

Transportation Impact Assessment

Proposed Residential Development
55 and 65 Farm Road
Sherborn, Massachusetts

Prepared for:

Fenix Parners Farm Road Development, LLC
Sherborn, Massachusetts

December 2022

Prepared by:

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

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Dear Reviewer:

This letter shall certify that this *Transportation Impact Assessment* has been prepared under my direct supervision and responsible charge. I am a Registered Professional Engineer (P.E.) in the Commonwealth of Massachusetts (Massachusetts P.E. No. 38871, Civil) and hold Certification as a Professional Traffic Operations Engineer (PTOE) from the Transportation Professional Certification Board, Inc. (TPCB), an independent affiliate of the Institute of Transportation Engineers (ITE) (PTOE Certificate No. 993). I am also a Fellow of the Institute of Transportation Engineers (FITE).

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

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EXECUTIVE SUMMARY

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a residential development to be located at 55 and 65 Farm Road in Sherborn, Massachusetts (hereafter referred to as the “Project”). This assessment was prepared in consultation with the Massachusetts Department of Transportation (MassDOT) and the Town of Sherborn, and was performed in accordance with MassDOT’s *Transportation Impact Assessment (TIA) Guidelines* and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports.

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

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE),¹ the Project is expected to generate approximately 264 vehicle trips on an average weekday (two-way, 24-hour volume), with 18 vehicle trips expected during the weekday morning peak-hour and 24 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No-Build condition), with the majority of the movements at the study area intersections shown to operate at a level of service (LOS) of C or better, where an LOS of “D” or better is generally defined as “acceptable” operating conditions;
3. All movements at the Project site driveway intersection with Farm Road were shown to operate at LOS A during the peak hours with negligible vehicle queuing predicted;
4. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study intersection; and
5. Lines of sight at the Project site driveway exceed, or could be made to exceed, the recommended minimum sight distance to function in a safe manner based on the appropriate approach speed.

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

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

RECOMMENDATIONS

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

Project Access

Access to the Project site will be provided by way of a full-access driveway that will intersect the north side of Farm Road approximately 95 feet to the east of the existing gravel driveway that serves the Project site. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation:

- The Project site driveway and internal drives should be a minimum of 22 feet to the extent that parking along one or both sides of the drive will be prohibited and 24 feet otherwise, and designated to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle.
- Vehicles exiting the Project site shall be placed under STOP-sign control with a marked STOP-line provided.
- All signs and pavement markings to be installed within the Project site will conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).²
- A sidewalk should be provided along at least one side of the main driveway that should extend to Farm Road, where a school bus waiting area (widened sidewalk) should be provided.
- Driveways to the residential units should be a minimum of 21 feet long measured between the garage door and the far edge of the sidewalk (edge closest to the residence) where a sidewalk is provided, and 23 feet measured between the garage door and the edge of the traveled-way in locations without a sidewalk.
- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveway should be designed and maintained so as not to restrict lines of sight.
- Existing trees and vegetation located along the north side of Farm Road within the sight triangle area of the Project site driveway should be selectively trimmed or removed and maintained to provide the required line of sight.

²*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

- Snow accumulations (windrows) within the sight triangle areas of the Project site driveway will be promptly removed where such accumulations would impede sight lines.

Off-Site

Route 27/Farm Road

The addition of Project-related traffic to the Route 27/Farm Road intersection was not shown to result in a change in level-of-service for any movement over No-Build conditions, with Project-related impacts defined as an increase in average motorist delay of up to 3.9 seconds that resulted in a corresponding increase in vehicle queuing of up to one (1) vehicle. That being said and independent of the Project, it was noted that the Farm Road approach is predicted to operate at capacity (defined as LOS “E”). Given the limited impact of the Project at this intersection with no evidence of a specific safety deficiency based on a review of the MassDOT motor vehicle crash data, no improvements are recommended or appear to be required at this intersection to accommodate the Project

Transportation Demand Management

In an effort to encourage the use of alternative modes of transportation to single-occupant vehicles (SOVs), the following Transportation Demand Management (TDM) measures will be implemented as part of the Project:

- A transportation coordinator will be assigned for the Project to coordinate the TDM program;
- Information regarding public transportation services, maps, schedules, and fare information will be posted in a central location and/or otherwise made available to residents;
- A “welcome packet” will be provided to new residents detailing available public transportation services, bicycle and walking alternatives, and commuter options available;
- Pedestrian accommodations have been incorporated within the Project site and include a sidewalk that extends to Farm Road;
- A central maildrop should be provided; and
- Secure bicycle parking will be available to residents within the individual garages that are associated with each unit.

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

INTRODUCTION

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a residential development to be located at 55 and 65 Farm Road in Sherborn, Massachusetts (hereafter referred to as the “Project”). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project, along Farm Road and at the following specific intersections: South Main Street (Route 27) at Farm Road and Farm Road at Lake Street.

PROJECT DESCRIPTION

As proposed, the Project will entail the construction of a 32-unit residential development to be located at 55 and 65 Farm Road in Sherborn, Massachusetts. As proposed, the residential units will include 18 detached single-family homes and 7 attached duplex units (14 units total). The Project site encompasses approximately 13.06± acres of land that is bounded by areas of open and wooded space to the north; Farm Road, residential properties and areas of open and wooded space to the south; areas of open and wooded space to the east; and a residential property and areas of open and wooded space to the west. Figure 1 depicts the Project site location in relation to the existing roadway network. The Project site currently contains an existing single-family home located at 55 Farm Road that will be retained, and areas of open and wooded space, and low-lying wetland areas.

Access to the Project site will be provided by way of a full-access driveway that will intersect the north side of Farm Road approximately 95 feet to the east of the existing gravel driveway that serves the Project site.

Off-street parking will be provided in individual garages and driveways that will accommodate a minimum of two (2) vehicles per unit, with an additional eight (8) parking spaces provided in two (2) separate parking areas along the main driveway for visitors.

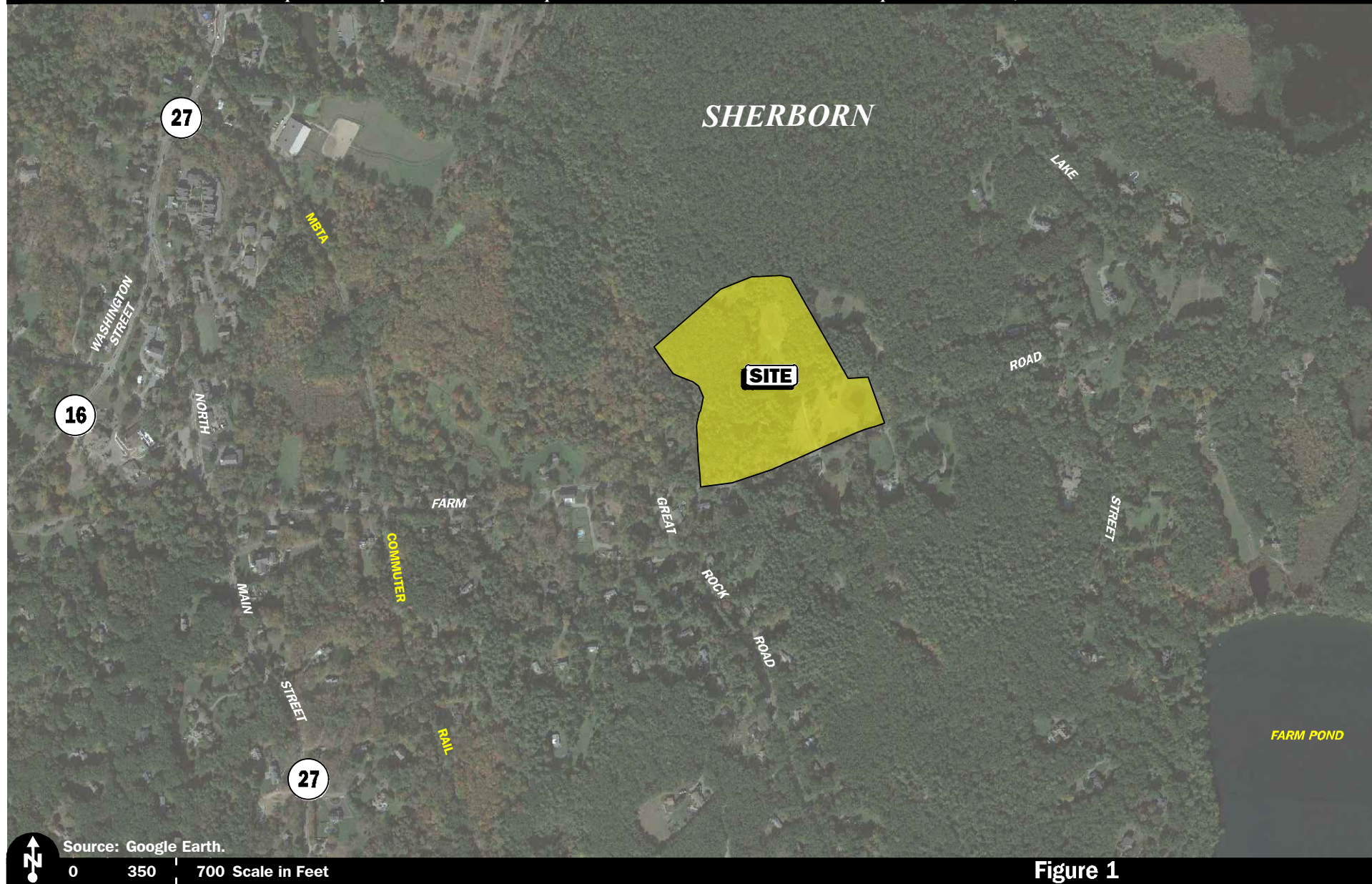


Figure 1

Site Location Map

STUDY METHODOLOGY

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

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

In the second stage of the study, future traffic conditions were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future traffic demands due to expected traffic growth independent of the Project. A seven-year time horizon was selected for analyses consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. The traffic analysis conducted in stage two identifies existing or projected future roadway capacity, traffic safety, and site access 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 September and August 2022. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; public transportation services; traffic volumes; and operating characteristics; as well as posted speed limits and land use information within the study area. The study area that was assessed for the Project consisted of Farm Road and the following intersections: Route 27 at Farm Road and Farm Road at Lake Street. The Lake Street north leg of the Farm Road/Lake Street intersection includes both an east and west leg which are separated by a raised island and operate independently. As such, this intersection has been described and evaluated as two (2) separate intersections: Farm Road/Lake Street East and Farm Road/Lake Street West.

The following describes the study area roadways and intersections.

ROADWAY

Farm Road

- Two-lane urban collector roadway under Town jurisdiction;
- Transverses study area in a general east-west direction;
- Provides two 10- to 11-foot wide travel lanes that are separated by a double-yellow centerline with 1- foot wide marked shoulders;
- The posted speed limit is 30 mph in the vicinity of the Project site and varies from 25 mph to 35 mph to the east;
- A sidewalk is provided on the north side of the roadway between Route 27 and the driveway to 25 Farm Road (approximately 1,100 feet east of Route 27);
- Illumination is not provided within the study area; and
- Land use within the study area consists of the Project site, residential properties, and areas of open and wooded space;

INTERSECTIONS

Table 1 and Figure 2 summarize existing lane use; traffic control, and pedestrian and bicycle accommodations at the study area intersection as observed in August 2022.

Table 1
STUDY AREA INTERSECTION DESCRIPTION

Intersection	Traffic Control Type^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Rte. 27/Farm Rd.	S	1 general-purpose travel lane on all approaches	Yes; 1 foot on Rte. 27 and Farm Rd.	Yes; a sidewalk is provided along the north side of Farm Rd. between Route 27 and the dwy. to 25 Farm Rd., along the west side of Rte. 27 and along the east side Rte. 27 between the Pilgrim Church and Farm Rd.	No
Farm Rd./ Lake St. (West)	S	1 general-purpose travel lane on all approaches	Yes; 1 to 2 feet on all legs	No	No
Farm Rd./ Lake St. (East)	S	1 general-purpose travel lane on all approaches	Yes; 1 to 2 feet on all legs	No	No

^aS = STOP-sign control.

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 September 2022. The ATR counts were conducted on September 14th through September 15th, 2022 (Wednesday through Thursday, inclusive) on Farm Road 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 intersection on September 14th, 2022 (Wednesday). 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.

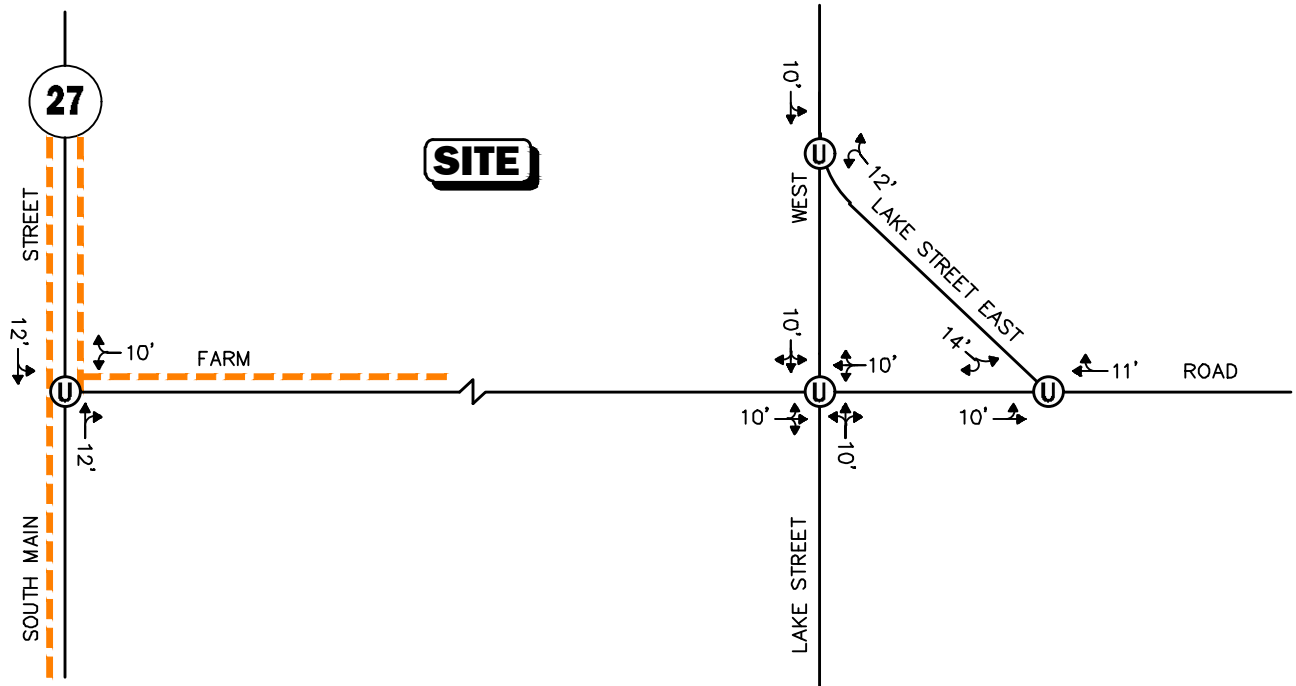
Traffic-Volume Adjustments

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, traffic-volume data from MassDOT Continuous Count Station No. AET09 located on Interstate 90 (I-90) in Framingham were reviewed.³ Based on a review of this data it was determined that traffic volumes during the month of September are approximately 3.34 percent *above* average-month conditions. As such, no adjustment was made to the September traffic volumes as they are representative of above average conditions.

³MassDOT Traffic Volumes for the Commonwealth of Massachusetts; 2022.

Legend:

- ⊕ Unsignalized Intersection
- Sidewalk
- xx'↔ Lane Use and Travel Lane Width



Not To Scale



Figure 2

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

In order to account for the impact on traffic volumes and trip patterns resulting from the COVID-19 pandemic, traffic-volume data collected at the MassDOT Continuous Count Station No. AET09 in September 2022 was compared to data collected at the same count station in September 2019. Based on this pre- and post-COVID-19 traffic-volume comparison, the traffic-volume data that was collected as part of this assessment was found to be approximately 5.9 percent *below* the conditions that existed prior to the COVID-19 pandemic. As such, the raw September traffic volumes were adjusted upward by 5.9 percent.

The 2022 Existing traffic volumes are summarized in Table 2, with the weekday morning and evening peak-hour traffic volumes graphically depicted on Figure 3. Note that the peak-hour traffic volumes that are presented in Table 2 were obtained from the aforementioned figure.

Table 2
2022 EXISTING TRAFFIC VOLUMES

Location/Peak Hour	AWT ^a	VPH ^b	K Factor ^c	Directional Distribution ^d
<i>Farm Road, west of Lake Street West:</i>	2,120	--	--	--
Weekday Morning (7:30 – 8:30 AM)	--	313	14.8	87.2% EB
Weekday Evening (5:00 – 6:00 PM)	--	243	11.5	69.1% WB

^aAverage weekday traffic in vehicles per day.

^bVehicles per hour.

^cPercent of daily traffic occurring during the peak hour.

^dPercent traveling in peak direction.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound.

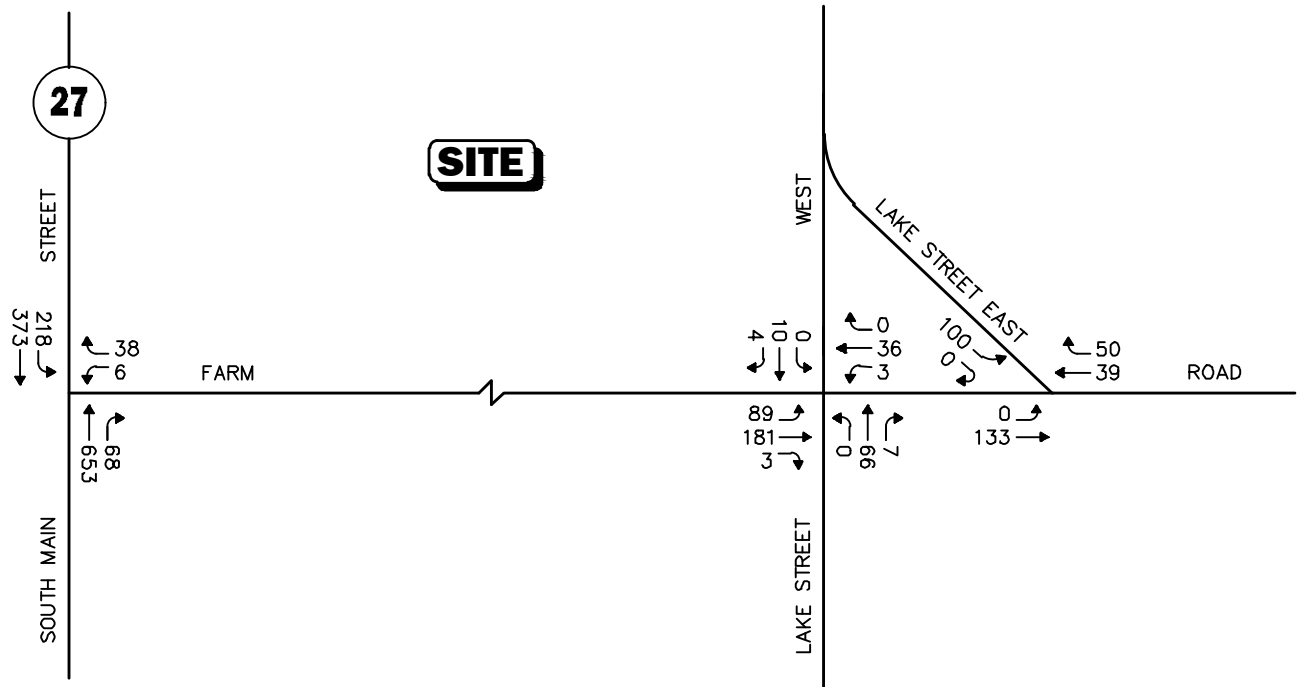
As can be seen in Table 2, Farm Road in the vicinity of the Project site was found to accommodate approximately 2,120 vehicles on an average weekday (two-way, 24-hour volume), with approximately 313 vehicles per hour (vph) during the weekday morning peak-hour and 243 vph during the weekday evening peak-hour.

PEDESTRIAN AND BICYCLE FACILITIES

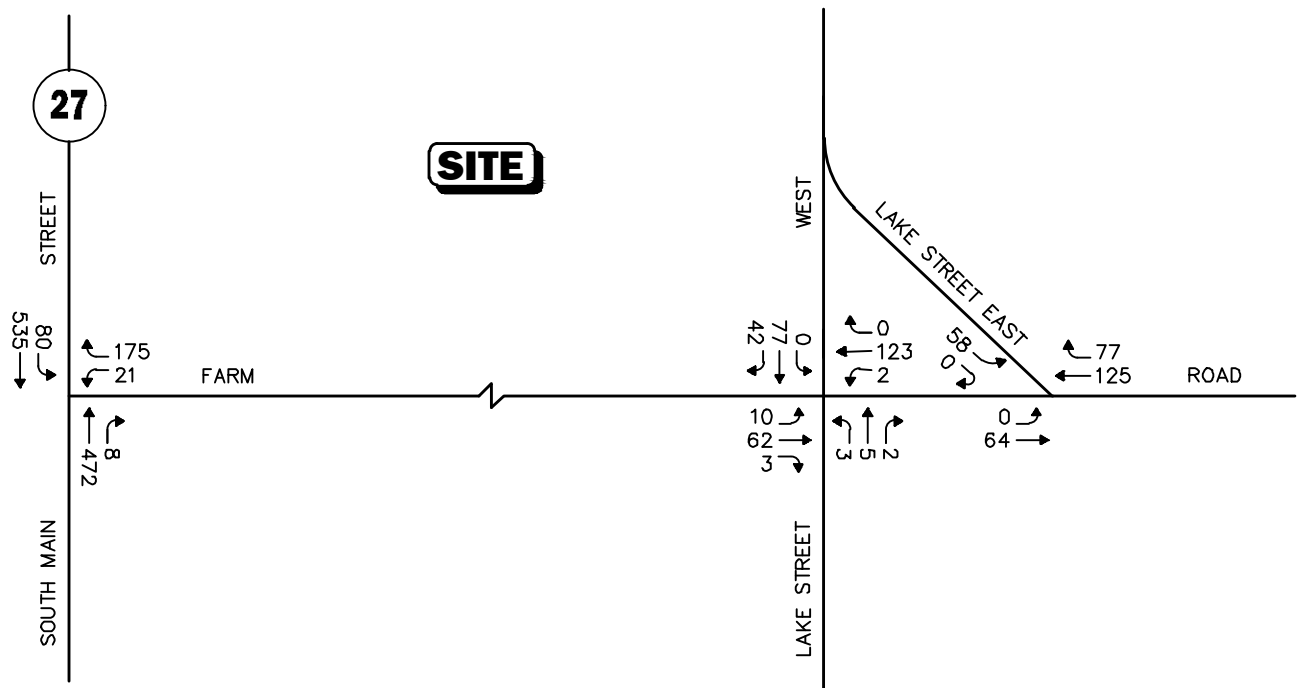
A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in August 2022. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study area intersections, as well as the location of existing and planned future bicycle facilities. As detailed on Figure 2, sidewalks are provided along the west side of Route 27 and along the east side between the Pilgrim Church and Farm Road, and along the north side of Farm Road between Route 27 and the driveway to 25 Farm Road (approximately 1,100 feet east of Route 27).

Formal bicycle facilities are not provided within the study area and the study area roadways do not provide sufficient width (combined travel lane and shoulder) on a continuous basis to support bicycle travel in a shared traveled-way configuration.⁴

⁴ Combined shoulder and travel lane width equal to or exceeding 14 feet.



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



Not To Scale

Figure 3

2022 Existing Peak-Hour Traffic Volumes

PUBLIC TRANSPORTATION

Regularly scheduled public transportation services are not currently provided within the Town of Sherborn or in the immediate vicinity of the Project site. The Sherborn Council on Aging (COA), with JFK Transportation in Natick, provides discounted taxi ride coupons. The cards cost \$30.00 for a ten-ride coupon. JFK requires a 24-hour notice for local trips and a 48-hour notice for medical trips. The closest regularly scheduled public transportation services to the Project site are located in Natick (Massachusetts Bay Transportation Authority (MBTA) Commuter Rail service on the Framingham/Worcester Line from Natick Center Station).

SPOT SPEED MEASUREMENTS

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

Table 3
VEHICLE TRAVEL SPEED MEASUREMENTS

	Farm Road	
	Eastbound	Westbound
Mean Travel Speed (mph)	28	31
85 th Percentile Speed (mph)	31	34
Posted Speed Limit (mph)	30	30

mph = miles per hour.

The mean vehicle travel speed along Farm Road in the vicinity of the Project site was found to be 28 mph in the eastbound direction and 31 mph westbound, with the measured 85th percentile vehicle travel speed found to be 31 mph in the eastbound direction and 34 mph westbound, which is within a 5 mph pace of the posted speed limit in the vicinity of the Project site (30 mph). The 85th percentile speed is used as the basis of engineering design and in the evaluation of sight distances and is often used in establishing posted speed limits.

MOTOR VEHICLE CRASH DATA

Motor vehicle crash information for the study area intersection was provided by the MassDOT Highway Division Safety Management/Traffic Operations Unit for the most recent five-year period available (2015 through 2019, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, severity, roadway and weather conditions, and day of occurrence, and presented in Table 4.

Table 4
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Route 27/ Farm Road	Farm Road/ Lake Street West	Farm Road/ Lake Street East
Traffic Control Type: ^b	U	U	U
<i>Year:</i>			
2015	1	0	1
2016	1	0	1
2017	1	0	1
2018	0	1	0
<u>2019</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	1	3
Average	0.60	0.20	0.60
Rate ^c	0.11	0.12	0.45
MassDOT Crash Rate: ^d	0.57/0.61	0.57/0.61	0.57/0.61
Significant? ^e	No	No	No
<i>Type:</i>			
Angle	1	1	0
Rear-End	0	0	0
Head-On	0	0	0
Sideswipe	0	0	0
Fixed Object	1	0	2
Pedestrian/Bicycle	0	0	0
<u>Unknown/Other</u>	<u>1</u>	<u>0</u>	<u>1</u>
Total	3	1	3
<i>Conditions:</i>			
Clear	3	1	1
Cloudy	0	0	1
Rain	0	0	1
<u>Snow/Ice</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	1	3
<i>Lighting:</i>			
Daylight	3	1	1
Dawn/Dusk	0	0	0
Dark (Road Lit)	0	0	1
<u>Dark (Road Unlit)</u>	<u>0</u>	<u>0</u>	<u>1</u>
Total	3	1	3
<i>Day of Week:</i>			
Monday through Friday	2	1	3
Saturday	1	0	0
<u>Sunday</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	1	3
<i>Severity:</i>			
Property Damage Only	1	1	2
Personal Injury	2	0	1
Fatality	0	0	0
<u>Not Reported</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	1	3

^aSource: MassDOT Safety Management/Traffic Operations Unit records, 2015 through 2019.

^bTraffic Control Type: U = unsignalized.

^cCrash rate per million vehicles entering the intersection.

^dStatewide/District crash rate.

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

As can be seen in Table 4, the study area intersections were found to have experienced an average of 0.6 or fewer reported motor vehicle crashes per year over the five-year review period and were found to have motor vehicle crash rates below the MassDOT statewide and District average crash rates for similar intersections for the MassDOT Highway Division District in which the intersections are located (District 3). The majority of the reported crashes occurred on a weekday; under clear weather conditions; during daylight; and involved collisions with a fixed object that resulted in property damage only.

A review of the MassDOT statewide High Crash Location List indicated that there are no locations within the study area or along Farm Road that are included on MassDOT's Highway Safety Improvement Program (HSIP) listing as a high crash location. In addition, no fatal motor vehicle crashes were reported to have occurred at the study area intersection over the five-year review period.

The detailed MassDOT Crash Rate Worksheet and High Crash Location mapping are provided in the Appendix.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2029, which reflects a seven-year planning horizon consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. Independent of the Project, traffic volumes on the roadway network in the year 2029 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon the 2029 No-Build traffic volumes to reflect 2029 Build traffic-volume conditions with the Project.

FUTURE TRAFFIC GROWTH

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

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

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

Specific Development by Others

The Sherborn Town Planner was contacted in order to determine if there were any projects planned within the study area that would have an impact on future traffic volumes at the study intersections. Based on this discussion, the following developments were identified for review in conjunction with this assessment:

- ***Proposed Dunkin' with Drive-Through Window, Sherborn, Massachusetts.*** This project consists of the relocation of the existing Dunkin' restaurant located at 21 South Main Street (Route 27) and north of the Project to a new building just south of its current location that will include indoor seating and a drive through window.

- ***Greenwood Homes, Sherborn, Massachusetts.*** This project consists of the construction of four single-family homes to be located off Greenwood Street and southwest of the Project.
- ***Apple Hill Estates, Sherborn, Massachusetts.*** This project consists of the construction of 27 single-family homes to be located off Hunting Lane and north of the Project.
- ***Coolidge Crossing, Sherborn, Massachusetts.*** This project consists of the construction of 120 multi-family units to be located at 84 & 86 Coolidge Street and north of the Project.
- ***Meadowbrook Commons, Sherborn, Massachusetts.*** This project consists of the construction of 40 duplex units and 27 single-family homes to be located at 104 Coolidge Street and north of the Project.
- ***The Pines Residences, Sherborn, Massachusetts.*** This project consists of the construction of 60 multi-family units to be located at 41 North Main Street (Route 27) and north of the Project.

The traffic volumes associated with the aforementioned projects within the study area of this assessment are expected to be relatively minor and would be reflected in the general background traffic growth rate (discussion follows). No other developments were identified at this time that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate.

General Background Traffic Growth

Traffic-volume data compiled by MassDOT from permanent count stations located in the region were reviewed in order to determine general traffic growth trends in the area. This data indicates that traffic volumes have fluctuated over the 10-year period between 2009 and 2019, with an average traffic growth rate of 1.4 percent. In order to provide a prudent planning condition for the Project, a slightly higher 1.5 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

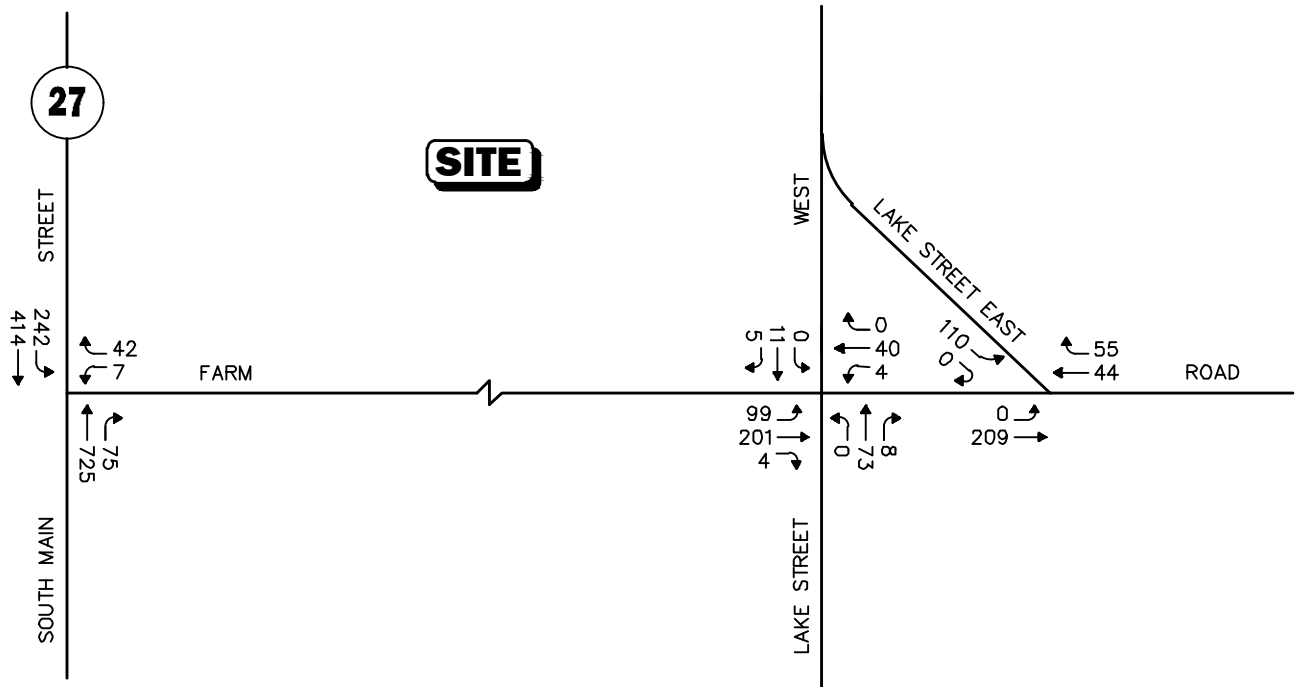
Roadway Improvement Projects

MassDOT and the Town of Sherborn were contacted in order to determine if there were any planned future roadway improvement projects expected to be completed by 2029 within the study area. Based on these discussions, no roadway improvement projects aside from routine maintenance activities were identified to be planned within the study area at this time.

No-Build Traffic Volumes

The 2029 No-Build condition peak-hour traffic volumes were developed by applying the 1.5 percent per year compounded annual background traffic growth rate to the 2022 Existing peak-hour traffic volumes. The resulting 2029 No-Build weekday morning and evening peak-hour traffic volumes are shown on Figure 4.

WEEKDAY MORNING PEAK HOUR (7:30 - 8:30 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)

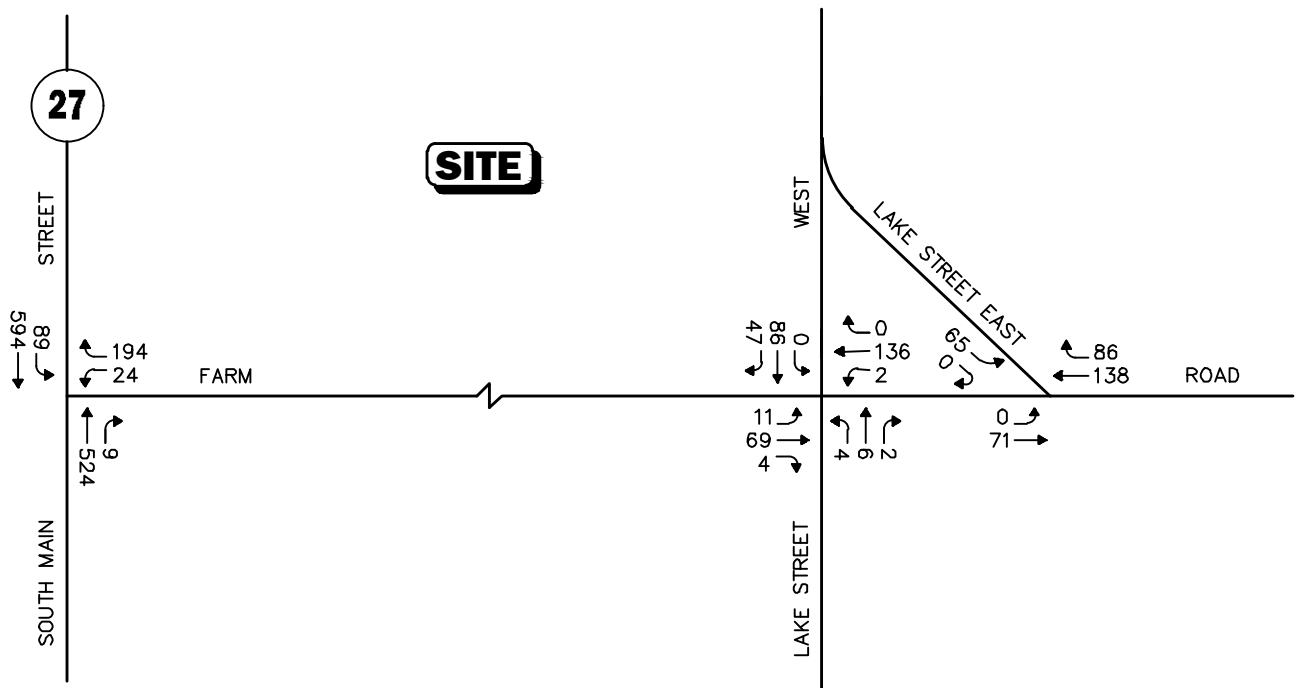


Figure 4

2029 No-Build
Peak-Hour Traffic Volumes

PROJECT-GENERATED TRAFFIC

Design year (2029 Build) traffic volumes for the study area roadways were determined by estimating Project-generated traffic volumes and assigning those volumes on the study roadways. The following sections describe the methodology used to develop the anticipated traffic characteristics of the Project.

As proposed, the Project will entail the construction of 32-unit residential development. As proposed, the residential units will include 18 detached single-family homes, and 7 attached duplex units (14 units total). In order to develop the traffic characteristics of the Project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)⁵ for similar land uses to those proposed were used. ITE Land Use Codes (LUCs) 210, *Single-Family Detached Housing*, and 215, *Single-Family Attached Housing*, were used to develop the trip-generation characteristics of the Project, the results of which are summarized in Table 5.

Table 5
TRIP-GENERATION SUMMARY

Time Period/Direction	Vehicle Trips		(A+B) Total Trips
	(A) Single-Family Detached Housing (18 units) ^a	(B) Single-Family Attached Housing (14 units) ^b	
<i>Average Weekday Daily:</i>			
Entering	104	28	132
<u>Exiting</u>	<u>104</u>	<u>28</u>	<u>132</u>
Total	208	56	264
<i>Weekday Morning Peak-Hour:</i>			
Entering	4	0	4
<u>Exiting</u>	<u>12</u>	<u>2</u>	<u>14</u>
Total	16	2	18
<i>Weekday Evening Peak-Hour:</i>			
Entering	12	3	15
<u>Exiting</u>	<u>8</u>	<u>1</u>	<u>9</u>
Total	20	4	24

^aBased on ITE LUC 210, *Single-Family Detached Housing (18 units)*.

^bBased on ITE LUC 215, *Single-Family Attached Housing (14 units)*.

Project-Generated Traffic-Volume Summary

As can be seen in Table 5, the Project is expected to generate approximately 264 vehicle trips on an average weekday (two-way, 24-hour volume, or 132 vehicles entering and 132 exiting), with 18 vehicle trips (4 vehicles entering and 14 exiting) expected during the weekday morning

⁵Ibid 1.

peak-hour and 24 vehicle trips (15 vehicles entering and 9 exiting) expected during the weekday evening peak-hour.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of 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 Sherborn and then refined based on existing traffic patterns within the study area. The general trip distribution for the Project is graphically depicted on Figure 5. The additional traffic expected to be generated by the Project was assigned on the study area roadway network as shown on Figure 6 for the weekday morning and evening peak hours.

FUTURE TRAFFIC VOLUMES - BUILD CONDITION

The 2029 Build condition traffic volumes consist of the 2029 No-Build traffic volumes with the additional traffic expected to be generated by the Project added to them. The 2029 Build weekday morning and evening peak-hour traffic volumes are graphically depicted on Figure 7.

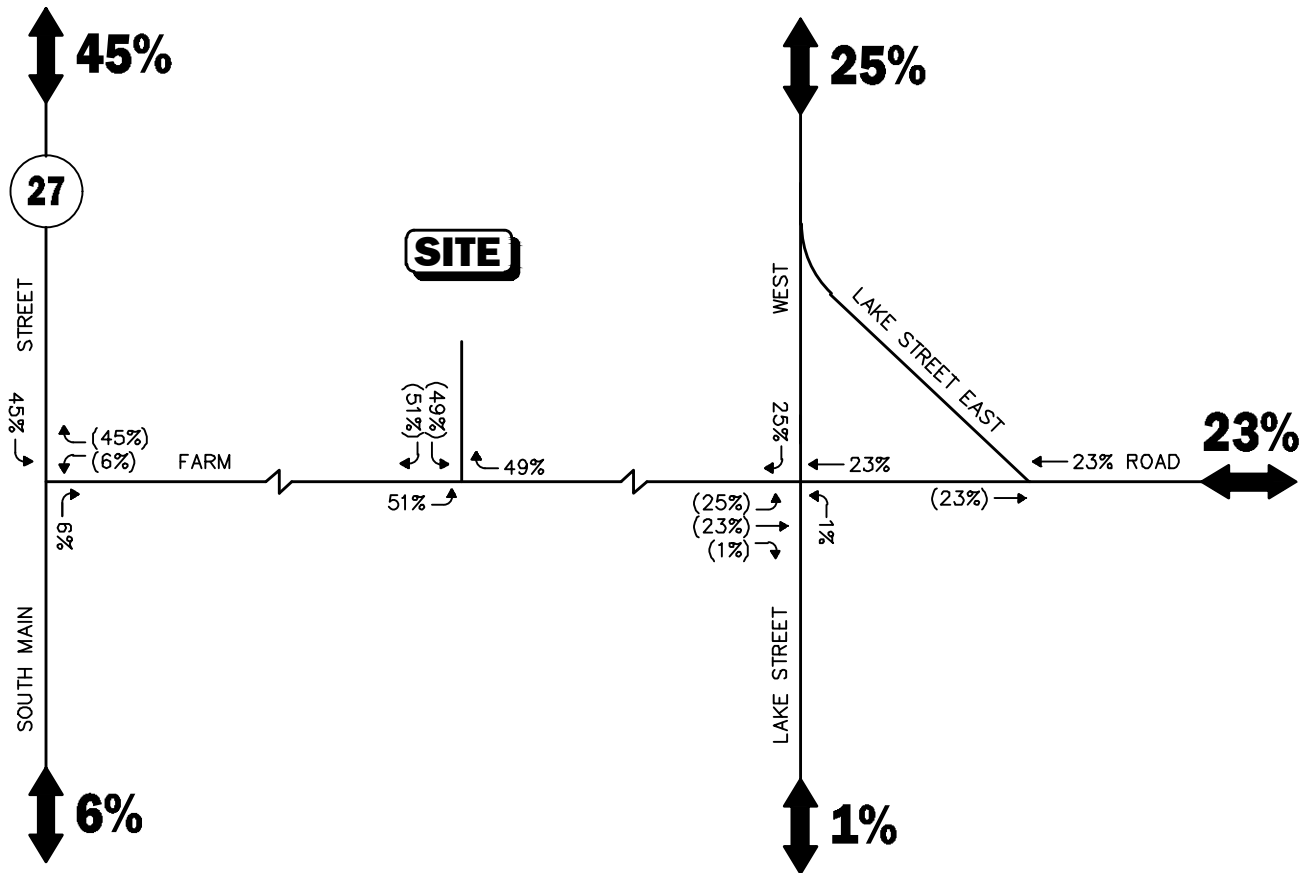
A summary of peak-hour projected traffic-volume changes outside of the study area that is the subject of this assessment is shown in Table 6. These changes are a result of the construction of the Project.

Table 6
PEAK-HOUR TRAFFIC-VOLUME INCREASES

Location/Peak-Hour	2022 Existing	2029 No-Build	2029 Build	Traffic- Volume Increase Over No-Build	Percent Increase Over No-Build
<i>Route 27, north of Farm Road:</i>					
Weekday Morning	1,282	1,423	1,431	8	0.6
Weekday Evening	1,262	1,401	1,412	11	0.8
<i>Route 27, south of Farm Road:</i>					
Weekday Morning	1,100	1,221	1,222	1	0.1
Weekday Evening	1,036	1,151	1,153	2	0.2
<i>Farm Road, east of Lake Street:</i>					
Weekday Morning	322	418	422	4	1.0
Weekday Evening	266	360	365	5	1.4
<i>Lake Street, north of Farm Road:</i>					
Weekday Morning	319	353	358	5	1.4
Weekday Evening	269	301	307	6	2.0
<i>Lake Street, south of Farm Road</i>					
Weekday Morning	89	100	100	0	0.0
Weekday Evening	92	104	104	0	0.0

Legend:

XX Entering Trips
(XX) Exiting Trips



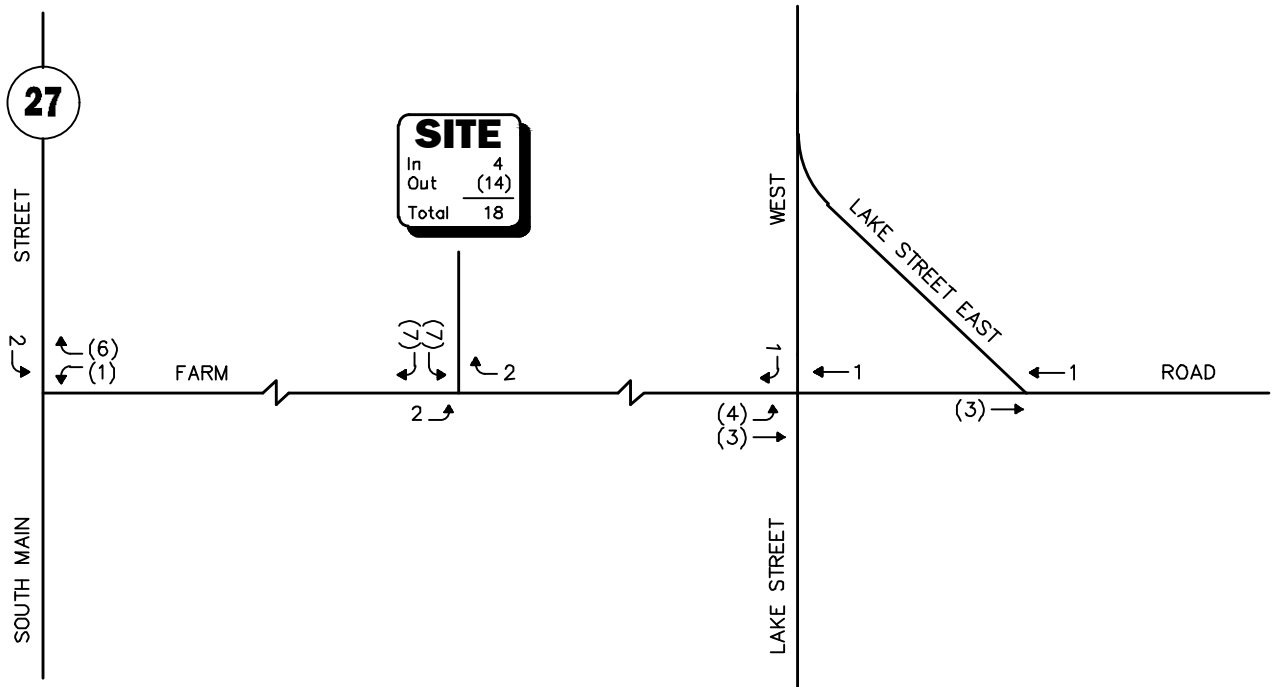
Not To Scale

Figure 5

Trip Distribution Map



WEEKDAY MORNING PEAK HOUR (7:30 - 8:30 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)

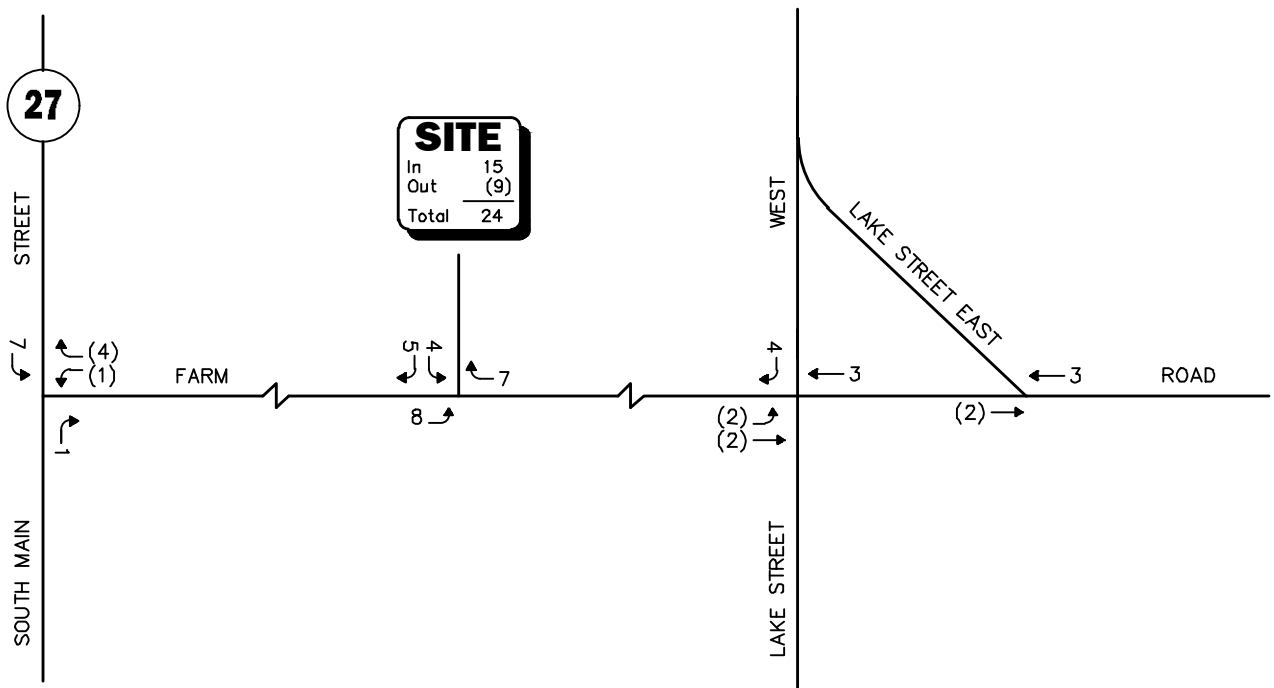
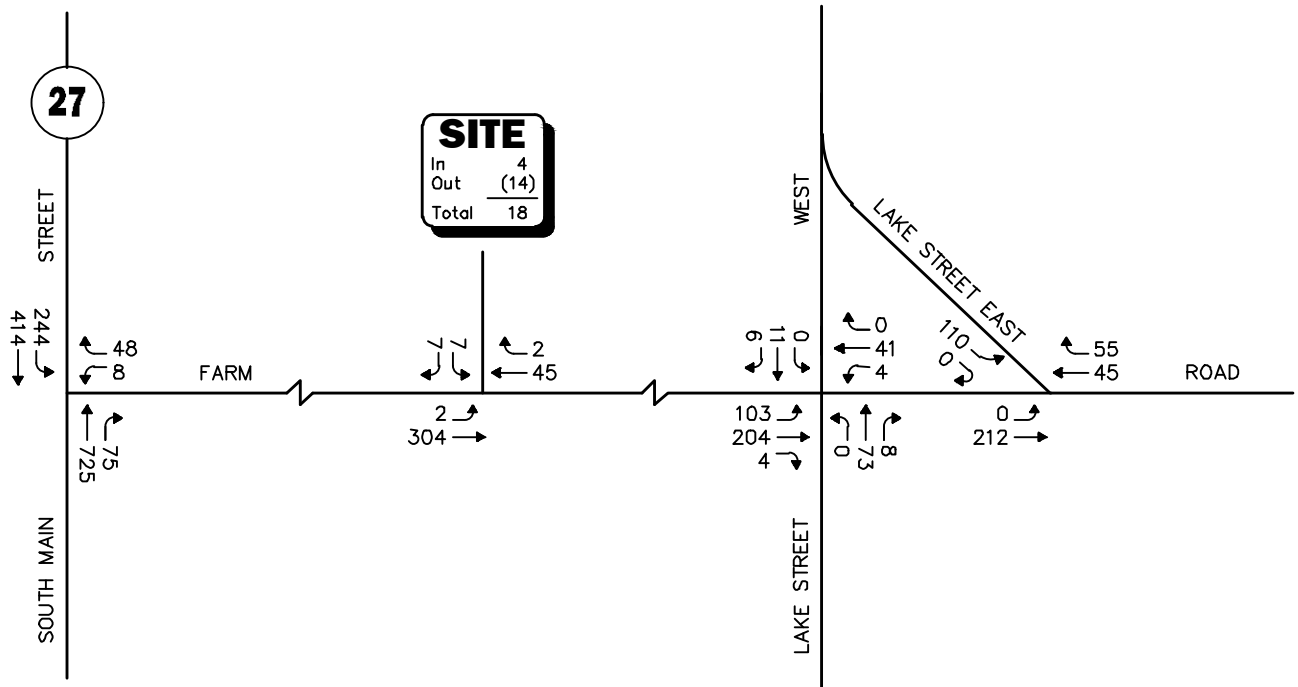


Figure 6

Project-Generated
Peak-Hour Traffic Volumes

WEEKDAY MORNING PEAK HOUR (7:30 - 8:30 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)

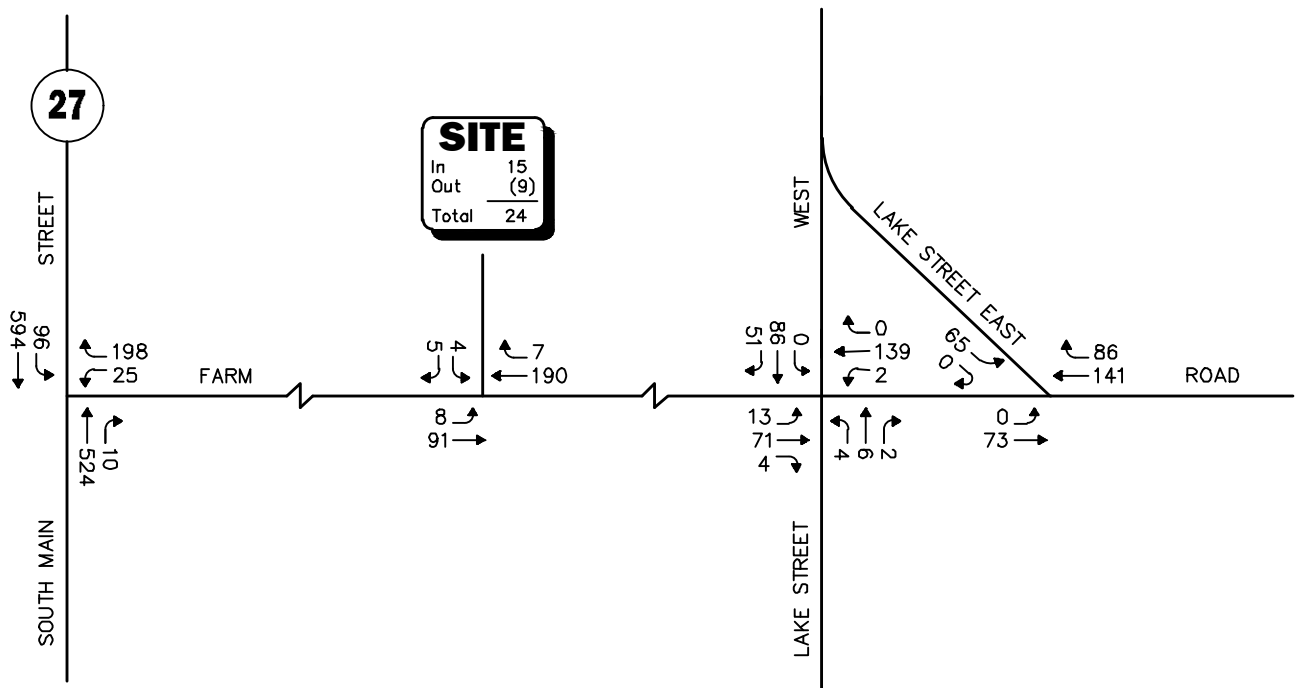


Figure 7

2029 Build
Peak-Hour Traffic Volumes

As shown in Table 6, Project-related traffic-volume increases outside of the study area relative to 2029 No-Build conditions are anticipated to range from 0.1 to 1.3 percent during the peak periods, with vehicle increases shown to range from 1 to 11 vehicles. *When distributed over the respective peak hours and to the roadway network that serves the Project site, the identified traffic-volume increases outside the immediate study area are not expected to result in a significant increase in motorist delays or vehicle queuing over anticipated future conditions without the Project (i.e., No-Build conditions).*

TRAFFIC OPERATIONS ANALYSIS

Measuring existing and future traffic volumes quantifies 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.⁶ 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.

⁶The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

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 extreme control delays resulting.

The levels of service of unsignalized intersections are determined by application of a procedure described in the 2010 *Highway Capacity Manual*.⁷ 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 2010 *Highway Capacity Manual*. Table 7 summarizes the relationship between level of service and average control delay for two-way STOP-controlled and all-way STOP-controlled intersections.

Table 7
LEVEL-OF-SERVICE CRITERIA FOR
UNSIGNALIZED INTERSECTIONS^a

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	≥ 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

^aSource: *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010; page 19-2.

⁷*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Vehicle Queue Analysis

Vehicle queue analyses are a direct measurement of an intersection's ability to process vehicles under various traffic control and volume scenarios and lane use arrangements. The vehicle queue analysis was performed using the Synchro® intersection capacity analysis software which is based upon the methodology and procedures presented in the 2010 *Highway Capacity Manual*. The Synchro® vehicle queue analysis methodology is a simulation-based model which reports the number of vehicles that experience a delay of 6 seconds or more at an intersection. For signalized intersections, Synchro® reports both the average (50th percentile) and the 95th percentile vehicle queue. For unsignalized intersections, Synchro® reports the 95th percentile vehicle queue. Vehicle queue lengths are a function of the capacity of the movement under study and the volume of traffic being processed by the intersection during the analysis period. The 95th percentile vehicle queue is the vehicle queue length that will be exceeded only 5 percent of the time, or approximately 3 minutes out of 60 minutes during the peak one hour of the day (during the remaining 57 minutes, the vehicle queue length will be less than the 95th percentile queue length).

ANALYSIS RESULTS

Level-of-service and vehicle queue analyses were conducted for 2022 Existing, 2029 No-Build, and 2029 Build conditions for the intersections within the study area. The results of the intersection capacity and vehicle queue analyses are summarized in Table 8, with the detailed analysis results presented in the Appendix.

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

Unsignalized Intersections

Project-related impacts at the unsignalized study area intersections are shown in Table 8 and are defined as follows:

Route 27 at Farm Road

No change in level-of-service is predicted to occur for any movement over No-Build conditions, with Project-related impacts defined as an increase in average motorist delay of up to 3.9 seconds that resulted in a corresponding increase in vehicle queuing of up to one (1) vehicle. Independent of the Project, all movements from Farm Road are predicted to operate at capacity (i.e., LOS E) under No-Build conditions during both peak hours.

Farm Road at Lake Street West

No change in level-of-service is predicted to occur for any movement over No-Build conditions, with Project-related impacts defined as an increase in average motorist delay of up to 0.4 seconds that resulted in a corresponding increase in vehicle queuing of up to one (1) vehicle.

Farm Road at Lake Street East

No change in level-of-service or vehicle queuing is predicted to occur for any movement over No-Build conditions, with Project-related impacts generally defined as an increase in average motorist delay of up to 0.1 seconds.

Farm Road at Project Site Driveway

All movements at the Project site driveway intersection with Farm Road were shown to operate at LOS A during both peak hours with negligible vehicle queuing predicted.

Table 8**UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY**

Unsignalized Intersection/ Peak-Hour/Movement	2022 Existing				2029 No-Build				2029 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Route 27 at Farm Road												
<i>Weekday Morning:</i>												
Farm Road WB LT/RT	44	25.9	D	1	49	39.0	E	2	56	42.9	E	2
Route 27 NB TH/RT	721	0.0	A	0	800	0.0	A	0	800	0.0	A	0
Route 27 SB LT/TH	591	4.2	A	1	656	4.6	A	2	658	4.7	A	2
<i>Weekday Evening:</i>												
Farm Road WB LT/RT	196	24.8	C	4	218	38.3	E	6	223	41.5	E	7
Route 27 NB TH/RT	480	0.0	A	0	533	0.0	A	0	534	0.0	A	0
Route 27 SB LT/TH	615	1.2	A	1	683	1.2	A	1	690	1.3	A	1
Farm Road at Lake Street West												
<i>Weekday Morning:</i>												
Farm Road EB LT/TH/RT	273	2.5	A	0	304	2.5	A	1	311	2.5	A	1
Farm Road WB LT/TH	39	0.6	A	0	44	0.7	A	0	45	0.7	A	0
Lake Street West NB LT/TH/RT	73	15.2	C	1	81	16.8	C	1	81	17.2	C	1
Lake Street West SB TH/RT	14	12.7	B	0	16	13.4	B	0	17	13.4	B	1
<i>Weekday Evening:</i>												
Farm Road EB LT/TH/RT	75	1.0	A	0	84	1.0	A	0	88	1.1	A	0
Farm Road WB LT/TH	125	0.1	A	0	138	0.1	A	0	141	0.1	A	0
Lake Street West NB LT/TH/RT	10	10.9	B	0	12	11.4	B	0	12	11.6	B	0
Lake Street West SB TH/RT	119	11.8	B	1	133	12.4	B	2	137	12.6	B	2
Farm Road at Lake Street East												
<i>Weekday Morning:</i>												
Farm Road EB TH	188	0.0	A	0	209	0.0	A	0	212	0.0	A	0
Farm Road WB TH/RT	89	0.0	A	0	99	0.0	A	0	100	0.0	A	0
Lake Street East SB LT	100	11.2	B	1	110	11.7	B	1	110	11.8	B	1
<i>Weekday Evening:</i>												
Farm Road EB TH	64	0.0	A	0	71	0.0	A	0	73	0.0	A	0
Farm Road WB TH/RT	202	0.0	A	0	224	0.0	A	0	227	0.0	A	0
Lake Street East SB LT	58	10.5	B	1	65	10.8	B	1	65	10.9	B	1

See notes at end of Table

Table 8 (continued)

UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/ Peak-Hour/Movement	2022 Existing				2029 No-Build				2029 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
<i>Farm Road at the Project Site Driveway</i>												
<i>Weekday Morning:</i>												
Farm Road EB LT/TH	--	--	--	--	--	--	--	--	306	0.0	A	0
Farm Road WB TH/RT	--	--	--	--	--	--	--	--	44	0.0	A	0
Project Site Driveway SB LT/RT	--	--	--	--	--	--	--	--	15	9.8	A	0
<i>Weekday Evening:</i>												
Farm Road EB LT/TH	--	--	--	--	--	--	--	--	92	0.7	A	0
Farm Road WB TH/RT	--	--	--	--	--	--	--	--	194	0.0	A	0
Project Site Driveway SB LT/RT	--	--	--	--	--	--	--	--	9	9.8	A	0

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel of service.

^dQueue length in vehicles.

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

SIGHT DISTANCE EVALUATION

Sight distance measurements were performed at the Project site driveway intersection with Farm Road in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)⁸ requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an 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 9 presents the measured SSD and ISD at the subject intersection.

⁸*A Policy on Geometric Design of Highway and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.

Table 9
SIGHT DISTANCE MEASUREMENTS^a

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	Desirable (ISD) ^b	Measured
<i>Farm Road at the Project Site Driveway</i>			
<i>Stopping Sight Distance:</i>			
Farm Road approaching from the east	250	--	500+
Farm Road approaching from the west	250	--	500+
<i>Intersection Sight Distance:</i>			
Looking to the east from the Project Site Driveway	250	335	500+
Looking to the west from the Project Site Driveway	250	390	79/350 ^c

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on an approach speed of 35 mph along Farm Road.

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

^cAvailable sight distance with the selective trimming/removal of trees and vegetation located within the sight triangle area of the Project site driveway.

As can be seen in Table 9, with the selective trimming/removal of trees and vegetation located within the sight triangle area of the Project site driveway along the north side of Farm Road and west of the driveway, the available lines of sight at the Project site driveway intersection will exceed the recommended minimum sight distance to function in a safe (SSD) manner based on a 35 mph approach speed, which is consistent the 85th percentile vehicle travel speeds measured along Farm Road (31/34 mph) and is 5 mph above with the posted speed limit in the vicinity of the Project site (30 mph).

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

VAI has conducted a TIA in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a residential development to be located at 55 and 65 Farm Road in Sherborn, Massachusetts. The following specific areas have been evaluated as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE),⁹ the Project is expected to generate approximately 264 vehicle trips on an average weekday (two-way, 24-hour volume), with 18 vehicle trips expected during the weekday morning peak-hour and 24 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No-Build condition), with the majority of the movements at the study area intersections shown to operate at LOS C or better, where an LOS of “D” or better is generally defined as “acceptable” operating conditions;
3. All movements at the Project site driveway intersection with Farm Road were shown to operate at LOS A during the peak hours with negligible vehicle queuing predicted;
4. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study intersection; and
5. Lines of sight at the Project site driveway exceed, or could be made to exceed, the recommended minimum sight distance to function in a safe manner based on the appropriate approach speed.

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

⁹Ibid 1.

RECOMMENDATIONS

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

Project Access

Access to the Project site will be provided by way of a full-access driveway that will intersect the north side of Farm Road approximately 95 feet to the east of the existing gravel driveway that serves the Project site. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation:

- The Project site driveway and internal drives should be a minimum of 22 feet to the extent that parking along one or both sides of the drive will be prohibited and 24 feet otherwise, and designated to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle.
- Vehicles exiting the Project site shall be placed under STOP-sign control with a marked STOP-line provided.
- All signs and pavement markings to be installed within the Project site will conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).¹⁰
- A sidewalk should be provided along at least one side of the main driveway that should extend to Farm Road, where a school bus waiting area (widened sidewalk) should be provided.
- Driveways to the residential units should be a minimum of 21 feet long measured between the garage door and the far edge of the sidewalk (edge closest to the residence) where a sidewalk is provided, and 23 feet measured between the garage door and the edge of the traveled-way in locations without a sidewalk.
- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveway should be designed and maintained so as not to restrict lines of sight.
- Existing trees and vegetation located along the north side of Farm Road within the sight triangle area of the Project site driveway should be selectively trimmed or removed and maintained to provide the required line of sight.
- Snow accumulations (windrows) within the sight triangle areas of the Project site driveway will be promptly removed where such accumulations would impede sight lines.

¹⁰Ibid 2.

Off-Site

Route 27/Farm Road

The addition of Project-related traffic to the Route 27/Farm Road intersection was not shown to result in a change in level-of-service for any movement over No-Build conditions, with Project-related impacts defined as an increase in average motorist delay of up to 3.9 seconds that resulted in a corresponding increase in vehicle queuing of up to one (1) vehicle. That being said and independent of the Project, it was noted that the Farm Road approach is predicted to operate at capacity (defined as LOS “E”). Given the limited impact of the Project at this intersection with no evidence of a specific safety deficiency based on a review of the MassDOT motor vehicle crash data, no improvements are recommended or appear to be required at this intersection to accommodate the Project

Transportation Demand Management

In an effort to encourage the use of alternative modes of transportation to single-occupant vehicles (SOVs), the following Transportation Demand Management (TDM) measures will be implemented as part of the Project:

- A transportation coordinator will be assigned for the Project to coordinate the TDM program;
- Information regarding public transportation services, maps, schedules, and fare information will be posted in a central location and/or otherwise made available to residents;
- A “welcome packet” will be provided to new residents detailing available public transportation services, bicycle and walking alternatives, and commuter options available;
- Pedestrian accommodations have been incorporated within the Project site and include a sidewalk that extends to Farm Road;
- A central maildrop should be provided; and
- Secure bicycle parking will be available to residents within the individual garages that are associated with each unit.

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

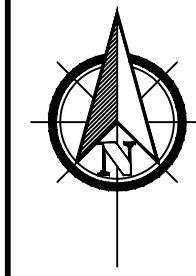
APPENDIX

PROJECT SITE PLAN
AUTOMATIC TRAFFIC RECORDER COUNT DATA
TURNING MOVEMENT COUNT DATA
SEASONAL ADJUSTMENT DATA
COVID-19 ADJUSTMENT DATA
PUBLIC TRANSPORTATION SCHEDULES
VEHICLE TRAVEL SPEED DATA
MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAP
GENERAL BACKGROUND TRAFFIC GROWTH
TRIP-GENERATION CALCULATIONS
TRIP DISTRIBUTION
CAPACITY ANALYSIS WORKSHEETS



PROJECT SITE PLAN





.\\Ex. Ref Files\Locus Map.png

Site Locus
N.T.S

Soil Test Pit Summary

- Stormwater area SWTP-3 to SWTP-6, of which 1 and 2 are within 100-ft buffer to an IVW in the mowed meadow and will not be tested at this time
- Roadway area TP R-1 to TP R-14, of which TP R-2 is within 100-ft buffer to IVW in the mowed meadow and will not be tested at this time.

Table 1. Project Site Condition Summary				
Usability	Land Break down	Acres	Sq.Ft	Coverage, %
	Total Area	14.00	609702	-
Unusable OS	Wetland (Unusable)	0.94	40990	6.7%
Usable land	Upland	13.06	568711	93.3%

Table 2. Summary of proposed buildings			
Item	Total	3brm	2brm
Unit	32	12	20
Brm	76	36	40

Table 3. Zoning Summary Table (Sherborn Residential A District)			
Item	RA	Proposed 40B Site (32 Homes)	Waiver Required (Yes, No)
Minimum Lot Area	1 acre	14 acres	Yes
Minimum Frontage	150 feet	>600	Yes
Minimum Lot Width	150 feet	>395 feet	Yes
Minimum Lot Depth	N/A	N/A	N/A
Minimum Front Setback	60 feet	20 feet	Yes
Minimum Side Setback	30 feet	21 feet	Yes
Minimum Rear Setback	30 feet	>130 feet	Yes
Maximum Height (stories)	2.5	< or = 2.5	No
Maximum Height (feet)	35 feet	< 35 feet	No
Maximum Lot Coverage	N/A	N/A	N/A
Lot Coverage			
Buildings	8.10%		
Parking and Paved Areas	7.70%		
Usable Open Space	77.50%		
Unusable Open Space	6.7% (Wetlands)		
Lot Coverage	15.80%		



AUTOMATIC TRAFFIC RECORDER COUNT DATA



Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA

94250001

9/14/2022	WB,		Hour Totals		EB,		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	8		0	14				
12:15		0	10		0	7				
12:30		1	7		0	10				
12:45		0	12	2	0	13	0	44	2	81
1:00		0	13		0	14				
1:15		0	15		0	12				
1:30		0	20		0	12				
1:45		0	12	0	0	10	0	48	0	108
2:00		0	16		0	11				
2:15		0	15		0	11				
2:30		0	10		0	21				
2:45		0	19	0	0	22	0	65	0	125
3:00		0	22		0	15				
3:15		0	41		0	8				
3:30		0	26		0	13				
3:45		0	32	0	0	17	0	53	0	174
4:00		0	33		0	14				
4:15		0	19		2	16				
4:30		0	27		0	8				
4:45		1	41	1	1	9	3	47	4	167
5:00		0	23		3	19				
5:15		0	43		5	23				
5:30		1	28		2	20				
5:45		1	31	2	4	15	14	77	16	202
6:00		2	46		11	9				
6:15		2	24		12	4				
6:30		6	19		23	14				
6:45		0	17	10	33	3	79	30	89	136
7:00		7	13		45	5				
7:15		4	8		51	3				
7:30		2	8		78	5				
7:45		7	8	20	59	3	233	16	253	53
8:00		11	5		73	4				
8:15		12	6		58	6				
8:30		12	7		27	3				
8:45		8	0	43	37	3	195	16	238	34
9:00		10	1		27	3				
9:15		13	2		24	2				
9:30		7	3		18	2				
9:45		8	1	38	13	1	82	8	120	15
10:00		13	1		18	0				
10:15		5	1		20	0				
10:30		13	0		8	1				
10:45		14	0	45	10	1	56	2	101	4
11:00		5	0		10	0				
11:15		10	1		11	0				
11:30		11	0		19	0				
11:45		10	1	36	12	0	52	0	88	2
Total		197	695		714	406			911	1101
Percent		22.1%	77.9%		63.8%	36.3%			45.3%	54.7%

Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA

94250001

9/15/2022	WB,		Hour Totals		EB,		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	1	12			0	11				
12:15	0	8			0	12				
12:30	1	12			0	13				
12:45	1	8	3	40	0	11	0	47	3	87
1:00	0	13			0	9				
1:15	1	9			0	12				
1:30	0	6			0	9				
1:45	0	13	1	41	0	15	0	45	1	86
2:00	0	10			0	8				
2:15	0	12			0	6				
2:30	0	15			1	19				
2:45	0	24	0	61	0	14	1	47	1	108
3:00	0	22			0	15				
3:15	0	35			0	11				
3:30	0	47			0	11				
3:45	0	25	0	129	0	28	0	65	0	194
4:00	0	33			0	14				
4:15	0	25			2	19				
4:30	0	35			0	13				
4:45	0	25	0	118	1	17	3	63	3	181
5:00	0	24			2	13				
5:15	0	26			5	14				
5:30	3	39			0	24				
5:45	4	35	7	124	3	16	10	67	17	191
6:00	1	30			9	12				
6:15	2	18			19	10				
6:30	3	23			22	7				
6:45	1	24	7	95	37	5	87	34	94	129
7:00	6	5			43	8				
7:15	3	14			58	3				
7:30	7	19			58	4				
7:45	3	7	19	45	68	4	227	19	246	64
8:00	15	4			61	2				
8:15	8	5			76	5				
8:30	14	4			32	1				
8:45	8	2	45	15	36	6	205	14	250	29
9:00	6	2			17	0				
9:15	6	3			14	1				
9:30	15	2			20	2				
9:45	8	1	35	8	20	1	71	4	106	12
10:00	8	0			11	0				
10:15	6	2			13	1				
10:30	15	2			15	3				
10:45	8	1	37	5	13	0	52	4	89	9
11:00	10	0			6	2				
11:15	15	0			18	0				
11:30	8	0			12	0				
11:45	5	0	38	0	10	1	46	3	84	3
Total	192	681			702	412			894	1093
Percent	22.0%	78.0%			63.0%	37.0%			45.0%	55.0%
Grand Total	389	1376			1416	818			1805	2194
Percent	22.0%	78.0%			63.4%	36.6%			45.1%	54.9%

ADT

ADT: 2,000

AADT: 2,000

Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA

94250001

9/12/2022	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
Time	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,
12:00 AM	*	*	*	*	2	0	3	0	*	*	*	*	*	*	2	0
1:00	*	*	*	*	0	0	1	0	*	*	*	*	*	*	0	0
2:00	*	*	*	*	0	0	0	1	*	*	*	*	*	*	0	0
3:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
4:00	*	*	*	*	1	3	0	3	*	*	*	*	*	*	0	3
5:00	*	*	*	*	2	14	7	10	*	*	*	*	*	*	4	12
6:00	*	*	*	*	10	79	7	87	*	*	*	*	*	*	8	83
7:00	*	*	*	*	20	233	19	227	*	*	*	*	*	*	20	230
8:00	*	*	*	*	43	195	45	205	*	*	*	*	*	*	44	200
9:00	*	*	*	*	38	82	35	71	*	*	*	*	*	*	36	76
10:00	*	*	*	*	45	56	37	52	*	*	*	*	*	*	41	54
11:00	*	*	*	*	36	52	38	46	*	*	*	*	*	*	37	49
12:00 PM	*	*	*	*	37	44	40	47	*	*	*	*	*	*	38	46
1:00	*	*	*	*	60	48	41	45	*	*	*	*	*	*	50	46
2:00	*	*	*	*	60	65	61	47	*	*	*	*	*	*	60	56
3:00	*	*	*	*	121	53	129	65	*	*	*	*	*	*	125	59
4:00	*	*	*	*	120	47	118	63	*	*	*	*	*	*	119	55
5:00	*	*	*	*	125	77	124	67	*	*	*	*	*	*	124	72
6:00	*	*	*	*	106	30	95	34	*	*	*	*	*	*	100	32
7:00	*	*	*	*	37	16	45	19	*	*	*	*	*	*	41	18
8:00	*	*	*	*	18	16	15	14	*	*	*	*	*	*	16	15
9:00	*	*	*	*	7	8	8	4	*	*	*	*	*	*	8	6
10:00	*	*	*	*	2	2	5	4	*	*	*	*	*	*	4	3
11:00	*	*	*	*	2	0	0	2	*	*	*	*	*	*	1	1
Total	0	0	0	0	892	1120	873	1113	0	0	0	0	0	0	878	1116
Day	0		0		2012		1986		0		0		0		1994	
AM Peak					10:00	7:00	8:00	7:00							8:00	7:00
Volume					45	233	45	227							44	230
PM Peak					5:00	5:00	3:00	5:00							3:00	5:00
Volume					125	77	129	67							125	72
Comb Total	0		0		2012		1986		0		0		0		1994	
ADT	ADT: 2,000		AADT: 2,000													

TURNING MOVEMENT COUNT DATA



Accurate Counts

978-664-2565

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 1

Groups Printed- Cars - Trucks

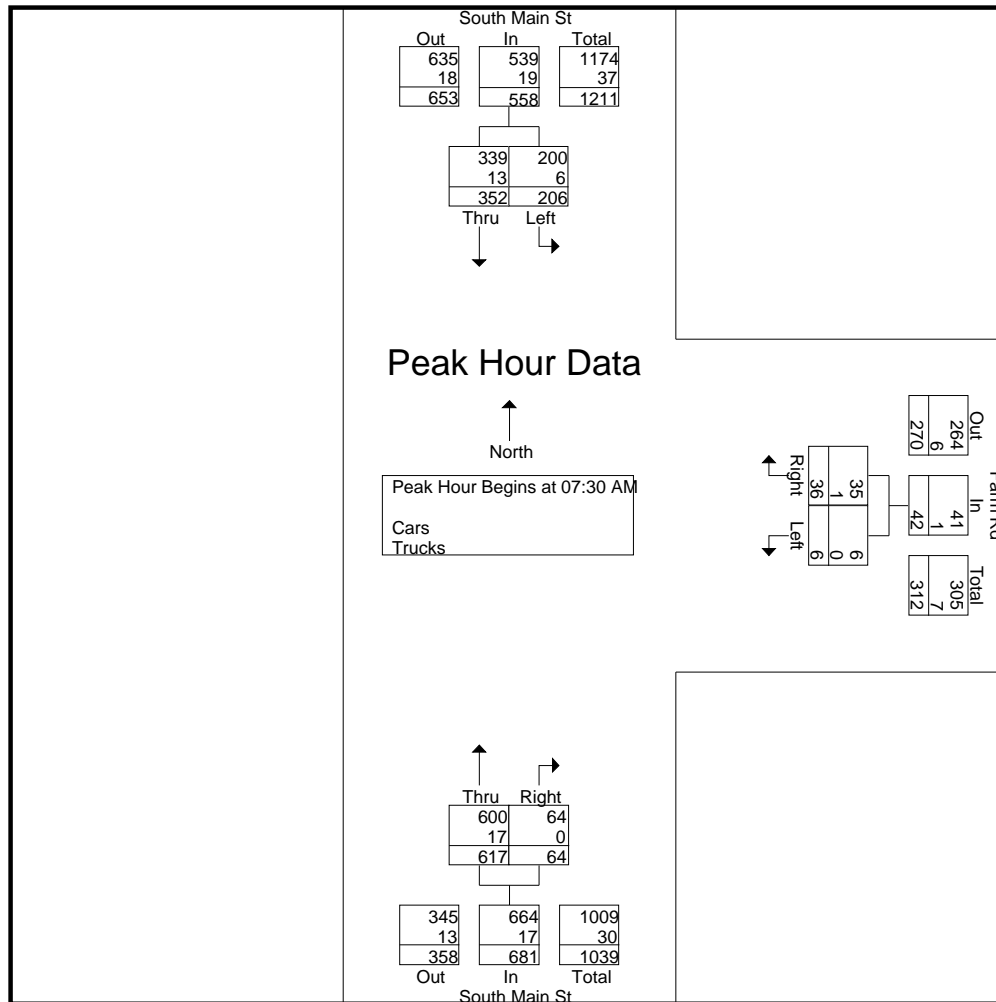
	South Main St From North		Farm Rd From East		South Main St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM	38	85	0	11	139	5	278
07:15 AM	48	78	2	8	107	5	248
07:30 AM	57	89	2	5	175	23	351
07:45 AM	45	95	1	5	178	15	339
Total	188	347	5	29	599	48	1216
08:00 AM	58	90	0	15	136	19	318
08:15 AM	46	78	3	11	128	7	273
08:30 AM	24	77	0	16	160	5	282
08:45 AM	32	77	1	15	133	3	261
Total	160	322	4	57	557	34	1134
Grand Total	348	669	9	86	1156	82	2350
Apprch %	34.2	65.8	9.5	90.5	93.4	6.6	
Total %	14.8	28.5	0.4	3.7	49.2	3.5	
Cars	332	641	9	83	1127	80	2272
% Cars	95.4	95.8	100	96.5	97.5	97.6	96.7
Trucks	16	28	0	3	29	2	78
% Trucks	4.6	4.2	0	3.5	2.5	2.4	3.3

	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	57	89	146	2	5	7	175	23	198	351
07:45 AM	45	95	140	1	5	6	178	15	193	339
08:00 AM	58	90	148	0	15	15	136	19	155	318
08:15 AM	46	78	124	3	11	14	128	7	135	273
Total Volume	206	352	558	6	36	42	617	64	681	1281
% App. Total	36.9	63.1		14.3	85.7		90.6	9.4		
PHF	.888	.926	.943	.500	.600	.700	.867	.696	.860	.912
Cars	200	339	539	6	35	41	600	64	664	1244
% Cars	97.1	96.3	96.6	100	97.2	97.6	97.2	100	97.5	97.1
Trucks	6	13	19	0	1	1	17	0	17	37
% Trucks	2.9	3.7	3.4	0	2.8	2.4	2.8	0	2.5	2.9

Accurate Counts
978-664-2565

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 2



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

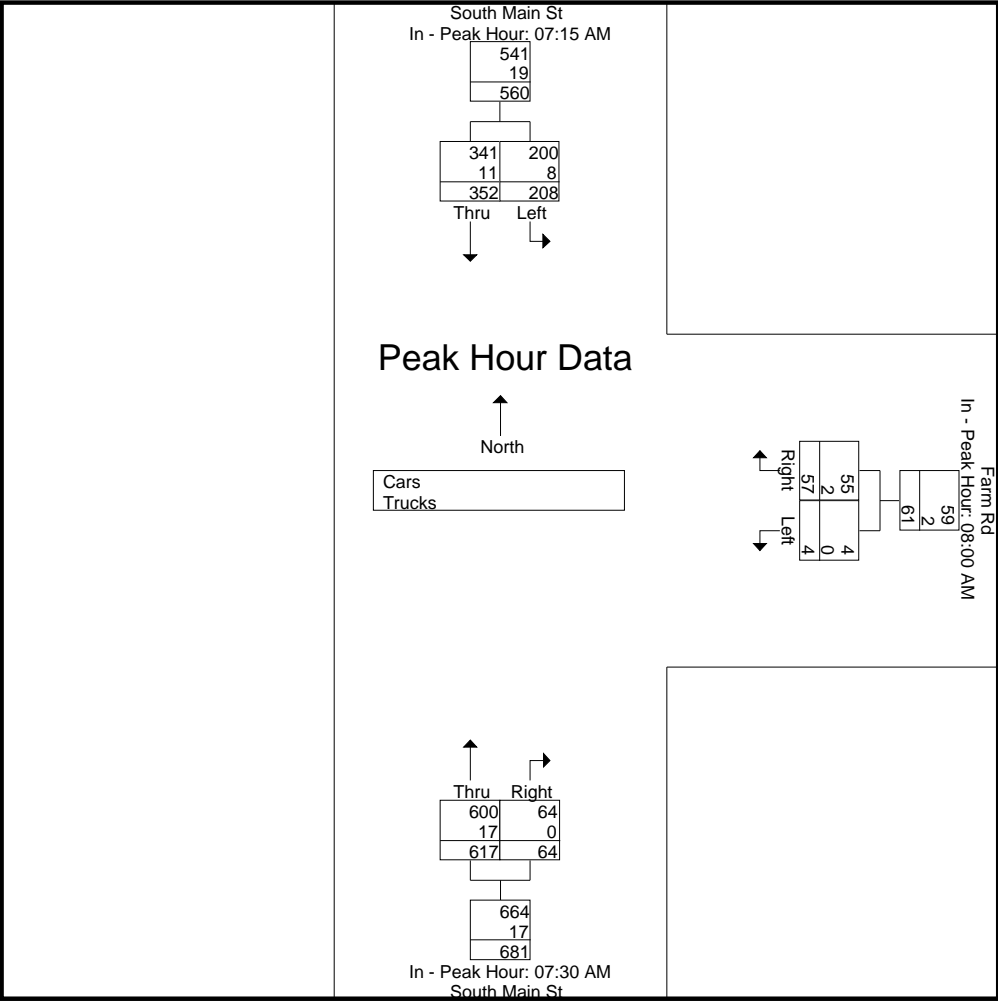
	07:15 AM			08:00 AM			07:30 AM		
+0 mins.	48	78	126	0	15	15	175	23	198
+15 mins.	57	89	146	3	11	14	178	15	193
+30 mins.	45	95	140	0	16	16	136	19	155
+45 mins.	58	90	148	1	15	16	128	7	135
Total Volume	208	352	560	4	57	61	617	64	681
% App. Total	37.1	62.9		6.6	93.4		90.6	9.4	
PHF	.897	.926	.946	.333	.891	.953	.867	.696	.860
Cars	200	341	541	4	55	59	600	64	664
% Cars	96.2	96.9	96.6	100	96.5	96.7	97.2	100	97.5
Trucks	8	11	19	0	2	2	17	0	17
% Trucks	3.8	3.1	3.4	0	3.5	3.3	2.8	0	2.5

Accurate Counts

978-664-2565

N/S Street : South Main Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Clear

File Name : 94250001
 Site Code : 94250001
 Start Date : 9/14/2022
 Page No : 3



Accurate Counts

978-664-2565

N/S Street : South Main Street

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Clear

File Name : 94250001

Site Code : 94250001

Start Date : 9/14/2022

Page No : 4

Groups Printed- Cars

	South Main St From North		Farm Rd From East		South Main St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM	35	78	0	11	134	5	263
07:15 AM	45	78	2	7	104	4	240
07:30 AM	56	85	2	5	170	23	341
07:45 AM	43	91	1	5	173	15	328
Total	179	332	5	28	581	47	1172
08:00 AM	56	87	0	15	133	19	310
08:15 AM	45	76	3	10	124	7	265
08:30 AM	23	75	0	15	158	4	275
08:45 AM	29	71	1	15	131	3	250
Total	153	309	4	55	546	33	1100
Grand Total	332	641	9	83	1127	80	2272
Apprch %	34.1	65.9	9.8	90.2	93.4	6.6	
Total %	14.6	28.2	0.4	3.7	49.6	3.5	

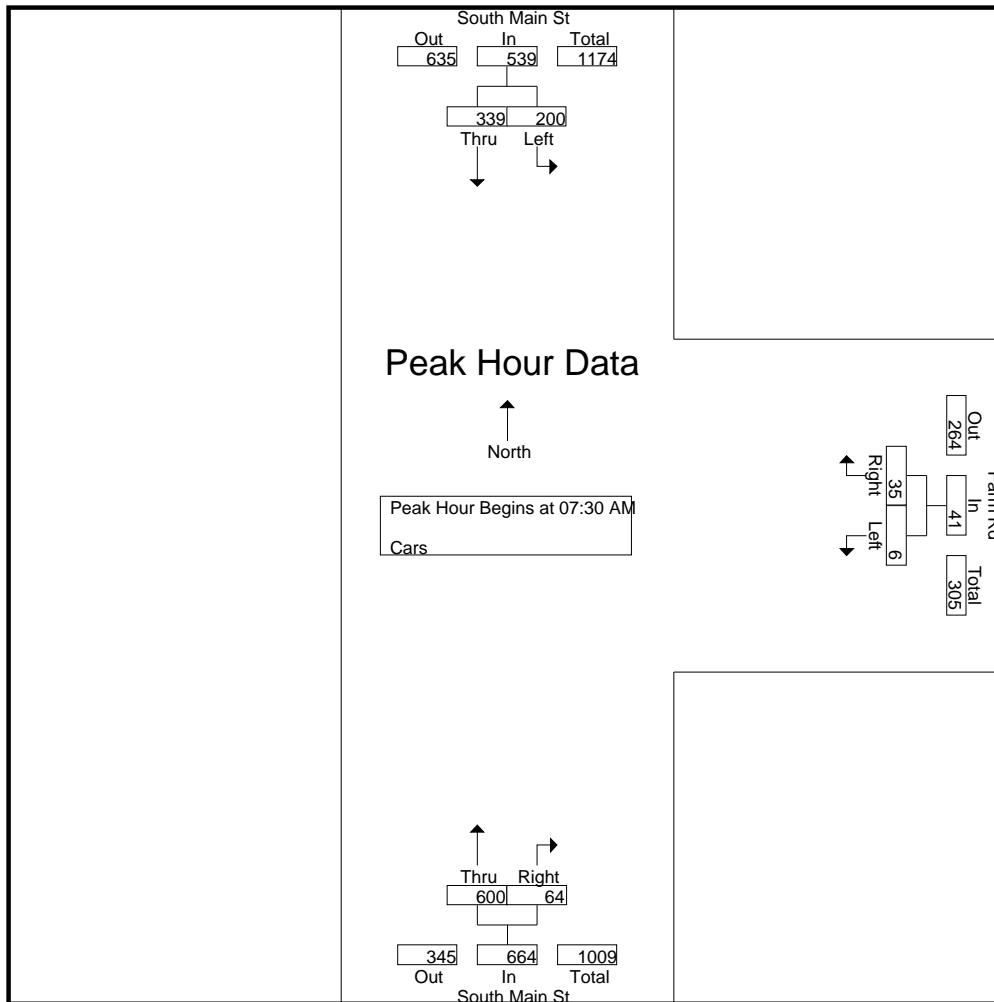
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	56	85	141	2	5	7	170	23	193	341
07:45 AM	43	91	134	1	5	6	173	15	188	328
08:00 AM	56	87	143	0	15	15	133	19	152	310
08:15 AM	45	76	121	3	10	13	124	7	131	265
Total Volume	200	339	539	6	35	41	600	64	664	1244
% App. Total	37.1	62.9		14.6	85.4		90.4	9.6		
PHF	.893	.931	.942	.500	.583	.683	.867	.696	.860	.912

Accurate Counts

978-664-2565

N/S Street : South Main Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Clear

File Name : 94250001
 Site Code : 94250001
 Start Date : 9/14/2022
 Page No : 5

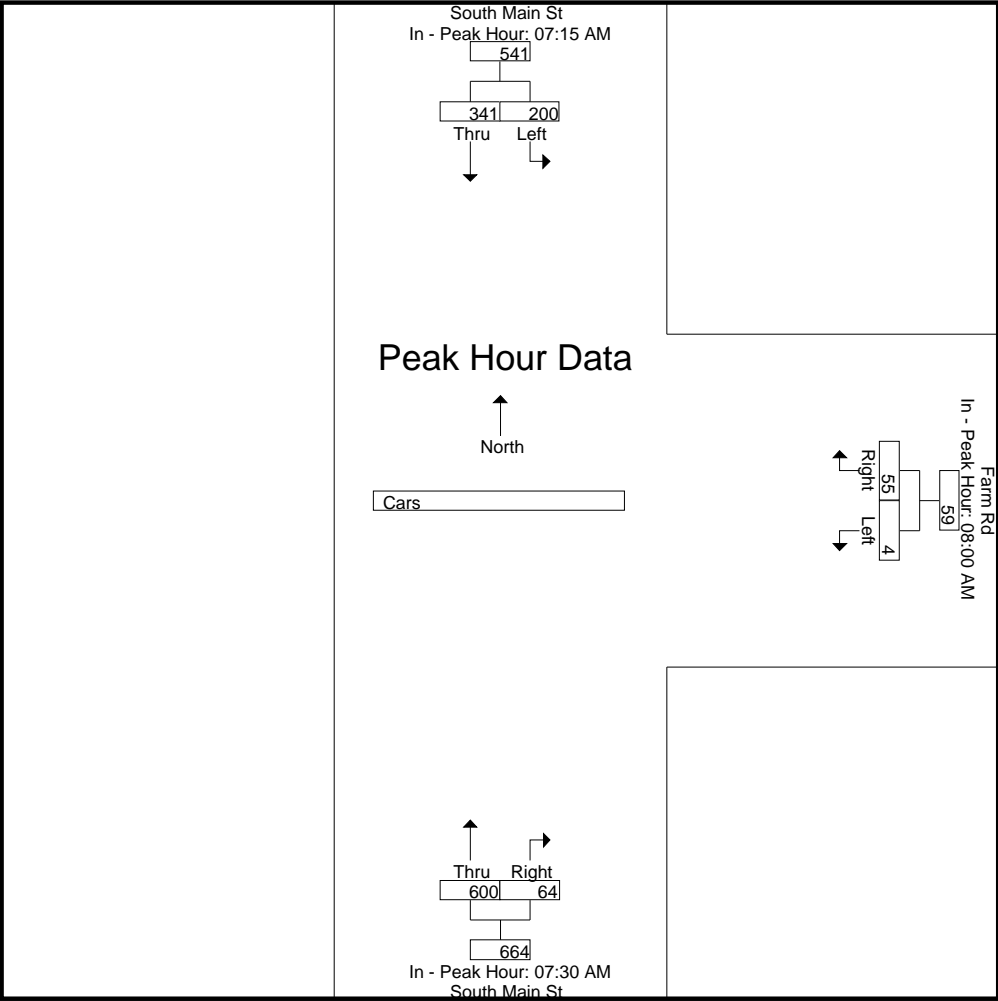


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			08:00 AM			07:30 AM		
+0 mins.	45	78	123	0	15	15	170	23	193
+15 mins.	56	85	141	3	10	13	173	15	188
+30 mins.	43	91	134	0	15	15	133	19	152
+45 mins.	56	87	143	1	15	16	124	7	131
Total Volume	200	341	541	4	55	59	600	64	664
% App. Total	37	63		6.8	93.2		90.4	9.6	
PHF	.893	.937	.946	.333	.917	.922	.867	.696	.860

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 6



Accurate Counts

978-664-2565

N/S Street : South Main Street

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Clear

File Name : 94250001

Site Code : 94250001

Start Date : 9/14/2022

Page No : 7

Groups Printed- Trucks

	South Main St From North		Farm Rd From East		South Main St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM	3	7	0	0	5	0	15
07:15 AM	3	0	0	1	3	1	8
07:30 AM	1	4	0	0	5	0	10
07:45 AM	2	4	0	0	5	0	11
Total	9	15	0	1	18	1	44
08:00 AM	2	3	0	0	3	0	8
08:15 AM	1	2	0	1	4	0	8
08:30 AM	1	2	0	1	2	1	7
08:45 AM	3	6	0	0	2	0	11
Total	7	13	0	2	11	1	34
Grand Total	16	28	0	3	29	2	78
Apprch %	36.4	63.6	0	100	93.5	6.5	
Total %	20.5	35.9	0	3.8	37.2	2.6	

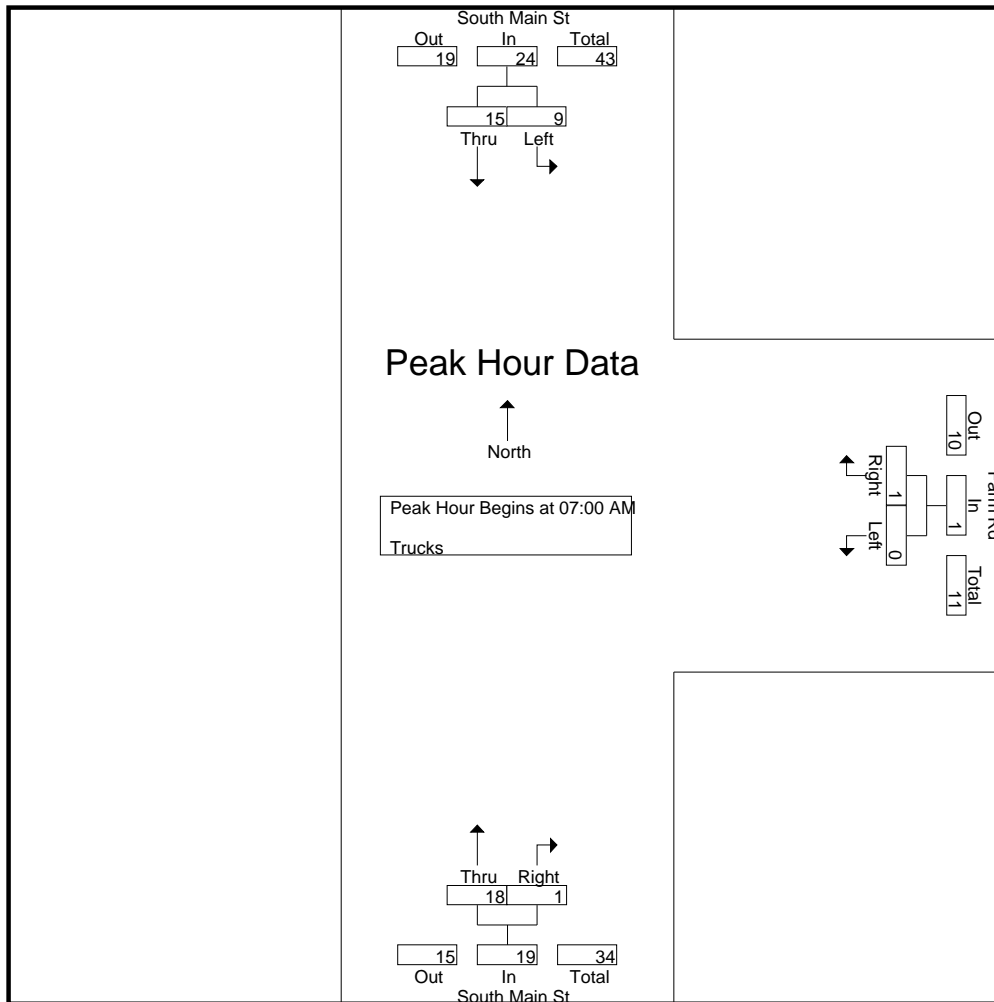
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	3	7	10	0	0	0	5	0	5	15
07:15 AM	3	0	3	0	1	1	3	1	4	8
07:30 AM	1	4	5	0	0	0	5	0	5	10
07:45 AM	2	4	6	0	0	0	5	0	5	11
Total Volume	9	15	24	0	1	1	18	1	19	44
% App. Total	37.5	62.5		0	100		94.7	5.3		
PHF	.750	.536	.600	.000	.250	.250	.900	.250	.950	.733

Accurate Counts

978-664-2565

N/S Street : South Main Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Clear

File Name : 94250001
 Site Code : 94250001
 Start Date : 9/14/2022
 Page No : 8

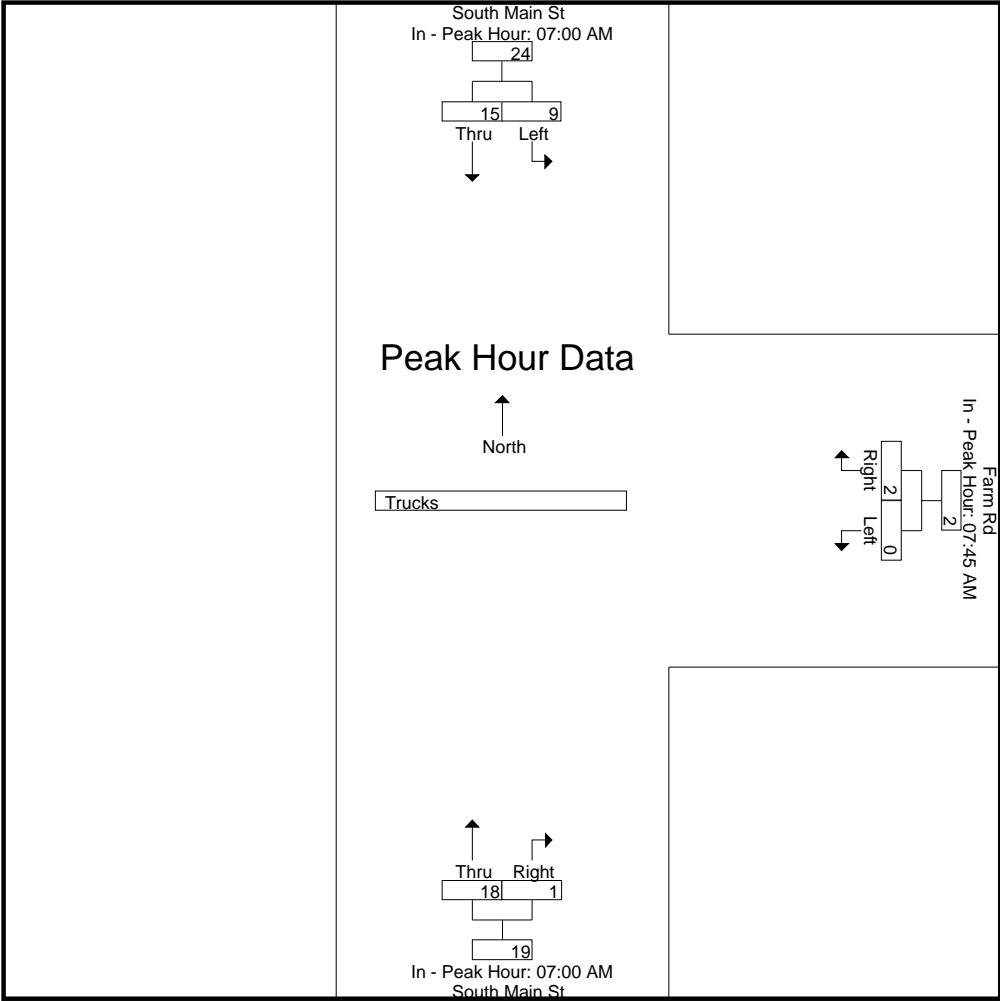


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:45 AM			07:00 AM		
+0 mins.	3	7	10	0	0	0	5	0	5
+15 mins.	3	0	3	0	0	0	3	1	4
+30 mins.	1	4	5	0	1	1	5	0	5
+45 mins.	2	4	6	0	1	1	5	0	5
Total Volume	9	15	24	0	2	2	18	1	19
% App. Total	37.5	62.5		0	100		94.7	5.3	
PHF	.750	.536	.600	.000	.500	.500	.900	.250	.950

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 9



Accurate Counts

978-664-2565

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 10

Groups Printed- Bikes Peds

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

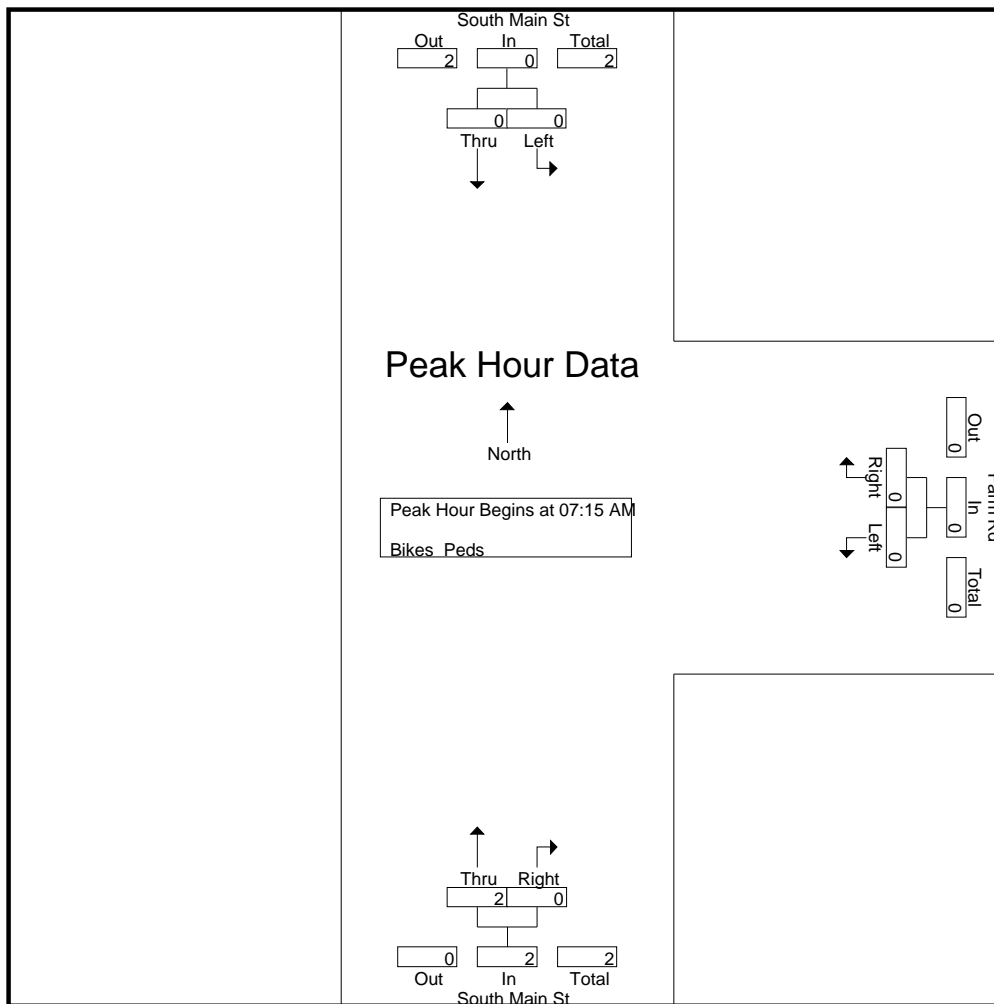
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM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

Accurate Counts

978-664-2565

N/S Street : South Main Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Clear

File Name : 94250001
 Site Code : 94250001
 Start Date : 9/14/2022
 Page No : 11

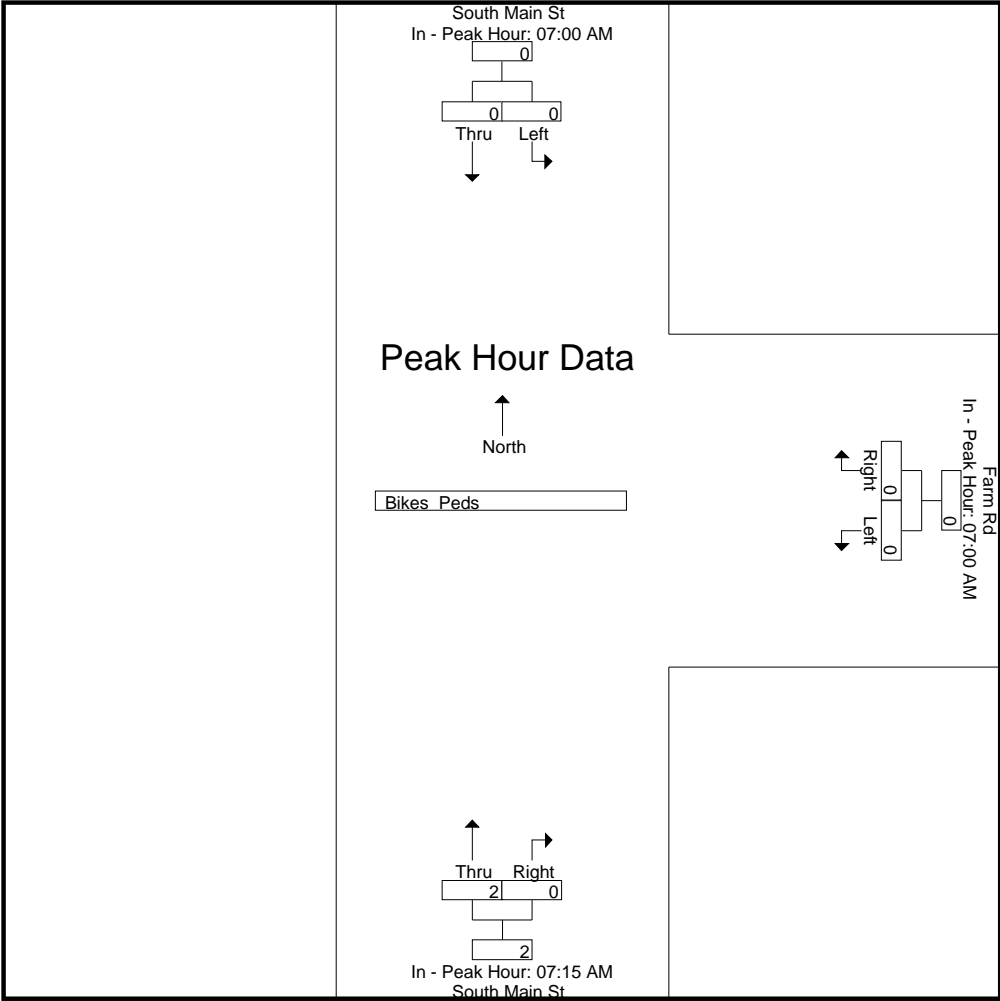


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

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

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 12



Accurate Counts

978-664-2565

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 1

Groups Printed- Cars - Trucks

	South Main St From North		Farm Rd From East		South Main St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
04:00 PM	16	130	5	32	85	2	270
04:15 PM	14	144	2	25	108	1	294
04:30 PM	7	140	1	36	100	2	286
04:45 PM	14	114	1	42	84	3	258
Total	51	528	9	135	377	8	1108
05:00 PM	17	119	5	36	109	1	287
05:15 PM	23	125	10	48	108	3	317
05:30 PM	20	134	1	38	132	2	327
05:45 PM	16	127	4	43	97	2	289
Total	76	505	20	165	446	8	1220
Grand Total	127	1033	29	300	823	16	2328
Apprch %	10.9	89.1	8.8	91.2	98.1	1.9	
Total %	5.5	44.4	1.2	12.9	35.4	0.7	
Cars	126	1010	29	295	811	16	2287
% Cars	99.2	97.8	100	98.3	98.5	100	98.2
Trucks	1	23	0	5	12	0	41
% Trucks	0.8	2.2	0	1.7	1.5	0	1.8

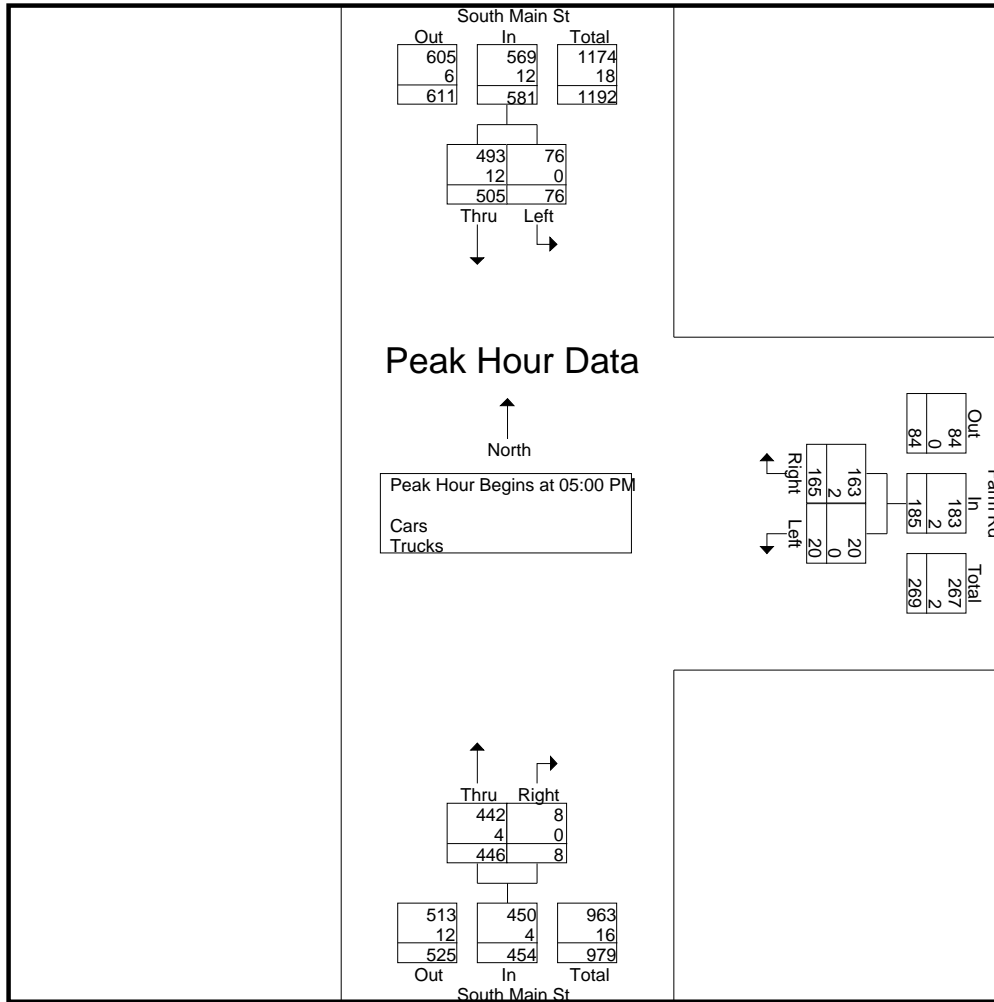
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	17	119	136	5	36	41	109	1	110	287
05:15 PM	23	125	148	10	48	58	108	3	111	317
05:30 PM	20	134	154	1	38	39	132	2	134	327
05:45 PM	16	127	143	4	43	47	97	2	99	289
Total Volume	76	505	581	20	165	185	446	8	454	1220
% App. Total	13.1	86.9		10.8	89.2		98.2	1.8		
PHF	.826	.942	.943	.500	.859	.797	.845	.667	.847	.933
Cars	76	493	569	20	163	183	442	8	450	1202
% Cars	100	97.6	97.9	100	98.8	98.9	99.1	100	99.1	98.5
Trucks	0	12	12	0	2	2	4	0	4	18
% Trucks	0	2.4	2.1	0	1.2	1.1	0.9	0	0.9	1.5

Accurate Counts

978-664-2565

N/S Street : South Main Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Clear

File Name : 94250001
 Site Code : 94250001
 Start Date : 9/14/2022
 Page No : 2

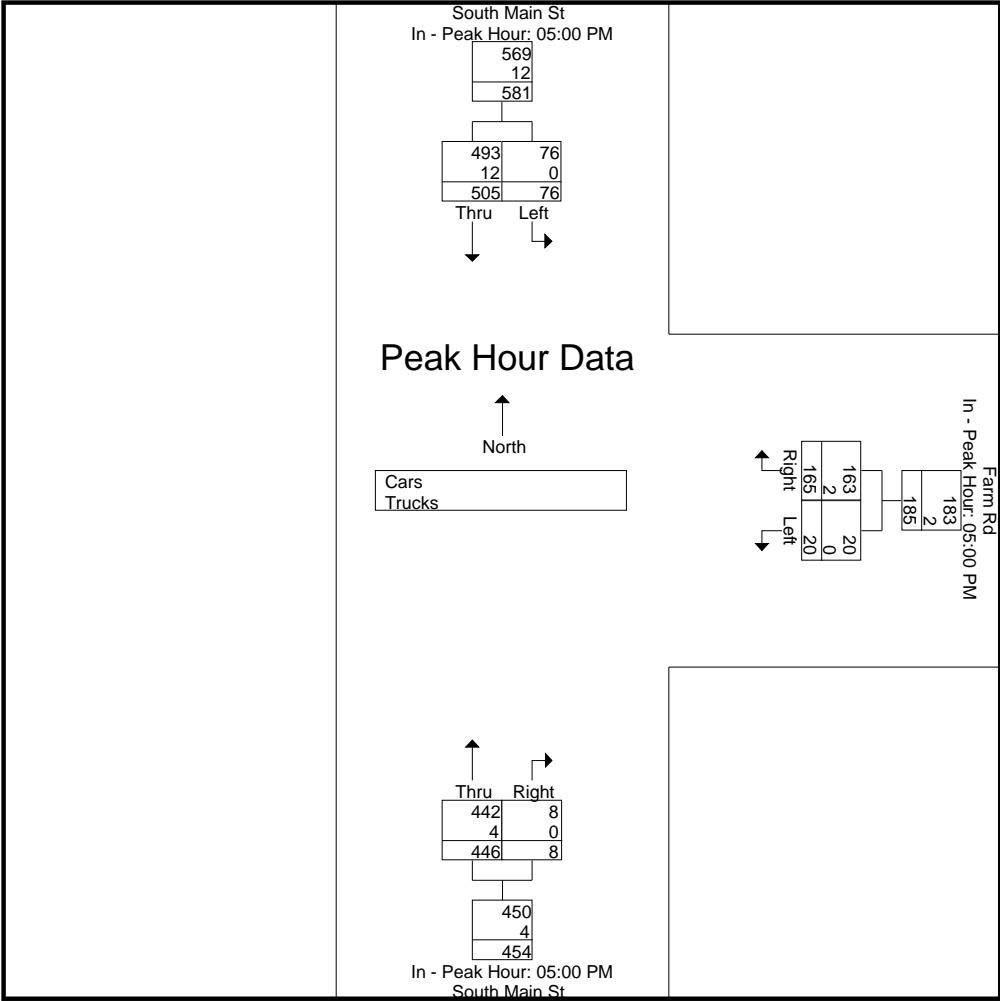


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	17	119	136	5	36	41	109	1	110
+15 mins.	23	125	148	10	48	58	108	3	111
+30 mins.	20	134	154	1	38	39	132	2	134
+45 mins.	16	127	143	4	43	47	97	2	99
Total Volume	76	505	581	20	165	185	446	8	454
% App. Total	13.1	86.9		10.8	89.2		98.2	1.8	
PHF	.826	.942	.943	.500	.859	.797	.845	.667	.847
Cars	76	493	569	20	163	183	442	8	450
% Cars	100	97.6	97.9	100	98.8	98.9	99.1	100	99.1
Trucks	0	12	12	0	2	2	4	0	4
% Trucks	0	2.4	2.1	0	1.2	1.1	0.9	0	0.9

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 3



Accurate Counts

978-664-2565

N/S Street : South Main Street

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Clear

File Name : 94250001

Site Code : 94250001

Start Date : 9/14/2022

Page No : 4

Groups Printed- Cars

	South Main St From North		Farm Rd From East		South Main St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
04:00 PM	16	128	5	30	82	2	263
04:15 PM	14	142	2	25	106	1	290
04:30 PM	7	135	1	35	97	2	277
04:45 PM	13	112	1	42	84	3	255
Total	50	517	9	132	369	8	1085
05:00 PM	17	117	5	36	109	1	285
05:15 PM	23	124	10	48	107	3	315
05:30 PM	20	133	1	36	131	2	323
05:45 PM	16	119	4	43	95	2	279
Total	76	493	20	163	442	8	1202
Grand Total	126	1010	29	295	811	16	2287
Apprch %	11.1	88.9	9	91	98.1	1.9	
Total %	5.5	44.2	1.3	12.9	35.5	0.7	

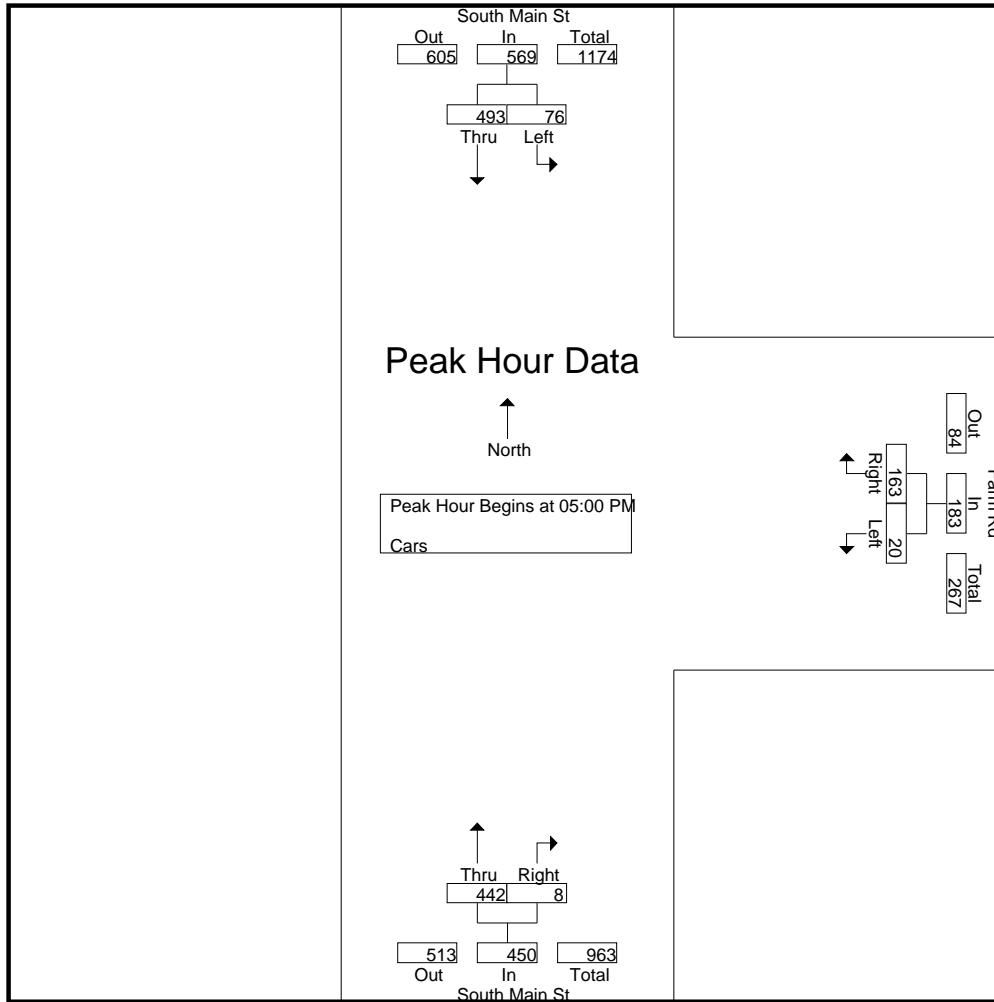
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	17	117	134	5	36	41	109	1	110	285
05:15 PM	23	124	147	10	48	58	107	3	110	315
05:30 PM	20	133	153	1	36	37	131	2	133	323
05:45 PM	16	119	135	4	43	47	95	2	97	279
Total Volume	76	493	569	20	163	183	442	8	450	1202
% App. Total	13.4	86.6		10.9	89.1		98.2	1.8		
PHF	.826	.927	.930	.500	.849	.789	.844	.667	.846	.930

Accurate Counts

978-664-2565

N/S Street : South Main Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Clear

File Name : 94250001
 Site Code : 94250001
 Start Date : 9/14/2022
 Page No : 5

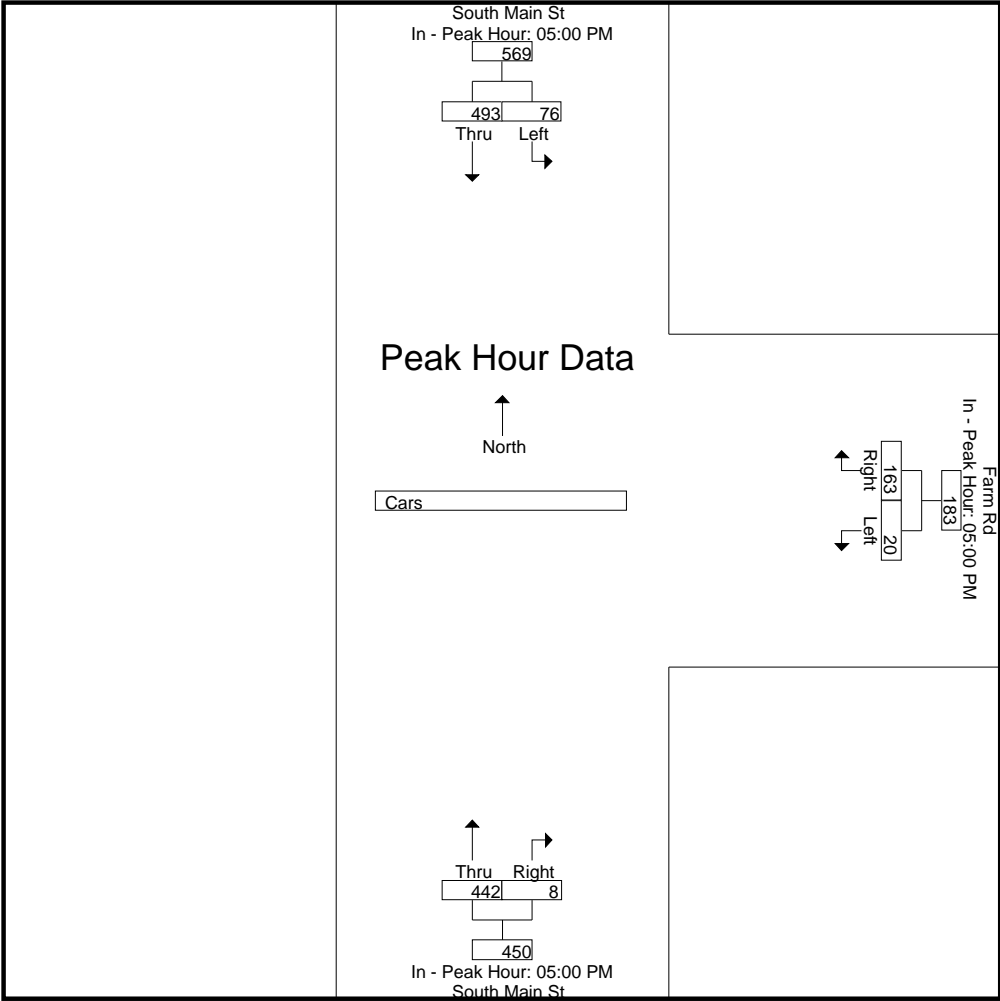


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	17	117	134	5	36	41	109	1	110
+15 mins.	23	124	147	10	48	58	107	3	110
+30 mins.	20	133	153	1	36	37	131	2	133
+45 mins.	16	119	135	4	43	47	95	2	97
Total Volume	76	493	569	20	163	183	442	8	450
% App. Total	13.4	86.6		10.9	89.1		98.2	1.8	
PHF	.826	.927	.930	.500	.849	.789	.844	.667	.846

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 6



Accurate Counts

978-664-2565

N/S Street : South Main Street

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Clear

File Name : 94250001

Site Code : 94250001

Start Date : 9/14/2022

Page No : 7

Groups Printed- Trucks

	South Main St From North		Farm Rd From East		South Main St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
04:00 PM	0	2	0	2	3	0	7
04:15 PM	0	2	0	0	2	0	4
04:30 PM	0	5	0	1	3	0	9
04:45 PM	1	2	0	0	0	0	3
Total	1	11	0	3	8	0	23
05:00 PM	0	2	0	0	0	0	2
05:15 PM	0	1	0	0	1	0	2
05:30 PM	0	1	0	2	1	0	4
05:45 PM	0	8	0	0	2	0	10
Total	0	12	0	2	4	0	18
Grand Total	1	23	0	5	12	0	41
Apprch %	4.2	95.8	0	100	100	0	
Total %	2.4	56.1	0	12.2	29.3	0	

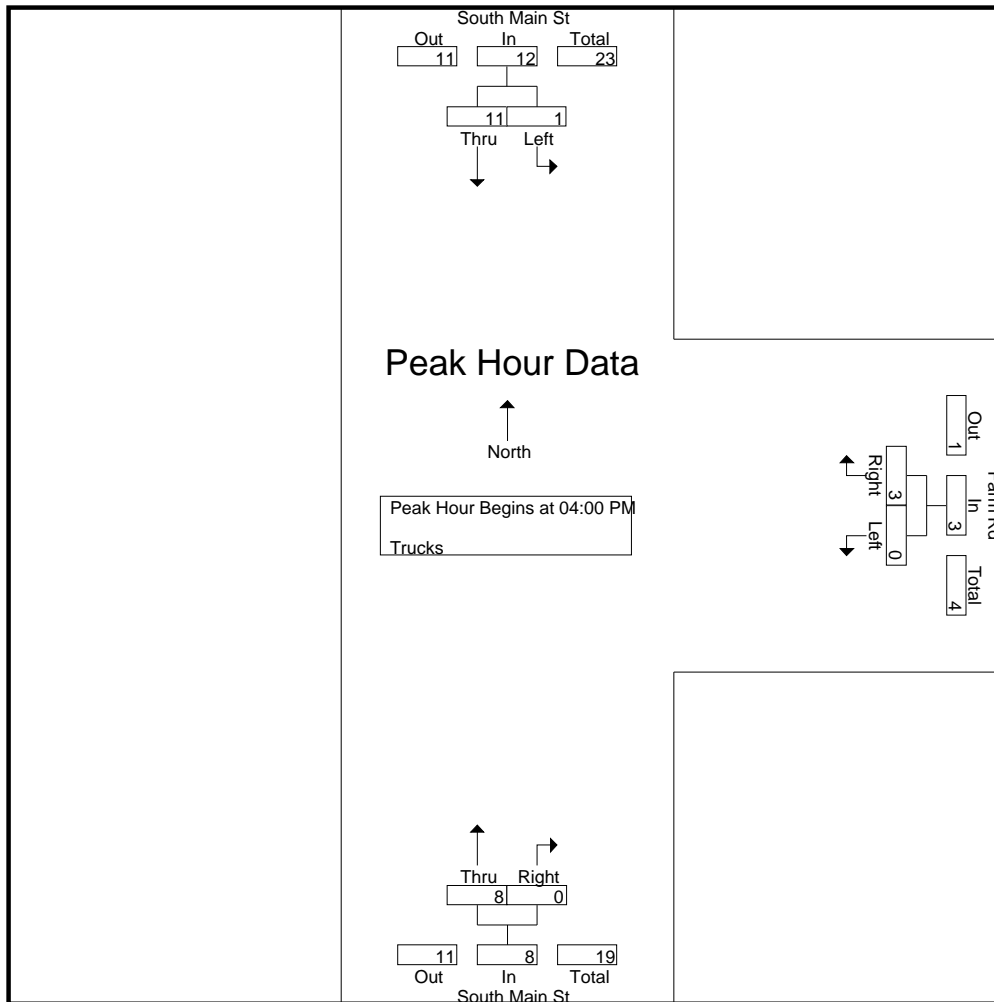
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	2	2	0	2	2	3	0	3	7
04:15 PM	0	2	2	0	0	0	2	0	2	4
04:30 PM	0	5	5	0	1	1	3	0	3	9
04:45 PM	1	2	3	0	0	0	0	0	0	3
Total Volume	1	11	12	0	3	3	8	0	8	23
% App. Total	8.3	91.7		0	100		100	0		
PHF	.250	.550	.600	.000	.375	.375	.667	.000	.667	.639

Accurate Counts

978-664-2565

N/S Street : South Main Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Clear

File Name : 94250001
 Site Code : 94250001
 Start Date : 9/14/2022
 Page No : 8

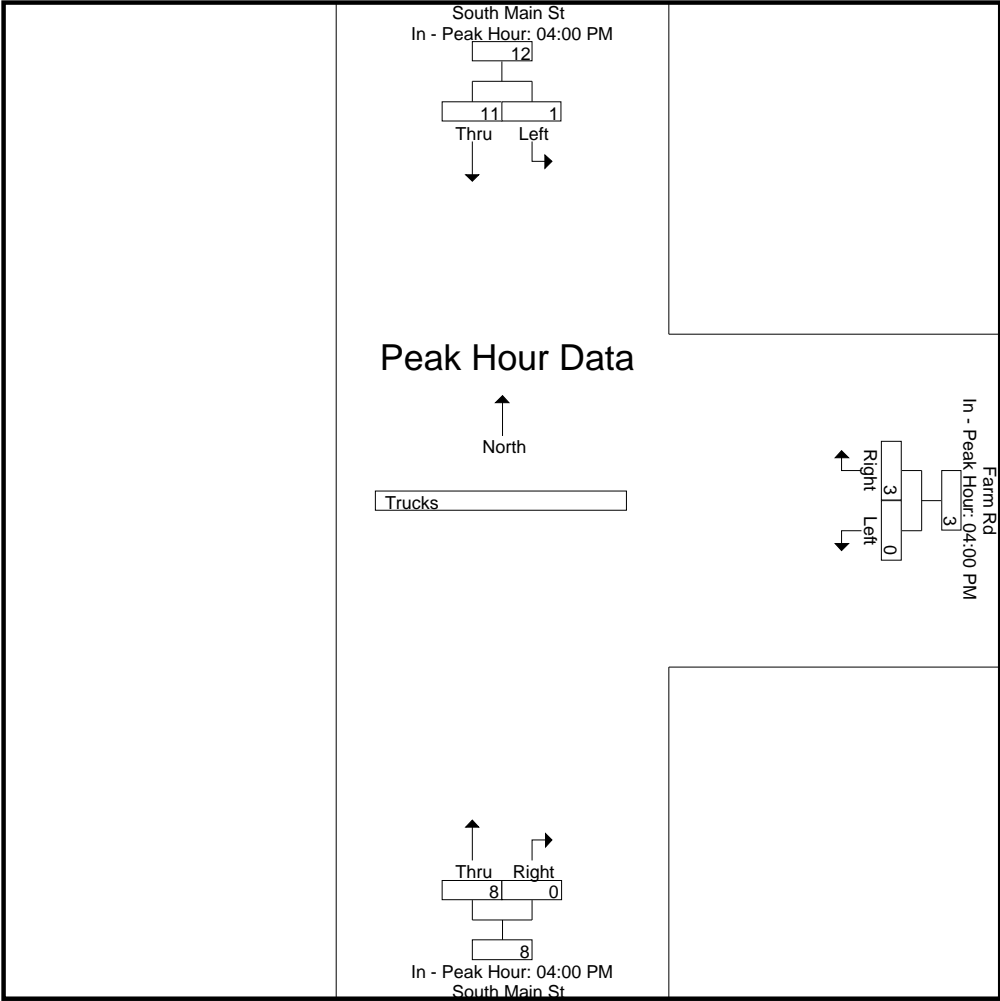


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	2	2	0	2	2	3	0	3
+15 mins.	0	2	2	0	0	0	2	0	2
+30 mins.	0	5	5	0	1	1	3	0	3
+45 mins.	1	2	3	0	0	0	0	0	0
Total Volume	1	11	12	0	3	3	8	0	8
% App. Total	8.3	91.7		0	100		100	0	
PHF	.250	.550	.600	.000	.375	.375	.667	.000	.667

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 9



Accurate Counts

978-664-2565

N/S Street : South Main Street

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Clear

File Name : 94250001

Site Code : 94250001

Start Date : 9/14/2022

Page No : 10

Groups Printed- Bikes Peds

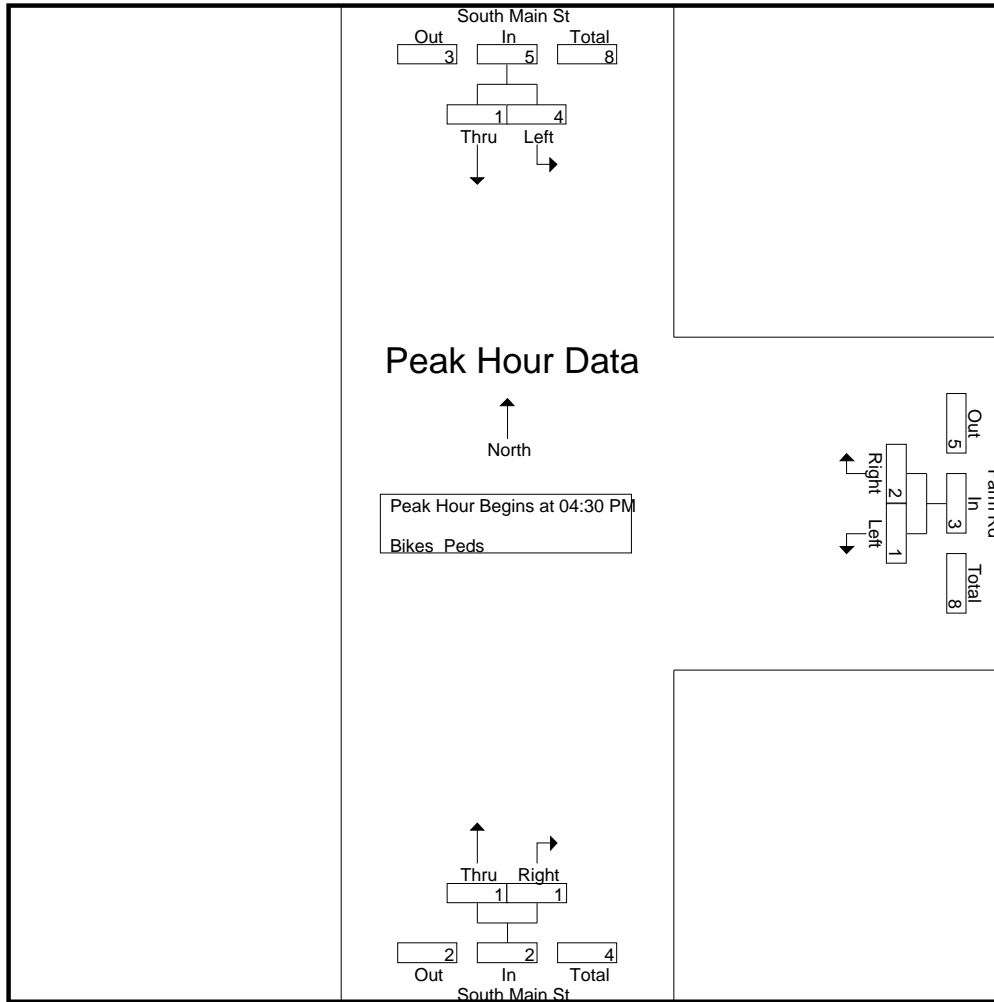
	South Main St From North			Farm Rd From East			South Main St From South			Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	3	0	0	0	1	0	0	0	0	0	4	4
Total	3	0	0	0	1	0	0	1	0	0	5	5
05:00 PM	0	1	0	0	0	0	1	1	0	0	3	3
05:15 PM	1	0	0	1	1	0	0	0	0	0	3	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	1	1	0	1	1	0	0	6	6
Grand Total	4	1	0	1	2	0	1	2	0	0	11	11
Apprch %	80	20		33.3	66.7		33.3	66.7				
Total %	36.4	9.1		9.1	18.2		9.1	18.2		0	100	

	South Main St From North			Farm Rd From East			South Main St From South			Int. Total
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	3	0	3	0	1	1	0	0	0	4
05:00 PM	0	1	1	0	0	0	1	1	2	3
05:15 PM	1	0	1	1	1	2	0	0	0	3
Total Volume	4	1	5	1	2	3	1	1	2	10
% App. Total	80	20		33.3	66.7		50	50		
PHF	.333	.250	.417	.250	.500	.375	.250	.250	.250	.625

Accurate Counts
978-664-2565

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 11

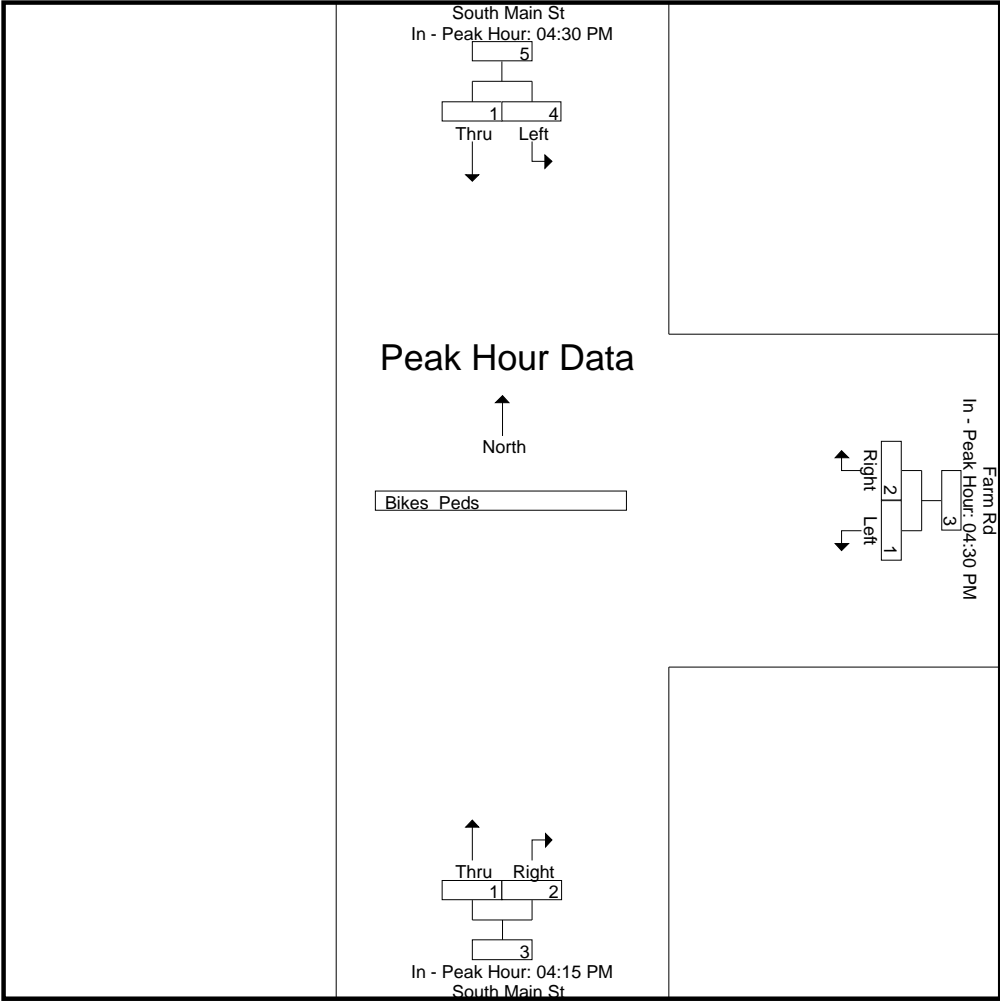


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	1	1
+15 mins.	3	0	3	0	1	1	0	0	0
+30 mins.	0	1	1	0	0	0	0	0	0
+45 mins.	1	0	1	1	1	2	1	1	2
Total Volume	4	1	5	1	2	3	1	2	3
% App. Total	80	20		33.3	66.7		33.3	66.7	
PHF	.333	.250	.417	.250	.500	.375	.250	.500	.375

N/S Street : South Main Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Clear

File Name : 94250001
Site Code : 94250001
Start Date : 9/14/2022
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 1

Groups Printed- Cars - Trucks

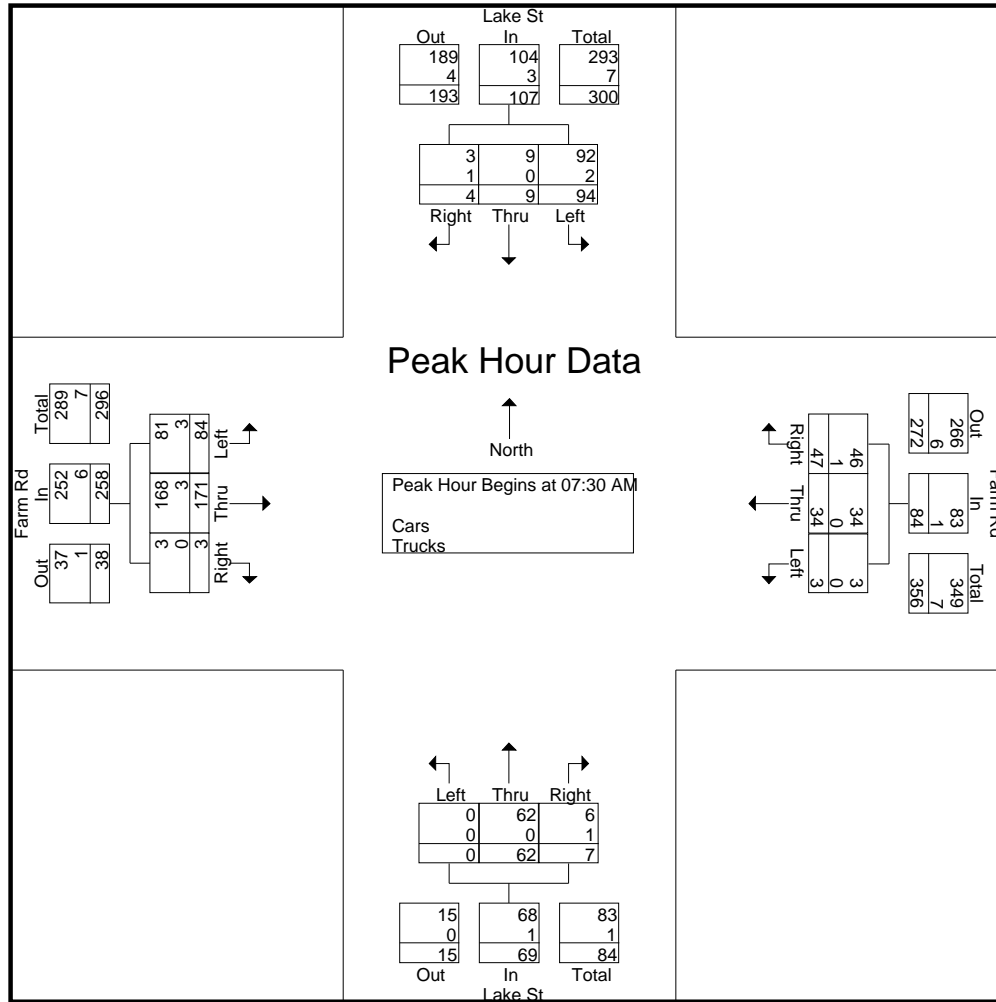
	Lake St From North			Farm Rd From East			Lake St From South			Farm Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	6	0	0	0	3	4	0	6	0	16	37	0	72
07:15 AM	14	3	1	0	5	8	1	13	2	14	34	1	96
07:30 AM	20	1	1	0	6	6	0	19	1	29	42	0	125
07:45 AM	24	5	1	1	3	12	0	17	2	23	30	0	118
Total	64	9	3	1	17	30	1	55	5	82	143	1	411
08:00 AM	20	3	2	2	8	11	0	16	0	20	32	2	116
08:15 AM	30	0	0	0	17	18	0	10	4	12	67	1	159
08:30 AM	5	1	0	1	11	33	0	6	0	10	24	0	91
08:45 AM	8	2	4	0	15	6	0	1	1	4	20	1	62
Total	63	6	6	3	51	68	0	33	5	46	143	4	428
Grand Total	127	15	9	4	68	98	1	88	10	128	286	5	839
Apprch %	84.1	9.9	6	2.4	40	57.6	1	88.9	10.1	30.5	68.3	1.2	
Total %	15.1	1.8	1.1	0.5	8.1	11.7	0.1	10.5	1.2	15.3	34.1	0.6	
Cars	123	15	8	4	67	89	1	88	9	125	279	5	813
% Cars	96.9	100	88.9	100	98.5	90.8	100	100	90	97.7	97.6	100	96.9
Trucks	4	0	1	0	1	9	0	0	1	3	7	0	26
% Trucks	3.1	0	11.1	0	1.5	9.2	0	0	10	2.3	2.4	0	3.1

	Lake St From North				Farm Rd From East				Lake St From South				Farm 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	20	1	1	22	0	6	6	12	0	19	1	20	29	42	0	71	125
07:45 AM	24	5	1	30	1	3	12	16	0	17	2	19	23	30	0	53	118
08:00 AM	20	3	2	25	2	8	11	21	0	16	0	16	20	32	2	54	116
08:15 AM	30	0	0	30	0	17	18	35	0	10	4	14	12	67	1	80	159
Total Volume	94	9	4	107	3	34	47	84	0	62	7	69	84	171	3	258	518
% App. Total	87.9	8.4	3.7		3.6	40.5	56		0	89.9	10.1		32.6	66.3	1.2		
PHF	.783	.450	.500	.892	.375	.500	.653	.600	.000	.816	.438	.863	.724	.638	.375	.806	.814
Cars	92	9	3	104	3	34	46	83	0	62	6	68	81	168	3	252	507
% Cars	97.9	100	75.0	97.2	100	100	97.9	98.8	0	100	85.7	98.6	96.4	98.2	100	97.7	97.9
Trucks	2	0	1	3	0	0	1	1	0	0	1	1	3	3	0	6	11
% Trucks	2.1	0	25.0	2.8	0	0	2.1	1.2	0	0	14.3	1.4	3.6	1.8	0	2.3	2.1

Accurate Counts
978-664-2565

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 2

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

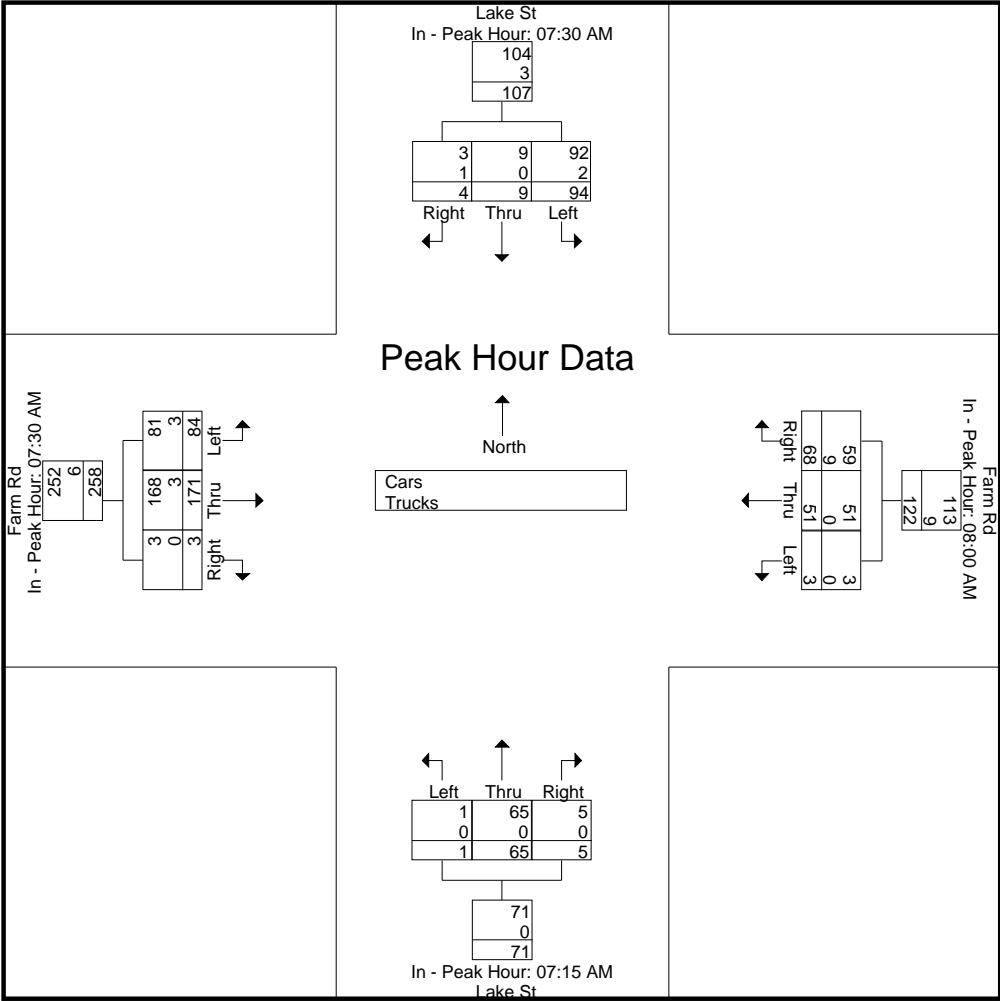


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				07:15 AM				07:30 AM			
+0 mins.	20	1	1	22	2	8	11	21	1	13	2	16	29	42	0	71
+15 mins.	24	5	1	30	0	17	18	35	0	19	1	20	23	30	0	53
+30 mins.	20	3	2	25	1	11	33	45	0	17	2	19	20	32	2	54
+45 mins.	30	0	0	30	0	15	6	21	0	16	0	16	12	67	1	80
Total Volume	94	9	4	107	3	51	68	122	1	65	5	71	84	171	3	258
% App. Total	87.9	8.4	3.7		2.5	41.8	55.7		1.4	91.5	7		32.6	66.3	1.2	
PHF	.783	.450	.500	.892	.375	.750	.515	.678	.250	.855	.625	.888	.724	.638	.375	.806
Cars	92	9	3	104	3	51	59	113	1	65	5	71	81	168	3	252
% Cars	97.9	100	75	97.2	100	100	86.8	92.6	100	100	100	100	96.4	98.2	100	97.7
Trucks	2	0	1	3	0	0	9	9	0	0	0	0	3	3	0	6
% Trucks	2.1	0	25	2.8	0	0	13.2	7.4	0	0	0	0	3.6	1.8	0	2.3

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 4

Groups Printed- Cars

	Lake St From North			Farm Rd From East			Lake St From South			Farm Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	5	0	0	0	3	4	0	6	0	16	35	0	69
07:15 AM	13	3	1	0	4	8	1	13	2	14	34	1	94
07:30 AM	20	1	1	0	6	6	0	19	1	27	41	0	122
07:45 AM	24	5	0	1	3	12	0	17	2	23	30	0	117
Total	62	9	2	1	16	30	1	55	5	80	140	1	402
08:00 AM	20	3	2	2	8	11	0	16	0	20	32	2	116
08:15 AM	28	0	0	0	17	17	0	10	3	11	65	1	152
08:30 AM	5	1	0	1	11	25	0	6	0	10	23	0	82
08:45 AM	8	2	4	0	15	6	0	1	1	4	19	1	61
Total	61	6	6	3	51	59	0	33	4	45	139	4	411
Grand Total	123	15	8	4	67	89	1	88	9	125	279	5	813
Apprch %	84.2	10.3	5.5	2.5	41.9	55.6	1	89.8	9.2	30.6	68.2	1.2	
Total %	15.1	1.8	1	0.5	8.2	10.9	0.1	10.8	1.1	15.4	34.3	0.6	

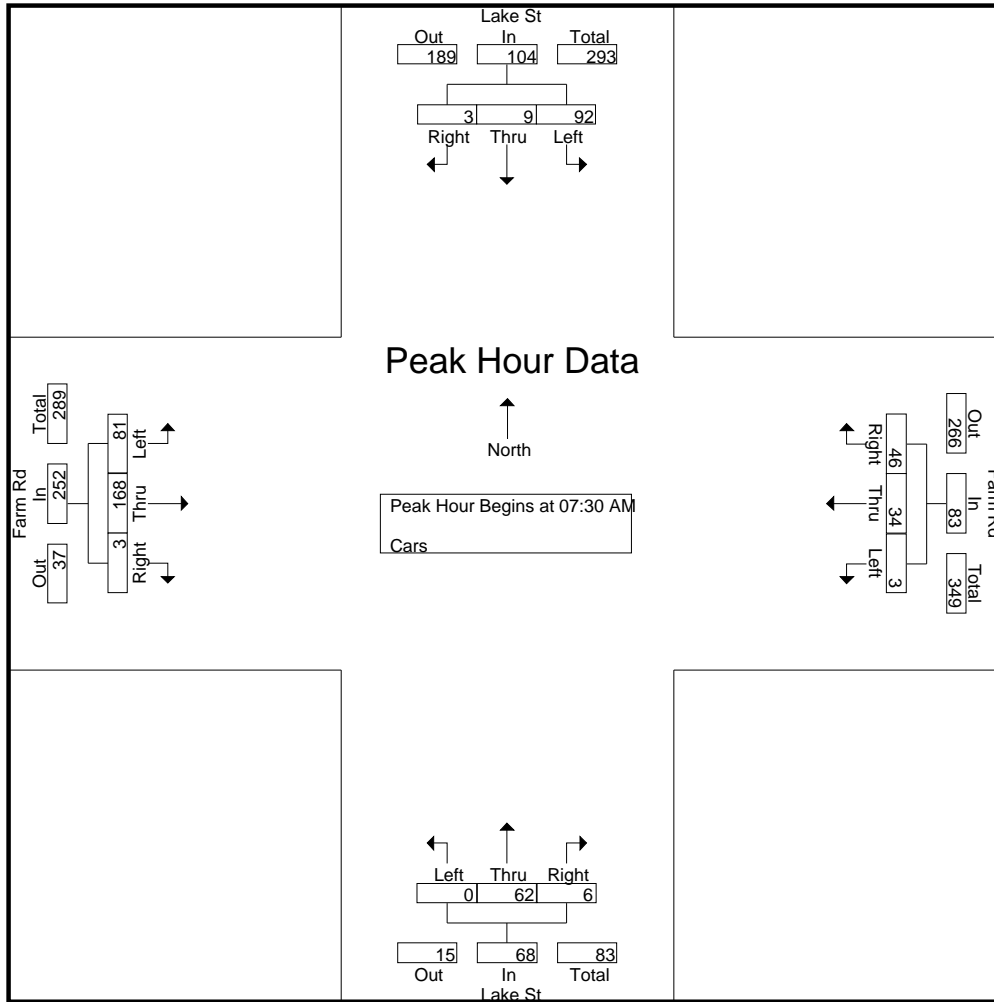
	Lake St From North				Farm Rd From East				Lake St From South				Farm Rd From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	20	1	1	22	0	6	6	12	0	19	1	20	27	41	0	68	122
07:45 AM	24	5	0	29	1	3	12	16	0	17	2	19	23	30	0	53	117
08:00 AM	20	3	2	25	2	8	11	21	0	16	0	16	20	32	2	54	116
08:15 AM	28	0	0	28	0	17	17	34	0	10	3	13	11	65	1	77	152
Total Volume	92	9	3	104	3	34	46	83	0	62	6	68	81	168	3	252	507
% App. Total	88.5	8.7	2.9		3.6	41	55.4		0	91.2	8.8		32.1	66.7	1.2		
PHF	.821	.450	.375	.897	.375	.500	.676	.610	.000	.816	.500	.850	.750	.646	.375	.818	.834

Accurate Counts

978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 5

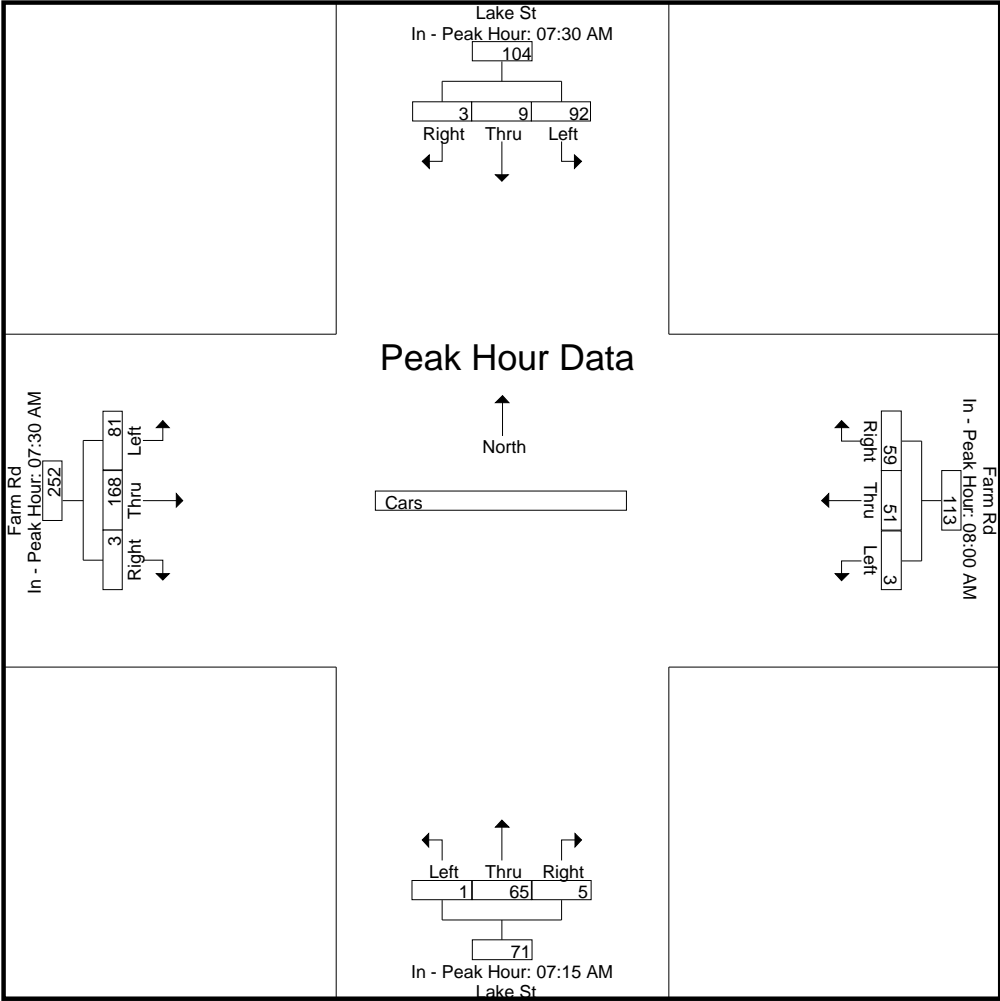


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				07:15 AM				07:30 AM			
+0 mins.	20	1	1	22	2	8	11	21	1	13	2	16	27	41	0	68
+15 mins.	24	5	0	29	0	17	17	34	0	19	1	20	23	30	0	53
+30 mins.	20	3	2	25	1	11	25	37	0	17	2	19	20	32	2	54
+45 mins.	28	0	0	28	0	15	6	21	0	16	0	16	11	65	1	77
Total Volume	92	9	3	104	3	51	59	113	1	65	5	71	81	168	3	252
% App. Total	88.5	8.7	2.9		2.7	45.1	52.2		1.4	91.5	7		32.1	66.7	1.2	
PHF	.821	.450	.375	.897	.375	.750	.590	.764	.250	.855	.625	.888	.750	.646	.375	.818

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 7

Groups Printed- Trucks

	Lake St From North			Farm Rd From East			Lake St From South			Farm Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	1	0	0	0	0	0	0	0	0	0	2	0	3
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	2	1	0	3
07:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	2	0	1	0	1	0	0	0	0	2	3	0	9
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	2	0	0	0	0	1	0	0	1	1	2	0	7
08:30 AM	0	0	0	0	0	8	0	0	0	0	1	0	9
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	2	0	0	0	0	9	0	0	1	1	4	0	17
Grand Total	4	0	1	0	1	9	0	0	1	3	7	0	26
Apprch %	80	0	20	0	10	90	0	0	100	30	70	0	
Total %	15.4	0	3.8	0	3.8	34.6	0	0	3.8	11.5	26.9	0	

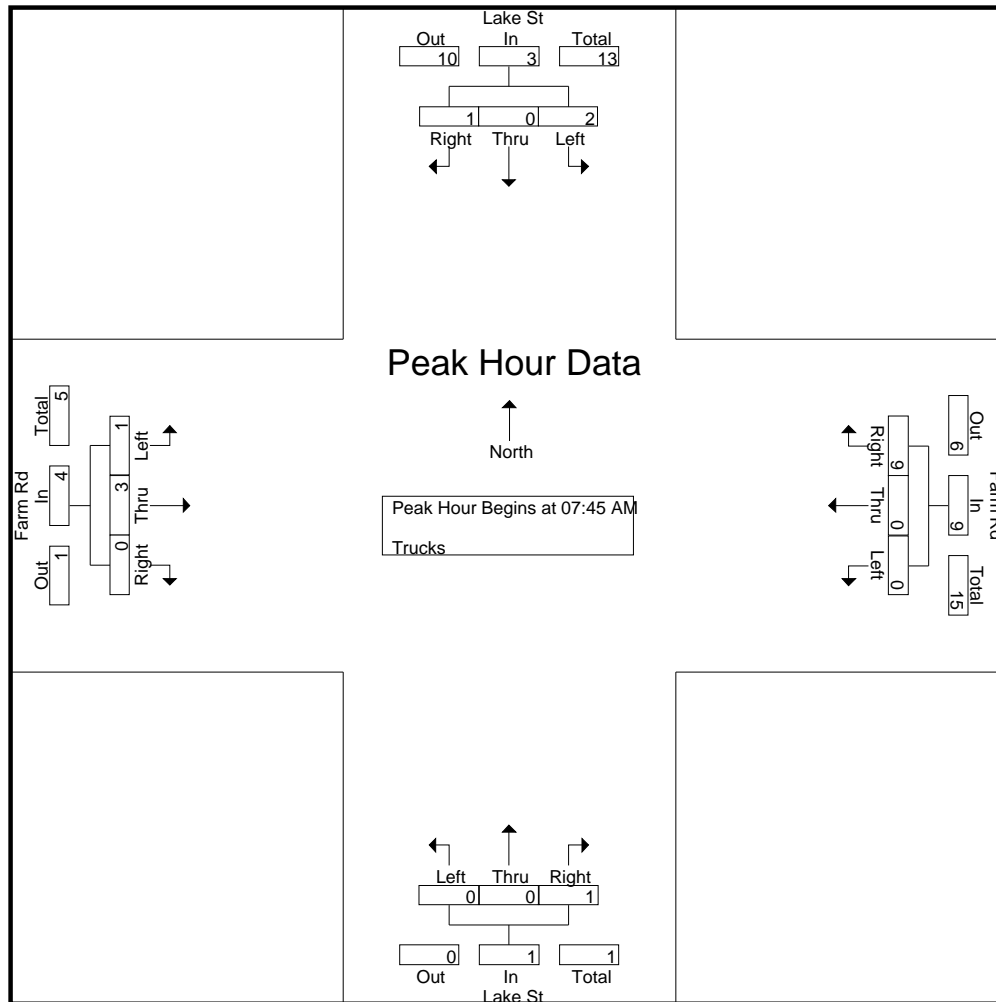
	Lake St From North				Farm Rd From East				Lake St From South				Farm Rd From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	2	0	0	2	0	0	1	1	0	0	1	1	1	2	0	3	7
08:30 AM	0	0	0	0	0	0	8	8	0	0	0	0	0	1	0	1	9
Total Volume	2	0	1	3	0	0	9	9	0	0	1	1	1	3	0	4	17
% App. Total	66.7	0	33.3		0	0	100		0	0	100		25	75	0		
PHF	.250	.000	.250	.375	.000	.000	.281	.281	.000	.000	.250	.250	.250	.375	.000	.333	.472

Accurate Counts

978-664-2565

N/S Street : Lake Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Cloudy

File Name : 94250002
 Site Code : 94250002
 Start Date : 9/20/2022
 Page No : 8

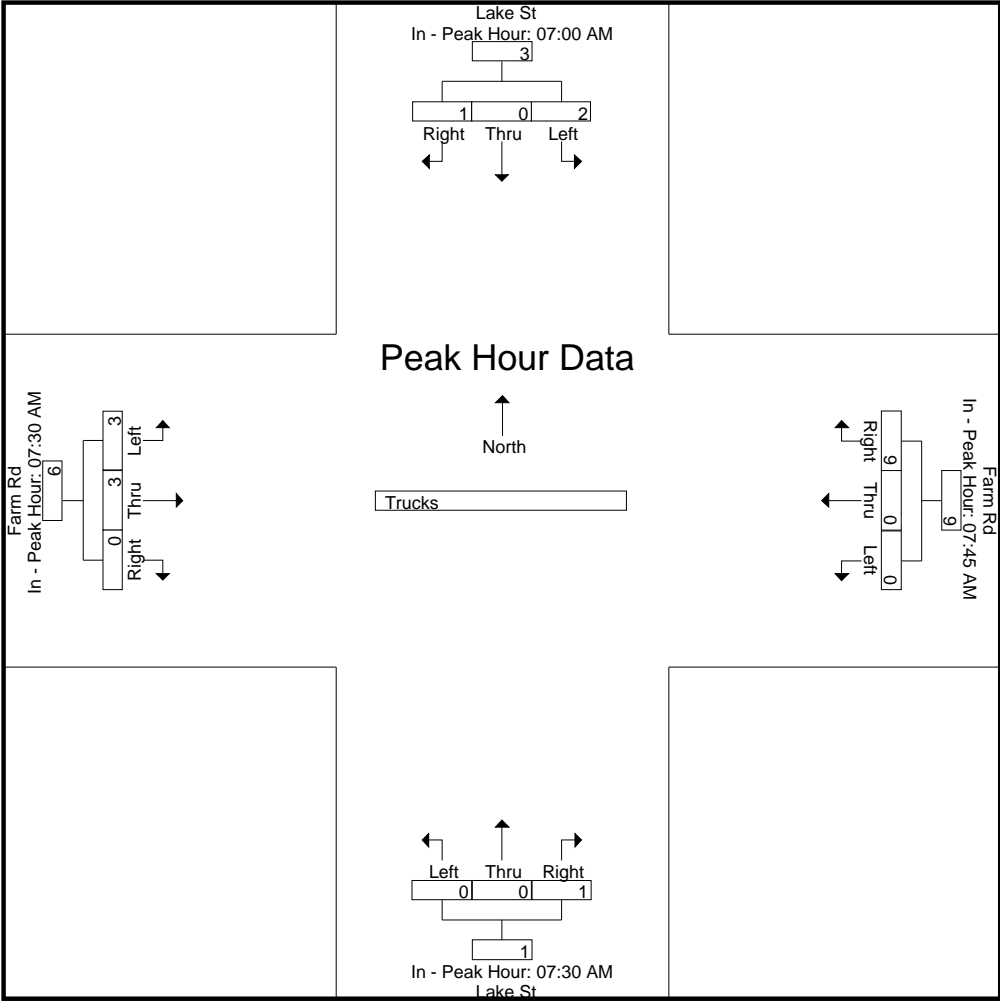


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:30 AM				07:30 AM			
+0 mins.	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0	3
+15 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	0	8	8	0	0	1	1	1	2	0	3
Total Volume	2	0	1	3	0	0	9	9	0	0	1	1	3	3	0	6
% App. Total	66.7	0	33.3		0	0	100		0	0	100		50	50	0	
PHF	.500	.000	.250	.750	.000	.000	.281	.281	.000	.000	.250	.250	.375	.375	.000	.500

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 10

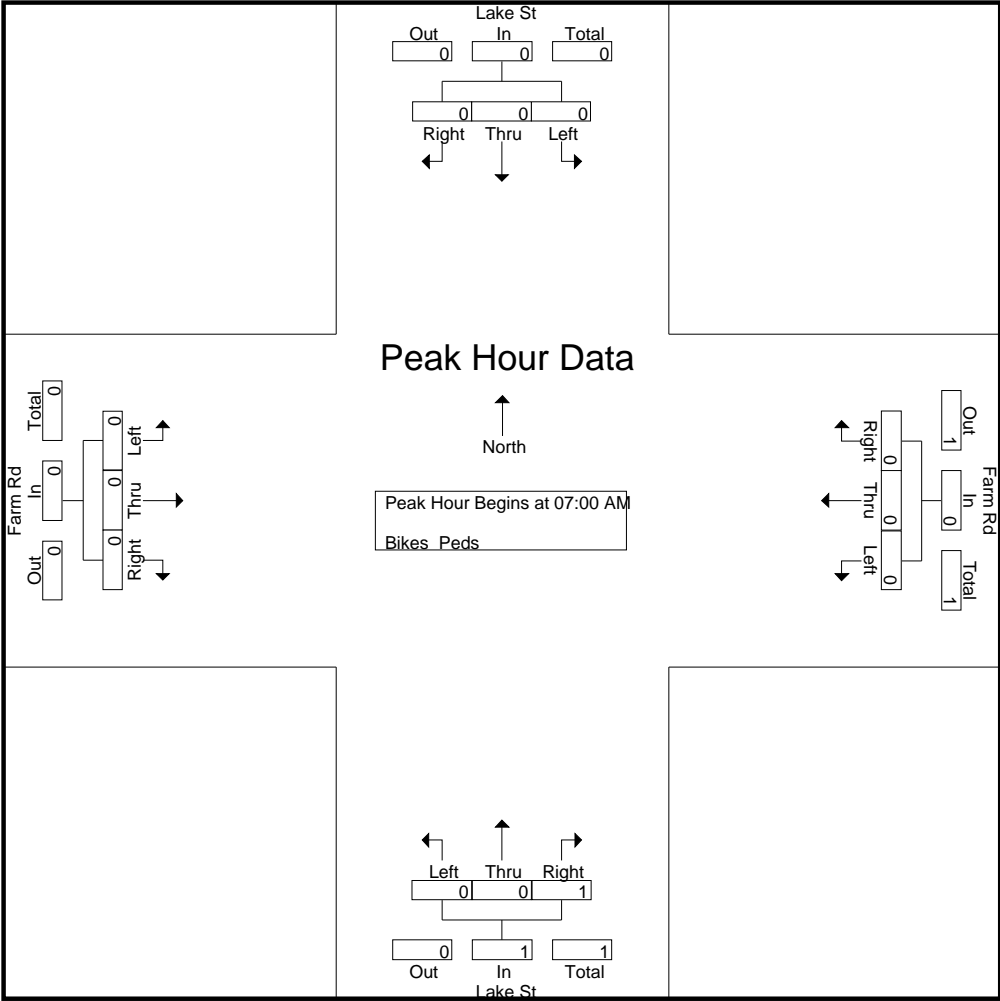
Groups Printed- Bikes Peds

	Lake St From North				Farm Rd From East				Lake St From South				Farm 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			
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
Apprch %	0	0	0		0	0	0		0	0	100		0	0	0				
Total %	0	0	0		0	0	0		0	0	100		0	0	0		0	100	

	Lake St From North				Farm Rd From East				Lake St From South				Farm 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 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.250

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 11

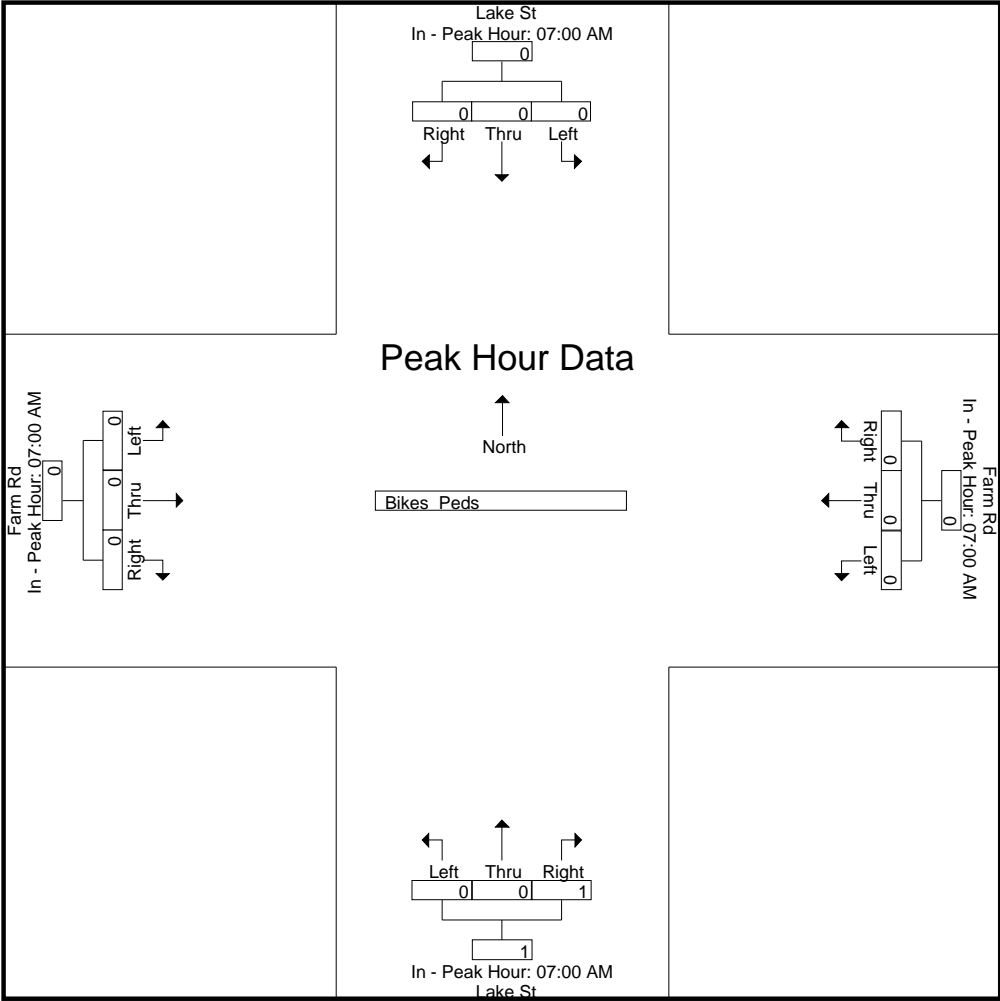


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

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

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
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978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 1

Groups Printed- Cars - Trucks

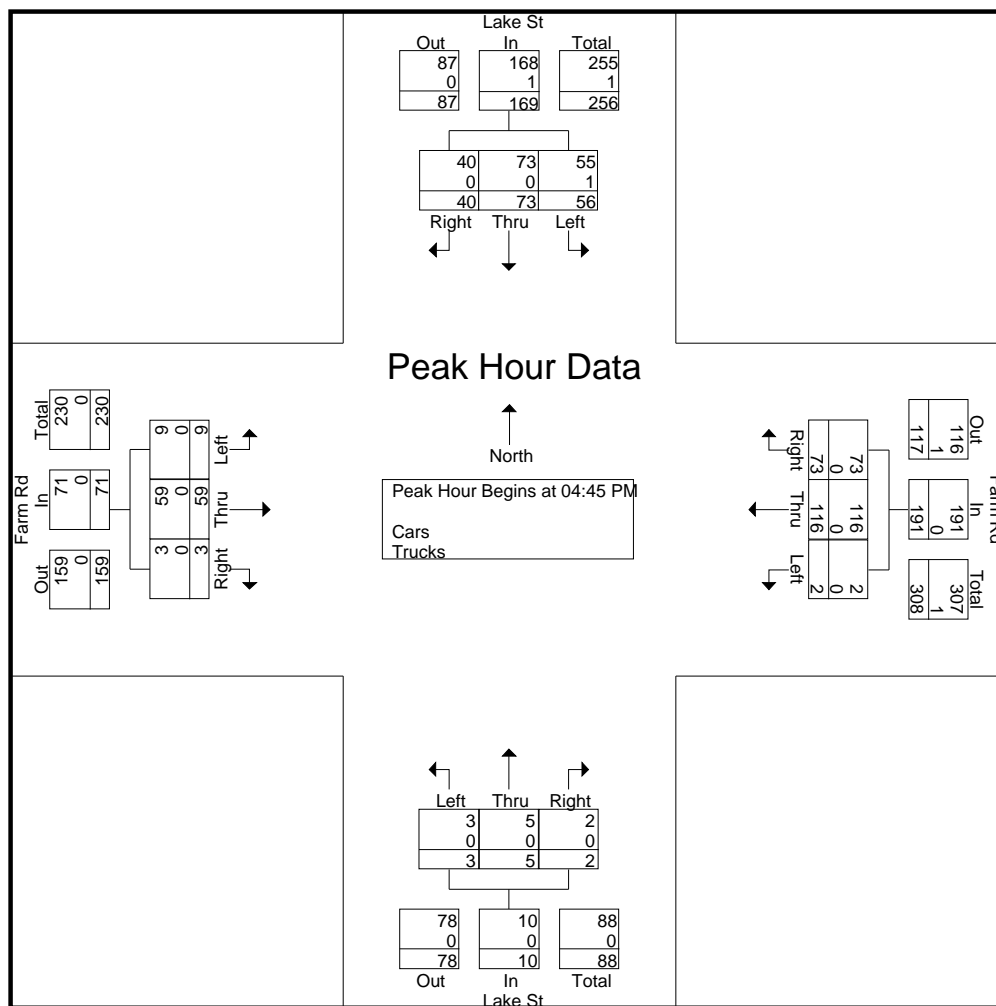
	Lake St From North			Farm Rd From East			Lake St From South			Farm Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	12	6	5	2	30	15	3	1	1	3	18	0	96
04:15 PM	6	11	8	0	18	16	0	1	0	1	9	3	73
04:30 PM	8	11	6	0	34	12	0	0	0	0	9	0	80
04:45 PM	12	18	11	0	23	9	0	1	2	3	7	0	86
Total	38	46	30	2	105	52	3	3	3	7	43	3	335
05:00 PM	11	13	11	0	29	21	2	0	0	5	16	1	109
05:15 PM	20	31	14	1	33	20	1	2	0	1	19	0	142
05:30 PM	13	11	4	1	31	23	0	2	0	0	17	2	104
05:45 PM	10	3	2	0	35	19	0	1	0	1	14	1	86
Total	54	58	31	2	128	83	3	5	0	7	66	4	441
Grand Total	92	104	61	4	233	135	6	8	3	14	109	7	776
Apprch %	35.8	40.5	23.7	1.1	62.6	36.3	35.3	47.1	17.6	10.8	83.8	5.4	
Total %	11.9	13.4	7.9	0.5	30	17.4	0.8	1	0.4	1.8	14	0.9	
Cars	91	104	61	4	232	135	6	8	3	14	109	7	774
% Cars	98.9	100	100	100	99.6	100	100	100	100	100	100	100	99.7
Trucks	1	0	0	0	1	0	0	0	0	0	0	0	2
% Trucks	1.1	0	0	0	0.4	0	0	0	0	0	0	0	0.3

[illegible]

Accurate Counts
978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 2

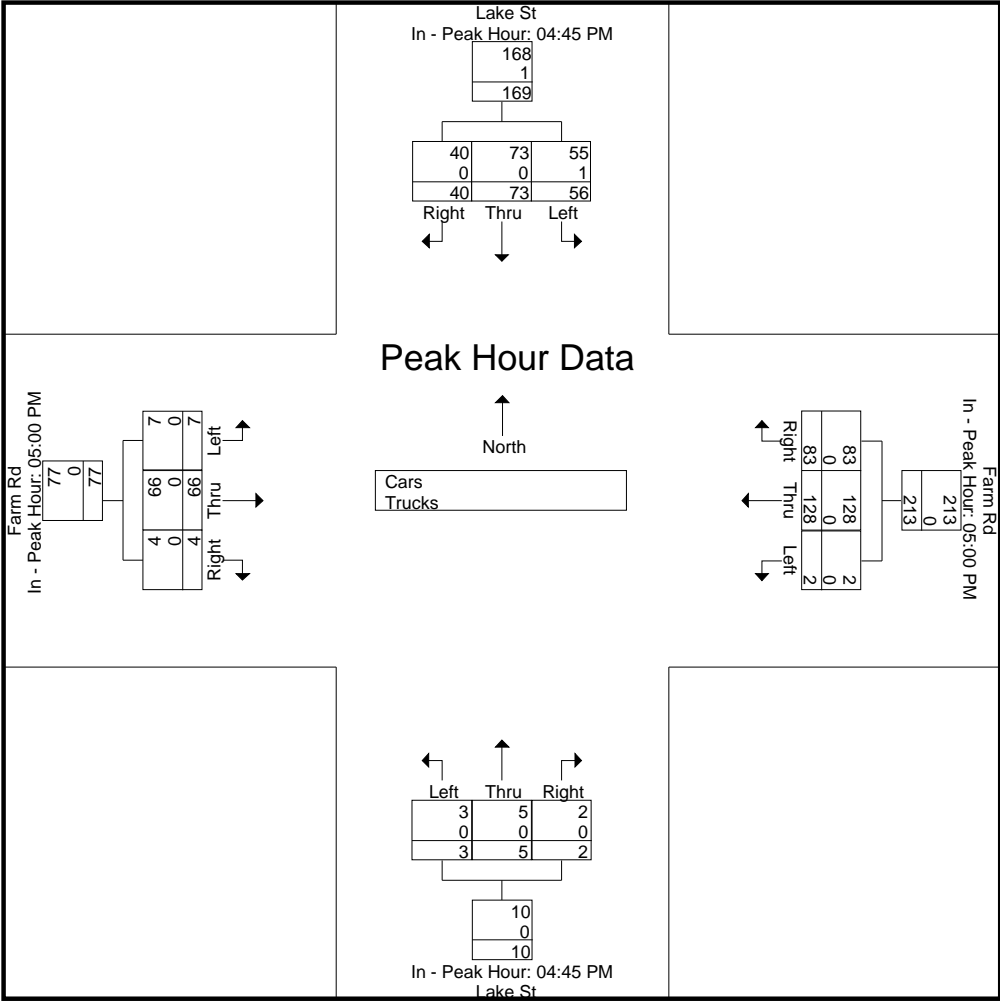


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

[illegible]

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 4

Groups Printed- Cars

	Lake St From North			Farm Rd From East			Lake St From South			Farm Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	12	6	5	2	29	15	3	1	1	3	18	0	95
04:15 PM	6	11	8	0	18	16	0	1	0	1	9	3	73
04:30 PM	8	11	6	0	34	12	0	0	0	0	9	0	80
04:45 PM	11	18	11	0	23	9	0	1	2	3	7	0	85
Total	37	46	30	2	104	52	3	3	3	7	43	3	333
05:00 PM	11	13	11	0	29	21	2	0	0	5	16	1	109
05:15 PM	20	31	14	1	33	20	1	2	0	1	19	0	142
05:30 PM	13	11	4	1	31	23	0	2	0	0	17	2	104
05:45 PM	10	3	2	0	35	19	0	1	0	1	14	1	86
Total	54	58	31	2	128	83	3	5	0	7	66	4	441
Grand Total	91	104	61	4	232	135	6	8	3	14	109	7	774
Apprch %	35.5	40.6	23.8	1.1	62.5	36.4	35.3	47.1	17.6	10.8	83.8	5.4	
Total %	11.8	13.4	7.9	0.5	30	17.4	0.8	1	0.4	1.8	14.1	0.9	

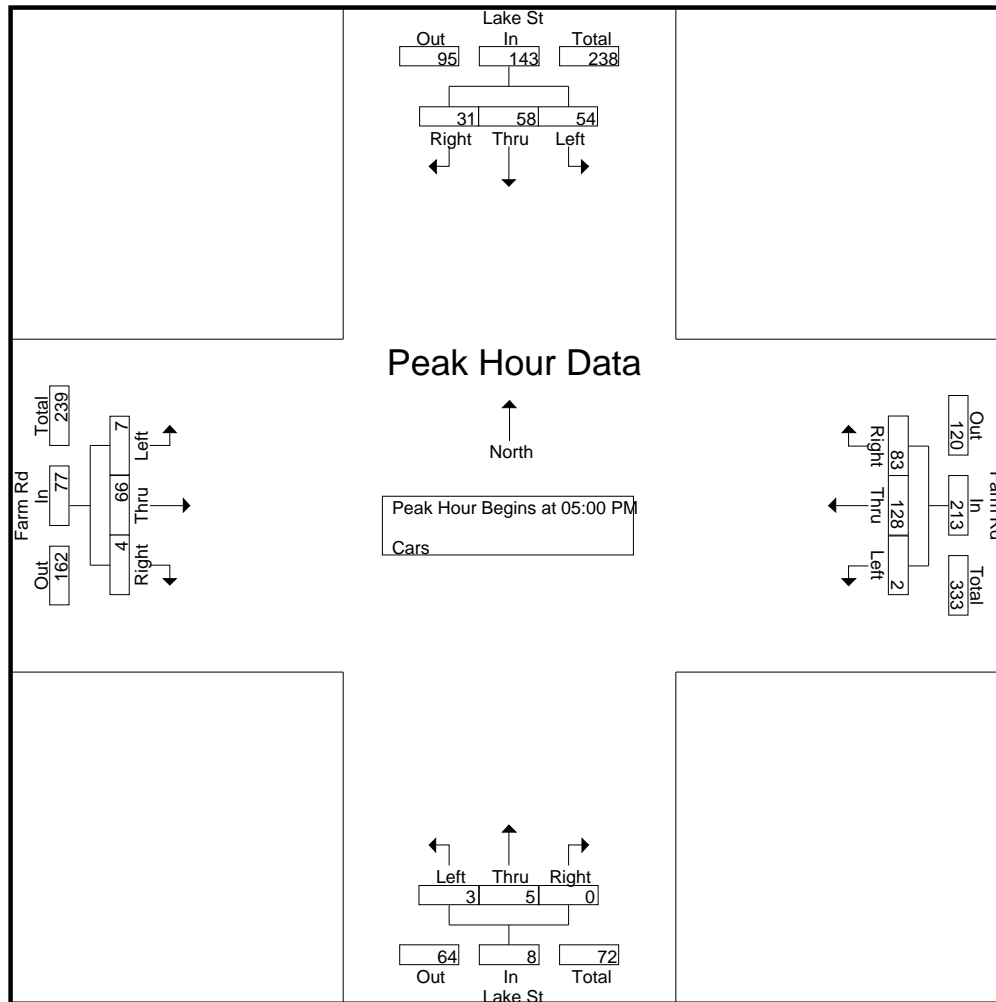
	Lake St From North				Farm Rd From East				Lake St From South				Farm Rd From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	11	13	11	35	0	29	21	50	2	0	0	2	5	16	1	22	109
05:15 PM	20	31	14	65	1	33	20	54	1	2	0	3	1	19	0	20	142
05:30 PM	13	11	4	28	1	31	23	55	0	2	0	2	0	17	2	19	104
05:45 PM	10	3	2	15	0	35	19	54	0	1	0	1	1	14	1	16	86
Total Volume	54	58	31	143	2	128	83	213	3	5	0	8	7	66	4	77	441
% App. Total	37.8	40.6	21.7		0.9	60.1	39		37.5	62.5	0		9.1	85.7	5.2		
PHF	.675	.468	.554	.550	.500	.914	.902	.968	.375	.625	.000	.667	.350	.868	.500	.875	.776

Accurate Counts

978-664-2565

N/S Street : Lake Street
 E/W Street : Farm Road
 City/State : Sherborn, MA
 Weather : Cloudy

File Name : 94250002
 Site Code : 94250002
 Start Date : 9/20/2022
 Page No : 5

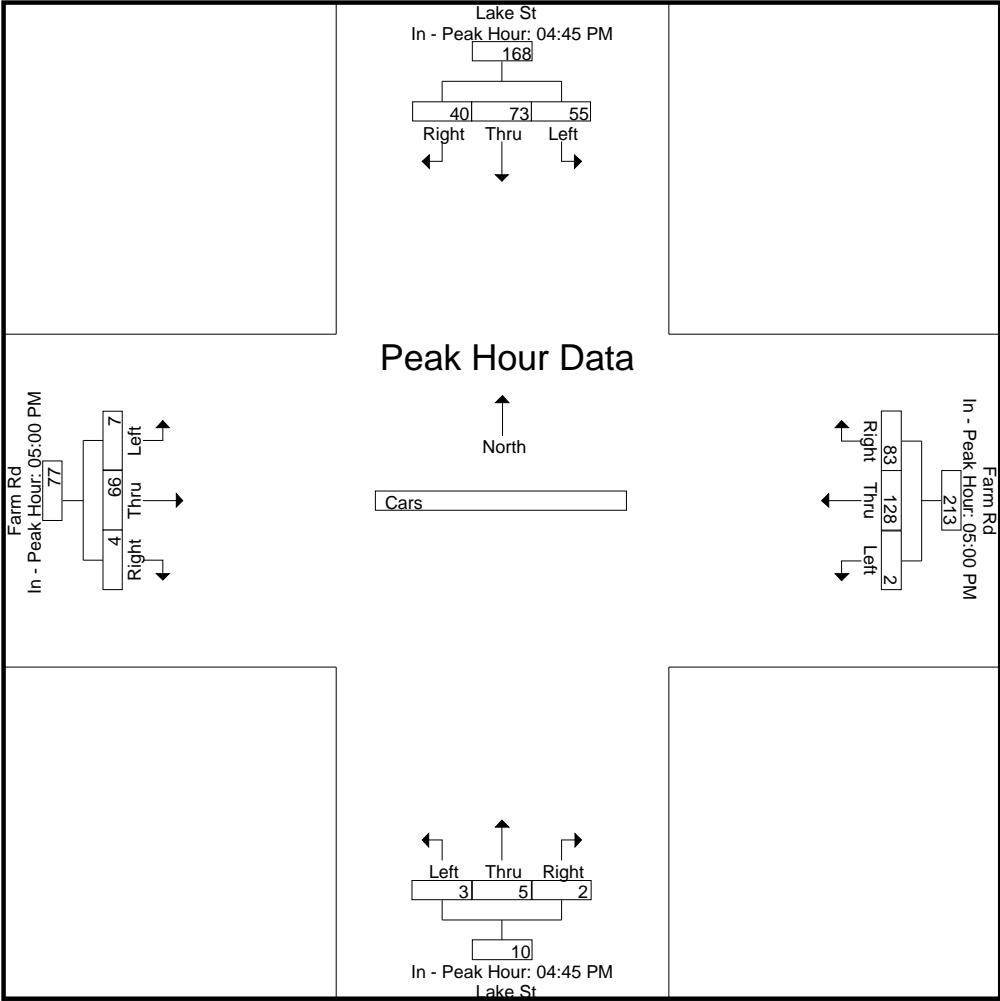


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:45 PM				05:00 PM			
+0 mins.	11	18	11	40	0	29	21	50	0	1	2	3	5	16	1	22
+15 mins.	11	13	11	35	1	33	20	54	2	0	0	2	1	19	0	20
+30 mins.	20	31	14	65	1	31	23	55	1	2	0	3	0	17	2	19
+45 mins.	13	11	4	28	0	35	19	54	0	2	0	2	1	14	1	16
Total Volume	55	73	40	168	2	128	83	213	3	5	2	10	7	66	4	77
% App. Total	32.7	43.5	23.8		0.9	60.1	39		30	50	20		9.1	85.7	5.2	
PHF	.688	.589	.714	.646	.500	.914	.902	.968	.375	.625	.250	.833	.350	.868	.500	.875

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 6



978-664-2565

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 7

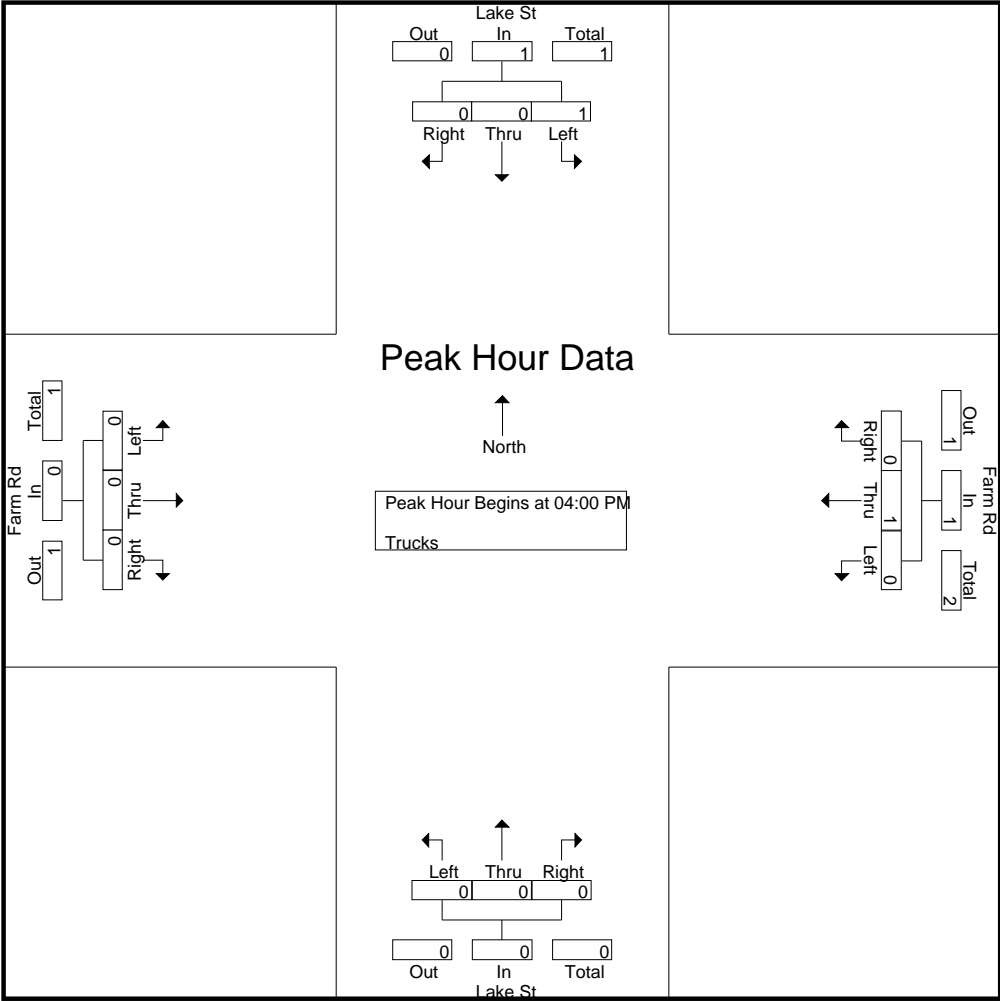
	Lake St From North			Farm Rd From East			Lake St From South			Farm Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	1	0	0	0	0	0	0	0	2
05:00 PM	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
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	0	1	0	0	0	0	0	0	0	2
Apprch %	100	0	0	0	100	0	0	0	0	0	0	0	
Total %	50	0	0	0	50	0	0	0	0	0	0	0	

[illegible]

Accurate Counts
978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 8

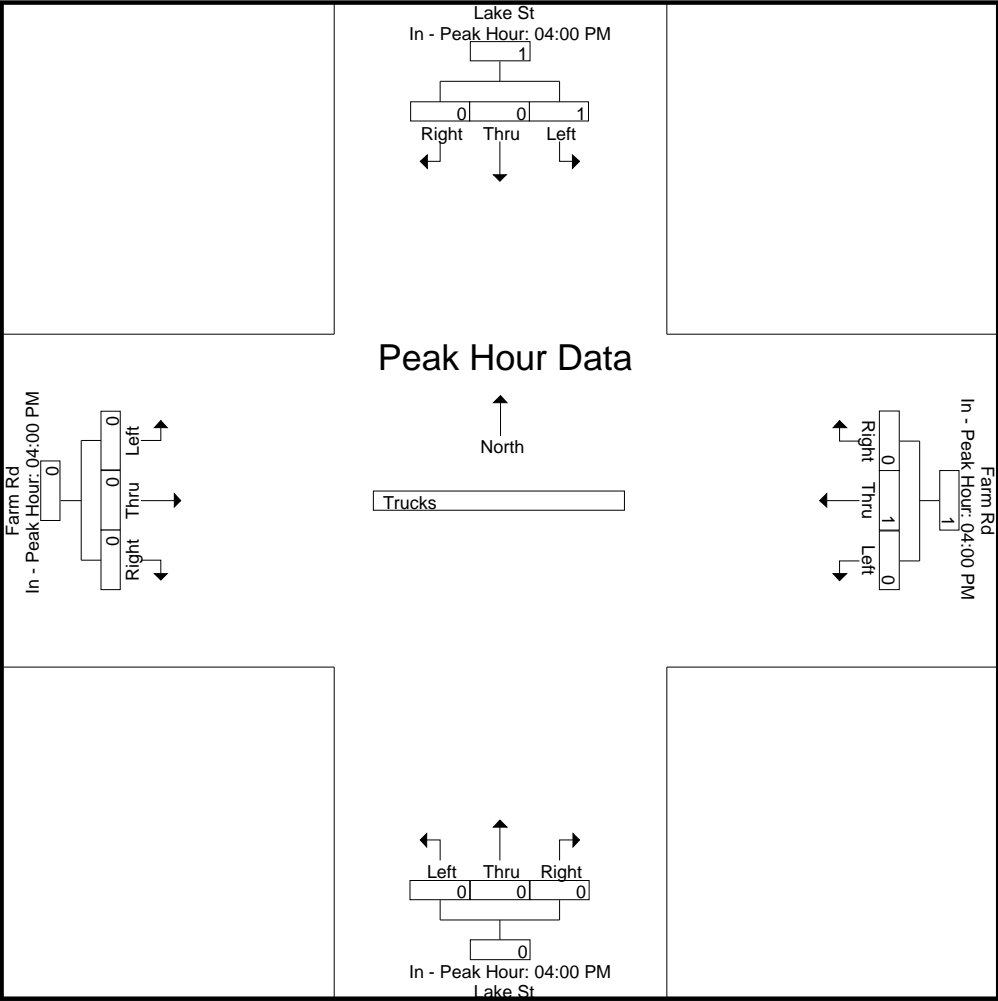


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

[illegible]

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 9



978-664-2565

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 10

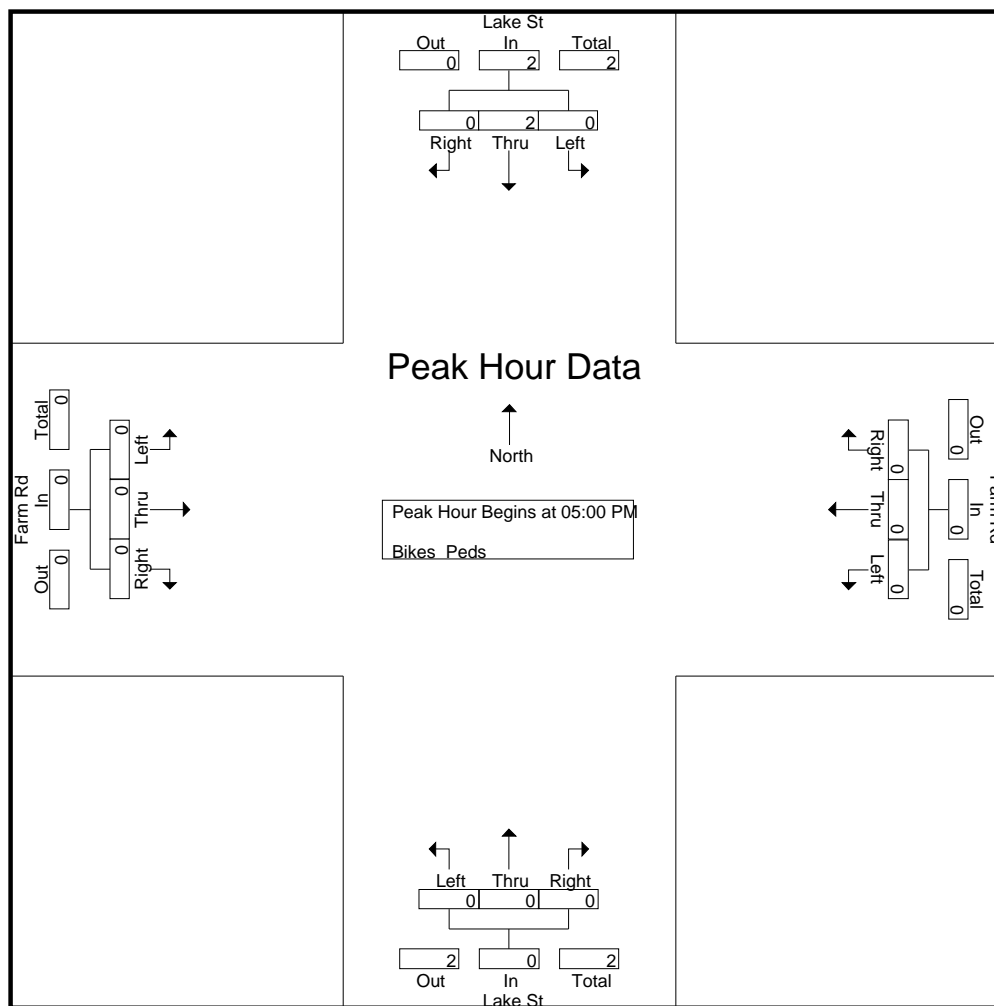
	Lake St From North				Farm Rd From East				Lake St From South				Farm Rd From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
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	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Grand Total	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	3
Apprch %	0	100	0		100	0	0		0	0	0		0	0	0				
Total %	0	66.7	0		33.3	0	0		0	0	0		0	0	0		0	100	

[illegible]

978-664-2565

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 11

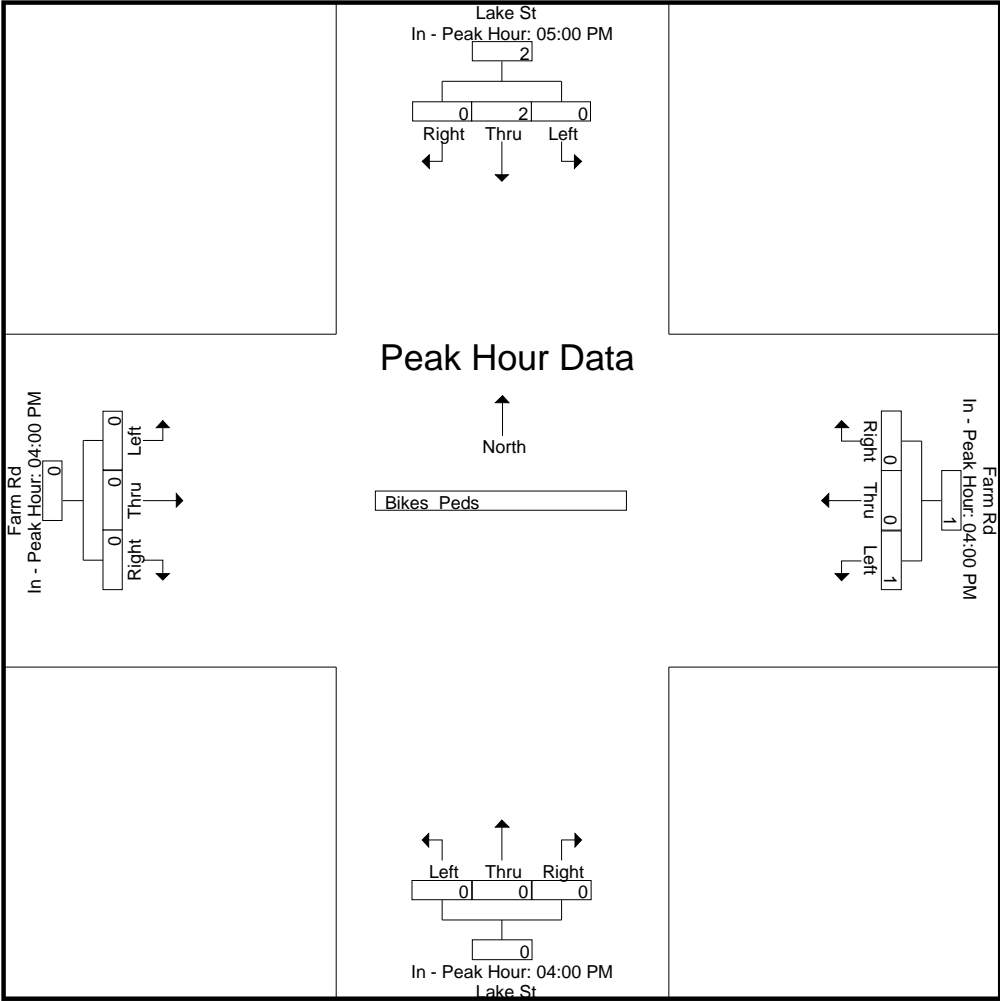


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

Peak Hour for Each Approach Begins at:																
	05:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	100	0		100	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Lake Street
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 12



SEASONAL ADJUSTMENT DATA

2019 Average Count Data – Sta. AET09

September ADT: 118,846

2019 Average Count Data – Sta. AET09

Year ADT: 114,872

Seasonal Adjustment

$$\frac{114,872}{118,846} = 0.9666$$

Massachusetts Highway Department

AET09: Monthly Hourly Volume for September 2019

Location ID:
County:
Functional Class
Location:

AET09
Middlesex
1
MASSACHUSETTS TURNPIKE

Seasonal Factor Group:
Daily Factor Group:
Axle Factor Group:
Growth Factor Group:

U1-Boston
U1-Boston

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	QC Status
1	1441	904	602	497	491	854	1531	2444	3729	5541	7390	8462	8579	8444	8189	7941	7883	7444	6496	5653	5180	4054	3180	2436	109365	Accepted
2	1424	774	496	477	579	967	1666	2323	3279	4895	6524	7676	7810	7796	7841	7838	6898	5869	6395	5304	4160	3243	2305	1516	98055	Accepted
3	939	619	503	650	1561	5418	6268	6948	7342	7455	6319	6111	6235	6576	7531	8594	9064	9441	7687	5719	3849	2843	2330	1816	121818	Accepted
4	905	637	499	668	1461	4891	6501	6937	7175	6638	6157	5725	5992	6473	7594	8270	9107	9409	7345	5527	3786	2913	2297	1653	118560	Accepted
5	1055	582	511	627	1491	5129	6291	6468	6781	6755	6401	6098	6518	6848	8120	8742	8525	9229	8091	6354	4531	3276	2823	1856	123102	Accepted
6	1003	662	556	589	1524	4608	6816	7711	7994	6850	6455	6450	7013	8142	8740	9013	9493	9817	8022	6118	4485	3449	2955	2480	130945	Accepted
7	1302	804	590	527	680	1399	2402	3441	5002	6199	7084	7848	8176	8249	8242	7595	7086	6767	5806	5219	4991	4052	3106	2299	108866	Accepted
8	1337	762	618	501	551	931	1686	2459	3653	5351	6739	7761	8344	8068	7993	7871	7996	7829	7154	5720	4569	2686	2313	2140	105032	Accepted
9	1701	784	561	627	1496	5194	6226	6753	7383	7439	5993	5942	5947	6483	7541	8406	9303	9615	7313	5153	3540	2615	2271	1761	120047	Accepted
10	857	611	463	630	1496	5218	6473	6827	7600	7205	5738	5813	5759	6365	7796	8574	8930	9502	7784	5638	3937	2795	2102	1372	119485	Accepted
11	847	552	431	632	1388	5000	6414	6929	7098	7164	5829	5679	6022	6667	7874	8368	8586	9106	7691	6024	3994	3057	2025	1431	118808	Accepted
12	847	562	501	665	1461	4959	6401	6788	6925	6133	6311	6024	6353	6927	8186	8024	9376	9656	7684	6026	4210	3288	2538	1793	121638	Accepted
13	1083	703	573	643	1489	4702	5906	6616	7870	6964	6759	6795	7608	8216	9167	9515	9418	9206	7316	6966	4869	3767	3529	3140	132820	Accepted
14	1713	904	655	557	737	1609	2554	4062	5719	6498	7417	8334	8714	8058	8459	8253	7987	7484	6215	5105	4123	3584	3027	2818	114586	Accepted
15	1641	804	648	511	561	850	1525	2320	3543	5471	7098	8082	8226	7748	7634	7544	7654	7848	7097	6276	5238	3742	2838	1897	106796	Accepted
16	1138	611	496	620	1546	5334	6417	6829	7460	7274	6205	5791	5973	6322	7460	8026	8367	8748	7302	5783	3673	2609	1885	1200	117069	Accepted
17	810	471	476	611	1469	5323	6400	6426	7000	6776	5813	5873	6001	6040	7170	7944	8560	8803	7505	5713	3972	3025	2488	1752	116421	Accepted
18	997	611	503	635	1447	5309	6372	6627	7241	6952	6458	5932	6408	6862	8247	8682	9153	9370	7759	6022	4250	3247	2734	1774	123592	Accepted
19	995	576	494	643	1472	5163	6318	6780	7107	6875	6898	6630	6825	7052	8375	8729	8879	9250	7908	6649	5187	3651	2687	1702	126845	Accepted
20	1242	689	549	720	1439	4708	6280	7266	7790	7248	6720	6702	7753	8377	8829	8500	8746	8774	8395	7606	4953	3812	3026	2565	132689	Accepted
21	1544	896	681	582	803	1609	2737	4231	5583	6843	8203	8496	8678	8511	8381	8228	8192	7663	6712	5820	4987	4215	3611	2731	119937	Accepted
22	1608	897	656	541	570	980	1590	2586	3931	5859	7234	8122	8436	8107	7716	7739	8069	7831	7170	6289	5715	4028	2645	1602	109921	Accepted
23	864	622	500	665	1536	5259	6267	6474	7336	6645	6154	5712	5929	6158	7283	8337	8715	9371	7014	5376	3548	2675	2104	1283	115827	Accepted
24	770	520	439	616	1533	5262	6269	6479	7235	7008	6026	5641	6099	6532	7897	8264	8706	9050	7595	6145	3849	2914	2079	1313	118241	Accepted
25	779	471	472	633	1512	5124	6076	6500	7584	7132	6286	6135	6176	6643	7829	8355	8616	9021	7563	6243	4124	3143	2416	1462	120295	Accepted
26	949	558	456	645	1535	5251	6368	6466	7679	7009	6126	6154	6548	6783	8191	8316	8520	7619	7385	6528	4739	3567	2644	1720	121756	Accepted
27	1177	740	502	716	1443	4647	6481	6743	8092	7144	6909	7077	7765	8124	8615	9354	8729	8662	7375	7205	5306	4020	3545	2903	133274	Accepted
28	1577	869	692	602	827	1615	2588	4140	5982	7320	8770	9324	8994	8428	8335	8321	8066	8161	7627	6013	5054	4320	3536	2501	123662	Accepted
29	1649	907	744	510	561	833	1481	2613	3785	5614	7459	8569	9166	8825	8023	8053	8022	8195	7942	7219	5977	4553	2850	1744	115294	Accepted
30	1105	657	511	658	1565	5338	6180	6698	7560	7156	6677	6387	6436	6753	8031	8411	8580	8467	8012	5739	3814	2769	1780	1346	120630	Accepted

118845.9

Year 114,872

96.66%

COVID-19 ADJUSTMENT DATA



2019 Average Count Data – Station AET09

September ADT: 118,846

2022 Average Count Data – Station AET09

September ADT: 112,224

COVID Adjustment

$$\frac{118,846}{112,224} = 1.059$$

Massachusetts Highway Department

AET09: Monthly Hourly Volume for September 2022

Location ID:
County:
Functional Class
Location:

AET09
Middlesex
1
MASSACHUSETTS TURNPIKE

Seasonal Factor Group:
Daily Factor Group:
Axle Factor Group:
Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	QC Status
1	960	581	450	618	1272	3843	6354	6839	7197	6976	6875	6942	7082	7709	8584	8813	8729	8420	7431	6355	4840	3595	2806	2249	125520	Accepted
2	1497	793	564	702	1246	3404	5817	6616	6819	6810	7400	7727	7987	8393	8607	8730	8804	8512	7079	6117	4938	3829	3163	2611	128165	Accepted
3	1318	786	675	623	785	1345	2474	3862	5513	6973	8191	8186	8376	8225	8244	7752	7739	7107	6222	5524	4968	3849	3099	1894	113730	Accepted
4	1221	741	609	452	474	742	1505	2167	3273	5292	7257	7946	8315	8056	7685	7674	7702	7309	6515	5415	4755	3614	2622	1791	103132	Accepted
5	1185	722	512	456	571	855	1574	2251	3011	4178	5249	6507	6602	7374	6920	7370	6696	6224	5516	4655	3789	2713	1984	1327	88241	Accepted
6	743	504	380	550	1203	3569	5697	6092	6288	5742	5363	5238	5260	5729	6824	7259	7319	7950	6020	4225	2902	2373	1635	1091	99956	Accepted
7	773	447	425	610	1275	3903	6355	6775	6806	6008	5584	5429	5614	5790	7476	8207	8558	8589	6814	5111	3526	2672	1808	1546	110101	Accepted
8	1197	588	464	605	1219	3940	6620	6760	6665	6378	5967	5881	6213	6705	8350	8070	8335	8822	7335	5613	4053	3144	2179	2171	117274	Accepted
9	1719	720	489	646	1273	3652	6216	6918	6614	6449	6281	6690	6870	7601	8645	8463	8264	8540	7978	5660	4248	3244	2611	2064	121855	Accepted
10	1401	769	635	608	783	1571	2644	3799	4973	6611	7458	8026	8670	8640	8603	8146	8240	7689	6164	5040	4421	3525	3043	2929	114388	Accepted
11	1980	932	686	488	523	955	1669	2495	3513	5125	6992	8045	8300	7647	7706	7591	7357	7350	6394	5309	4376	3079	2095	1603	102210	Accepted
12	858	522	409	597	1294	3964	6096	6275	6248	6047	5582	5392	5342	5731	7004	7844	7777	7558	5900	4199	3210	2370	1679	1242	103140	Accepted
13	697	487	418	560	1248	3859	6352	6545	6426	6106	5506	5269	5492	6097	7179	8242	8471	8695	6235	4316	3189	2320	1976	1708	107393	Accepted
14	861	506	438	587	1267	3927	6364	6378	6598	6086	5735	5742	5866	6348	7527	8157	8538	8647	6981	5322	3747	3041	2436	1911	113010	Accepted
15	1422	573	446	634	1255	3917	6243	6304	6764	6304	5988	5903	5962	6538	7662	8346	8173	8485	6901	5752	4185	3242	2291	1650	114940	Accepted
16	1156	712	471	645	1268	3701	6459	6571	6564	6241	6258	6385	7179	7847	8777	9061	8838	8823	7879	5683	4171	3552	3054	2489	123784	Accepted
17	1704	864	657	576	772	1488	2513	3626	5015	6522	7945	8286	8630	8559	8656	8107	7062	7202	6150	5112	5376	3970	3327	2346	114465	Accepted
18	1496	770	625	506	518	861	1548	2305	3659	5146	7141	8365	7777	7951	8094	7737	7821	7627	7302	6086	4822	3222	2331	1775	105485	Accepted
19	998	552	419	587	1265	4053	6475	6245	6491	6117	4386	5546	5697	5998	7265	7521	7847	7838	5951	3981	2751	2244	1633	1286	103146	Accepted
20	807	511	428	579	1215	4101	6342	6577	6872	6388	5865	5511	5636	6266	7283	8190	8406	8831	6860	4581	3369	2660	1821	1234	110333	Accepted
21	719	415	380	596	1268	3972	6536	6796	6818	5754	5755	5596	5791	6346	7512	8173	8111	8546	6992	5129	3686	2897	1939	1574	111301	Accepted
22	983	540	432	606	1197	3800	6435	6743	6502	5775	5675	5748	5519	6380	7256	7365	8032	8370	6624	5148	3993	3043	2208	1589	109963	Accepted
23	1055	630	531	654	1203	3700	6331	6361	6385	6159	6485	6700	7341	8158	8501	8994	8290	8759	7786	6132	4334	3239	2385	2282	122395	Accepted
24	1664	964	654	559	697	1485	2487	3693	5344	6673	8083	8594	8508	8309	8169	8662	8475	7295	6885	5797	4763	4167	3405	2374	117706	Accepted
25	1720	902	647	543	513	849	1517	2438	3877	5598	7160	8537	8711	8516	8311	7875	8060	7941	7091	6142	4976	3414	2476	1762	109576	Accepted
26	1094	671	508	572	1261	4018	6242	6490	6590	6595	6078	6048	6039	6488	7559	7916	7919	8334	6379	4370	3238	2652	1841	1386	110288	Accepted
27	851	504	430	550	1177	4064	6404	6582	6820	6560	5810	5663	5796	6281	7611	8158	8322	8824	6948	4839	3430	2752	1987	1586	111949	Accepted
28	850	488	423	587	1213	4031	6426	6182	6691	6177	5903	5803	5936	6505	7612	8051	8526	8327	6385	5038	3518	2814	2554	1713	111753	Accepted
29	1048	529	442	583	1197	3910	6430	6312	6991	6399	6156	6128	6210	6674	7991	8483	8267	8444	7150	6028	4062	3045	2280	1730	116489	Accepted
30	857	647	482	633	1233	3686	6430	6686	6837	6311	6362	6451	7370	8258	8985	8927	9293	9116	7696	5905	4440	3514	2640	2284	125043	Accepted

2022 112224.4

2019 118846

105.90%

PUBLIC TRANSPORTATION SCHEDULES





Transportation

JFK Transportation

You can purchase discounted taxi coupons from the COA when you are in need of transportation. Cards cost \$30.00 for a ten-ride coupon. We work with JFK Transportation in Natick. You call them directly to make your appointment. Medical rides to Boston can also be purchased for \$20.00 a card. We have been working with JFK Transportation for several years. They are reliable, courteous. Masks are no longer required for drivers, however, you can request that the driver wear a mask, if it makes you feel more comfortable.

Please contact the office to purchase your coupons. JFK can be reached at 508-653-4500. JFK usually requires 24-hour notice for local trips and 48-hour notice for medical trips.

VEHICLE TRAVEL SPEED DATA



Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA
Direction: WB,

94250001

9/14/2022	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
6:00	0	0	0	0	0	1	0	1	4	4	0	0	0	0	10
7:00	0	0	0	0	0	0	0	2	6	3	3	4	1	1	20
8:00	0	0	0	0	0	1	1	1	11	17	7	3	1	1	43
9:00	0	0	0	0	0	0	3	3	8	13	4	5	1	1	38
10:00	0	0	0	0	0	0	2	3	14	12	8	5	1	0	45
11:00	0	0	3	2	3	4	3	8	4	3	4	2	0	0	36
12:00 PM	0	0	0	0	0	0	1	3	9	7	7	6	2	2	37
1:00	0	0	0	0	0	0	4	7	19	12	10	2	4	2	60
2:00	0	0	0	0	0	1	2	7	18	9	15	4	2	2	60
3:00	0	0	0	0	1	2	1	12	23	30	28	16	6	2	121
4:00	0	0	0	0	1	1	4	13	26	32	29	6	6	2	120
5:00	0	0	1	0	0	0	3	7	29	34	26	13	6	6	125
6:00	0	0	0	0	0	0	1	10	18	37	17	13	8	2	106
7:00	0	0	0	0	0	1	1	8	12	2	6	3	0	4	37
8:00	0	0	0	0	0	1	1	4	4	5	2	0	1	0	18
9:00	0	0	0	0	0	0	0	0	4	1	1	1	0	0	7
10:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
11:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	5	2	5	12	28	89	210	223	167	84	41	26	892

Percentile	15th	50th	85th	95th
Speed	24	29	34	37
Mean Speed (Average)	31.6			
10 MPH Pace Speed	24-33			
Number in Pace	628			
Percent in Pace	70.4%			
Number > 30 MPH	318			
Percent > 30 MPH	35.7%			

Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA
Direction: WB,

94250001

9/15/2022	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
1:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	1	0	0	0	0	0	3	1	2	0	0	0	7
6:00	0	0	0	0	0	0	1	0	1	3	2	0	0	0	7
7:00	0	0	0	0	0	0	1	2	5	4	5	1	1	0	19
8:00	0	0	0	0	0	0	0	3	12	9	11	4	5	1	45
9:00	0	0	1	0	0	1	2	6	9	8	6	2	0	0	35
10:00	0	0	0	0	1	0	1	2	12	12	3	5	1	0	37
11:00	0	0	0	0	0	0	4	4	7	11	6	2	2	2	38
12:00 PM	0	0	0	0	0	0	1	4	15	8	6	4	1	1	40
1:00	0	0	1	0	0	1	1	3	10	13	8	2	1	1	41
2:00	0	0	0	0	0	0	3	7	17	10	13	5	5	1	61
3:00	0	0	0	0	0	1	2	11	24	34	36	11	8	2	129
4:00	0	0	0	0	0	1	1	13	18	29	27	13	8	8	118
5:00	0	0	0	1	1	0	4	15	23	30	25	8	15	2	124
6:00	0	0	0	0	1	0	7	6	20	18	28	9	6	0	95
7:00	0	0	0	0	1	1	4	2	17	11	5	1	1	2	45
8:00	0	0	0	0	0	0	1	2	5	4	2	1	0	0	15
9:00	0	0	0	0	0	0	1	0	3	1	0	3	0	0	8
10:00	0	0	0	0	0	0	0	2	2	0	0	1	0	0	5
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	3	1	4	5	34	82	204	209	185	72	54	20	873
Percentile				15th	50th	85th	95th								
Speed				24	29	34	37								
Mean Speed (Average)				31.1											
10 MPH Pace Speed				23-32											
Number in Pace				622											
Percent in Pace				71.2%											
Number > 30 MPH				331											
Percent > 30 MPH				37.9%											
Grand Total	0	0	8	3	9	17	62	171	414	432	352	156	95	46	1765
Stats				Percentile	15th	50th	85th	95th							
				Speed	24	29	34	37							
Mean Speed (Average)				31.3											
10 MPH Pace Speed				24-33											
Number in Pace				1251											
Percent in Pace				70.9%											
Number > 30 MPH				649											
Percent > 30 MPH				36.8%											

Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA
Direction: EB,

94250001

9/14/2022	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	1	0	1	1	0	0	3
5:00	0	0	0	0	0	0	3	1	5	1	1	2	1	0	14
6:00	0	0	0	0	0	2	2	7	28	22	10	5	2	1	79
7:00	0	0	0	0	0	0	10	30	61	75	34	10	7	6	233
8:00	0	0	0	0	1	5	10	26	47	74	20	7	4	1	195
9:00	0	0	0	0	2	1	3	7	24	27	11	6	1	0	82
10:00	0	0	0	2	1	0	0	9	13	15	10	5	1	0	56
11:00	0	0	2	3	6	4	11	9	12	3	1	0	0	1	52
12:00 PM	0	0	0	0	2	0	0	10	14	9	7	2	0	0	44
1:00	0	0	0	0	1	0	2	7	12	14	6	4	1	1	48
2:00	0	0	0	0	0	1	7	7	17	18	8	5	2	0	65
3:00	0	0	0	0	0	1	5	8	9	19	6	2	1	2	53
4:00	0	0	2	1	0	0	1	7	9	16	8	1	2	0	47
5:00	0	0	0	1	0	0	1	11	18	26	16	2	1	1	77
6:00	0	0	0	1	0	1	0	2	13	10	3	0	0	0	30
7:00	0	0	0	0	0	0	2	4	4	4	2	0	0	0	16
8:00	0	0	0	0	0	1	0	5	7	0	1	0	1	1	16
9:00	0	0	0	0	0	0	0	2	3	2	1	0	0	0	8
10:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	4	8	13	16	57	152	297	337	146	52	24	14	1120

Percentile	15th
Speed	22
	50th
	27
	85th
	31
	95th
	35
Mean Speed (Average)	28.3
10 MPH Pace Speed	22-31
Number in Pace	833
Percent in Pace	74.4%
Number > 30 MPH	236
Percent > 30 MPH	21.1%

Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA
Direction: EB,

94250001

9/15/2022	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	3
5:00	0	0	1	0	1	0	2	2	0	2	1	1	0	0	10
6:00	0	0	0	0	1	0	4	18	25	21	14	3	1	0	87
7:00	0	0	0	0	0	2	10	28	70	61	36	13	5	2	227
8:00	0	0	1	0	0	1	12	26	57	59	30	12	7	0	205
9:00	0	0	0	0	0	0	3	10	16	23	15	3	1	0	71
10:00	0	0	0	1	0	1	3	8	18	13	6	1	1	0	52
11:00	0	0	0	0	1	1	5	4	14	16	4	0	1	0	46
12:00 PM	0	0	0	0	0	1	3	5	8	19	6	2	2	1	47
1:00	0	0	0	1	0	4	0	3	11	15	5	5	1	0	45
2:00	0	0	0	0	2	1	5	7	16	10	4	2	0	0	47
3:00	0	0	1	0	1	1	2	10	25	14	5	2	4	0	65
4:00	0	0	0	0	2	1	1	8	18	19	10	3	1	0	63
5:00	0	0	0	0	1	0	3	7	20	15	14	6	1	0	67
6:00	0	0	0	0	0	0	2	5	7	10	9	0	1	0	34
7:00	0	0	0	0	1	1	1	0	7	4	5	0	0	0	19
8:00	0	0	0	0	1	0	0	3	4	1	4	1	0	0	14
9:00	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
10:00	0	0	0	0	0	0	0	0	2	1	0	0	0	1	4
11:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	0	3	2	11	14	56	144	320	307	171	55	26	4	1113
Percentile															
Speed				15th	50th	85th	95th								
Mean Speed (Average)				23	27	32	34								
10 MPH Pace Speed				23-32											
Number in Pace				845											
Percent in Pace				75.9%											
Number > 30 MPH				256											
Percent > 30 MPH				23.0%											
Grand Total	0	0	7	10	24	30	113	296	617	644	317	107	50	18	2233
Stats															
Percentile				15th	50th	85th	95th								
Speed				23	27	31	35								
Mean Speed (Average)				27.9											
10 MPH Pace Speed				23-32											
Number in Pace				1676											
Percent in Pace				75.1%											
Number > 30 MPH				492											
Percent > 30 MPH				22.0%											

Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA
Direction: Combined

94250001

9/14/2022	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	0	0	0	0	0	1	0	1	1	0	0	4
5:00	0	0	0	0	0	0	4	1	6	1	1	2	1	0	16
6:00	0	0	0	0	0	3	2	8	32	26	10	5	2	1	89
7:00	0	0	0	0	0	0	10	32	67	78	37	14	8	7	253
8:00	0	0	0	0	1	6	11	27	58	91	27	10	5	2	238
9:00	0	0	0	0	2	1	6	10	32	40	15	11	2	1	120
10:00	0	0	0	2	1	0	2	12	27	27	18	10	2	0	101
11:00	0	0	5	5	9	8	14	17	16	6	5	2	0	1	88
12:00 PM	0	0	0	0	2	0	1	13	23	16	14	8	2	2	81
1:00	0	0	0	0	1	0	6	14	31	26	16	6	5	3	108
2:00	0	0	0	0	0	2	9	14	35	27	23	9	4	2	125
3:00	0	0	0	0	1	3	6	20	32	49	34	18	7	4	174
4:00	0	0	2	1	1	1	5	20	35	48	37	7	8	2	167
5:00	0	0	1	1	0	0	4	18	47	60	42	15	7	7	202
6:00	0	0	0	1	0	1	1	12	31	47	20	13	8	2	136
7:00	0	0	0	0	0	1	3	12	16	6	8	3	0	4	53
8:00	0	0	0	0	0	2	1	9	11	5	3	0	2	1	34
9:00	0	0	0	0	0	0	0	2	7	3	2	1	0	0	15
10:00	0	0	0	0	0	0	0	0	0	3	0	1	0	0	4
11:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	9	10	18	28	85	241	507	560	313	136	65	40	2012

Percentile	15th
Speed	23
	50th
	27
	85th
	32
	95th
	36
Mean Speed (Average)	29.7
10 MPH Pace Speed	23-32
Number in Pace	1458
Percent in Pace	72.5%
Number > 30 MPH	554
Percent > 30 MPH	27.5%

Accurate Counts
978-664-2565

Location : 65 Farm Road
Location :
City/State: Sherborn, MA
Direction: Combined

94250001

9/15/2022	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	Total
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
1:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	3
5:00	0	0	2	0	1	0	2	2	3	3	3	1	0	0	17
6:00	0	0	0	0	1	0	5	18	26	24	16	3	1	0	94
7:00	0	0	0	0	0	2	11	30	75	65	41	14	6	2	246
8:00	0	0	1	0	0	1	12	29	69	68	41	16	12	1	250
9:00	0	0	1	0	0	1	5	16	25	31	21	5	1	0	106
10:00	0	0	0	1	1	1	4	10	30	25	9	6	2	0	89
11:00	0	0	0	0	1	1	9	8	21	27	10	2	3	2	84
12:00 PM	0	0	0	0	0	1	4	9	23	27	12	6	3	2	87
1:00	0	0	1	1	0	5	1	6	21	28	13	7	2	1	86
2:00	0	0	0	0	2	1	8	14	33	20	17	7	5	1	108
3:00	0	0	1	0	1	2	4	21	49	48	41	13	12	2	194
4:00	0	0	0	0	2	2	2	21	36	48	37	16	9	8	181
5:00	0	0	0	1	2	0	7	22	43	45	39	14	16	2	191
6:00	0	0	0	0	1	0	9	11	27	28	37	9	7	0	129
7:00	0	0	0	0	2	2	5	2	24	15	10	1	1	2	64
8:00	0	0	0	0	1	0	1	5	9	5	6	2	0	0	29
9:00	0	0	0	0	0	0	1	0	3	3	2	3	0	0	12
10:00	0	0	0	0	0	0	0	2	4	1	0	1	0	1	9
11:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	0	6	3	15	19	90	226	524	516	356	127	80	24	1986
Percentile															
				15th	50th	85th	95th								
Speed				24	28	32	36								
Mean Speed (Average)				29.1											
10 MPH Pace Speed				23-32											
Number in Pace				1467											
Percent in Pace				73.9%											
Number > 30 MPH				587											
Percent > 30 MPH				29.6%											
Grand Total	0	0	15	13	33	47	175	467	1031	1076	669	263	145	64	3998
Stats															
				Percentile	15th	50th	85th	95th							
				Speed	23	27	32	36							
Mean Speed (Average)				29.4											
10 MPH Pace Speed				23-32											
Number in Pace				2925											
Percent in Pace				73.2%											
Number > 30 MPH				1141											
Percent > 30 MPH				28.5%											

MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAP



INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Sherborn COUNT DATE : Sep-22

DISTRICT : 3 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Route 27 (South Main Street)

MINOR STREET(S) : Farm Road

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM) :		44	591	721		1,356

" K " FACTOR : **0.090** INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME : **15,067**

TOTAL # OF CRASHES : **3** # OF YEARS : **5** AVERAGE # OF CRASHES PER YEAR (A) : **0.60**

CRASH RATE CALCULATION :

0.11

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

Comments : Below Statewide and District Crash Rates

Project Title & Date : Proposed Farm Road Residential Development

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Sherborn COUNT DATE : Sep-22

DISTRICT : 3 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Farm Road

MINOR STREET(S) : Lake Street West

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM) :	273	39	73	14		399

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

4,433

TOTAL # OF CRASHES :

1

OF YEARS :

5

AVERAGE # OF CRASHES PER YEAR (A) :

0.20

CRASH RATE CALCULATION :

0.12

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

Comments : Below Statewide and District Crash Rates

Project Title & Date : Proposed Farm Road Residential Development

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Sherborn COUNT DATE : Sep-22

DISTRICT : 3 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Farm Road

MINOR STREET(S) : Lake Street East

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB		SB		
PEAK HOURLY VOLUMES (AM) :	188	39		100		327

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

3,633

TOTAL # OF CRASHES :

3

OF YEARS :

5

AVERAGE # OF CRASHES PER YEAR (A) :

0.60

CRASH RATE CALCULATION :

0.45

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

Comments : Below Statewide and District Crash Rates

Project Title & Date : Proposed Farm Road Residential Development

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Sherborn COUNT DATE : Sep-22

DISTRICT : 3 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Farm Road

MINOR STREET(S) : Project Site Driveway

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM) :	273	40				313

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

3,478

TOTAL # OF CRASHES :

2

OF
YEARS :

5

AVERAGE # OF
CRASHES PER YEAR (A) :

0.40

CRASH RATE CALCULATION :

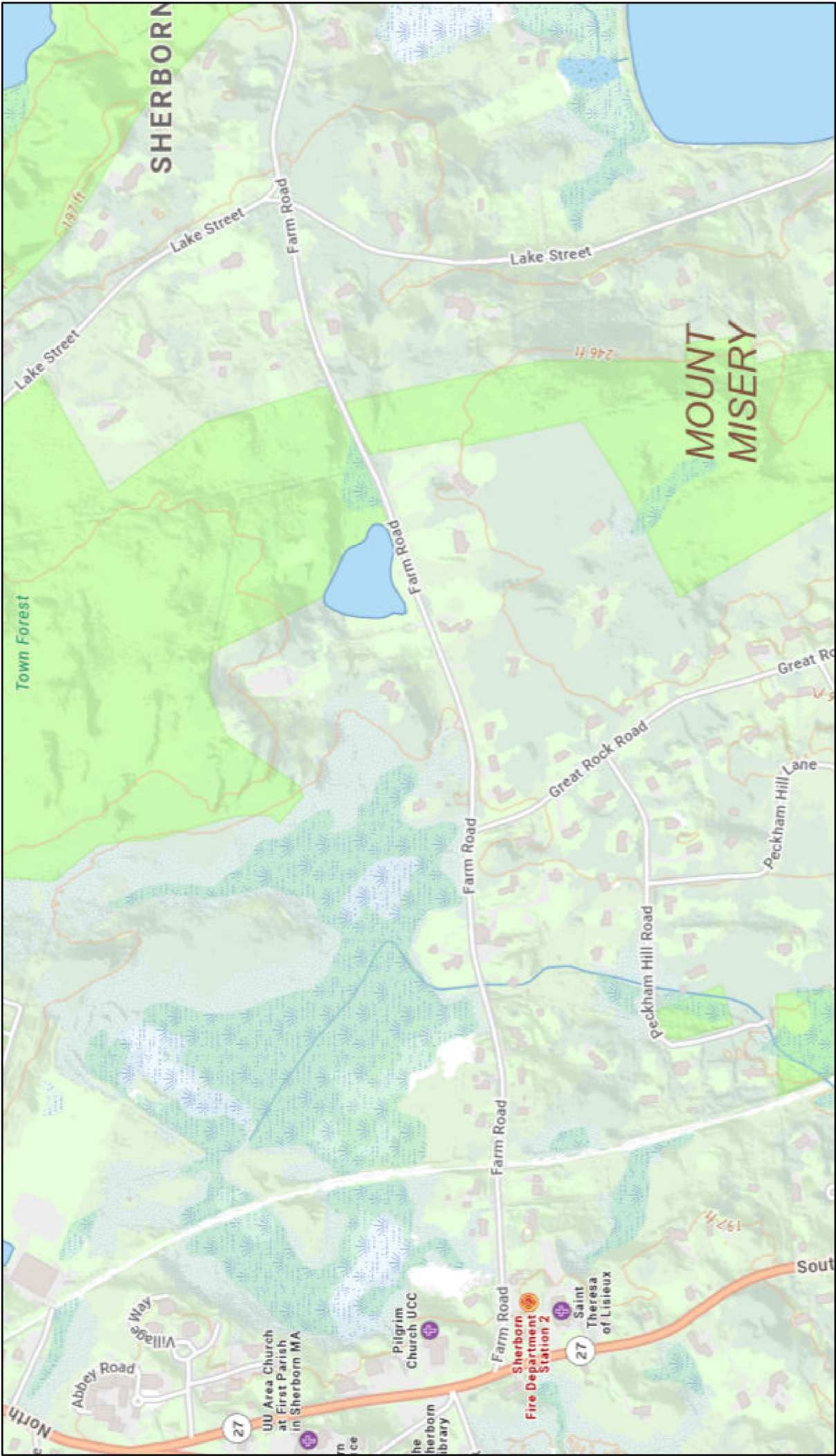
0.32

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

Comments : Below Statewide and District Crash Rates

Project Title & Date : Proposed Farm Road Residential Development

MassDOT Top Crash Locations



10/21/2022, 9:08:28 AM

1:9,028
0 0.05 0.1 0.15 0.2 mi
0 0.07 0.15 0.3 km
MassGIS

GENERAL BACKGROUND TRAFFIC GROWTH



General Background Traffic Growth - Daily Traffic Volumes

CITY/TOWN	ROUTE/STREET	LOCATION	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Growth Rate
Sherborn	Route 27	North of Zoin's Lane	24,053	21,400	21,755	21,670	21,873	23,076	23,330	22,515	22,763	23,082	22,689	0.16%
Sherborn	Route 115	North of Orchard Street	5,163	4,799	4,887	4,868	4,939	6,178	6,320	6,712	6,458	6,477	6,451	3.57%
Natick	Route 135	West of High Street	15,181	13,000			14,160	14,939	15,103	14,841	15,004	15,214	15,575	0.74%
Sherborn	Route 27	North of Laurel Farm		8,100					8,791	8,905	9,003	9,113	9,149	1.19%
														1.42%

TRIP-GENERATION CALCULATIONS





Graph Look Up



ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

210



LAND USE GROUP:

(200-299) Residential

LAND USE :

210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday

TRIP TYPE:

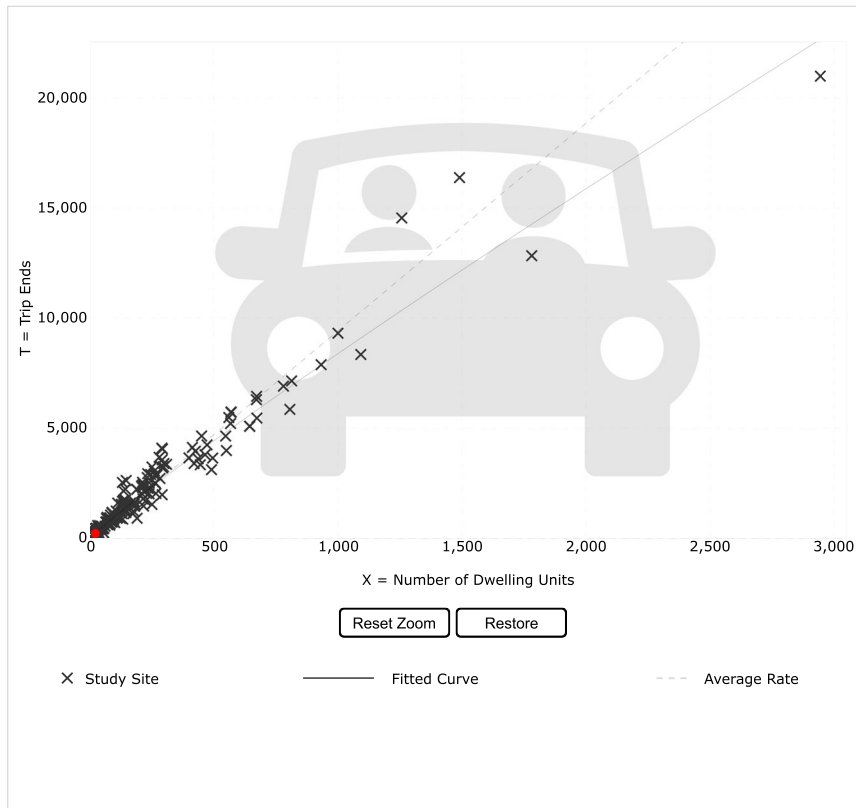
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

18

Calculate

Data Plot and Equation



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

DATA STATISTICS

Land Use:

Single-Family Detached Housing (210) [Click for Description and Data Plots](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

174

Avg. Num. of Dwelling Units:

246

Average Rate:

9.43

Range of Rates:

4.45 - 22.61

Standard Deviation:

2.13

Fitted Curve Equation:

 $\ln(T) = 0.92 \ln(X) + 2.68$ R²:

0.95

Directional Distribution:

50% entering, 50% exiting

Calculated Trip Ends:

Average Rate: 170 (Total), 85 (Entry), 85 (Exit)

Fitted Curve: 208 (Total), 104 (Entry), 104 (Exit)

Add-ons to do more

Try OTISS Pro



Graph Look Up



ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

215



LAND USE GROUP:

(200-299) Residential

LAND USE :

215 - Single-Family Attached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday

TRIP TYPE:

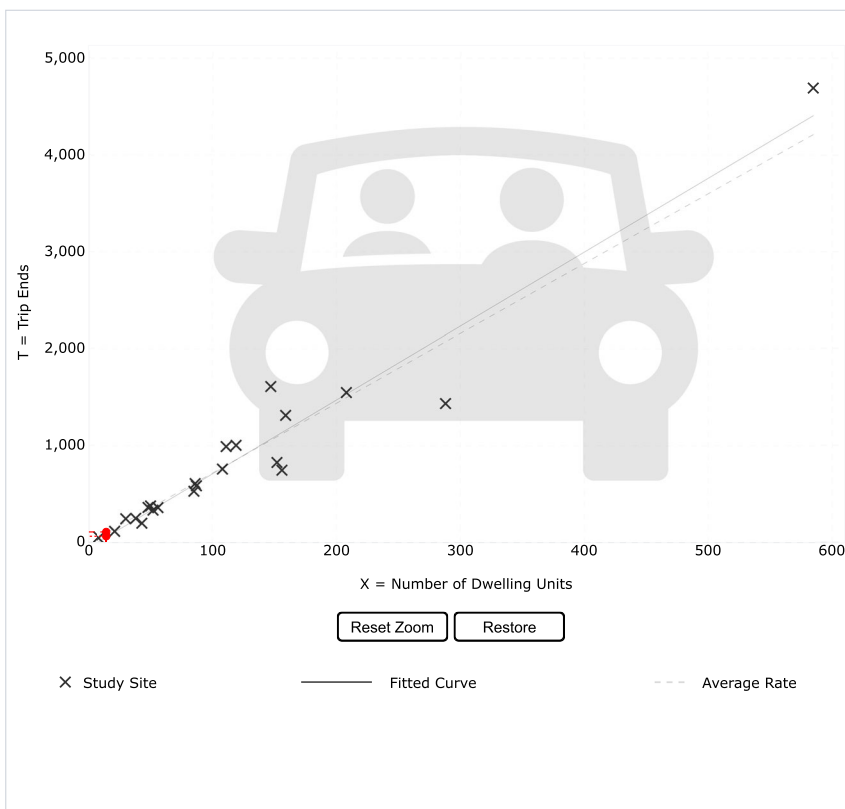
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

14

Calculate

Data Plot and Equation



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

DATA STATISTICS

Land Use:

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

Independent Variable:

Dwelling Units

Time Period:

Weekday

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

22

Avg. Num. of Dwelling Units:

120

Average Rate:

7.20

Range of Rates:

4.70 - 10.97

Standard Deviation:

1.61

Fitted Curve Equation:

 $T = 7.62(X) - 50.48$ R²:

0.94

Directional Distribution:

50% entering, 50% exiting

Calculated Trip Ends:

Average Rate: 101 (Total), 50 (Entry), 51 (Exit)

Fitted Curve: 56 (Total), 28 (Entry), 28 (Exit)

Add-ons to do more

Try OTISS Pro

Graph Look Up



ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

210

**LAND USE GROUP:**

(200-299) Residential

LAND USE :

210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

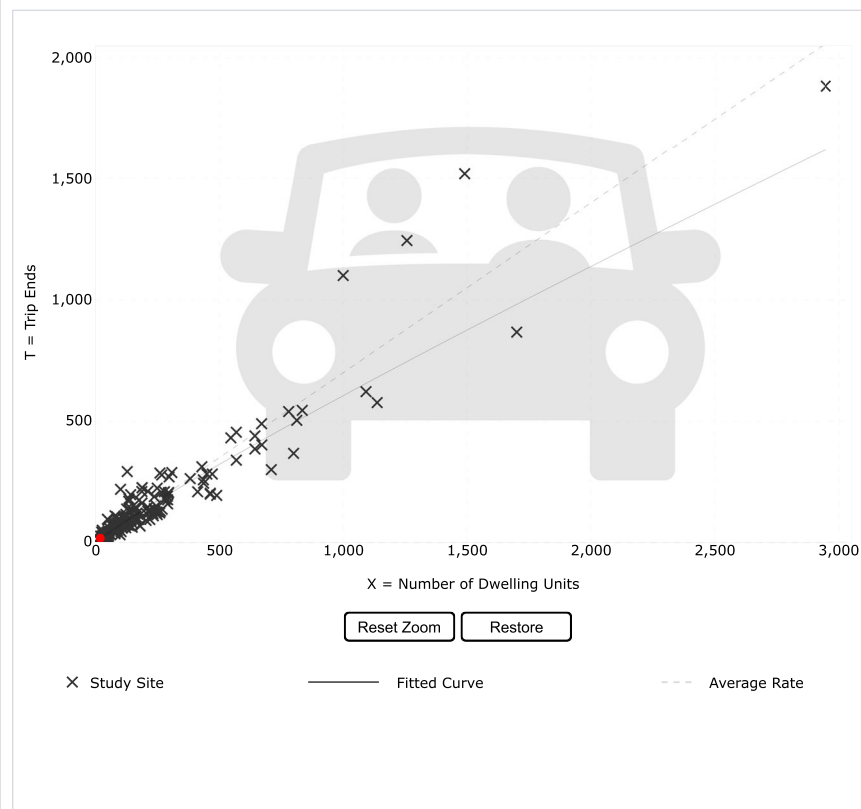
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

18

Calculate

Data Plot and Equation

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

DATA STATISTICS**Land Use:**Single-Family Detached Housing (210) [Click for Description and Data Plots](#)**Independent Variable:**

Dwelling Units

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

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

192

Avg. Num. of Dwelling Units:

226

Average Rate:

0.70

Range of Rates:

0.27 - 2.27

Standard Deviation:

0.24

Fitted Curve Equation: $\ln(T) = 0.91 \ln(X) + 0.12$ **R²:**

0.90

Directional Distribution:

26% entering, 74% exiting

Calculated Trip Ends:

Average Rate: 13 (Total), 3 (Entry), 10 (Exit)

Fitted Curve: 16 (Total), 4 (Entry), 12 (Exit)

Add-ons to do more

Try OTISS Pro

Graph Look Up



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Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

215

**LAND USE GROUP:**

(200-299) Residential

LAND USE :

215 - Single-Family Attached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

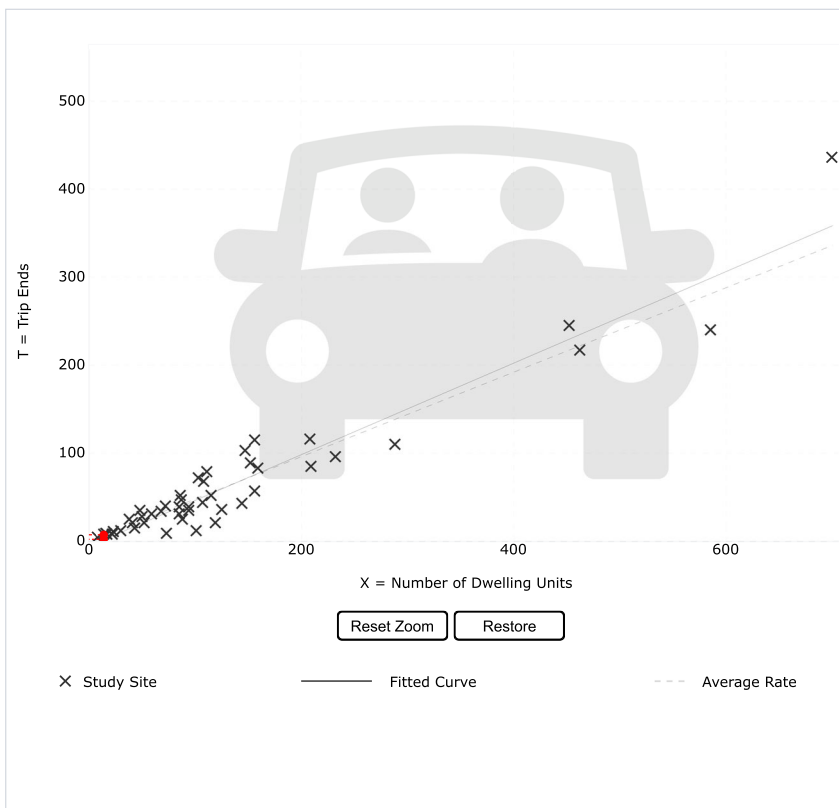
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

14

Calculate

Data Plot and Equation

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

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

Dwelling Units

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

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

46

Avg. Num. of Dwelling Units:

135

Average Rate:

0.48

Range of Rates:

0.12 - 0.74

Standard Deviation:

0.14

Fitted Curve Equation: $T = 0.52(X) - 5.70$ **R²:**

0.92

Directional Distribution:

31% entering, 69% exiting

Calculated Trip Ends:

Average Rate: 7 (Total), 2 (Entry), 5 (Exit)

Fitted Curve: 2 (Total), 0 (Entry), 2 (Exit)

Add-ons to do more

Try OTISS Pro

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Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

210

**LAND USE GROUP:**

(200-299) Residential

LAND USE :

210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

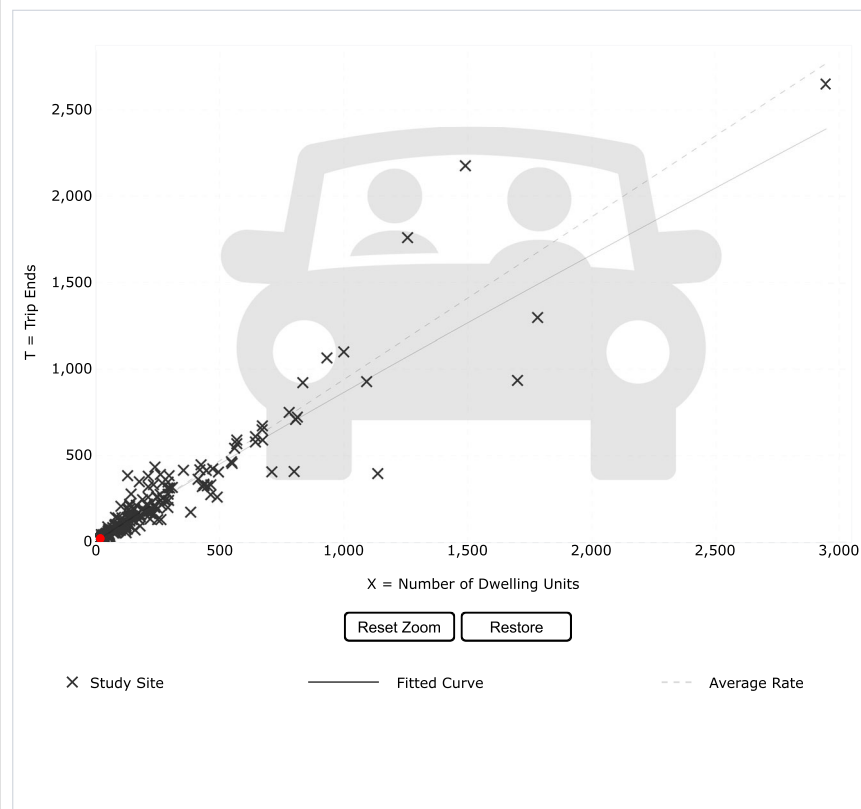
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

18

Calculate

Data Plot and Equation

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

DATA STATISTICS**Land Use:**Single-Family Detached Housing (210) [Click for Description and Data Plots](#)**Independent Variable:**

Dwelling Units

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

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

208

Avg. Num. of Dwelling Units:

248

Average Rate:

0.94

Range of Rates:

0.35 - 2.98

Standard Deviation:

0.31

Fitted Curve Equation: $\ln(T) = 0.94 \ln(X) + 0.27$ **R²:**

0.92

Directional Distribution:

63% entering, 37% exiting

Calculated Trip Ends:Average Rate: 17 (Total), 11 (Entry), 6 (Exit)
Fitted Curve: 20 (Total), 12 (Entry), 8 (Exit)

Add-ons to do more

Try OTISS Pro



Graph Look Up



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Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

215



LAND USE GROUP:

(200-299) Residential

LAND USE :

215 - Single-Family Attached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:

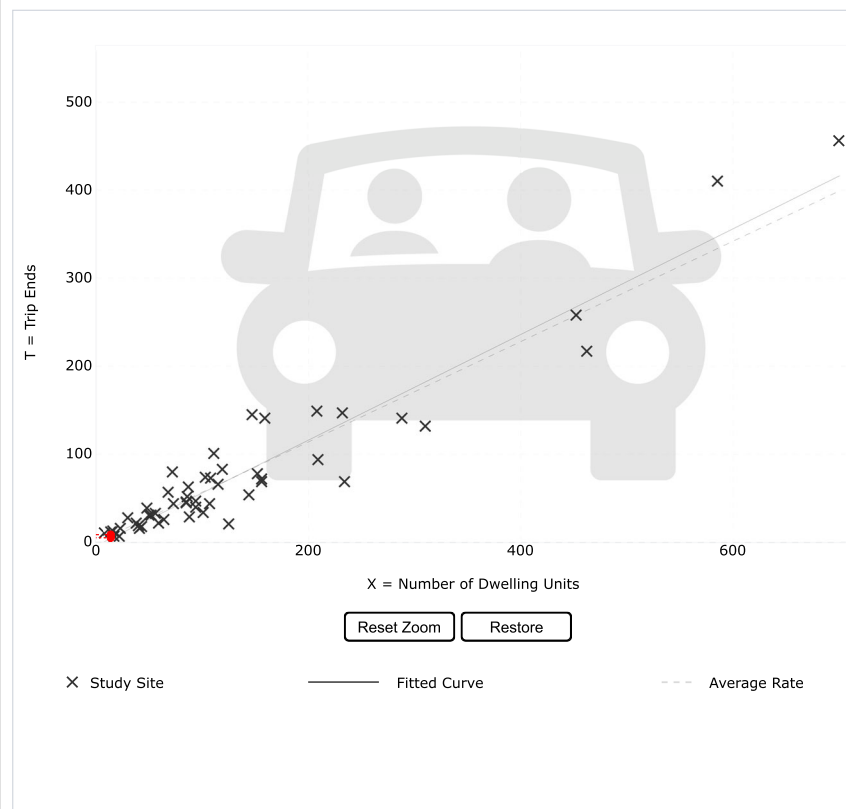
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

14

Calculate

Data Plot and Equation



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

DATA STATISTICS

Land Use:

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

Independent Variable:

Dwelling Units

Time Period:

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

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

51

Avg. Num. of Dwelling Units:

136

Average Rate:

0.57

Range of Rates:

0.17 - 1.25

Standard Deviation:

0.18

Fitted Curve Equation:

 $T = 0.60(X) - 3.93$ R^2 :

0.91

Directional Distribution:

57% entering, 43% exiting

Calculated Trip Ends:

Average Rate: 8 (Total), 5 (Entry), 3 (Exit)

Fitted Curve: 4 (Total), 2 (Entry), 2 (Exit)

Add-ons to do more

Try OTISS Pro

TRIP DISTRIBUTION

Proposed Multifamily Residential Development Bellingham, Massachusetts

[illegible]

CAPACITY ANALYSIS WORKSHEETS

Route 27 South Main Street at Farm Road
Farm Road at Lake Street West
Farm Road at Lake Street East
Farm Road at Project Site Driveway












Route 27 South Main Street at Farm Road



2022 Existing Weekday Morning
1: Route 27 (South Main Street) & Farm Road

10/19/2022




						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	38	653	68	218	373
Future Volume (vph)	6	38	653	68	218	373
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.884		0.987			
Flt Protected	0.993					0.982
Satd. Flow (prot)	1581	0	1839	0	0	1800
Flt Permitted	0.993					0.982
Satd. Flow (perm)	1581	0	1839	0	0	1800
Adj. Flow (vph)	9	54	759	79	232	397
Lane Group Flow (vph)	63	0	838	0	0	629
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						

2022 Existing Weekday Morning
1: Route 27 (South Main Street) & Farm Road

10/19/2022

Intersection

Int Delay, s/veh 2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	38	653	68	218	373
Future Vol, veh/h	6	38	653	68	218	373
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	70	70	86	86	94	94
Heavy Vehicles, %	2	2	2	2	3	4
Mvmt Flow	9	54	759	79	232	397










Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1660	799	0
Stage 1	799	-	-
Stage 2	861	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	107	386	-
Stage 1	443	-	-
Stage 2	414	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	67	386	-
Mov Cap-2 Maneuver	67	-	-
Stage 1	443	-	-
Stage 2	258	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.9	0	4.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	234	792
HCM Lane V/C Ratio	-	-	0.269	0.293
HCM Control Delay (s)	-	-	25.9	11.4
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	1.1	1.2

2022 Existing Weekday Evening
1: Route 27 (South Main Street) & Farm Road

10/21/2022




						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	21	175	472	8	80	535
Future Volume (vph)	21	175	472	8	80	535
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.879		0.998			
Flt Protected	0.995					0.994
Satd. Flow (prot)	1575	0	1859	0	0	1818
Flt Permitted	0.995					0.994
Satd. Flow (perm)	1575	0	1859	0	0	1818
Adj. Flow (vph)	26	219	555	9	85	569
Lane Group Flow (vph)	245	0	564	0	0	654
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						

2022 Existing Weekday Evening
1: Route 27 (South Main Street) & Farm Road

10/21/2022

Intersection

Int Delay, s/veh 4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	175	472	8	80	535
Future Vol, veh/h	21	175	472	8	80	535
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	80	80	85	85	94	94
Heavy Vehicles, %	2	2	2	2	3	4
Mvmt Flow	26	219	555	9	85	569










Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1299	560	0
Stage 1	560	-	-
Stage 2	739	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	178	528	-
Stage 1	572	-	-
Stage 2	472	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	156	528	-
Mov Cap-2 Maneuver	156	-	-
Stage 1	572	-	-
Stage 2	413	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.8	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	421	1003
HCM Lane V/C Ratio	-	-	0.582	0.085
HCM Control Delay (s)	-	-	24.8	8.9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	3.6	0.3




2029 No-Build Weekday Morning
1: Route 27 (South Main Street) & Farm Road

10/19/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	7	42	725	75	242	414
Future Volume (vph)	7	42	725	75	242	414
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.884		0.987			
Flt Protected	0.993					0.982
Satd. Flow (prot)	1581	0	1839	0	0	1800
Flt Permitted	0.993					0.982
Satd. Flow (perm)	1581	0	1839	0	0	1800
Adj. Flow (vph)	10	60	843	87	257	440
Lane Group Flow (vph)	70	0	930	0	0	697
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						

2029 No-Build Weekday Morning
1: Route 27 (South Main Street) & Farm Road

10/19/2022

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	42	725	75	242	414
Future Vol, veh/h	7	42	725	75	242	414
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	70	70	86	86	94	94
Heavy Vehicles, %	2	2	2	2	3	4
Mvmt Flow	10	60	843	87	257	440










Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1841	887	0	0	930
Stage 1	887	-	-	-	-
Stage 2	954	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227
Pot Cap-1 Maneuver	83	343	-	-	731
Stage 1	402	-	-	-	-
Stage 2	374	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	44	343	-	-	731
Mov Cap-2 Maneuver	44	-	-	-	-
Stage 1	402	-	-	-	-
Stage 2	200	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39	0	4.6
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	174	731
HCM Lane V/C Ratio	-	-	0.402	0.352
HCM Control Delay (s)	-	-	39	12.6
HCM Lane LOS	-	-	E	B
HCM 95th %tile Q(veh)	-	-	1.8	1.6

2029 No-Build Weekday Evening
1: Route 27 (South Main Street) & Farm Road

10/21/2022




						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	194	524	9	89	594
Future Volume (vph)	24	194	524	9	89	594
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.880		0.998			
Flt Protected	0.995					0.994
Satd. Flow (prot)	1577	0	1859	0	0	1818
Flt Permitted	0.995					0.994
Satd. Flow (perm)	1577	0	1859	0	0	1818
Adj. Flow (vph)	30	243	616	11	95	632
Lane Group Flow (vph)	273	0	627	0	0	727
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						

2029 No-Build Weekday Evening
1: Route 27 (South Main Street) & Farm Road

10/21/2022

Intersection

Int Delay, s/veh 7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	194	524	9	89	594
Future Vol, veh/h	24	194	524	9	89	594
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	80	80	85	85	94	94
Heavy Vehicles, %	2	2	2	2	3	4
Mvmt Flow	30	243	616	11	95	632










Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1444	622	0
Stage 1	622	-	-
Stage 2	822	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	145	487	-
Stage 1	535	-	-
Stage 2	432	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	123	487	-
Mov Cap-2 Maneuver	123	-	-
Stage 1	535	-	-
Stage 2	365	-	-

Approach	WB	NB	SB
HCM Control Delay, s	38.3	0	1.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	367	950
HCM Lane V/C Ratio	-	-	0.743	0.1
HCM Control Delay (s)	-	-	38.3	9.2
HCM Lane LOS	-	-	E	A
HCM 95th %tile Q(veh)	-	-	5.8	0.3




2029 Build Weekday Morning
1: Route 27 (South Main Street) & Farm Road

12/14/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	48	725	75	244	414
Future Volume (vph)	8	48	725	75	244	414
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.884		0.987			
Flt Protected	0.993					0.982
Satd. Flow (prot)	1581	0	1839	0	0	1800
Flt Permitted	0.993					0.982
Satd. Flow (perm)	1581	0	1839	0	0	1800
Adj. Flow (vph)	11	69	843	87	260	440
Lane Group Flow (vph)	80	0	930	0	0	700
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						










2029 Build Weekday Morning
1: Route 27 (South Main Street) & Farm Road

12/14/2022

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	48	725	75	244	414
Future Vol, veh/h	8	48	725	75	244	414
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	70	70	86	86	94	94
Heavy Vehicles, %	2	2	2	2	3	4
Mvmt Flow	11	69	843	87	260	440
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1847	887	0	0	930	0
Stage 1	887	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	82	343	-	-	731	-
Stage 1	402	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	43	343	-	-	731	-
Mov Cap-2 Maneuver	43	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	42.9	0	4.7			
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	172	731	-	
HCM Lane V/C Ratio	-	-	0.465	0.355	-	
HCM Control Delay (s)	-	-	42.9	12.6	0	
HCM Lane LOS	-	-	E	B	A	
HCM 95th %tile Q(veh)	-	-	2.2	1.6	-	




2029 Build Weekday Evening
 1: Route 27 (South Main Street) & Farm Road

12/14/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	198	524	10	96	594
Future Volume (vph)	25	198	524	10	96	594
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.880		0.997			
Flt Protected	0.994					0.993
Satd. Flow (prot)	1575	0	1857	0	0	1817
Flt Permitted	0.994					0.993
Satd. Flow (perm)	1575	0	1857	0	0	1817
Adj. Flow (vph)	31	248	616	12	102	632
Lane Group Flow (vph)	279	0	628	0	0	734
Sign Control	Stop		Free			Free
Intersection Summary						
Control Type: Unsignalized						

2029 Build Weekday Evening
1: Route 27 (South Main Street) & Farm Road

12/14/2022

Intersection						
Int Delay, s/veh	7.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	198	524	10	96	594
Future Vol, veh/h	25	198	524	10	96	594
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	80	80	85	85	94	94
Heavy Vehicles, %	2	2	2	2	3	4
Mvmt Flow	31	248	616	12	102	632

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1458	622	0	0	628
Stage 1	622	-	-	-	-
Stage 2	836	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227
Pot Cap-1 Maneuver	143	487	-	-	949
Stage 1	535	-	-	-	-
Stage 2	425	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	119	487	-	-	949
Mov Cap-2 Maneuver	119	-	-	-	-
Stage 1	535	-	-	-	-
Stage 2	354	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.5	0	1.3
HCM LOS	E		

















Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	362	949
HCM Lane V/C Ratio	-	-	0.77	0.108
HCM Control Delay (s)	-	-	41.5	9.2
HCM Lane LOS	-	-	E	A
HCM 95th %tile Q(veh)	-	-	6.3	0.4

Farm Road at Lake Street West



2022 Existing Weekday Morning
2: Lake Street West & Farm Road

10/19/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	181	3	3	36	0	0	66	7	0	10	4
Future Volume (vph)	89	181	3	3	36	0	0	66	7	0	10	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998						0.987			0.961	
Flt Protected		0.984			0.996							
Satd. Flow (prot)	0	1768	0	0	1811	0	0	1733	0	0	1655	0
Flt Permitted		0.984			0.996							
Satd. Flow (perm)	0	1768	0	0	1811	0	0	1733	0	0	1655	0
Adj. Flow (vph)	110	223	4	6	73	0	0	77	8	0	22	9
Lane Group Flow (vph)	0	337	0	0	79	0	0	85	0	0	31	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												

















2022 Existing Weekday Morning
2: Lake Street West & Farm Road

10/19/2022

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	89	181	3	3	36	0	0	66	7	0	10	4
Future Vol, veh/h	89	181	3	3	36	0	0	66	7	0	10	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	49	49	49	86	86	86	46	46	46
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	3	3	3
Mvmt Flow	110	223	4	6	73	0	0	77	8	0	22	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	227	0	0	546	530	225	-	532	73
Stage 1	-	-	-	-	-	-	445	445	-	-	85	-
Stage 2	-	-	-	-	-	-	101	85	-	-	447	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	-	4.027	3.327
Pot Cap-1 Maneuver	1527	-	-	1347	-	0	450	456	817	0	452	986
Stage 1	-	-	-	-	-	0	594	576	-	0	822	-
Stage 2	-	-	-	-	-	0	908	826	-	0	572	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1527	-	-	1347	-	-	400	416	817	-	413	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	400	416	-	-	413	-
Stage 1	-	-	-	-	-	-	545	529	-	-	818	-
Stage 2	-	-	-	-	-	-	872	822	-	-	525	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.5			0.6			15.2			12.7		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	437	1527	-	-	1347	-	495					
HCM Lane V/C Ratio	0.194	0.072	-	-	0.005	-	0.061					
HCM Control Delay (s)	15.2	7.5	0	-	7.7	0	12.7					
HCM Lane LOS	C	A	A	-	A	A	B					
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	0.2					

2022 Existing Weekday Evening
2: Lake Street West & Farm Road

12/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	62	3	2	123	0	3	5	2	0	77	42
Future Volume (vph)	10	62	3	2	123	0	3	5	2	0	77	42
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994						0.977			0.952	
Flt Protected		0.994			0.999			0.984				
Satd. Flow (prot)	0	1779	0	0	1817	0	0	1688	0	0	1639	0
Flt Permitted		0.994			0.999			0.984				
Satd. Flow (perm)	0	1779	0	0	1817	0	0	1688	0	0	1639	0
Adj. Flow (vph)	12	77	4	2	141	0	4	6	2	0	122	67
Lane Group Flow (vph)	0	93	0	0	143	0	0	12	0	0	189	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												

















2022 Existing Weekday Evening
2: Lake Street West & Farm Road

12/14/2022

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	62	3	2	123	0	3	5	2	0	77	42
Future Vol, veh/h	10	62	3	2	123	0	3	5	2	0	77	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	87	87	87	83	83	83	63	63	63
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	3	3	3
Mvmt Flow	12	77	4	2	141	0	4	6	2	0	122	67
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	141	0	0	81	0	0	343	248	79	-	250	141
Stage 1	-	-	-	-	-	-	103	103	-	-	145	-
Stage 2	-	-	-	-	-	-	240	145	-	-	105	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	-	4.027	3.327
Pot Cap-1 Maneuver	1442	-	-	1523	-	0	613	656	984	0	651	904
Stage 1	-	-	-	-	-	0	905	812	-	0	775	-
Stage 2	-	-	-	-	-	0	766	779	-	0	806	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1442	-	-	1523	-	-	481	649	984	-	644	904
Mov Cap-2 Maneuver	-	-	-	-	-	-	481	649	-	-	644	-
Stage 1	-	-	-	-	-	-	897	805	-	-	774	-
Stage 2	-	-	-	-	-	-	597	778	-	-	799	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.1			10.9			11.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	626	1442	-	-	1523	-	717					
HCM Lane V/C Ratio	0.019	0.009	-	-	0.002	-	0.263					
HCM Control Delay (s)	10.9	7.5	0	-	7.4	0	11.8					
HCM Lane LOS	B	A	A	-	A	A	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	1.1					

2029 No-Build Weekday Morning
2: Lake Street West & Farm Road

10/19/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	201	4	4	40	0	0	73	8	0	11	5
Future Volume (vph)	99	201	4	4	40	0	0	73	8	0	11	5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998						0.987			0.958	
Flt Protected		0.984			0.996							
Satd. Flow (prot)	0	1768	0	0	1811	0	0	1733	0	0	1649	0
Flt Permitted		0.984			0.996							
Satd. Flow (perm)	0	1768	0	0	1811	0	0	1733	0	0	1649	0
Adj. Flow (vph)	122	248	5	8	82	0	0	85	9	0	24	11
Lane Group Flow (vph)	0	375	0	0	90	0	0	94	0	0	35	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												

















2029 No-Build Weekday Morning
2: Lake Street West & Farm Road

10/19/2022

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	99	201	4	4	40	0	0	73	8	0	11	5
Future Vol, veh/h	99	201	4	4	40	0	0	73	8	0	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	49	49	49	86	86	86	46	46	46
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	3	3	3
Mvmt Flow	122	248	5	8	82	0	0	85	9	0	24	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	253	0	0	611	593	251	-	595	82
Stage 1	-	-	-	-	-	-	495	495	-	-	98	-
Stage 2	-	-	-	-	-	-	116	98	-	-	497	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	-	4.027	3.327
Pot Cap-1 Maneuver	1515	-	-	1318	-	0	407	420	790	0	416	975
Stage 1	-	-	-	-	-	0	558	548	-	0	812	-
Stage 2	-	-	-	-	-	0	891	816	-	0	543	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1515	-	-	1318	-	-	354	378	790	-	375	975
Mov Cap-2 Maneuver	-	-	-	-	-	-	354	378	-	-	375	-
Stage 1	-	-	-	-	-	-	506	496	-	-	807	-
Stage 2	-	-	-	-	-	-	850	811	-	-	492	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.5			0.7			16.8			13.4		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	399	1515	-	-	1318	-	464					
HCM Lane V/C Ratio	0.236	0.081	-	-	0.006	-	0.075					
HCM Control Delay (s)	16.8	7.6	0	-	7.7	0	13.4					
HCM Lane LOS	C	A	A	-	A	A	B					
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0	-	0.2					

2029 No-Build Weekday Evening
2: Lake Street West & Farm Road

12/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	69	4	2	136	0	4	6	2	0	86	47
Future Volume (vph)	11	69	4	2	136	0	4	6	2	0	86	47
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994						0.981			0.952	
Flt Protected		0.993			0.999			0.982				
Satd. Flow (prot)	0	1777	0	0	1817	0	0	1691	0	0	1639	0
Flt Permitted		0.993			0.999			0.982				
Satd. Flow (perm)	0	1777	0	0	1817	0	0	1691	0	0	1639	0
Adj. Flow (vph)	14	85	5	2	156	0	5	7	2	0	137	75
Lane Group Flow (vph)	0	104	0	0	158	0	0	14	0	0	212	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												

















2029 No-Build Weekday Evening
2: Lake Street West & Farm Road

12/14/2022

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	69	4	2	136	0	4	6	2	0	86	47
Future Vol, veh/h	11	69	4	2	136	0	4	6	2	0	86	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	87	87	87	83	83	83	63	63	63
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	3	3	3
Mvmt Flow	14	85	5	2	156	0	5	7	2	0	137	75
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	156	0	0	90	0	0	382	276	88	-	278	156
Stage 1	-	-	-	-	-	-	116	116	-	-	160	-
Stage 2	-	-	-	-	-	-	266	160	-	-	118	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	-	4.027	3.327
Pot Cap-1 Maneuver	1424	-	-	1512	-	0	578	633	973	0	628	887
Stage 1	-	-	-	-	-	0	891	802	-	0	764	-
Stage 2	-	-	-	-	-	0	742	767	-	0	796	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1424	-	-	1512	-	-	436	626	973	-	621	887
Mov Cap-2 Maneuver	-	-	-	-	-	-	436	626	-	-	621	-
Stage 1	-	-	-	-	-	-	882	794	-	-	763	-
Stage 2	-	-	-	-	-	-	557	766	-	-	788	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.1			11.4			12.4		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	577	1424	-	-	1512	-	695					
HCM Lane V/C Ratio	0.025	0.01	-	-	0.002	-	0.304					
HCM Control Delay (s)	11.4	7.6	0	-	7.4	0	12.4					
HCM Lane LOS	B	A	A	-	A	A	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	1.3					

2029 Build Weekday Morning
2: Lake Street West & Farm Road

12/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	204	4	4	41	0	0	73	8	0	11	6
Future Volume (vph)	103	204	4	4	41	0	0	73	8	0	11	6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998						0.987			0.953	
Flt Protected		0.984			0.996							
Satd. Flow (prot)	0	1768	0	0	1811	0	0	1733	0	0	1641	0
Flt Permitted		0.984			0.996							
Satd. Flow (perm)	0	1768	0	0	1811	0	0	1733	0	0	1641	0
Adj. Flow (vph)	127	252	5	8	84	0	0	85	9	0	24	13
Lane Group Flow (vph)	0	384	0	0	92	0	0	94	0	0	37	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												

















2029 Build Weekday Morning
2: Lake Street West & Farm Road

12/14/2022

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	103	204	4	4	41	0	0	73	8	0	11	6
Future Vol, veh/h	103	204	4	4	41	0	0	73	8	0	11	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	49	49	49	86	86	86	46	46	46
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	3	3	3
Mvmt Flow	127	252	5	8	84	0	0	85	9	0	24	13
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	84	0	0	257	0	0	628	609	255	-	611	84
Stage 1	-	-	-	-	-	-	509	509	-	-	100	-
Stage 2	-	-	-	-	-	-	119	100	-	-	511	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	-	4.027	3.327
Pot Cap-1 Maneuver	1513	-	-	1314	-	0	397	411	786	0	407	972
Stage 1	-	-	-	-	-	0	549	540	-	0	810	-
Stage 2	-	-	-	-	-	0	888	814	-	0	535	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1513	-	-	1314	-	-	343	369	786	-	365	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	343	369	-	-	365	-
Stage 1	-	-	-	-	-	-	495	487	-	-	805	-
Stage 2	-	-	-	-	-	-	845	809	-	-	483	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.5			0.7			17.2			13.4		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	389	1513	-	-	1314	-	468					
HCM Lane V/C Ratio	0.242	0.084	-	-	0.006	-	0.079					
HCM Control Delay (s)	17.2	7.6	0	-	7.8	0	13.4					
HCM Lane LOS	C	A	A	-	A	A	B					
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0	-	0.3					

2029 Build Weekday Evening
2: Lake Street West & Farm Road

12/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	71	4	2	139	0	4	6	2	0	86	51
Future Volume (vph)	13	71	4	2	139	0	4	6	2	0	86	51
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994						0.981			0.950	
Flt Protected		0.993			0.999			0.982				
Satd. Flow (prot)	0	1777	0	0	1817	0	0	1691	0	0	1636	0
Flt Permitted		0.993			0.999			0.982				
Satd. Flow (perm)	0	1777	0	0	1817	0	0	1691	0	0	1636	0
Adj. Flow (vph)	16	88	5	2	160	0	5	7	2	0	137	81
Lane Group Flow (vph)	0	109	0	0	162	0	0	14	0	0	218	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Control Type: Unsignalized												

2029 Build Weekday Evening
2: Lake Street West & Farm Road

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Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	71	4	2	139	0	4	6	2	0	86	51
Future Vol, veh/h	13	71	4	2	139	0	4	6	2	0	86	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	87	87	87	83	83	83	63	63	63
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	3	3	3
Mvmt Flow	16	88	5	2	160	0	5	7	2	0	137	81
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	160	0	0	93	0	0	396	287	91	-	289	160
Stage 1	-	-	-	-	-	-	123	123	-	-	164	-
Stage 2	-	-	-	-	-	-	273	164	-	-	125	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	-	5.53	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	-	4.027	3.327
Pot Cap-1 Maneuver	1419	-	-	1508	-	0	566	624	969	0	619	882
Stage 1	-	-	-	-	-	0	884	796	-	0	761	-
Stage 2	-	-	-	-	-	0	735	764	-	0	791	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1419	-	-	1508	-	-	422	616	969	-	611	882
Mov Cap-2 Maneuver	-	-	-	-	-	-	422	616	-	-	611	-
Stage 1	-	-	-	-	-	-	873	786	-	-	760	-
Stage 2	-	-	-	-	-	-	547	763	-	-	782	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			11.6			12.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	564	1419	-	-	1508	-	690					
HCM Lane V/C Ratio	0.026	0.011	-	-	0.002	-	0.315					
HCM Control Delay (s)	11.6	7.6	0	-	7.4	0	12.6					
HCM Lane LOS	B	A	A	-	A	A	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	1.4					

Farm Road at Lake Street East



2022 Existing Weekday Morning
3: Farm Road & Lake Street East

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Volume (vph)	0	188	39	50	100	0
Future Volume (vph)	0	188	39	50	100	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.913			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1701	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1701	0	1770	0
Adj. Flow (vph)	0	204	42	77	128	0
Lane Group Flow (vph)	0	204	119	0	128	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						

2022 Existing Weekday Morning
3: Farm Road & Lake Street East

10/19/2022

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	188	39	50	100	0
Future Vol, veh/h	0	188	39	50	100	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	65	78	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	204	42	77	128	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	705
HCM Lane V/C Ratio	-	-	-	0.182
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.7

2022 Existing Weekday Evening
3: Farm Road & Lake Street East

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (vph)	0	64	125	77	58	0
Future Volume (vph)	0	64	125	77	58	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.944			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1758	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1758	0	1770	0
Adj. Flow (vph)	0	70	136	97	82	0
Lane Group Flow (vph)	0	70	233	0	82	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						

2022 Existing Weekday Evening
3: Farm Road & Lake Street East

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Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	64	125	77	58	0
Future Vol, veh/h	0	64	125	77	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	79	71	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	70	136	97	82	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	233	0	0 255 185
Stage 1	-	-	- 185 -
Stage 2	-	-	- 70 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1335	-	- 734 857
Stage 1	-	-	- 847 -
Stage 2	-	-	- 953 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1335	-	- 734 857
Mov Cap-2 Maneuver	-	-	- 734 -
Stage 1	-	-	- 847 -
Stage 2	-	-	- 953 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1335	-	-	-	734
HCM Lane V/C Ratio	-	-	-	-	0.111
HCM Control Delay (s)	0	-	-	-	10.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

2029 No-Build Weekday Morning
3: Farm Road & Lake Street East

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↔		↔	
Traffic Volume (vph)	0	209	44	55	110	0
Future Volume (vph)	0	209	44	55	110	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.914			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1703	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1703	0	1770	0
Adj. Flow (vph)	0	227	48	85	141	0
Lane Group Flow (vph)	0	227	133	0	141	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						

2029 No-Build Weekday Morning
3: Farm Road & Lake Street East




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Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	209	44	55	110	0
Future Vol, veh/h	0	209	44	55	110	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	65	78	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	227	48	85	141	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	318	-
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	227	-
Critical Hdwy	-	-	-	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	-
Pot Cap-1 Maneuver	0	-	-	-	675	0
Stage 1	0	-	-	-	933	0
Stage 2	0	-	-	-	811	0
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	675	-
Mov Cap-2 Maneuver	-	-	-	-	675	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	811	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		11.7		
HCM LOS				B		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	675		
HCM Lane V/C Ratio	-	-	-	0.209		
HCM Control Delay (s)	-	-	-	11.7		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.8		

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	71	138	86	65	0
Future Volume (vph)	0	71	138	86	65	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.943					
Flt Protected	0.950					
Satd. Flow (prot)	0	1863	1757	0	1770	0
Flt Permitted	0.950					
Satd. Flow (perm)	0	1863	1757	0	1770	0
Adj. Flow (vph)	0	77	150	109	92	0
Lane Group Flow (vph)	0	77	259	0	92	0
Sign Control	Free		Free	Stop		
Intersection Summary						
Control Type: Unsignalized						

2029 No-Build Weekday Evening
3: Farm Road & Lake Street East

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Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	71	138	86	65	0
Future Vol, veh/h	0	71	138	86	65	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	79	71	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	77	150	109	92	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	259	0	0 282 205
Stage 1	-	-	- - 205 -
Stage 2	-	-	- - 77 -
Critical Hdwy	4.12	-	- - 6.42 6.22
Critical Hdwy Stg 1	-	-	- - 5.42 -
Critical Hdwy Stg 2	-	-	- - 5.42 -
Follow-up Hdwy	2.218	-	- - 3.518 3.318
Pot Cap-1 Maneuver	1306	-	- - 708 836
Stage 1	-	-	- - 829 -
Stage 2	-	-	- - 946 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	1306	-	- - 708 836
Mov Cap-2 Maneuver	-	-	- - 708 -
Stage 1	-	-	- - 829 -
Stage 2	-	-	- - 946 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1306	-	-	-	708
HCM Lane V/C Ratio	-	-	-	-	0.129
HCM Control Delay (s)	0	-	-	-	10.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Volume (vph)	0	212	45	55	110	0
Future Volume (vph)	0	212	45	55	110	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.914			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1703	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1703	0	1770	0
Adj. Flow (vph)	0	230	49	85	141	0
Lane Group Flow (vph)	0	230	134	0	141	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	212	45	55	110	0
Future Vol, veh/h	0	212	45	55	110	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	65	78	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	230	49	85	141	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	672
HCM Lane V/C Ratio	-	-	-	0.21
HCM Control Delay (s)	-	-	-	11.8
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.8

2029 Build Weekday Evening
3: Farm Road & Lake Street East




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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	73	141	86	65	0
Future Volume (vph)	0	73	141	86	65	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.944			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1758	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1758	0	1770	0
Adj. Flow (vph)	0	79	153	109	92	0
Lane Group Flow (vph)	0	79	262	0	92	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						

2029 Build Weekday Evening
3: Farm Road & Lake Street East

12/14/2022

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	73	141	86	65	0
Future Vol, veh/h	0	73	141	86	65	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	79	71	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	79	153	109	92	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	262	0	-	0	287	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1302	-	-	-	703	832
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1302	-	-	-	703	832
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	944	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		10.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1302	-	-	-	703	
HCM Lane V/C Ratio	-	-	-	-	0.13	
HCM Control Delay (s)	0	-	-	-	10.9	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

Farm Road at Project Site Driveway



2029 Build Weekday Morning
4: Farm Road & Project Site Driveway




12/14/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	304	45	2	7	7
Future Volume (vph)	2	304	45	2	7	7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.995		0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	1863	1853	0	1694	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	1863	1853	0	1694	0
Adj. Flow (vph)	2	330	49	2	8	8
Lane Group Flow (vph)	0	332	51	0	16	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						

2029 Build Weekday Morning
4: Farm Road & Project Site Driveway

12/14/2022

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	304	45	2	7	7
Future Vol, veh/h	2	304	45	2	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	330	49	2	8	8
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	51	0	-	0	384	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	334	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1555	-	-	-	619	1018
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	725	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1555	-	-	-	618	1018
Mov Cap-2 Maneuver	-	-	-	-	618	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	725	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.8		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1555	-	-	-	769	
HCM Lane V/C Ratio	0.001	-	-	-	0.02	
HCM Control Delay (s)	7.3	0	-	-	9.8	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

2029 Build Weekday Evening
4: Farm Road & Project Site Driveway




12/14/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	84	187	7	4	5
Future Volume (vph)	8	84	187	7	4	5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.995		0.925	
Flt Protected		0.996			0.978	
Satd. Flow (prot)	0	1855	1853	0	1685	0
Flt Permitted		0.996			0.978	
Satd. Flow (perm)	0	1855	1853	0	1685	0
Adj. Flow (vph)	9	91	203	8	4	5
Lane Group Flow (vph)	0	100	211	0	9	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Control Type: Unsignalized						

2029 Build Weekday Evening
4: Farm Road & Project Site Driveway

12/14/2022

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	84	187	7	4	5
Future Vol, veh/h	8	84	187	7	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	91	203	8	4	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	211	0	-	0	316	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	109	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1360	-	-	-	677	833
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1360	-	-	-	672	833
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	916	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		9.8		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1360	-	-	-	753	
HCM Lane V/C Ratio	0.006	-	-	-	0.013	
HCM Control Delay (s)	7.7	0	-	-	9.8	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	