, Project-related traffic increases will not result in significant increases in overall traffic volumes or traffic delays within the study area. The site driveway will provide efficient access to and from the development. In general, Project-related traffic can be adequately accommodated within the existing infrastructure with minimal impact on the traffic operations within the study area.

---

<sup>1</sup>*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

## **INTRODUCTION**

---

Vanasse & Associates, Inc. (VAI) has conducted this Traffic Impact Study (TIS) in order to determine the traffic impacts associated with a proposed residential development to be located off NH Route 13 in Brookline, New Hampshire. 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 NH Route 13 and at major intersections located along this roadway through which Project-related traffic will travel.

## **DESCRIPTION OF PROJECT**

The site currently consists of areas of wooded space and the development will occur on 58 acres of land located off NH Route 13. The proposed Project will consist of the construction of a mixed housing development that will be composed of 40 workforce housing units and 58 senior housing units. Access to the site will be provided via a full-access roadway intersecting the east side of NH Route 13 approximately opposite the driveway to 224 NH Route 13. Figure 1 depicts the Project site location in relation to the existing roadway network.

## **STUDY METHODOLOGY**

This study was performed in consultation with the Town of Brookline, the New Hampshire Department of Transportation (NHDOT), and was performed in general accordance with: i) the NHDOT guidelines for the preparation of TISs; and ii) the standards of the and Traffic Engineering and Transportation Planning Professions for the preparation of such report; 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, observations of traffic flow, and collection of daily and peak-period traffic counts.

In the second stage of the study, future traffic conditions on the transportation system were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future demands on the transportation system that are expected due to growth independent of the Project. In accordance with NHDOT guidelines for the preparation of TISs, one existing and four

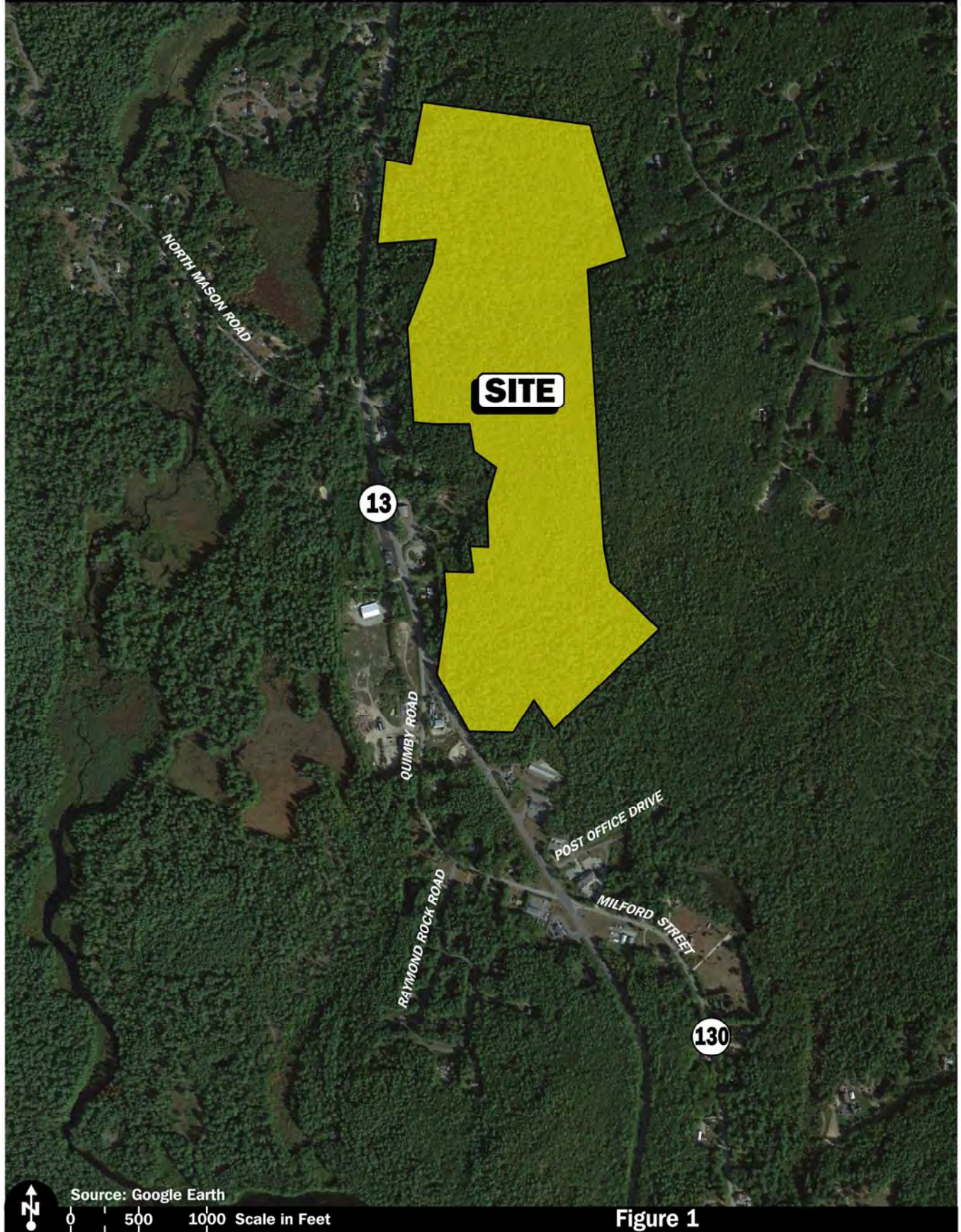


Figure 1

Site Location Map

future conditions were evaluated: 1) 2025 Opening Year No-Build conditions *without* the Project; 2) 2025 Opening Year Build conditions *with* the Project; 3) 2035 Design Year No-Build conditions *without* the Project; and 4) 2035 Design Year Build conditions (ten-year projection from opening-year) *with* the Project. The analyses conducted in stage two of the study identify existing or projected future roadway capacity and traffic safety issues.

The third stage of the study presents and evaluates measures to address traffic and safety issues, 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 March 2021 and January 2024. The field investigation consisted of an inventory of existing roadway geometrics; traffic volumes; and operating characteristics; as well as posted speed limits, and land use information within the study area. The study area for the Project contains the major roadways which provide access to the Project, as well as the intersections which are expected to accommodate the majority of Project-related traffic. The study area that was assessed for the Project include:

- NH Route 13 at Quimby Road
- NH Route 13 at Milford Street (NH Route 130) and Quimby Road

The following describes the study area roadway and intersections which are also shown in Figure 2 which summarizes existing lane use, travel lane and widths at the study area intersections.

### **GEOMETRY**

#### **Roadway**

##### **New Hampshire Route 13 (NH Route 13)**

NH Route 13 is classified as a minor arterial under the jurisdiction of the state of New Hampshire. NH Route 13 runs in a general north-south alignment and allows two-way travel with additional left-turn lanes at its major intersections. Land uses along NH Route 13 generally consist of undeveloped land and residential and commercial properties.

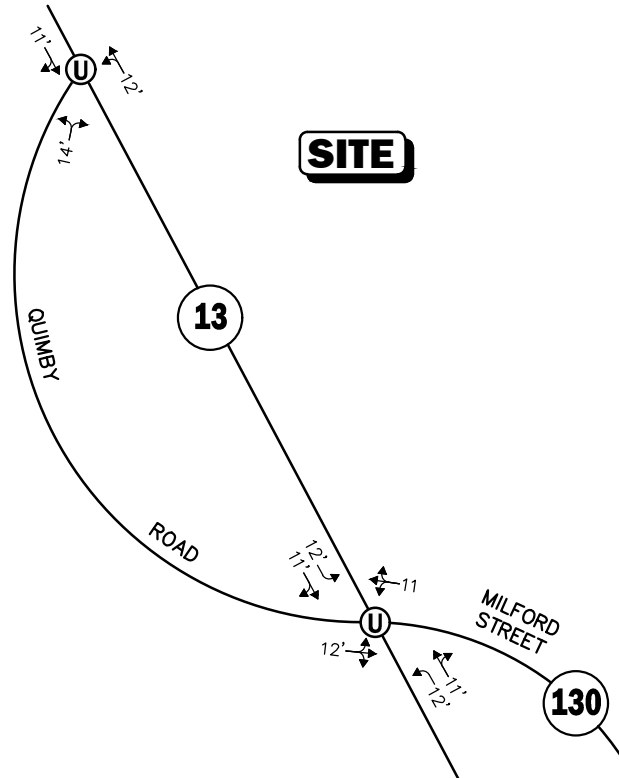
#### **Intersections**

##### **NH Route 13 at Quimby Road**

NH Route 13 is intersected by Quimby Road from the west to form this three-way intersection under STOP-sign control. Direction of travel on NH Route 13 is separated by a double-yellow centerline. Illumination is provided at this intersection by way of streetlights mounted on wood poles. Land use in the vicinity of this intersection consists of commercial properties and areas of open and wooded space. This intersection is under the jurisdiction of the Town and State.

**Legend:**

- Ⓢ Unsignalized Intersection
- xx' ↔ Lane Use and Travel Lane Width



Not To Scale

**VAi** Vanasse & Associates inc

**Figure 2**

**Existing Intersection Lane Use, Travel Lane Width and Pedestrian Facilities**

## **NH Route 13 at Milford Street (NH Route 130) and Quimby Road**

NH Route 13 is intersected by NH Route 130 from the east and Quimby Road from the west to form this four-way intersection under STOP-sign control. Direction of travel on NH Route 13 is separated by a double-yellow centerline. Additional left-turn lanes are provided for northbound and southbound approaches on NH Route 13. Illumination is provided via streetlights mounted on utility poles. Land use in the vicinity of this intersection consists of commercial properties and areas of open and wooded space. This intersection is under the jurisdiction of the Town and State.

### **EXISTING TRAFFIC VOLUMES**

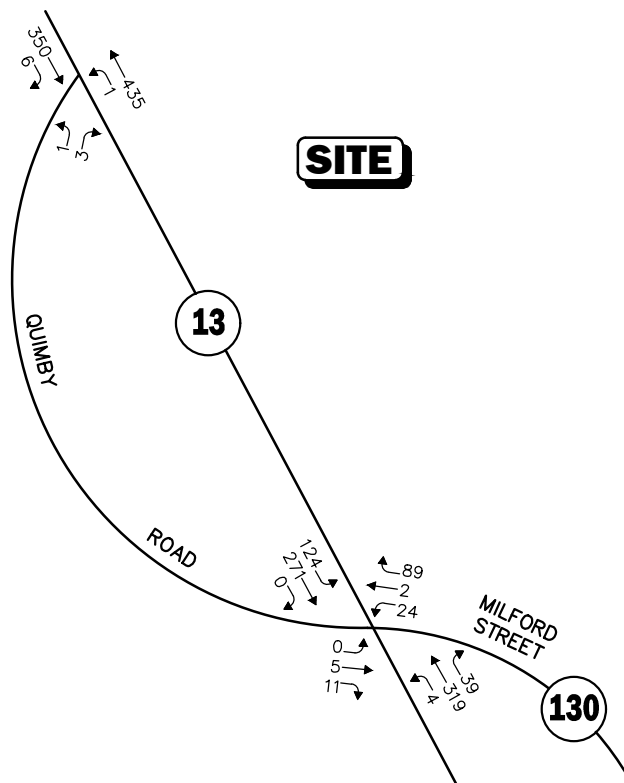
In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, turning movement counts (TMCs), and vehicle classification counts were completed in March and April 2021. The ATR counts were conducted on March 31 through April 1, 2021 (Wednesday through Thursday, inclusive) on NH Route 13 in the vicinity of the Project site 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 intersections on Wednesday, March 31, 2021. 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. Their volumes were adjusted to 2024 conditions using a background growth rate of 1 percent per year applied for a three-year period.

In order to account for the reduction in traffic volumes caused by the COVID-19 travel restrictions, a review of NHDOT traffic count data at NH Permanent Count Station No. 02445001 on Gibbons Highway in Temple was conducted. Based on this comparison, the average daily traffic in March 2024 was found to be approximately 17 percent lower than the average daily traffic in March 2019 (pre-COVID-19 conditions). The March 2024 counts were increased by a factor of 1.17 to provide a conservative estimate of roadway operating conditions.

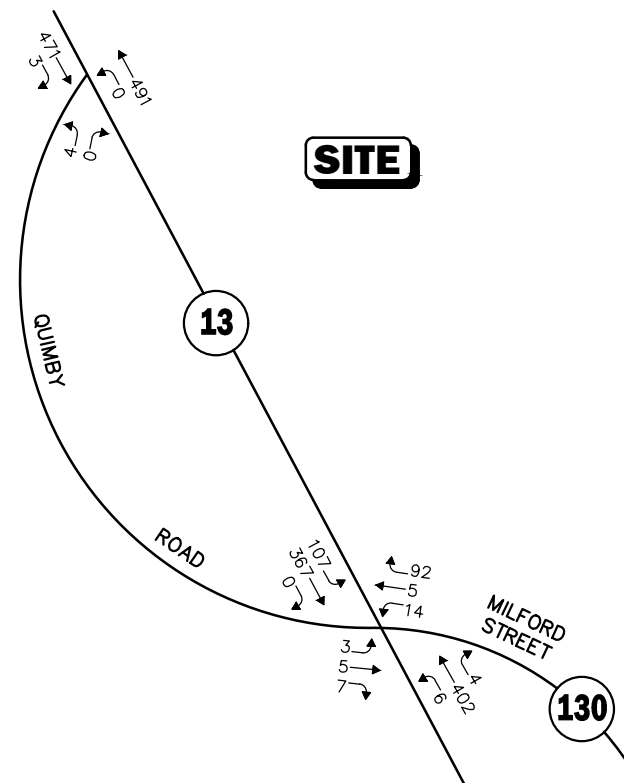
### **Seasonal Adjustments**

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, peak-hour traffic count data by the NH Permanent Count Station No. 02445001 on the NH Route 101 Wilton/Temple town line was conducted. Based on a review of this data, it was determined that the traffic volumes collected in March were found to be approximately 22 percent lower than peak-month traffic volumes. Therefore, the peak-hour volumes were adjusted upwards accordingly to represent peak-month conditions in accordance with NHDOT standards. The 2024 existing traffic volumes are summarized in Table 1, with weekday morning and evening peak-month peak-hour traffic volumes depicted on Figure 3.

WEEKDAY MORNING PEAK HOUR (7:00-8:00 AM)



WEEKDAY EVENING PEAK HOUR (4:30-5:30 PM)



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

**VAi** Vanasse & Associates inc

Figure 3

2021 Existing  
Weekday  
Peak Hour Traffic Volumes

**Table 1**  
**2024 EXISTING ROADWAY TRAFFIC-VOLUME SUMMARY**

Location/Peak Hour	AWT <sup>a</sup>	VPH <sup>b</sup>	K Factor <sup>c</sup>	Directional Distribution <sup>d</sup>
<i>NH Route 13, south of Quimby Road:</i>	12,072	--	--	--
Weekday Morning (7:30 – 8:30 AM)	--	842	7.0	51.8% NB
Weekday Evening (4:00 – 5:00 PM)	--	1,076	8.9	52.6% NB

<sup>a</sup>Average weekday traffic in vehicles per day.

<sup>b</sup>Vehicles per hour.

<sup>c</sup>Percent of daily traffic occurring during the peak hour.

<sup>d</sup>Percent traveling in peak direction.

NB = northbound.

As can be seen in Table 1, NH Route 13 in the vicinity of the Project site was found to accommodate approximately 12,072 vehicles on an average weekday (two-way, 24-hour volume), with approximately 842 vehicles per hour (vph) during the weekday morning peak hour and 1,076 vph during the weekday evening peak hour. During the weekday morning peak hour, 52 percent of the traffic is traveling northbound and during the weekday evening peak hour, 53 percent of the traffic is traveling northbound.

## **PEDESTRIAN AND BICYCLE FACILITIES**

A comprehensive field inventory of roadway features including a review of pedestrian and bicycle facilities within the study area was undertaken in January 2024. However, there are no sidewalks, crosswalks, or bicycle accommodations provided within the study area. NH Route 13 generally provides sufficient width (combined travel lane and shoulder) to support bicycle travel in a shared traveled-way configuration.<sup>2</sup>

## **PUBLIC TRANSPORTATION**

Public transportation is provided by way of Souhegan Valley Rides (SVR) which is a curb-to-curb, dial-a-ride type bus service available to residents of Hollis, Brookline, Amherst, Milford, Wilton, and Mont Vernon, New Hampshire. The services cover non-emergency healthcare appointments, elderly residents, and residents who are living with a disability. Other residents may use the service as space is available. Rides are provided within the six towns to and from Nashua for healthcare and social services appointments, shopping, and other essential activities. The wheelchair-accessible buses, drivers, and call center operations are contracted from the Nashua Transit System.

<sup>2</sup>A minimum combined travel lane and paved shoulder width of 14 feet is required to support bicycle travel in a shared traveled-way condition.

## **VEHICLE SPEEDS**

Existing vehicle speeds along NH Route 13 in the vicinity of the Project were recorded to determine the average and 85<sup>th</sup> percentile vehicle speeds. The speed limit on NH Route 13 is posted at 50 miles per hour (mph). The results of the speed measurements are shown in Table 2.

**Table 2**  
**OBSERVED VEHICLE SPEEDS (In Miles Per Hour)**

	NH Route 13	
	Northbound	Southbound
Mean Travel Speed (mph)	48	48
85 <sup>th</sup> Percentile Speed (mph)	52	52
Regulated Speed Limit (mph)	50	50

mph = miles per hour.

As can be seen in Table 2, the measured 85<sup>th</sup> percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be 52 mph in both directions, which is 2 mph above the posted speed limit on NH Route 13 (50 mph). The 85<sup>th</sup> 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.

## **MOTOR VEHICLE CRASH DATA**

Motor vehicle crash information for the study area intersections was provided by the Brookline Police Department for the most recent three-year period available (2020 through 2023, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is presented in Table 3.

As can be seen in Table 3, a segment of NH Route 13 between 174 and 230 NH Route 13, was found to have experienced a total of 18 crashes, or 6 crashes per year, over the three-year review period. It should be noted that this crash total is for a segment of over one mile and includes multiple driveways and intersections. The majority of the crashes fell under the category unknown/other (7 out of 18) which consists of cars going off the road and animal strikes, occurred on dry pavement (17 out of 18), during daylight (14 out of 18), in clear weather (16 out of 18), and caused property damage only (15 out of 18). No fatalities were reported to have occurred on this segment of NH Route 13 over the three-year period reviewed.

**Table 3**  
**MOTOR VEHICLE CRASH DATA SUMMARY**

	One Mile Segment between 174 NH Route 13 and 230 NH Route 13
<i>Year:</i>	
2020	5
2019	3
<u>2018</u>	<u>10</u>
Total	18
Average <sup>a</sup>	6.0
<i>Type:</i>	
Angle	5
Rear-End	3
Head-On	0
Sideswipe	0
Fixed Object	3
Pedestrian	0
Bicyclist	0
<u>Unknown/Other</u>	<u>7</u>
Total	18
<i>Weather Conditions:</i>	
Clear	16
Cloudy/Rain	1
Snow/Ice	1
Fog	0
<u>Unknown/Other</u>	<u>0</u>
Total	18
<i>Lighting Conditions:</i>	
Daylight	14
Dawn/Dusk	0
Dark (lit)	2
Dark (unlit)	2
<u>Unknown/Other</u>	<u>0</u>
Total	18
<i>Pavement Conditions :</i>	
Dry	17
Wet	0
Snow/Ice	1
<u>Unknown/Other</u>	<u>0</u>
Total	18
<i>Severity:</i>	
Property Damage Only	15
Personal Injury	3
Fatality	0
<u>Unknown/Other</u>	<u>0</u>
Total	18

<sup>a</sup>Average number of crashes over a three-year period.  
Source: Brookline Police Department, 2021 through 2023.

## **FUTURE CONDITIONS**

---

Traffic volumes in the study area were projected to the year 2025 and 2035, which reflect the anticipated opening year of the development and a ten-year planning horizon from opening year, respectively, consistent with State traffic study guidelines. The future condition traffic-volume projections incorporate identified specific development projects by others, as well as general background traffic growth as a result of development external to the study area and presently unforeseen projects. Anticipated Project-generated traffic volumes superimposed upon the 2025 and 2035 No-Build traffic volumes reflect the Build conditions with the Project.

### **BACKGROUND TRAFFIC GROWTH**

Traffic growth is a function of the expected land development in the immediate area and 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. However, the drawback to such a procedure is that some turning volumes may actually grow at either a higher or 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, the drawback of this procedure is that potential growth in population and development external to the study area would not be accounted for in the traffic projections.

To provide a conservative analysis framework, both procedures were used.

### **Specific Development by Others**

The Town of Brookline was contacted in order to determine if there are any planned or approved specific development projects within the area that would have an impact on future traffic volumes at the study intersections. Based on these discussions, the following projects were identified for possible inclusion in this assessment:

***Belletetes of Brookline – 89 NH Route 13, Brookline, New Hampshire.*** This project entails redeveloping the existing site to include a drive-thru lumberyard building and office/storage/retail

space. This development is south of the Project site. The 1.0 percent general background growth rate was assumed to account for the new trips generated by this project.

***LeBaron Brothers Audio and Grandmothers House – 103 NH Route 13, Brookline, New Hampshire.*** This project entails converting 855 square feet (sf) of commercial space into a takeout only restaurant. This development is south of the Project site. The 1.0 percent general background growth rate was assumed to account for the new trips generated by this project.

***Brookline's Finest – 106 NH Route 13 Brookline, New Hampshire.*** This project entails converting the then current Kun Garden's business into a community meal and kitchen. This development is south of the Project site. The 1.0 percent general background growth rate was assumed to account for the new trips generated by this project.

***Squirrl'd Away Attic Treasures – 104 NH Route 13 Brookline, New Hampshire.*** This project entails converting the current TD Bank into a consignment shop. This development is south of the Project site. The 1.0 percent general background growth rate was assumed to account for the new trips generated by this project.

***Flawless Floors – 8 Post Office Drive Brookline, New Hampshire.*** This project entails the construction of a 1,500 sf warehouse with a 500 sf office/showroom. This development is south of the Project site. The 1.0 percent general background growth rate was assumed to account for the new trips generated by this project.

***Superior Steel– 46 NH Route 13 Brookline, New Hampshire.*** This project entails the expansion of an existing storage building to expand by 1,806 sf. This development is south of the Project site. The 1.0 percent general background growth rate was assumed to account for the new trips generated by this project.

***Community at Village Brook – 23 Main Street Brookline, New Hampshire.*** This project entails the construction of a residential community that will be composed of 17 units for seniors. This development is south of the Project site. The 1.0 percent general background growth rate was assumed to account for the new trips generated by this project.

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**

A review of historic traffic growth information compiled by NHDOT for the Town of Brookline was undertaken in order to determine general traffic growth trends. Based on a review of this data, it was determined that traffic volumes have generally increased by approximately 0.33 percent per year over the past several years. To be conservative, a 1.0 percent compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

### **Roadway Improvement Projects**

The Town of Brookline was contacted in order to determine if there are any planned roadway improvement projects expected to be completed within the study area over the ten-year study duration. Based on these discussions, and information from the Nashua Regional Planning Commission website, no roadway improvements are planned beyond basic maintenance.

### **No-Build Traffic Volumes**

The 2035 Design Year No-Build peak-month peak-hour traffic-volume networks were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2024 Existing peak-hour traffic volumes. The resulting 2025 Opening Year No-Build weekday morning and evening peak-month peak-hour traffic-volume networks are shown on Figure 4, with the 2035 Design Year No-Build weekday morning and evening peak-month peak-hour traffic-volume networks shown on Figure 5.

### **Project-Generated Traffic**

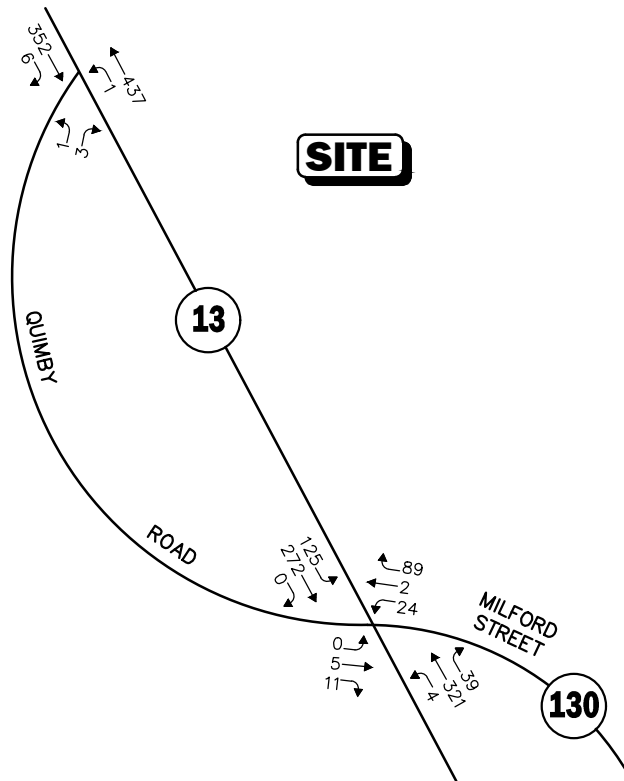
Design year (2025 Opening Year and 2035 Design Year Build) traffic volumes for the study area roadways were determined by estimating Project-generated traffic volumes and assigning these volumes on the study roadways. The following sections describe the procedures used to develop the Build condition traffic-volume networks.

The proposed Project consists of the construction of a residential development that will be composed of 40 workforce housing units and 58 senior housing units. In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)<sup>3</sup> for a land use consistent with the proposed was used. ITE Land Use Code (LUC) 215, *Single-Family Attached Housing*, and LUC 252, *Senior Adult Housing* were used to estimate Project traffic generation. The total trip generation is summarized in Table 4.

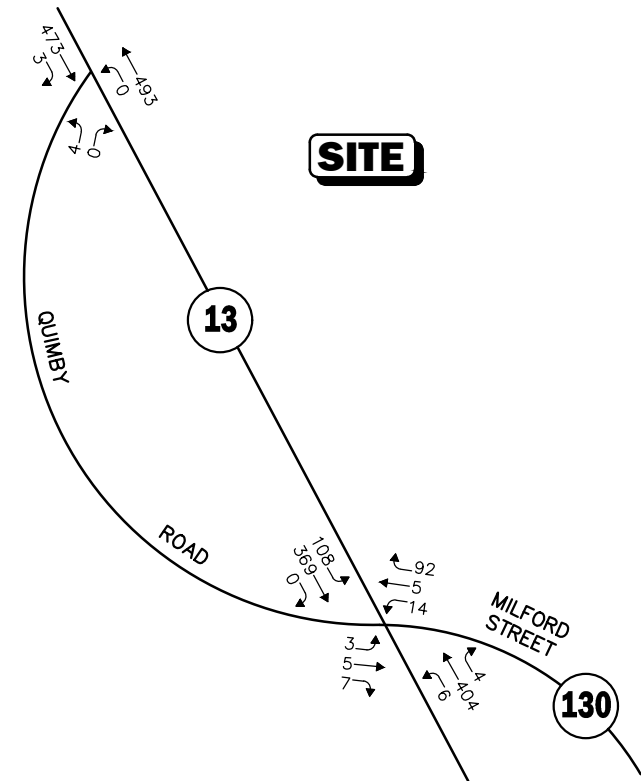
---

<sup>3</sup>*Trip Generation*, 11<sup>th</sup> Edition; Institute of Transportation Engineers; Washington, DC; 2021.

WEEKDAY MORNING PEAK HOUR (7:00-8:00 AM)



WEEKDAY EVENING PEAK HOUR (4:30-5:30 PM)

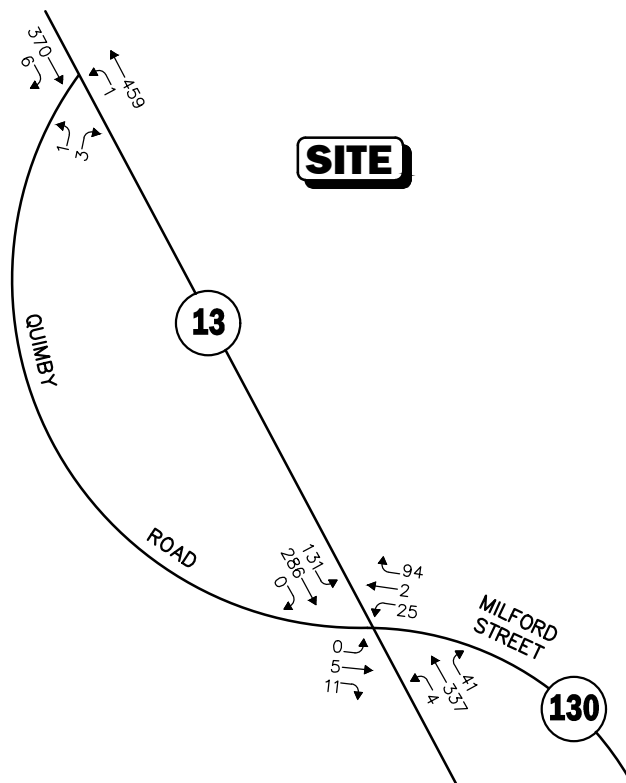


Note: Imbalances exist due to curb cuts and side streets that are not shown.

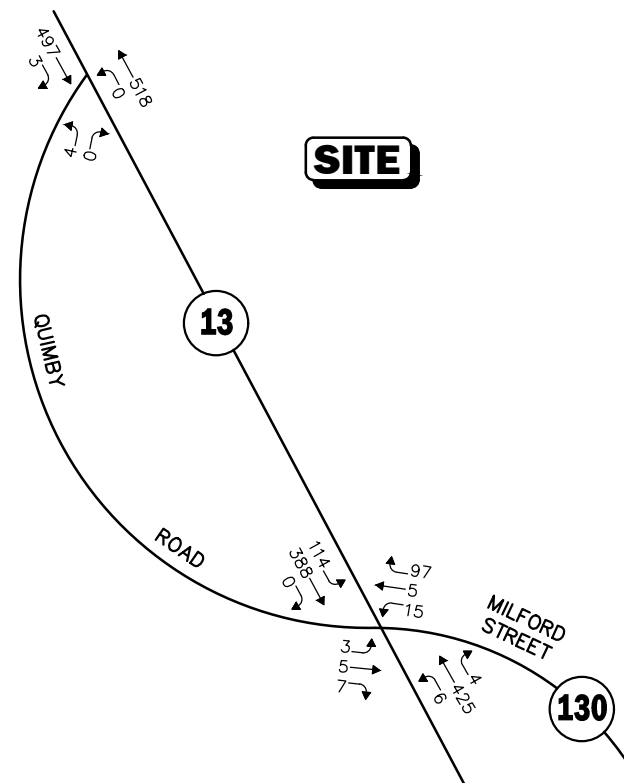
Figure 4

2022 No-Build  
Weekday  
Peak Hour Traffic Volumes

WEEKDAY MORNING PEAK HOUR (7:00-8:00 AM)



WEEKDAY EVENING PEAK HOUR (4:30-5:30 PM)



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

Figure 5

2032 No-Build  
Weekday  
Peak Hour Traffic Volumes

**Table 4**  
**PROPOSED SITE TRIP-GENERATION SUMMARY**

Time Period/Direction	Proposed Workforce Housing Trips (A) <sup>a</sup>	Proposed Housing for Senior Trips (B) <sup>b</sup>	Total Trips (C=A+B)
Weekday Daily	288	192	480
<i>Weekday Morning Peak Hour:</i>			
Entering	5	4	9
<u>Exiting</u>	<u>14</u>	<u>8</u>	<u>22</u>
Total	19	12	31
<i>Weekday Evening Peak Hour:</i>			
Entering	14	8	22
<u>Exiting</u>	<u>9</u>	<u>7</u>	<u>16</u>
Total	23	15	38

<sup>a</sup>Based on ITE LUC 215, *Single-Family Attached Housing*; 40 units.

<sup>b</sup>Based on ITE LUC 252, *Senior Adult Housing – Multifamily*; 58 units.

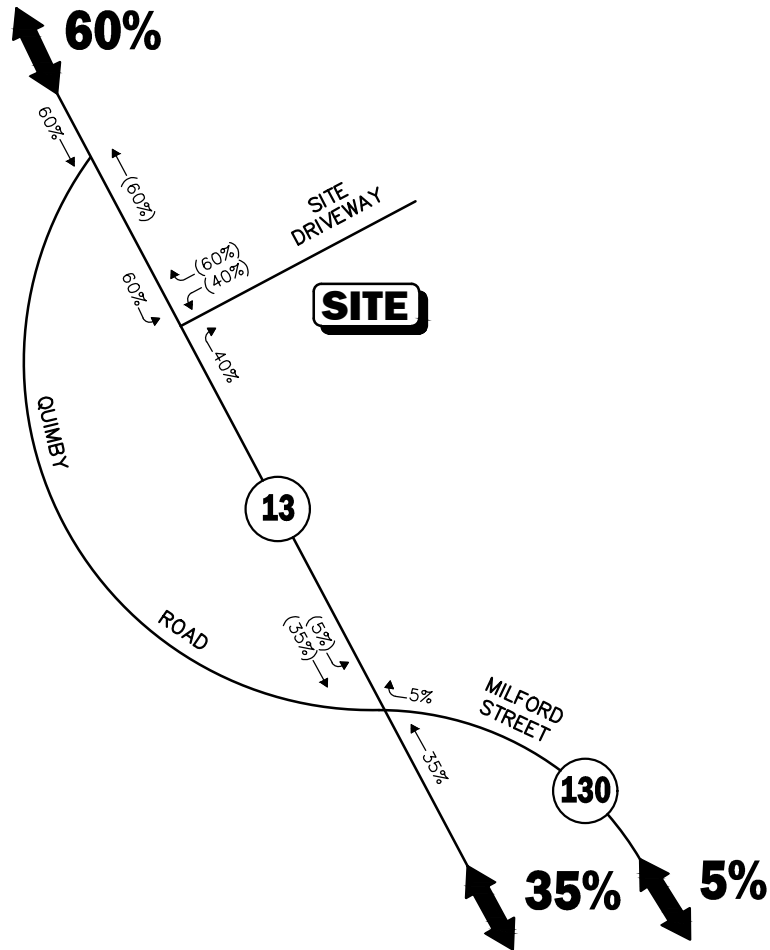
As can be seen in Table 4, the proposed Project is expected to generate 480 vehicle trips (240 entering and 240 exiting) on an average weekday, with 31 vehicle trips (9 entering and 22 exiting) during the weekday morning peak hour. During the weekday evening peak hour, the Project is expected to generate 38 vehicle trips (22 entering and 16 exiting).

### **Trip Distribution and Assignment**

The directional distribution of the site-generated trips to and from the Project site was determined based on a review of Journey-to-Work data obtained from the U.S. Census for persons residing in the Town of Brookline and then refined based on existing traffic patterns within the study area during the commuter peak periods. This methodology is consistent with the residential nature of the Project and commuter traffic patterns during the peak hours. The anticipated distribution is summarized in Table 5 and shown on Figure 6. Traffic volumes expected to be generated by the Project were assigned onto the study area roadway network as shown on Figure 7 for the respective peak hours.

**Legend:**

XX Entering Trips  
(XX) Exiting Trips



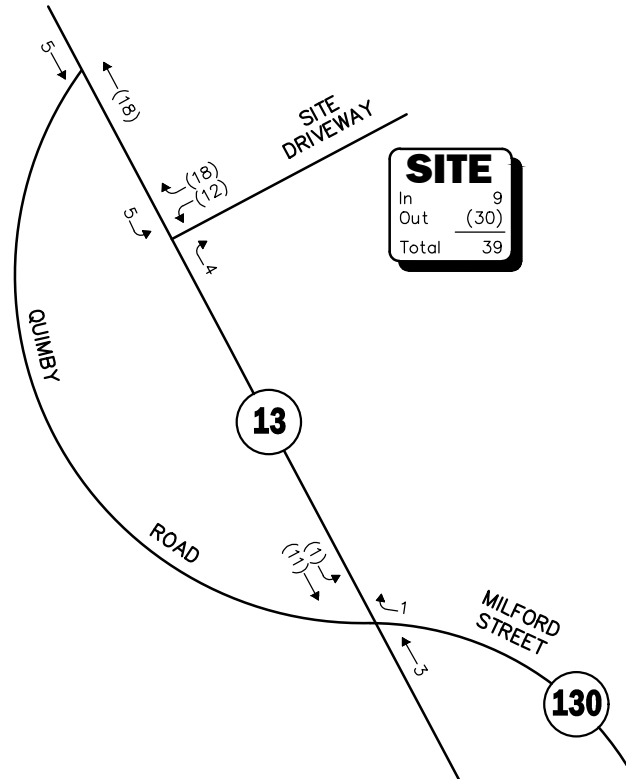
Not To Scale

**Vai** Vanasse & Associates inc

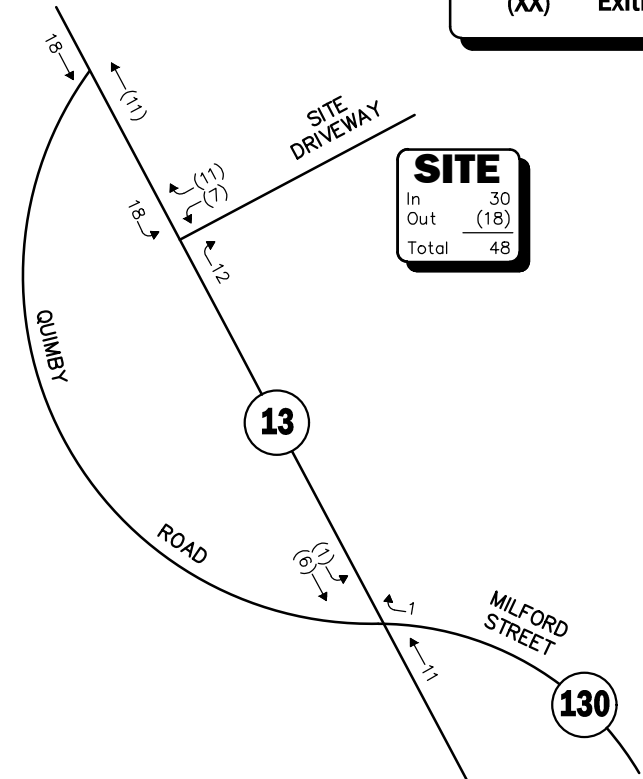
**Figure 6**

**Trip Distribution Map**

WEEKDAY MORNING PEAK HOUR (7:00-8:00 AM)



WEEKDAY EVENING PEAK HOUR (4:30-5:30 PM)



**VAi** Vanasse & Associates inc

Figure 7

Project Generated  
Peak Hour Traffic Volumes

**Table 5**  
**TRIP-DISTRIBUTION SUMMARY**

Roadway	Direction (To/From)	Percent (To/From)
NH Route 13	North	60
NH Route 13	South	35
NH Route 130	East	<u>5</u>
TOTAL		100

### **FUTURE TRAFFIC VOLUMES - BUILD CONDITION**

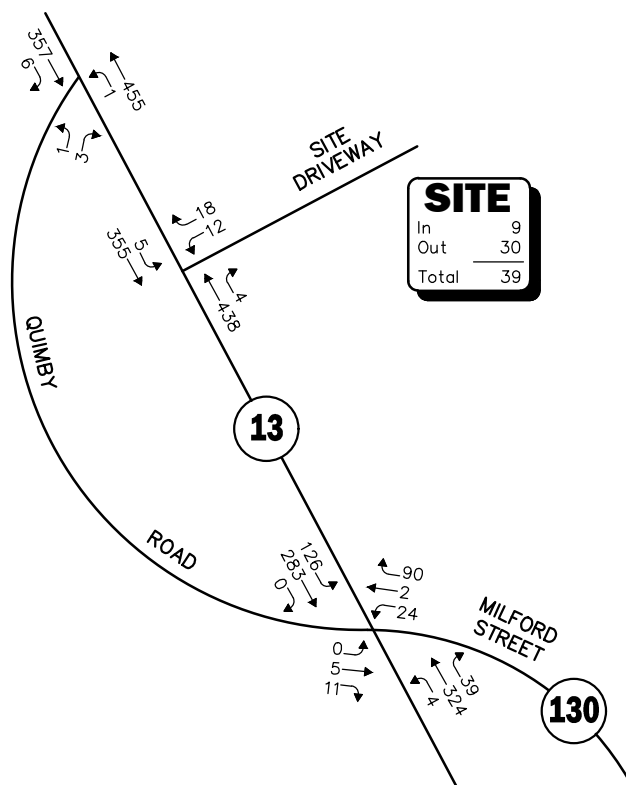
The 2025 Opening-Year and 2035 Design Year Build condition traffic volumes were developed by adding Project-generated traffic to the corresponding 2025 and 2035 No-Build peak-month peak-hour traffic volumes. The resulting 2025 Opening-Year Build condition weekday morning and weekday evening peak-month peak-hour traffic volumes are graphically depicted on Figure 8, with the corresponding 2035 Design Year Build condition peak-month peak-hour traffic volumes depicted on Figure 9 for the respective peak hours.

A summary of peak-hour projected traffic-volume increases in the site proximity are shown in Table 6. These volumes are based on the expected increases from the proposed development.

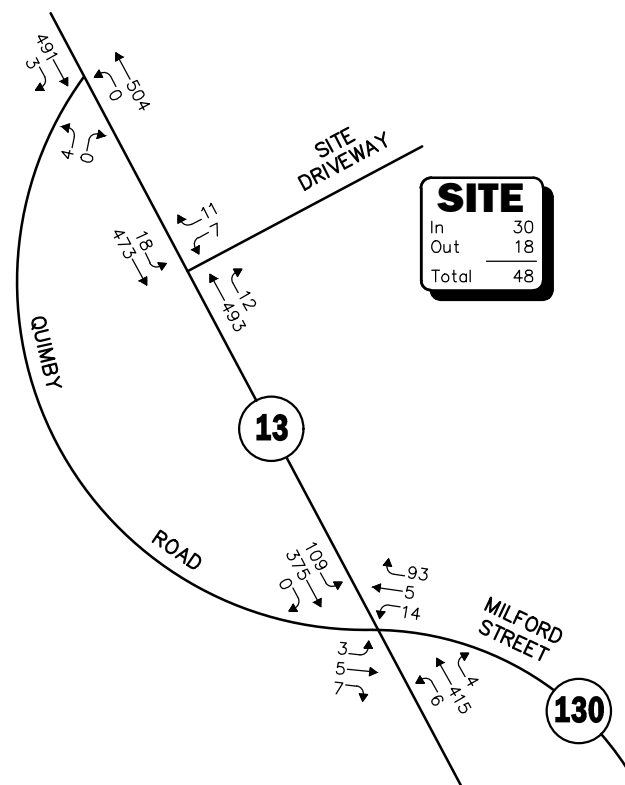
**Table 6**  
**PEAK-HOUR TRAFFIC-VOLUME INCREASES**

Location/Peak Hour	2025/2035 No-Build	2025/2035 Build	Traffic-Volume Increase Over No-Build (2025/2035)	Percent Increase Over No-Build (2025/2035)
<i>NH Route 13, north of Project Site Driveway:</i>				
Weekday Morning	688/760	706/778	18	2.6/2.4
Weekday Evening	918/1,013	941/1,036	23	2.5/2.3
<i>NH Route 13, south of NH Route 130:</i>				
Weekday Morning	584/644	595/655	11	1.9/1.7
Weekday Evening	761/839	774/852	13	1.7/1.5
<i>NH Route 130, east of NH Route 13:</i>				
Weekday Morning	248/273	250/275	2	0.8/0.7
Weekday Evening	217/239	219/241	2	0.9/0.8

WEEKDAY MORNING PEAK HOUR (7:00-8:00 AM)



WEEKDAY EVENING PEAK HOUR (4:30-5:30 PM)

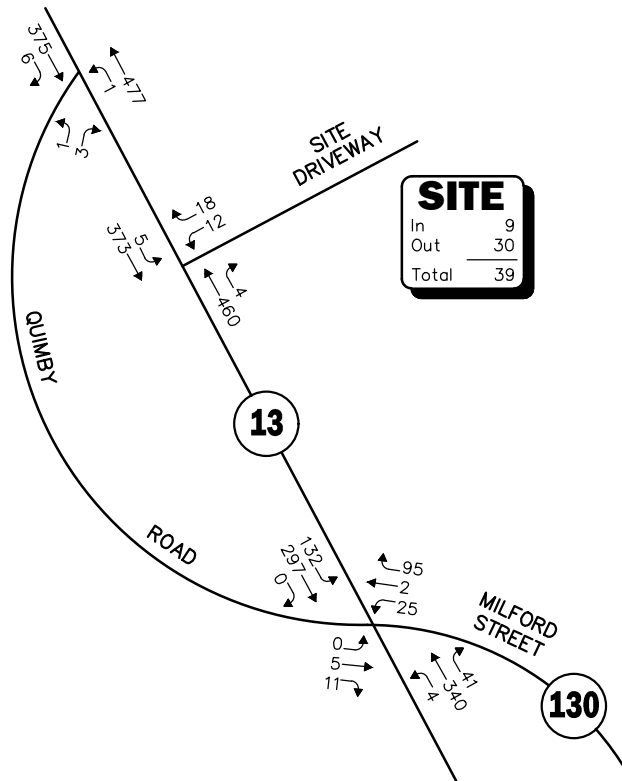


Note: Imbalances exist due to curb cuts and side streets that are not shown.

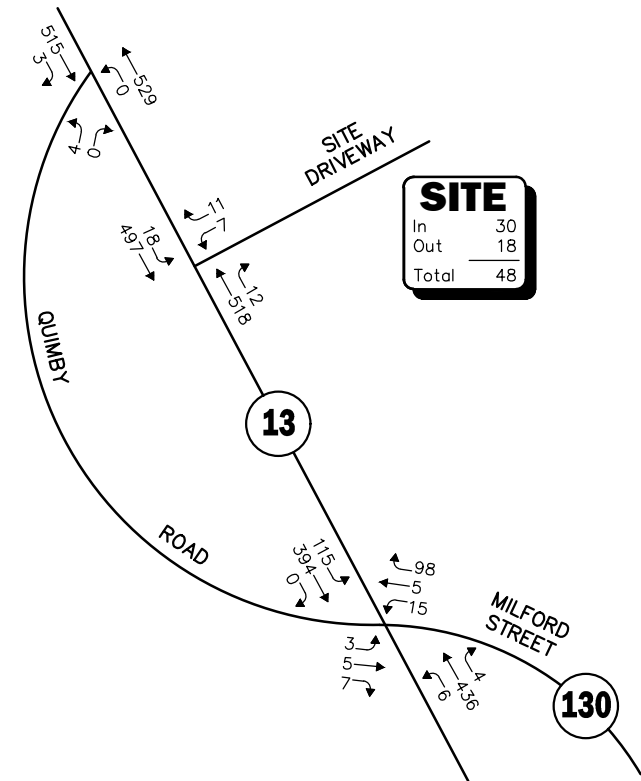
Figure 8

2022 Opening-Year Build  
Peak Hour Traffic Volumes

WEEKDAY MORNING PEAK HOUR (7:00-8:00 AM)



WEEKDAY EVENING PEAK HOUR (4:30-5:30 PM)



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

Not To Scale

**VAI** Vanasse & Associates inc

Figure 9

2032 Build  
Peak Hour Traffic Volumes

As shown in Table 6, Project-related traffic-volume increases outside of the study area relative to 2025 and 2035 No-Build conditions are anticipated to range from 0.7 to 2.6 percent during the peak periods, with vehicle increases shown to range from 2 to 23 vehicles. *When distributed over the peak hour, the predicted traffic-volume increases would not result in a significant impact (increase) on motorist delays or vehicle queuing within the immediate study area that is the subject of this assessment.*

## SIGHT DISTANCE EVALUATION

---

Sight distance measurements were performed at the site driveway intersection with NH Route 13 in accordance with NHDOT and American Association of State Highway and Transportation Officials (AASHTO)<sup>4</sup> standards. AASHTO requirements indicate both stopping sight distance (SSD) and intersection sight distance (ISD) measurements should be reviewed. In brief, SSD is the distance recommended to be provided 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 is the sight distance recommended to be provided by a driver entering or crossing an intersecting roadway to perceive an on-coming 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 requirements of the Town of Brookline Zoning and Land Use Ordinance, recommendations under AASHTO guidelines, and the measured SSD and ISD at the location of the Project site driveway.

---

<sup>4</sup> *A Policy on Geometric Design of Highway and Streets*, 7<sup>th</sup> Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018.

**Table 7**  
**SIGHT DISTANCE ANALYSIS**

Intersection/Sight Distance Measurement	Recommended Distances (Feet)	
	Measured Speed Limit 52 mph on NH Route 13	Field Measured Distance (Feet)
<b><i>NH Route 13 at the Project Site Driveway</i></b>		
<i>Minimum Sight Distance<sup>a</sup></i>	200	554
<i>Stopping Sight Distance:<sup>b</sup></i>		
NH Route 13 approaching from the north	455	650+
NH Route 13 approaching from the south	455	650+
<i>Intersection Sight Distance:<sup>b</sup></i>		
Left turn from Site Driveway (looking north)	575	650+
Left turn from Site Driveway (looking south)	575	554

<sup>a</sup>Value obtained from Town of Brookline Zoning and Land Use Ordinance.

<sup>b</sup>Recommended values obtained from *A Policy on Geometric Design of Highways and Streets*, 7<sup>th</sup> Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018.

As can be seen in Table 7, the sight distance at the intersection of the site driveway with NH Route 13 was found to exceed the Town of Brookline requirement for minimum sight distance. With regard to AASHTO recommendations, the recommended values for SSD are exceeded in both directions. While the available distance for ISD looking south is approximately 20 feet short of the recommended value, ISD is indicated by AASHTO to be “desirable”, not required. Additionally, if the available ISD measurement is equal to or exceeds the SSD recommended distance, the intersection can be assumed to operate in a safe manner. This is the case of the Project site driveway intersection with NH Route 13.

# **TRAFFIC OPERATIONS ANALYSIS**

---

Measuring existing and future traffic volumes quantify traffic flow within the study area. To assess quality of flow, roadway capacity, and vehicle queue analyses were conducted under Existing, No-Build, and Build traffic-volume conditions. Capacity analyses provide an indication of how well the roadway 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.

## **METHODOLOGY**

### **Levels of Service**

A primary result of capacity analyses is the assignment of level of service to traffic facilities under various traffic-flow conditions.<sup>5</sup> The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level-of-service (LOS) A representing the best-operating conditions and LOS F representing congested or constrained operating conditions.

Since the level of service of a traffic facility is a function of the traffic 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 year.

---

<sup>5</sup>The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual 6<sup>th</sup> Edition*; Transportation Research Board; Washington, DC; 2016.

## Unsignalized Intersections

The six levels of service for unsignalized intersections may be described as follows:

- *LOS A* represents a condition with little or no control delay to minor street traffic.
- *LOS B* represents a condition with short control delays to minor street traffic.
- *LOS C* represents a condition with average control delays to minor street traffic.
- *LOS D* represents a condition with long control delays to minor street traffic.
- *LOS E* represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
- *LOS F* represents a condition where minor street demand volume exceeds capacity of an approach lane, with control delays resulting.

The levels of service of unsignalized intersections are determined by application of a procedure described in the *Highway Capacity Manual 6<sup>th</sup> Edition*. Level of service is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the *Highway Capacity Manual 6<sup>th</sup> Edition*. Table 8 summarizes the relationship between level of service and average control delay.

**Table 8**  
**LEVEL-OF-SERVICE CRITERIA FOR**  
**UNSIGNALIZED INTERSECTIONS<sup>a</sup>**

Level-of-Service by Volume-to-Capacity Ratio		Average Control Delay (Seconds Per Vehicle)
$v/c \leq 1.0$	$v/c > 1.0$	
A	F	$\leq 10.0$
B	F	10.1 to 15.0
C	F	15.1 to 25.0
D	F	25.1 to 35.0
E	F	35.1 to 50.0
F	F	$> 50.0$

<sup>a</sup>Source: *Highway Capacity Manual 6<sup>th</sup> Edition*; Transportation Research Board; Washington, DC; 2016; page 20-6.

## **ANALYSIS RESULTS**

Level-of-service and vehicle queue analyses were conducted for 2024 Existing, 2025 and 2035 No-Build, and 2025 Opening Year Build and 2035 Design Year Build peak-month conditions for the study area intersections. The results of the intersection capacity and vehicle queue analyses are summarized in Table 9. The analysis worksheets are presented in the Appendix.

### **NH Route 13 at Quimby Road**

Under 2024 Existing, 2025 Opening Year No-Build, and 2035 Design Year No-Build conditions, the critical movement at this intersection operates at LOS B during the weekday morning peak hour and at LOS C during the weekday evening peak hour. There is no change in the level of service under 2025 and 2035 Build conditions. The vehicle queue is not expected to increase under 2025 and 2035 Build conditions compared to 2025 and 2035 No-Build conditions.

### **NH Route 13 at NH Route 130 and Quimby Road**

Under 2024 Existing and 2025 Opening Year No-Build conditions, the critical movements at this intersection operate at LOS B during the weekday morning peak hour and at LOS C during the weekday evening peak hour. Under 2035 Design Year No-Build conditions, the critical movements at this intersection operate at LOS C or better during the weekday morning peak hour and at LOS D or better during the weekday evening peak hour. There is no change in the level of service under 2025 and 2035 Build conditions, with the exception of the Quimby Road approach during the 2025 Build condition. Under the 2025 Build condition, this approach degrades to LOS C; however, the vehicle delay only increases by less than 1 second over 2025 No-Build conditions. The vehicle queue lengths at intersection approaches are no more than 1 vehicle during the weekday morning and evening peak hours. Only on the NH Route 130 approach under 2035 Build conditions does the vehicle queue increase by 1 vehicle compared to 2025 and 2035 No-Build conditions.

### **NH Route 13 at the Project Site Roadway**

Under 2025 and 2035 Build conditions during the weekday morning peak hour, the critical movement at this intersection is predicted to operate at LOS B and during the weekday evening peak hour, the critical movement at this intersection is predicted to operate at LOS C with an average queue of 1 vehicle expected for both peak hours.

Table 9  
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY

Unsignalized Intersection/ Peak Hour/Movement	2024 Existing				2025 No-Build				2025 Opening Year Build				2035 No-Build				2035 Design Year Build			
	Demand <sup>a</sup>	Delay <sup>b</sup>	LOS <sup>c</sup>	Queue <sup>d</sup> 95 <sup>th</sup>	Demand	Delay	LOS	Queue 95 <sup>th</sup>	Demand	Delay	LOS	Queue 95 <sup>th</sup>	Demand	Delay	LOS	Queue 95 <sup>th</sup>	Demand	Delay	LOS	Queue 95 <sup>th</sup>
<b><i>NH Route 13 at Quimby Road</i></b>																				
<i>Weekday Morning:</i> Quimby Road EB LT/RT	4	11.5	B	0	4	11.5	B	0	4	11.6	B	0	4	12.0	B	0	4	12.2	B	0
<i>Weekday Evening:</i> Quimby Road EB LT/RT	5	19.9	C	1	5	20.2	C	1	5	20.6	C	1	6	23.1	C	1	6	23.6	C	1
<b><i>NH Route 130 at NH Route 13 and Quimby Road</i></b>																				
<i>Weekday Morning:</i> Quimby Road EB LT/TH/RT	19	12.8	B	1	19	12.8	B	1	19	13.0	B	1	21	13.9	B	1	21	14.1	B	1
NH Route 130 WB LT/RT	99	14.7	B	1	100	14.8	B	1	101	15.0	C	1	110	16.7	C	1	111	17.0	C	2
<i>Weekday Evening:</i> Quimby Road EB LT/TH/RT	19	22.7	C	1	19	23.1	C	1	19	23.7	C	1	21	28.0	D	1	21	28.8	D	1
NH Route 130 WB LT/RT	105	17.4	C	1	106	17.7	C	1	107	18.0	C	1	117	21.4	C	2	118	21.9	C	2
<b><i>NH Route 13 at the Project Site Roadway</i></b>																				
<i>Weekday Morning:</i> Site Roadway WB LT/RT	--	--	--	--	--	--	--	--	22	13.1	B	1	--	--	--	--	22	13.9	B	1
<i>Weekday Evening:</i> Site Roadway WB LT/RT	--	--	--	--	--	--	--	--	16	15.4	C	1	--	--	--	--	16	16.8	C	1

<sup>a</sup>Demand in vehicles per hour.  
<sup>b</sup>Delay in seconds per vehicle.  
<sup>c</sup>Level of service.  
<sup>d</sup>95th percentile queue length.  
EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

## **CONCLUSIONS AND RECOMMENDATIONS**

---

### **RECOMMENDATIONS**

The following recommendations are offered with respect to the design and operation of the Project site driveway:

- The driveway should be placed under STOP-sign *Manual on Uniform Traffic Control Devices* (MUTCD)<sup>6</sup> (R1-1) control, with a painted STOP-bar included.
- All signs and other pavement markings to be installed within the Project site shall conform to the applicable standards of the current MUTCD.
- Signs and landscaping adjacent to the Project site driveway should be designed and maintained so as not to restrict lines of sight.
- Snow windrows within sight triangle areas of the Project site driveways should be promptly removed where such accumulations would impede sightlines.

### **CONCLUSIONS**

VAI has prepared this TIS to identify traffic impacts associated with the proposed residential development in Brookline, New Hampshire.

As documented in this study, Project-related traffic increases will not result in significant increases in overall traffic volumes or traffic delays within the study area. The site driveway will provide efficient access to and from the development. In general, Project-related traffic can be adequately accommodated within the existing infrastructure with minimal impact on the traffic operations within the study area.

---

<sup>6</sup>Ibid 1.

## APPENDIX

---

AUTOMATIC TRAFFIC RECORDER  
TRAFFIC MOVEMENT COUNT DATA  
SEASONAL ADJUSTMENT DATA  
COVID 19 ADJUSTMENT DATA  
PUBLIC TRANSPORTATION SCHEDULES  
VEHICLE SPEED DATA  
GROWTH RATE DATA  
TRIP GENERATION DATA  
TRIP DISTRIBUTION DATA  
CAPACITY ANALYSIS



AUTOMATIC TRAFFIC RECORDER

---



**Accurate Counts**  
978-664-2565

Page 1

Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919VL01

Start Time	3/31/2021 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	61			7	79				
12:15		2	62			2	68				
12:30		1	50			4	65				
12:45		1	72	7	245	3	61	16	273	23	518
01:00		2	77			0	57				
01:15		0	69			4	69				
01:30		2	69			1	74				
01:45		1	68	5	283	2	69	7	269	12	552
02:00		2	82			5	68				
02:15		3	62			3	93				
02:30		3	81			2	76				
02:45		0	75	8	300	4	85	14	322	22	622
03:00		1	95			2	77				
03:15		1	104			5	74				
03:30		0	95			4	64				
03:45		3	85	5	379	5	79	16	294	21	673
04:00		5	100			5	92				
04:15		5	98			6	79				
04:30		10	81			7	81				
04:45		10	81	30	360	5	106	23	358	53	718
05:00		11	79			9	78				
05:15		14	94			16	86				
05:30		22	89			31	82				
05:45		23	66	70	328	48	67	104	313	174	641
06:00		31	55			35	77				
06:15		29	45			42	60				
06:30		51	51			53	59				
06:45		59	45	170	196	56	46	186	242	356	438
07:00		53	28			68	29				
07:15		74	24			77	35				
07:30		66	28			76	43				
07:45		82	25	275	105	82	41	303	148	578	253
08:00		67	25			71	31				
08:15		79	26			77	30				
08:30		101	17			52	21				
08:45		65	14	312	82	75	22	275	104	587	186
09:00		50	14			54	13				
09:15		49	13			53	25				
09:30		63	12			55	21				
09:45		60	6	222	45	43	14	205	73	427	118
10:00		52	14			46	8				
10:15		51	9			49	16				
10:30		61	6			51	13				
10:45		52	4	216	33	51	5	197	42	413	75
11:00		54	3			44	7				
11:15		45	8			48	6				
11:30		64	7			44	4				
11:45		49	3	212	21	73	5	209	22	421	43
Total		1532	2377			1555	2460			3087	4837
Percent		39.2%	60.8%			38.7%	61.3%			39.0%	61.0%

**Accurate Counts**  
978-664-2565

Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919VL01

Start Time	4/1/2021 Thu	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	52			6	70				
12:15		4	79			4	63				
12:30		3	84			1	66				
12:45		1	67	11	282	1	62	12	261	23	543
01:00		0	75			1	57				
01:15		0	70			0	91				
01:30		2	81			4	70				
01:45		2	66	4	292	0	92	5	310	9	602
02:00		4	73			4	83				
02:15		3	78			4	84				
02:30		1	79			1	83				
02:45		3	81	11	311	1	90	10	340	21	651
03:00		1	105			1	97				
03:15		1	110			1	91				
03:30		1	92			7	98				
03:45		4	99	7	406	2	100	11	386	18	792
04:00		6	93			6	93				
04:15		4	117			4	84				
04:30		8	113			8	76				
04:45		9	84	27	407	6	81	24	334	51	741
05:00		12	104			11	93				
05:15		15	106			23	118				
05:30		12	85			26	101				
05:45		24	96	63	391	34	77	94	389	157	780
06:00		23	85			35	88				
06:15		34	57			42	73				
06:30		58	51			52	61				
06:45		44	40	159	233	68	60	197	282	356	515
07:00		54	42			84	53				
07:15		61	33			85	43				
07:30		63	37			67	32				
07:45		76	30	254	142	68	39	304	167	558	309
08:00		58	28			79	30				
08:15		62	16			77	37				
08:30		94	18			56	34				
08:45		67	19	281	81	63	26	275	127	556	208
09:00		46	20			46	18				
09:15		52	11			50	19				
09:30		58	19			41	20				
09:45		48	16	204	66	50	13	187	70	391	136
10:00		50	8			54	17				
10:15		51	5			38	10				
10:30		53	8			65	11				
10:45		55	7	209	28	46	6	203	44	412	72
11:00		64	3			51	8				
11:15		66	7			62	6				
11:30		57	9			62	5				
11:45		74	4	261	23	71	6	246	25	507	48
Total		1491	2662			1568	2735			3059	5397
Percent		35.9%	64.1%			36.4%	63.6%			36.2%	63.8%
Grand Total		3023	5039			3123	5195			6146	10234
Percent		37.5%	62.5%			37.5%	62.5%			37.5%	62.5%
ADT		ADT 8,190	AADT 8,190								

Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919VL01

Start	3/29/2021		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	7	16	11	12	*	*	*	*	*	*	9	14
01:00	*	*	*	*	5	7	4	5	*	*	*	*	*	*	4	6
02:00	*	*	*	*	8	14	11	10	*	*	*	*	*	*	10	12
03:00	*	*	*	*	5	16	7	11	*	*	*	*	*	*	6	14
04:00	*	*	*	*	30	23	27	24	*	*	*	*	*	*	28	24
05:00	*	*	*	*	70	104	63	94	*	*	*	*	*	*	66	99
06:00	*	*	*	*	170	186	159	197	*	*	*	*	*	*	164	192
07:00	*	*	*	*	275	303	254	304	*	*	*	*	*	*	264	304
08:00	*	*	*	*	312	275	281	275	*	*	*	*	*	*	296	275
09:00	*	*	*	*	222	205	204	187	*	*	*	*	*	*	213	196
10:00	*	*	*	*	216	197	209	203	*	*	*	*	*	*	212	200
11:00	*	*	*	*	212	209	261	246	*	*	*	*	*	*	236	228
12:00 PM	*	*	*	*	245	273	282	261	*	*	*	*	*	*	264	267
01:00	*	*	*	*	283	269	292	310	*	*	*	*	*	*	288	290
02:00	*	*	*	*	300	322	311	340	*	*	*	*	*	*	306	331
03:00	*	*	*	*	379	294	406	386	*	*	*	*	*	*	392	340
04:00	*	*	*	*	360	358	407	334	*	*	*	*	*	*	384	346
05:00	*	*	*	*	328	313	391	389	*	*	*	*	*	*	360	351
06:00	*	*	*	*	196	242	233	282	*	*	*	*	*	*	214	262
07:00	*	*	*	*	105	148	142	167	*	*	*	*	*	*	124	158
08:00	*	*	*	*	82	104	81	127	*	*	*	*	*	*	82	116
09:00	*	*	*	*	45	73	66	70	*	*	*	*	*	*	56	72
10:00	*	*	*	*	33	42	28	44	*	*	*	*	*	*	30	43
11:00	*	*	*	*	21	22	23	25	*	*	*	*	*	*	22	24
Lane	0	0	0	0	3909	4015	4153	4303	0	0	0	0	0	0	4030	4164
Day	0		0		7924		8456		0		0		0		8194	
AM Peak	-	-	-	-	08:00	07:00	08:00	07:00	-	-	-	-	-	-	08:00	07:00
Vol.	-	-	-	-	312	303	281	304	-	-	-	-	-	-	296	304
PM Peak	-	-	-	-	15:00	16:00	16:00	17:00	-	-	-	-	-	-	15:00	17:00
Vol.	-	-	-	-	379	358	407	389	-	-	-	-	-	-	392	351

Comb. Total	0	0	7924	8456	0	0	0	8194
ADT	ADT 8,190	AADT 8,190						

## TRAFFIC MOVEMENT COUNT DATA



# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 1

## Groups Printed- Cars - Trucks

	Route 13 From North		Route 13 From South		Quimby Rd From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
07:00 AM	66	1	1	51	0	0	119
07:15 AM	72	0	0	76	1	0	149
07:30 AM	68	1	0	68	2	0	139
07:45 AM	73	1	0	80	1	0	155
Total	279	3	1	275	4	0	562
08:00 AM	67	3	0	66	0	0	136
08:15 AM	69	0	0	73	0	2	144
08:30 AM	50	2	1	103	0	1	157
08:45 AM	67	0	0	66	2	0	135
Total	253	5	1	308	2	3	572
Grand Total	532	8	2	583	6	3	1134
Apprch %	98.5	1.5	0.3	99.7	66.7	33.3	
Total %	46.9	0.7	0.2	51.4	0.5	0.3	
Cars	508	8	2	558	5	3	1084
% Cars	95.5	100	100	95.7	83.3	100	95.6
Trucks	24	0	0	25	1	0	50
% Trucks	4.5	0	0	4.3	16.7	0	4.4

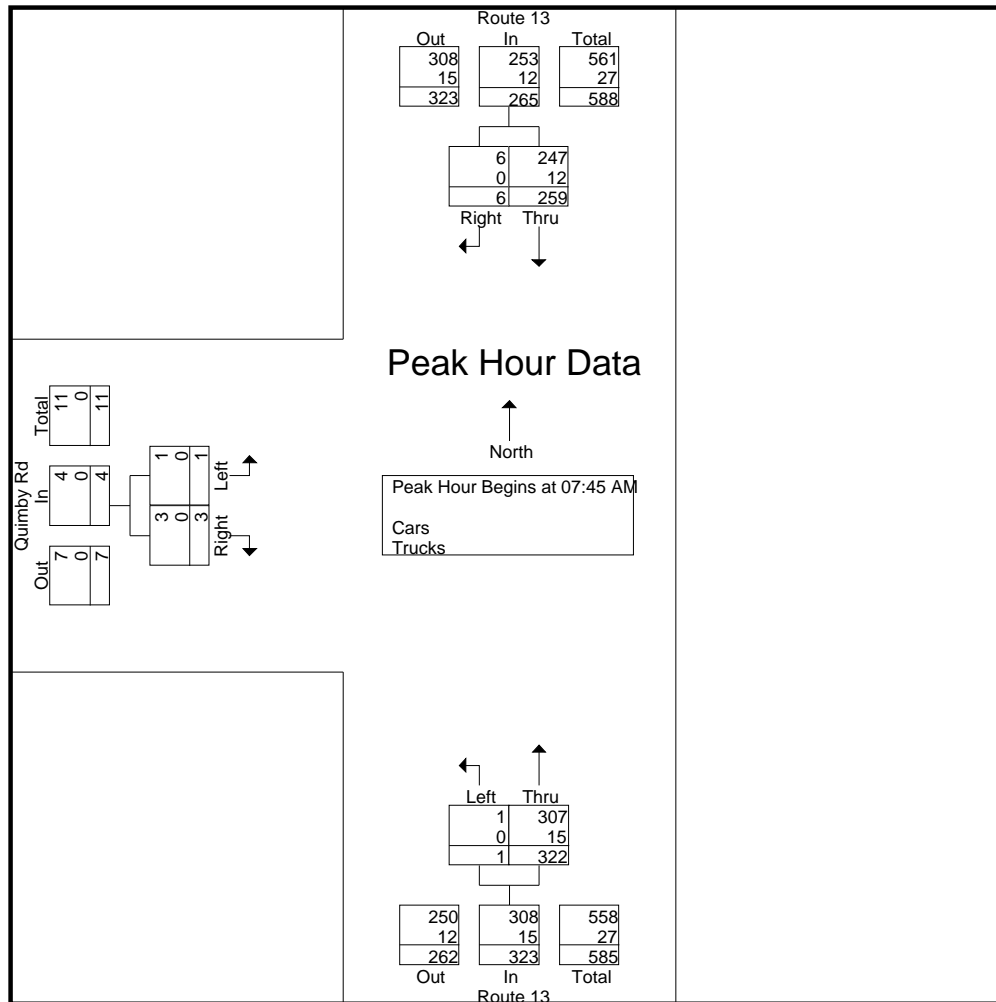
	Route 13 From North			Route 13 From South			Quimby Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	<b>73</b>	1	<b>74</b>	0	80	80	<b>1</b>	0	1	155
08:00 AM	67	<b>3</b>	70	0	66	66	0	0	0	136
08:15 AM	69	0	69	0	73	73	0	<b>2</b>	<b>2</b>	144
08:30 AM	50	2	52	<b>1</b>	<b>103</b>	<b>104</b>	0	1	1	<b>157</b>
Total Volume	259	6	265	1	322	323	1	3	4	592
% App. Total	97.7	2.3		0.3	99.7		25	75		
PHF	.887	.500	.895	.250	.782	.776	.250	.375	.500	.943
Cars	247	6	253	1	307	308	1	3	4	565
% Cars	95.4	100	95.5	100	95.3	95.4	100	100	100	95.4
Trucks	12	0	12	0	15	15	0	0	0	27
% Trucks	4.6	0	4.5	0	4.7	4.6	0	0	0	4.6

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 2

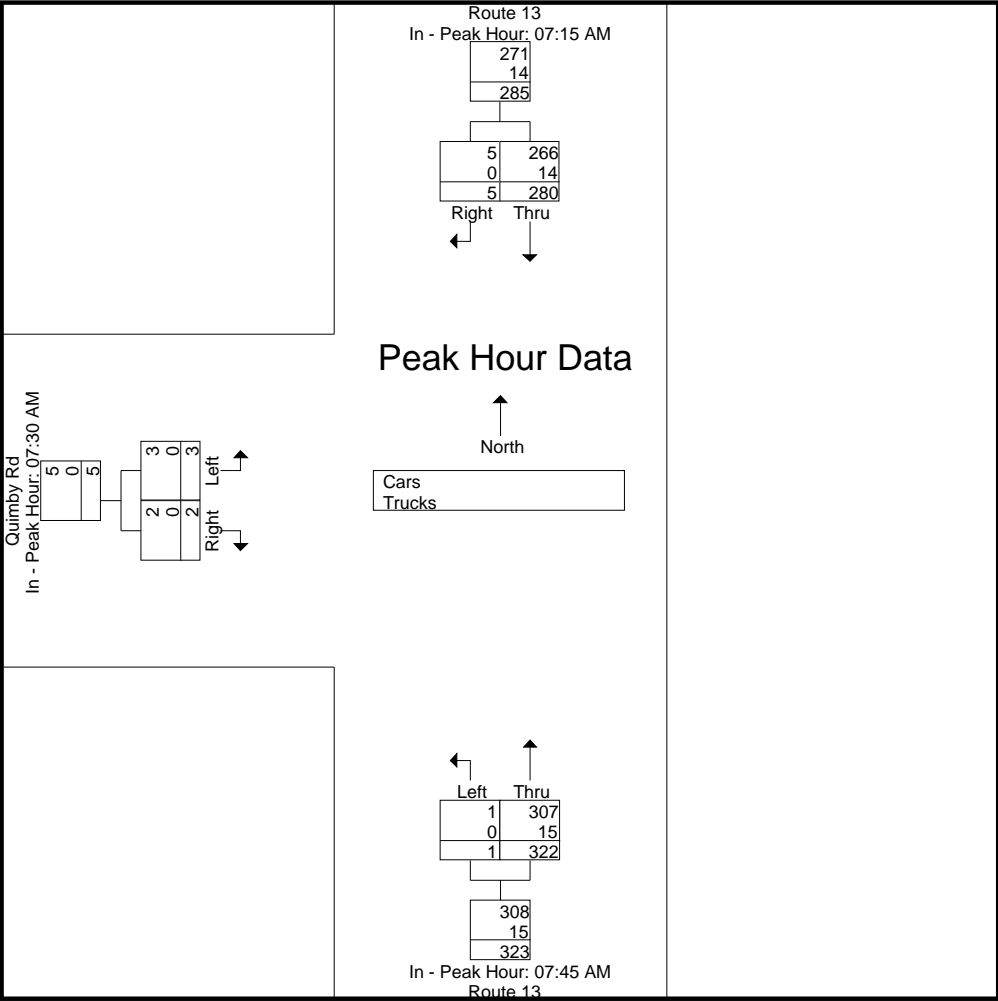


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	07:15 AM			07:45 AM			07:30 AM		
+0 mins.	72	0	72	0	80	80	2	0	2
+15 mins.	68	1	69	0	66	66	1	0	1
+30 mins.	73	1	74	0	73	73	0	0	0
+45 mins.	67	3	70	1	103	104	0	2	2
Total Volume	280	5	285	1	322	323	3	2	5
% App. Total	98.2	1.8		0.3	99.7		60	40	
PHF	.959	.417	.963	.250	.782	.776	.375	.250	.625
Cars	266	5	271	1	307	308	3	2	5
% Cars	95	100	95.1	100	95.3	95.4	100	100	100
Trucks	14	0	14	0	15	15	0	0	0
% Trucks	5	0	4.9	0	4.7	4.6	0	0	0

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 3



**Accurate Counts**  
978-664-2565

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 4

Groups Printed- Cars

	Route 13 From North			Route 13 From South			Quimby Rd From West			
Start Time	Thru	Right		Left	Thru		Left	Right		Int. Total
07:00 AM	62	1		1	48		0	0		112
07:15 AM	69	0		0	75		1	0		145
07:30 AM	65	1		0	65		2	0		133
07:45 AM	71	1		0	77		1	0		150
Total	267	3		1	265		4	0		540
08:00 AM	61	3		0	63		0	0		127
08:15 AM	66	0		0	68		0	2		136
08:30 AM	49	2		1	99		0	1		152
08:45 AM	65	0		0	63		1	0		129
Total	241	5		1	293		1	3		544
Grand Total	508	8		2	558		5	3		1084
Apprch %	98.4	1.6		0.4	99.6		62.5	37.5		
Total %	46.9	0.7		0.2	51.5		0.5	0.3		

	Route 13 From North			Route 13 From South			Quimby Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	<b>71</b>	<b>1</b>	<b>72</b>	0	77	77	<b>1</b>	0	1	150
08:00 AM	61	<b>3</b>	64	0	63	63	0	0	0	127
08:15 AM	66	0	66	0	68	68	0	<b>2</b>	<b>2</b>	136
08:30 AM	49	2	51	<b>1</b>	<b>99</b>	<b>100</b>	0	1	1	<b>152</b>
Total Volume	247	6	253	1	307	308	1	3	4	565
% App. Total	97.6	2.4		0.3	99.7		25	75		
PHF	.870	.500	.878	.250	.775	.770	.250	.375	.500	.929

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 7

## Groups Printed- Trucks

	Route 13 From North		Route 13 From South		Quimby Rd From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
07:00 AM	4	0	0	3	0	0	7
07:15 AM	3	0	0	1	0	0	4
07:30 AM	3	0	0	3	0	0	6
07:45 AM	2	0	0	3	0	0	5
Total	12	0	0	10	0	0	22
08:00 AM	6	0	0	3	0	0	9
08:15 AM	3	0	0	5	0	0	8
08:30 AM	1	0	0	4	0	0	5
08:45 AM	2	0	0	3	1	0	6
Total	12	0	0	15	1	0	28
Grand Total	24	0	0	25	1	0	50
Apprch %	100	0	0	100	100	0	
Total %	48	0	0	50	2	0	

	Route 13 From North			Route 13 From South			Quimby Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	3	0	3	0	3	3	0	0	0	6
07:45 AM	2	0	2	0	3	3	0	0	0	5
08:00 AM	6	0	6	0	3	3	0	0	0	9
08:15 AM	3	0	3	0	5	5	0	0	0	8
Total Volume	14	0	14	0	14	14	0	0	0	28
% App. Total	100	0		0	100		0	0		
PHF	.583	.000	.583	.000	.700	.700	.000	.000	.000	.778

978-664-2565

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 10

[illegible][illegible]

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 1

## Groups Printed- Cars - Trucks

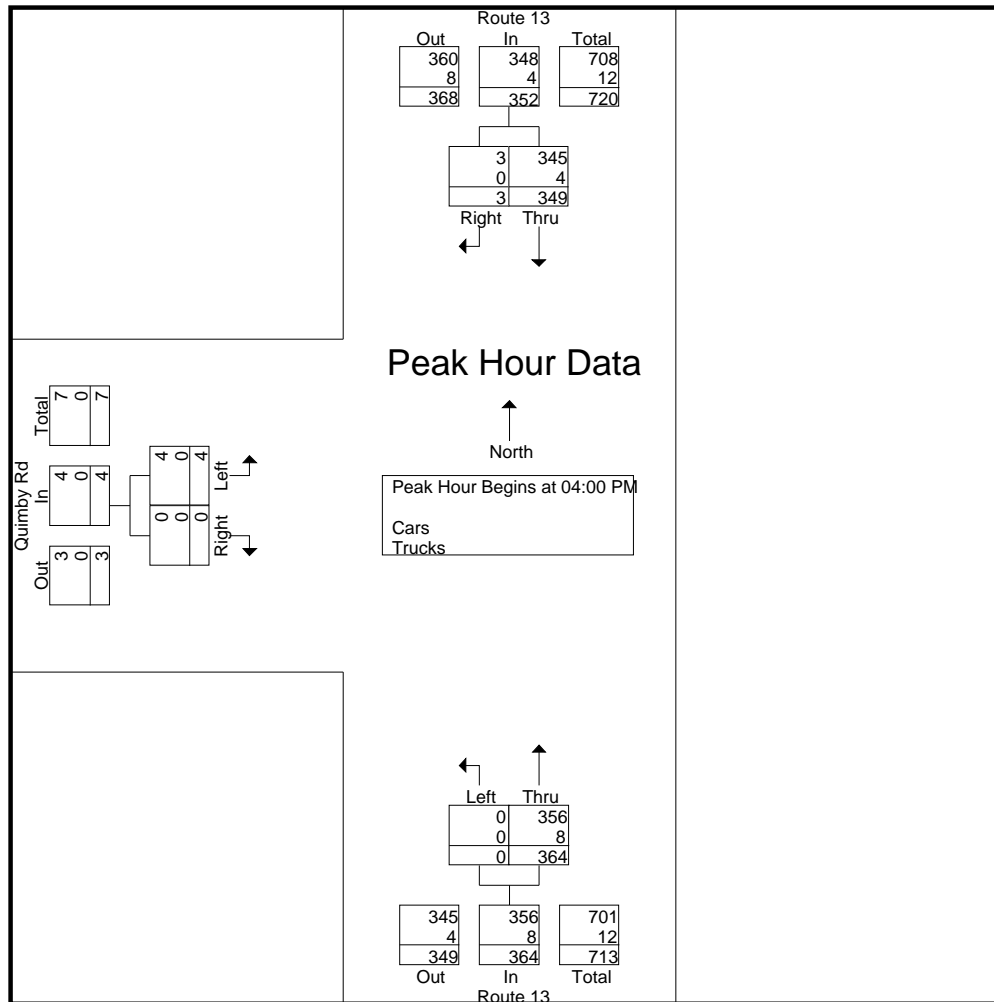
	Route 13 From North		Route 13 From South		Quimby Rd From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
04:00 PM	94	2	0	104	3	0	203
04:15 PM	75	0	0	94	0	0	169
04:30 PM	77	1	0	86	1	0	165
04:45 PM	103	0	0	80	0	0	183
Total	349	3	0	364	4	0	720
05:00 PM	74	1	0	80	1	0	156
05:15 PM	81	1	0	95	1	0	178
05:30 PM	80	1	0	91	0	0	172
05:45 PM	68	2	0	68	1	0	139
Total	303	5	0	334	3	0	645
Grand Total	652	8	0	698	7	0	1365
Apprch %	98.8	1.2	0	100	100	0	
Total %	47.8	0.6	0	51.1	0.5	0	
Cars	646	8	0	688	7	0	1349
% Cars	99.1	100	0	98.6	100	0	98.8
Trucks	6	0	0	10	0	0	16
% Trucks	0.9	0	0	1.4	0	0	1.2

	Route 13 From North			Route 13 From South			Quimby Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	94	2	96	0	104	104	3	0	3	203
04:15 PM	75	0	75	0	94	94	0	0	0	169
04:30 PM	77	1	78	0	86	86	1	0	1	165
04:45 PM	103	0	103	0	80	80	0	0	0	183
Total Volume	349	3	352	0	364	364	4	0	4	720
% App. Total	99.1	0.9		0	100		100	0		
PHF	.847	.375	.854	.000	.875	.875	.333	.000	.333	.887
Cars	345	3	348	0	356	356	4	0	4	708
% Cars	98.9	100	98.9	0	97.8	97.8	100	0	100	98.3
Trucks	4	0	4	0	8	8	0	0	0	12
% Trucks	1.1	0	1.1	0	2.2	2.2	0	0	0	1.7

**Accurate Counts**  
978-664-2565

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 2

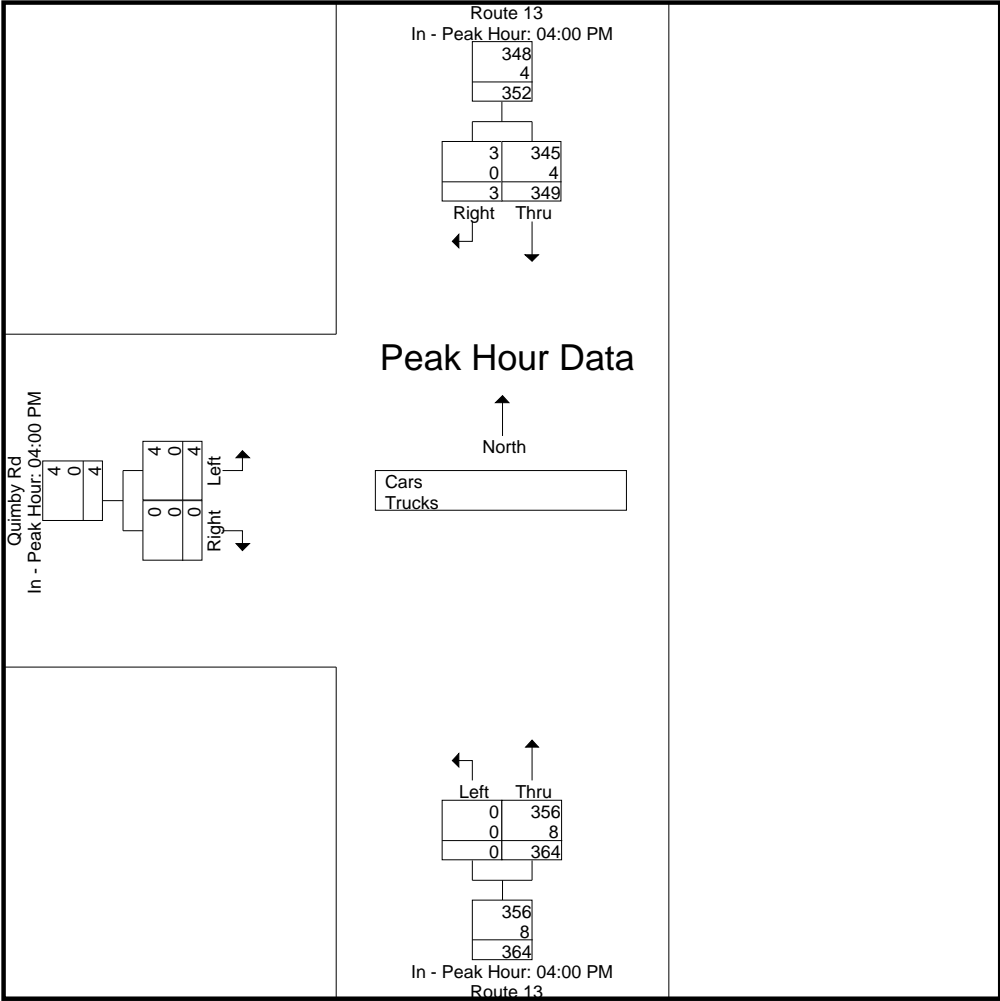


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	94	2	96	0	104	104	3	0	3
+15 mins.	75	0	75	0	94	94	0	0	0
+30 mins.	77	1	78	0	86	86	1	0	1
+45 mins.	103	0	103	0	80	80	0	0	0
Total Volume	349	3	352	0	364	364	4	0	4
% App. Total	99.1	0.9		0	100		100	0	
PHF	.847	.375	.854	.000	.875	.875	.333	.000	.333
Cars	345	3	348	0	356	356	4	0	4
% Cars	98.9	100	98.9	0	97.8	97.8	100	0	100
Trucks	4	0	4	0	8	8	0	0	0
% Trucks	1.1	0	1.1	0	2.2	2.2	0	0	0

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 3



**Accurate Counts**  
978-664-2565

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 4

Groups Printed- Cars

	Route 13 From North			Route 13 From South			Quimby Rd From West			
Start Time	Thru	Right		Left	Thru		Left	Right		Int. Total
04:00 PM	92	2		0	102		3	0		199
04:15 PM	75	0		0	92		0	0		167
04:30 PM	76	1		0	86		1	0		164
04:45 PM	102	0		0	76		0	0		178
Total	345	3		0	356		4	0		708
05:00 PM	74	1		0	80		1	0		156
05:15 PM	80	1		0	94		1	0		176
05:30 PM	79	1		0	90		0	0		170
05:45 PM	68	2		0	68		1	0		139
Total	301	5		0	332		3	0		641
Grand Total	646	8		0	688		7	0		1349
Apprch %	98.8	1.2		0	100		100	0		
Total %	47.9	0.6		0	51		0.5	0		

	Route 13 From North			Route 13 From South			Quimby Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	92	<b>2</b>	94	0	<b>102</b>	<b>102</b>	<b>3</b>	0	<b>3</b>	<b>199</b>
04:15 PM	75	0	75	0	92	92	0	0	0	167
04:30 PM	76	1	77	0	86	86	1	0	1	164
04:45 PM	<b>102</b>	0	<b>102</b>	0	76	76	0	0	0	178
Total Volume	345	3	348	0	356	356	4	0	4	708
% App. Total	99.1	0.9		0	100		100	0		
PHF	.846	.375	.853	.000	.873	.873	.333	.000	.333	.889

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Quimby Road  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 7

## Groups Printed- Trucks

	Route 13 From North		Route 13 From South		Quimby Rd From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
04:00 PM	2	0	0	2	0	0	4
04:15 PM	0	0	0	2	0	0	2
04:30 PM	1	0	0	0	0	0	1
04:45 PM	1	0	0	4	0	0	5
Total	4	0	0	8	0	0	12
05:00 PM	0	0	0	0	0	0	0
05:15 PM	1	0	0	1	0	0	2
05:30 PM	1	0	0	1	0	0	2
05:45 PM	0	0	0	0	0	0	0
Total	2	0	0	2	0	0	4
Grand Total	6	0	0	10	0	0	16
Apprch %	100	0	0	100	0	0	
Total %	37.5	0	0	62.5	0	0	

	Route 13 From North			Route 13 From South			Quimby Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	2	0	2	0	2	2	0	0	0	4
04:15 PM	0	0	0	0	2	2	0	0	0	2
04:30 PM	1	0	1	0	0	0	0	0	0	1
04:45 PM	1	0	1	0	4	4	0	0	0	5
Total Volume	4	0	4	0	8	8	0	0	0	12
% App. Total	100	0		0	100		0	0		
PHF	.500	.000	.500	.000	.500	.500	.000	.000	.000	.600

978-664-2565

File Name : 89190001  
Site Code : 89190001  
Start Date : 3/31/2021  
Page No : 10

	Route 13 From North			Route 13 From South			Quimby Rd From West					
Start Time	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	1	1
Grand Total	1	0	0	0	0	0	0	0	0	0	1	1
Apprch %	100	0		0	0		0	0				
Total %	100	0		0	0		0	0		0	100	

[illegible]

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 1

## Groups Printed- Cars - Trucks

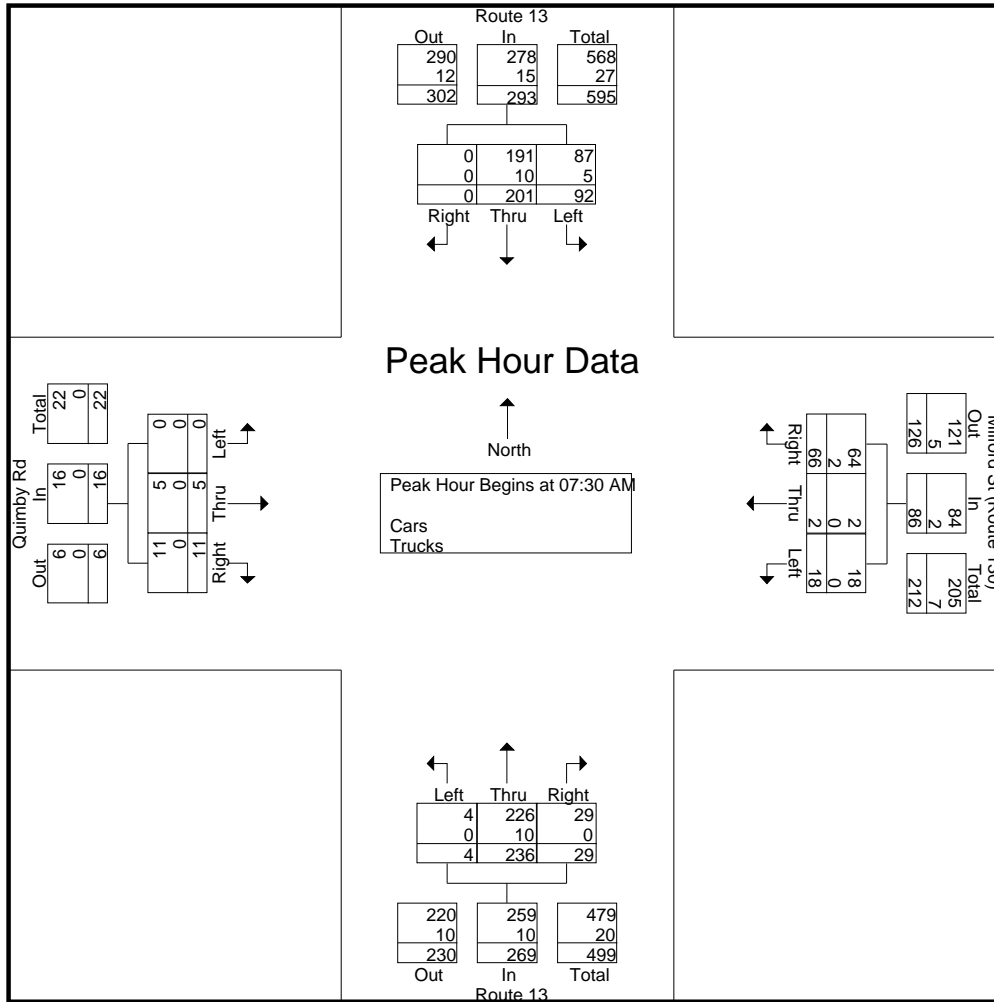
	Route 13 From North			Milford St (Route 130) From East			Route 13 From South			Quimby Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	22	45	2	4	3	9	1	45	8	0	0	0	139
07:15 AM	22	48	0	2	1	12	0	65	11	0	1	7	169
07:30 AM	22	50	0	3	0	18	2	55	2	0	2	4	158
07:45 AM	23	58	0	5	0	16	0	64	4	0	1	3	174
Total	89	201	2	14	4	55	3	229	25	0	4	14	640
08:00 AM	18	46	0	6	1	7	0	62	11	0	1	3	155
08:15 AM	29	47	0	4	1	25	2	55	12	0	1	1	177
08:30 AM	10	33	1	6	0	22	0	75	6	0	0	1	154
08:45 AM	16	52	0	1	2	15	1	55	1	0	0	1	144
Total	73	178	1	17	4	69	3	247	30	0	2	6	630
Grand Total	162	379	3	31	8	124	6	476	55	0	6	20	1270
Apprch %	29.8	69.7	0.6	19	4.9	76.1	1.1	88.6	10.2	0	23.1	76.9	
Total %	12.8	29.8	0.2	2.4	0.6	9.8	0.5	37.5	4.3	0	0.5	1.6	
Cars	154	361	3	31	8	120	6	458	55	0	6	20	1222
% Cars	95.1	95.3	100	100	100	96.8	100	96.2	100	0	100	100	96.2
Trucks	8	18	0	0	0	4	0	18	0	0	0	0	48
% Trucks	4.9	4.7	0	0	0	3.2	0	3.8	0	0	0	0	3.8

	Route 13 From North				Milford St (Route 130) From East				Route 13 From South				Quimby Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	22	50	0	72	3	0	18	21	2	55	2	59	0	2	4	6	158
07:45 AM	23	58	0	81	5	0	16	21	0	64	4	68	0	1	3	4	174
08:00 AM	18	46	0	64	6	1	7	14	0	62	11	73	0	1	3	4	155
08:15 AM	29	47	0	76	4	1	25	30	2	55	12	69	0	1	1	2	177
Total Volume	92	201	0	293	18	2	66	86	4	236	29	269	0	5	11	16	664
% App. Total	31.4	68.6	0		20.9	2.3	76.7		1.5	87.7	10.8		0	31.2	68.8		
PHF	.793	.866	.000	.904	.750	.500	.660	.717	.500	.922	.604	.921	.000	.625	.688	.667	.938
Cars	87	191	0	278	18	2	64	84	4	226	29	259	0	5	11	16	637
% Cars	94.6	95.0	0	94.9	100	100	97.0	97.7	100	95.8	100	96.3	0	100	100	100	95.9
Trucks	5	10	0	15	0	0	2	2	0	10	0	10	0	0	0	0	27
% Trucks	5.4	5.0	0	5.1	0	0	3.0	2.3	0	4.2	0	3.7	0	0	0	0	4.1

**Accurate Counts**  
978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 2

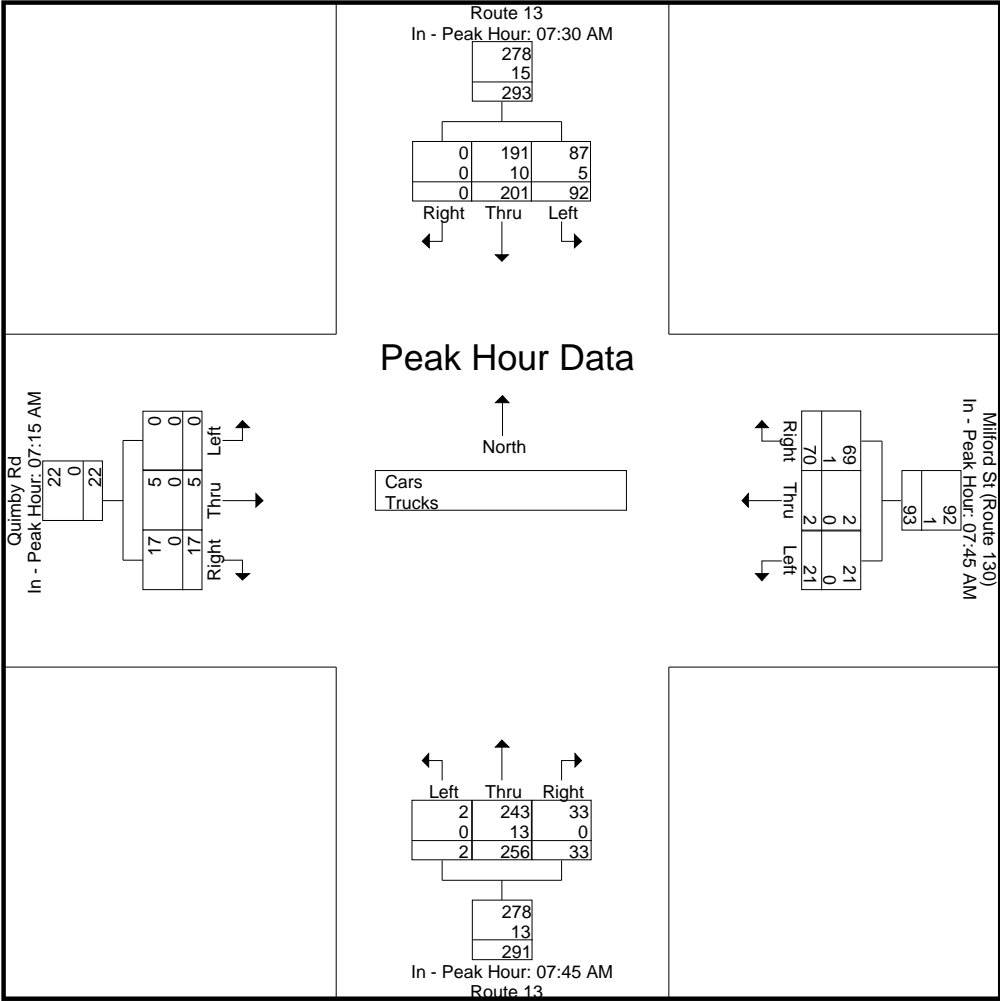


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:45 AM				07:15 AM			
+0 mins.	22	50	0	72	5	0	16	21	0	64	4	68	0	1	<b>7</b>	<b>8</b>
+15 mins.	23	<b>58</b>	0	<b>81</b>	<b>6</b>	<b>1</b>	7	14	0	62	11	73	0	<b>2</b>	4	6
+30 mins.	18	46	0	64	4	1	<b>25</b>	<b>30</b>	<b>2</b>	55	<b>12</b>	69	0	1	3	4
+45 mins.	<b>29</b>	47	0	76	6	0	22	28	0	<b>75</b>	6	<b>81</b>	0	1	3	4
Total Volume	92	201	0	293	21	2	70	93	2	256	33	291	0	5	17	22
% App. Total	31.4	68.6	0		22.6	2.2	75.3		0.7	88	11.3		0	22.7	77.3	
PHF	.793	.866	.000	.904	.875	.500	.700	.775	.250	.853	.688	.898	.000	.625	.607	.688
Cars	87	191	0	278	21	2	69	92	2	243	33	278	0	5	17	22
% Cars	94.6	95	0	94.9	100	100	98.6	98.9	100	94.9	100	95.5	0	100	100	100
Trucks	5	10	0	15	0	0	1	1	0	13	0	13	0	0	0	0
% Trucks	5.4	5	0	5.1	0	0	1.4	1.1	0	5.1	0	4.5	0	0	0	0

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 3



# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 4

## Groups Printed- Cars

	Route 13 From North			Milford St (Route 130) From East			Route 13 From South			Quimby Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	22	41	2	4	3	9	1	43	8	0	0	0	133
07:15 AM	20	46	0	2	1	11	0	65	11	0	1	7	164
07:30 AM	22	47	0	3	0	16	2	55	2	0	2	4	153
07:45 AM	23	56	0	5	0	16	0	61	4	0	1	3	169
Total	87	190	2	14	4	52	3	224	25	0	4	14	619
08:00 AM	15	42	0	6	1	7	0	60	11	0	1	3	146
08:15 AM	27	46	0	4	1	25	2	50	12	0	1	1	169
08:30 AM	9	33	1	6	0	21	0	72	6	0	0	1	149
08:45 AM	16	50	0	1	2	15	1	52	1	0	0	1	139
Total	67	171	1	17	4	68	3	234	30	0	2	6	603
Grand Total	154	361	3	31	8	120	6	458	55	0	6	20	1222
Apprch %	29.7	69.7	0.6	19.5	5	75.5	1.2	88.2	10.6	0	23.1	76.9	
Total %	12.6	29.5	0.2	2.5	0.7	9.8	0.5	37.5	4.5	0	0.5	1.6	

	Route 13 From North				Milford St (Route 130) From East				Route 13 From South				Quimby Rd From West				Int. Total
Start Time	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 07:30 AM																	
07:30 AM	22	47	0	69	3	0	16	19	2	55	2	59	0	2	4	6	153
07:45 AM	23	56	0	79	5	0	16	21	0	61	4	65	0	1	3	4	169
08:00 AM	15	42	0	57	6	1	7	14	0	60	11	71	0	1	3	4	146
08:15 AM	27	46	0	73	4	1	25	30	2	50	12	64	0	1	1	2	169
Total Volume	87	191	0	278	18	2	64	84	4	226	29	259	0	5	11	16	637
% App. Total	31.3	68.7	0		21.4	2.4	76.2		1.5	87.3	11.2		0	31.2	68.8		
PHF	.806	.853	.000	.880	.750	.500	.640	.700	.500	.926	.604	.912	.000	.625	.688	.667	.942

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 7

## Groups Printed- Trucks

	Route 13 From North			Milford St (Route 130) From East			Route 13 From South			Quimby Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	4	0	0	0	0	0	2	0	0	0	0	6
07:15 AM	2	2	0	0	0	1	0	0	0	0	0	0	5
07:30 AM	0	3	0	0	0	2	0	0	0	0	0	0	5
07:45 AM	0	2	0	0	0	0	0	3	0	0	0	0	5
Total	2	11	0	0	0	3	0	5	0	0	0	0	21
08:00 AM	3	4	0	0	0	0	0	2	0	0	0	0	9
08:15 AM	2	1	0	0	0	0	0	5	0	0	0	0	8
08:30 AM	1	0	0	0	0	1	0	3	0	0	0	0	5
08:45 AM	0	2	0	0	0	0	0	3	0	0	0	0	5
Total	6	7	0	0	0	1	0	13	0	0	0	0	27
Grand Total	8	18	0	0	0	4	0	18	0	0	0	0	48
Apprch %	30.8	69.2	0	0	0	100	0	100	0	0	0	0	
Total %	16.7	37.5	0	0	0	8.3	0	37.5	0	0	0	0	

	Route 13 From North				Milford St (Route 130) From East				Route 13 From South				Quimby Rd From West				Int. Total
Start Time	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 07:30 AM																	
07:30 AM	0	3	0	3	0	0	2	2	0	0	0	0	0	0	0	0	5
07:45 AM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
08:00 AM	3	4	0	7	0	0	0	0	0	2	0	2	0	0	0	0	9
08:15 AM	2	1	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
Total Volume	5	10	0	15	0	0	2	2	0	10	0	10	0	0	0	0	27
% App. Total	33.3	66.7	0		0	0	100		0	100	0		0	0	0		
PHF	.417	.625	.000	.536	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.750

978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 10

Groups	Printed-	Bikes	Peds
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
5	1	1	1
6	1	1	1
7	1	1	1
8	1	1	1
9	1	1	1
10	1	1	1
11	1	1	1
12	1	1	1
13	1	1	1
14	1	1	1
15	1	1	1
16	1	1	1
17	1	1	1
18	1	1	1
19	1	1	1
20	1	1	1
21	1	1	1
22	1	1	1
23	1	1	1
24	1	1	1
25	1	1	1
26	1	1	1
27	1	1	1
28	1	1	1
29	1	1	1
30	1	1	1
31	1	1	1
32	1	1	1
33	1	1	1
34	1	1	1
35	1	1	1
36	1	1	1
37	1	1	1
38	1	1	1
39	1	1	1
40	1	1	1
41	1	1	1
42	1	1	1
43	1	1	1
44	1	1	1
45	1	1	1
46	1	1	1
47	1	1	1
48	1	1	1
49	1	1	1
50	1	1	1
51	1	1	1
52	1	1	1
53	1	1	1
54	1	1	1
55	1	1	1
56	1	1	1
57	1	1	1
58	1	1	1
59	1	1	1
60	1	1	1
61	1	1	1
62	1	1	1
63	1	1	1
64	1	1	1
65	1	1	1
66	1	1	1
67	1	1	1
68	1	1	1
69	1	1	1
70	1	1	1
71	1	1	1
72	1	1	1
73	1	1	1
74	1	1	1
75	1	1	1
76	1	1	1
77	1	1	1
78	1	1	1
79	1	1	1
80	1	1	1
81	1	1	1
82	1	1	1
83	1	1	1
84	1	1	1
85	1	1	1
86	1	1	1
87	1	1	1
88	1	1	1
89	1	1	1
90	1	1	1
91	1	1	1
92	1	1	1
93	1	1	1
94	1	1	1
95	1	1	1
96	1	1	1
97	1	1	1
98	1	1	1
99	1	1	1
100	1	1	1

[illegible][illegible]

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 1

## Groups Printed- Cars - Trucks

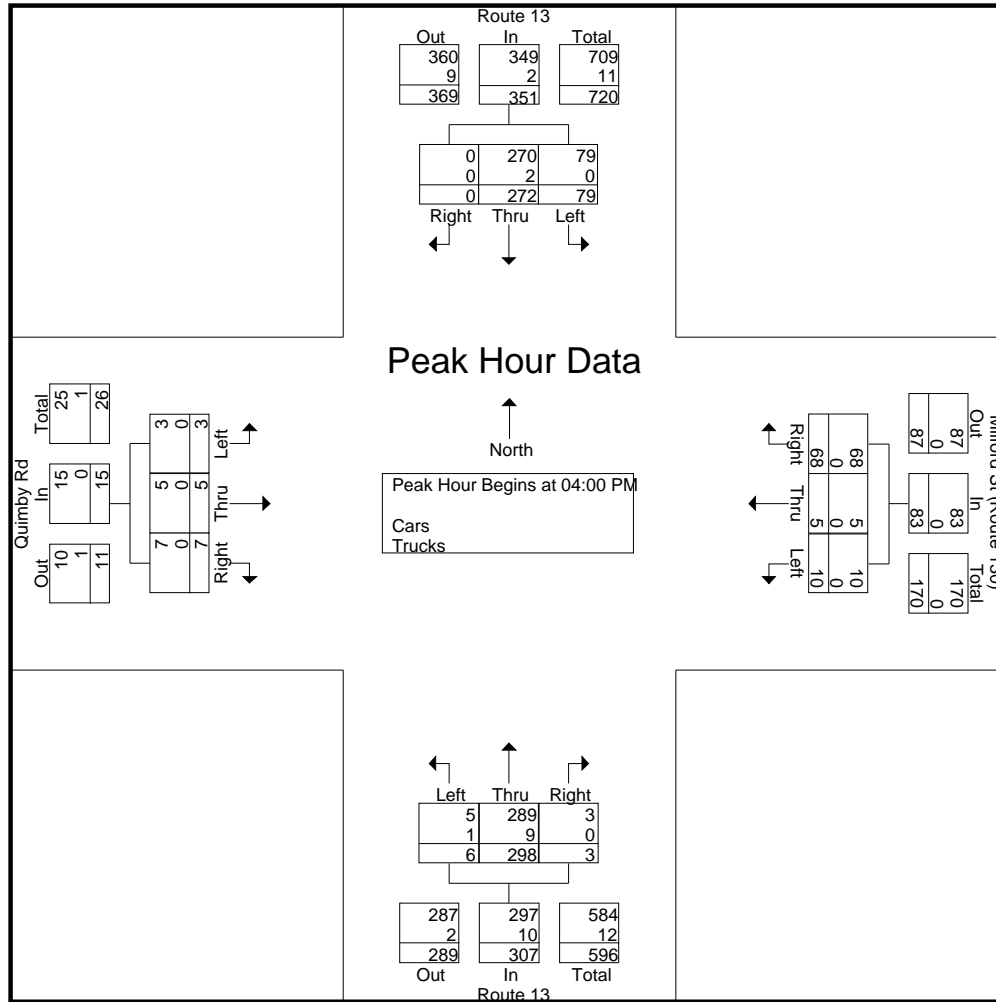
	Route 13 From North			Milford St (Route 130) From East			Route 13 From South			Quimby Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	15	74	0	1	2	15	1	82	1	1	1	2	195
04:15 PM	21	58	0	5	2	15	1	82	1	1	3	0	189
04:30 PM	14	57	0	3	0	22	3	71	0	1	1	5	177
04:45 PM	29	83	0	1	1	16	1	63	1	0	0	0	195
Total	79	272	0	10	5	68	6	298	3	3	5	7	756
05:00 PM	16	61	0	1	0	19	1	60	2	0	1	2	163
05:15 PM	15	68	0	3	0	23	2	73	2	0	0	2	188
05:30 PM	19	63	0	3	2	21	3	68	3	0	1	1	184
05:45 PM	13	52	0	1	1	12	0	51	3	0	0	1	134
Total	63	244	0	8	3	75	6	252	10	0	2	6	669
Grand Total	142	516	0	18	8	143	12	550	13	3	7	13	1425
Apprch %	21.6	78.4	0	10.7	4.7	84.6	2.1	95.7	2.3	13	30.4	56.5	
Total %	10	36.2	0	1.3	0.6	10	0.8	38.6	0.9	0.2	0.5	0.9	
Cars	142	512	0	18	8	143	11	539	13	3	7	13	1409
% Cars	100	99.2	0	100	100	100	91.7	98	100	100	100	100	98.9
Trucks	0	4	0	0	0	0	1	11	0	0	0	0	16
% Trucks	0	0.8	0	0	0	0	8.3	2	0	0	0	0	1.1

	Route 13 From North				Milford St (Route 130) From East				Route 13 From South				Quimby Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	15	74	0	89	1	2	15	18	1	82	1	84	1	1	2	4	195
04:15 PM	21	58	0	79	5	2	15	22	1	82	1	84	1	3	0	4	189
04:30 PM	14	57	0	71	3	0	22	25	3	71	0	74	1	1	5	7	177
04:45 PM	29	83	0	112	1	1	16	18	1	63	1	65	0	0	0	0	195
Total Volume	79	272	0	351	10	5	68	83	6	298	3	307	3	5	7	15	756
% App. Total	22.5	77.5	0		12	6	81.9		2	97.1	1		20	33.3	46.7		
PHF	.681	.819	.000	.783	.500	.625	.773	.830	.500	.909	.750	.914	.750	.417	.350	.536	.969
Cars	79	270	0	349	10	5	68	83	5	289	3	297	3	5	7	15	744
% Cars	100	99.3	0	99.4	100	100	100	100	83.3	97.0	100	96.7	100	100	100	100	98.4
Trucks	0	2	0	2	0	0	0	0	1	9	0	10	0	0	0	0	12
% Trucks	0	0.7	0	0.6	0	0	0	0	16.7	3.0	0	3.3	0	0	0	0	1.6

**Accurate Counts**  
978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 2

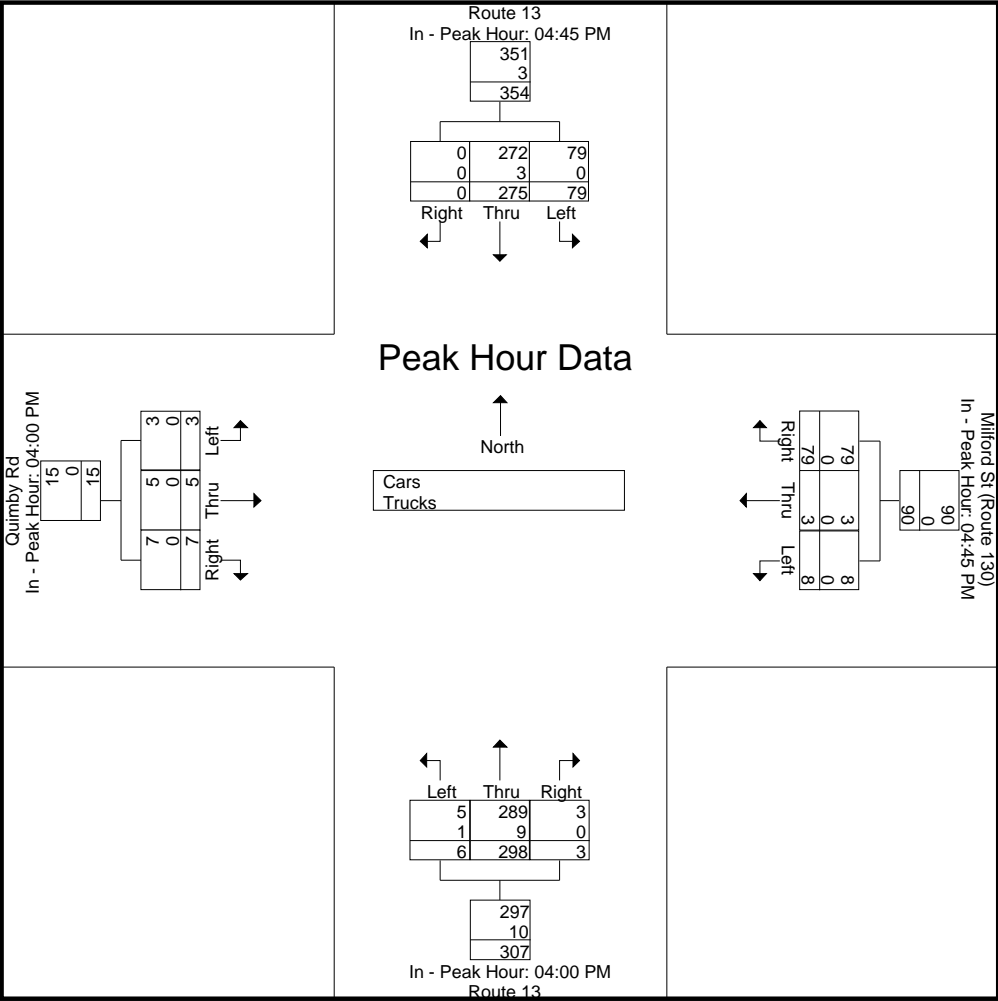


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:00 PM				04:00 PM			
+0 mins.	<b>29</b>	<b>83</b>	0	<b>112</b>	1	1	16	18	1	<b>82</b>	<b>1</b>	<b>84</b>	1	1	2	4
+15 mins.	16	61	0	77	1	0	19	20	1	82	1	84	1	<b>3</b>	0	4
+30 mins.	15	68	0	83	<b>3</b>	0	<b>23</b>	<b>26</b>	<b>3</b>	71	0	74	1	1	<b>5</b>	<b>7</b>
+45 mins.	19	63	0	82	3	<b>2</b>	21	26	1	63	1	65	0	0	0	0
Total Volume	79	275	0	354	8	3	79	90	6	298	3	307	3	5	7	15
% App. Total	22.3	77.7	0		8.9	3.3	87.8		2	97.1	1		20	33.3	46.7	
PHF	.681	.828	.000	.790	.667	.375	.859	.865	.500	.909	.750	.914	.750	.417	.350	.536
Cars	79	272	0	351	8	3	79	90	5	289	3	297	3	5	7	15
% Cars	100	98.9	0	99.2	100	100	100	100	83.3	97	100	96.7	100	100	100	100
Trucks	0	3	0	3	0	0	0	0	1	9	0	10	0	0	0	0
% Trucks	0	1.1	0	0.8	0	0	0	0	16.7	3	0	3.3	0	0	0	0

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 3



# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 4

## Groups Printed- Cars

	Route 13 From North			Milford St (Route 130) From East			Route 13 From South			Quimby Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	15	73	0	1	2	15	0	80	1	1	1	2	191
04:15 PM	21	58	0	5	2	15	1	80	1	1	3	0	187
04:30 PM	14	57	0	3	0	22	3	69	0	1	1	5	175
04:45 PM	29	82	0	1	1	16	1	60	1	0	0	0	191
Total	79	270	0	10	5	68	5	289	3	3	5	7	744
05:00 PM	16	61	0	1	0	19	1	60	2	0	1	2	163
05:15 PM	15	67	0	3	0	23	2	72	2	0	0	2	186
05:30 PM	19	62	0	3	2	21	3	67	3	0	1	1	182
05:45 PM	13	52	0	1	1	12	0	51	3	0	0	1	134
Total	63	242	0	8	3	75	6	250	10	0	2	6	665
Grand Total	142	512	0	18	8	143	11	539	13	3	7	13	1409
Apprch %	21.7	78.3	0	10.7	4.7	84.6	2	95.7	2.3	13	30.4	56.5	
Total %	10.1	36.3	0	1.3	0.6	10.1	0.8	38.3	0.9	0.2	0.5	0.9	

	Route 13 From North				Milford St (Route 130) From East				Route 13 From South				Quimby Rd From West				Int. Total
Start Time	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 04:00 PM																	
04:00 PM	15	73	0	88	1	2	15	18	0	<b>80</b>	1	81	1	1	2	4	<b>191</b>
04:15 PM	21	58	0	79	5	2	15	22	1	80	1	82	1	3	0	4	187
04:30 PM	14	57	0	71	3	0	22	25	3	69	0	72	1	1	5	7	175
04:45 PM	29	82	0	111	1	1	16	18	1	60	1	62	0	0	0	0	191
Total Volume	79	270	0	349	10	5	68	83	5	289	3	297	3	5	7	15	744
% App. Total	22.6	77.4	0		12	6	81.9		1.7	97.3	1		20	33.3	46.7		
PHF	.681	.823	.000	.786	.500	.625	.773	.830	.417	.903	.750	.905	.750	.417	.350	.536	.974

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 7

## Groups Printed- Trucks

	Route 13 From North			Milford St (Route 130) From East			Route 13 From South			Quimby Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	1	0	0	0	0	1	2	0	0	0	0	4
04:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
04:45 PM	0	1	0	0	0	0	0	3	0	0	0	0	4
Total	0	2	0	0	0	0	1	9	0	0	0	0	12
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
05:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	0	2	0	0	0	0	4
Grand Total	0	4	0	0	0	0	1	11	0	0	0	0	16
Apprch %	0	100	0	0	0	0	8.3	91.7	0	0	0	0	
Total %	0	25	0	0	0	0	6.2	68.8	0	0	0	0	

	Route 13 From North				Milford St (Route 130) From East				Route 13 From South				Quimby Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	1	0	1	0	0	0	0	1	2	0	3	0	0	0	0	4
04:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
04:45 PM	0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	4
Total Volume	0	2	0	2	0	0	0	0	1	9	0	10	0	0	0	0	12
% App. Total	0	100	0		0	0	0		10	90	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.250	.750	.000	.833	.000	.000	.000	.000	.750

# Accurate Counts

978-664-2565

N/S Street : Route 13  
E/W Street : Milford St (Rte130)/Quimby Rd  
City/State : Brookline, NH  
Weather : Cloudy

File Name : 89190002  
Site Code : 89190002  
Start Date : 3/31/2021  
Page No : 10

## Groups Printed- Bikes Peds

	Route 13 From North				Milford St (Route 130) From East				Route 13 From South				Quimby Rd From West				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	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	0	0
Total	0	0	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	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
Total	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	2
Grand Total	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	2
Apprch %	0	100	0		0	0	0		0	0	100		0	0	0				
Total %	0	50	0		0	0	0		0	0	50		0	0	0		0	100	

	Route 13 From North				Milford St (Route 130) From East				Route 13 From South				Quimby Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
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	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
% App. Total	0	100	0		0	0	0		0	0	100		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.500

## SEASONAL ADJUSTMENT DATA

---



# Year 2019 Monthly Data

Town: Temple  
 Station: 02445001  
 Location: NH 101 at Wilton TL (west of Old County Farm Rd)  
 Group: 4

<u>Month</u>	<u>ADT</u>	<u>Adjustment to Average</u>	<u>Adjustment to Peak</u>
January	6,257	1.20	1.38
February	6,591	1.14	1.31
March	7,072	1.07	1.22
April	7,641	0.99	1.13
May	8,298	0.91	1.04
June	8,386	0.90	1.03
July	8,329	0.91	1.03
August	8,609	0.88	1.00
September	8,157	0.92	1.06
October*	7,611	0.99	1.13
November	7,064	1.07	1.22
December	6,454	1.17	1.33

AADT: 7,538  
 Peak Month: 8,609

*\* Indicates an estimated value. Do not use as data.*

## COVID-19 ADJUSTMENT DATA

---



## **COVID Adjustments**

### **March 2019 Average Count Data – Sta. 02445001**

Average Daily Traffic Volume: 7,072       $7,072 * (1.01)^4 = 7,360$

Average Weekday Morning Peak-Hour Traffic Volume: 414       $414 * (1.01)^4 = 431$

Average Weekday Evening Peak-Hour Traffic Volume: 570       $570 * (1.01)^4 = 594$

### **March 2023 Average Count Data – Sta. 02445001**

Average Daily Traffic Volume: 6,282

Average Weekday Morning Peak-Hour Traffic Volume: 388

Average Weekday Evening Peak-Hour Traffic Volume: 491

## **COVID Adjustments**

Average Daily COVID Adjustment:  $\frac{7,360}{6,282} = 1.172$

Weekday Morning Peak-Hour COVID Adjustment:  $\frac{431}{388} = 1.111$

Weekday Evening Peak-Hour COVID Adjustment:  $\frac{594}{491} = 1.210$

**March ADT Volumes are approximately 17.2% below Pre-COVID conditions**

## PUBLIC TRANSPORTATION SCHEDULES





# Service Application

[www.SouheganValleyRides.org](http://www.SouheganValleyRides.org) [Info@SouheganValleyRides.org](mailto:Info@SouheganValleyRides.org)



The **Souhegan Valley Transportation Collaborative** in partnership with the **Nashua Transit System** provides **Souhegan Valley Rides**, a curb-to-curb, handicapped accessible, dial-a-ride type bus service, to residents of Amherst, Brookline, Hollis, Milford, Mont Vernon and Wilton. Priority is given for rides needed by senior citizens and residents living with a disability, and for rides to non-emergency healthcare appointments. Other types of rides are available and other residents are welcome to use the service as the schedule allows. There is a \$2 fare each way. Call **880-0100 ext. 2** at least 48-hours in advance to arrange a ride. If you need to change or cancel a ride, please call as soon as possible preferably at least 24 hours in advance.

**Note: Due to funding limitations - If you have Medicaid health insurance, please call your insurance provider to arrange transportation to your non-emergency medical appointments through their services.**

## Information about the applicant

Name \_\_\_\_\_ DOB: \_\_\_\_\_

Address \_\_\_\_\_

Town \_\_\_\_\_ Zip \_\_\_\_\_

Phone (h) \_\_\_\_\_ (w) \_\_\_\_\_ (cell) \_\_\_\_\_

Email address \_\_\_\_\_

Emergency Contact Name \_\_\_\_\_

Relationship to Applicant \_\_\_\_\_ Phone (best daytime) \_\_\_\_\_

As a general rule, do you travel with a: ☐ Cane ☐ Walker ☐ Scooter ☐ Wheelchair  
☐ Personal Care Assistant ☐ Service Animal

Do you have any condition or impairment that substantially limits one or more of your major life activities (i.e. walking, seeing, learning, breathing, hearing, daily chores, work etc)? ☐ No ☐ Yes

Do you receive any disability income or payments? ☐ No ☐ Yes (please indicate below)

☐ ANB (Aid to the Needy Blind) ☐ APTD (Aid to Perm/Temp Disabled) ☐ Employer Disability

☐ SSI/SSDI (SS Disability) ☐ VA Disability ☐ Other (please specify): \_\_\_\_\_

How did you hear about the bus service? ☐ SHARE Outreach ☐ Newspaper ☐ Friend

☐ Internet ☐ Town Welfare ☐ Other (please specify): \_\_\_\_\_

Signature of Applicant \_\_\_\_\_ Date \_\_\_\_\_

**Please mail completed form to - Nashua Transit System 11 Riverside Street Nashua, NH 03062**



## No-Show and Cancellation Policy

**(Please read and keep for your records)**



The Souhegan Valley Transportation Collaborative (SVTC) and the Nashua Transit System (NTS) would like to provide all the transit service that is requested in our service area. Misuse of the bus service, such as excessive No-Shows or Cancellations, prevents us from providing as much service as would be possible.

Therefore, it is very important that riders call to cancel any trips that they no longer need so that our staff can offer a ride to other eligible riders. It is equally important that riders avoid scheduling trips that they are uncertain will be needed, as spaces in the daily schedule are reserved and often are not used when riders habitually cancel their scheduled trips.

No-shows and “last minute” ride cancellations are major contributors to service costs and system inefficiency. Rides that are canceled too late to schedule another trip in their place can often result in wasted expense and unused capacity. Failure to cancel a ride with enough advance notice (at least 2 hours prior to beginning of the pick-up time) negatively impacts the service for everyone.

### What is a No-Show?

A No-Show is when a passenger or their representative has scheduled a ride and:

- The vehicle arrives on time, but the passenger no longer wants the ride, or
- The vehicle arrives on time, but the driver cannot locate the passenger at the requested pick-up location, or
- The vehicle arrives on time, waits for 5 minutes, but the passenger is not ready to go, or
- The passenger or their representative calls to cancel a scheduled ride *less than 2 hours* before the start of the scheduled pick-up window. This type of late cancellation will be considered a No-Show

We recognize that sometimes “things happen” beyond your control that cause you to miss a pick-up time or be late to cancel a ride. Some examples include - you have a sudden illness and are hospitalized, or your Doctor cancels an appointment at the “last minute”. Allowances can be made in situations that are “beyond your reasonable control”. Please contact Nashua Transit to review these situations as they occur and especially if you receive a “No-Show” or “Service Suspension” letter. All passengers are entitled to appeal service related decisions to Nashua Transit and the Souhegan Valley Transportation Collaborative.

**What If You Need To Cancel A Ride?** If you need to cancel a ride, please call Nashua Transit (880-0100 ext. 2) as soon as possible. Whenever possible, please call at least a day in advance to cancel a ride, and preferably by 12 noon the day before the scheduled ride. *Rides canceled less than 2 hours before the scheduled pick-up time will be considered a No-Show.* Please remember to let the dispatcher know if you also are canceling your ride home or any other rides scheduled for that day. The earlier you cancel a ride reservation, the greater the chance that Nashua Transit can accommodate another passenger’s ride request.

.....continued on back page

## **What If Your Appointment Is Running Late?**

If your appointment is running later than you expected and there is a chance you will not be ready for your scheduled return trip, call or ask the office staff to call Nashua Transit as soon as possible (880-0100 ext.2). The NTS dispatchers will work with you to adjust the pick-up schedule and you can avoid being assessed a “No-Show” for missing your originally scheduled ride. Please be aware that the new pick-up time may be later than your request.

*If a passenger demonstrates a pattern or practice of missing scheduled trips or not canceling trips within the required time, that person's eligibility to use the service may be suspended for fifteen (15) business days. Passengers will receive written reminder letters about no-show events and, if warranted, a letter of suspension in the mail. If a passenger believes that an error has been made, it is their responsibility to call NTS upon receipt of the letter. These rules were developed in conformance with federal regulations and industry standards.*

## **How can you help us and how can you avoid penalties?**

- Be ready. Remember the drivers can only wait 5 minutes for a passenger to board the bus
- Only schedule rides you plan to take
- Call in advance to cancel rides you no longer need

**Helpful Hint:** There is more space available in the schedule for shopping rides on Mondays and Tuesdays! Try shopping earlier the week! For safety reasons, NTS will continue to limit each passenger to only two shopping bags. Folding shopping carts are an option – call for more info.

**Helpful Hint:** Allow extra time for medical appointments or other appointments that may take longer than expected. This will reduce the extra costs of sending an additional vehicle.

**Helpful Hint:** Don't hesitate to ask the office staff at your appointment location for help making a call to adjust your pick-up time. They want you to be able to get home safely too.

**Helpful Hint:** When scheduling your appointments and rides, be sure that the place you are going to will be open when the bus drops you off at that destination. Given our New England winters, this is important to remember for your safety and health.

**Important Reminder:** Priority will be given for non-emergency healthcare appointments. Rides to other destinations and for shopping in Nashua and the Six Towns may or may not be available on any given day due to availability in the daily schedule. Please continue to call at least two business days in advance to request a ride and we will make every effort to accommodate your request!

**Important Reminder:** Rides to/from Nashua – Will arrive in Nashua no earlier than 10 AM and last pick-ups to return home will depart Nashua by 4 PM. Please schedule your appointments around these times.

**Important Update:** During 2019, the Blue Bus experienced periods of very large increases in ride requests to the point where demand for the service was exceeding our operational and funding resources. Effective August 12, 2019, in periods when ride requests are extremely high, *NTS may need to temporarily limit passengers to 3 (three) non-healthcare related rides per week* in order to serve as many passengers as possible. Thank you in advance for your patience when this occurs!

**Six Towns served – Amherst, Brookline, Hollis, Milford, Mont Vernon and Wilton**

## VEHICLE SPEED DATA

---



Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919SP01

NB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
03/31/21	0	0	0	0	0	0	0	2	4	1	0	0	0	0	7
01:00	0	0	0	0	0	0	1	1	3	0	0	0	0	0	5
02:00	0	0	0	0	0	0	2	4	1	1	0	0	0	0	8
03:00	0	0	0	0	0	0	1	3	0	1	0	0	0	0	5
04:00	0	0	0	0	1	1	4	13	8	0	1	1	1	0	30
05:00	0	0	0	0	0	1	6	37	22	4	0	0	0	0	70
06:00	0	0	0	0	0	3	32	82	47	5	1	0	0	0	170
07:00	0	0	0	0	3	7	30	145	78	11	1	0	0	0	275
08:00	0	0	0	2	2	9	64	139	88	8	0	0	0	0	312
09:00	0	0	0	0	10	10	41	94	57	8	2	0	0	0	222
10:00	0	3	0	0	1	9	41	100	53	8	1	0	0	0	216
11:00	0	0	0	2	2	9	46	102	40	11	0	0	0	0	212
12 PM	0	0	0	0	2	13	58	118	50	4	0	0	0	0	245
13:00	0	0	0	0	5	8	59	121	79	11	0	0	0	0	283
14:00	0	0	0	1	2	14	61	122	88	11	1	0	0	0	300
15:00	0	0	0	0	8	12	74	187	93	5	0	0	0	0	379
16:00	0	0	1	2	2	5	52	184	97	16	1	0	0	0	360
17:00	0	0	1	0	3	6	49	152	101	16	0	0	0	0	328
18:00	0	0	0	0	0	5	31	95	55	9	1	0	0	0	196
19:00	0	0	0	0	0	2	28	45	28	2	0	0	0	0	105
20:00	0	0	0	1	0	5	17	30	28	1	0	0	0	0	82
21:00	0	0	0	0	0	3	11	18	10	3	0	0	0	0	45
22:00	0	0	0	0	0	2	12	11	6	2	0	0	0	0	33
23:00	0	0	0	0	1	2	2	9	7	0	0	0	0	0	21
Total	0	3	2	8	42	126	722	1814	1043	138	9	1	1	0	3909

Daily

15th Percentile : 42 MPH  
50th Percentile : 47 MPH  
85th Percentile : 52 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 48 MPH  
10 MPH Pace Speed : 46-55 MPH  
Number in Pace : 2857  
Percent in Pace : 73.1%  
Number of Vehicles > 50 MPH : 1192  
Percent of Vehicles > 50 MPH : 30.5%

Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919SP01

NB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/01/21	0	0	0	0	0	0	4	4	3	0	0	0	0	0	11
01:00	0	0	0	0	0	0	2	1	1	0	0	0	0	0	4
02:00	0	0	0	0	3	1	2	5	0	0	0	0	0	0	11
03:00	0	0	0	0	0	1	2	3	1	0	0	0	0	0	7
04:00	0	0	0	0	0	1	6	9	10	1	0	0	0	0	27
05:00	0	0	0	0	0	1	10	34	17	1	0	0	0	0	63
06:00	0	0	0	4	2	5	38	69	39	2	0	0	0	0	159
07:00	0	0	0	3	2	9	52	130	53	5	0	0	0	0	254
08:00	0	0	0	0	0	20	77	128	52	4	0	0	0	0	281
09:00	0	0	0	0	0	10	56	106	28	4	0	0	0	0	204
10:00	0	0	2	2	3	14	59	98	28	2	1	0	0	0	209
11:00	0	0	0	1	0	14	83	106	52	5	0	0	0	0	261
12 PM	0	0	0	1	0	15	100	112	46	8	0	0	0	0	282
13:00	0	0	0	3	1	15	72	134	64	2	1	0	0	0	292
14:00	0	0	0	2	5	26	65	145	65	3	0	0	0	0	311
15:00	0	1	0	0	3	17	106	206	68	5	0	0	0	0	406
16:00	0	0	0	1	12	19	94	190	87	4	0	0	0	0	407
17:00	0	0	0	0	0	20	90	180	88	13	0	0	0	0	391
18:00	0	0	0	0	0	9	48	111	63	2	0	0	0	0	233
19:00	0	0	0	0	0	4	41	51	36	9	1	0	0	0	142
20:00	0	0	0	0	1	3	19	29	27	1	1	0	0	0	81
21:00	0	0	0	0	1	0	16	29	13	7	0	0	0	0	66
22:00	0	0	0	0	0	2	8	8	9	1	0	0	0	0	28
23:00	0	0	0	0	0	0	2	8	12	1	0	0	0	0	23
Total	0	1	2	17	33	206	1052	1896	862	80	4	0	0	0	4153

Daily

15th Percentile : 41 MPH  
50th Percentile : 47 MPH  
85th Percentile : 51 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 47 MPH  
10 MPH Pace Speed : 41-50 MPH  
Number in Pace : 2948  
Percent in Pace : 71.0%  
Number of Vehicles > 50 MPH : 946  
Percent of Vehicles > 50 MPH : 22.8%

Grand Total	0	4	4	25	75	332	1774	3710	1905	218	13	1	1	0	8062
-------------	---	---	---	----	----	-----	------	------	------	-----	----	---	---	---	------

Overall

15th Percentile : 42 MPH  
50th Percentile : 47 MPH  
85th Percentile : 52 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 48 MPH  
10 MPH Pace Speed : 46-55 MPH  
Number in Pace : 5615  
Percent in Pace : 69.6%  
Number of Vehicles > 50 MPH : 2138  
Percent of Vehicles > 50 MPH : 26.5%

Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919SP01

SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
03/31/21	0	0	0	0	0	0	5	9	2	0	0	0	0	0	16
01:00	0	0	0	0	0	0	0	4	3	0	0	0	0	0	7
02:00	0	0	0	0	1	1	3	5	2	1	0	0	0	1	14
03:00	0	0	0	0	0	2	0	4	9	1	0	0	0	0	16
04:00	0	0	0	0	0	0	6	4	10	3	0	0	0	0	23
05:00	0	0	0	0	0	5	11	42	41	4	1	0	0	0	104
06:00	1	0	0	0	2	3	38	77	52	13	0	0	0	0	186
07:00	3	1	0	0	0	3	44	158	83	11	0	0	0	0	303
08:00	0	0	2	4	3	14	66	119	52	14	1	0	0	0	275
09:00	0	0	0	1	1	12	39	100	47	5	0	0	0	0	205
10:00	0	0	1	0	1	3	61	81	44	6	0	0	0	0	197
11:00	0	0	0	1	1	4	47	112	42	2	0	0	0	0	209
12 PM	0	0	2	0	3	3	66	155	42	2	0	0	0	0	273
13:00	0	0	0	0	2	17	66	120	57	7	0	0	0	0	269
14:00	0	1	0	0	0	12	83	170	50	6	0	0	0	0	322
15:00	0	0	1	0	0	14	80	128	65	6	0	0	0	0	294
16:00	0	0	0	1	1	3	66	201	77	9	0	0	0	0	358
17:00	0	0	0	1	0	14	52	153	83	10	0	0	0	0	313
18:00	0	0	0	0	1	3	41	120	73	4	0	0	0	0	242
19:00	0	0	0	0	0	5	34	71	34	4	0	0	0	0	148
20:00	0	0	0	0	0	5	18	53	27	0	0	0	0	1	104
21:00	0	0	0	0	0	0	19	37	13	4	0	0	0	0	73
22:00	0	0	0	0	0	3	8	19	12	0	0	0	0	0	42
23:00	0	0	0	0	0	1	7	10	4	0	0	0	0	0	22
Total	4	2	6	8	16	127	860	1952	924	112	2	0	0	2	4015

Daily

15th Percentile : 42 MPH  
50th Percentile : 47 MPH  
85th Percentile : 52 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 48 MPH  
10 MPH Pace Speed : 46-55 MPH  
Number in Pace : 2876  
Percent in Pace : 71.6%  
Number of Vehicles > 50 MPH : 1040  
Percent of Vehicles > 50 MPH : 25.9%

Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919SP01

SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/01/21	0	0	0	0	1	0	4	3	4	0	0	0	0	0	12
01:00	0	0	0	0	0	0	0	2	3	0	0	0	0	0	5
02:00	0	0	0	0	0	2	3	4	1	0	0	0	0	0	10
03:00	0	0	0	0	0	0	1	5	4	1	0	0	0	0	11
04:00	0	0	0	0	0	0	3	11	9	1	0	0	0	0	24
05:00	0	0	0	0	0	2	12	40	31	7	2	0	0	0	94
06:00	5	2	1	2	3	4	19	104	54	3	0	0	0	0	197
07:00	0	0	1	0	0	3	39	156	91	13	1	0	0	0	304
08:00	0	2	0	0	0	2	56	138	73	4	0	0	0	0	275
09:00	0	0	1	0	1	4	45	86	41	9	0	0	0	0	187
10:00	0	0	0	3	4	8	46	92	46	4	0	0	0	0	203
11:00	0	0	0	2	2	15	41	130	50	5	1	0	0	0	246
12 PM	0	0	0	1	8	14	61	103	66	6	1	1	0	0	261
13:00	0	0	2	1	1	10	69	147	68	10	2	0	0	0	310
14:00	0	0	0	0	7	22	44	151	107	9	0	0	0	0	340
15:00	0	0	0	2	2	7	88	202	76	9	0	0	0	0	386
16:00	0	0	0	0	0	8	36	170	109	11	0	0	0	0	334
17:00	0	0	0	0	1	9	61	177	128	13	0	0	0	0	389
18:00	0	0	0	0	0	9	30	138	95	9	1	0	0	0	282
19:00	0	0	0	1	0	2	38	71	46	9	0	0	0	0	167
20:00	0	0	0	0	0	1	30	56	37	2	1	0	0	0	127
21:00	0	0	0	0	0	1	8	33	24	4	0	0	0	0	70
22:00	0	0	0	0	2	0	4	24	13	1	0	0	0	0	44
23:00	0	0	0	0	0	0	5	11	7	2	0	0	0	0	25
Total	5	4	5	12	32	123	743	2054	1183	132	9	1	0	0	4303

Daily

15th Percentile : 43 MPH  
50th Percentile : 47 MPH  
85th Percentile : 52 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 48 MPH  
10 MPH Pace Speed : 46-55 MPH  
Number in Pace : 3237  
Percent in Pace : 75.2%  
Number of Vehicles > 50 MPH : 1325  
Percent of Vehicles > 50 MPH : 30.8%

Grand Total	9	6	11	20	48	250	1603	4006	2107	244	11	1	0	2	8318
-------------	---	---	----	----	----	-----	------	------	------	-----	----	---	---	---	------

Overall

15th Percentile : 42 MPH  
50th Percentile : 47 MPH  
85th Percentile : 52 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 48 MPH  
10 MPH Pace Speed : 46-55 MPH  
Number in Pace : 6113  
Percent in Pace : 73.5%  
Number of Vehicles > 50 MPH : 2365  
Percent of Vehicles > 50 MPH : 28.4%

Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919SP01

NB, SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
03/31/21	0	0	0	0	0	0	5	11	6	1	0	0	0	0	23
01:00	0	0	0	0	0	0	1	5	6	0	0	0	0	0	12
02:00	0	0	0	0	1	1	5	9	3	2	0	0	0	1	22
03:00	0	0	0	0	0	2	1	7	9	2	0	0	0	0	21
04:00	0	0	0	0	1	1	10	17	18	3	1	1	1	0	53
05:00	0	0	0	0	0	6	17	79	63	8	1	0	0	0	174
06:00	1	0	0	0	2	6	70	159	99	18	1	0	0	0	356
07:00	3	1	0	0	3	10	74	303	161	22	1	0	0	0	578
08:00	0	0	2	6	5	23	130	258	140	22	1	0	0	0	587
09:00	0	0	0	1	11	22	80	194	104	13	2	0	0	0	427
10:00	0	3	1	0	2	12	102	181	97	14	1	0	0	0	413
11:00	0	0	0	3	3	13	93	214	82	13	0	0	0	0	421
12 PM	0	0	2	0	5	16	124	273	92	6	0	0	0	0	518
13:00	0	0	0	0	7	25	125	241	136	18	0	0	0	0	552
14:00	0	1	0	1	2	26	144	292	138	17	1	0	0	0	622
15:00	0	0	1	0	8	26	154	315	158	11	0	0	0	0	673
16:00	0	0	1	3	3	8	118	385	174	25	1	0	0	0	718
17:00	0	0	1	1	3	20	101	305	184	26	0	0	0	0	641
18:00	0	0	0	0	1	8	72	215	128	13	1	0	0	0	438
19:00	0	0	0	0	0	7	62	116	62	6	0	0	0	0	253
20:00	0	0	0	1	0	10	35	83	55	1	0	0	0	1	186
21:00	0	0	0	0	0	3	30	55	23	7	0	0	0	0	118
22:00	0	0	0	0	0	5	20	30	18	2	0	0	0	0	75
23:00	0	0	0	0	1	3	9	19	11	0	0	0	0	0	43
Total	4	5	8	16	58	253	1582	3766	1967	250	11	1	1	2	7924

Daily

15th Percentile : 42 MPH  
50th Percentile : 47 MPH  
85th Percentile : 52 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 48 MPH  
10 MPH Pace Speed : 46-55 MPH  
Number in Pace : 5733  
Percent in Pace : 72.3%  
Number of Vehicles > 50 MPH : 2232  
Percent of Vehicles > 50 MPH : 28.2%

Location : Route 13  
Location : North of Route 130  
City/State: Brookline, NH

8919SP01

NB, SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/01/21	0	0	0	0	1	0	8	7	7	0	0	0	0	0	23
01:00	0	0	0	0	0	0	2	3	4	0	0	0	0	0	9
02:00	0	0	0	0	3	3	5	9	1	0	0	0	0	0	21
03:00	0	0	0	0	0	1	3	8	5	1	0	0	0	0	18
04:00	0	0	0	0	0	1	9	20	19	2	0	0	0	0	51
05:00	0	0	0	0	0	3	22	74	48	8	2	0	0	0	157
06:00	5	2	1	6	5	9	57	173	93	5	0	0	0	0	356
07:00	0	0	1	3	2	12	91	286	144	18	1	0	0	0	558
08:00	0	2	0	0	0	22	133	266	125	8	0	0	0	0	556
09:00	0	0	1	0	1	14	101	192	69	13	0	0	0	0	391
10:00	0	0	2	5	7	22	105	190	74	6	1	0	0	0	412
11:00	0	0	0	3	2	29	124	236	102	10	1	0	0	0	507
12 PM	0	0	0	2	8	29	161	215	112	14	1	1	0	0	543
13:00	0	0	2	4	2	25	141	281	132	12	3	0	0	0	602
14:00	0	0	0	2	12	48	109	296	172	12	0	0	0	0	651
15:00	0	1	0	2	5	24	194	408	144	14	0	0	0	0	792
16:00	0	0	0	1	12	27	130	360	196	15	0	0	0	0	741
17:00	0	0	0	0	1	29	151	357	216	26	0	0	0	0	780
18:00	0	0	0	0	0	18	78	249	158	11	1	0	0	0	515
19:00	0	0	0	1	0	6	79	122	82	18	1	0	0	0	309
20:00	0	0	0	0	1	4	49	85	64	3	2	0	0	0	208
21:00	0	0	0	0	1	1	24	62	37	11	0	0	0	0	136
22:00	0	0	0	0	2	2	12	32	22	2	0	0	0	0	72
23:00	0	0	0	0	0	0	7	19	19	3	0	0	0	0	48
Total	5	5	7	29	65	329	1795	3950	2045	212	13	1	0	0	8456

Daily

15th Percentile : 42 MPH  
50th Percentile : 47 MPH  
85th Percentile : 52 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 48 MPH  
10 MPH Pace Speed : 46-55 MPH  
Number in Pace : 5995  
Percent in Pace : 70.9%  
Number of Vehicles > 50 MPH : 2271  
Percent of Vehicles > 50 MPH : 26.9%

Grand Total	9	10	15	45	123	582	3377	7716	4012	462	24	2	1	2	16380
-------------	---	----	----	----	-----	-----	------	------	------	-----	----	---	---	---	-------

Overall

15th Percentile : 42 MPH  
50th Percentile : 47 MPH  
85th Percentile : 52 MPH  
95th Percentile : 54 MPH

Mean Speed(Average) : 48 MPH  
10 MPH Pace Speed : 46-55 MPH  
Number in Pace : 11728  
Percent in Pace : 71.6%  
Number of Vehicles > 50 MPH : 4503  
Percent of Vehicles > 50 MPH : 27.5%

## GROWTH RATE DATA

---



Proposed Residential Development  
Brookline, NH

General Background Traffic Growth - Daily Traffic Volumes

CITY/TOWN	ROUTE/STREET	LOCATION	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average Annual
Temple	Gibbons Highway	West of Old County Farm Road	7,629	7,575	7,223	7,208	7,229	7,353	7,389	7,486	7,499	7,418	7,538	0.02%
Amherst	NH Route 101A	West of Overlook Drive	31,000	30,889	30,130	29,968	29,902	30,111	30,504	31,109	30,988	30,752	31,121	0.14%
Nashua	FE Everett Turnpike North	Between Exits 5 and 6	117,000	120,000	114,349	116,405	117,735	120,827	124,280	123,875	124,932	125,001	125,544	0.84%
														0.33%

## TRIP GENERATION DATA

---



# Single-Family Attached Housing (215)

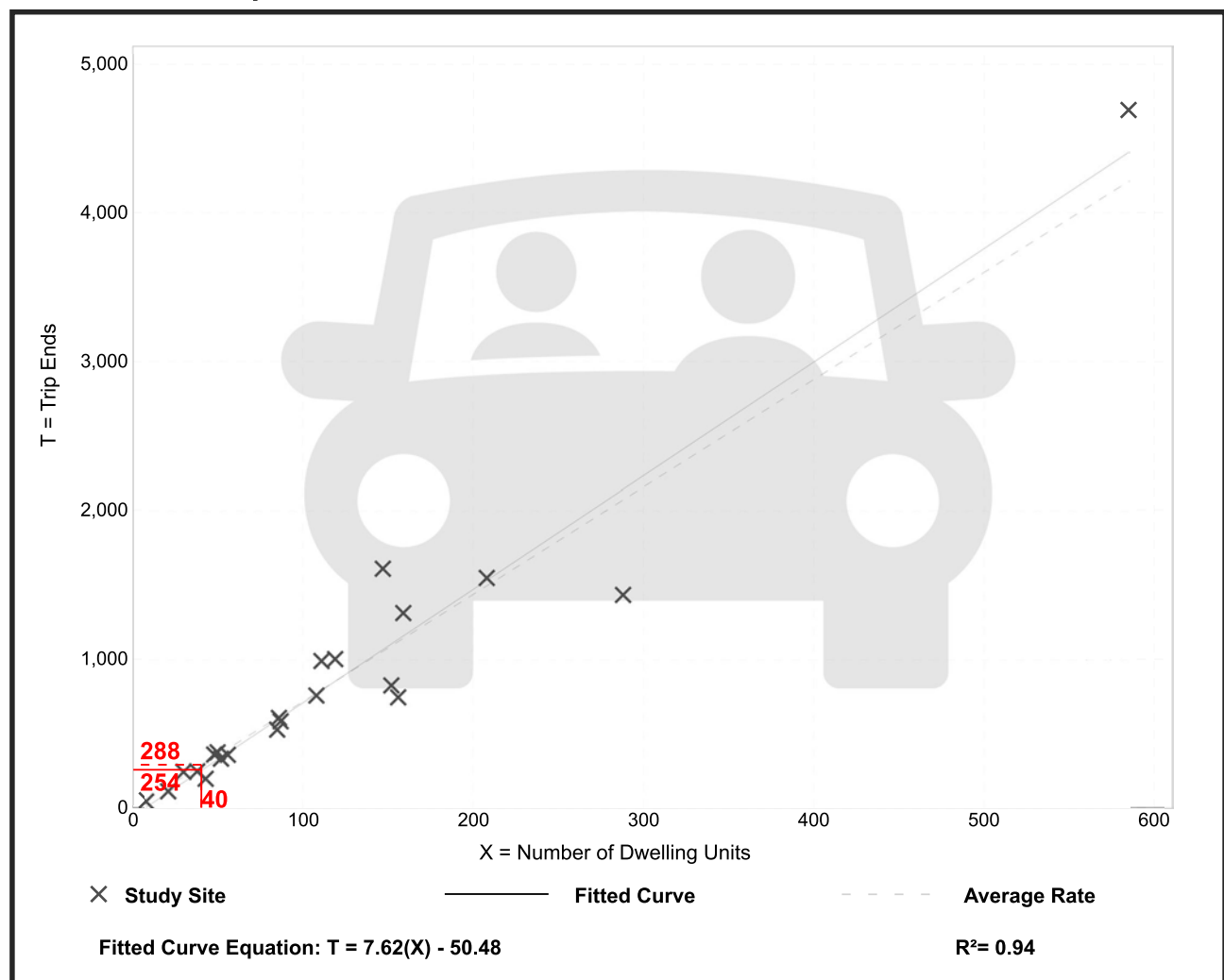
Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 22  
Avg. Num. of Dwelling Units: 120  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.20	4.70 - 10.97	1.61

## Data Plot and Equation



# Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

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

Setting/Location: General Urban/Suburban

Number of Studies: 46

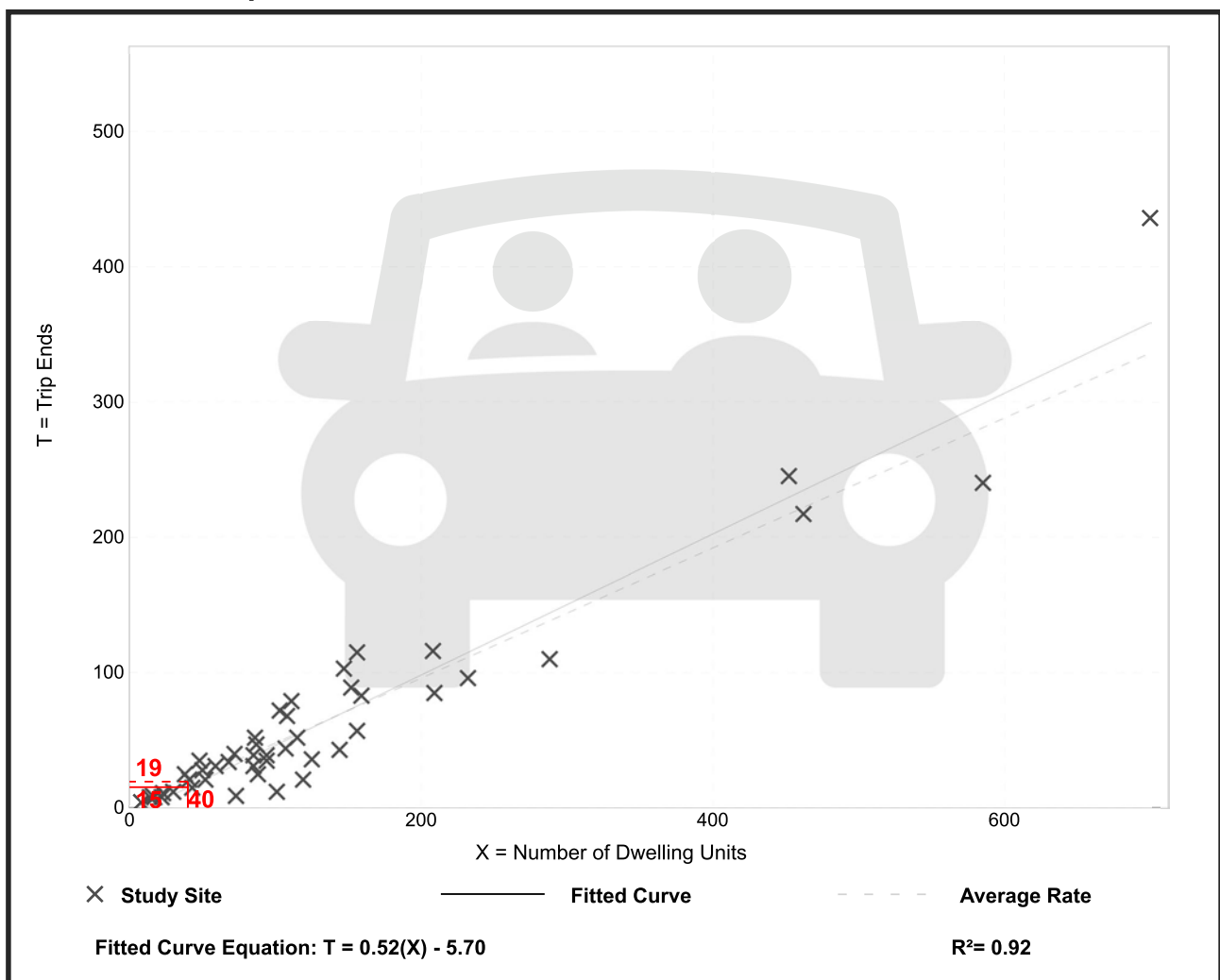
Avg. Num. of Dwelling Units: 135

Directional Distribution: 25% entering, 75% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

## Data Plot and Equation



# Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,  
Peak Hour of Adjacent Street Traffic,  
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 51

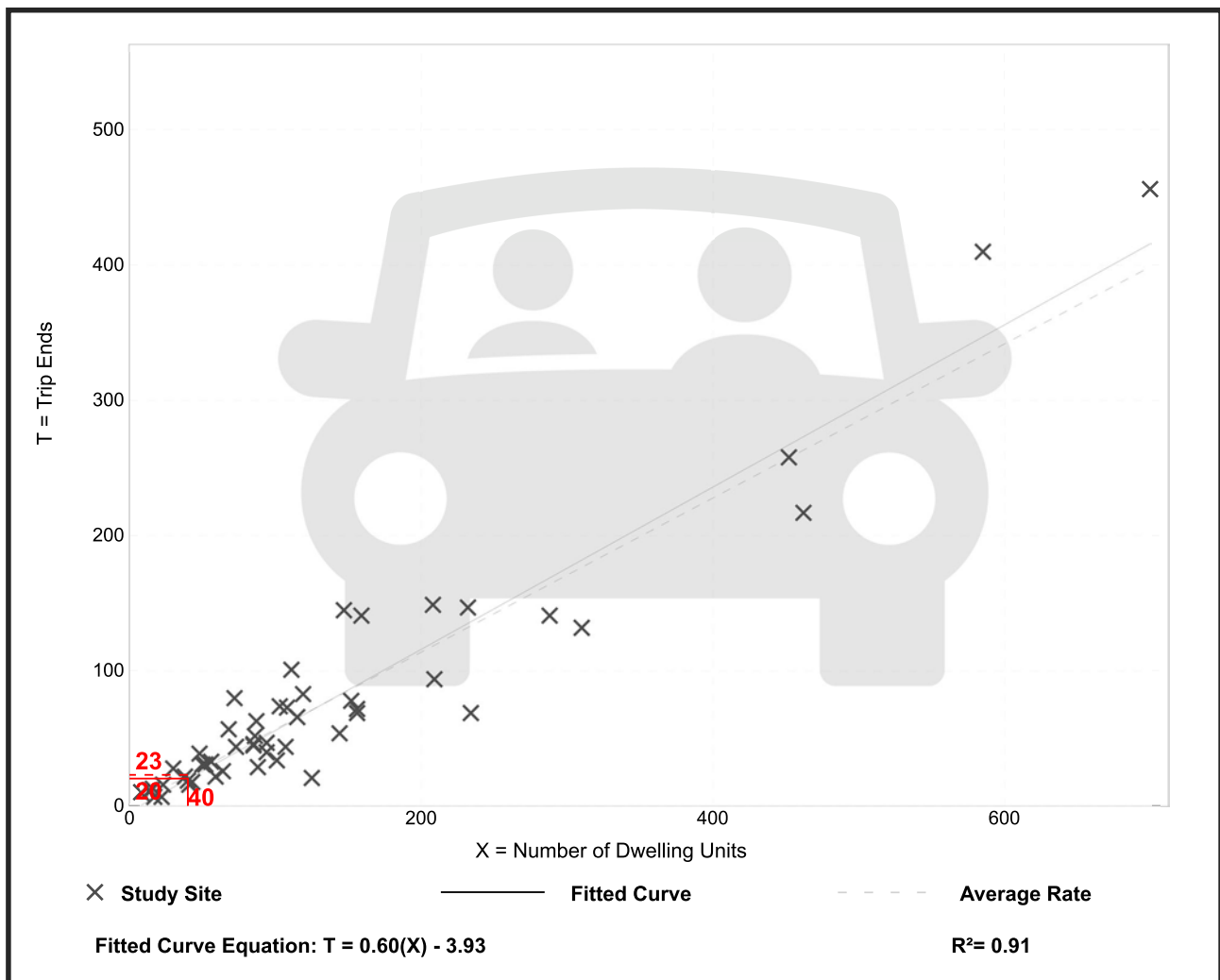
Avg. Num. of Dwelling Units: 136

Directional Distribution: 59% entering, 41% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

## Data Plot and Equation



# Senior Adult Housing - Multifamily (252)

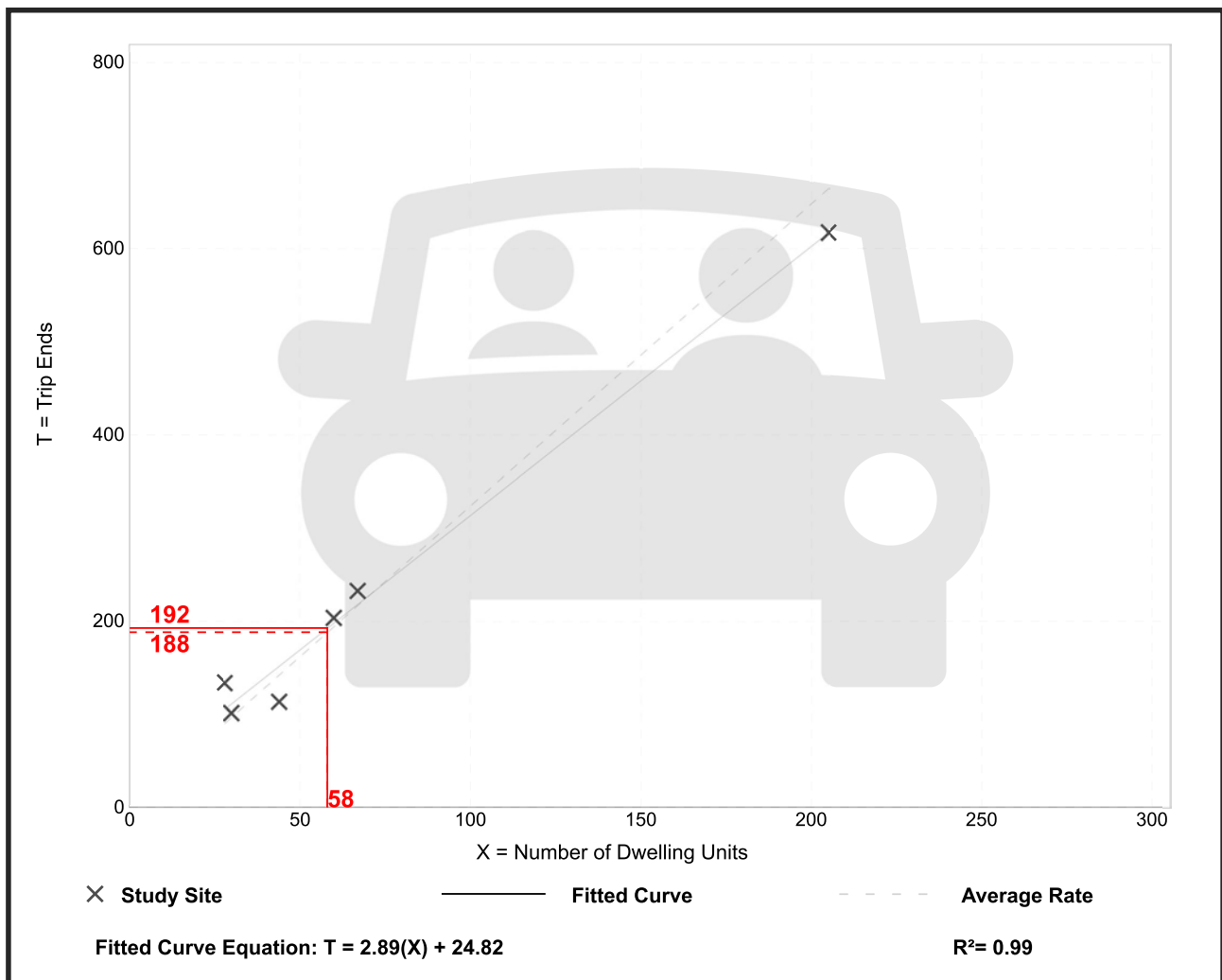
Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 6  
Avg. Num. of Dwelling Units: 72  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
3.24	2.59 - 4.79	0.53

## Data Plot and Equation



# Senior Adult Housing - Multifamily (252)

Vehicle Trip Ends vs: Dwelling Units

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

Setting/Location: General Urban/Suburban

Number of Studies: 9

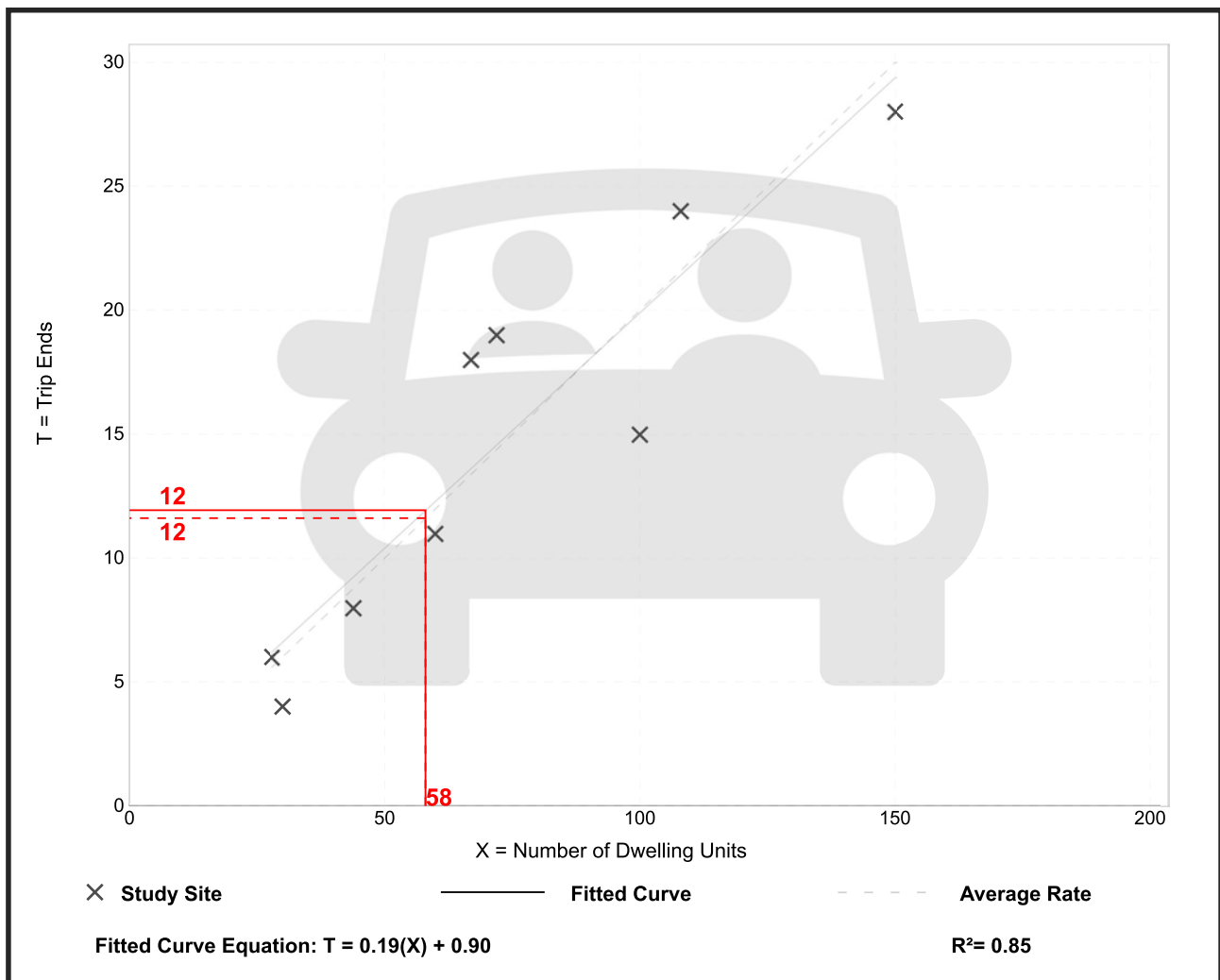
Avg. Num. of Dwelling Units: 73

Directional Distribution: 34% entering, 66% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.20	0.13 - 0.27	0.04

## Data Plot and Equation



# Senior Adult Housing - Multifamily (252)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,  
Peak Hour of Adjacent Street Traffic,  
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 9

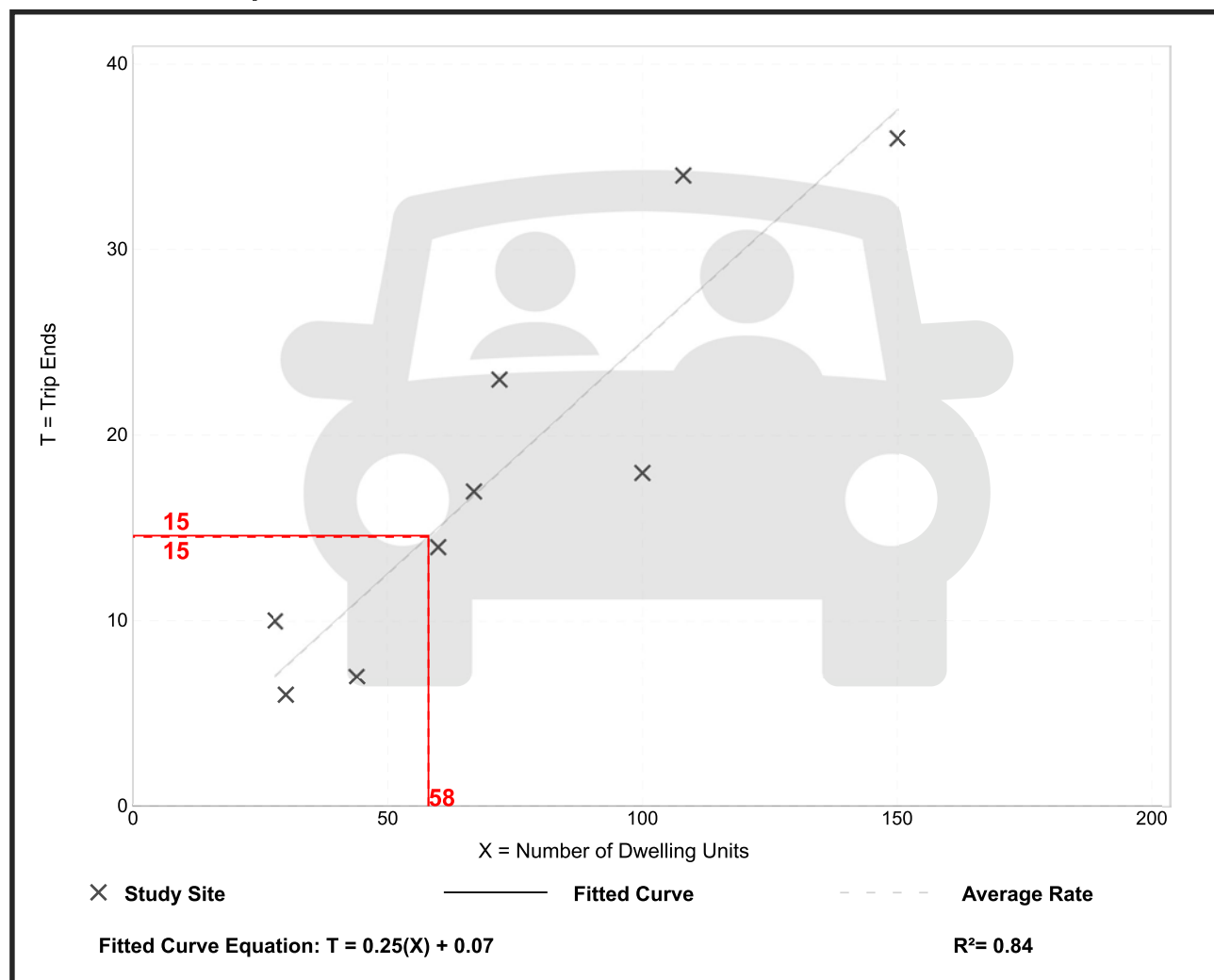
Avg. Num. of Dwelling Units: 73

Directional Distribution: 56% entering, 44% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.25	0.16 - 0.36	0.06

## Data Plot and Equation



## TRIP DISTRIBUTION DATA

---



**Table 3. Residence MCD/County to Workplace MCD/County Commuting Flows for the United States and Puerto Rico Sorted by Residence Geography: 5-Year ACS, 2011-2015**

For more information on sampling and estimation methods, confidentiality protection, and sampling and nonsampling errors, see <<http://www2.census.gov/programs-universe/workers16yearsandover>>.

Commuting flows are sorted by residence state, residence county, and residence minor civil division.

Residence					Place of Work				Commuting Flow
State FIPS Code	County FIPS Code	State Name	County Name	Minor Civil Division Name	State FIPS Code	State Name	County Name	Minor Civil Division Name	Workers in Commuting Flow
33	011	New	Hillsborou	Brookline	033	New	Hillsborou	Brookline	539
33	011	New	Hillsborou	Brookline	033	New	Hillsborou	Nashua city	529
33	011	New	Hillsborou	Brookline	033	New	Hillsborou	Milford	200
33	011	New	Hillsborou	Brookline	033	New	Hillsborou	Merrimack	183
33	011	New	Hillsborou	Brookline	033	New	Hillsborou	Mancheste	127
									2,792
									1,578

19%

34%

19%

34%

7%

13%

7%

12%

5%

8%

Exiting				Entering				%
Trip Distribution				Trip Disribution				
	Route 13 (North)	Route 13 (South)	Route 130 (South)		Route 13 (North)	Route 13 (South)	Route 130 (South)	
%				%				
1	161.7	323.4	53.9	539	161.7	323.4	53.9	539
1	264.5	264.5	0	529	264.5	264.5	0	529
1	200	0	0	200	200	0	0	200
1	183	0	0	183	183	0	0	183
1	127	0	0	127	127	0	0	127
	936.2	587.9	53.9	1578	936.2	587.9	53.9	1578
	59%	37%	3%		59%	37%	3%	
USE	60%	35%	5%	100%	60%	35%	5%	

## CAPACITY ANALYSIS

---

2024 Existing Weekday Morning Peak Month Peak Hour  
2024 Existing Weekday Evening Peak Month Peak Hour  
2025 Opening Year No-Build Weekday Morning Peak Month Peak Hour  
2025 Opening Year No-Build Weekday Evening Peak Month Peak Hour  
2035 Design Year No-Build Weekday Morning Peak Month Peak Hour  
2035 Design Year No-Build Weekday Evening Peak Month Peak Hour  
2025 Opening Year Build Weekday Morning Peak Month Peak Hour  
2025 Opening Year Build Weekday Evening Peak Month Peak Hour  
2035 Design Year Build Weekday Morning Peak Month Peak Hour  
2035 Design Year Build Weekday Evening Peak Month Peak Hour






2024 Existing Weekday Morning Peak Month Peak Hour

---



2024 Existing Weekday Morning Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	3	1	373	300	7
Future Vol, veh/h	1	3	1	373	300	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	50	50	78	78	90	90
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	2	6	1	478	333	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	817	337	341	0	-	0
Stage 1	337	-	-	-	-	-
Stage 2	480	-	-	-	-	-
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	349	710	1229	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	349	710	1229	-	-	-
Mov Cap-2 Maneuver	349	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1229	-	564	-	-	
HCM Lane V/C Ratio	0.001	-	0.014	-	-	
HCM Control Delay (s)	7.9	0	11.5	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

2024 Existing Weekday Morning Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	6	13	21	2	76	5	273	34	107	233	0
Future Vol, veh/h	0	6	13	21	2	76	5	273	34	107	233	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	72	72	72	92	92	92	90	90	90
Heavy Vehicles, %	0	0	0	0	0	3	0	4	0	5	5	0
Mvmt Flow	0	9	19	29	3	106	5	297	37	119	259	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	877	841	259	837	823	316	259	0	0	334	0	0
Stage 1	497	497	-	326	326	-	-	-	-	-	-	-
Stage 2	380	344	-	511	497	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.23	4.1	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.245	-	-
Pot Cap-1 Maneuver	271	303	785	288	311	722	1317	-	-	1209	-	-
Stage 1	559	548	-	691	652	-	-	-	-	-	-	-
Stage 2	646	640	-	549	548	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	212	272	785	253	279	722	1317	-	-	1209	-	-
Mov Cap-2 Maneuver	212	272	-	253	279	-	-	-	-	-	-	-
Stage 1	557	494	-	688	649	-	-	-	-	-	-	-
Stage 2	547	637	-	474	494	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.8		14.7		0.1		2.6	
HCM LOS	B		B					




Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1317	-	-	492	507	1209	-
HCM Lane V/C Ratio	0.004	-	-	0.058	0.271	0.098	-
HCM Control Delay (s)	7.7	-	-	12.8	14.7	8.3	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.1	0.3	-

2024 Existing Weekday Evening Peak Month Peak Hour



2024 Existing Weekday Evening Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	459	440	4
Future Vol, veh/h	5	0	0	459	440	4
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	33	33	88	88	85	85
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	15	0	0	522	518	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1043	521	523	0	-	0
Stage 1	521	-	-	-	-	-
Stage 2	522	-	-	-	-	-
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	256	559	1054	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	256	559	1054	-	-	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.9	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1054	-	256	-	-	
HCM Lane V/C Ratio	-	-	0.059	-	-	
HCM Control Delay (s)	0	-	19.9	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

2024 Existing Weekday Evening Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	6	9	13	6	86	8	376	4	100	343	0
Future Vol, veh/h	4	6	9	13	6	86	8	376	4	100	343	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	83	83	83	91	91	91	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	17	3	0	0	1	0
Mvmt Flow	7	11	17	16	7	104	9	413	4	128	440	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1185	1131	440	1143	1129	415	440	0	0	417	0	0
Stage 1	696	696	-	433	433	-	-	-	-	-	-	-
Stage 2	489	435	-	710	696	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.27	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.353	-	-	2.2	-	-
Pot Cap-1 Maneuver	167	205	621	179	206	642	1045	-	-	1153	-	-
Stage 1	435	446	-	605	585	-	-	-	-	-	-	-
Stage 2	564	584	-	428	446	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	124	181	621	151	181	642	1045	-	-	1153	-	-
Mov Cap-2 Maneuver	124	181	-	151	181	-	-	-	-	-	-	-
Stage 1	431	396	-	600	580	-	-	-	-	-	-	-
Stage 2	463	579	-	360	396	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.7		17.4		0.2		1.9	
HCM LOS	C		C					




Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1045	-	-	238	415	1153	-
HCM Lane V/C Ratio	0.008	-	-	0.148	0.305	0.111	-
HCM Control Delay (s)	8.5	-	-	22.7	17.4	8.5	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	1.3	0.4	-

2025 Opening Year No-Build Weekday Morning Peak Month Peak Hour



2025 Opening Year No-Build Weekday Morning Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	3	1	377	303	7
Future Vol, veh/h	1	3	1	377	303	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	50	50	78	78	90	90
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	2	6	1	483	337	8

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	826	341	345	0	-	0
Stage 1	341	-	-	-	-	-
Stage 2	485	-	-	-	-	-
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	345	706	1225	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	345	706	1225	-	-	-
Mov Cap-2 Maneuver	345	-	-	-	-	-
Stage 1	724	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1225	-	560	-	-
HCM Lane V/C Ratio	0.001	-	0.014	-	-
HCM Control Delay (s)	7.9	0	11.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2025 Opening Year No-Build Weekday Morning Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	6	13	21	2	77	5	276	34	108	235	0
Future Vol, veh/h	0	6	13	21	2	77	5	276	34	108	235	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	72	72	72	92	92	92	90	90	90
Heavy Vehicles, %	0	0	0	0	0	3	0	4	0	5	5	0
Mvmt Flow	0	9	19	29	3	107	5	300	37	120	261	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	885	848	261	844	830	319	261	0	0	337	0	0
Stage 1	501	501	-	329	329	-	-	-	-	-	-	-
Stage 2	384	347	-	515	501	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.23	4.1	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.245	-	-
Pot Cap-1 Maneuver	268	301	783	285	308	719	1315	-	-	1206	-	-
Stage 1	556	546	-	688	650	-	-	-	-	-	-	-
Stage 2	643	638	-	546	546	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	209	270	783	250	276	719	1315	-	-	1206	-	-
Mov Cap-2 Maneuver	209	270	-	250	276	-	-	-	-	-	-	-
Stage 1	554	491	-	685	647	-	-	-	-	-	-	-
Stage 2	543	635	-	471	491	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.8		14.8		0.1		2.6	
HCM LOS	B		B					




Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1315	-	-	489	504	1206	-
HCM Lane V/C Ratio	0.004	-	-	0.058	0.276	0.1	-
HCM Control Delay (s)	7.7	-	-	12.8	14.8	8.3	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.1	0.3	-

2025 Opening Year No-Build Weekday Evening Peak Month Peak Hour



2025 Opening Year No-Build Weekday Evening Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	464	445	4
Future Vol, veh/h	5	0	0	464	445	4
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	33	33	88	88	85	85
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	15	0	0	527	524	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1054	527	529	0	-	0
Stage 1	527	-	-	-	-	-
Stage 2	527	-	-	-	-	-
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	252	555	1048	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	252	555	1048	-	-	-
Mov Cap-2 Maneuver	252	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	20.2	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1048	-	252	-	-	
HCM Lane V/C Ratio	-	-	0.06	-	-	
HCM Control Delay (s)	0	-	20.2	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

2025 Opening Year No-Build Weekday Evening Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	6	9	13	6	87	8	380	4	101	347	0
Future Vol, veh/h	4	6	9	13	6	87	8	380	4	101	347	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	83	83	83	91	91	91	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	17	3	0	0	1	0
Mvmt Flow	7	11	17	16	7	105	9	418	4	129	445	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1197	1143	445	1155	1141	420	445	0	0	422	0	0
Stage 1	703	703	-	438	438	-	-	-	-	-	-	-
Stage 2	494	440	-	717	703	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.27	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.353	-	-	2.2	-	-
Pot Cap-1 Maneuver	164	202	617	175	202	638	1040	-	-	1148	-	-
Stage 1	431	443	-	601	582	-	-	-	-	-	-	-
Stage 2	561	581	-	424	443	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	121	178	617	147	178	638	1040	-	-	1148	-	-
Mov Cap-2 Maneuver	121	178	-	147	178	-	-	-	-	-	-	-
Stage 1	427	393	-	596	577	-	-	-	-	-	-	-
Stage 2	459	576	-	356	393	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	23.1		17.7		0.2		1.9	
HCM LOS	C		C					




Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1040	-	-	234 410	1148	-	-
HCM Lane V/C Ratio	0.008	-	-	0.15 0.311	0.113	-	-
HCM Control Delay (s)	8.5	-	-	23.1 17.7	8.5	-	-
HCM Lane LOS	A	-	-	C C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5 1.3	0.4	-	-

2035 Design Year No-Build Weekday Morning Peak Month Peak Hour



2035 Design Year No-Build Weekday Morning Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	3	1	416	335	8
Future Vol, veh/h	1	3	1	416	335	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	50	50	78	78	90	90
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	2	6	1	533	372	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	912	377	381	0	-	0
Stage 1	377	-	-	-	-	-
Stage 2	535	-	-	-	-	-
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	307	674	1189	-	-	-
Stage 1	698	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	307	674	1189	-	-	-
Mov Cap-2 Maneuver	307	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1189	-	519	-	-
HCM Lane V/C Ratio	0.001	-	0.015	-	-
HCM Control Delay (s)	8	0	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2035 Design Year No-Build Weekday Morning Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024




Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↘		↙	↘	
Traffic Vol, veh/h	0	7	14	23	2	85	6	305	37	119	260	0
Future Vol, veh/h	0	7	14	23	2	85	6	305	37	119	260	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	72	72	72	92	92	92	90	90	90
Heavy Vehicles, %	0	0	0	0	0	3	0	4	0	5	5	0
Mvmt Flow	0	10	21	32	3	118	7	332	40	132	289	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	980	939	289	935	919	352	289	0	0	372	0	0
Stage 1	553	553	-	366	366	-	-	-	-	-	-	-
Stage 2	427	386	-	569	553	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.23	4.1	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.245	-	-
Pot Cap-1 Maneuver	231	266	755	248	273	689	1284	-	-	1170	-	-
Stage 1	521	518	-	657	626	-	-	-	-	-	-	-
Stage 2	610	614	-	511	518	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	173	235	755	212	241	689	1284	-	-	1170	-	-
Mov Cap-2 Maneuver	173	235	-	212	241	-	-	-	-	-	-	-
Stage 1	518	459	-	654	623	-	-	-	-	-	-	-
Stage 2	500	611	-	431	459	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	13.9		16.7			0.1			2.7			
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1284	-	-	435	458	1170	-	-				
HCM Lane V/C Ratio	0.005	-	-	0.072	0.334	0.113	-	-				
HCM Control Delay (s)	7.8	-	-	13.9	16.7	8.5	-	-				
HCM Lane LOS	A	-	-	B	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	1.4	0.4	-	-				

2035 Design Year No-Build Weekday Evening Peak Month Peak Hour



2035 Design Year No-Build Weekday Evening Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	0	0	512	491	4
Future Vol, veh/h	6	0	0	512	491	4
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	33	33	88	88	85	85
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	18	0	0	582	578	5

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1163	581	583	0	-	0
Stage 1	581	-	-	-	-	-
Stage 2	582	-	-	-	-	-
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	217	517	1001	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	217	517	1001	-	-	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	563	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1001	-	217	-	-
HCM Lane V/C Ratio	-	-	0.084	-	-
HCM Control Delay (s)	0	-	23.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

2035 Design Year No-Build Weekday Evening Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	7	10	14	7	96	9	420	4	111	383	0
Future Vol, veh/h	4	7	10	14	7	96	9	420	4	111	383	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	83	83	83	91	91	91	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	17	3	0	0	1	0
Mvmt Flow	7	13	19	17	8	116	10	462	4	142	491	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1321	1261	491	1275	1259	464	491	0	0	466	0	0
Stage 1	775	775	-	484	484	-	-	-	-	-	-	-
Stage 2	546	486	-	791	775	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.27	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.353	-	-	2.2	-	-
Pot Cap-1 Maneuver	135	172	582	145	172	602	999	-	-	1106	-	-
Stage 1	394	411	-	568	555	-	-	-	-	-	-	-
Stage 2	526	554	-	386	411	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	93	148	582	117	148	602	999	-	-	1106	-	-
Mov Cap-2 Maneuver	93	148	-	117	148	-	-	-	-	-	-	-
Stage 1	390	358	-	562	549	-	-	-	-	-	-	-
Stage 2	414	548	-	314	358	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28	21.4	0.2	2
HCM LOS	D	C		




Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	999	-	-	195	358	1106	-
HCM Lane V/C Ratio	0.01	-	-	0.199	0.394	0.129	-
HCM Control Delay (s)	8.6	-	-	28	21.4	8.7	-
HCM Lane LOS	A	-	-	D	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	1.8	0.4	-

2025 Opening Year Build Weekday Morning Peak Month Peak Hour



2025 Opening Year Build Weekday Morning Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	3	1	381	312	7
Future Vol, veh/h	1	3	1	381	312	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	50	50	78	78	90	90
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	2	6	1	488	347	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	841	351	355	0	-	0
Stage 1	351	-	-	-	-	-
Stage 2	490	-	-	-	-	-
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	338	697	1215	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	338	697	1215	-	-	-
Mov Cap-2 Maneuver	338	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.6	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1215	-	551	-	-	
HCM Lane V/C Ratio	0.001	-	0.015	-	-	
HCM Control Delay (s)	8	0	11.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

2025 Opening Year Build Weekday Morning Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	6	13	21	2	78	5	279	34	109	243	0
Future Vol, veh/h	0	6	13	21	2	78	5	279	34	109	243	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	72	72	72	92	92	92	90	90	90
Heavy Vehicles, %	0	0	0	0	0	3	0	4	0	5	5	0
Mvmt Flow	0	9	19	29	3	108	5	303	37	121	270	0




Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	899	862	270	858	844	322	270	0	0	340	0	0
Stage 1	512	512	-	332	332	-	-	-	-	-	-	-
Stage 2	387	350	-	526	512	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.23	4.1	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.245	-	-
Pot Cap-1 Maneuver	262	295	774	279	302	717	1305	-	-	1203	-	-
Stage 1	548	540	-	686	648	-	-	-	-	-	-	-
Stage 2	641	636	-	539	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	203	264	774	244	270	717	1305	-	-	1203	-	-
Mov Cap-2 Maneuver	203	264	-	244	270	-	-	-	-	-	-	-
Stage 1	546	485	-	683	645	-	-	-	-	-	-	-
Stage 2	540	633	-	464	485	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13		15		0.1		2.6	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1305	-	-	481	499	1203	-
HCM Lane V/C Ratio	0.004	-	-	0.059	0.281	0.101	-
HCM Control Delay (s)	7.8	-	-	13	15	8.3	-
HCM Lane LOS	A	-	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.1	0.3	-

2025 Opening Year Build Weekday Morning Peak Hour  
3: Route 13 & Project Site Driveway

01/08/2024




Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	13	378	4	5	310
Future Vol, veh/h	9	13	378	4	5	310
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	90	90	78	78
Heavy Vehicles, %	0	0	5	0	0	5
Mvmt Flow	10	14	420	4	6	397
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	831	422	0	0	424	0
Stage 1	422	-	-	-	-	-
Stage 2	409	-	-	-	-	-
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	342	636	-	-	1146	-
Stage 1	666	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	340	636	-	-	1146	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	13.1	0	0.1			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	469	1146	-	
HCM Lane V/C Ratio	-	-	0.051	0.006	-	
HCM Control Delay (s)	-	-	13.1	8.2	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

2025 Opening Year Build Weekday Evening Peak Month Peak Hour



2025 Opening Year Build Weekday Evening Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	473	451	4
Future Vol, veh/h	5	0	0	473	451	4
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	33	33	88	88	85	85
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	15	0	0	538	531	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1072	534	536	0	-	0
Stage 1	534	-	-	-	-	-
Stage 2	538	-	-	-	-	-
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	246	550	1042	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	589	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	246	550	1042	-	-	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	589	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	20.6	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1042	-	246	-	-	
HCM Lane V/C Ratio	-	-	0.062	-	-	
HCM Control Delay (s)	0	-	20.6	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

2025 Opening Year Build Weekday Evening Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	6	9	13	6	88	8	388	4	102	352	0
Future Vol, veh/h	4	6	9	13	6	88	8	388	4	102	352	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	83	83	83	91	91	91	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	17	3	0	0	1	0
Mvmt Flow	7	11	17	16	7	106	9	426	4	131	451	0




Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1216	1161	451	1173	1159	428	451	0	0	430	0	0
Stage 1	713	713	-	446	446	-	-	-	-	-	-	-
Stage 2	503	448	-	727	713	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.27	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.353	-	-	2.2	-	-
Pot Cap-1 Maneuver	159	197	613	171	197	631	1035	-	-	1140	-	-
Stage 1	426	438	-	595	577	-	-	-	-	-	-	-
Stage 2	555	576	-	419	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	116	173	613	143	173	631	1035	-	-	1140	-	-
Mov Cap-2 Maneuver	116	173	-	143	173	-	-	-	-	-	-	-
Stage 1	422	388	-	590	572	-	-	-	-	-	-	-
Stage 2	452	571	-	350	388	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	23.7		18		0.2		1.9	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1035	-	-	227 404	1140	-	-
HCM Lane V/C Ratio	0.008	-	-	0.155 0.319	0.115	-	-
HCM Control Delay (s)	8.5	-	-	23.7 18	8.6	-	-
HCM Lane LOS	A	-	-	C C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5 1.4	0.4	-	-

2025 Opening Year Build Weekday Evening Peak Hour  
3: Route 13 & Project Site Driveway

01/08/2024

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	10	469	9	13	449
Future Vol, veh/h	6	10	469	9	13	449
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	88	88	85	85
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	7	11	533	10	15	528

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1096	538	0	0	543
Stage 1	538	-	-	-	-
Stage 2	558	-	-	-	-
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	238	547	-	-	1036
Stage 1	589	-	-	-	-
Stage 2	577	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	233	547	-	-	1036
Mov Cap-2 Maneuver	233	-	-	-	-
Stage 1	589	-	-	-	-
Stage 2	565	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0.2
HCM LOS	C		




Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	363	1036
HCM Lane V/C Ratio	-	-	0.048	0.015
HCM Control Delay (s)	-	-	15.4	8.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0

2035 Design Year Build Weekday Morning Peak Month Peak Hour



2035 Design Year Build Weekday Morning Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	3	1	420	344	8
Future Vol, veh/h	1	3	1	420	344	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	50	50	78	78	90	90
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	2	6	1	538	382	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	927	387	391	0	-	0
Stage 1	387	-	-	-	-	-
Stage 2	540	-	-	-	-	-
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	300	665	1179	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	300	665	1179	-	-	-
Mov Cap-2 Maneuver	300	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	588	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1179	-	510	-	-
HCM Lane V/C Ratio	0.001	-	0.016	-	-
HCM Control Delay (s)	8.1	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2035 Design Year Build Weekday Morning Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	7	14	23	2	86	6	308	37	120	268	0
Future Vol, veh/h	0	7	14	23	2	86	6	308	37	120	268	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	72	72	72	92	92	92	90	90	90
Heavy Vehicles, %	0	0	0	0	0	3	0	4	0	5	5	0
Mvmt Flow	0	10	21	32	3	119	7	335	40	133	298	0




Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	994	953	298	949	933	355	298	0	0	375	0	0
Stage 1	564	564	-	369	369	-	-	-	-	-	-	-
Stage 2	430	389	-	580	564	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.23	4.1	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.245	-	-
Pot Cap-1 Maneuver	226	261	746	242	268	687	1275	-	-	1167	-	-
Stage 1	514	512	-	655	624	-	-	-	-	-	-	-
Stage 2	607	612	-	504	512	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	168	230	746	206	236	687	1275	-	-	1167	-	-
Mov Cap-2 Maneuver	168	230	-	206	236	-	-	-	-	-	-	-
Stage 1	511	454	-	652	621	-	-	-	-	-	-	-
Stage 2	496	609	-	424	454	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.1		17		0.1		2.6	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1275	-	-	427	452	1167	-
HCM Lane V/C Ratio	0.005	-	-	0.073	0.341	0.114	-
HCM Control Delay (s)	7.8	-	-	14.1	17	8.5	-
HCM Lane LOS	A	-	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.5	0.4	-

2035 Design Year Build Weekday Morning Peak Hour  
3: Route 13 & Project Site Driveway

01/08/2024

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	13	417	4	5	343
Future Vol, veh/h	9	13	417	4	5	343
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	90	90	78	78
Heavy Vehicles, %	0	0	5	0	0	5
Mvmt Flow	10	14	463	4	6	440

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	917	465	0	0	467
Stage 1	465	-	-	-	-
Stage 2	452	-	-	-	-
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	304	602	-	-	1105
Stage 1	636	-	-	-	-
Stage 2	645	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	302	602	-	-	1105
Mov Cap-2 Maneuver	302	-	-	-	-
Stage 1	636	-	-	-	-
Stage 2	640	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0.1
HCM LOS	B		




Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	428	1105
HCM Lane V/C Ratio	-	-	0.056	0.006
HCM Control Delay (s)	-	-	13.9	8.3
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

2035 Design Year Build Weekday Evening Peak Month Peak Hour



2035 Design Year Build Weekday Evening Peak Hour  
1: Route 13 & Quimby Road

01/08/2024

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	0	0	521	497	4
Future Vol, veh/h	6	0	0	521	497	4
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	33	33	88	88	85	85
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	18	0	0	592	585	5

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1180	588	590	0	-	0
Stage 1	588	-	-	-	-	-
Stage 2	592	-	-	-	-	-
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	212	513	995	-	-	-
Stage 1	559	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	212	513	995	-	-	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	559	-	-	-	-	-
Stage 2	557	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	995	-	212	-	-
HCM Lane V/C Ratio	-	-	0.086	-	-
HCM Control Delay (s)	0	-	23.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

2035 Design Year Build Weekday Evening Peak Hour  
2: Route 13 & Quimby Road/Route 130

01/08/2024




Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↵		↵	↵	
Traffic Vol, veh/h	4	7	10	14	7	97	9	428	4	112	388	0
Future Vol, veh/h	4	7	10	14	7	97	9	428	4	112	388	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	450	-	-	460	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	83	83	83	91	91	91	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	17	3	0	0	1	0
Mvmt Flow	7	13	19	17	8	117	10	470	4	144	497	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1340	1279	497	1293	1277	472	497	0	0	474	0	0
Stage 1	785	785	-	492	492	-	-	-	-	-	-	-
Stage 2	555	494	-	801	785	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.27	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.353	-	-	2.2	-	-
Pot Cap-1 Maneuver	131	167	577	141	168	596	994	-	-	1099	-	-
Stage 1	389	407	-	562	551	-	-	-	-	-	-	-
Stage 2	520	550	-	381	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	90	144	577	114	144	596	994	-	-	1099	-	-
Mov Cap-2 Maneuver	90	144	-	114	144	-	-	-	-	-	-	-
Stage 1	385	354	-	556	545	-	-	-	-	-	-	-
Stage 2	407	545	-	309	354	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	28.8		21.9			0.2			2			
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	994	-	-	190	353	1099	-	-				
HCM Lane V/C Ratio	0.01	-	-	0.205	0.403	0.131	-	-				
HCM Control Delay (s)	8.7	-	-	28.8	21.9	8.8	-	-				
HCM Lane LOS	A	-	-	D	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.7	1.9	0.4	-	-				

2035 Design Year Build Weekday Evening Peak Hour  
3: Route 13 & Project Site Driveway

01/08/2024

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	10	518	9	13	495
Future Vol, veh/h	6	10	518	9	13	495
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	88	88	85	85
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	7	11	589	10	15	582

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1206	594	0
Stage 1	594	-	-
Stage 2	612	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	205	509	-
Stage 1	555	-	-
Stage 2	545	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	200	509	-
Mov Cap-2 Maneuver	200	-	-
Stage 1	555	-	-
Stage 2	533	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	322	988
HCM Lane V/C Ratio	-	-	0.054	0.015
HCM Control Delay (s)	-	-	16.8	8.7
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.2	0