

Ref: 9425

October 18, 2023

Mr. Richard S. Novak, Chair
Sherborn Zoning Board of Appeals
Town Hall
19 Washington Street
Sherborn, MA 01770

Re: Response to Engineering Peer Review - Traffic
Farm Road Homes Residential Development – 55 and 65 Farm Road
Sherborn, Massachusetts

Dear Chair Novak and Member of the Zoning Board of Appeals:

Vanasse & Associates, Inc. (VAI) is providing responses to the comments that were raised in the September 28, 2023 *Engineering Peer Review – Traffic* letter prepared by Tetra Tech (TT) concerning their review of the December 2022 *Transportation Impact Assessment* (the “December 2022 TIA”) that was prepared by VAI in support of the proposed residential development to be located at 55 and 65 Farm Road in Sherborn, Massachusetts (hereafter referred to as the “Project”). Listed below are the comments that were identified by TT in the subject letter followed by our response on behalf of the Project proponent.

Project Study Area Intersection

Comment 1: *The TIA evaluated four intersections Farm Road, including Farm Road at Route 27 and Farm Road at Lake Street. Tetra Tech recommends that the Applicant provide an evaluation of the Farm Road/Great Rock Road intersection given its proximity to the site (approximately 100 feet west of the site property boundary).*

Response: As requested, the study area that was evaluated in the December 2022 TIA has been expanded to include the intersection of Farm Road at Great Rock Road. Turning movement counts were conducted at the intersection on Wednesday, October 11, 2023, from 7:00 to 9:00 AM and from 4:00 to 6:00 PM. Based on a review of MassDOT seasonal adjustment factors for Group U4-7 (the group that includes the functional classification for Farm Road), traffic volumes during the month of October are approximately 6.4 percent above average-month conditions and, as such, a seasonal adjustment was not required. Based on updated guidance from MassDOT,¹ further adjustment of the traffic count data to account for the impact on traffic volumes and trip patterns resulting from the COVID-19 pandemic was not required.

For the purpose of this evaluation and to be consistent with the traffic volume networks and analyses that are presented in the December 2022 TIA, the

¹*Traffic and Safety Engineering 25% Design Submission Guidelines*; MassDOT; Revised March 31, 2022.

October 2023 peak-hour traffic volumes for the Farm Road/Great Rock Road intersection were incorporated on to the 2022 Existing traffic volume networks and are shown on Figure 3R, with the corresponding 2029 No-Build and 2029 Build condition traffic volumes shown on Figures 4R and 7R, respectively. A detailed discussion of the methodology used to develop the 2029 No-Build and 2029 Build condition traffic volumes is presented in the December 2022 TIA. A summary of the traffic operations analysis for the intersection is provided in response to Comment 13.

Study Time Periods

Comment 2: The study includes an impact analysis of the weekday morning (7am-9am) and weekday evening (4pm-6pm) peak periods when the combination of site-generated traffic and volumes on the adjacent roadways is expected to be greatest. The time periods chosen for detailed analysis are generally appropriate for the residential uses proposed.

Response: No response required.

Traffic Volumes

GPI Comment 3: Automated traffic recorder counts (ATRs), including speed data, were conducted on Wednesday, September 14, 2022 and Thursday, September 15, 2022 on Farm Road, in the vicinity of the site. Turning movement count (TMC) data was also collected at the study area intersections on Wednesday, September 14, 2022 when schools were in session. To account for traffic volume fluctuations caused by the COVID-19 pandemic, the TIA applied a 5.9 percent adjustment (increase) to the observed traffic volumes, based on comparisons with pre-pandemic (2019) continuous count station data published by the Massachusetts Department of Transportation (MassDOT). No adjustments were made for seasonal fluctuations as the TIA indicates that September is an above-average traffic volume months based on MassDOT data. Tetra Tech generally agrees with this methodology. However, supporting traffic counts and adjustment calculations should be provided in the appendix material for the Town's review.

Response: The traffic count worksheets and seasonal adjustment data that were included in the Technical Appendix of the December 2022 are attached.

Public Transportation

Comment 4: The TIA states that regularly scheduled public transportation service is not provided within the Town of Sherborn. The TIA states that the Sherborn Council of Aging provides discounted taxi rides through an agreement with JFK Transportation. The trip generation estimates presented in the TIA do not take a credit (reduction) for transit use. Tetra Tech generally concurs with this methodology.

Response: No response required.



Crash Analysis

Comment 5: *The TIA includes a crash analysis for the existing study intersections between 2015 and 2019 based on MassDOT crash data. The current MassDOT crash database includes data through 2022 (years 2021 and 2022 are still open and subject to change pending MassDOT's completion of processing all crash reports for these two years). Tetra Tech recommends that the Applicant expand the crash assessment to include the additional years of data. The backup crash data and crash rate worksheets should be provided in the appendix for the Town's review.*

Response: The MassDOT motor vehicle crash analysis has been updated to include crash data through 2022 and to incorporate crash data for the intersection of Farm Road at Great Rock Road and the segments of Farm Road between Route 27 and Great Rock Road and from Great Rock Road to Lake Street. The expanded motor vehicle crash data is presented in Table 4R, with the back-up crash data and supporting Crash Rate Worksheets attached. The expanded crash analysis continues to indicate a low incidence of motor vehicle crashes at the study area intersections and along Farm Road within the study area, with the calculated motor vehicle crash rates at all of the study intersections and roadway segments found to be below the MassDOT statewide and District average crash rates for similar intersections and roadways for the MassDOT Highway Division District in which the intersections are located (District 3).

Comment 6: *Tetra Tech is aware of concerns made by the public during the Zoning Board of Appeals public hearing process regarding potential solar glare and existing drainage and icy conditions on Farm Road as they relate to traffic. Tetra Tech recommends that the Applicant request crash reports for all reported crashes on Farm Road in the study area for the last 5-years to identify any potential safety deficiencies that may not have been reported in the MassDOT crash database.*

Response: A summary of reported motor vehicle crashes occurring along the segment of Farm Road between and including the intersections with Route 27 and Lake Street was provided by the Sherborn Police Department for the period 2018 through 2022 (the most recent complete five-year reporting period) and is summarized in Table 1.

Table 1
MOTOR VEHICLE CRASH DATA^a

Roadway Segment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
<i>Farm Road between Route 27 and Lake Street (Inclusive)</i>	3	3	0	2	0	2	0	1	3	0	3	2	19

^aBased on motor vehicle crash data provided by the Sherborn Police Department



As can be seen in Table 1, 19 motor vehicle crashes were reported to have occurred along the roadway segment over the five-year review period, which is generally consistent with the MassDOT motor vehicle crash data (Table 4R) with consideration that not all crashes are reported to MassDOT. Further review of the data indicates no discernable trend that would suggest that there is an increase in crashes during the fall/winter months that could be attributable to solar glare/icy conditions. This observation is also affirmed by the MassDOT crash data which indicated that only two (2) crashes were reported along Farm Road from 2015 through 2022 where a snow/ice covered roadway was identified. These observations will be revisited once the detailed police reports are received.

Study Time Horizon

Comment 7: The TIA utilized a seven-year planning horizon (2029 Future Year condition) which is consistent with MassDOT traffic study guidelines.

Response: No response required.

Future No-Build Traffic Volumes

Comment 8: A one-and-a-half percent per year growth rate was applied to the 2022 Existing Conditions peak hour traffic volumes (for the 7-year forecast period from 2022 to 2029) to estimate peak hour traffic volumes in the planning year 2029 based on MassDOT count data. Tetra Tech generally agrees with this methodology, however backup calculations should be provided in the appendix.

Response: The calculations that form the basis of the development of the background traffic growth rate that were included in the Technical Appendix of the December 2022 are attached.

Comment 9: The TIA indicated that the Applicant consulted with Town of Sherborn Planning staff to identify specific background development Projects for consideration in the development of future traffic volumes. The TIA determined that the traffic associated with the background projects identified could be generally accounted for in the background growth rate. Several residential projects totaling more than 200 additional residential units proposed by others north and west of the site may use the study area intersections to access the Dover-Sherborn High School and Middle School. Tetra Tech recommends that the Applicant discuss the potential traffic-related cumulative impact of these projects and the proposed Farm Road residential project at these locations.

Response: The subject residential developments by others include the following:

- *Apple Hill Estates* (27 single-family homes, Hunting Lane)
- *Coolidge Crossing* (120 multifamily units, 84 & 86 Coolidge Street)
- *Meadowbrook Commons* (40 duplex units and 27 single-family homes, 104 Coolidge Street)
- *The Pines Residences* (60 multifamily units, 41 North Main Street)



These projects will result in additional trips along the Farm Road corridor within the study area, including parents/caregivers transporting children to/from the Dover-Sherborn High School and Middle School. The number of school age children residing in these projects is relatively small and a subset of this small number will consist of middle school and high school age children. As such, the trips attributable to school-related traffic from these projects would be reflected in the general background traffic growth rate.

Trip Generation

Comment 10: *Vehicle trip generation estimates for the proposed Project were based on trip generation rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition for Land Use Code (LUC) 210 (Single-Family Detached Housing) applied to on 18 units and LUC 215 (Single-Family Attached Housing) applied to 14 units. Tetra Tech generally agrees with this methodology. However, trip generation calculations should be provided in the appendix.*

Response: The detailed trip-generation calculations for the Project that were included in the Technical Appendix of the December 2022 are attached.

Comment 11: *The TIA assumed 18 detached units plus 14 attached units. However, the site plans indicate 12 detached units plus 16 attached units. Tetra Tech recommends that the Applicant confirm the currently proposed building program.*

Response: The development program for the Project was refined subsequent to the preparation of the December 2022 TIA and now includes 16 detached units and 16 attached units (32 units total). The trip-generation calculations for the revised development program are summarized in Table 5R along with a comparison to the trip-generation calculations that form the basis of the December 2022 TIA.

Table 5R
TRAFFIC VOLUME COMPARISON

Time Period	(A) Refined Development Program ^a	(B) December 2022 TIA Development Program ^b	(A – B) Difference
<i>Average Weekday:</i>	260	264	-4
<i>Weekday Morning Peak-Hour:</i>	17	18	-1
<i>Weekday Evening Peak-Hour:</i>	24	24	0

^aBased on ITE Land Use Codes (LUCs) 210, *Single-Family Detached Housing* (16 units), and 215, *Single-Family Attached Housing* (16 units).

^bObtained from Table 5 of the December 2022 TIA.



As can be seen in Table 5R, the refined development program resulted in an decrease of 4 vehicle trips on an average weekday (two-way, 24-hour volume) over the development program that was assessed in the December 2022 TIA, with one (1) fewer vehicle trip expected during the weekday morning peak-hour and no (0) change during the weekday evening peak-hour.

The noted traffic volumes changes would be considered nominal and would not materially impact the findings of the December 2022 TIA as they relate to the reported impact of the Project.

Trip Distribution/Assignment

Comment 12: *The trip distribution patterns presented in the TIA were based on existing travel patterns and US Census Journey to Work data which is generally consistent with standard industry practice for the proposed residential land uses. However, the trip distribution calculations should be provided in the appendix.*

Response: The trip distribution calculations that were included in the Technical Appendix of the December 2022 are attached.

Intersection Operational Analysis

Comment 13: *The TIA states that it utilized the capacity analysis methodologies from the Highway Capacity Manual (HCM) 2010 using Synchro software. Tetra Tech recommends that the HCM 6th Edition methodology, the currently approved version of the HCM for unsignalized intersections, be used as the basis for the analysis. The intersection capacity analysis worksheets should be provided for the Town's review.*

Response: The traffic operations analysis has been revised to use the methodologies of the Highway Capacity Manual 6th Edition,² the results of which are summarized in Table 8R and include the expanded study area intersection (Farm Road at Great Rock Road), with the detailed analysis worksheets attached.

A review of Table 8R indicates no material changes from the analysis results that are presented in Table 8 in the December 2022 TIA. As can be seen in Table 8R, all movements on the Great Rock Road approach at the Farm Road/Great Rock Road intersection are predicted to operate at level-of-service (LOS) B during both peak hours under all analysis conditions, with negligible vehicle queuing predicted. All movements along Farm Road approaching the intersection are predicted to operate at LOS A during both peak hours under all analysis conditions, also with negligible vehicle queuing.

²Highway Capacity Manual; Transportation Research Board; Washington, DC; 2016.



Sight Distance

Comment 14: *The TIA states that it conducted a sight distance analysis at the proposed site driveway on Farm Road based on AASHTO's A Policy on Geometric Design of Highways and Streets, 7th Edition (2018). It is recommended that the supporting sight distance calculations be provided to the Town for review.*

Response: The sight distance calculations are attached.

Comment 15: *Tetra Tech recommends that the sight distance plans and profiles for each site driveway be added to the site plans to confirm that adequate sight distance will be provided at this location. Any existing vegetation or rock walls required to be removed to provide adequate sight lines should be identified for the Town's review given that Farm Road is designated as a Scenic Roadway.*

Response: A sight triangle plan is attached that depicts the sight lines at the Project site driveway intersection with Farm Road in plan view. A sight line profile was not prepared as there are no permanent vertical obstructions within the sight triangle areas that exceed 3.5 feet in height and would inhibit the sight lines at the intersection. As recommended in the December 2022 TIA, trees and vegetation location within the sight triangle areas should be selectively trimmed or removed and maintained. As shown on the sight triangle plan, the subject vegetation is located within the Project site or the public right-of-way along Farm Road.

Comment 16: *The TIA recommends that any snow windrows at the proposed site driveway be promptly removed to sufficiently ensure adequate sight distance. Tetra Tech recommends that the Applicant also ensure that all proposed landscaping and signage internal to the site (where vehicle conflicts may occur) will not impede sight lines.*

Response: Signs and landscaping to be installed within the Project site will be designed and maintained so as not to restrict lines of sight.

Site and Emergency Vehicle Access/Circulation

Comment 17: *The TIA recommends that the site driveway and internal drives be a minimum of 22 feet if on-street parking will be restricted and 24 feet otherwise. The site plans show the site driveway and internal drives as 21 feet wide. Tetra Tech agrees with the TIA's recommendation to provide a minimum of 22 feet or 24 feet wide depending on the determination of on-street parking restrictions.*

Response: No response required.

Comment 18: *The Applicant included a turning analysis of a fire ladder truck. The analysis indicates that the fire truck would be required to reverse for an extended distance when accessing the rear of units 1-7. Tetra Tech recommends that the Applicant continue to review the site access and circulation with the Fire Department.*



Response: The Applicant has been and will continue to consult with the Fire Department as the Project advances through the approval process.

Comment 19: Tetra Tech recommends that the Applicant describe anticipated trash removal operations. Tetra Tech recommends that the Applicant conduct a truck turning analysis of trash removal vehicles to ensure that they can be adequately accommodated on-site without impeding site access and circulation particularly in areas where the site driveway would potentially require a trash truck to navigate the site in reverse.

Response: Trash and recycling will be collected by a private hauling company and will be picked-up at each residence. Residents will store trash/recycling bins within their individual unit and will place the bins curbside within the driveway apron and outside of the traveled-way for pick-up on the collection day. A truck turning analysis for a trash/recycling vehicle is attached.

Comment 20 (1): The TIA recommends that the site driveway be signed and marked with Stop sign control consistent with the Manual on Uniform Traffic Control Devices (MUTCD). Tetra Tech agrees with this recommendation.

Response: No response required.

Comment 20 (2): Tetra Tech recommends that the Applicant label the snow storage areas and ensure that adequate snow storage will be available on-site without impeding parking, site access and circulation.

Response: A snow storage plan is attached.

Comment 21: Farm Road is designated by the Town as a Scenic Road and any improvements to Farm Road should be consistent with the Town's Scenic Road regulations to the extent feasible.

Response: The Applicant will comply with the Town's Scenic Road regulations to the extent feasible.

Comment 22: Tetra Tech recommends that the Applicant explore the feasibility of providing pedestrian and bicycle accommodations on Farm Road to connect to the proposed on-site sidewalks to be consistent with the Town's Master Plan and transportation circulation initiatives.

Response: The Applicant will work with the Town to explore the feasibility of establishing pedestrian and bicycle accommodations along Farm Road that connect to the pedestrian pathways that are being established within the Project site.

Comment 23: There are two existing at-grade rail crossings on the study area roadways – one located on Farm Road approximately one-quarter mile west of the site and one on Route 27 approximately one-half mile north of Farm Road. Tetra Tech is aware of a collision between a motor vehicle on Route 27 and a train that occurred in July 2022. Tetra Tech recommends that the Applicant inventory the



existing conditions of these two rail crossings in the study area to identify any potential safety deficiencies as well as improvements that may be warranted.

Response:

A review of the motor vehicle crash data for the railroad crossings of Route 27 and Farm Road was undertaken for the same eight-year period that is presented in Table 4R (2015 through 2022, inclusive). Based on this review, two (2) motor vehicle crashes were reported on the approaches to the railroad crossing of Farm Road, neither of which involved a collision with a locomotive or rail car, with one crash reported as a rear-end crash and the other reported as a vehicle backing into a fixed roadside object.

Thirteen crashes were reported at the Route 27 railroad crossing over the eight year review period, two (2) of which involved a collision with a locomotive or rail car and both occurred in 2022. The initial information reported for both crashes indicated that driver error was a contributing factor, with the driver in the latest crash that occurred on July 22, 2022 observed to stop at the crossing signal and then slowly “creep” into the path of the on-coming locomotive.

An inventory of the traffic control devices at the at-grade railroad crossings of Route 27 and Farm Road was completed in October 2023. Based on this inventory, the following recommendations are offered and should be considered independent of the Project:

Route 27 Crossing

- Refresh the stop-line and RXR pavement markings with high visibility thermoplastic markings
- Relocate/install railroad crossing warning signs (W10-1) opposite the leading edge of the RXR pavement markings and positioned 100 feet from the centerline of the stop-line on the approach to the rail crossing.
- Consider installing a side street rail crossing warning sign (W10-4) for motorists exiting the south driveway that serves 19 North Main Street

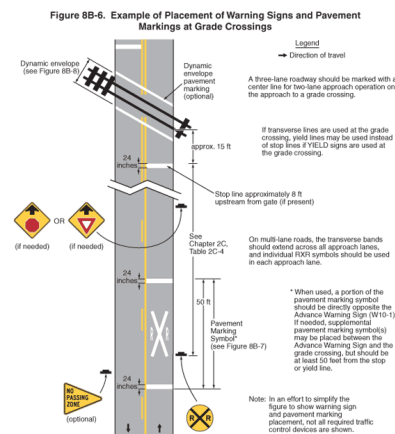


Figure 8B-6. Example of Placement of Warning Signs and Pavement Markings at Grade Crossings
Manual on Uniform Traffic Control Devices (MUTCD); Federal Highway Administration; Washington, D.C.; 2009.



Farm Road Crossing

- Refresh the stop-line and RXR pavement markings with high visibility thermoplastic markings
- Relocate/install railroad crossing warning signs (W10-1) opposite the leading edge of the RXR pavement markings and positioned 100 feet from the centerline of the stop-line on the approach to the rail crossing.

Comment 24: The TIA recommends a school bus waiting area widened sidewalk should be provided on site. Tetra Tech recommends that the Applicant discuss the potential bus stop location(s) with the Dover-Sherborn School Department staff.

Response: The Applicant will discuss the location of the school bus stop for the Project with the Dover-Sherborn School Department and will provide the appropriate accommodations at the stop location.

Comment 25: Tetra Tech recommends that the Applicant [discuss] the planned easement at the site for horse activity as it relates to access and potential horse crossings across Farm Road.

Response: In conjunction with the Project, an easement to allow for equestrian access through the Project site for two specific people is provided and includes access to Farm Road.

We trust that this information is responsive to the comments that were identified in the September 28, 2023 letter prepared by TT concerning their review of the Project. If you should have any questions or would like to discuss our responses in more detail, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.



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

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

JSD/jsd

Attachments



Table 4R
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Rte. 27/ Farm Rd.	Farm Rd./ Lake St. West	Farm Rd./ Lake St. East	Farm Rd./ Great Rock Rd.	Farm Rd. between Rte. 27 and Great Rock Rd.	Farm Road between Great Rock Rd. and Lake St.
Traffic Control Type: ^b	U	U	U	U	--	--
<i>Year:</i>						
2015	1	0	1	0	0	2
2016	1	1	1	0	2	0
2017	1	0	1	1	1	0
2018	0	1	0	0	0	1
2019	0	0	0	1	0	1
2020	1	1	0	0	0	1
2021	1	1	0	0	0	0
<u>2022</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	7	5	3	2	3	5
Average	0.88	0.63	0.38	0.25	0.38	0.63
Rate ^c	0.16	0.39	0.28	0.16	1.11	1.54
MassDOT Crash Rate: ^d	0.57/0.61	0.57/0.61	0.57/0.61	0.57/0.61	2.10/2.85	2.10/2.85
Significant? ^e	No	No	No	No	No	No
<i>Type:</i>						
Angle	1	4	0	1	0	0
Rear-End	3	0	0	0	1	0
Head-On	0	0	0	0	0	0
Sideswipe	1	0	0	0	0	0
Fixed Object	1	1	2	1	2	2
Collision with Animal	0	0	0	0	0	3
Pedestrian/Bicycle	0	0	0	0	0	0
<u>Unknown/Other</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	7	5	3	2	3	5
<i>Conditions:</i>						
Clear	5	3	0	2	2	2
Cloudy	1	2	2	0	1	1
Rain	0	0	1	0	0	1
<u>Snow/Ice</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
Total	7	5	3	2	3	5
<i>Lighting:</i>						
Daylight	7	4	1	2	3	5
Dawn/Dusk	0	0	0	0	0	0
Dark (Road Lit)	0	1	1	0	0	0
<u>Dark (Road Unlit)</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	5	3	2	3	5
<i>Day of Week:</i>						
Monday through Friday	5	3	3	1	3	3
Saturday	1	0	0	0	0	2
<u>Sunday</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	7	5	3	2	3	5
<i>Severity:</i>						
Property Damage Only	4	5	2	1	2	4
Personal Injury	3	0	1	1	1	1
Fatality	0	0	0	0	0	0
<u>Not Reported</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	7	5	3	2	3	5

^aSource: MassDOT Safety Management/Traffic Operations Unit records, 2015 through 2022.

^bTraffic Control Type: U = unsignalized.

^cCrash rate per million vehicles entering the intersection.

^dStatewide/District crash rate.

^eThe intersection or roadway segment 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).

Table 8R**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

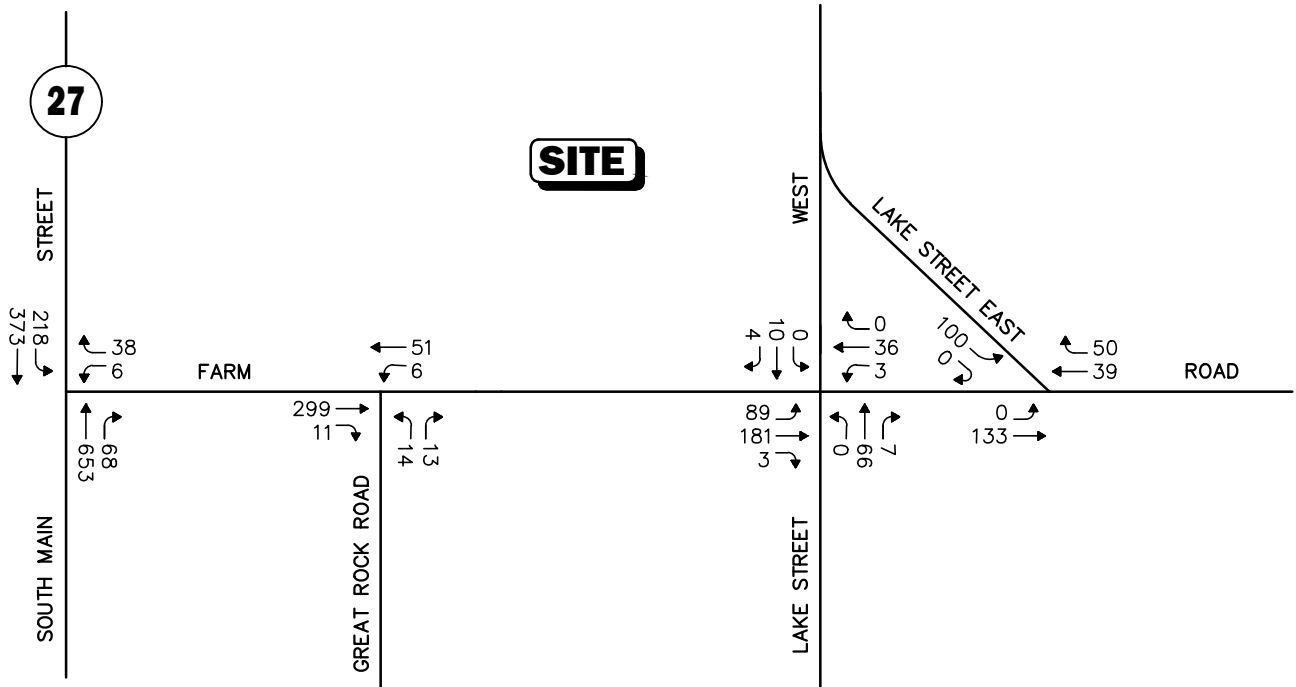
Table 8R (Continued)**UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY**

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
<i>Farm Road at Great Rock Road</i>												
<i>Weekday Morning:</i>												
Farm Road EB LT/TH	310	0.0	A	0	338	0.0	A	0	340	0.0	A	0
Farm Road WB TH/RT	57	0.8	A	0	62	0.8	A	0	69	0.8	A	0
Great Rock Road NB LT/RT	27	11.0	B	0	27	11.3	B	0	27	11.4	B	0
<i>Weekday Evening:</i>												
Farm Road EB LT/TH	99	0.0	A	0	107	0.0	A	0	115	0.0	A	0
Farm Road WB TH/RT	201	0.3	A	0	219	0.3	A	0	224	0.3	A	0
Great Rock Road NB LT/RT	18	10.0	B	0	18	10.1	B	0	18	10.2	B	0

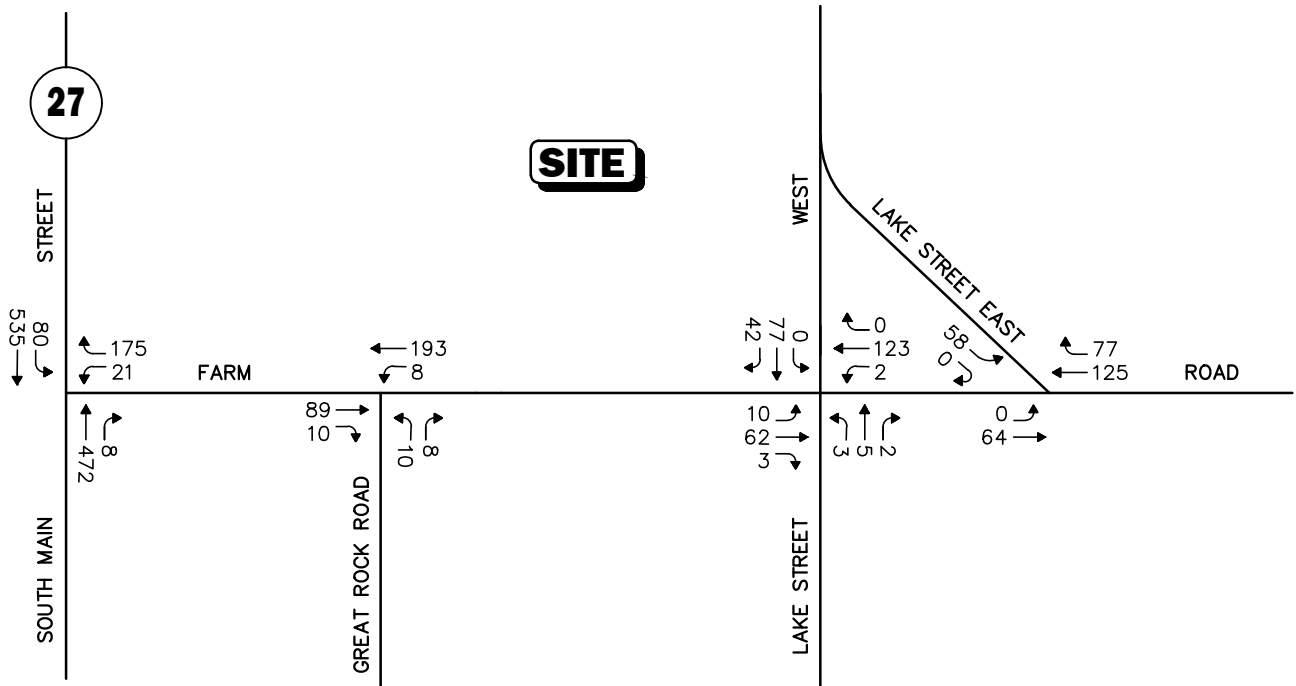
^aDemand in vehicles per hour.^bAverage control delay per vehicle (in seconds).^cLevel of service.^dQueue length in vehicles.

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

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



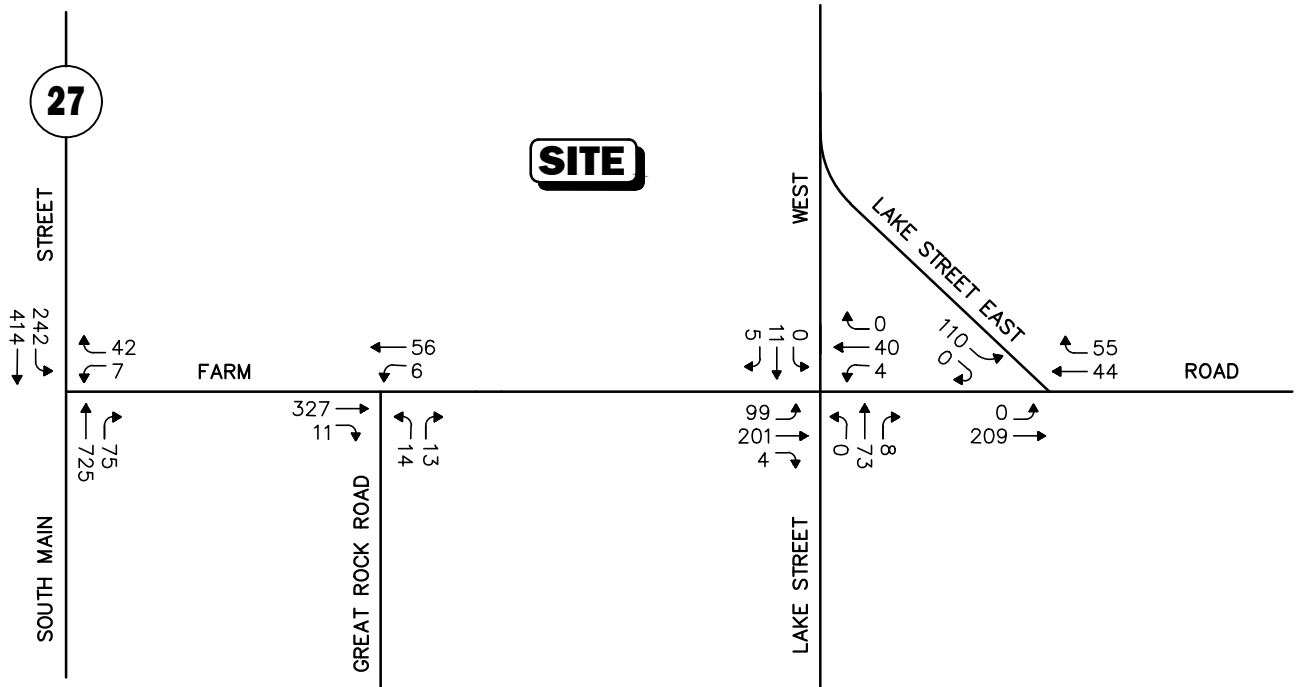
WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



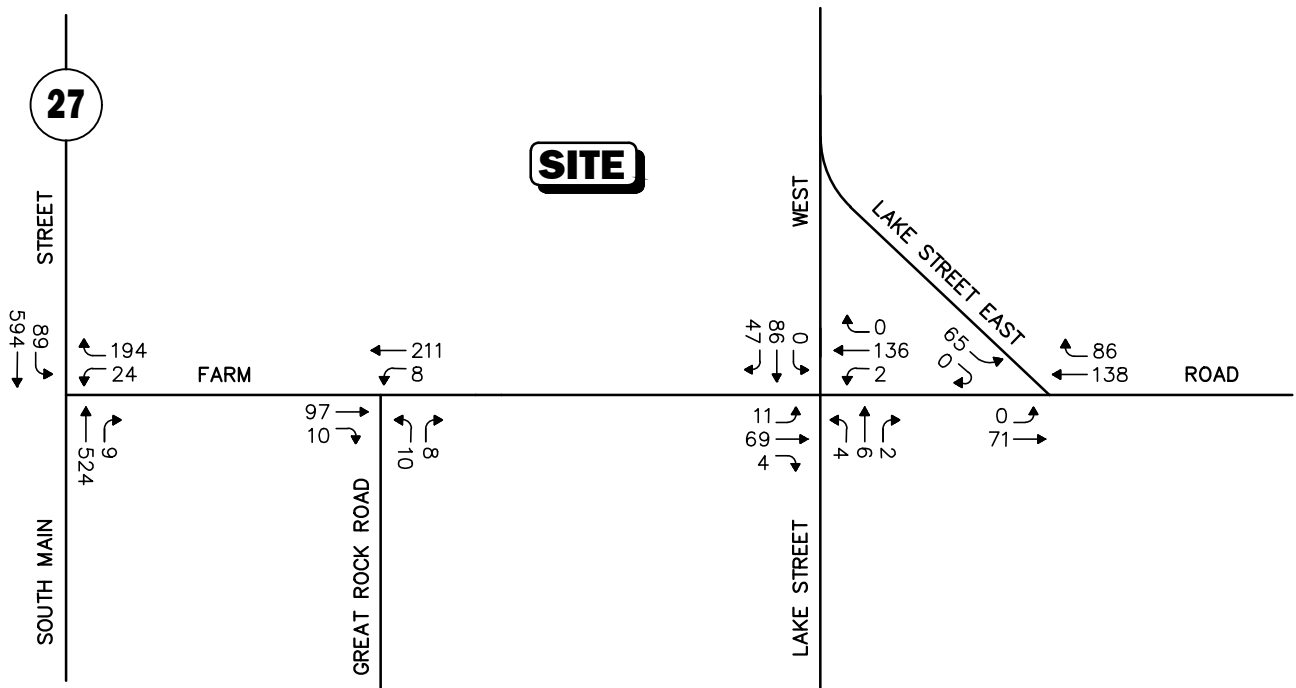
Not To Scale

Figure 3R

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



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



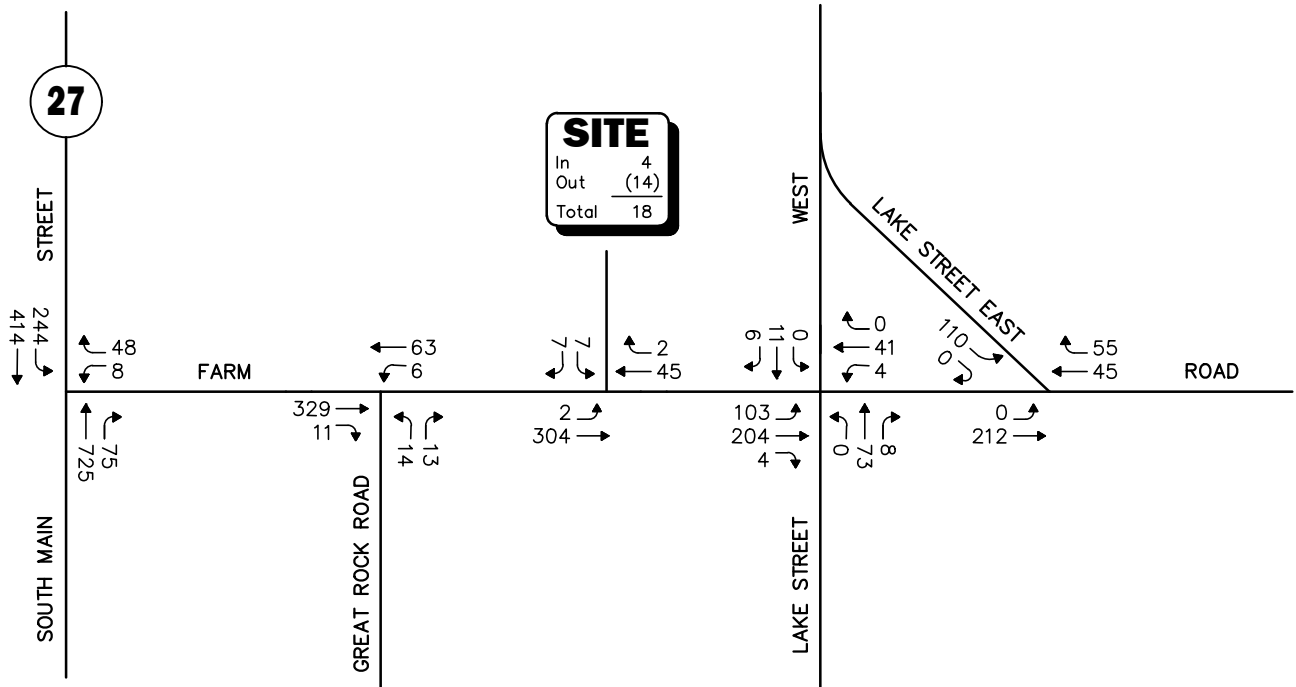
Not To Scale

Figure 4R

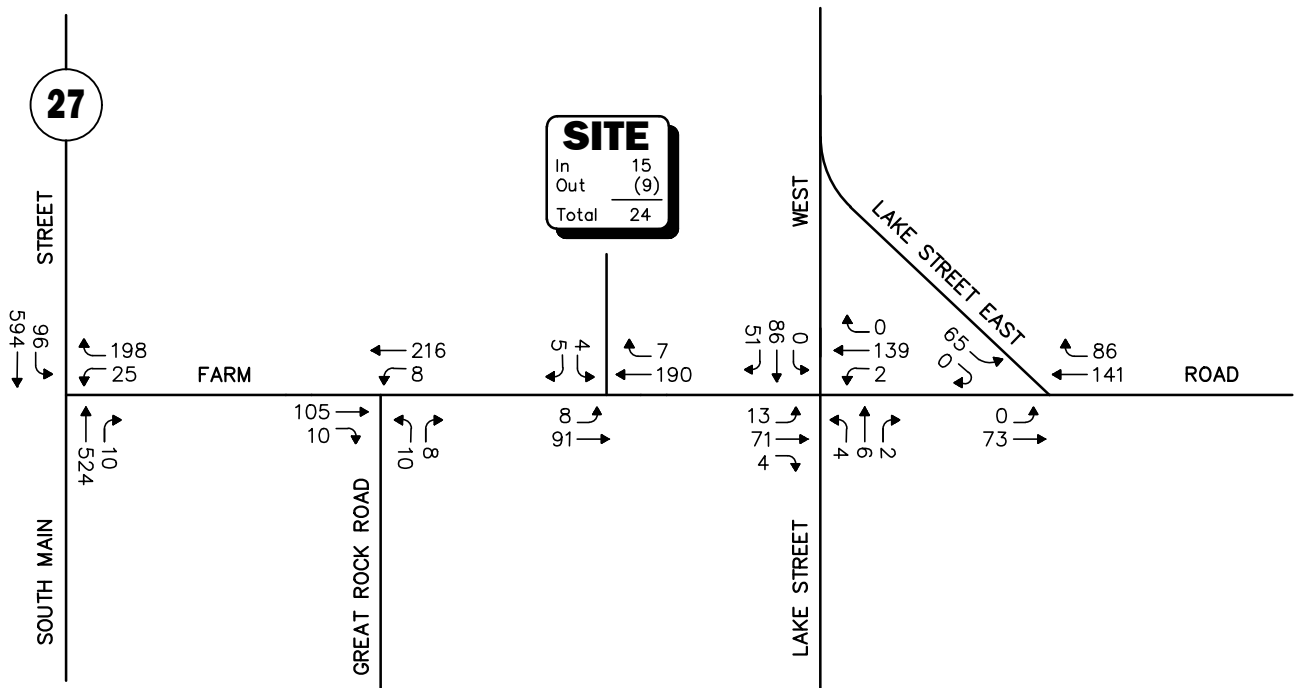


2029 No-Build
Peak-Hour Traffic Volumes

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



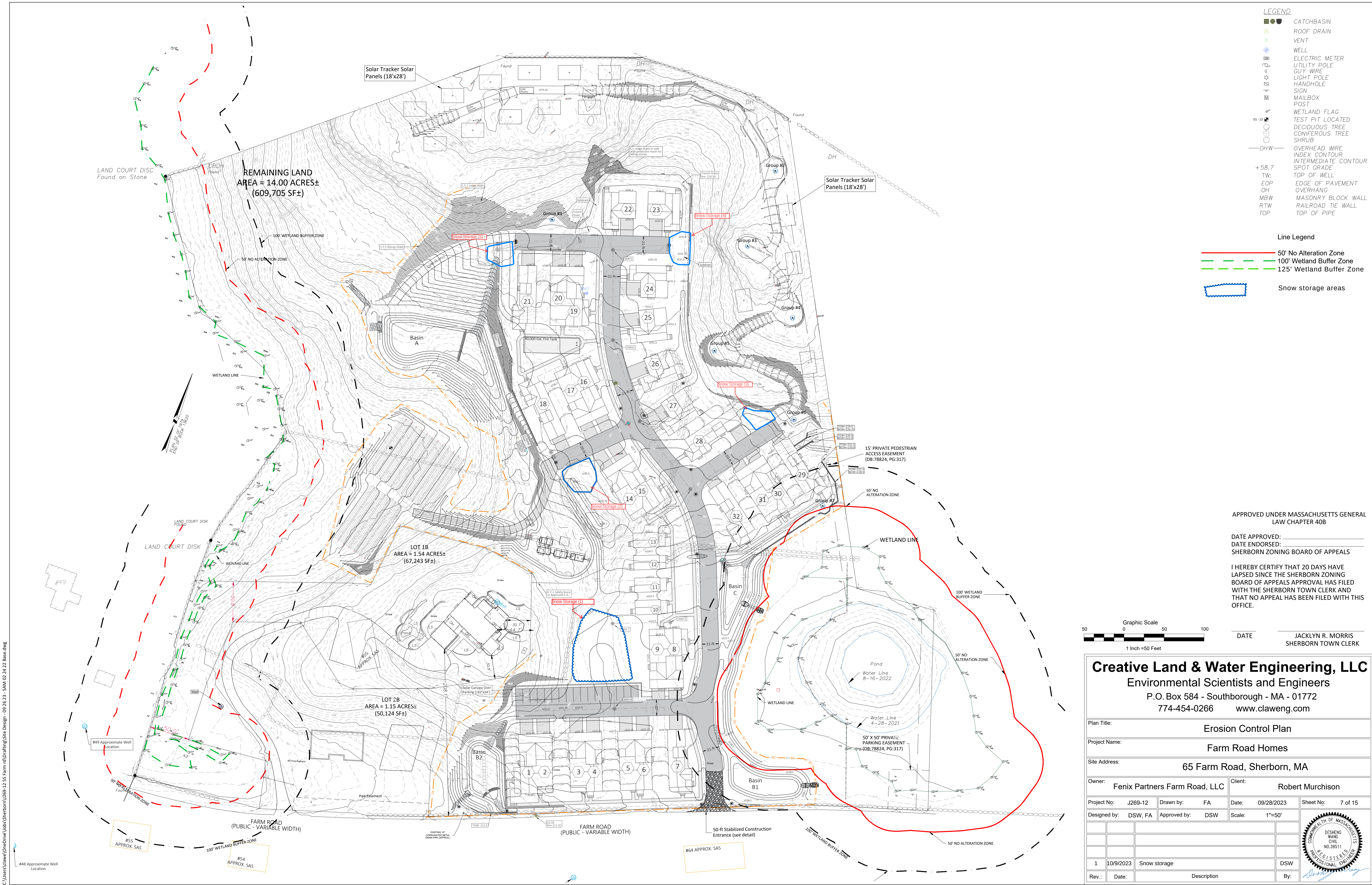
WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)

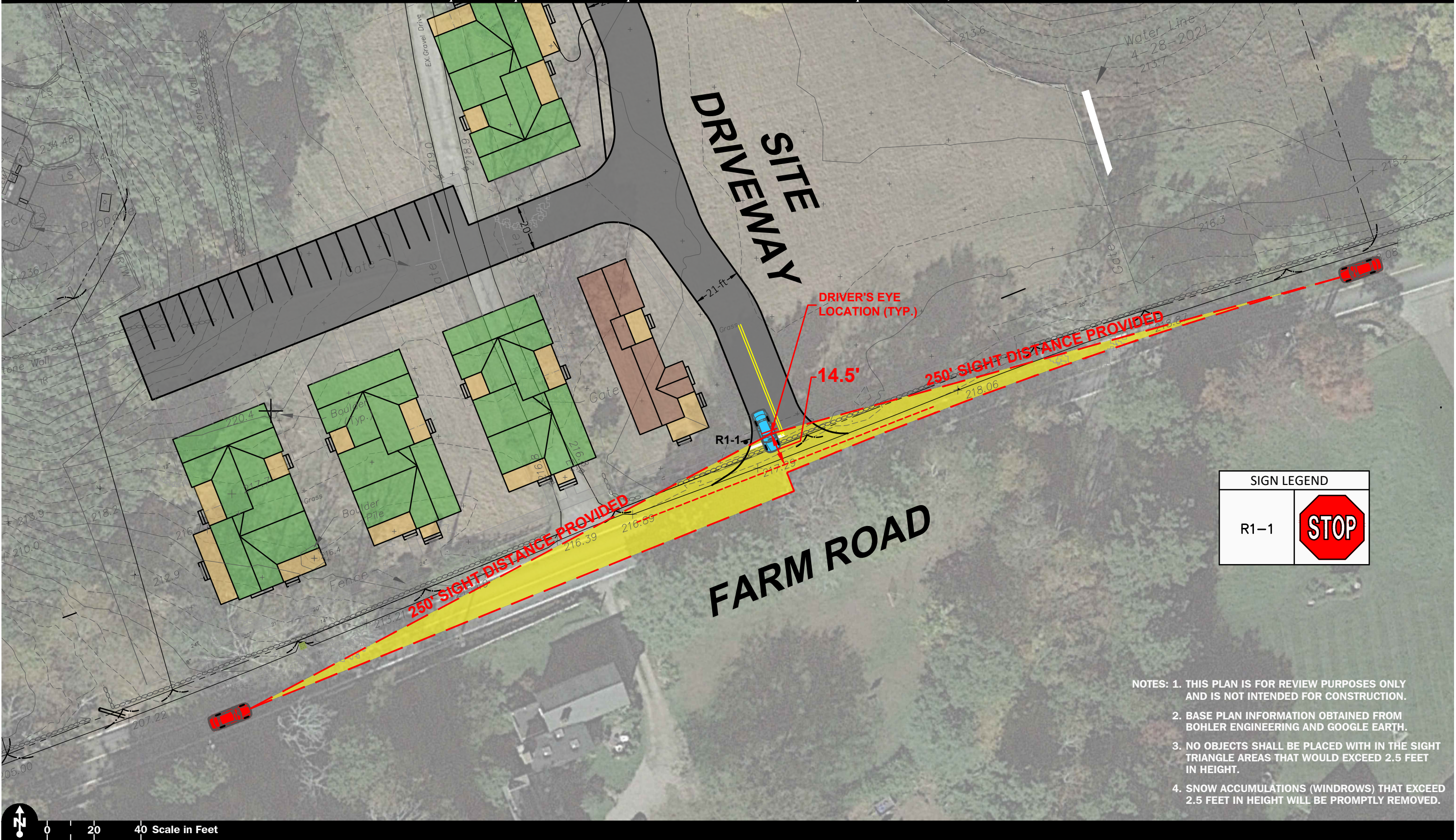


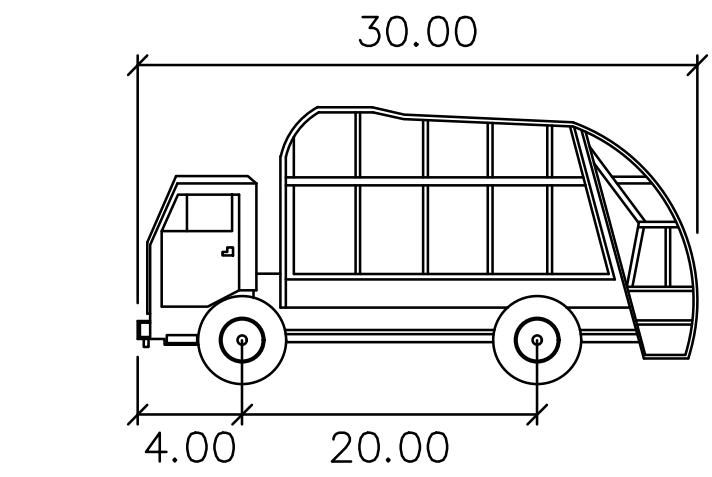
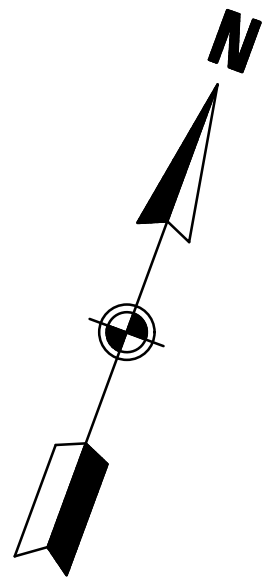
Not To Scale

Figure 7R

C:\Users\jclaweng\OneDrive\Videos\Sherborn\J269-12 55 Farm rd\Drafting\Site Design - 09-26-23 - 5AM 02-24-22 Base.dwg







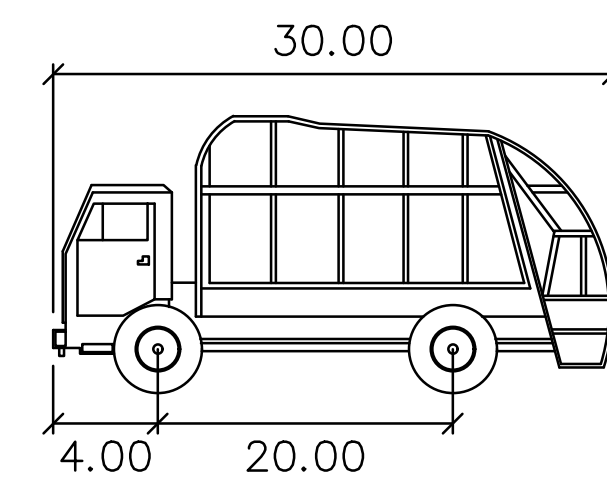
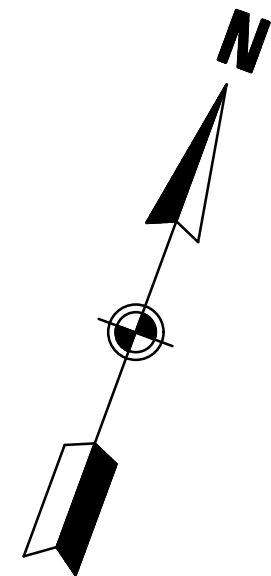
Garbage Truck	
	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.0

GARBAGE TRUCK TURNING ANALYSIS
ENTERING

PROJECT:		PROPOSED FARM ROAD HOME RESIDENTIAL DEVELOPMENT SHERBORN, MASSACHUSETTS	
PROPOSER:		FENIX PARTNERS FARM ROAD DEVELOPMENT, LLC SHERBORN, MASSACHUSETTS	

NO.	REVISIONS	DATE	Vanasse & Associates inc Transportation Engineers & Planners 35 New England Business Center Drive - Suite 140 - Andover, MA 01810 www.rdvva.com 978-474-8800	
			DESIGNED BY: JSD	DATE: 10/16/23
			DRAWN BY: JTG/JS	SCALE: 1" = 40'
			CHECKED BY: JSD	SHEET 1 OF 2

- NOTES: 1. THIS PLAN IS FOR REVIEW PURPOSES ONLY
AND IS NOT INTENDED FOR CONSTRUCTION.
2. BASE PLAN INFORMATION OBTAINED FROM
CREATIVE LAND & WATER ENGINEERING



Garbage Truck

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.0

GARBAGE TRUCK TURNING ANALYSIS EXITING

PROJECT: PROPOSED FARM ROAD HOME RESIDENTIAL DEVELOPMENT SHERBORN, MASSACHUSETTS		
PROPOSER: FENIX PARTNERS FARM ROAD DEVELOPMENT, LLC SHERBORN, MASSACHUSETTS		
NO.	REVISIONS	DATE
DESIGNED BY: JSD		DATE: 10/16/23
DRAWN BY: JTG/JJS		SCALE: 1" = 40'
CHECKED BY: JSD		SHEET 2 OF 2

**Vanasse &
Associates inc**
Transportation Engineers & Planners
35 New England Business Center Drive - Suite 140 - Andover, MA 01810
www.rdvva.com 978-474-8800

- NOTES: 1. THIS PLAN IS FOR REVIEW PURPOSES ONLY
AND IS NOT INTENDED FOR CONSTRUCTION.
2. BASE PLAN INFORMATION OBTAINED FROM
CREATIVE LAND & WATER ENGINEERING

ATTACHMENTS

AUTOMATIC TRAFFIC RECORDER COUNT DATA
TURNING MOVEMENT COUNT DATA
SEASONAL ADJUSTMENT DATA
COVID-19 ADJUSTMENT DATA
MASSDOT CRASH RATE WORKSHEETS
MASSDOT CRASH DATA
PRELIMINARY SHERBORN POLICE DEPARTMENT CRASH DATA
GENERAL BACKGROUND TRAFFIC GROWTH
TRIP-GENERATION CALCULATIONS
TRIP DISTRIBUTION
SIGHT DISTANCE INVENTORIES
CAPACITY ANALYSIS WORKSHEETS



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

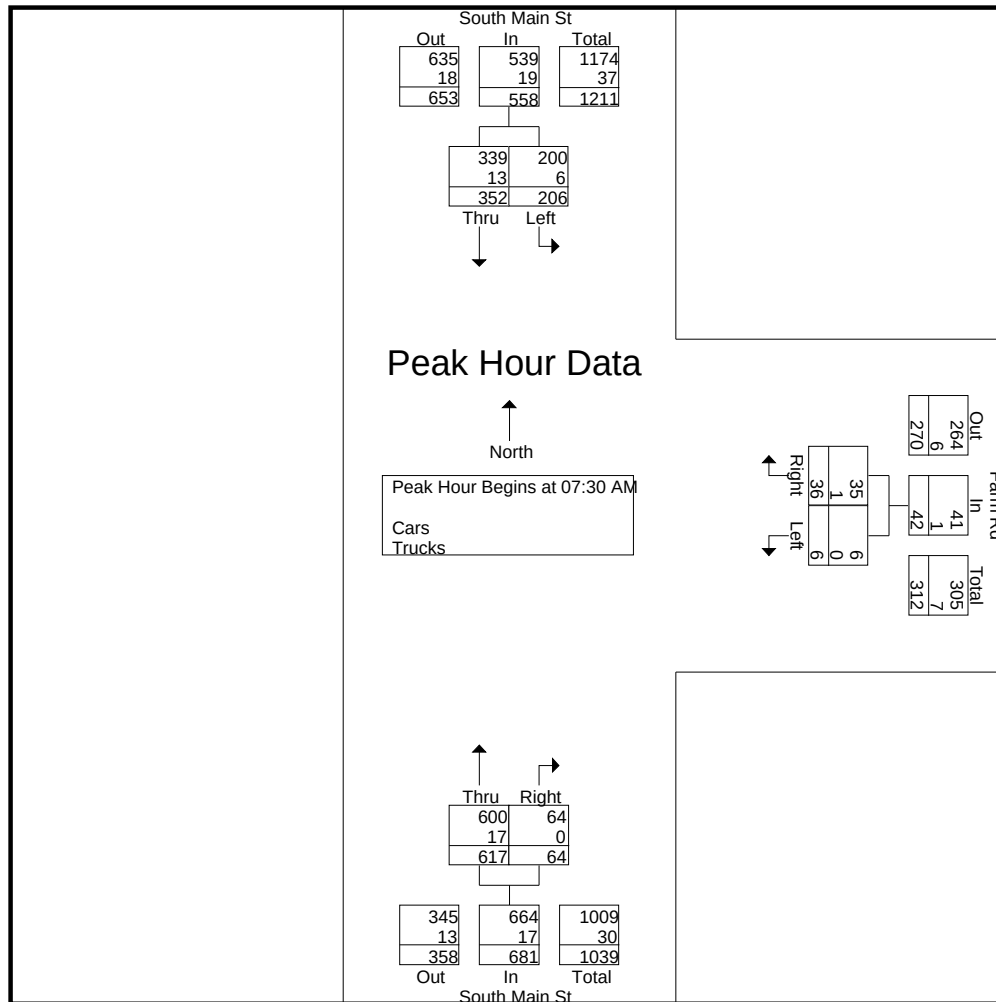
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM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

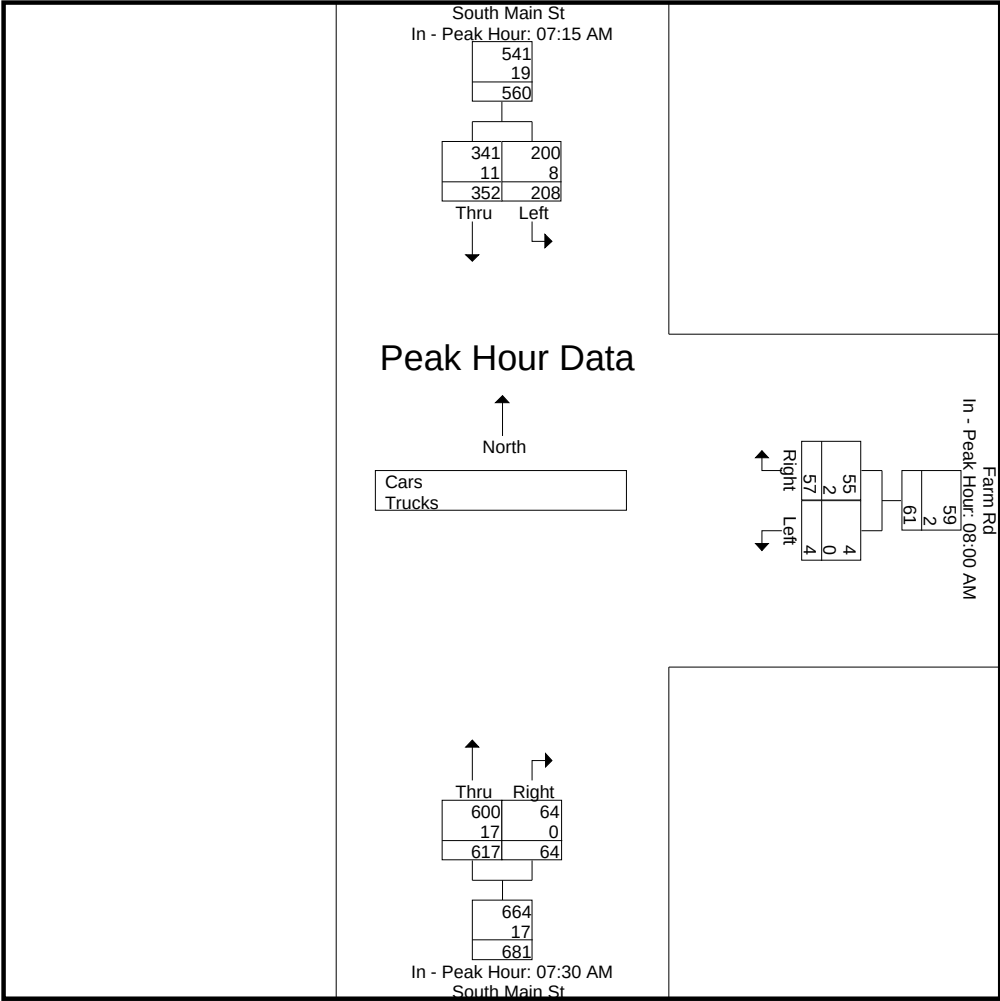


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	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

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	

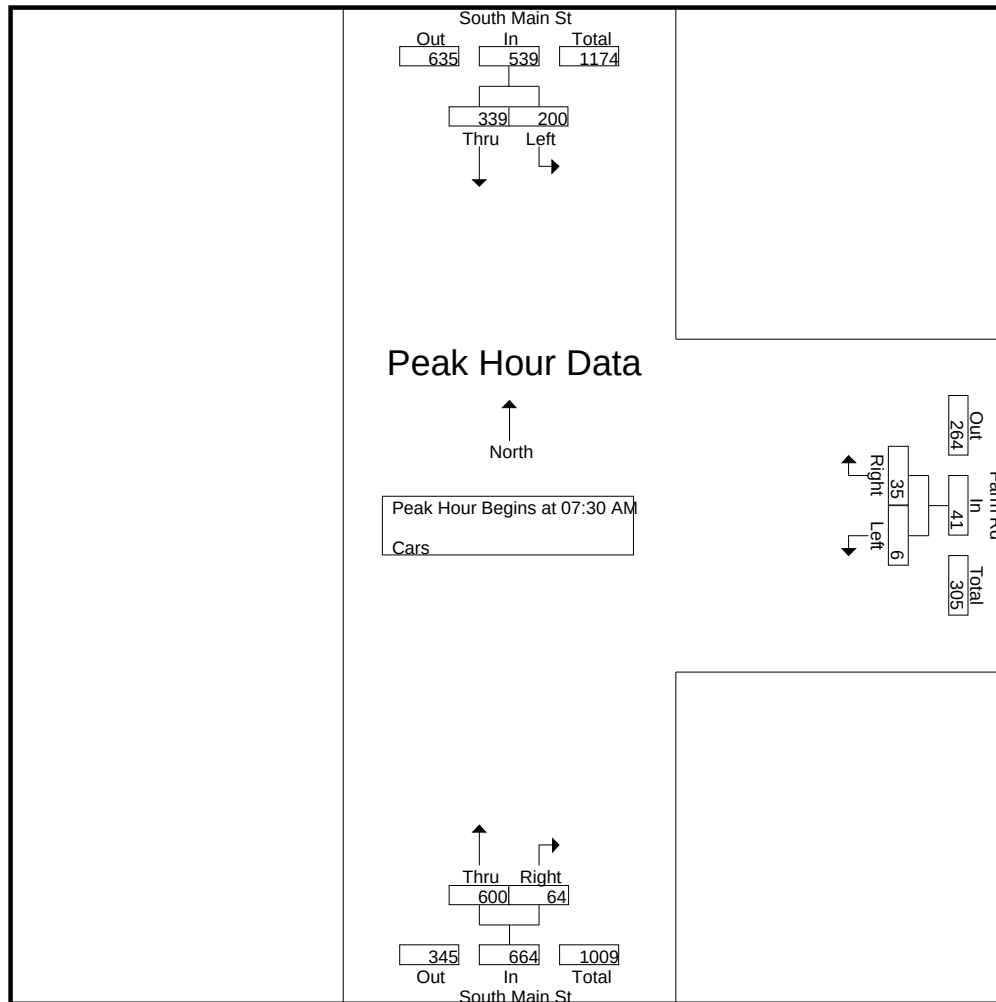
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM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

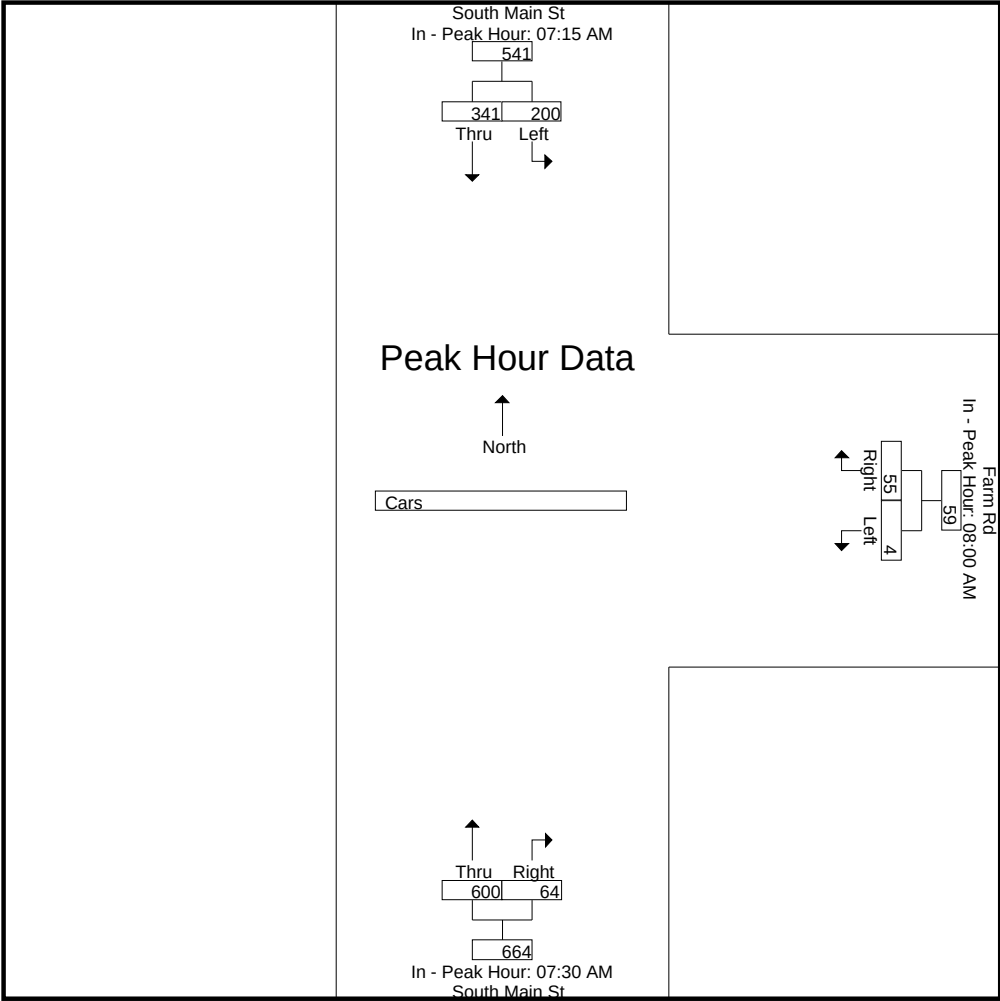


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	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	

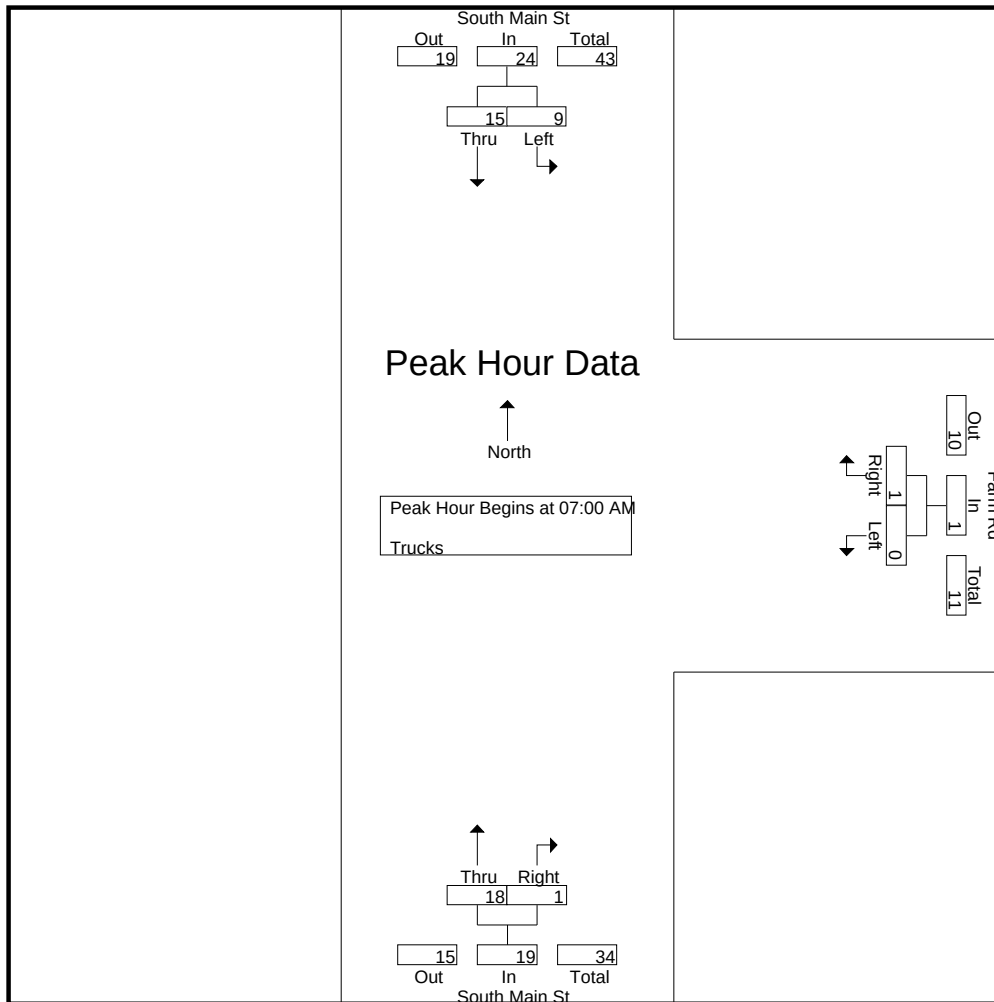
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	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

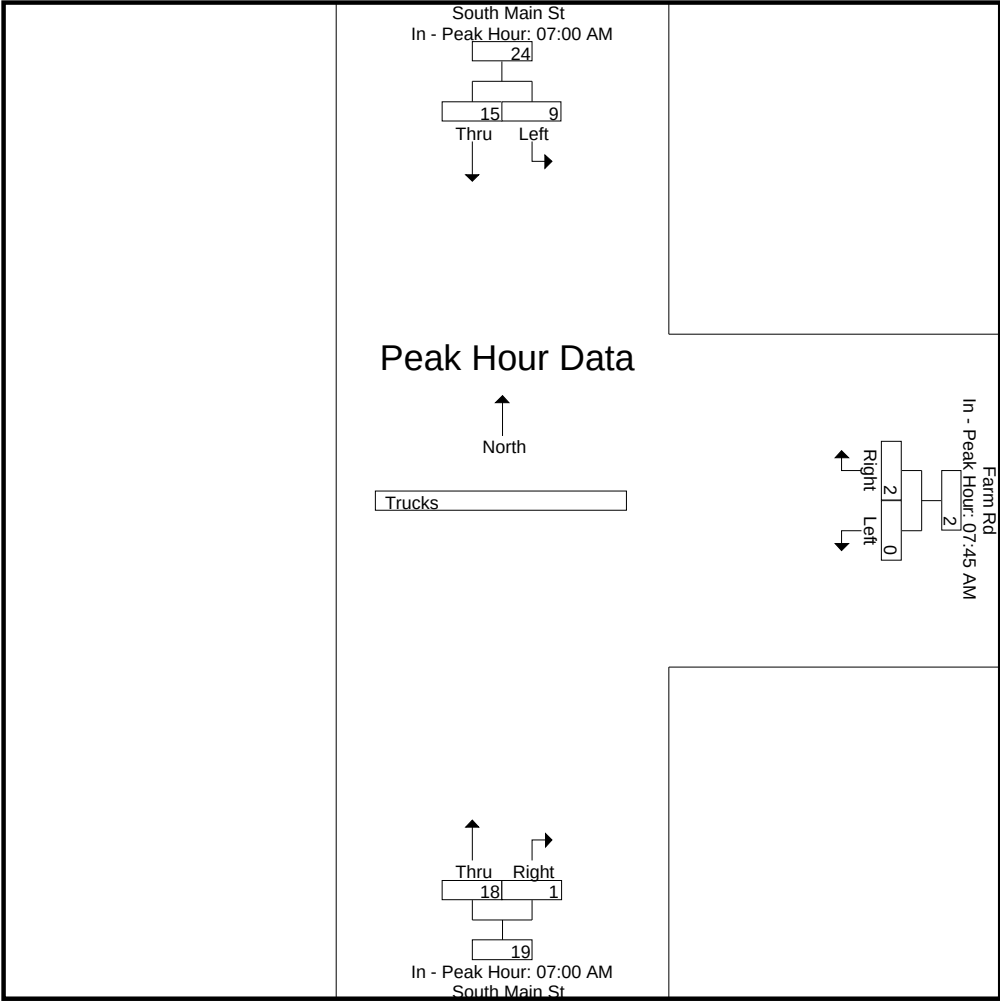


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	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	

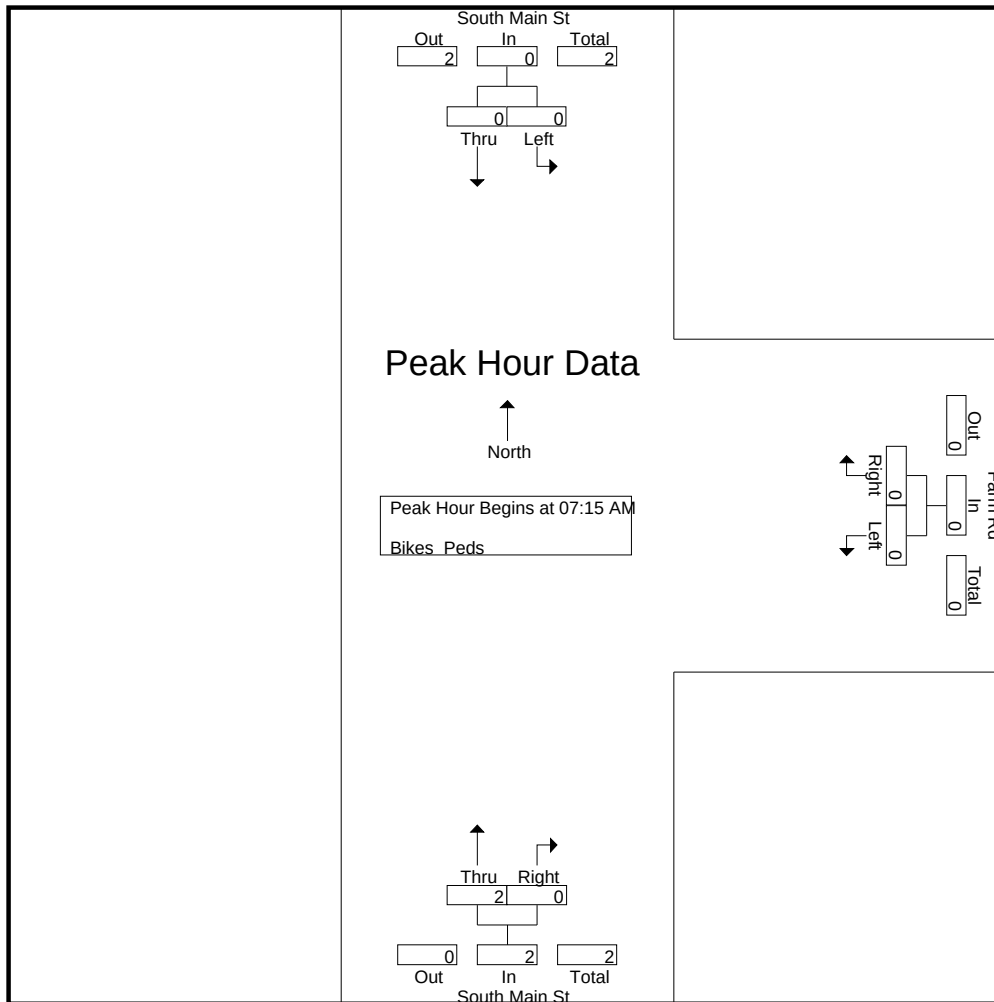
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM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

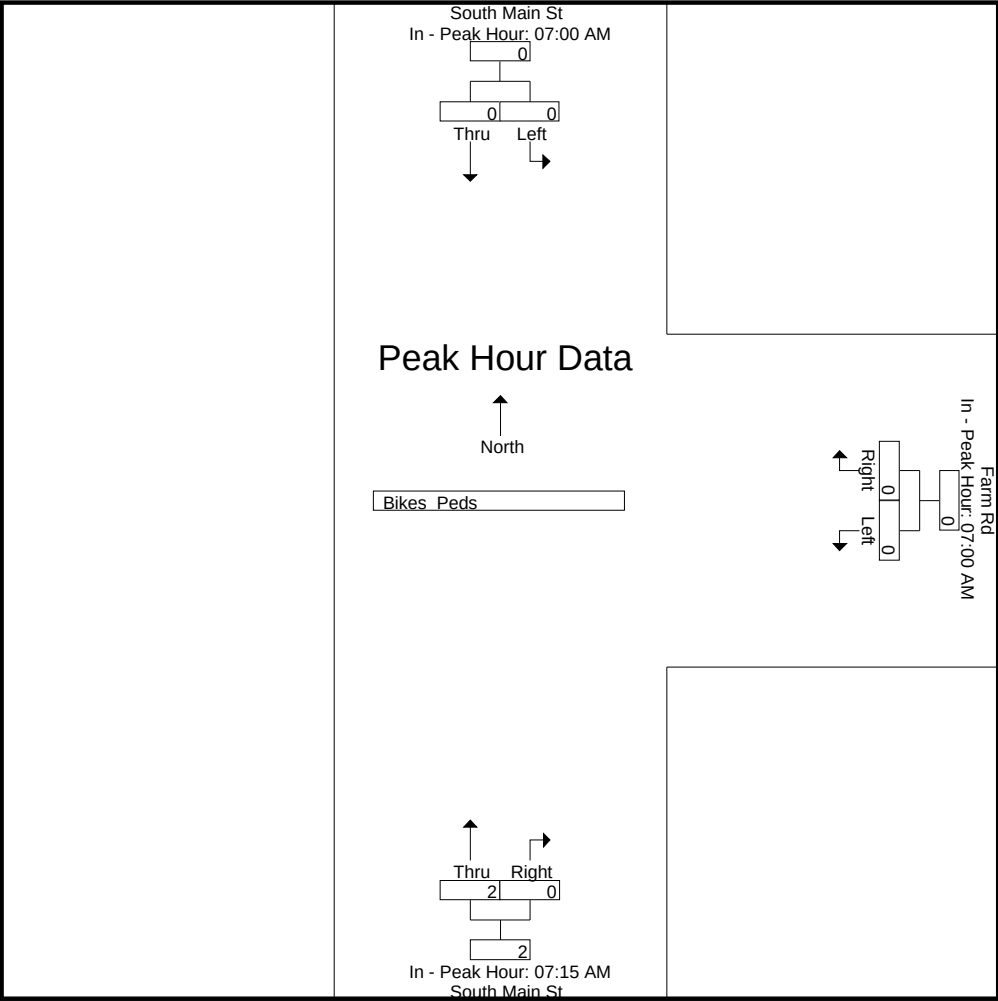


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	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

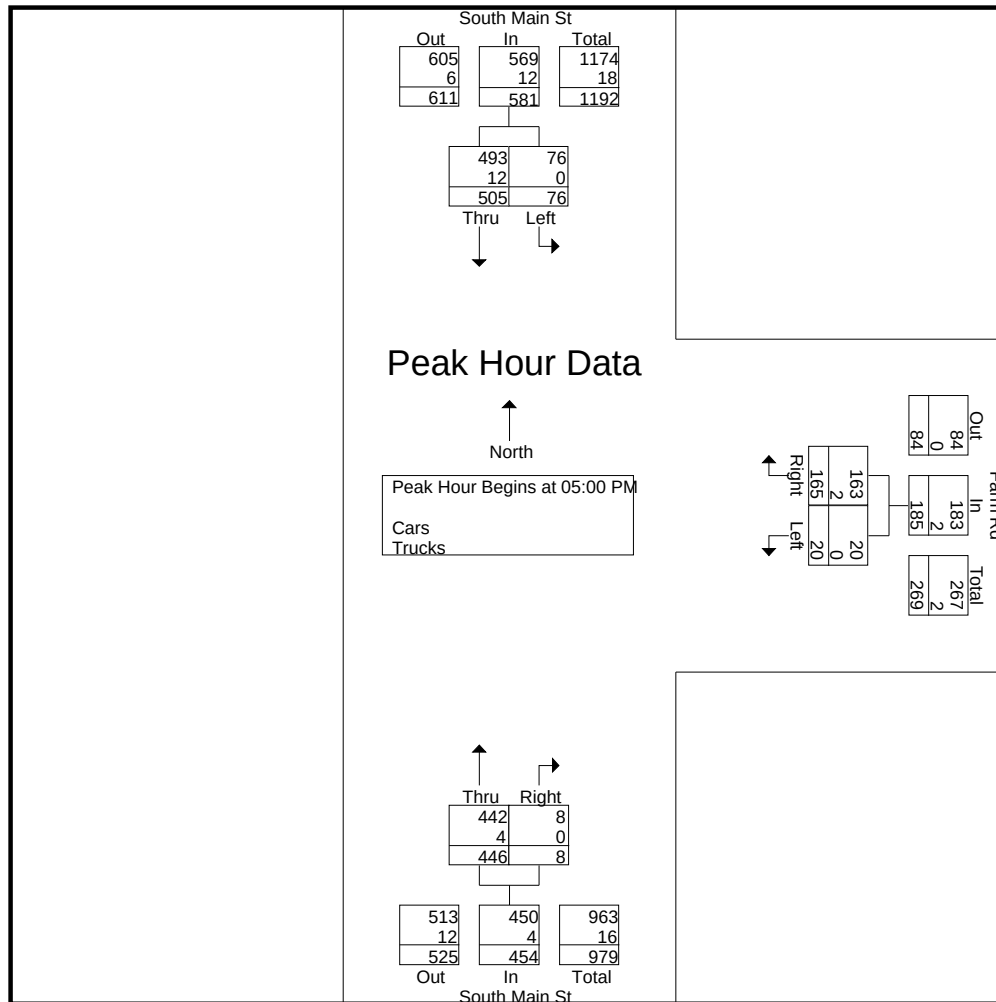
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	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

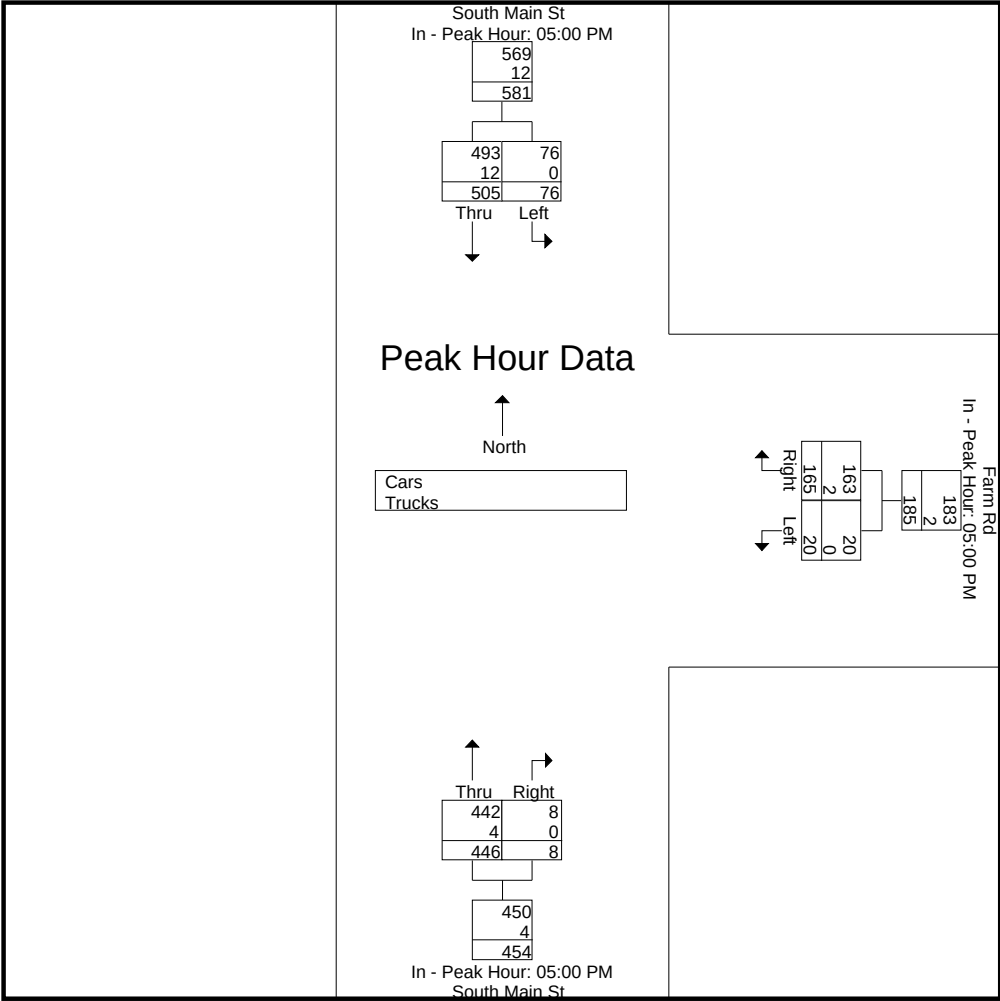


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	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	

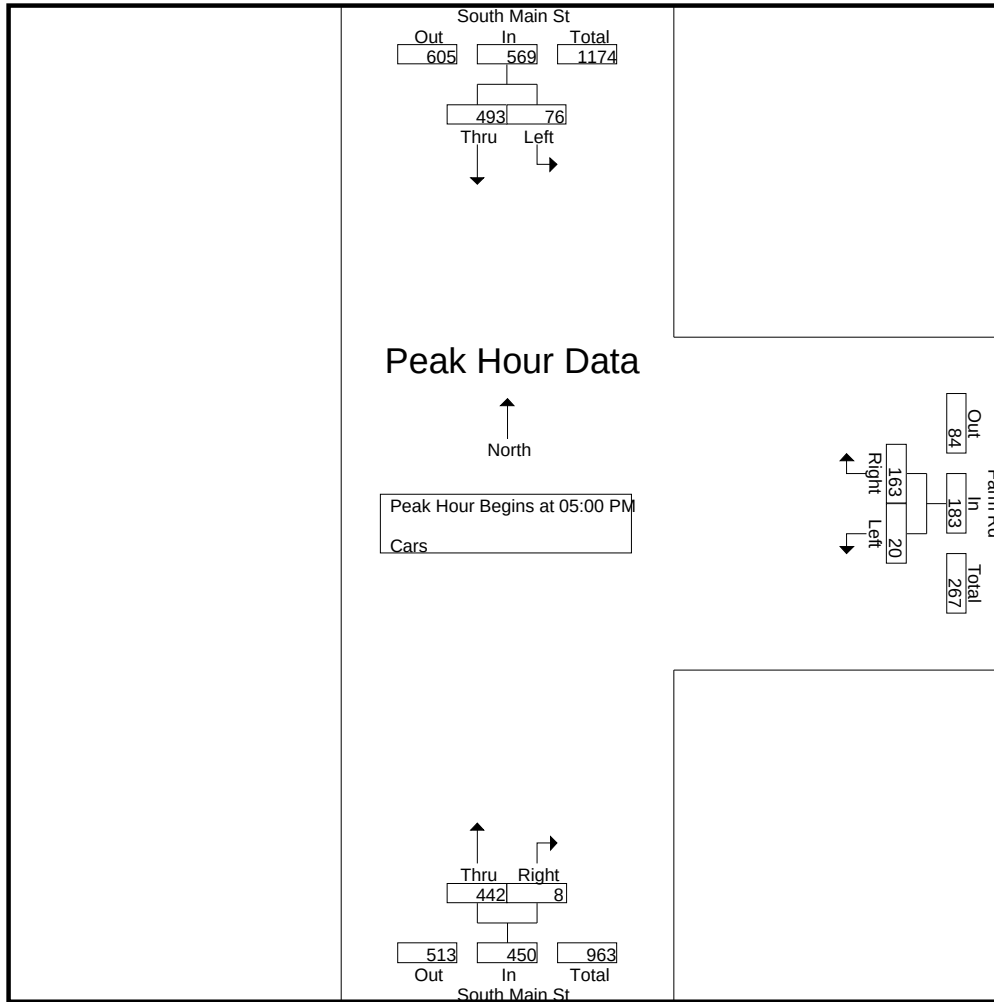
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	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

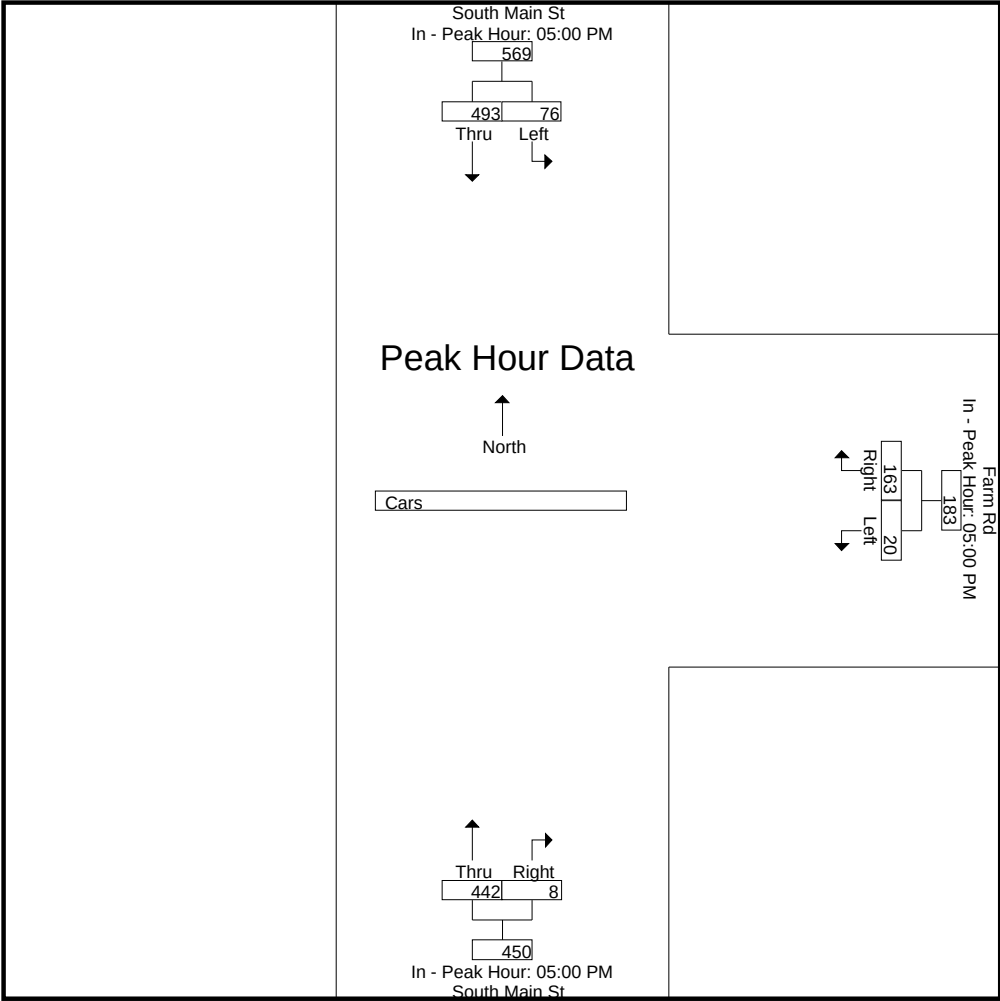


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	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		Int. Total
Start Time	Left	Thru	Left	Right	Thru	Right	
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	

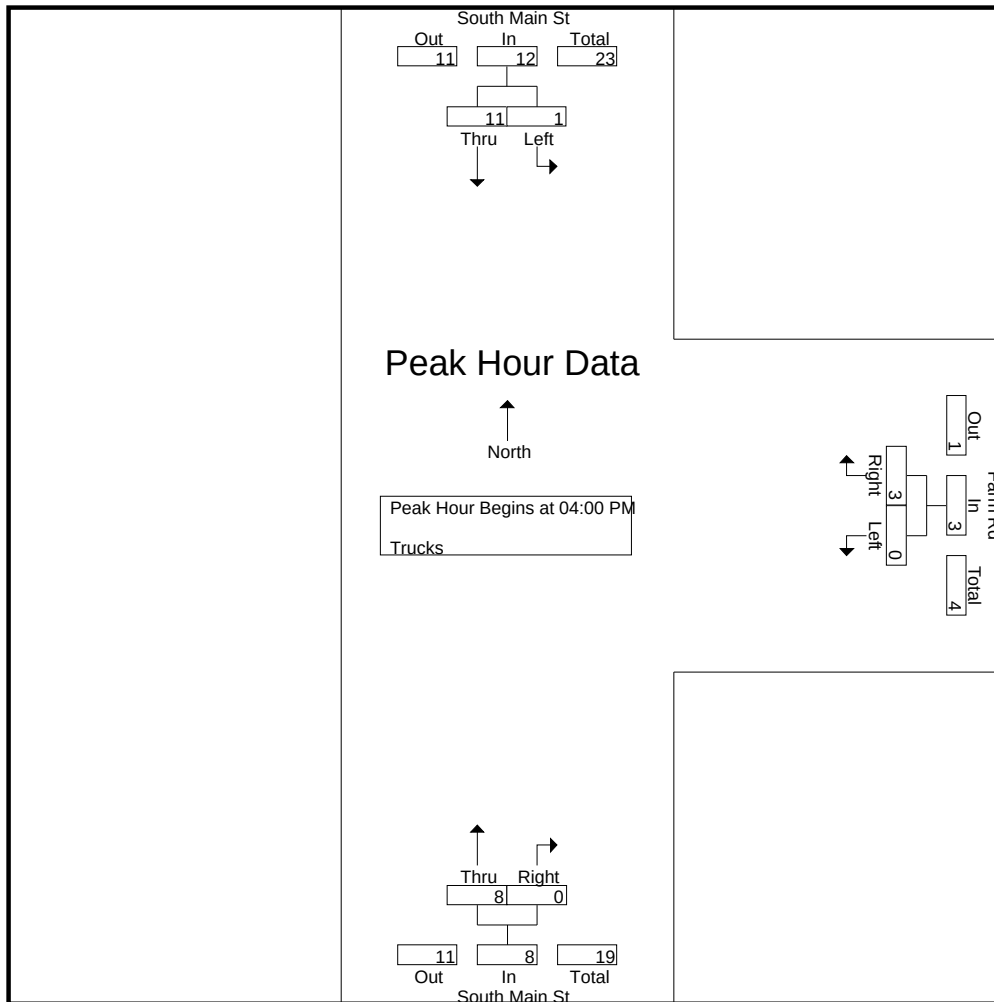
	South Main St From North			Farm Rd From East			South Main St From South			Int. Total
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	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

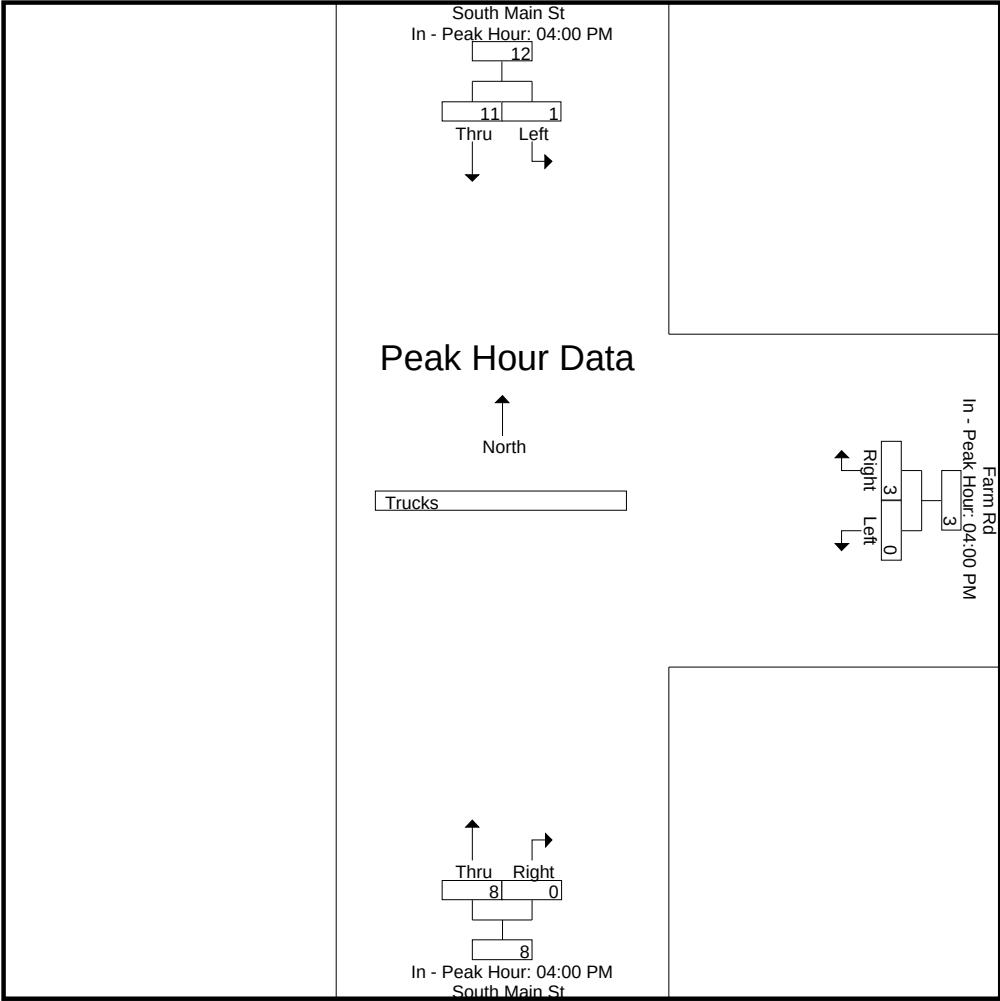


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	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	

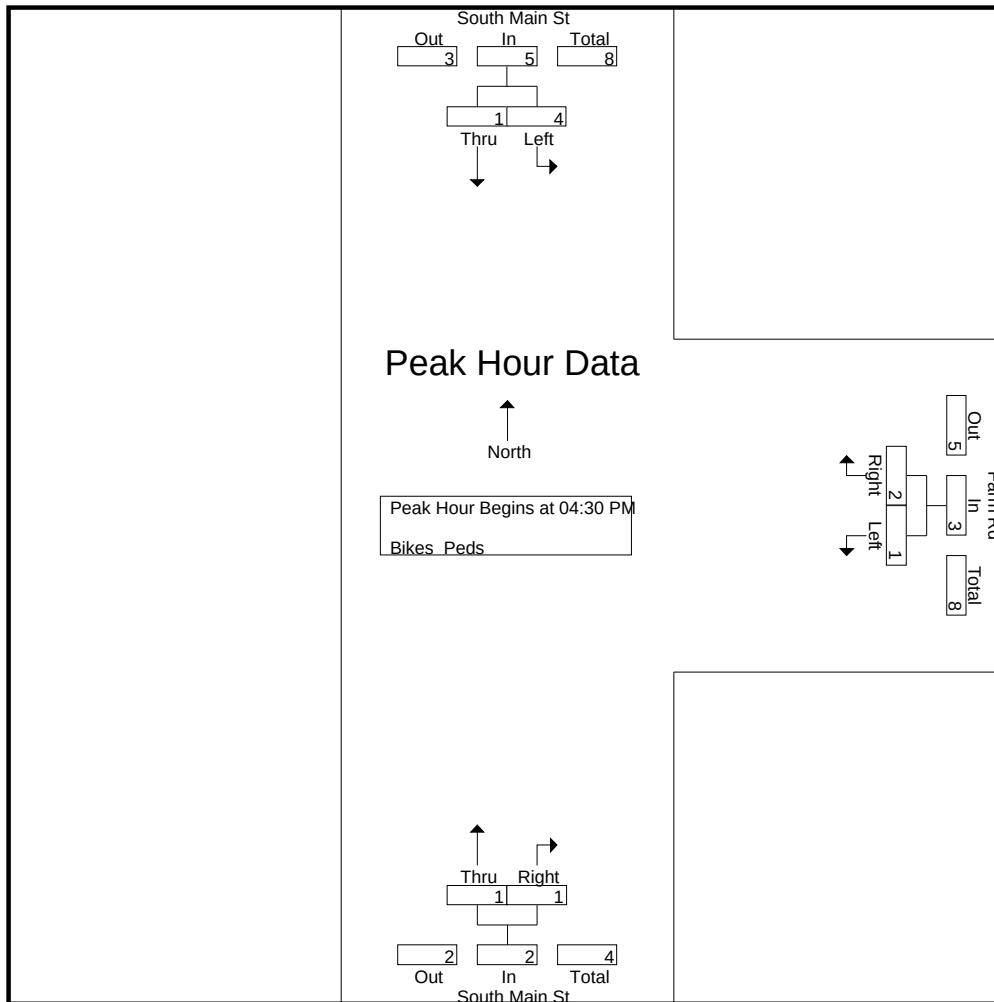
	South Main St From North			Farm Rd From East			South Main St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	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

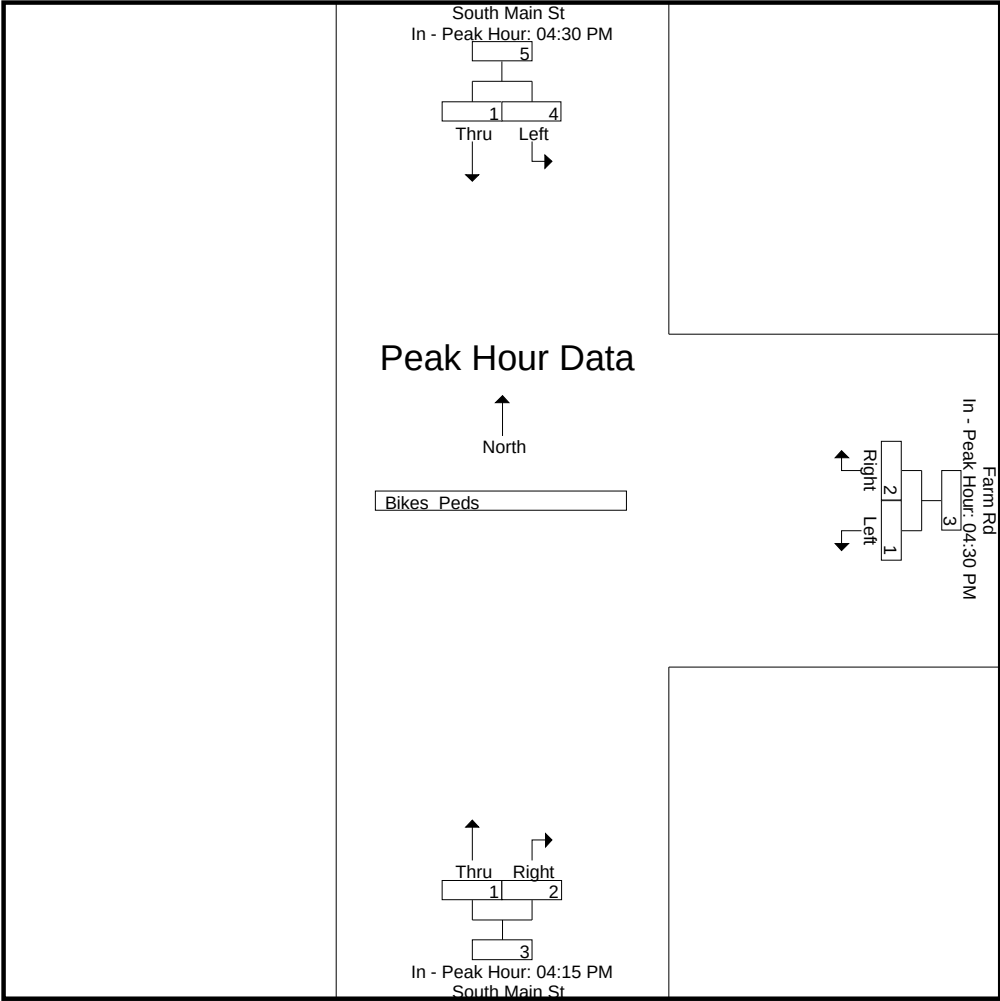


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	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

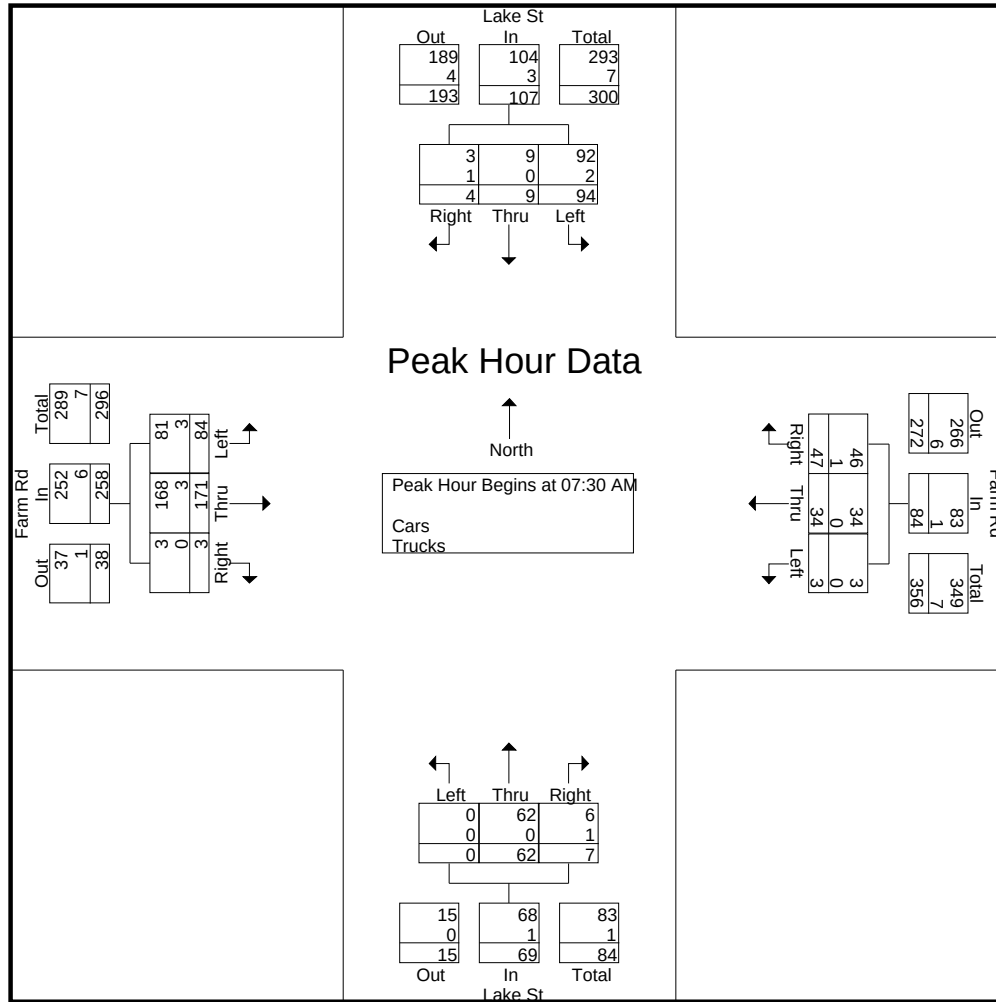
	Lake St From North				Farm Rd From East				Lake St From South				Farm Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour 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

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

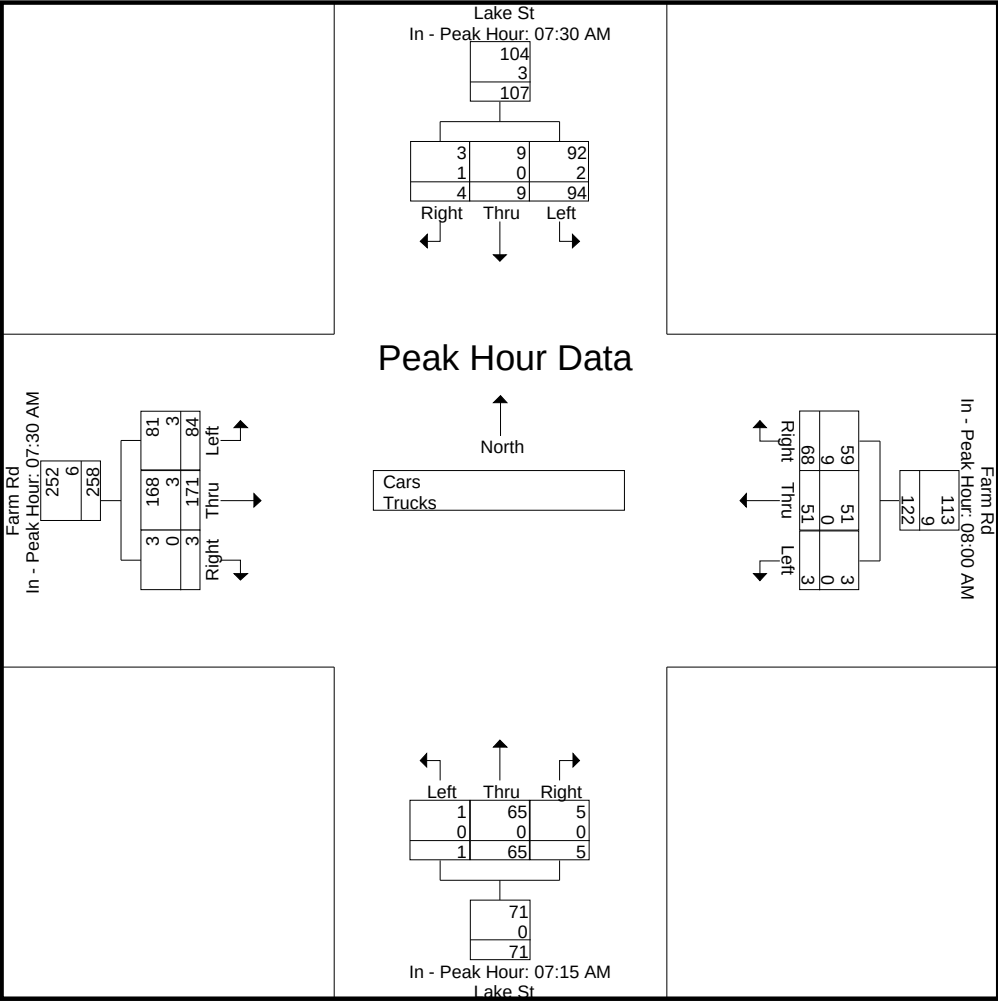


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	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	

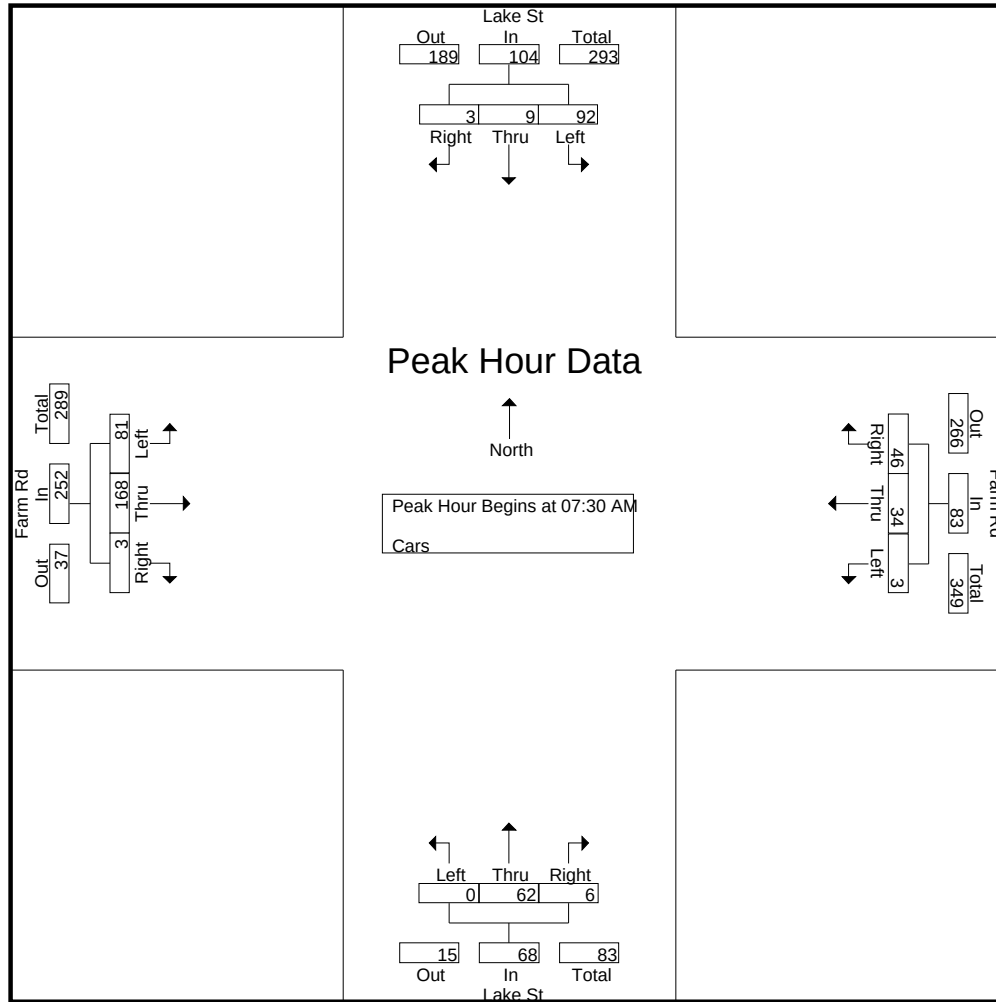
	Lake St From North				Farm Rd From East				Lake St From South				Farm Rd From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour 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

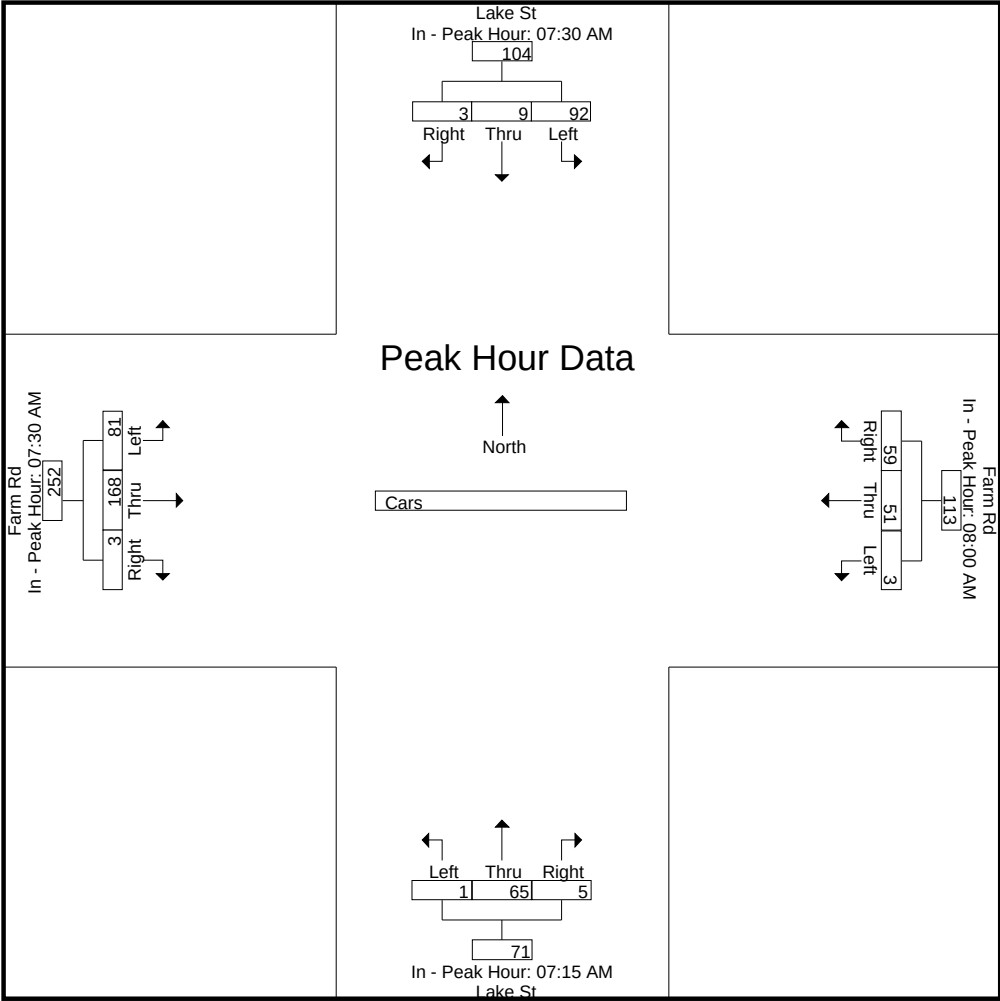


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	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

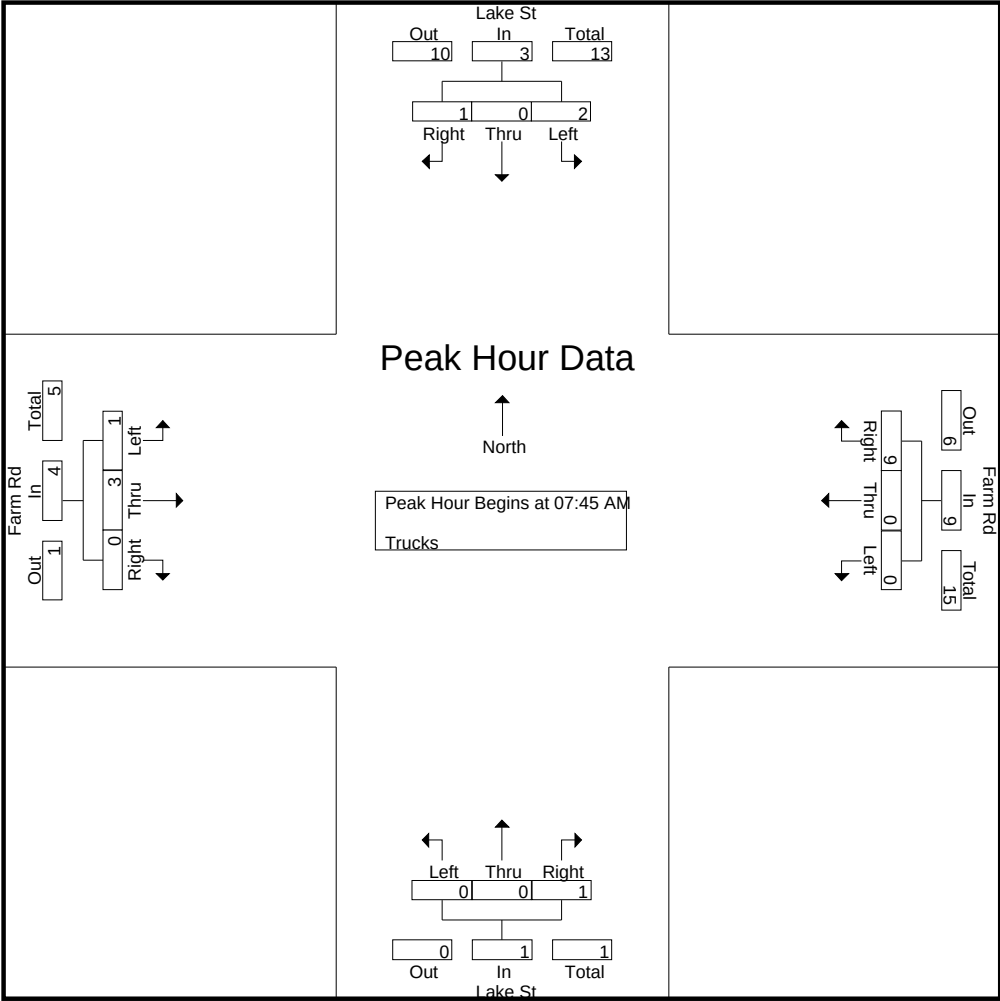
Groups Printed- Trucks

	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

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

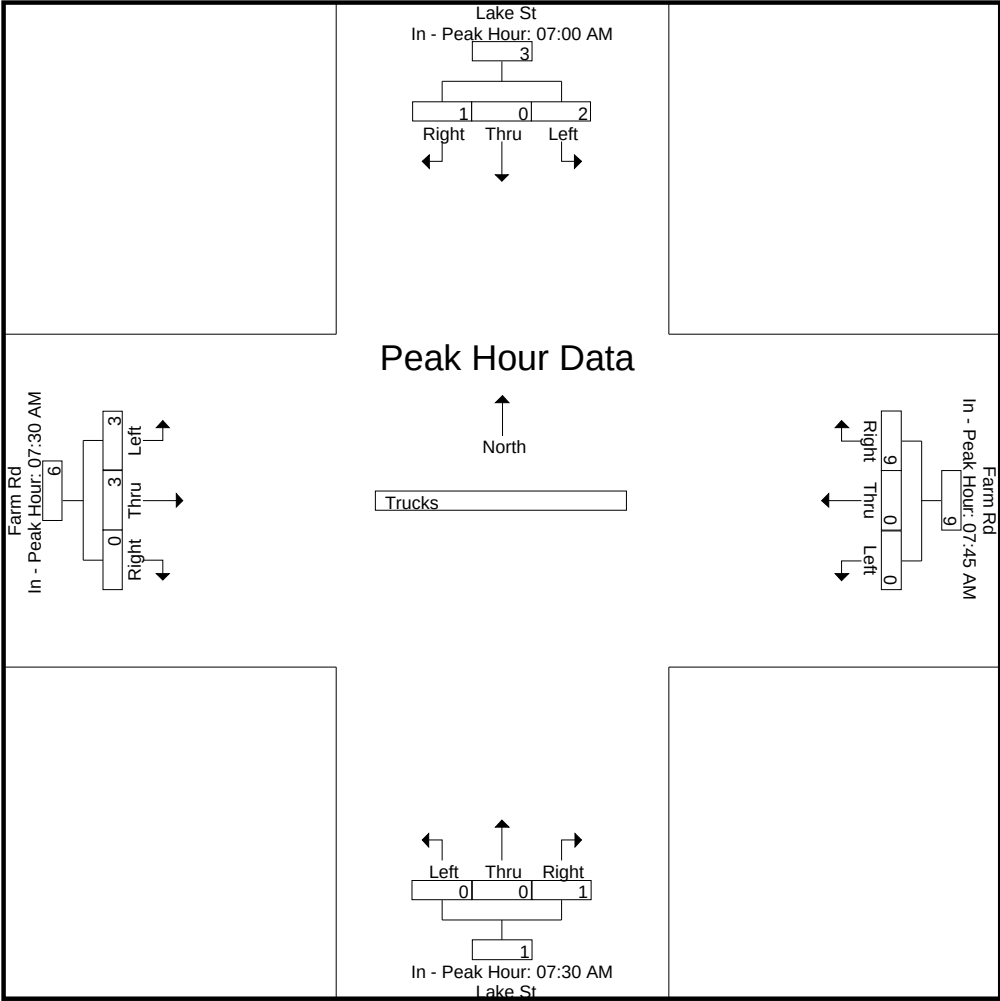


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	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

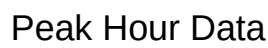
Groups Printed- Bikes Peds

	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

978-664-2565

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

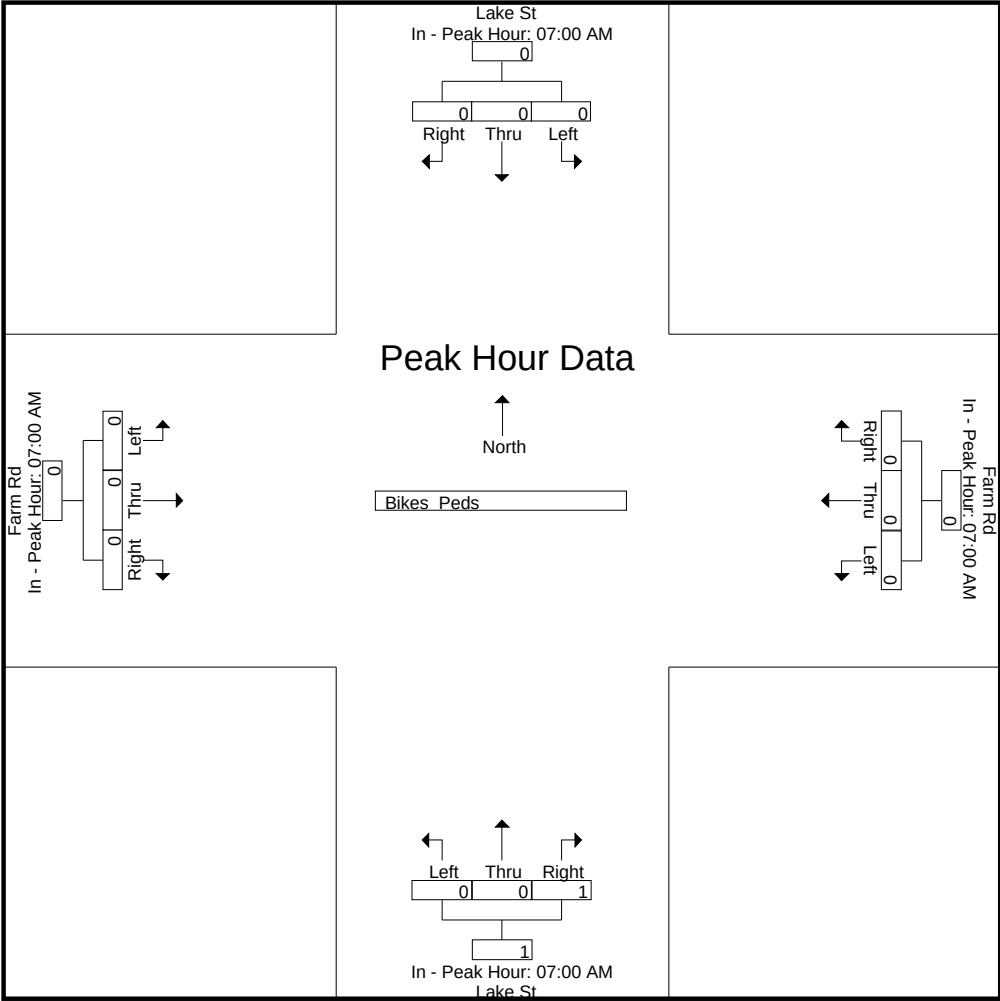


Peak Hour Begins at 07:00 AM
Bikes Peds

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
Page No : 12



978-664-2565

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

	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]

978-664-2565

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



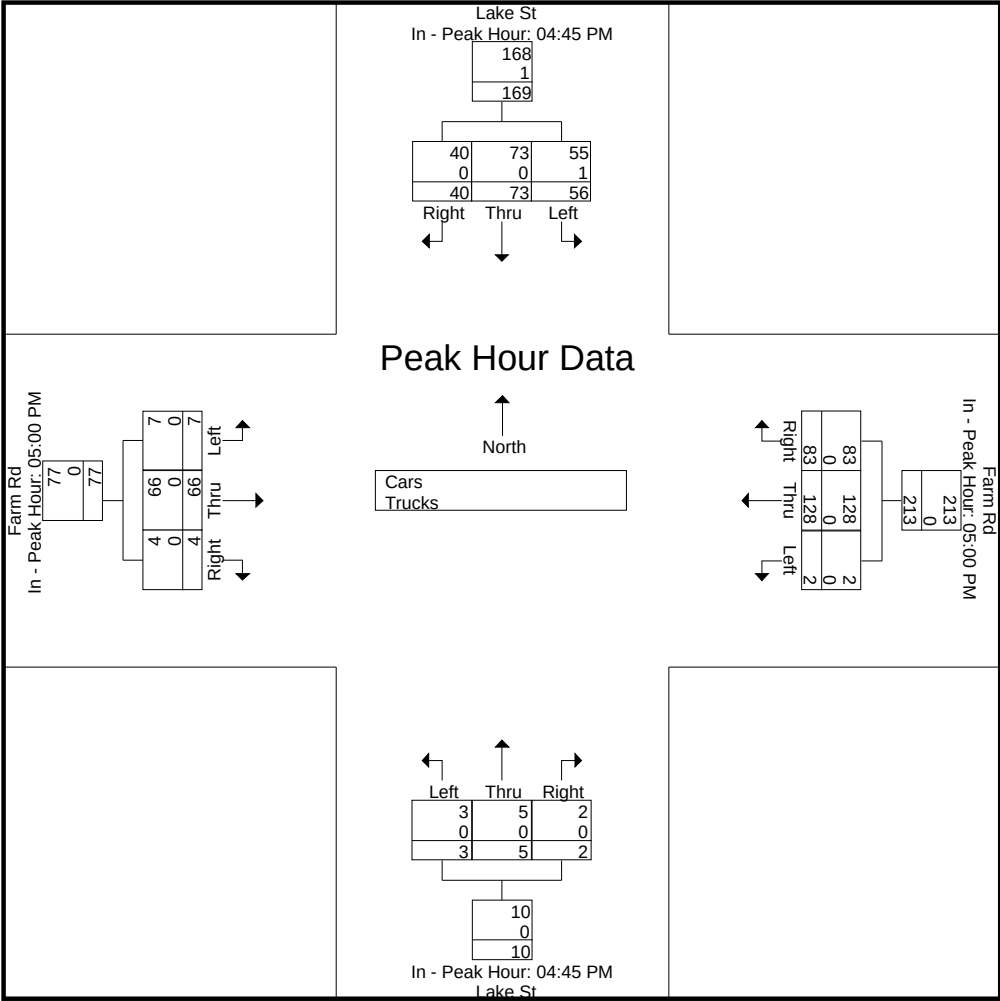
Peak Hour Begins at 04:45 PM
Cars
Trucks

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

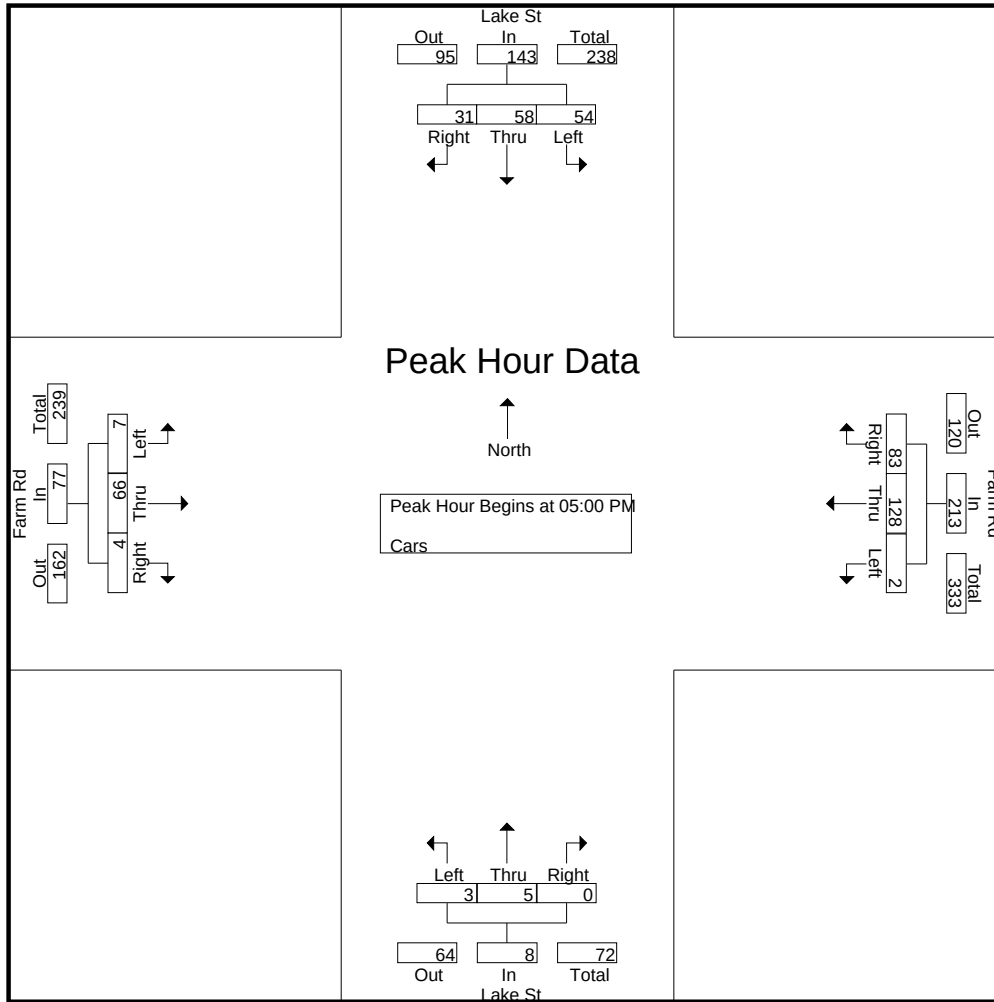
File Name : 94250002
Site Code : 94250002
Start Date : 9/20/2022
Page No : 4

Groups Printed- Cars

	Lake St From North			Farm Rd From East			Lake St From South			Farm Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
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				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	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

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

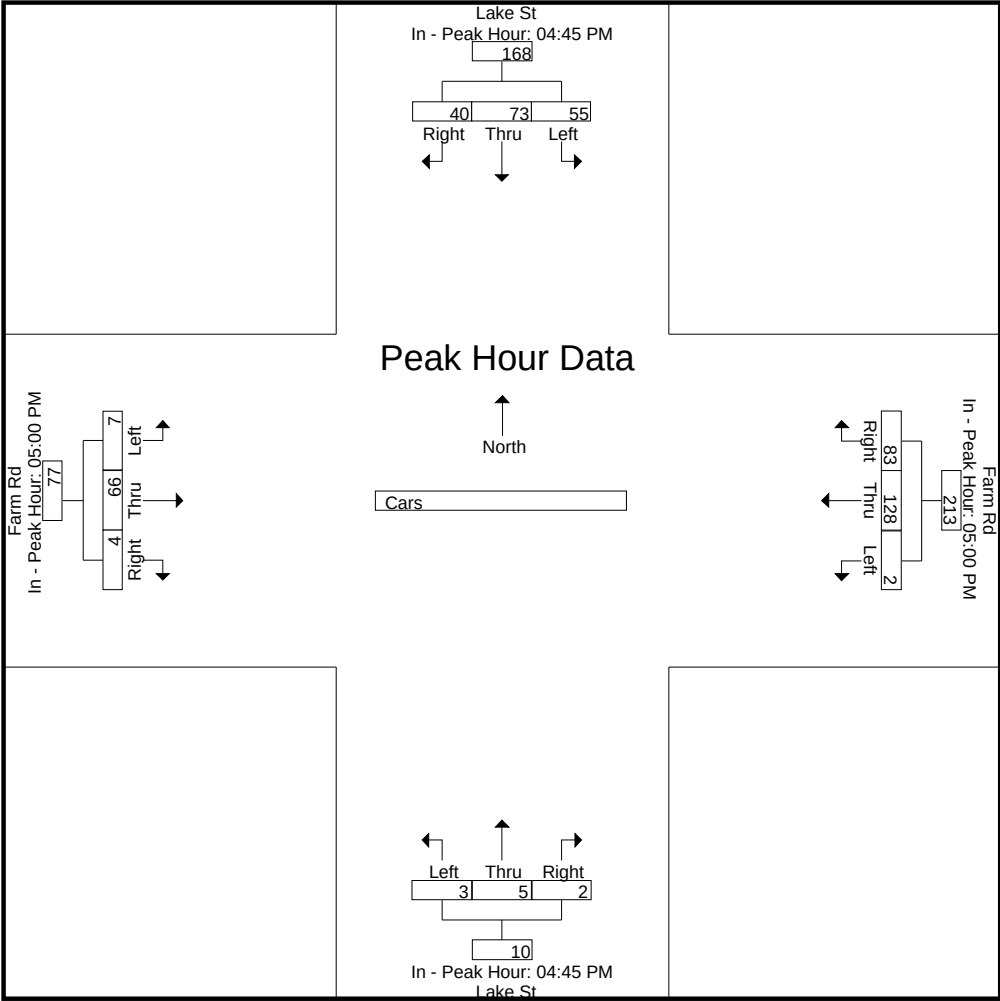


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	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]

978-664-2565

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



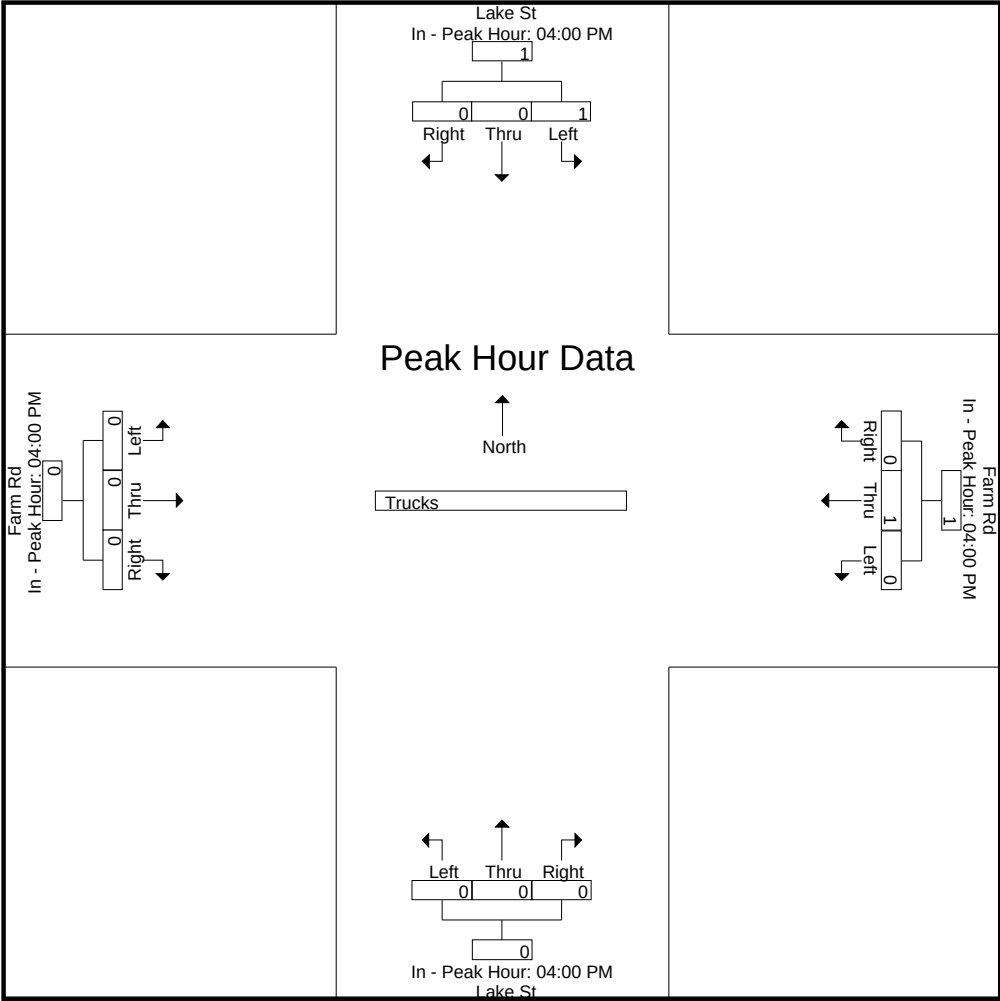
Peak Hour Begins at 04:00 PM
Trucks

Peak Hour for Each Approach Begins at:

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

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

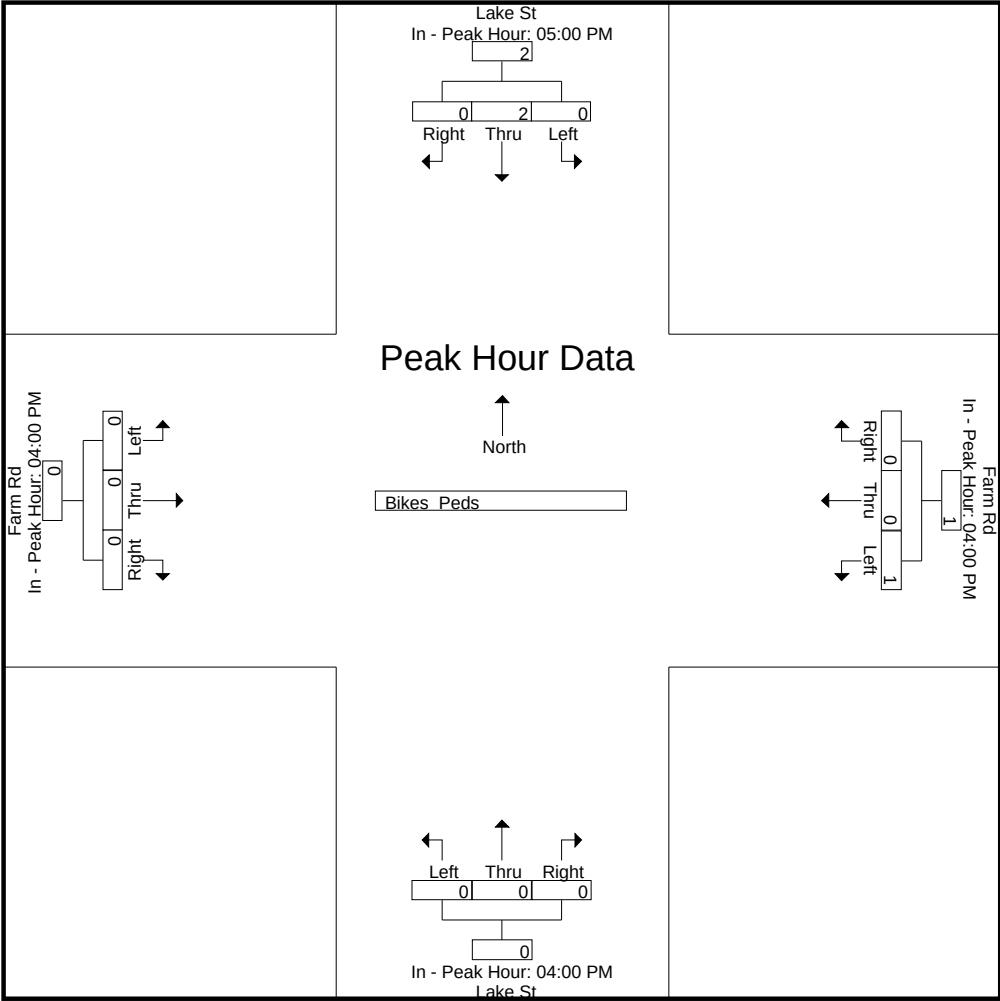


Peak Hour Begins at 05:00 PM
Bikes Peds

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	
+15 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	
+30 mins.	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	
Total Volume	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	
% App. Total	0	100	0		100	0	0		0	0	0		0	0		
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.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



Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 1

Groups Printed- Cars - Trucks

	Farm Rd From East		Great Rock Rd From South		Farm Rd From West		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM	0	3	0	2	54	2	61
07:15 AM	0	4	0	3	80	1	88
07:30 AM	0	7	3	4	79	3	96
07:45 AM	3	14	4	3	78	5	107
Total	3	28	7	12	291	11	352
08:00 AM	2	9	1	5	71	1	89
08:15 AM	1	21	6	1	71	2	102
08:30 AM	0	18	2	1	54	1	76
08:45 AM	0	7	2	1	39	0	49
Total	3	55	11	8	235	4	316
Grand Total	6	83	18	20	526	15	668
Apprch %	6.7	93.3	47.4	52.6	97.2	2.8	
Total %	0.9	12.4	2.7	3	78.7	2.2	
Cars	6	81	17	19	513	13	649
% Cars	100	97.6	94.4	95	97.5	86.7	97.2
Trucks	0	2	1	1	13	2	19
% Trucks	0	2.4	5.6	5	2.5	13.3	2.8

	Farm Rd From East			Great Rock Rd From South			Farm Rd From West			
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	0	7	7	3	4	7	79	3	82	96
07:45 AM	3	14	17	4	3	7	78	5	83	107
08:00 AM	2	9	11	1	5	6	71	1	72	89
08:15 AM	1	21	22	6	1	7	71	2	73	102
Total Volume	6	51	57	14	13	27	299	11	310	394
% App. Total	10.5	89.5		51.9	48.1		96.5	3.5		
PHF	.500	.607	.648	.583	.650	.964	.946	.550	.934	.921
Cars	6	49	55	13	12	25	288	9	297	377
% Cars	100	96.1	96.5	92.9	92.3	92.6	96.3	81.8	95.8	95.7
Trucks	0	2	2	1	1	2	11	2	13	17
% Trucks	0	3.9	3.5	7.1	7.7	7.4	3.7	18.2	4.2	4.3

Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

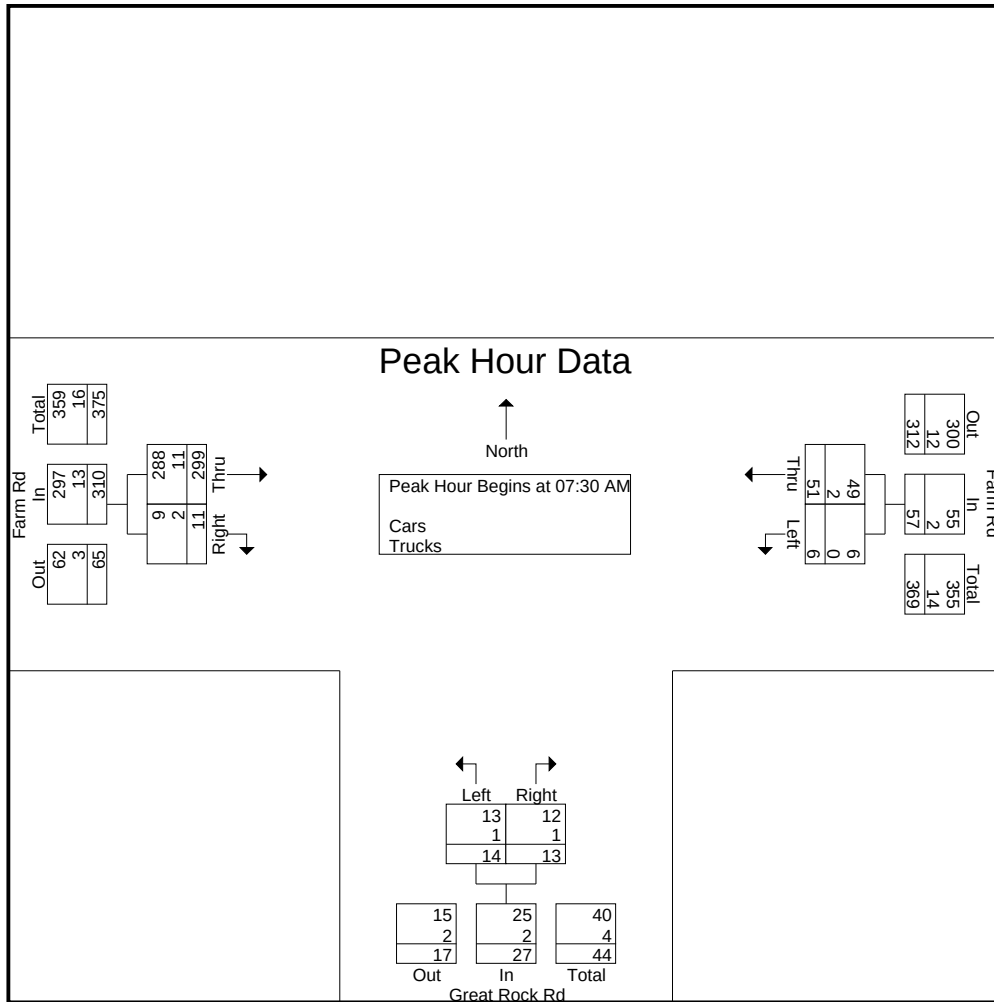
Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 2



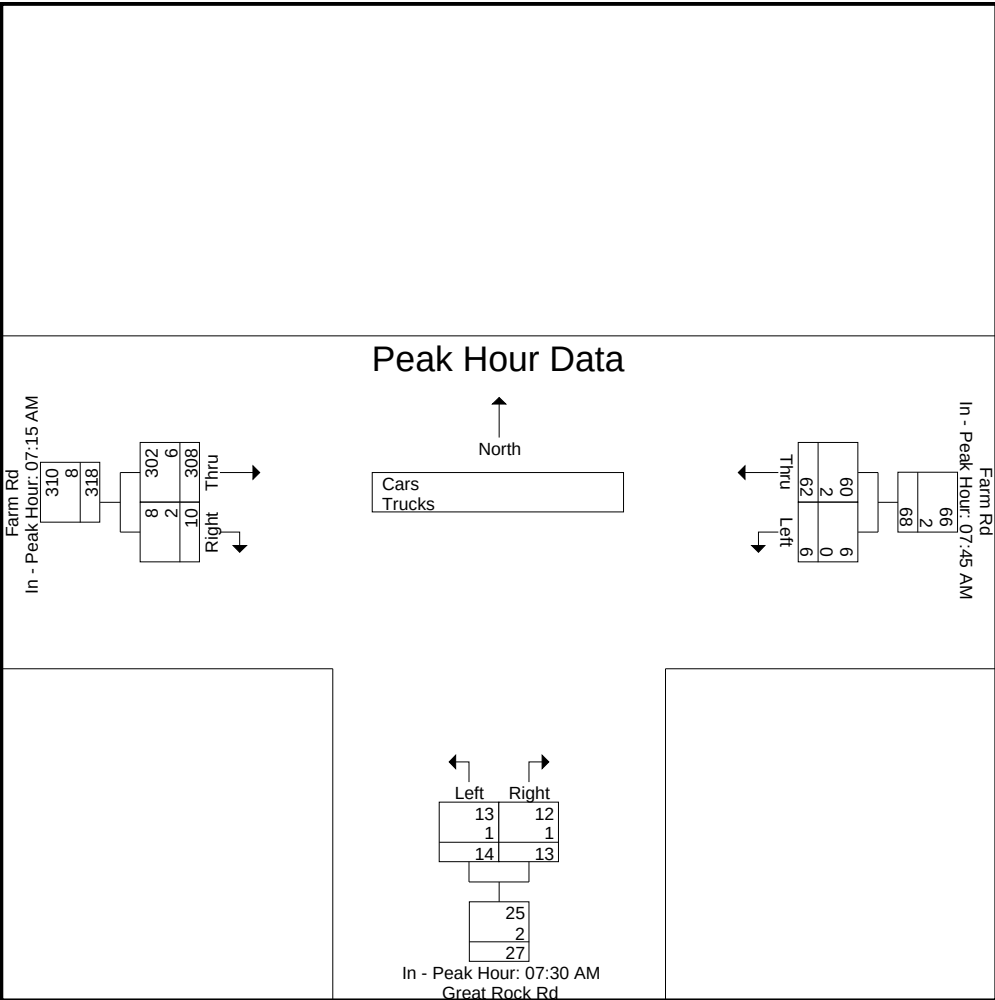
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM			07:30 AM			07:15 AM		
+0 mins.	3	14	17	3	4	7	80	1	81
+15 mins.	2	9	11	4	3	7	79	3	82
+30 mins.	1	21	22	1	5	6	78	5	83
+45 mins.	0	18	18	6	1	7	71	1	72
Total Volume	6	62	68	14	13	27	308	10	318
% App. Total	8.8	91.2		51.9	48.1		96.9	3.1	
PHF	.500	.738	.773	.583	.650	.964	.963	.500	.958
Cars	6	60	66	13	12	25	302	8	310
% Cars	100	96.8	97.1	92.9	92.3	92.6	98.1	80	97.5
Trucks	0	2	2	1	1	2	6	2	8
% Trucks	0	3.2	2.9	7.1	7.7	7.4	1.9	20	2.5

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 4

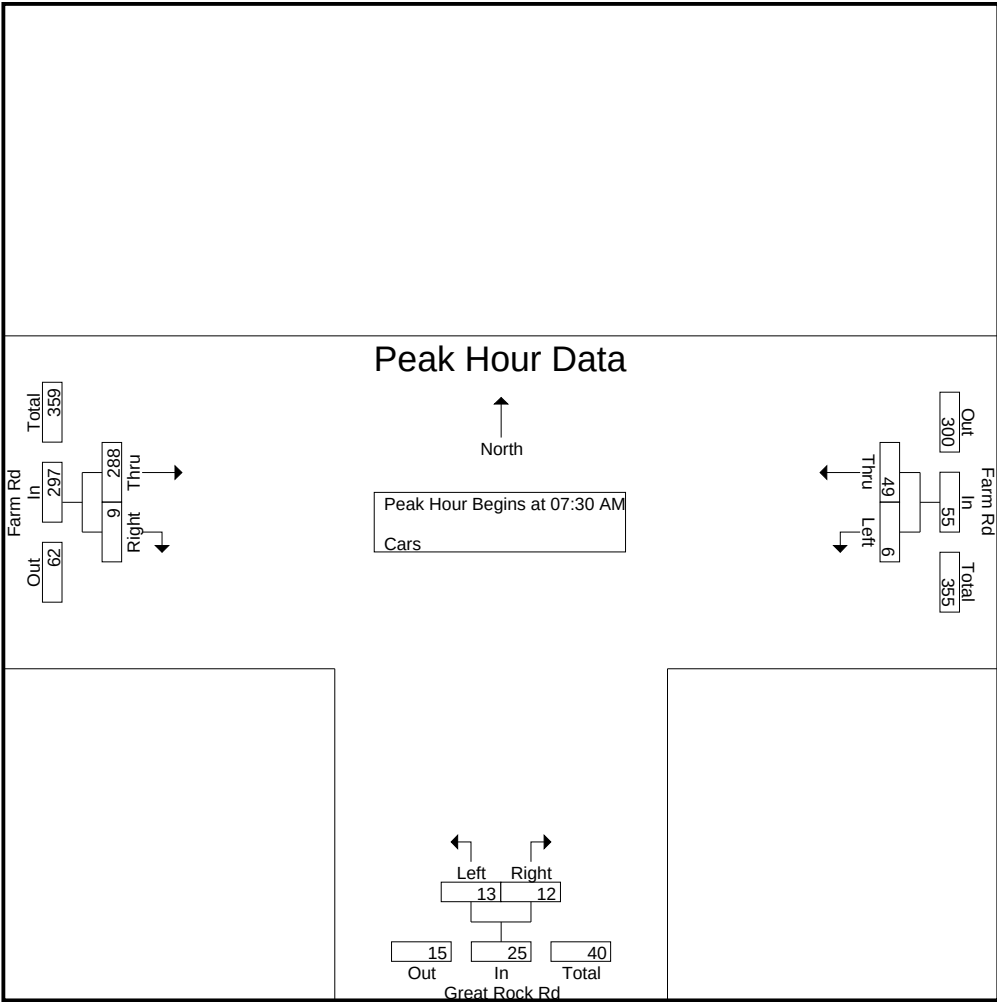
Groups Printed- Cars

	Farm Rd From East		Great Rock Rd From South		Farm Rd From West		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM	0	3	0	2	54	2	61
07:15 AM	0	4	0	3	78	1	86
07:30 AM	0	7	3	3	77	1	91
07:45 AM	3	14	4	3	78	5	107
Total	3	28	7	11	287	9	345
08:00 AM	2	8	0	5	69	1	85
08:15 AM	1	20	6	1	64	2	94
08:30 AM	0	18	2	1	54	1	76
08:45 AM	0	7	2	1	39	0	49
Total	3	53	10	8	226	4	304
Grand Total	6	81	17	19	513	13	649
Apprch %	6.9	93.1	47.2	52.8	97.5	2.5	
Total %	0.9	12.5	2.6	2.9	79	2	

	Farm Rd From East			Great Rock Rd From South			Farm Rd From West			
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	0	7	7	3	3	6	77	1	78	91
07:45 AM	3	14	17	4	3	7	78	5	83	107
08:00 AM	2	8	10	0	5	5	69	1	70	85
08:15 AM	1	20	21	6	1	7	64	2	66	94
Total Volume	6	49	55	13	12	25	288	9	297	377
% App. Total	10.9	89.1		52	48		97	3		
PHF	.500	.613	.655	.542	.600	.893	.923	.450	.895	.881

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 5



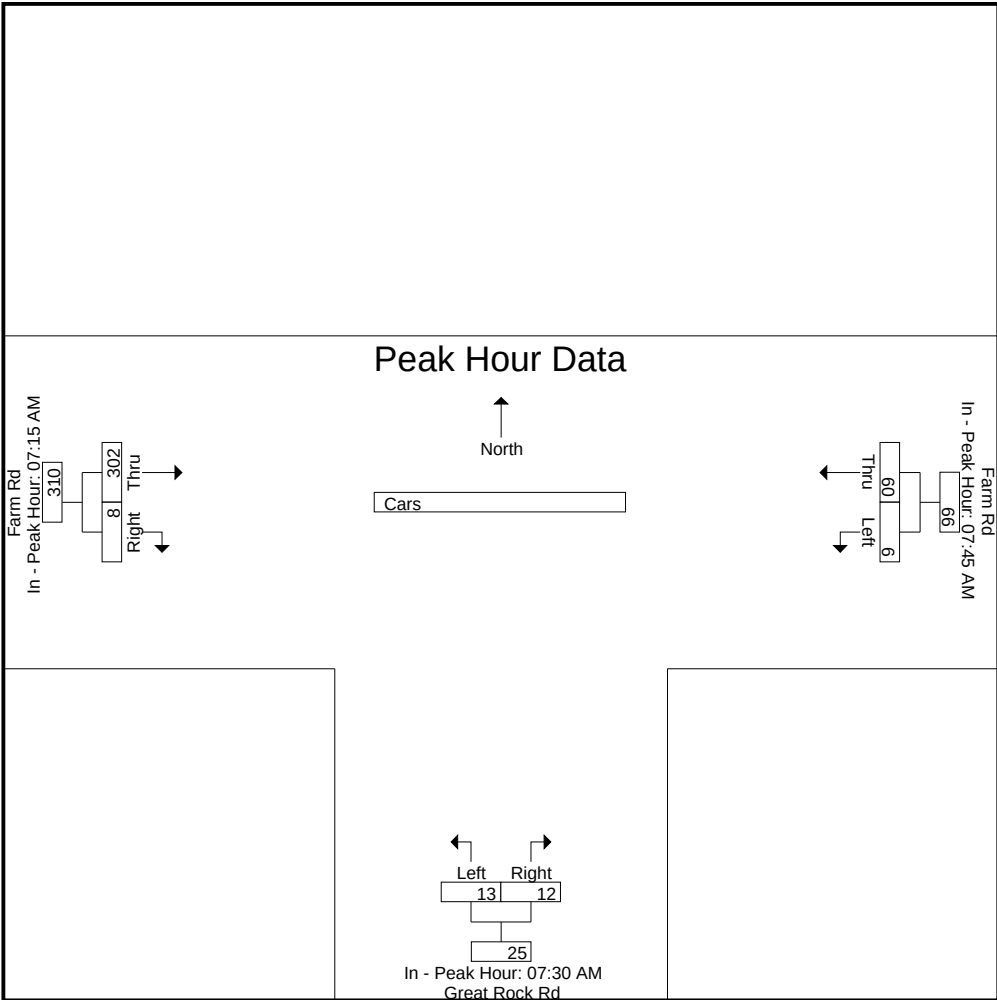
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM			07:30 AM			07:15 AM		
+0 mins.	3	14	17	3	3	6	78	1	79
+15 mins.	2	8	10	4	3	7	77	1	78
+30 mins.	1	20	21	0	5	5	78	5	83
+45 mins.	0	18	18	6	1	7	69	1	70
Total Volume	6	60	66	13	12	25	302	8	310
% App. Total	9.1	90.9		52	48		97.4	2.6	
PHF	.500	.750	.786	.542	.600	.893	.968	.400	.934

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 7

Groups Printed- Trucks

	Farm Rd From East		Great Rock Rd From South		Farm Rd From West		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	2	0	2
07:30 AM	0	0	0	1	2	2	5
07:45 AM	0	0	0	0	0	0	0
Total	0	0	0	1	4	2	7
08:00 AM	0	1	1	0	2	0	4
08:15 AM	0	1	0	0	7	0	8
08:30 AM	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0
Total	0	2	1	0	9	0	12
Grand Total	0	2	1	1	13	2	19
Apprch %	0	100	50	50	86.7	13.3	
Total %	0	10.5	5.3	5.3	68.4	10.5	

	Farm Rd From East			Great Rock Rd From South			Farm Rd From West			
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	0	0	0	0	1	1	2	2	4	5
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	1	1	1	0	1	2	0	2	4
08:15 AM	0	1	1	0	0	0	7	0	7	8
Total Volume	0	2	2	1	1	2	11	2	13	17
% App. Total	0	100		50	50		84.6	15.4		
PHF	.000	.500	.500	.250	.250	.500	.393	.250	.464	.531

Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

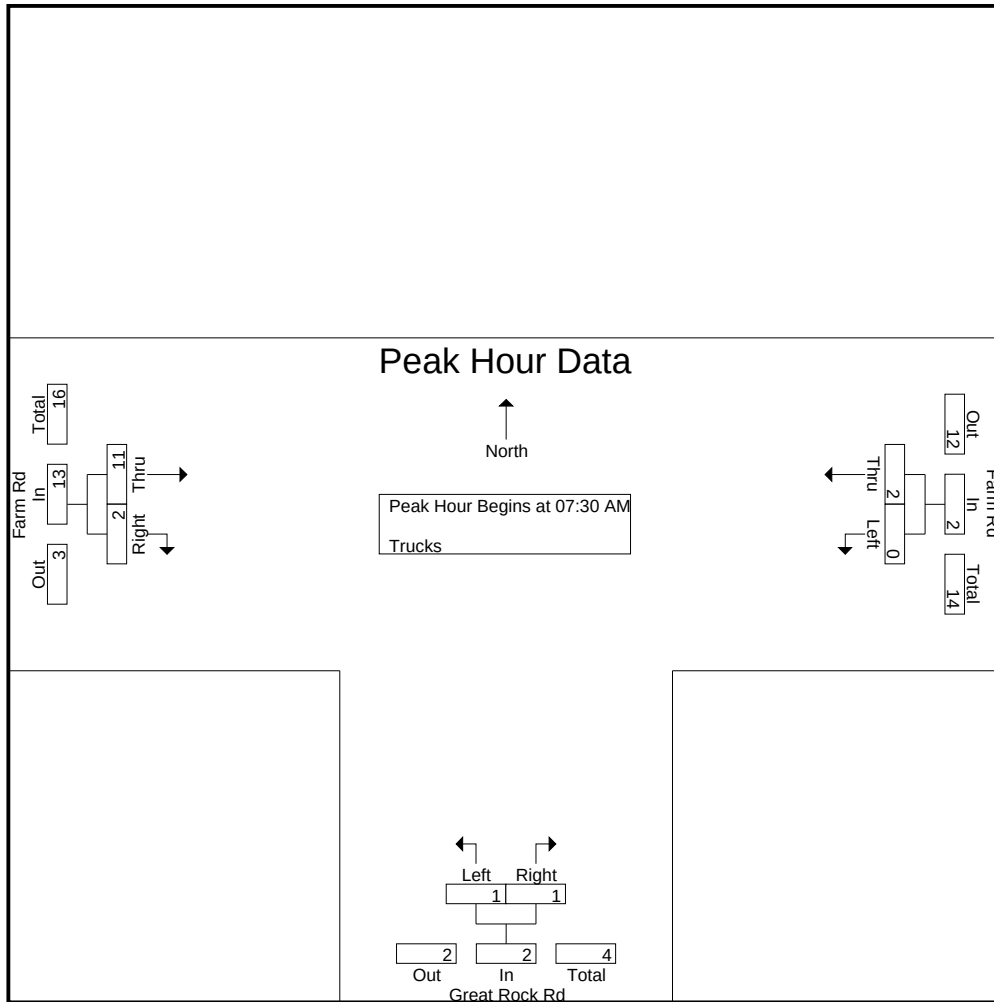
Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 8



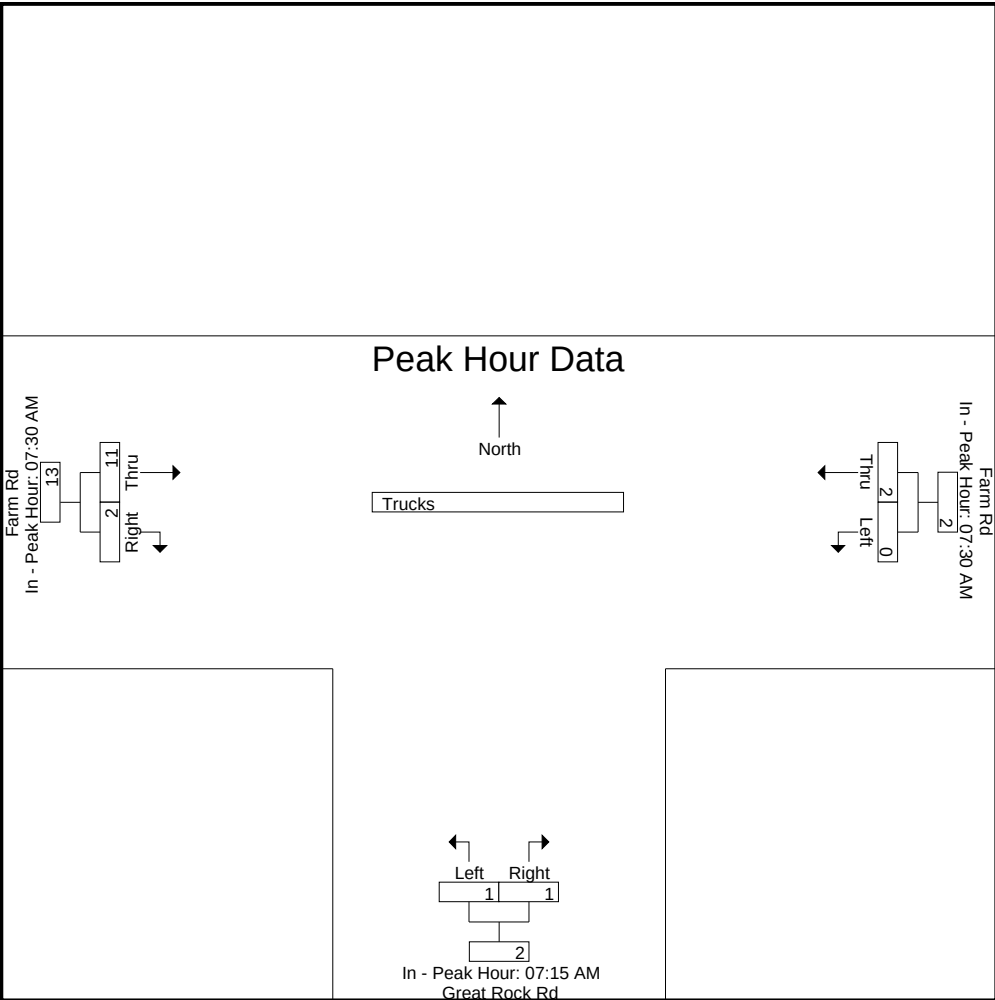
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM			07:15 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	2	2	4
+15 mins.	0	0	0	0	1	1	0	0	0
+30 mins.	0	1	1	0	0	0	2	0	2
+45 mins.	0	1	1	1	0	1	7	0	7
Total Volume	0	2	2	1	1	2	11	2	13
% App. Total	0	100		50	50		84.6	15.4	
PHF	.000	.500	.500	.250	.250	.500	.393	.250	.464

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 9



978-664-2565

Page No : 10

[illegible][illegible]

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

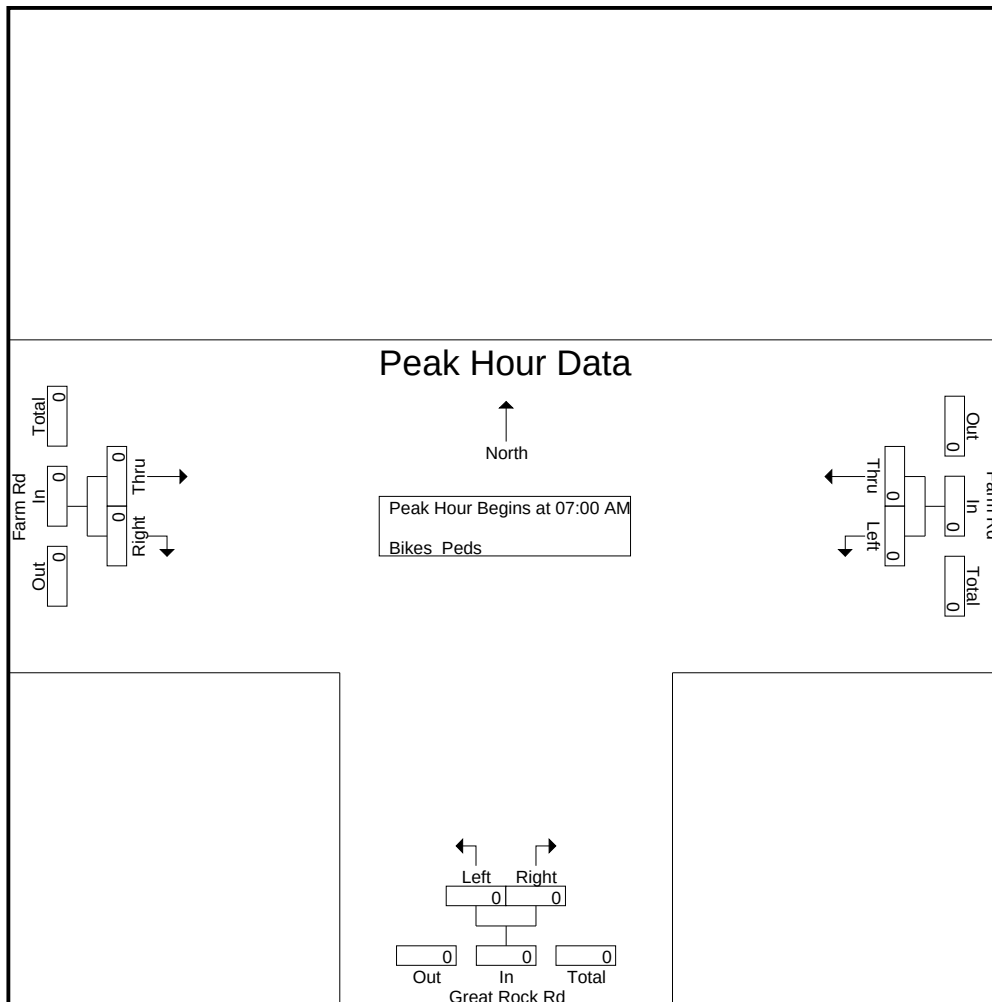
Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 11



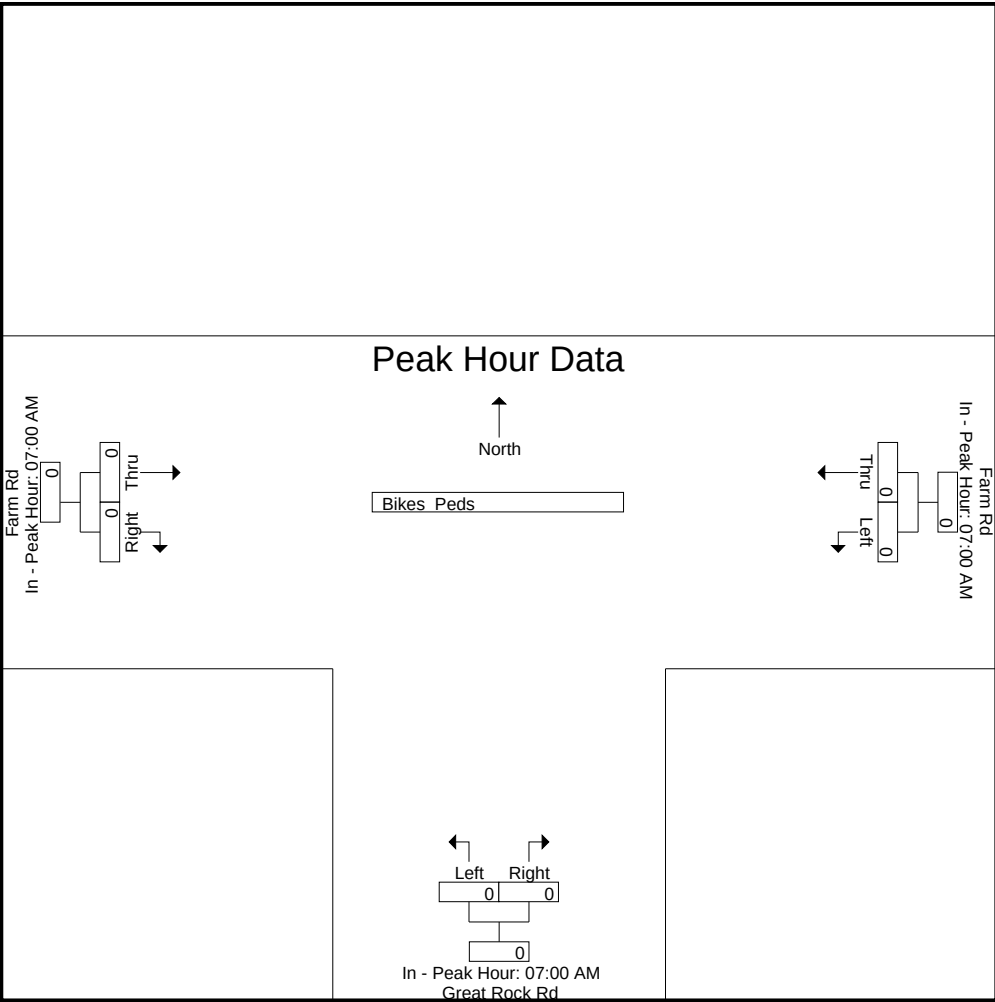
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

[illegible]

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 12



978-664-2565

Page No : 1

[illegible]

Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

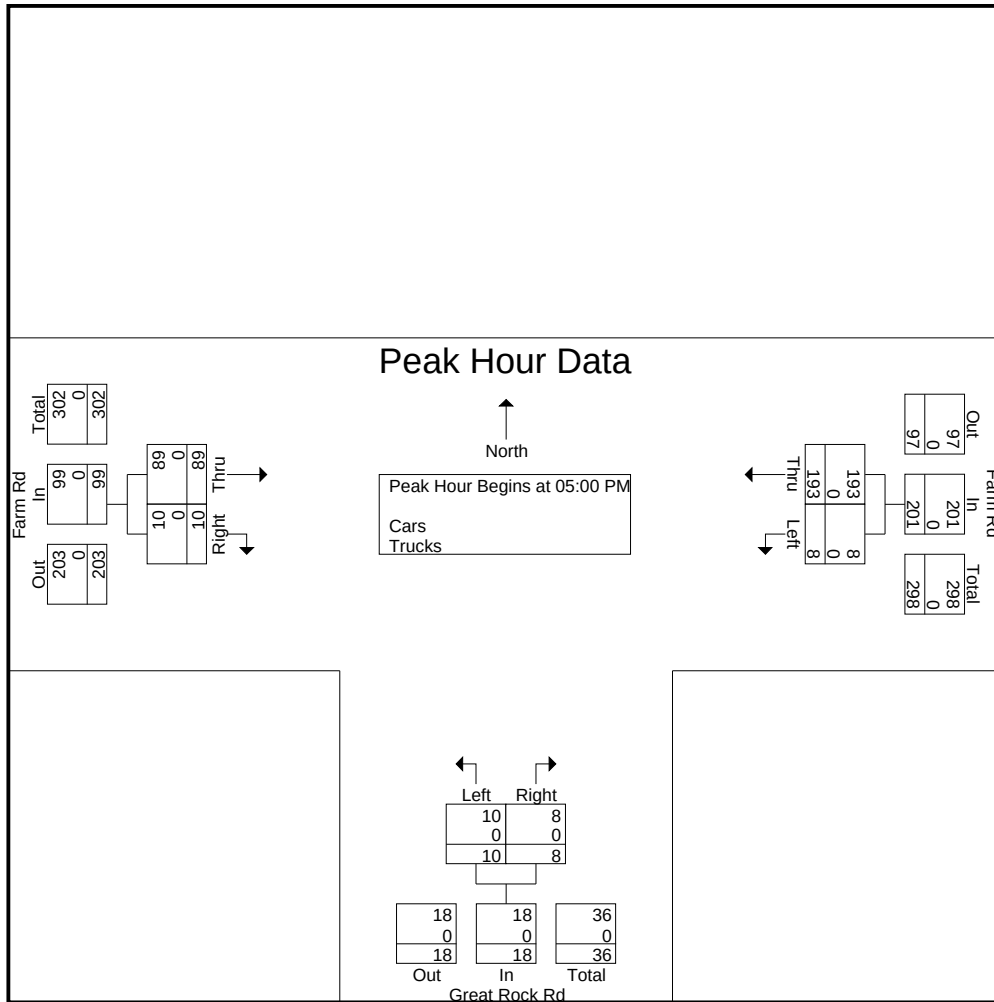
Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 2



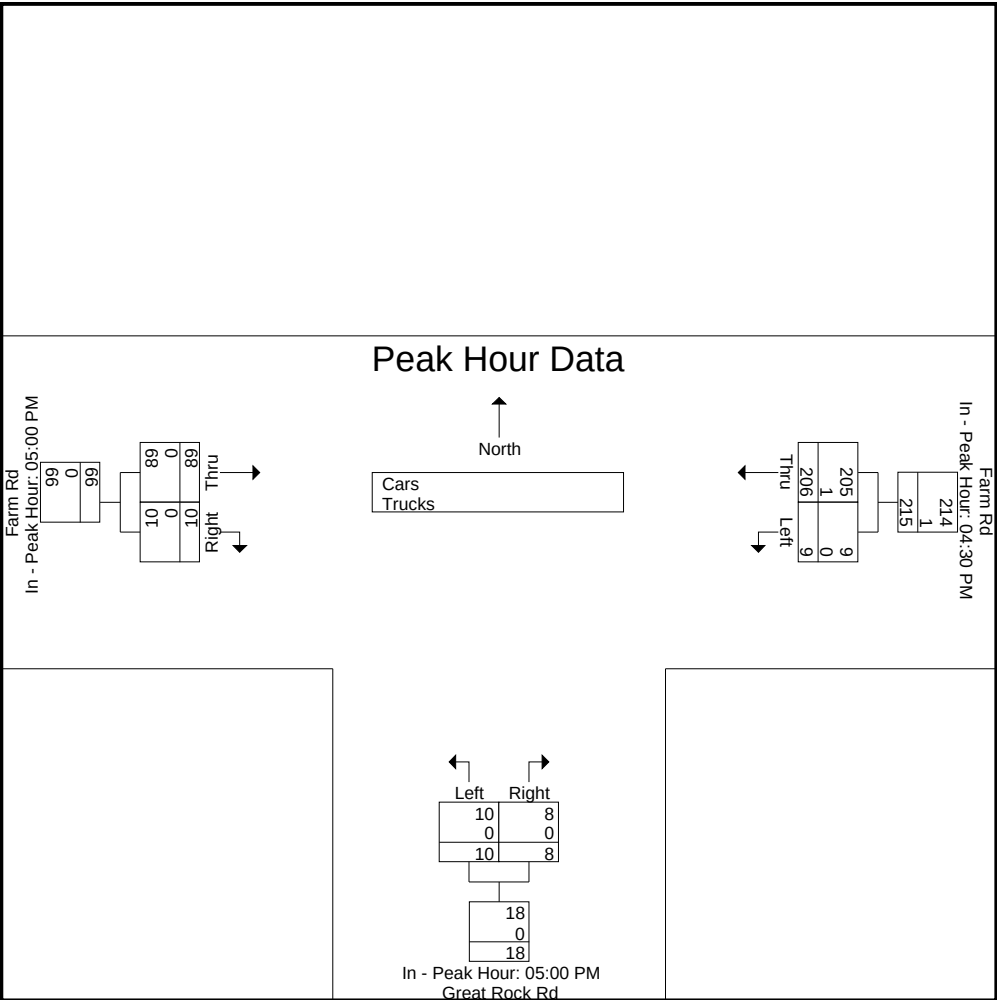
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			05:00 PM		
+0 mins.	2	53	55	2	3	5	24	3	27
+15 mins.	3	49	52	3	2	5	16	1	17
+30 mins.	1	58	59	1	3	4	27	4	31
+45 mins.	3	46	49	4	0	4	22	2	24
Total Volume	9	206	215	10	8	18	89	10	99
% App. Total	4.2	95.8		55.6	44.4		89.9	10.1	
PHF	.750	.888	.911	.625	.667	.900	.824	.625	.798
Cars	9	205	214	10	8	18	89	10	99
% Cars	100	99.5	99.5	100	100	100	100	100	100
Trucks	0	1	1	0	0	0	0	0	0
% Trucks	0	0.5	0.5	0	0	0	0	0	0

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 4

Groups Printed- Cars

	Farm Rd From East		Great Rock Rd From South		Farm Rd From West		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
04:00 PM	5	41	5	0	10	2	63
04:15 PM	1	36	1	1	13	3	55
04:30 PM	2	52	2	0	11	2	69
04:45 PM	3	49	1	2	11	2	68
Total	11	178	9	3	45	9	255
05:00 PM	1	58	2	3	24	3	91
05:15 PM	3	46	3	2	16	1	71
05:30 PM	2	50	1	3	27	4	87
05:45 PM	2	39	4	0	22	2	69
Total	8	193	10	8	89	10	318
Grand Total	19	371	19	11	134	19	573
Apprch %	4.9	95.1	63.3	36.7	87.6	12.4	
Total %	3.3	64.7	3.3	1.9	23.4	3.3	

	Farm Rd From East			Great Rock Rd From South			Farm Rd From West			
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	1	58	59	2	3	5	24	3	27	91
05:15 PM	3	46	49	3	2	5	16	1	17	71
05:30 PM	2	50	52	1	3	4	27	4	31	87
05:45 PM	2	39	41	4	0	4	22	2	24	69
Total Volume	8	193	201	10	8	18	89	10	99	318
% App. Total	4	96		55.6	44.4		89.9	10.1		
PHF	.667	.832	.852	.625	.667	.900	.824	.625	.798	.874

Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

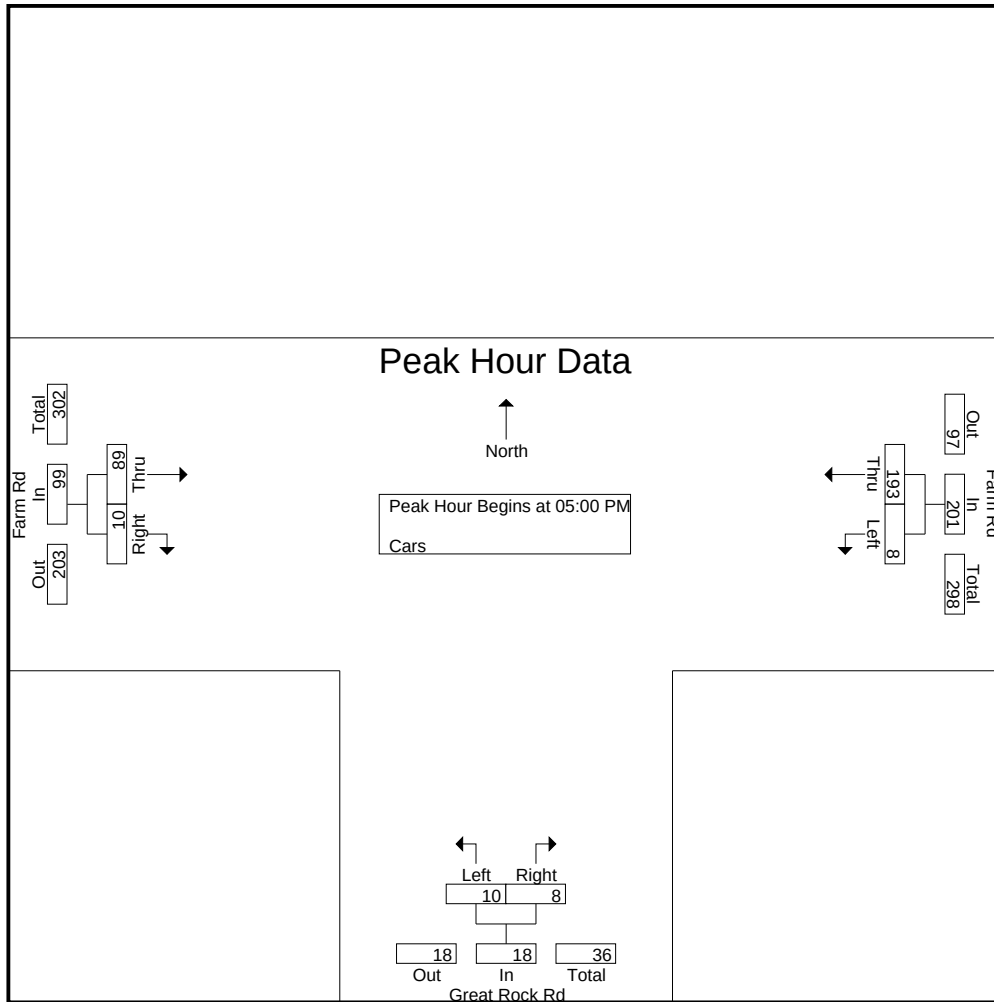
Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 5



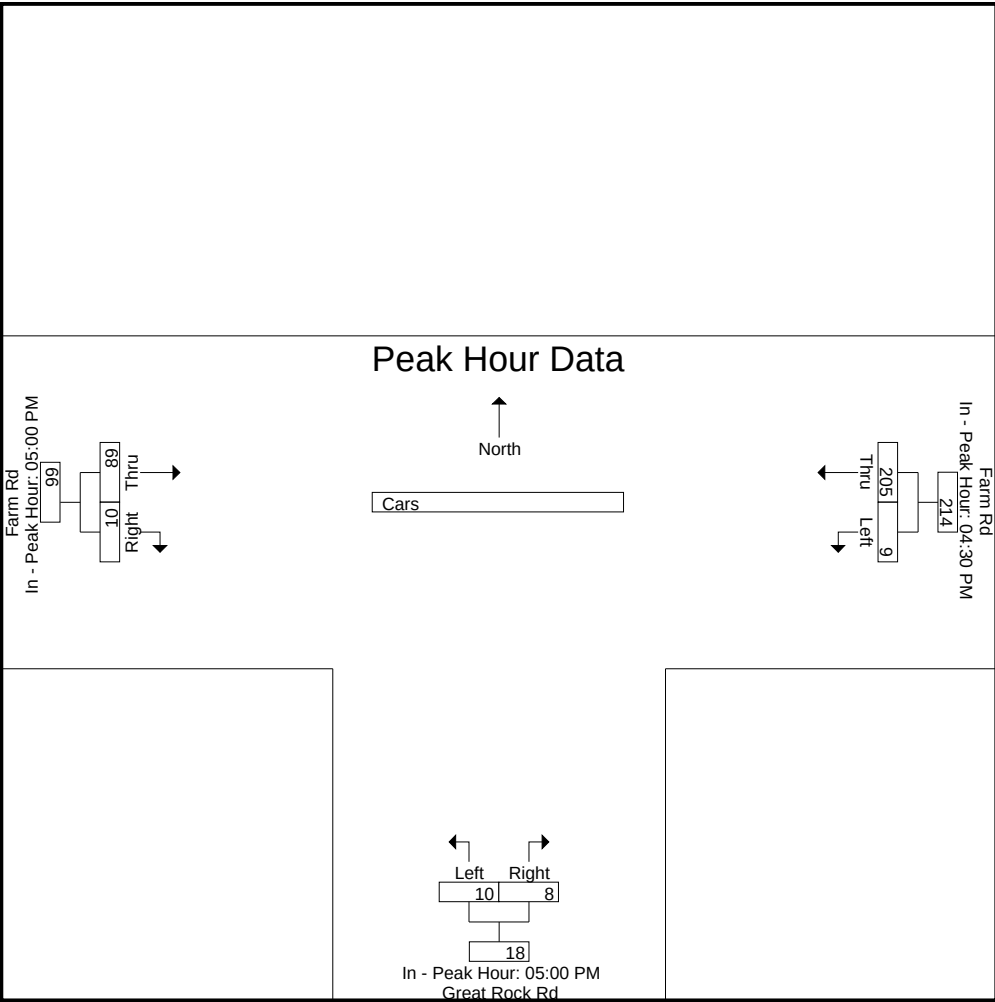
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			05:00 PM		
+0 mins.	2	52	54	2	3	5	24	3	27
+15 mins.	3	49	52	3	2	5	16	1	17
+30 mins.	1	58	59	1	3	4	27	4	31
+45 mins.	3	46	49	4	0	4	22	2	24
Total Volume	9	205	214	10	8	18	89	10	99
% App. Total	4.2	95.8		55.6	44.4		89.9	10.1	
PHF	.750	.884	.907	.625	.667	.900	.824	.625	.798

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 6



978-664-2565

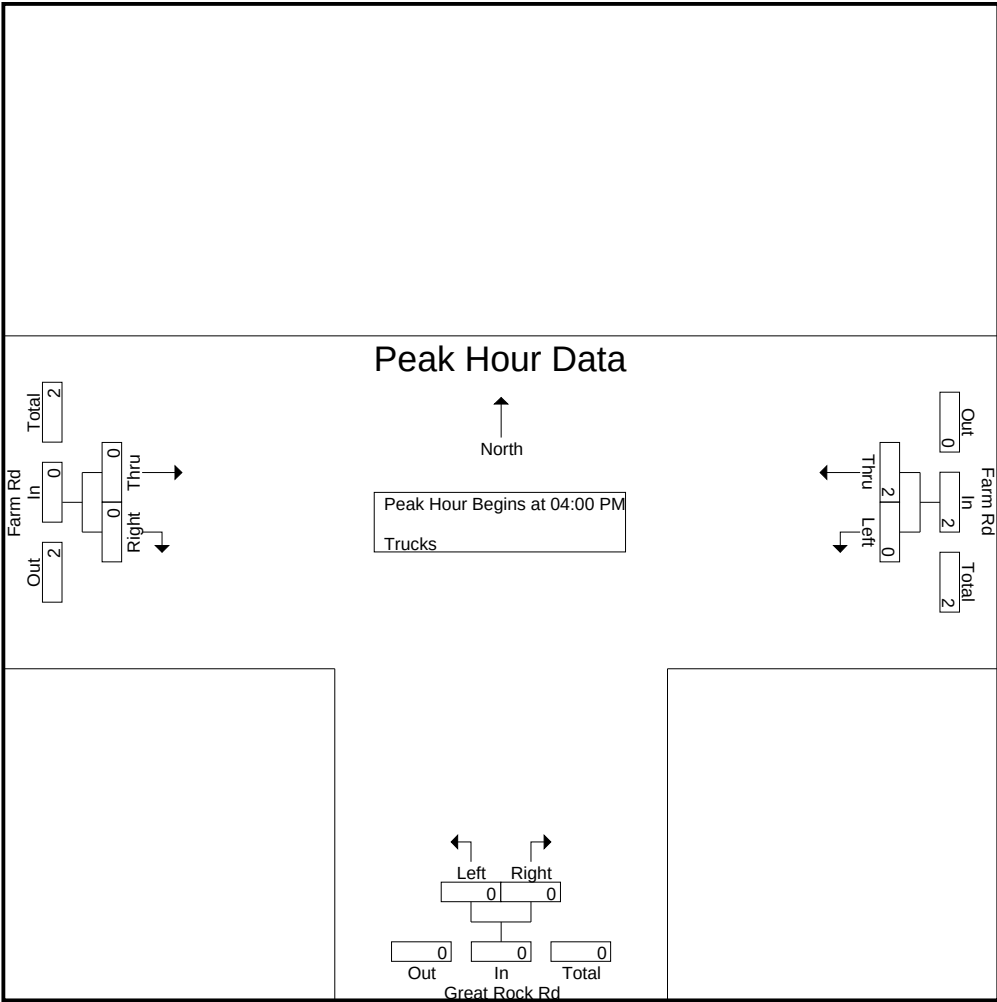
Page No : 7

Groups Pinned Trucks								
	Farm Rd From East		Great Rock Rd From South		Farm Rd From West			
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total	
04:00 PM	0	1	0	0	0	0	1	
04:15 PM	0	0	0	0	0	0	0	
04:30 PM	0	1	0	0	0	0	1	
04:45 PM	0	0	0	0	0	0	0	
Total	0	2	0	0	0	0	2	
05:00 PM	0	0	0	0	0	0	0	
05:15 PM	0	0	0	0	0	0	0	
05:30 PM	0	0	0	0	0	0	0	
05:45 PM	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	
Grand Total	0	2	0	0	0	0	2	
Apprch %	0	100	0	0	0	0		
Total %	0	100	0	0	0	0		

[illegible]

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 8

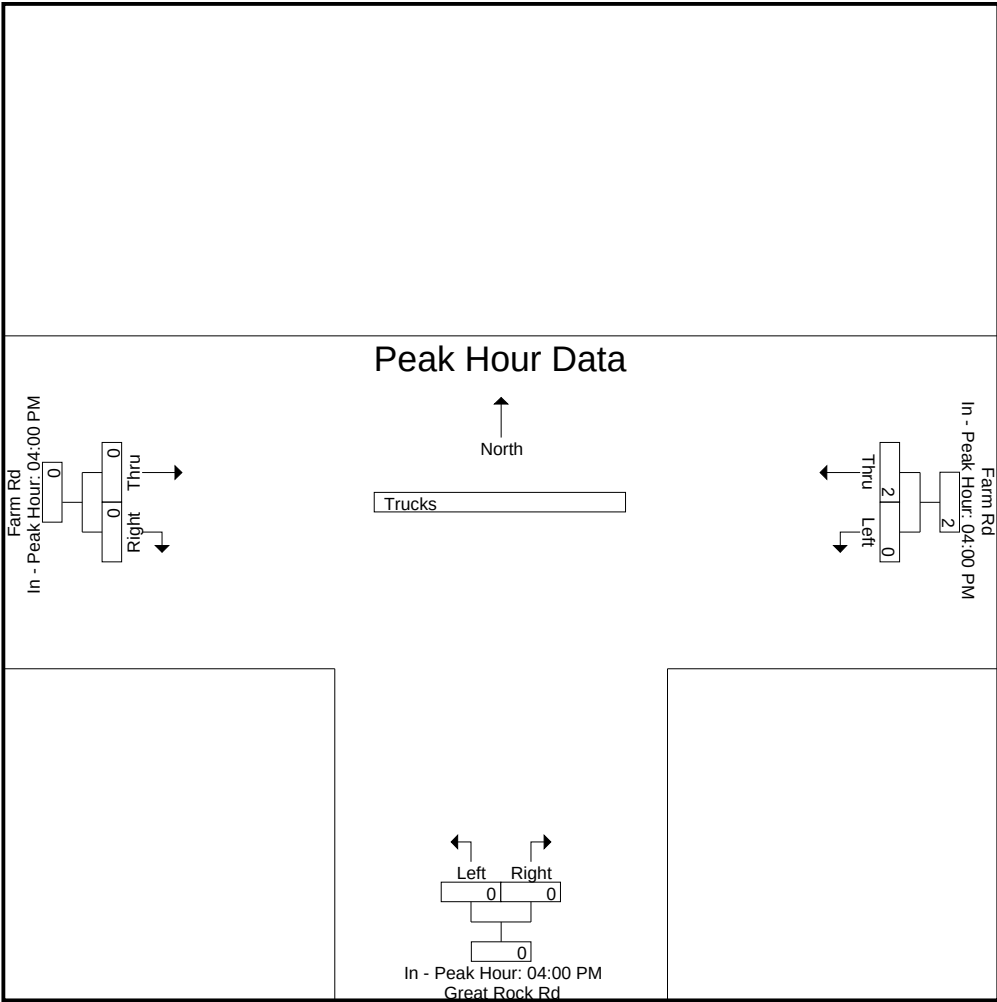


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	1	1	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.500	.500	.000	.000	.000	.000	.000	.000

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Great Rock Road

E/W Street : Farm Road

City/State : Sherborn, MA

Weather : Cloudy

File Name : 94250001

Site Code : 94250001

Start Date : 10/11/2023

Page No : 10

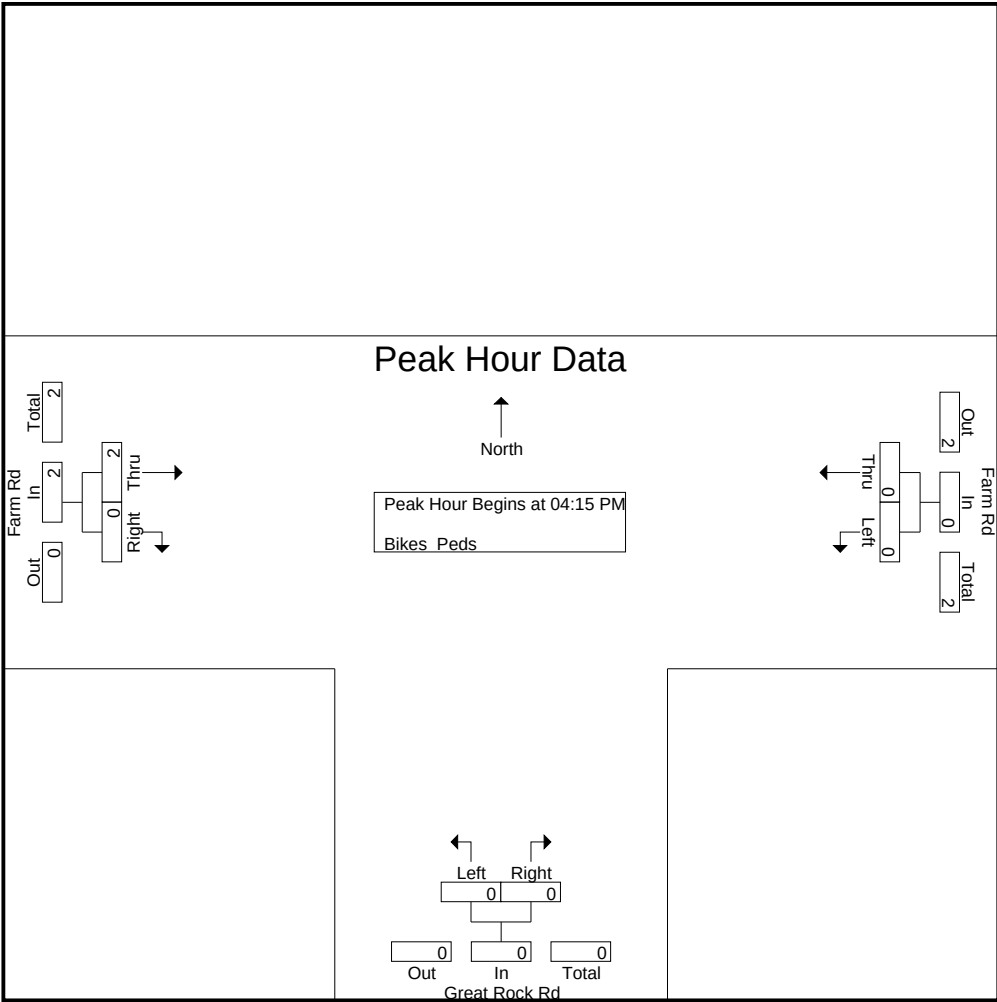
Groups Printed- Bikes Peds

	Farm Rd From East			Great Rock Rd From South			Farm Rd From West			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	1	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	1	1
05:00 PM	0	0	0	0	0	0	1	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	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	

	Farm Rd From East			Great Rock Rd From South			Farm Rd From West			
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 04:15 PM										
04:15 PM	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	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

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

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
Page No : 11



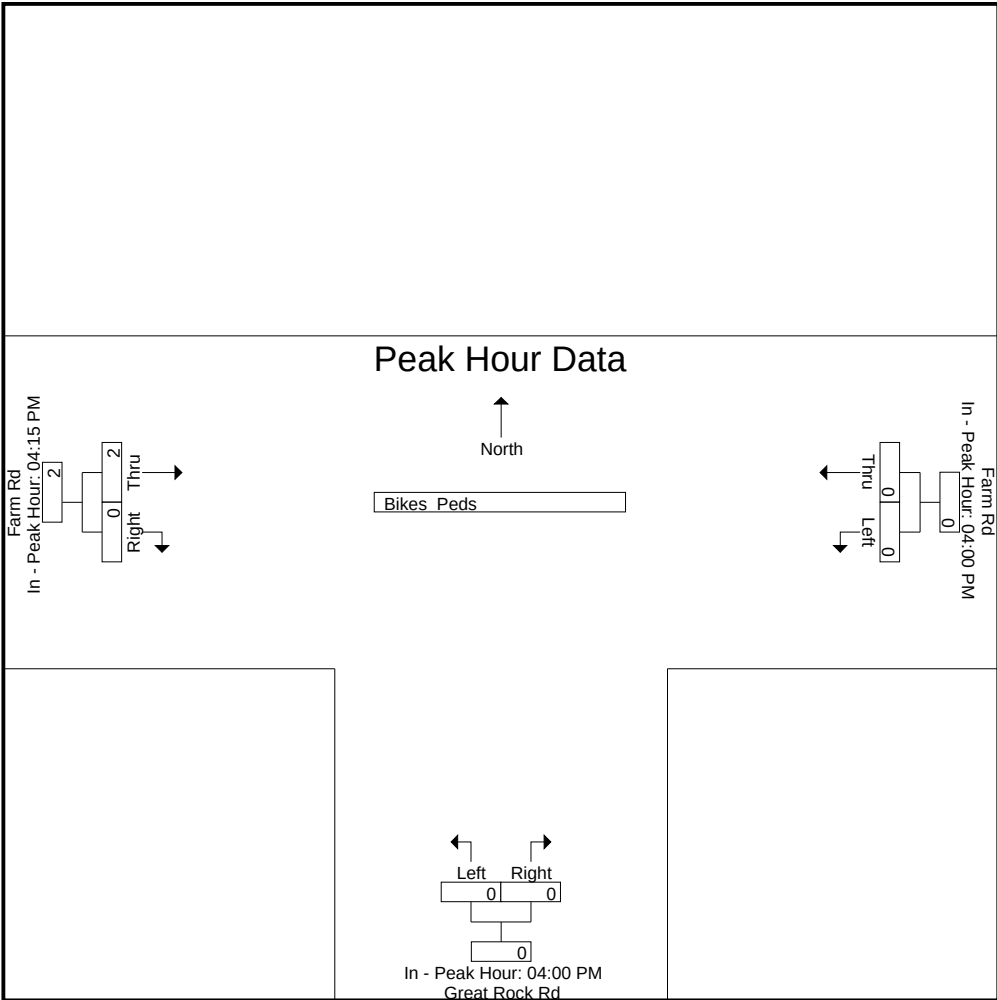
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	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 : Great Rock Road
E/W Street : Farm Road
City/State : Sherborn, MA
Weather : Cloudy

File Name : 94250001
Site Code : 94250001
Start Date : 10/11/2023
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%

MASSDOT CRASH RATE WORKSHEETS



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	721	591		1,356

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

15,067

TOTAL # OF CRASHES :

7

OF YEARS :

8

AVERAGE # OF CRASHES PER YEAR (A) :

0.88

CRASH RATE CALCULATION :

0.16

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 :

5

OF
YEARS :

8

AVERAGE # OF
CRASHES PER YEAR (A) :

0.63

CRASH RATE CALCULATION :

0.39

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	NB	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 :

8

AVERAGE # OF
CRASHES PER YEAR (A) :

0.38

CRASH RATE CALCULATION :

0.28

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

Comments : Below Statewide and District Crash Rates

Project Title & Date : Proposed Farm Road Residential Development

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Sherborn COUNT DATE : Oct-23

DISTRICT : 3 UNSIGNALIZED : ☒ X SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Farm Road

MINOR STREET(S) : Great Rock 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) :	310	57	27			394

"K" FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

4,378

TOTAL # OF CRASHES :

2

OF YEARS :

8

AVERAGE # OF CRASHES PER YEAR (A) :

0.25

CRASH RATE CALCULATION :

0.16

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

Comments : Below Statewide and District Crash Rates

Project Title & Date: Proposed Farm Road Residential Development

SEGMENT CRASH RATE WORKSHEET

CITY/TOWN : Sherborn COUNT DATE : Sep-22

DISTRICT : 3

~ SEGMENT DATA ~

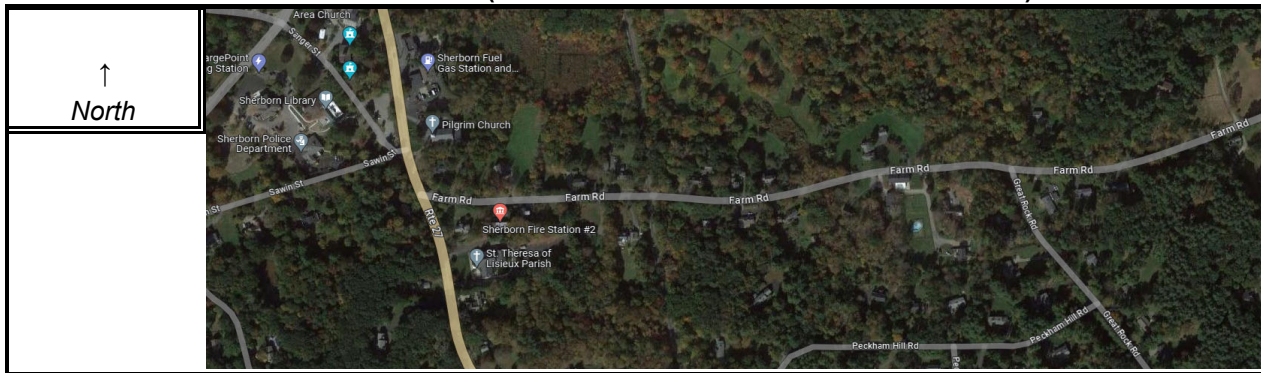
ROADWAY NAME: Farm Road

START POINT: Route 27

END POINT: Great Rock Road

FUNCTIONAL CLASSIFICATION OF ROADWAY: Urban Major Collector

ROADWAY DIAGRAM (LABEL ROADWAY AND CROSS STREETS)



AVERAGE DAILY TRAFFIC

SEGMENT LENGTH IN MILES (**L**):

0.435

AVERAGE DAILY TRAFFIC VOLUME (**V**):

2,120

TOTAL # OF CRASHES:

3

OF
YEARS :

8

AVERAGE # OF
CRASHES PER YEAR (**A**) :

0.38

**CRASH RATE
CALCULATION :**

1.11

RATE =

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

Comments : Below MassDOT crash rate by roadway functional classification

Project Title & Date: 9425 - Sherborn: Proposed Residential Development

SEGMENT CRASH RATE WORKSHEET

CITY/TOWN : Sherborn COUNT DATE : Sep-22

DISTRICT : 3

~ SEGMENT DATA ~

ROADWAY NAME: Farm Road

START POINT: Great Rock Road

END POINT: Lake Street

FUNCTIONAL CLASSIFICATION OF ROADWAY: Urban Major Collector

ROADWAY DIAGRAM (LABEL ROADWAY AND CROSS STREETS)



AVERAGE DAILY TRAFFIC

SEGMENT LENGTH IN MILES (L): **0.526**

AVERAGE DAILY TRAFFIC VOLUME (V): **2,120**

TOTAL # OF CRASHES:

5

OF
YEARS :

8

AVERAGE # OF
CRASHES PER YEAR (A) :

0.63

**CRASH RATE
CALCULATION :**

1.54

RATE =

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

Comments : Below MassDOT crash rate by roadway functional classification

Project Title & Date: 9425 - Sherborn: Proposed Residential Development

MASSDOT CRASH DATA



Crash Number	City Town Name	Crash Date	Day	Crash Severity	Crash Time	Crash Year	First Harmful Event	Light Conditions	Manner of Collision	Roadway Junction Type	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle TraWeather Conditions
3993951	SHERBORN	01/10/2015	Sat	Non-fatal injury	9:56 AM	2015	Collision with motor vehicle in traffic	Daylight	Rear-end	T-intersection	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: S / V2: Clear
4261548	SHERBORN	10/11/2016	Tue	Non-fatal injury	4:31 PM	2016	Overturn/rollover	Daylight	Single vehicle crash	Driveway	V1: Backing / V2: Travelling straight ahead / V3: Travelling straight ahead	V1: N / V2 Clear
4418219	SHERBORN	09/05/2017	Tue	Property damage only (none injured)	11:18 AM	2017	Collision with tree	Daylight	Single vehicle crash	T-intersection	V1: Travelling straight ahead	V1: S Clear
4808166	SHERBORN	01/15/2020	Wed	Property damage only (none injured)	7:08 AM	2020	Collision with motor vehicle in traffic	Daylight	Front to Rear	T-intersection	V1: Travelling straight ahead / V2: Turning left	V1: N / V2 Clear
4982510	SHERBORN	06/24/2021	Thu	Property damage only (none injured)	11:08 AM	2021	Collision with motor vehicle in traffic	Daylight	Angle	T-intersection	V1: Turning right / V2: Travelling straight ahead	V1: N / V2 Clear
5064157	SHERBORN	01/30/2022	Sun	Non-fatal injury	1:41 PM	2022	Collision with motor vehicle in traffic	Daylight	Sideswipe, opposite direction	Not at junction	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: W / V2Clear/Blowing sand, snow
5098748	SHERBORN	04/25/2022	Mon	Property damage only (none injured)	2:00 PM	2022	Collision with motor vehicle in traffic	Daylight	Rear-end	T-intersection	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1: W / V2Cloudy

Farm Road at Lake Street

Crash Number	City Town Name	Crash Date	Day	Crash Severity	Crash Time	Crash Year	First Harmful Event	Light Conditions	Manner of Collision	Roadway Junction Type	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions
4119542	SHERBORN	12/03/2015	Thu	Property damage only (none injured)	3:53 AM	2015	Collision with other movable object	Dark - lighted roadway	Single vehicle crash	Four-way intersection	V1: Travelling straight ahead	V1: S	Cloudy/Fog, smog, smoke
4249028	SHERBORN	09/04/2016	Sun	Property damage only (none injured)	10:06 AM	2016	Collision with other movable object	Daylight	Single vehicle crash	Four-way intersection	V1: Turning right	V1: S	Clear
4153180	SHERBORN	02/16/2016	Tue	Property damage only (none injured)	6:56 PM	2016	Collision with unknown fixed object	Dark - roadway not lighted	Single vehicle crash	Not at junction	V1: Travelling straight ahead	V1: W	Rain
4393119	SHERBORN	07/18/2017	Tue	Non-fatal injury	7:34 PM	2017	Other non-collision	Daylight	Single vehicle crash	Five-point or more	V1: Travelling straight ahead / V2: Entering traffic lane	V1: E / V2: S	Cloudy
4583068	SHERBORN	08/15/2018	Wed	Property damage only (none injured)	6:00 PM	2018	Collision with motor vehicle in traffic	Daylight	Angle	Four-way intersection	V1: Travelling straight ahead / V2: Entering traffic lane	V1: W / V2: S	Clear
4909091	SHERBORN	12/06/2020	Sun	Property damage only (none injured)	11:32 AM	2020	Collision with motor vehicle in traffic	Daylight	Angle	T-intersection	V1: Turning left / V2: Travelling straight ahead	V1: S / V2: E	Cloudy
4934863	SHERBORN	02/22/2021	Mon	Property damage only (none injured)	5:44 PM	2021	Collision with motor vehicle in traffic	Dark - lighted roadway	Angle	Four-way intersection	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: W / V2: N	Cloudy
5178105	SHERBORN	11/10/2022	Thu	Property damage only (none injured)	3:55 PM	2022	Collision with motor vehicle in traffic	Daylight	Angle	Four-way intersection	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: E / V2: S	Clear

= occurred at Lake Street West

Farm Road at Great Rock Road

Crash Number	City Town Name	Crash Date	Day	Crash Severity	Crash Time	Crash Year	First Harmful Event	Light Conditions	Manner of Collision	Roadway Junction Type	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions
4387644	SHERBORN	06/28/2017	Wed	Property damage only (none injured)	6:07 PM	2017	Collision with unknown fixed object	Daylight	Single vehicle crash	Not at junction	V1: Travelling straight ahead	V1: W	Clear
4761937	SHERBORN	06/30/2019	Sun	Non-fatal injury	11:50 AM	2019	Collision with motor vehicle in traffic	Daylight	Angle	T-intersection	V1: Turning left / V2: Travelling straight ahead	V1: N / V2: E	Clear

Misc. (Not at Intersection)

Crash Number	City Town Name	Crash Date	Day	Crash Severity	Crash Time	Crash Year	First Harmful Event	Light Conditions	Manner of Collision	Roadway Junction Type	Vehicle Act Vehicle Towed From Scene (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions
4003655	SHERBORN	01/24/2015	Sat	Property damage only (none injured)	2:24 PM	2015	Collision with tree	Daylight	Single vehicle crash	Not at junction	V1: Travelli V1: (Yes, vehicle or trailer disabled)	V1: E	Snow/Sleet, hail (freezing rain or drizzle)
4021936	SHERBORN	03/17/2015	Tue	Property damage only (none injured)	7:13 PM	2015	Collision with animal - deer	Daylight	Single vehicle crash	Not at junction	V1: Travelli V1: (No)	V1: E	Clear
4230629	SHERBORN	08/02/2016	Tue	Property damage only (none injured)	12:16 PM	2016	Collision with motor vehicle in traffic	Daylight	Rear-end	Not at junction	V1: Travelli V1: (Yes, vehicle or trailer disabled) / V2: (No)	V1: E / V2: E	Cloudy
4230728	SHERBORN	08/03/2016	Wed	Property damage only (none injured)	5:47 PM	2016	Collision with unknown fixed object	Daylight	Single vehicle crash	Not at junction	V1: Backing V1: (No)	V1: E	Clear
4427932	SHERBORN	09/18/2017	Mon	Non-fatal injury	6:34 PM	2017	Collision with embankment	Daylight	Single vehicle crash	Not at junction	V1: Travelli V1: (Yes, vehicle or trailer disabled)	V1: W	Clear
4605420	SHERBORN	10/01/2018	Mon	Non-fatal injury	2:53 PM	2018	Collision with unknown fixed object	Daylight	Single vehicle crash	Not at junction	V1: Travelli V1: (Yes, vehicle or trailer disabled)	V1: W	Cloudy
4746924	SHERBORN	09/04/2019	Wed	Property damage only (none injured)	2:04 PM	2019	Collision with animal - deer	Daylight	Single vehicle crash	Not at junction	V1: Travelli V1: (No)	V1: E	Clear
4856264	SHERBORN	06/27/2020	Sat	Property damage only (none injured)	1:26 PM	2020	Collision with animal - deer	Daylight	Single vehicle crash	Not at junction	V1: Travelli V1: (No)	V1: W	Rain

= occurred between Route 27 and Great Rock Road
all others occurred between Great Rock Road and Lake Street

PRELIMINARY SHERBORN POLICE DEPARTMENT CRASH DATA





Accidents By Street Name

<u>Street / Location Names</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>TOTALS</u>
FARM RD	2	2	0	2	0	2	0	1	3	0	2	2	16
LAKE ST	0	1	0	0	0	0	0	0	0	0	1	0	2
SOUTH MAIN ST	1	0	0	0	0	0	0	0	0	0	0	0	1
TOTALS	3	3	0	2	0	2	0	1	3	0	3	2	19

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:

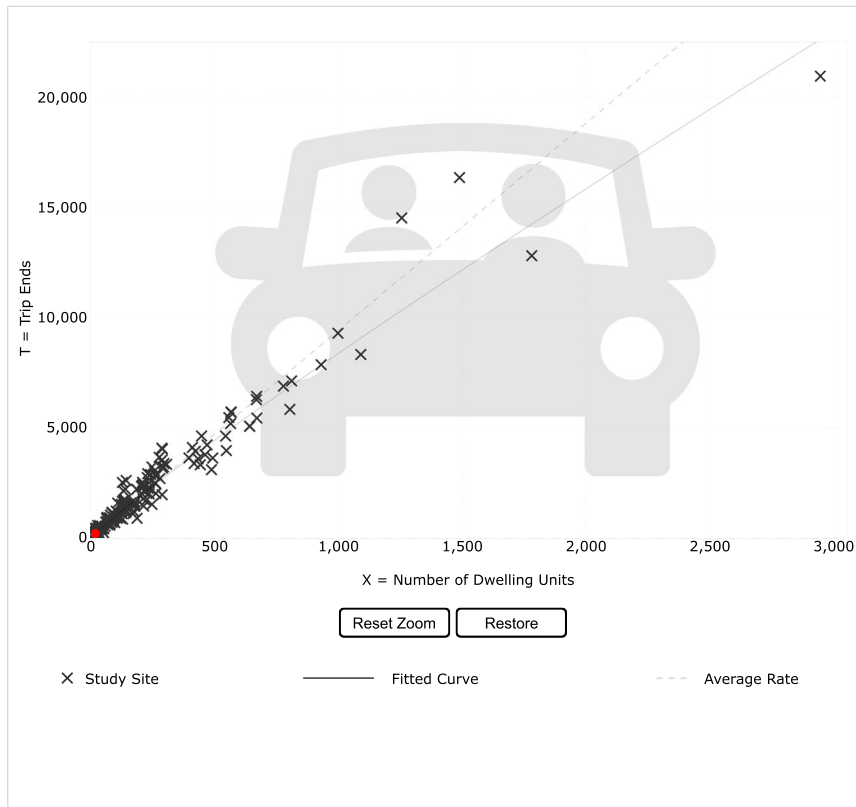
Vehicle

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



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Graph Look Up

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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:

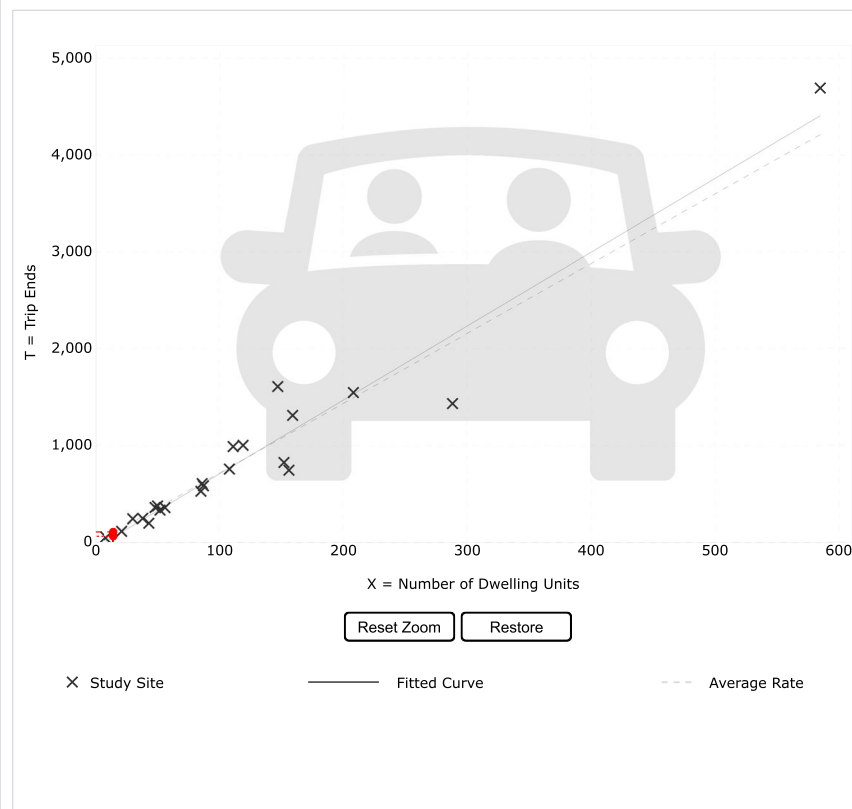
Vehicle

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:

 $T = 7.62(X) - 50.48$ R^2 :

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:

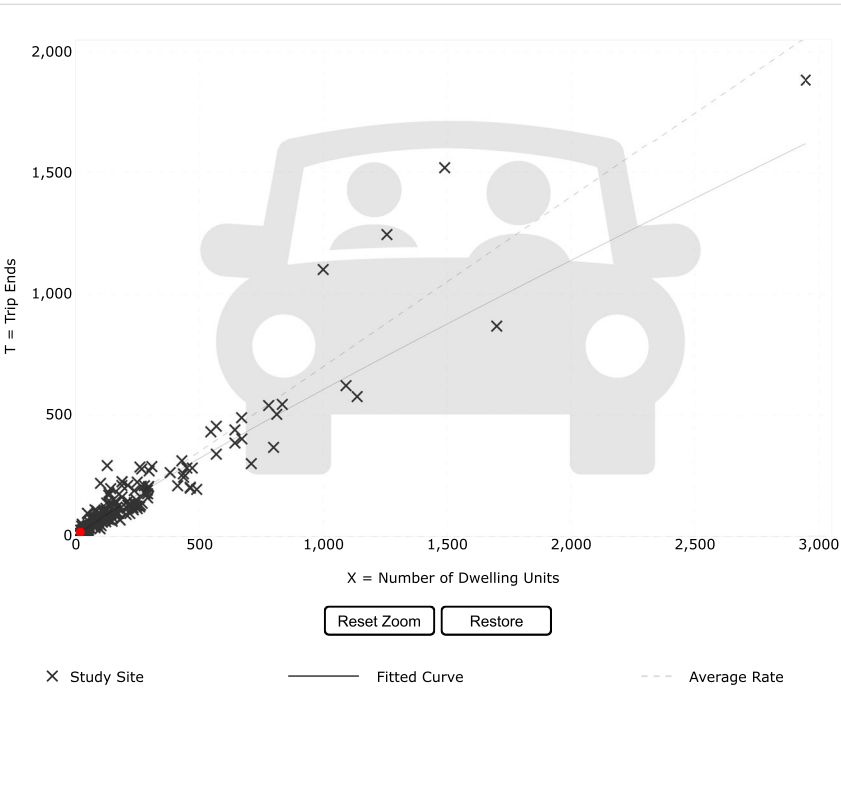
Vehicle

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



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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:

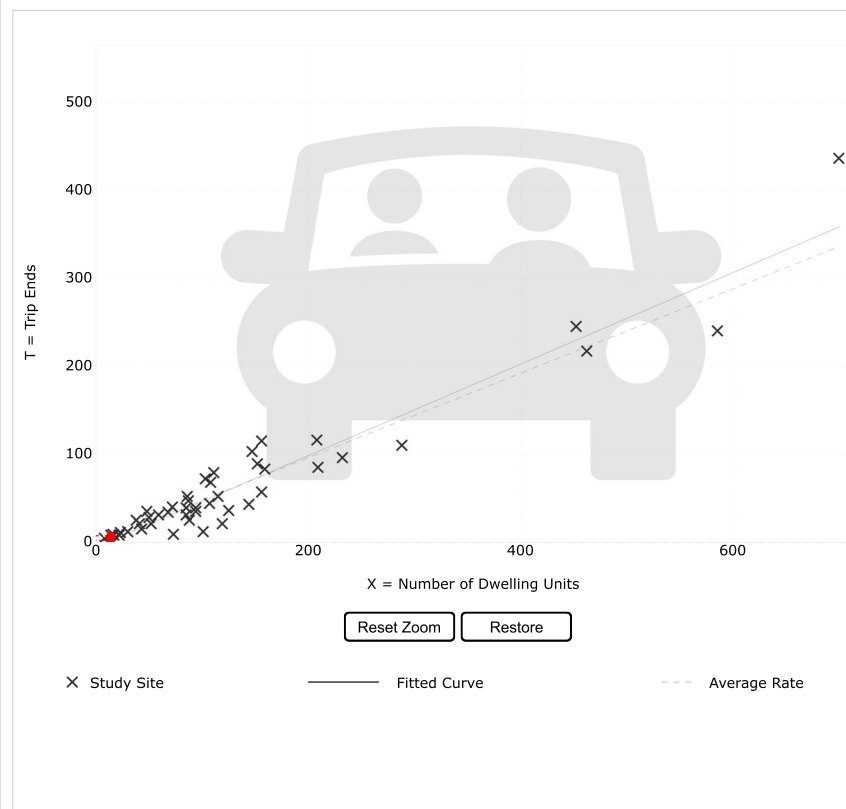
Vehicle

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:

 $T = 0.52(X) - 5.70$ R^2 :

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

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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

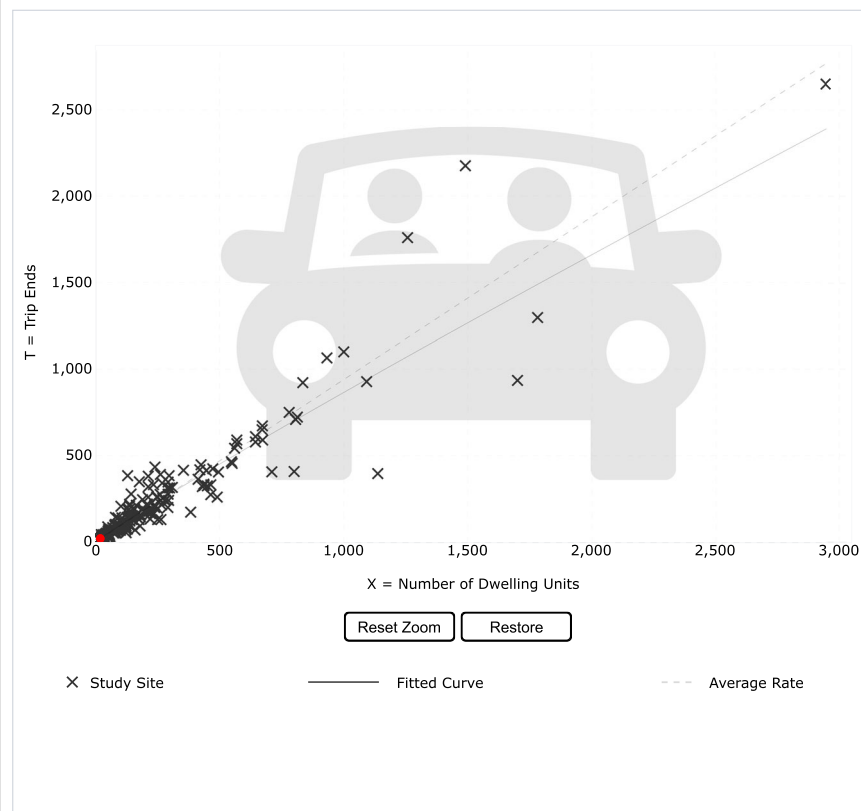
TRIP TYPE:

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

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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

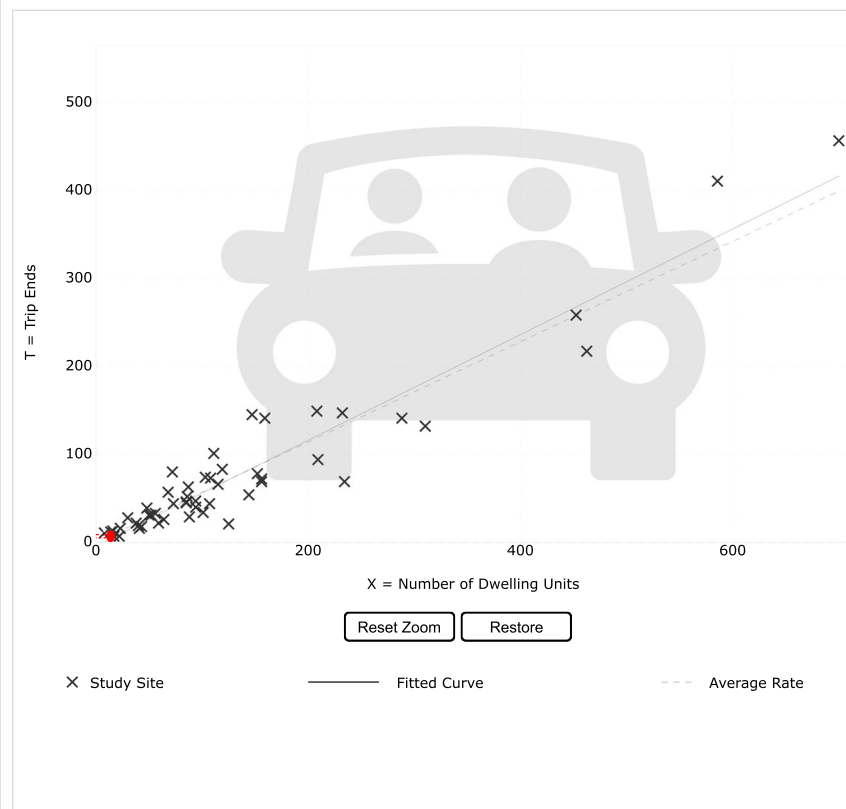
TRIP TYPE:

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: $T = 0.60(X) - 3.93$ **R²:**

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

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Updated Trip Generation



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Comments

Add-ons to do more

Try OTISS Pro

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:

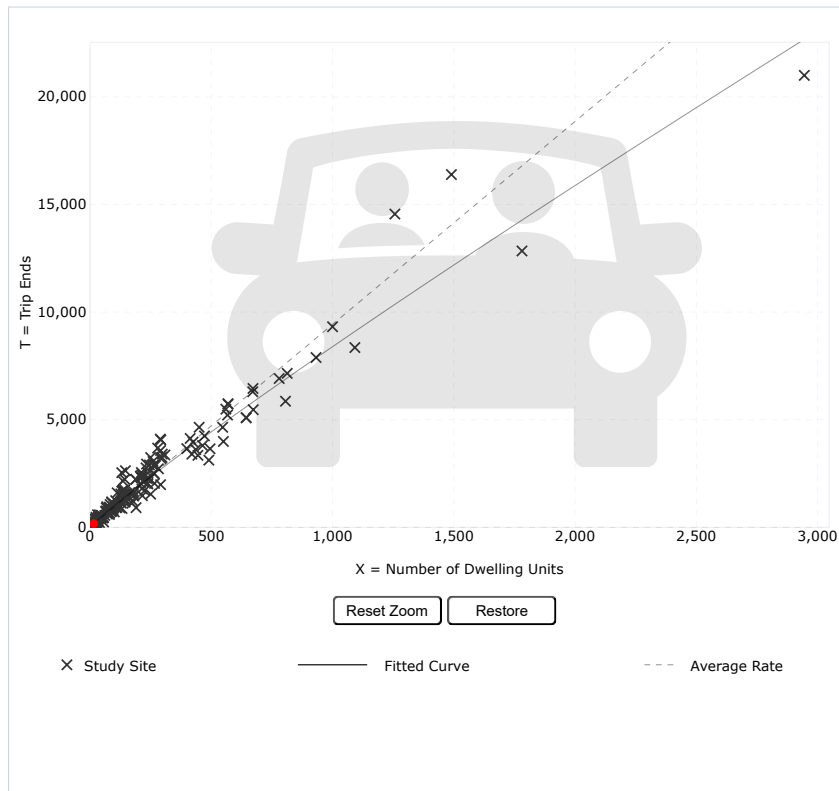
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

16

Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:

Single-Family Detached Housing (210) [Click for Description and Data Plots](#)Independent Variable:
Dwelling UnitsTime Period:
WeekdaySetting/Location:
General Urban/SuburbanTrip Type:
VehicleNumber of Studies:
174Avg. Num. of Dwelling Units:
246Average Rate:
9.43Range of Rates:
4.45 - 22.61Standard Deviation:
2.13Fitted Curve Equation:
 $\ln(T) = 0.92 \ln(X) + 2.68$ R^2 :
0.95Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:

Average Rate: 151 (Total), 75 (Entry), 76 (Exit)
Fitted Curve: 187 (Total), 93 (Entry), 94 (Exit)



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Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

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

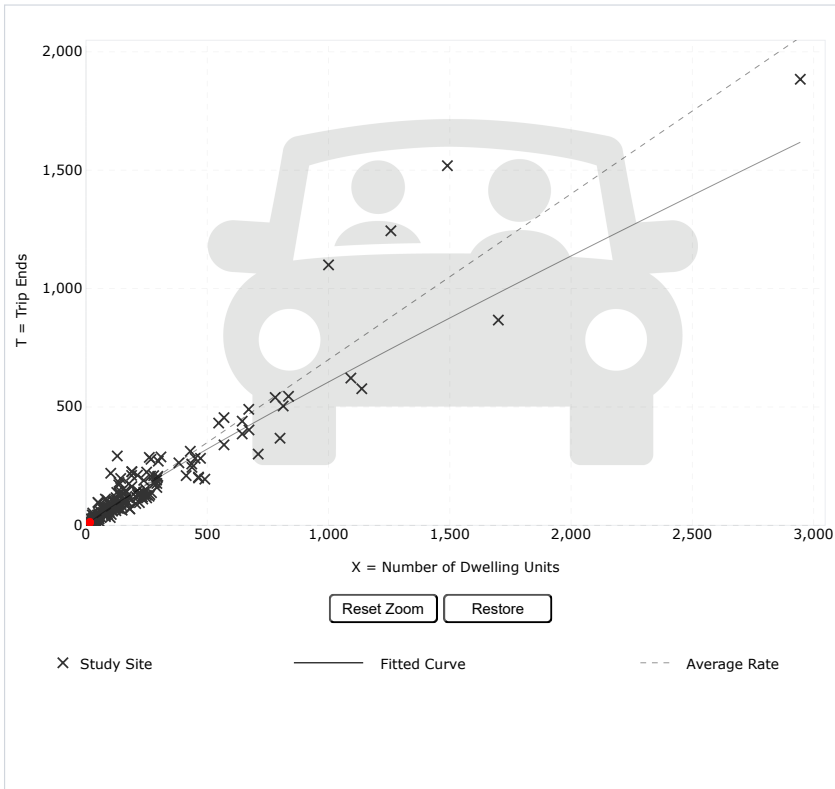
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

16

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:

25% entering, 75% exiting

Calculated Trip Ends:

Average Rate: 11 (Total), 3 (Entry), 8 (Exit)

Fitted Curve: 14 (Total), 4 (Entry), 10 (Exit)

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Comments

Add-ons to do more

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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:

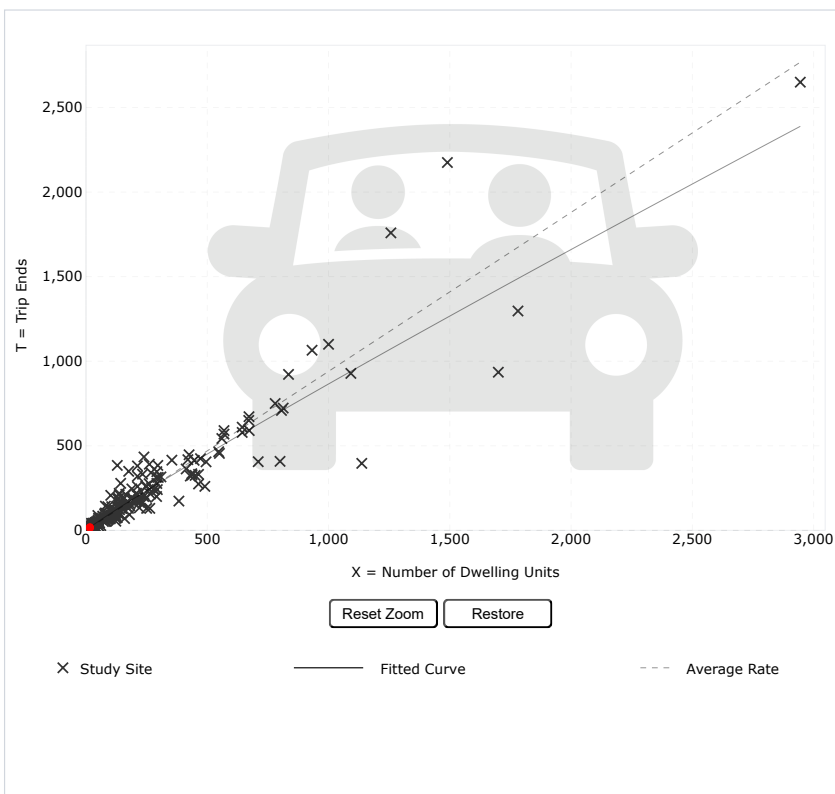
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

16

Calculate

Data Plot and Equation



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:

 $\ln(T) = 0.94 \ln(X) + 0.27$ R^2 :

0.92

Directional Distribution:

63% entering, 37% exiting

Calculated Trip Ends:

Average Rate: 15 (Total), 9 (Entry), 6 (Exit)

Fitted Curve: 18 (Total), 11 (Entry), 7 (Exit)

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Query Filter

DATA SOURCE:

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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:

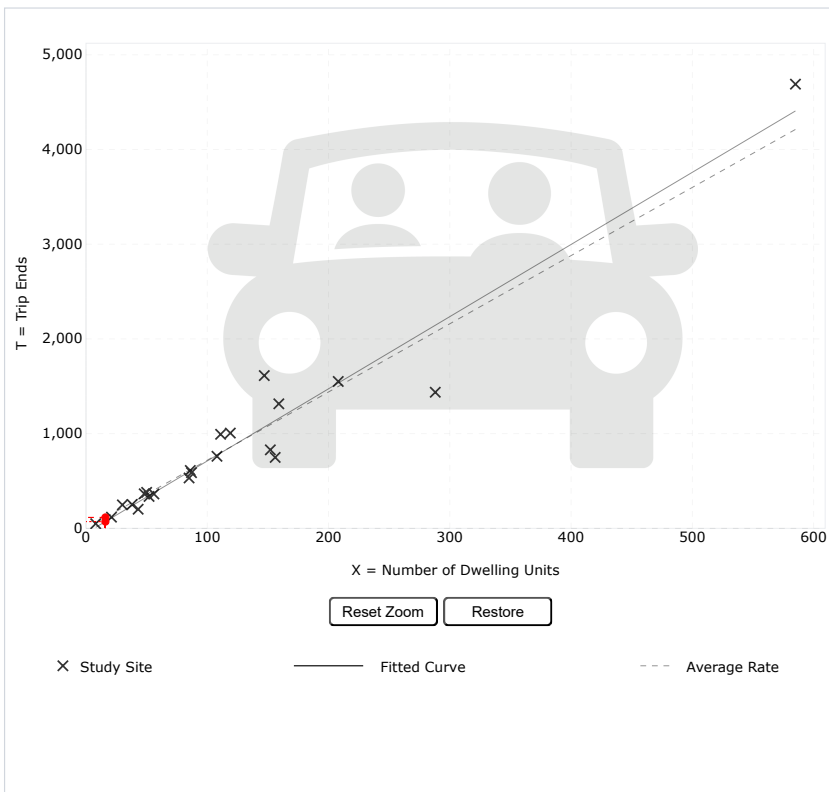
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

16

Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view Y 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: 115 (Total), 58 (Entry), 57 (Exit)
Fitted Curve: 71 (Total), 36 (Entry), 35 (Exit)



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Query Filter

DATA SOURCE:

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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:

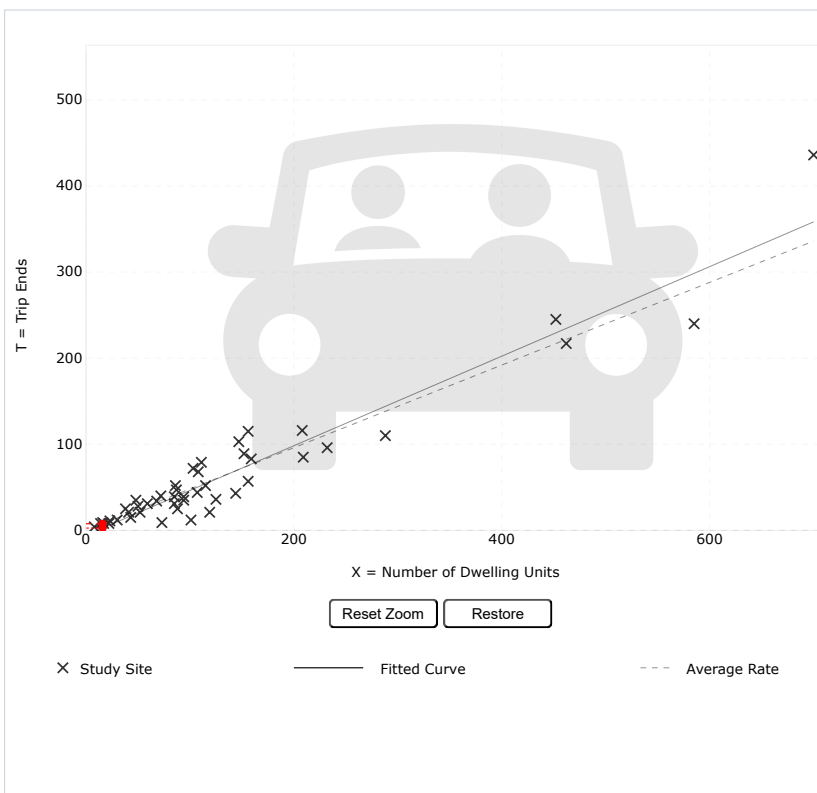
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

16

Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view Y 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:

 $T = 0.52(X) - 5.70$ R^2 :

0.92

Directional Distribution:

25% entering, 75% exiting

Calculated Trip Ends:

Average Rate: 8 (Total), 2 (Entry), 6 (Exit)

Fitted Curve: 3 (Total), 1 (Entry), 2 (Exit)

 Graph Look Up

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Graph Look Up

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Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

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:

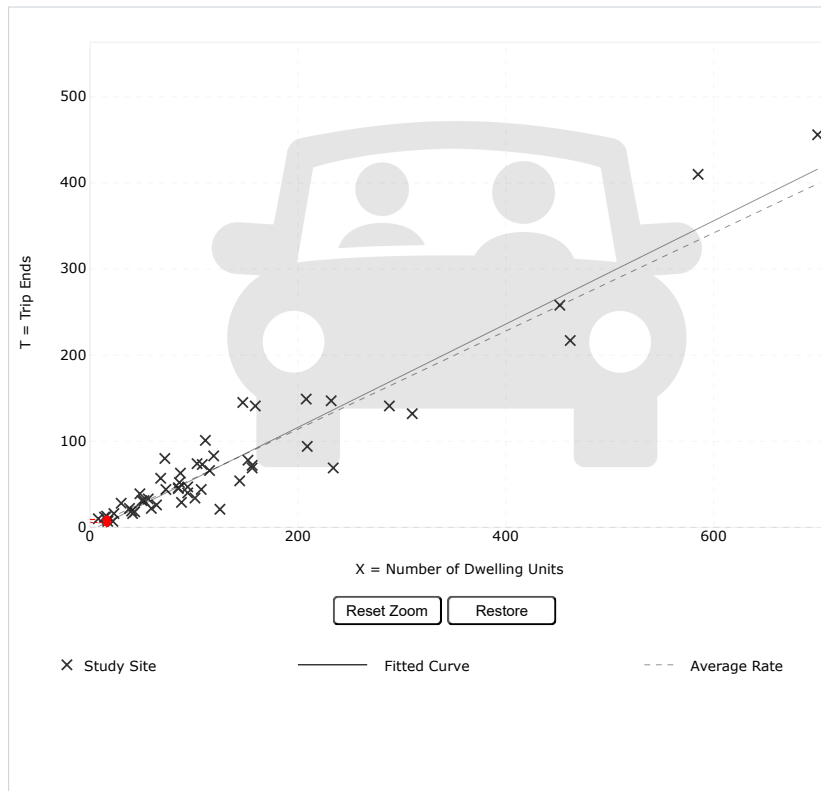
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

16

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:

59% entering, 41% exiting

Calculated Trip Ends:

Average Rate: 9 (Total), 5 (Entry), 4 (Exit)

Fitted Curve: 6 (Total), 3 (Entry), 3 (Exit)

TRIP DISTRIBUTION



Proposed Multifamily Residential Development Bellingham, Massachusetts

[illegible]

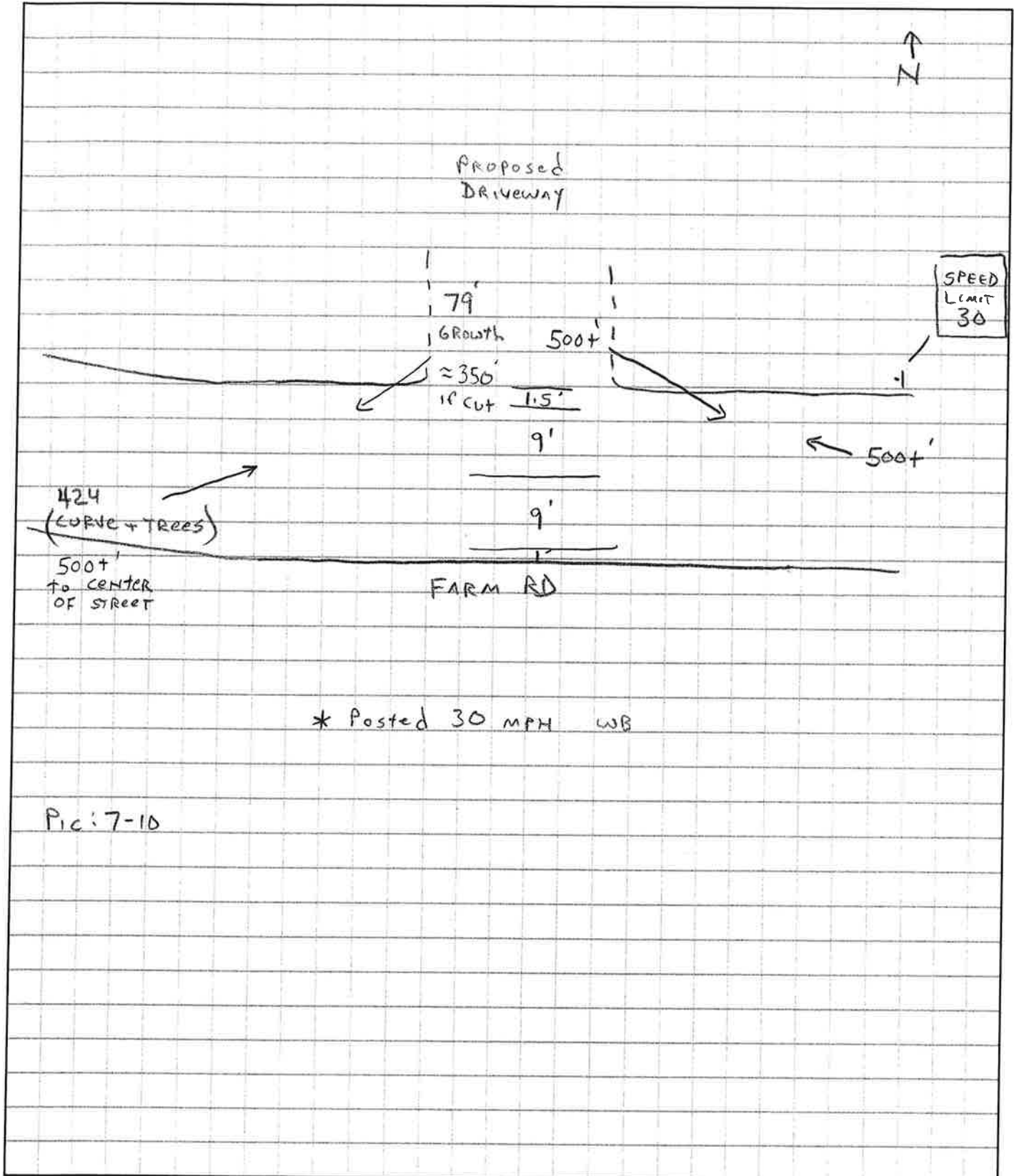
SIGHT DISTANCE INVENTORIES



Calculations

Job: Sherborn
Location: FARM Rd @ Site Drwy
Title: Sight Distances
Calculated by: SRF

Job Number: 9425
Date: 8/11/22
Sheet 1 of 1
Checked by: _____



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

Farm Road at Great Rock Road



Route 27 South Main Street at Farm Road



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

10/16/2023

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	0	838	0
Stage 1	799	-	-	-	-	-
Stage 2	861	-	-	-	-	-
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	107	386	-	-	792	-
Stage 1	443	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	67	386	-	-	792	-
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	0	
HCM Lane LOS	-	-	D	B	A	
HCM 95th %tile Q(veh)	-	-	1.1	1.2	-	

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

10/16/2023

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

10/16/2023

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

10/16/2023

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

10/16/2023

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
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
HCM Lane LOS	-	-	E	B
HCM 95th %tile Q(veh)	-	-	2.2	1.6

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

10/16/2023

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	0
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	0	
HCM Lane LOS	-	-	E	A	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

10/16/2023

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

10/16/2023

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

10/16/2023

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

10/16/2023

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

10/16/2023

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

10/16/2023

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

10/16/2023

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

10/16/2023

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

10/16/2023

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

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

10/16/2023

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

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	-	0	322	-
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	230	-
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	-	-	-	672	0
Stage 1	0	-	-	-	932	0
Stage 2	0	-	-	-	808	0
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	672	-
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	808	-
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

10/16/2023

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

10/16/2023

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

10/16/2023

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

Farm Road at Great Rock Road



2023 Existing Weekday Morning
3: Great Rock Road & Farm Road

10/16/2023

Intersection

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	299	11	6	51	14	13
Future Vol, veh/h	299	11	6	51	14	13
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	93	93	65	65	96	96
Heavy Vehicles, %	4	18	0	4	7	8
Mvmt Flow	322	12	9	78	15	14

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	334
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1237
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1237
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	627	-	-	1237	-
HCM Lane V/C Ratio	0.045	-	-	0.007	-
HCM Control Delay (s)	11	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

2023 Existing Weekday Evening
3: Great Rock Road & Farm Road

10/16/2023

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	89	10	8	193	10	8
Future Vol, veh/h	89	10	8	193	10	8
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	80	80	85	85	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	111	13	9	227	11	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	124
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1475
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1475
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	742	-	-	1475	-
HCM Lane V/C Ratio	0.027	-	-	0.006	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

2029 No-Build Weekday Morning
3: Great Rock Road & Farm Road

10/16/2023

Intersection

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	327	11	6	56	14	13
Future Vol, veh/h	327	11	6	56	14	13
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	93	93	65	65	96	96
Heavy Vehicles, %	4	18	0	4	7	8
Mvmt Flow	352	12	9	86	15	14

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	364
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1206
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1206
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	600	-	-	1206	-
HCM Lane V/C Ratio	0.047	-	-	0.008	-
HCM Control Delay (s)	11.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

2029 No-Build Weekday Evening
3: Great Rock Road & Farm Road

10/16/2023

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	97	10	8	211	10	8
Future Vol, veh/h	97	10	8	211	10	8
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	80	80	85	85	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	121	13	9	248	11	9
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	134	0	394	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	266	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1463	-	615	927
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	783	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1463	-	611	927
Mov Cap-2 Maneuver	-	-	-	-	611	-
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	778	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		10.1	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	720	-	-	1463	-	
HCM Lane V/C Ratio	0.028	-	-	0.006	-	
HCM Control Delay (s)	10.1	-	-	7.5	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	329	11	6	63	14	13
Future Vol, veh/h	329	11	6	63	14	13
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	93	93	65	65	96	96
Heavy Vehicles, %	4	18	0	4	7	8
Mvmt Flow	354	12	9	97	15	14

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	366
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1204
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1204
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	-	-	1204	-
HCM Lane V/C Ratio	0.047	-	-	0.008	-
HCM Control Delay (s)	11.4	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	105	10	8	216	10	8
Future Vol, veh/h	105	10	8	216	10	8
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	80	80	85	85	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	131	13	9	254	11	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	144
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1451
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1451
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	707	-	-	1451	-
HCM Lane V/C Ratio	0.028	-	-	0.006	-
HCM Control Delay (s)	10.2	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-