

Transportation Impact Assessment

Proposed Multifamily Residential Development
Cape View Road
Bourne, Massachusetts

Prepared for:

Preservation of Affordable Housing, Inc.
Bourne, Massachusetts

May 2021

Prepared by:

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

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

Dear Reviewer:

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

Sincerely,

VANASSE & ASSOCIATES, INC.



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

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EXECUTIVE SUMMARY

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a multifamily residential development to be located off Cape View Road and between 45 and 51 Meetinghouse Lane in Bourne, Massachusetts (hereafter referred to as the Project). This assessment was prepared in consultation with the Massachusetts Department of Transportation (MassDOT) and the Town of Bourne, and was performed in accordance with MassDOT's *Transportation Impact Assessment (TIA) Guidelines* and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports.

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

1. Using trip-generation statistics published by the ITE,¹ the Project is expected to generate approximately 276 vehicle trips on an average weekday (two-way, 24-hour volume), with 18 vehicle trips expected during the weekday morning peak-hour and 23 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No Build) conditions, with no changes in level-of-service (LOS) shown to occur as a result of the Project and the majority of the movements at the study intersections shown to continue to operate at LOS D or better under all analysis conditions, where an LOS "D" or better is defined as "acceptable" traffic operations;
3. All movements exiting Cape View Way (the access to the Project site) are predicted to operate at LOS B during the weekday morning peak-hour and at LOS C during the weekday evening peak-hour, with minimal vehicle queuing predicted;
4. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study intersections; and
5. Lines of sight at the intersection of Meetinghouse Lane at Cape View Way were found to exceed the recommended minimum distances for safe and efficient operation based on the appropriate approach speed.

¹*Trip Generation*, 10th Edition; Institute of Transportation Engineers; Washington, DC; 2017.

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

RECOMMENDATIONS

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

Project Access

Access to the Project site will be provided by way of Cape View Way, which intersects the north side of Meetinghouse Lane between the U.S. Post Office and Bourne Fire Department Station 3. In conjunction with the Project, Cape View Way will be extended in a northwesterly direction from its current terminus at the driveway to the parking lot behind the Fire Station to serve the Project, with four driveways constructed along the extension that will accommodate access to the surface parking lots to the east of the proposed residential building. At the front of the residential building, the extension of Cape View Way will terminate in a cul-de-sac configuration with one-way (counterclockwise) circulation, and will include a short-term drop-off/pick-up area and perpendicular parking along one side of the roadway. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the Site Plans:

- The extension of Cape View Way and the driveways to the parking areas that will serve the Project should be a minimum of 24-feet in width and designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle and approved by the Bourne Fire Department.
- Within the Project site, drive aisles should be a minimum of 23-feet where perpendicular parking is proposed in order to facilitate parking maneuvers.
- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.
- “One Way” and “Do Not Enter” signs should be installed to regulate the one-way circulation within the cul-de-sac.
- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).²
- A sidewalk should be provided along at least one side of the extension of Cape View Way and should extend to Meetinghouse Lane. Americans with Disabilities Act (ADA) compliant wheelchair ramps should be provided at all pedestrian crossings.

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

- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveways and at the Meetinghouse Lane/Cape View Way intersection should be designed and maintained so as not to restrict lines of sight.
- Snow windrows within sight triangle areas should be promptly removed where such accumulations would impede sight lines.

Transportation Demand Management

Regularly scheduled public transportation services are provided to the Town of Bourne by the Cape Cod Regional Transit Authority (CCRTA) but are not currently accessible at the Project site. To the east of the Project site, the CCRTA Sandwich Line provides service travels along Route 6 west of the study area between Buzzards Bay Transportation Center and the Hyannis Transportation Center, with a stop at the Sagamore Park-and-Ride lot (an approximate 7 minute walking distance). The Sagamore Park-and-Ride lot is also served by Perter Pan Bus Lines, which provides by inter-city and inter-state bus service, including service to South Station and Logan International Airport in Boston. In addition to fixed-route bus services, the CCRTA provides Dial-a-Ride paratransit services to eligible people who cannot use fixed-route transit all or some of the time due to a physical, cognitive or mental disability in compliance with the ADA, and the Bourne Council on Aging (COA) provides transportation services for eligible residents of the Town for medical appointments and grocery shopping by appointment.

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

- A transportation coordinator will be designated for the Project to coordinate the elements of the TDM program;
- Information regarding public transportation services, maps, schedules and fare information will be posted in a central location and/or otherwise made available to residents;
- A “welcome packet” will be provided to residents detailing available public transportation services, bicycle and walking alternatives, and commuter options available;
- Pedestrian accommodations will be incorporated into the Project and consist of a sidewalk along the extension of Cape View Way that will connect to the sidewalk along Meetinghouse Lane, and ADA compliant wheelchair ramps at all pedestrian crossings that are to be constructed or modified as a part of the Project;
- A central mail drop will be provided; and
- Secure bicycle parking will be provided within the Project site.

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

INTRODUCTION

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a multifamily residential community to be located off Cape View Way in Bourne, Massachusetts (hereafter referred to as the Project). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project, along Meetinghouse Lane and at the following specific intersections: Meetinghouse Lane at State Road and Canal Street; Meetinghouse Lane and Scusset Beach Road at Old Plymouth Road; and Meetinghouse Road at Cape View Way and the driveway to 54 Meetinghouse Lane.

PROJECT DESCRIPTION

The Project will entail the construction of a 51-unit multifamily residential community to be located off Cape View Road in Bourne, Massachusetts. The Project site encompasses approximately 3.07± acres of undeveloped land that is bounded by residential properties and areas of open and wooded space to the north; Meetinghouse Lane, a U.S. Post Office and commercial properties to the south; Bourne Fire Station 3 and residential properties to the east; and residential properties to the west. Figure 1 depicts the Project site location in relation to the existing roadway network.

Access to the Project site will be provided by way of Cape View Way, which intersects the north side of Meetinghouse Lane between the U.S. Post Office and Bourne Fire Department Station 3. In conjunction with the Project, Cape View Way will be extended in a northwesterly direction from its current terminus at the driveway to the parking lot behind the Fire Station to serve the Project, with four driveways constructed along the extension that will accommodate access to the surface parking lots to the east of the proposed residential building. At the front of the residential building, the extension of Cape View Way will terminate in a cul-de-sac configuration with one-way (counterclockwise) circulation, and will include a short-term drop-off/pick-up area and perpendicular parking along one side of the roadway.

Off-street parking will be provided for 85 vehicles in surface parking areas, or an approximate parking ratio of 1.67 parking spaces per unit. This parking ratio (1.67 parking spaces per unit) is below the parking requirements of Section 3310, *Parking Requirements*, of the Town of Bourne

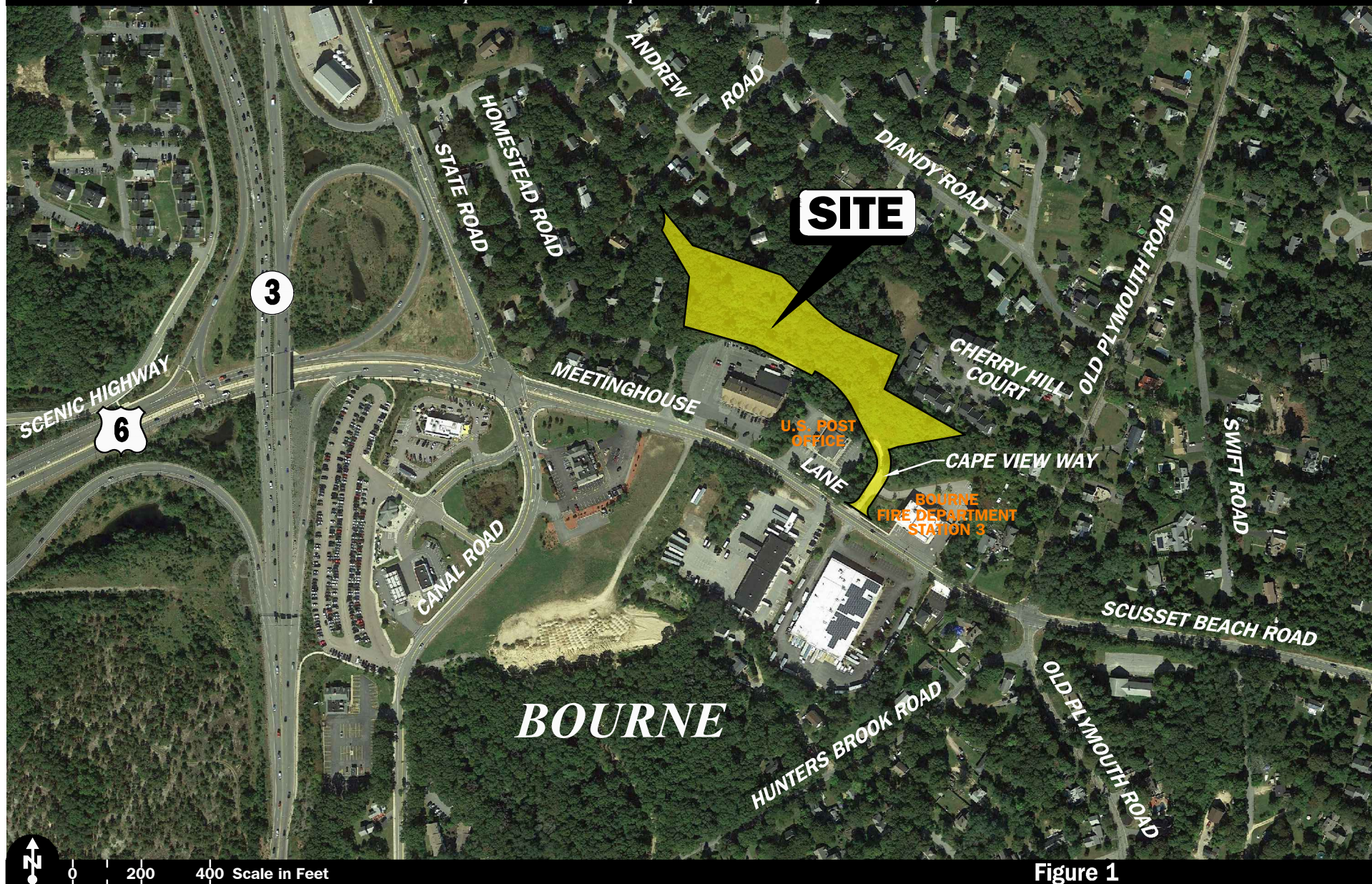


Figure 1

Site Location Map

Zoning Bylaw,³ but is within the range of parking ratios documented by the Institute of Transportation Engineers (ITE) for similar multifamily residential communities.⁴

STUDY METHODOLOGY

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

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

In the second stage of the study, future traffic conditions were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future traffic demands due to expected traffic growth independent of the Project. A seven-year time horizon was selected for analyses consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. The traffic analysis conducted in stage two identifies existing or projected future roadway capacity, traffic safety, and site access issues.

The third stage of the study presents and evaluates measures to address traffic and safety issues, if any, identified in stage two of the study.

³2.0 parking spaces per dwelling unit are required.

⁴*Parking Generation Manual*, 5th Edition; Institute of Transportation Engineers; Washington D.C.; 2019. Observed parking demand ratios for a multifamily housing (mid-rise) residential community were found to range from 0.75 to 2.03 spaces per dwelling unit, with an average parking demand of 1.31 spaces per dwelling unit and an 85th percentile peak parking demand of 1.47 spaces per dwelling unit.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in April 2021. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; public transportation services; traffic volumes; and operating characteristics; as well as posted speed limits and land use information within the study area. The study area that was assessed for the Project consisted of Meetinghouse Lane and the following specific intersections: Meetinghouse Lane at State Road and Canal Street; Meetinghouse Lane and Scusset Beach Road at Old Plymouth Road; and Meetinghouse Road at Cape View Way and the driveway to 54 Meetinghouse Lane.

The following describes the study area roadway and intersections.

ROADWAY

Meetinghouse Lane

- Two-lane urban minor arterial roadway that is under MassDOT jurisdiction between Scenic Highway (Route 6) and State Road (Route 3A), and is under local jurisdiction between Route 3A and Old Plymouth Road. Meetinghouse Lane becomes Scusset Beach Road east of Old Plymouth Road and is under MassDOT jurisdiction
- Traverses study area in a general east-west direction and provides access to Route 3, Route 6 and the Sagamore Bridge to the west of the Project site
- Provides two 11 to 12 foot wide travel lanes in the vicinity of the Project site that are separated by a double-yellow centerline with 1 to 3 foot wide marked shoulders provided
- A posted or regulated speed limit is not provided and, as such, the statutory speed limit pursuant to MGL c. 90 §17 is 30 mph.⁵
- A sidewalk is provided along the north side of the roadway within the study area
- Bicycle facilities are not provided within the study area

⁵The statutory or “prima facie” speed is defined in M.G.L. Chapter 90, Section 17, as the speed which would be deemed reasonable and proper to operate a motor vehicle.

- Illumination is provided in the vicinity of Route 3A and Scenic Highway by way of street lights mounted on steel poles
- Land use within the study area consists of the Project site; a U.S. Post Office; Bourne Fire Station 3; residential and commercial properties; the Sagamore Park-and-Ride lot; and areas of open and wooded space

INTERSECTIONS

Table 1 and Figure 2 summarize existing lane use, traffic control, and pedestrian and bicycle accommodations at the study area intersections as observed in April 2021.

Table 1
STUDY AREA INTERSECTION DESCRIPTION

Intersection	Traffic Control Type^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Meetinghouse Ln./ Rte. 3A/ Canal Street	TS	1 left-turn lane, 1 through lane, and 1 right turn slip lane on Canal St. northbound; 1 left-turn lane, 1 through-lane, and 1 right-turn slip lane on Rte. 3A southbound; 1 left-turn lane, 1 through lane, and 1 right-turn lane on Meetinghouse Ln. eastbound; 1 through/right-turn lane and 1 left-turn lane on Meetinghouse Ln. westbound	Yes, 4 feet on all approaches	Yes, sidewalks along the north side of Meetinghouse Ln. to the east of the intersection and along the south side to the west, and along both sides of Canal St.; crosswalks across Canal St. and the Meetinghouse Ln. east leg; pedestrian traffic signal equipment and phasing (exclusive) provided	Yes; shared traveled-way ^b
Meetinghouse Ln./ Scusset Beach Rd./ Old Plymouth Rd.	S	1 general purpose travel lane on all approaches	Yes, 1 to 2 feet on all approaches	Yes, sidewalk along the north side of Meetinghouse Ln. west of the intersection	No
Meetinghouse Ln./ Cape View Way/ 54 Meetinghouse Ln.	S	1 general purpose travel lane on all approaches	Yes, 1 to 3 feet along Meetinghouse Ln.	Yes, sidewalk along the north side of Meetinghouse Ln.; crosswalk across Cape View Way	No

^aTS = traffic signal control; S = STOP-sign control.

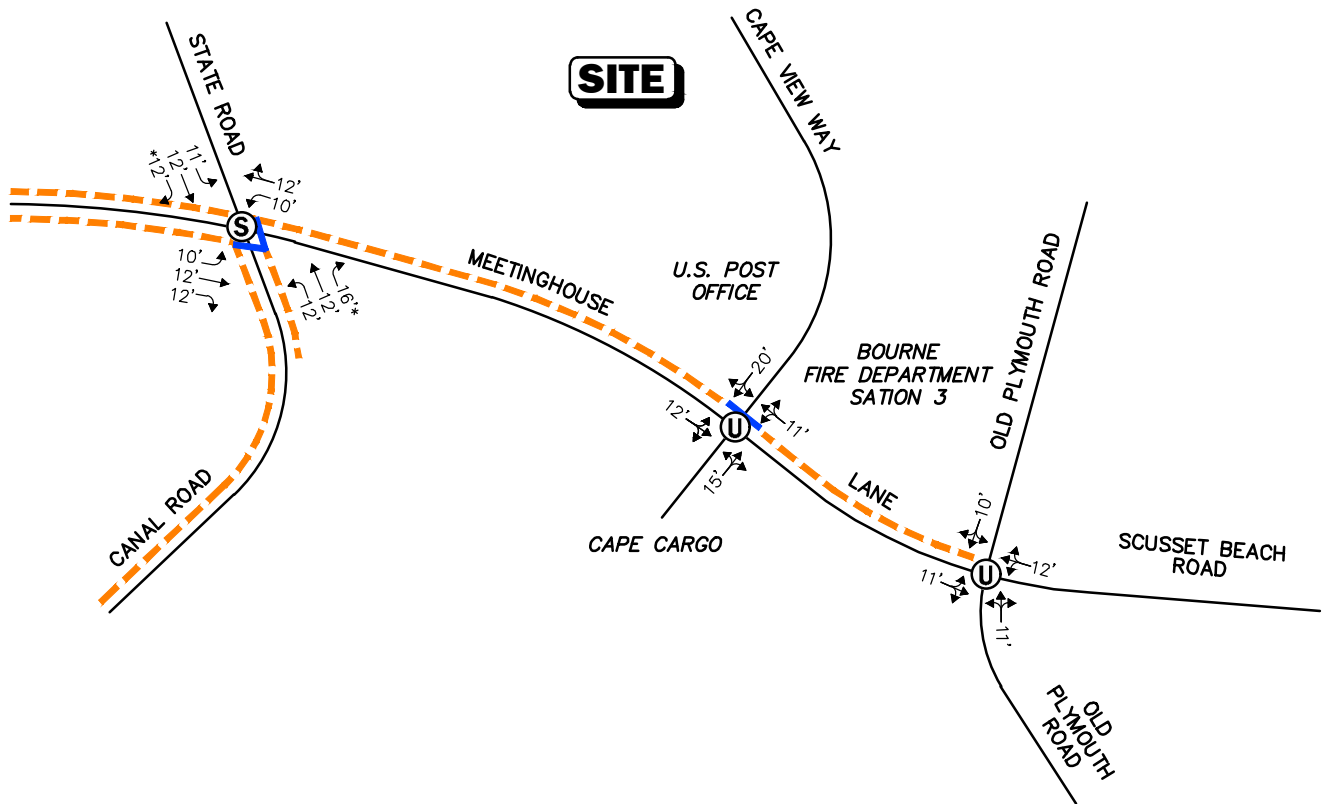
^bCombined shoulder and travel lane width equal to or exceed 14 feet.

TRAFFIC VOLUMES

In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, manual turning movement counts (TMCs) and vehicle classification counts were completed in April 2021. The ATR counts were conducted on Meetinghouse Lane in the vicinity of the Project site on April 27th through April 28th, 2021 (Tuesday through Wednesday, inclusive) in order to record weekday traffic conditions over an extended period, with weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period manual TMCs performed at the study intersections on April 27, 2021 (Tuesday). These time

Legend:

- Ⓢ Signalized Intersection
- Ⓤ Unsignalized Intersection
- Sidewalk
- Crosswalk
- XX' ↔ Lane Use and Travel Lane Width
- *XX' ↩ Channelized Turn Lane



Not To Scale



Figure 2

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

periods were selected for analysis purposes as they are representative of the peak-traffic-volume hours for both the Project and the adjacent roadway network.

Traffic-Volume Adjustments

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, traffic volume data from MassDOT Continuous Count Station No. 708 located on Mid-Cape Highway in Bourne were reviewed.⁶ Based on a review of this data it was determined that traffic volumes for the month of April are approximately 1.9 percent below average-month conditions. As such, the April traffic volumes were adjusted upward by 1.9 percent in order to be representative of average-month conditions.

In order to account for the impact on traffic volumes and trip patterns resulting from the “safer-at-home” order and the phased “Reopening Massachusetts” plan that was issued by the Governor on May 18, 2020, in response to the COVID-19 pandemic, traffic volume data from MassDOT Continuous Count Station No. 708 that was collected in April 2019 was compared to data collected at the same count station in April 2021. The 2019 traffic volumes were expanded to 2021 by applying a background traffic growth rate of 1.0 percent per year (discussion follows) in order to allow for a comparison of the data. Based on this pre- and post-COVID-19 traffic count data comparison, the 2021 traffic-volume data that was collected as a part of this assessment was adjusted upward by an additional 23.8 percent in order to account for the reduced traffic volumes resulting from the phased “Reopening Massachusetts” plan.

The 2021 Existing traffic volumes are summarized in Table 2, with the weekday morning and evening peak-hour traffic volumes graphically depicted on Figure 3. Note that the peak-hour traffic volumes presented in Table 2 were obtained from the TMCs and are reflected on the aforementioned figure.

Table 2
2021 EXISTING TRAFFIC VOLUMES

Location/Peak Hour	AWT ^a	VPH ^b	K Factor ^c	Directional Distribution ^d
<i>Meetinghouse Lane, west of Fire Station 3</i>	8,110	--	--	--
Weekday Morning (7:45 – 8:45 AM)	--	489	6.0	62.2% WB
Weekday Evening (4:30 – 5:30 PM)	--	645	8.0	58.6% EB

^aAverage weekday traffic in vehicles per day.

^bVehicles per hour.

^cPercent of daily traffic occurring during the peak hour.

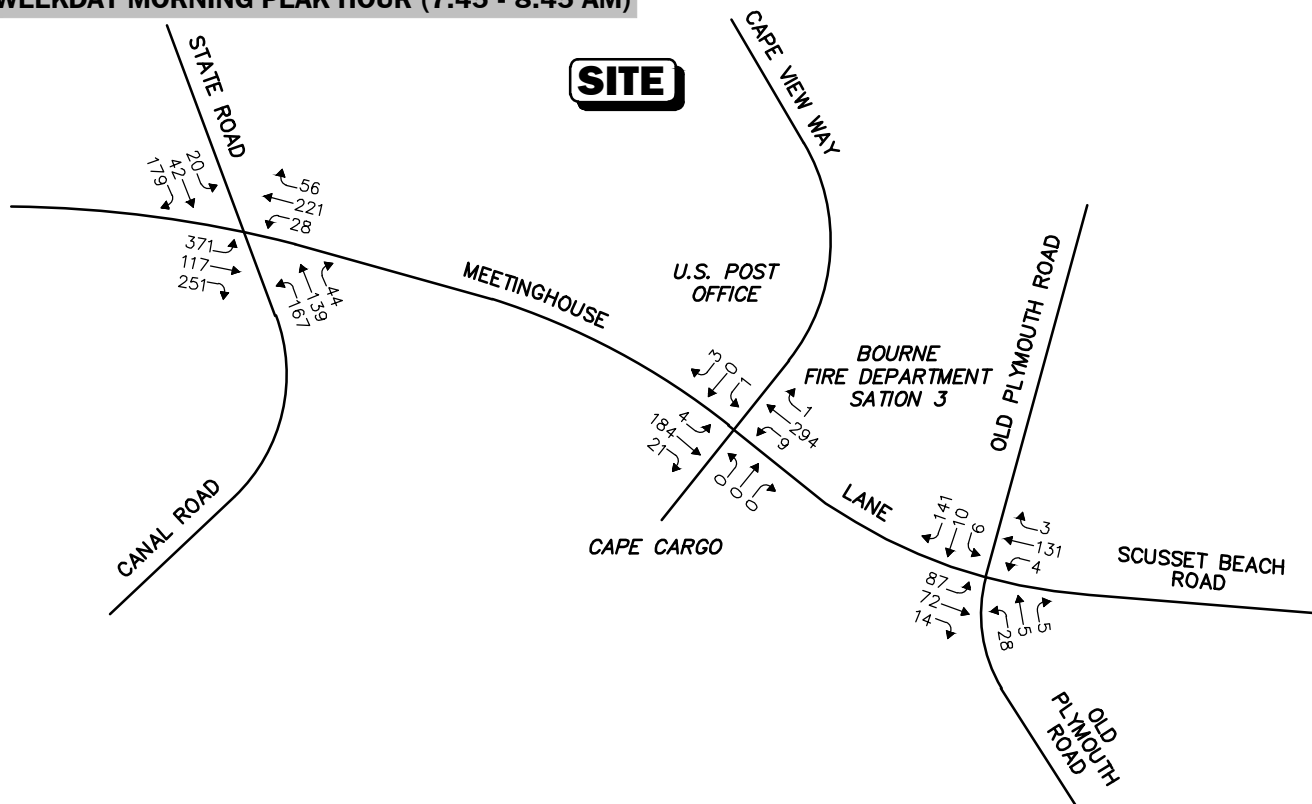
^dPercent traveling in peak direction.

EB = eastbound; WB = westbound

As can be seen in Table 2, Meetinghouse Lane in the vicinity of the Project site was found to accommodate approximately 8,110 vehicles on an average weekday (two-way, 24-hour volume), with approximately 489 vehicles per hour (vph) during the weekday morning peak-hour and 645 vph during the weekday evening peak-hour.

⁶MassDOT Traffic Volumes for the Commonwealth of Massachusetts; 2020.

WEEKDAY MORNING PEAK HOUR (7:45 - 8:45 AM)



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

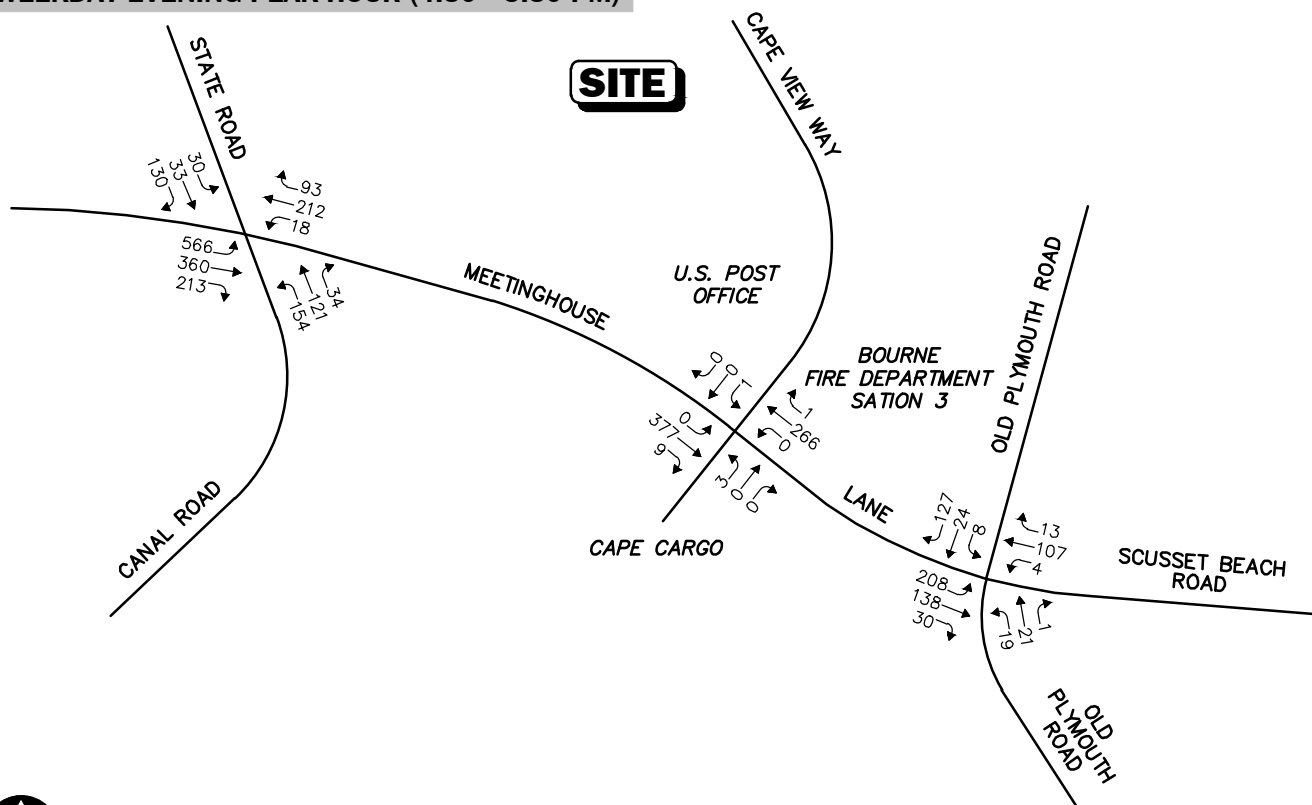


Figure 3

2021 Existing
Peak-Hour Traffic Volumes

PEDESTRIAN AND BICYCLE FACILITIES

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in April 2021. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study area intersections. As detailed on Figure 2, sidewalks are provided along the north side of Meetinghouse Lane between Route 3A and Old Plymouth Road, along the south side to the west, and along one or both sides of Canal Road. Crosswalks are provided at the Meetinghouse Lane/Route 3A/Canal Road intersection that are included as a part of the traffic signal system at the intersection (pedestrian pushbuttons, signal indications and phasing are provided), and a crosswalk is provided for crossing Cape View Way. Formal bicycle facilities (marked bicycle lanes) are not provided within the study area; however, we note that Scenic Highway, Canal Road and Route 3A are designated as Bicycle Route 1. In addition, bicycle detection is provided as a part of the traffic signal system at the Meetinghouse Lane/Route 3A/Canal Road intersection and a shared-use path is provided along both sides of the Cape Cod Canal and is accessible from Canal Road.

PUBLIC TRANSPORTATION

Regularly scheduled public transportation services are provided to the Town of Bourne by the Cape Cod Regional Transit Authority (CCRTA) but are not currently accessible at the Project site. To the east of the Project site, the CCRTA Sandwich Line provides service travels along Route 6 west of the study area between Buzzards Bay Transportation Center and the Hyannis Transportation Center, with a stop at the Sagamore Park-and-Ride lot (an approximate 7 minute walking distance). The Sagamore Park-and-Ride lot is also served by Perter Pan Bus Lines, which provides by inter-city and inter-state bus service, including service to South Station and Logan International Airport in Boston.

In addition to fixed-route bus services, the CCRTA provides Dial-a-Ride paratransit services to eligible people who cannot use fixed-route transit all or some of the time due to a physical, cognitive or mental disability in compliance with the ADA, and the Bourne Council on Aging (COA) provides transportation services for eligible residents of the Town for medical appointments and grocery shopping by appointment.

The public transportation schedules and fare information are provided in the Appendix.

SPOT SPEED MEASUREMENTS

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

Table 3
VEHICLE TRAVEL SPEED MEASUREMENTS

	Meetinghouse Lane	
	Eastbound	Westbound
Mean Travel Speed (mph)	30	29
85 th Percentile Speed (mph)	37	36
Statutory Speed Limit (mph)	30	30

mph = miles per hour.

As can be seen in Table 3, the mean vehicle travel speed along Meetinghouse Lane in the vicinity of the Project site was found to be 30 mph in the eastbound direction and 29 mph westbound. The measured 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be 37 mph in the eastbound direction and 36 mph westbound, which is 6 to 7 mph above the statutory speed limit in the vicinity of the Project site (30 mph).⁷ The 85th percentile speed is used as the basis of engineering design and in the evaluation of sight distances, and is often used in establishing posted speed limits.

MOTOR VEHICLE CRASH DATA

Motor vehicle crash information for the study area intersections was provided by the MassDOT Highway Division Safety Management/Traffic Operations Unit for the most recent five-year period available (2014 through 2018, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, severity, roadway and weather conditions, and day of occurrence, and presented in Table 4.

As can be seen in Table 4, the intersection of Meetinghouse Lane at State Road at Canal Street experienced a total of 24 reported motor vehicle crashes over the five-year review period, or an average of 4.8 crashes per year, the majority of which occurred on a weekday; under clear weather conditions; during daylight; and were reported as angle or rear-end type collisions that resulted in property damage only. The calculated motor vehicle crash rate was found to be below the MassDOT statewide and District average crash rates for a signalized intersection for the MassDOT Highway Division District in which the intersection is located (District 5).

The intersections of Meetinghouse Lane and Scusset Beach Road at Old Plymouth Road and Meetinghouse Lane at Cape View Way experienced an average of less than one reported motor vehicle crash per year over the five-year review period and both intersections were found to have motor vehicle crash rates below the MassDOT statewide and District averages for an unsignalized intersection. The majority of the crashes were reported to have occurred on a weekday; under clear weather conditions; during daylight; and were reported as angle or rear-end type collisions that resulted in property damage only.

⁷Ibid 5.

Table 4
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Meetinghouse Ln./ Canal St./State Rd.	Meetinghouse Ln./ Old Plymouth Rd./ Scusset Beach Rd.	Meetinghouse Ln./ Cape View Way/ 54 Meetinghouse Ln.
Traffic Control Type: ^b	S	U	U
<i>Year:</i>			
2014	8	1	0
2015	4	1	0
2016	4	0	0
2017	7	2	1
<u>2018</u>	<u>1</u>	<u>0</u>	<u>1</u>
Total	24	4	2
Average	4.80	0.80	0.40
Rate ^c	0.60	0.47	0.15
MassDOT Crash Rate: ^d	0.78/0.75	0.57/0.57	0.57/0.57
Significant? ^e	No	No	No
<i>Type:</i>			
Angle	7	3	0
Rear-End	7	1	1
Head-On	2	0	0
Sideswipe	5	0	0
Fixed Object	2	0	0
Pedestrian/Bicycle	0	0	0
<u>Unknown/Other</u>	<u>1</u>	<u>0</u>	<u>1</u>
Total	24	4	2
<i>Conditions:</i>			
Clear	14	3	2
Cloudy	5	0	0
Rain	4	1	0
<u>Snow/Ice</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	24	4	2
<i>Lighting:</i>			
Daylight	18	2	2
Dawn/Dusk	4	0	0
Dark (Road Lit)	2	1	0
<u>Dark (Road Unlit)</u>	<u>0</u>	<u>1</u>	<u>0</u>
Total	24	4	2
<i>Day of Week:</i>			
Monday through Friday	15	3	1
Saturday	6	0	0
<u>Sunday</u>	<u>3</u>	<u>1</u>	<u>1</u>
Total	24	4	2
<i>Severity:</i>			
Property Damage Only	19	3	1
Personal Injury	5	1	1
Fatality	0	0	0
<u>Not Reported</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	24	4	2

^aSource: MassDOT Safety Management/Traffic Operations Unit records, 2013 through 2017.

^bTraffic Control Type: U = unsignalized.

^cCrash rate per million vehicles entering the intersection.

^dStatewide/District crash rate.

^eThe intersection crash rate is significant if it is found to exceed the MassDOT crash rate for the MassDOT Highway Division District in which the Project is located (District 5).

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

The detailed MassDOT Crash Rate Worksheets are provided in the Appendix.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2028, which reflects a seven-year planning horizon consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. Independent of the Project, traffic volumes on the roadway network in the year 2028 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon the 2028 No-Build traffic volumes reflect 2028 Build traffic volume conditions with the Project.

FUTURE TRAFFIC GROWTH

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

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

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

Specific Development by Others

The Town of Bourne was consulted in order to determine if there were any projects planned within the study area that would have an impact on future traffic volumes at the study intersections. Based on this consultation, no projects were identified at this time that are expected to result in an increase in traffic volumes that would exceed the general background traffic growth rate (discussion follows).

General Background Traffic Growth

Traffic-volume data compiled by MassDOT from permanent count stations located in Bourne were reviewed in order to determine general traffic growth trends in the area. This data indicates that traffic volumes have fluctuated over the 10-year period between 2009 and 2019, with an average traffic growth rate of 0.4 percent. In order to provide a prudent planning condition for the Project, a 1.0 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

Roadway Improvement Projects

The Town of Bourne and MassDOT were contacted in order to determine if there were any planned future roadway improvement projects expected to be complete by 2028 within the study area. Based on these discussions, no roadway improvement projects aside from routine maintenance activities were identified to be planned within the study area at this time. We note that the Army Corps of Engineers and MassDOT are in the process of advancing design plans for the replacement of the Sagamore Bridge. At this time, a construction schedule and financing plan have not been established.

No-Build Traffic Volumes

The 2028 No-Build condition peak-hour traffic-volumes were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2021 Existing peak-hour traffic volumes. The resulting 2028 No-Build weekday morning and evening peak-hour traffic volumes are shown on Figure 4.

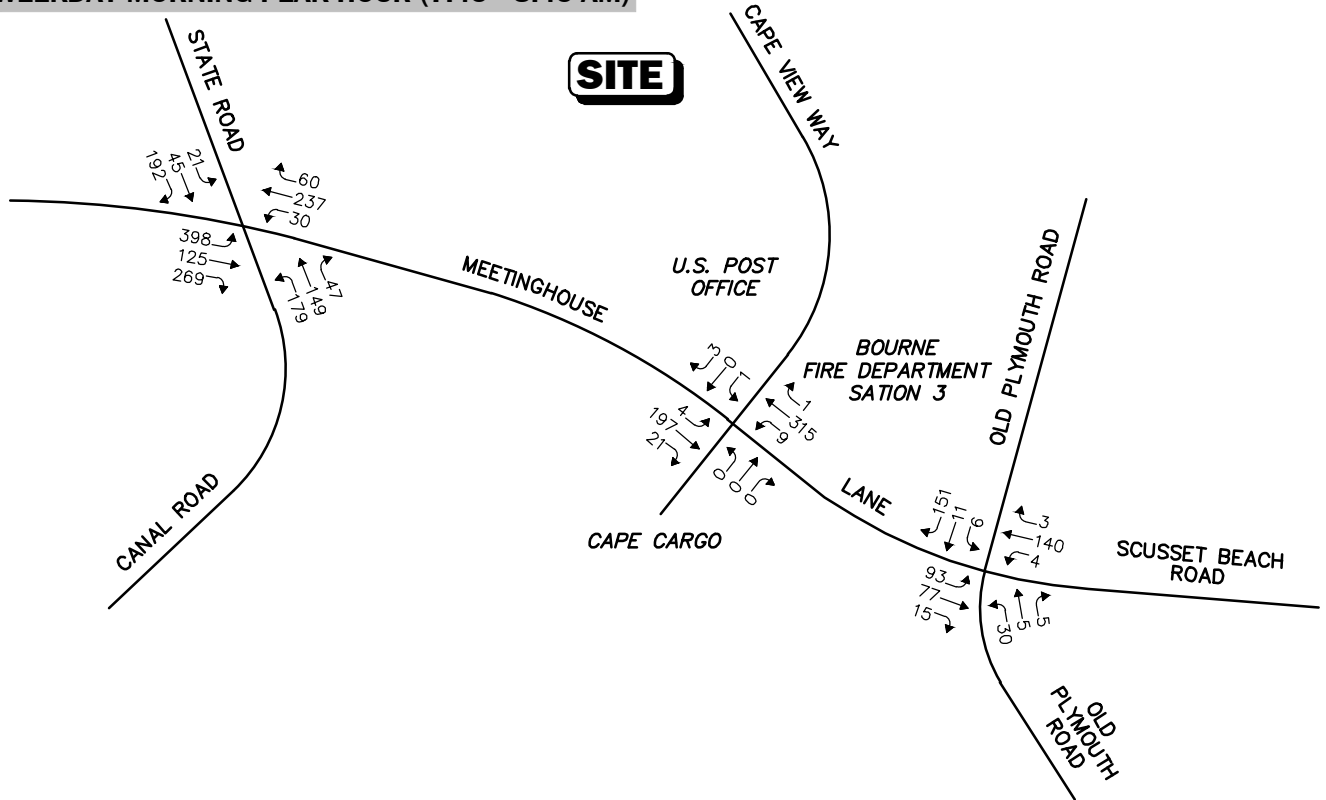
PROJECT-GENERATED TRAFFIC

Design year (2028 Build) traffic volumes for the study area roadways were determined by estimating Project-generated traffic volumes and assigning those volumes on the study roadways. The following sections describe the methodology used to develop the anticipated traffic characteristics of the Project.

As proposed, the Project will entail the construction of a three-story, 51-unit, multifamily residential community. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the ITE⁸ for a similar land use as that proposed were used. ITE Land Use Code 221, *Multifamily Housing (Mid-Rise)*, was used to develop the traffic characteristics of the Project, the results of which are summarized in Table 5.

⁶Ibid 1.

WEEKDAY MORNING PEAK HOUR (7:45 - 8:45 AM)



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

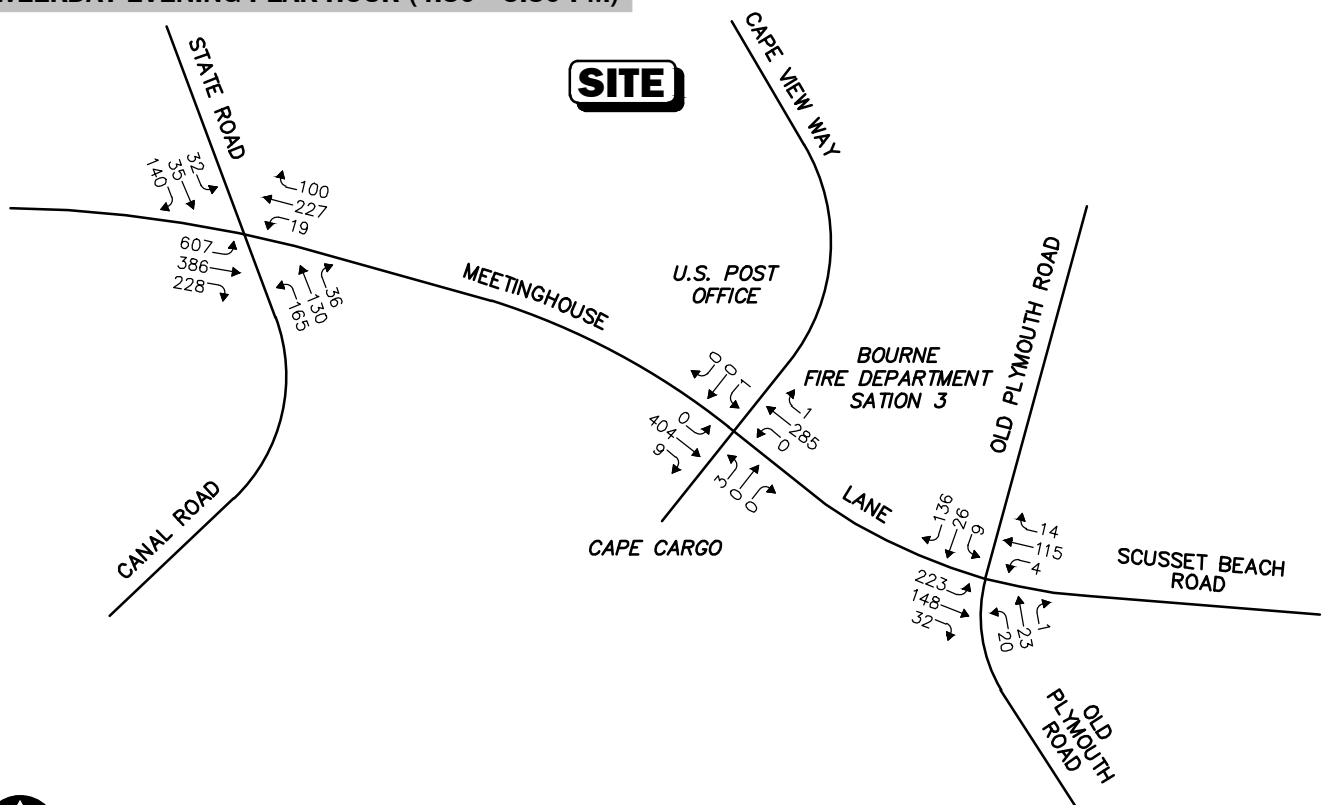


Figure 4

2028 No-Build
Peak-Hour Traffic Volumes



Table 5
TRIP GENERATION SUMMARY

Time Period	Vehicle Trips ^a		
	Entering	Exiting	Total
<i>Average Weekday:</i>	138	138	276
<i>Weekday Morning Peak-Hour:</i>	5	13	18
<i>Weekday Evening Peak-Hour:</i>	14	9	23

^aBased on ITE LUC 221, *Multifamily Housing (Mid-Rise)*.

Project-Generated Traffic Volume Summary

As can be seen in Table 5, the Project is expected to generate approximately 276 vehicle trips on an average weekday (two-way, 24-hour volume, or 138 vehicles entering and 138 exiting), with 18 vehicle trips (5 vehicles entering and 13 exiting) expected during the weekday morning peak-hour and 23 vehicle trips (14 vehicles entering and 9 exiting) expected during the weekday evening peak-hour.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of generated trips to and from the Project site was determined based on a review of Journey-to-Work data obtained from the U.S. Census for persons residing in the Town of Bourne and then refined based on existing traffic patterns within the study area. The general trip distribution for the Project is graphically depicted on Figure 5. The additional traffic expected to be generated by the Project was assigned on the study area roadway network as shown on Figure 6 for the weekday morning and evening peak hours.

FUTURE TRAFFIC VOLUMES - BUILD CONDITION

The 2028 Build condition traffic volumes consist of the 2028 No-Build traffic volumes with the additional traffic expected to be generated by the Project added to them. The 2028 Build weekday morning and evening peak-hour traffic-volumes are graphically depicted on Figure 7.

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

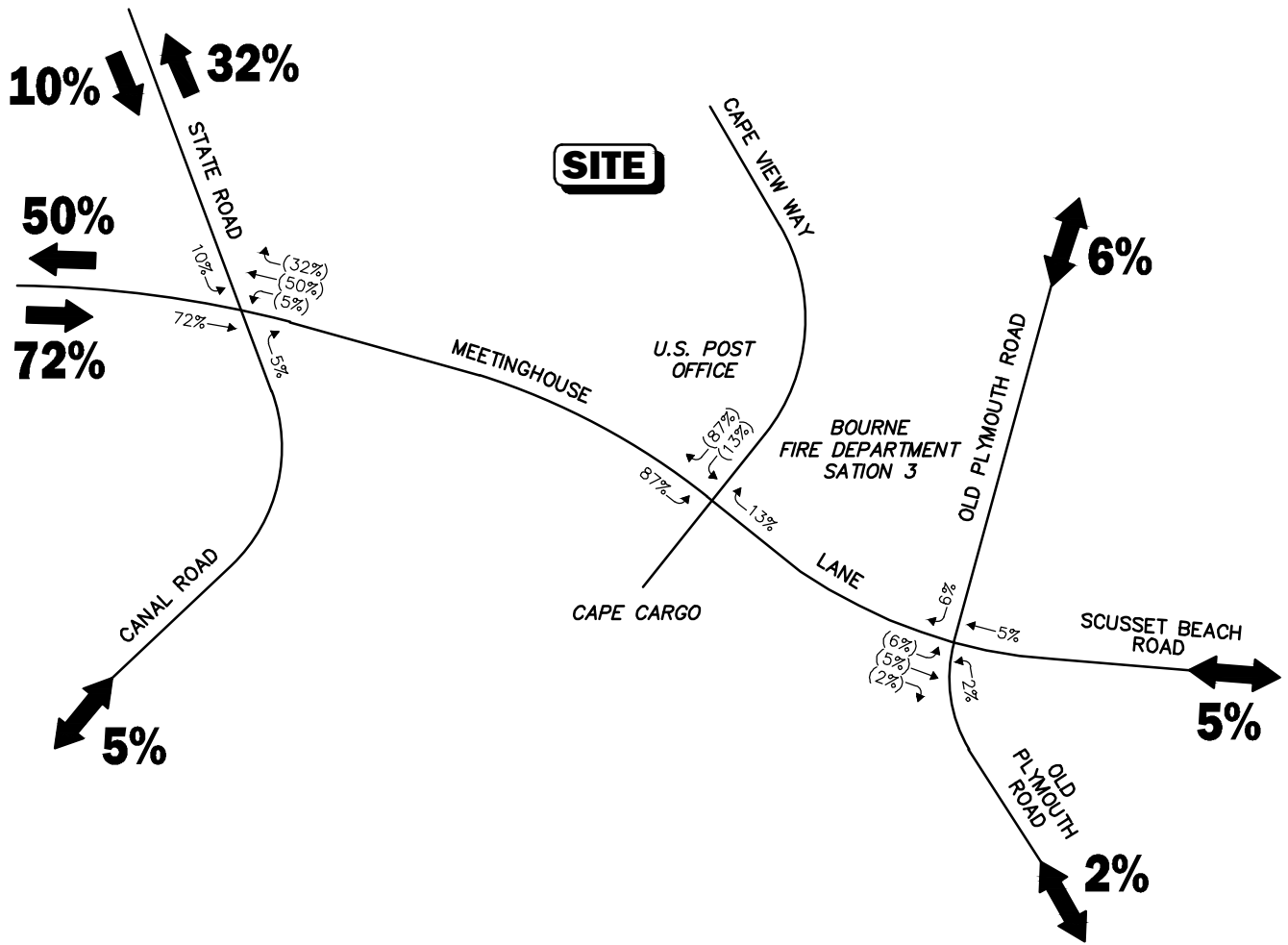
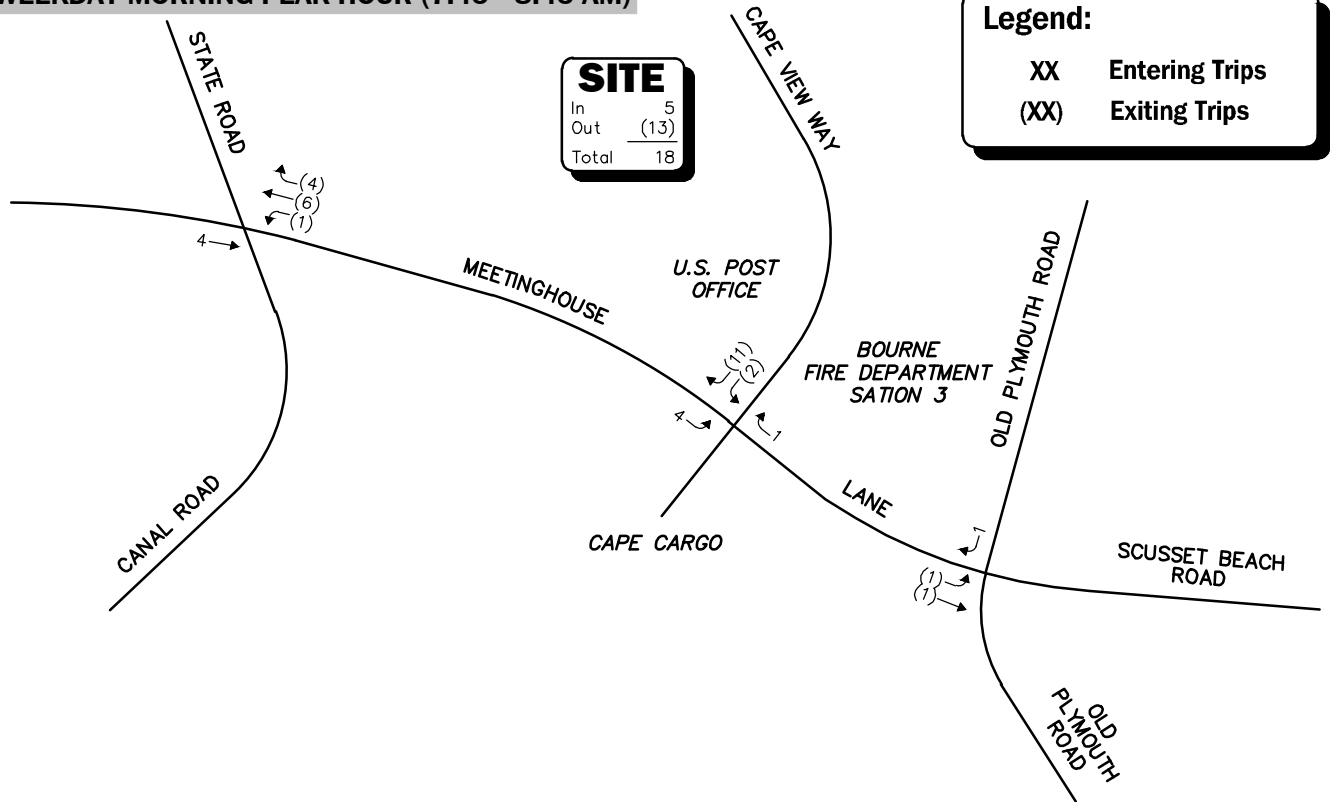


Figure 5

Trip Distribution Map



WEEKDAY MORNING PEAK HOUR (7:45 - 8:45 AM)



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

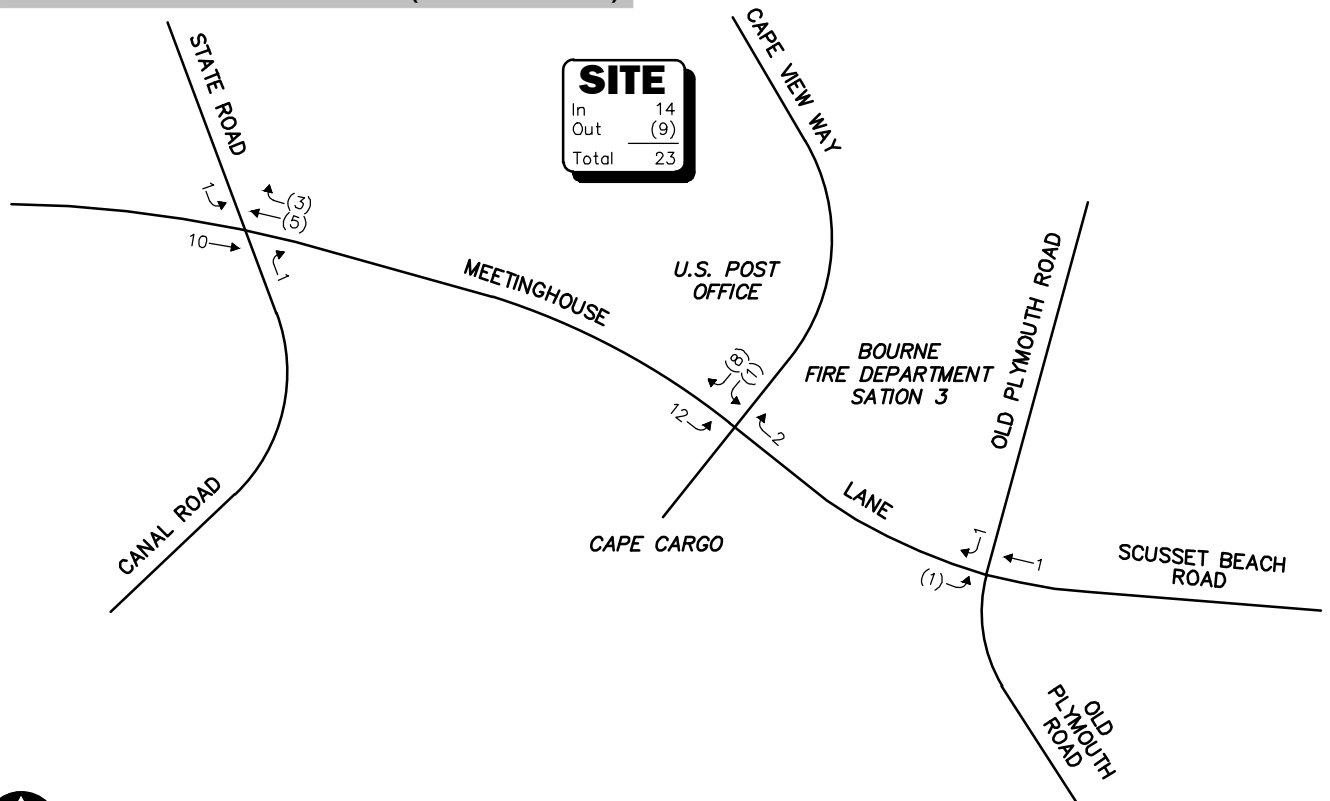
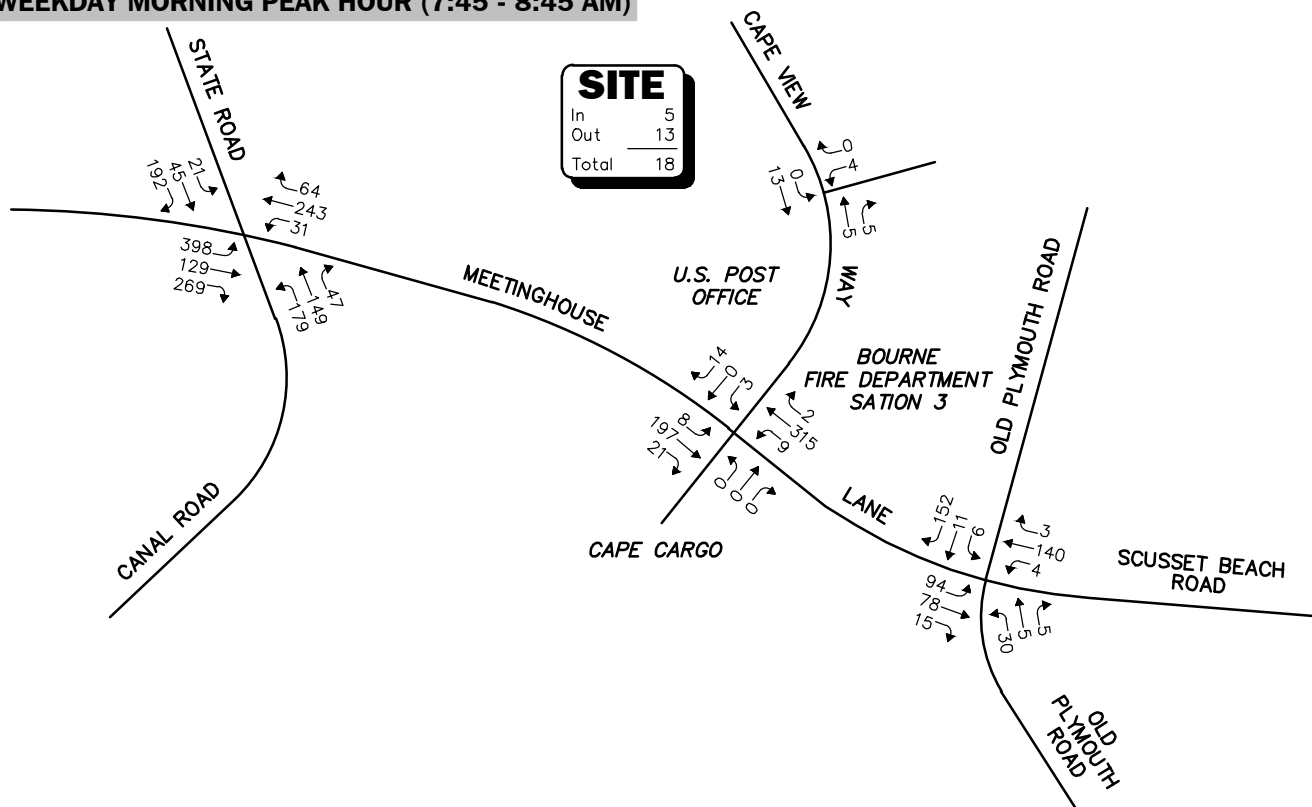


Figure 6

Project-Generated
Peak-Hour Traffic Volumes

WEEKDAY MORNING PEAK HOUR (7:45 - 8:45 AM)



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

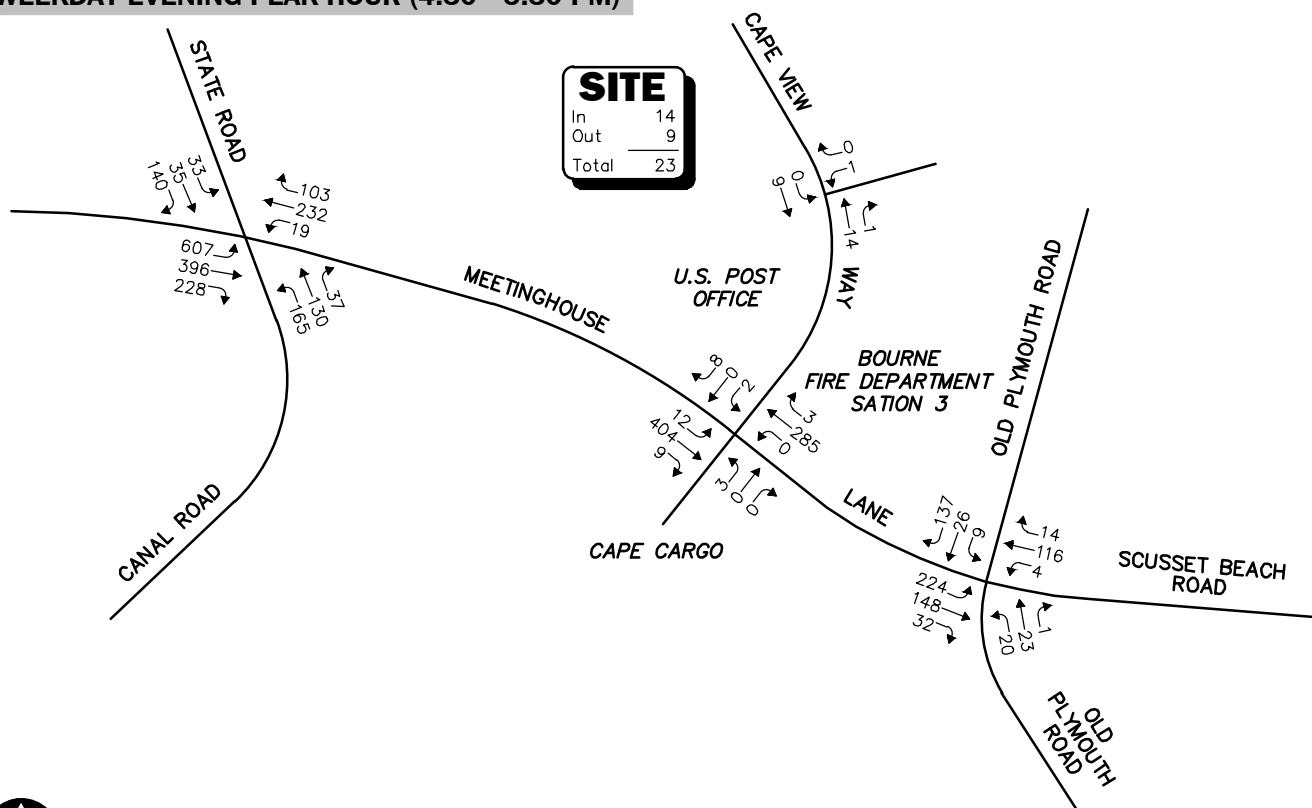


Figure 7

2028 Build
Peak-Hour Traffic Volumes

Table 6
PEAK-HOUR TRAFFIC-VOLUME INCREASES

Location/Peak Hour	2021 Existing	2028 No-Build	2028 Build	Traffic Volume Increase Over No-Build	Percent Increase Over No-Build
<i>Scenic Highway, west of State Road:</i>					
Weekday Morning	1,306	1,400	1,410	10	0.7
Weekday Evening	1,635	1,753	1,768	15	0.9
<i>State Road, north of Meetinghouse Lane:</i>					
Weekday Morning	807	865	869	4	0.5
Weekday Evening	973	1,044	1,048	4	0.4
<i>Canal Street, south of Meetinghouse Lane</i>					
Weekday Morning	671	719	720	1	0.1
Weekday Evening	573	613	614	1	0.2
<i>Old Plymouth Road, north of Meetinghouse Lane:</i>					
Weekday Morning	242	269	271	2	0.7
Weekday Evening	401	431	433	2	0.5
<i>Scusset Beach Road, east of Old Plymouth Road:</i>					
Weekday Morning	221	235	236	1	0.4
Weekday Evening	271	291	292	1	0.3
<i>Old Plymouth Road, south of Meetinghouse Lane:</i>					
Weekday Morning	66	70	70	0	0.0
Weekday Evening	99	106	106	0	0.0

As shown in Table 6, Project-related traffic-volume increases outside of the study area relative to 2028 No-Build conditions are anticipated to range from 0.0 to 0.9 percent during the peak periods, with vehicle increases shown to range from 0 to 15 vehicles. ***When distributed over the peak-hour, the predicted traffic volume increases would not result in a material impact (increase) on motorist delays or vehicle queuing outside of the immediate study area that is the subject of this assessment.***

TRAFFIC OPERATIONS ANALYSIS

Measuring existing and future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity and vehicle queue analyses were conducted under Existing, No-Build and Build traffic volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

METHODOLOGY

Levels of Service

A primary result of capacity analyses is the assignment of level of service to traffic facilities under various traffic-flow conditions.⁹ The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

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

Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

⁹The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Signalized Intersections

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

- *LOS A* describes operations with very low control delay; most vehicles do not stop at all.
- *LOS B* describes operations with relatively low control delay. However, more vehicles stop than LOS A.
- *LOS C* describes operations with higher control delays. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- *LOS D* describes operations with control delay in the range where the influence of congestion becomes more noticeable. Many vehicles stop and individual cycle failures are noticeable.
- *LOS E* describes operations with high control delay values. Individual cycle failures are frequent occurrences.
- *LOS F* describes operations with high control delay values that often occur with over-saturation. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Levels of service for signalized intersections are calculated using the operational analysis methodology of the 2000 Highway Capacity Manual and implemented as a part of the Synchro® 11 software as recommended by MassDOT. This method assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on delay. Level-of-service designations are based on the criterion of control or signal delay per vehicle. Control or signal delay is a measure of driver discomfort, frustration, and fuel consumption, and includes initial deceleration delay approaching the traffic signal, queue move-up time, stopped delay and final acceleration delay. Table 7 summarizes the relationship between level of service and control delay. The tabulated control delay criterion may be applied in assigning level-of-service designations to individual lane groups, to individual intersection approaches, or to entire intersections.

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

Level of Service	Control (Signal) Delay Per Vehicle (Seconds)
A	≤10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	>80.0

^aSource: *Highway Capacity Manual*, Transportation Research Board; Washington, DC; 2000; page 16-2.

Unsignalized Intersections

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

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

The levels of service of unsignalized intersections are determined by application of a procedure described in the 2010 *Highway Capacity Manual*.¹⁰ Level of service is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the 2010 *Highway Capacity Manual*. Table 8 summarizes the relationship between level of service and average control delay for two-way stop controlled and all-way stop controlled intersections.

Table 8
LEVEL-OF-SERVICE CRITERIA FOR
UNSIGNALIZED INTERSECTIONS^a

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

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

⁸*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Vehicle Queue Analysis

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

ANALYSIS RESULTS

Level-of-service and vehicle queue analyses were conducted for 2021 Existing, 2028 No-Build and 2028 Build conditions for the intersections within the study area. The results of the intersection capacity and vehicle queue analyses are summarized in Tables 9 and 10, with the detailed analysis results presented in the Appendix.

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

Signalized Intersection

Project-related impacts at the signalized study area intersection are shown on Table 9 and are defined as follows:

Meetinghouse Lane at State Road at Canal Street – No change in LOS is predicted to occur for any movement over No-Build conditions, with Project-related impacts defined as an increase in overall average motorist delay of less than 1.0 seconds and in vehicle queuing of up to one (1) vehicle.

Unsignalized Intersections

Project-related impacts at the unsignalized study area intersections are shown on Table 10 and are defined as follows:

Meetinghouse Lane and Scusset Beach Road at Old Plymouth Road – No change in LOS is predicted to occur for any movement over No-Build conditions, with Project-related impacts defined as an increase in average motorist delay of less than 1.0 seconds with no material increase in vehicle queuing.

Meetinghouse Lane at Cape View Way and 54 Meetinghouse Lane – No change in LOS is predicted to occur for any movement over No-Build conditions, with Project-related impacts defined as an increase in average motorist delay of up to 1.6 seconds with no material increase in vehicle queuing.

Cape View Way – All movements at the driveways along Cape View Way are predicted to operate at LOS A with negligible vehicle queueing.

Table 9
SIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Signalized Intersection/Peak-hour/Movement	2021 Existing				2028 No-Build				2028 Build			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th
Meetinghouse Lane at Canal St at State Road												
<i>Weekday Morning:</i>												
Meetinghouse Lane EB LT	0.62	13.2	B	5/8	0.67	14.7	B	5/9	0.67	14.9	B	5/10
Meetinghouse Lane EB TH	0.12	8.3	A	1/3	0.13	8.2	A	2/3	0.13	8.2	A	2/3
Meetinghouse Lane EB RT	0.18	8.6	A	0/1	0.19	8.6	A	0/2	0.19	8.6	A	0/2
Meetinghouse Lane WB LT	0.04	7.8	A	1/1	0.04	7.8	A	1/1	0.04	7.7	A	1/1
Meetinghouse Lane WB TH/RT	0.73	37.7	D	6/10	0.75	39.1	D	7/11	0.76	39.3	D	7/12
Canal Street NB LT	0.71	35.9	D	4/8	0.77	42.1	D	4/9	0.77	43.4	D	4/9
Canal Street NB TH	0.33	26.5	C	3/6	0.36	27.9	C	4/6	0.36	28.2	C	4/6
Canal Street NB RT	0.03	24.1	C	0/1	0.03	25.2	C	0/1	0.03	25.5	C	0/1
State Road SB LT	0.07	24.4	C	1/2	0.08	25.5	C	1/2	0.08	25.9	C	1/2
State Road SB TH	0.28	37.3	D	1/3	0.30	38.6	D	1/3	0.30	38.9	D	1/3
State Road SB RT	0.13	36.3	D	0/2	0.14	37.5	D	0/2	0.14	37.8	D	0/2
Overall	--	23.5	C	--	--	25.0	C	--	--	25.4	C	--
<i>Weekday Evening:</i>												
Meetinghouse Lane EB LT	0.97	46.4	D	11/21	1.06	74.8	E	14/25	1.07	77.4	E	15/26
Meetinghouse Lane EB TH	0.36	9.2	A	5/7	0.39	9.4	A	5/8	0.39	9.4	A	5/8
Meetinghouse Lane EB RT	0.15	7.8	A	0/1	0.16	7.8	A	0/1	0.16	7.8	A	0/1
Meetinghouse Lane WB LT	0.04	7.2	A	0/1	0.04	7.2	A	0/1	0.04	7.1	A	0/1
Meetinghouse Lane WB TH/RT	0.76	39.4	D	7/11	0.77	40.0	D	8/12	0.78	40.2	D	8/13
Canal Street NB LT	0.69	37.3	D	4/7	0.74	42.6	D	4/8	0.75	43.1	D	4/9
Canal Street NB TH	0.31	28.7	C	3/5	0.33	29.7	C	3/6	0.33	30.0	C	3/6
Canal Street NB RT	0.02	26.4	C	0/0	0.03	27.2	C	0/0	0.03	27.4	C	0/0
State Road SB LT	0.12	27.2	C	1/2	0.13	28.0	C	1/2	0.14	28.3	C	1/2
State Road SB TH	0.25	39.6	D	1/2	0.26	40.4	D	1/2	0.26	40.9	D	1/3
State Road SB RT	0.10	38.6	D	0/2	0.11	39.4	D	0/2	0.11	39.8	D	0/2
Overall	--	30.9	C	--	--	39.8	D	--	--	40.5	D	--

^aVolume-to-capacity ratio.

^bControl (signal) delay per vehicle in seconds.

^cLevel-of-Service.

^dQueue length in vehicles.

^eVolume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.

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

Table 10
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/ Peak Hour/Movement	2021 Existing				2028 No-Build				2028 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Meetinghouse Lane at Old Plymouth Road												
<i>Weekday Morning:</i>												
Meetinghouse Lane EB LT/TH/RT	173	3.9	A	0	185	3.9	A	0	187	3.9	A	0
Meetinghouse Lane WB LT/TH/RT	138	0.2	A	0	147	0.2	A	0	147	0.2	A	0
Old Plymouth Road NB LT/TH/RT	38	15.6	C	1	40	16.7	C	1	40	16.8	C	1
Old Plymouth Road SB LT/TH/RT	157	10.5	B	1	168	10.8	B	1	169	10.8	B	1
<i>Weekday Evening:</i>												
Meetinghouse Lane EB LT/TH/RT	376	4.4	A	1	403	4.4	A	1	404	4.4	A	1
Meetinghouse Lane WB LT/TH/RT	124	0.2	A	0	133	0.2	A	0	134	0.2	A	0
Old Plymouth Road NB LT/TH/RT	41	24.8	C	1	44	28.7	D	1	44	28.8	D	1
Old Plymouth Road SB LT/TH/RT	159	13.3	B	1	171	14.4	B	2	172	14.4	B	2
Meetinghouse Lane at Cape View Way at 54 Meetinghouse Lane Driveway												
<i>Weekday Morning:</i>												
Meetinghouse Lane EB LT/TH/RT	209	0.2	A	0	222	0.1	A	0	226	0.3	A	0
Meetinghouse Lane WB LT/TH/RT	304	0.2	A	0	325	0.2	A	0	326	0.2	A	0
54 Meetinghouse Lane Driveway NB LT/TH/RT	0	0.0	A	0	0	0.0	A	0	0	0.0	A	0
Cape View Way NB LT/TH/RT	4	10.9	B	0	4	11.2	B	0	17	11.2	B	0
<i>Weekday Evening:</i>												
Meetinghouse Lane EB LT/TH/RT	386	0.0	A	0	413	0.0	A	0	425	0.2	A	0
Meetinghouse Lane WB LT/TH/RT	267	0.0	A	0	286	0.0	A	0	288	0.0	A	0
54 Meetinghouse Lane Driveway NB LT/TH/RT	3	15.9	C	0	3	16.8	C	0	3	18.4	C	0
Cape View Way NB LT/TH/RT	1	15.6	C	0	1	16.5	C	0	10	16.5	C	0
Cape View Way at the Project Site Driveway												
<i>Weekday Morning:</i>												
Cape View Way WB LT/RT	--	--	--	--	--	--	--	--	4	8.6	A	0
Cape View Way NB TH/RT	--	--	--	--	--	--	--	--	10	0.0	A	0
Project Site Driveway SB LT/TH	--	--	--	--	--	--	--	--	13	0.0	A	0
<i>Weekday Evening:</i>												
Cape View Way WB LT/RT	--	--	--	--	--	--	--	--	1	8.6	A	0
Cape View Way NB TH/RT	--	--	--	--	--	--	--	--	15	0.0	A	0
Project Site Driveway SB LT/TH	--	--	--	--	--	--	--	--	9	0.0	A	0

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel-of-Service.

^dQueue length in vehicles.

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

SIGHT DISTANCE EVALUATION

Sight distance measurements were performed at the intersection of Meetinghouse Lane at Cape View Way in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)¹¹ requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an on-coming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 11 presents the measured SSD and ISD at the subject intersection.

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

Table 11
SIGHT DISTANCE MEASUREMENTS^a

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	Desirable (ISD) ^b	Measured
<i>Meetinghouse Lane at Cape View Way</i>			
<i>Stopping Sight Distance:</i>			
Meetinghouse Lane approaching from the east	305	--	502
Meetinghouse Lane approaching from the west	305	--	500+
<i>Intersection Sight Distance:</i>			
Looking to the east from the Project Site Driveway	305	385	461
Looking to the west from the Project Site Driveway	305	445	500+

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on an approach speed of 40 mph along Meetinghouse Lane.

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

As can be seen in Table 11, the available lines of sight at the intersection of Meetinghouse Lane at Cape View Way were found to exceed the recommended minimum sight distances to function in a safe (SSD) and efficient (ISD) manner based on a 40 mph approach speed along Meetinghouse Lane, which is slightly above the measured 85th percentile travel speed (36/37 mph) and 10 mph above the statutory speed limit (30 mph).

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

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

1. Using trip-generation statistics published by the ITE,¹² the Project is expected to generate approximately 276 vehicle trips on an average weekday (two-way, 24-hour volume), with 18 vehicle trips expected during the weekday morning peak-hour and 23 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No Build) conditions, with no changes in LOS shown to occur as a result of the Project and the majority of the movements at the study intersections shown to continue to operate at LOS D or better under all analysis conditions, where an LOS “D” or better is defined as “acceptable” traffic operations;
3. All movements exiting Cape View Way (the access to the Project site) are predicted to operate at LOS B during the weekday morning peak-hour and at LOS C during the weekday evening peak-hour, with minimal vehicle queuing predicted (up to one vehicle);
4. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study intersections; and
5. Lines of sight at the intersection of Meetinghouse Lane at Cape View Way were found to exceed the recommended minimum distances for safe and efficient operation based on the appropriate approach speed.

¹²Ibid 1.

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

RECOMMENDATIONS

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

Project Access

Access to the Project site will be provided by way of Cape View Way, which intersects the north side of Meetinghouse Lane between the U.S. Post Office and Bourne Fire Department Station 3. In conjunction with the Project, Cape View Way will be extended in a northwesterly direction from its current terminus at the driveway to the parking lot behind the Fire Station to serve the Project, with four driveways constructed along the extension that will accommodate access to the surface parking lots to the east of the proposed residential building. At the front of the residential building, the extension of Cape View Way will terminate in a cul-de-sac configuration with one-way (counterclockwise) circulation, and will include a short-term drop-off/pick-up area and perpendicular parking along one side of the roadway. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the Site Plans:

- The extension of Cape View Way and the driveways to the parking areas that will serve the Project should be a minimum of 24-feet in width and designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle and approved by the Bourne Fire Department.
- Within the Project site, drive aisles should be a minimum of 23-feet where perpendicular parking is proposed in order to facilitate parking maneuvers.
- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.
- “One Way” and “Do Not Enter” signs should be installed to regulate the one-way circulation within the cul-de-sac.
- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).¹³
- A sidewalk should be provided along at least one side of the extension of Cape View Way and should extend to Meetinghouse Lane. Americans with Disabilities Act (ADA) compliant wheelchair ramps should be provided at all pedestrian crossings.

¹³Ibid 2.

- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveways and at the Meetinghouse Lane/Cape View Way intersection should be designed and maintained so as not to restrict lines of sight.
- Snow windrows within sight triangle areas should be promptly removed where such accumulations would impede sight lines.

Transportation Demand Management

Regularly scheduled public transportation services are provided to the Town of Bourne by the CCRTA but are not currently accessible at the Project site. To the east of the Project site, the CCRTA Sandwich Line provides service travels along Route 6 west of the study area between Buzzards Bay Transportation Center and the Hyannis Transportation Center, with a stop at the Sagamore Park-and-Ride lot (an approximate 7 minute walking distance). The Sagamore Park-and-Ride lot is also served by Perter Pan Bus Lines, which provides by inter-city and inter-state bus service, including service to South Station and Logan International Airport in Boston. In addition to fixed-route bus services, the CCRTA provides Dial-a-Ride paratransit services to eligible people who cannot use fixed-route transit all or some of the time due to a physical, cognitive or mental disability in compliance with the ADA, and the Bourne Council on Aging (COA) provides transportation services for eligible residents of the Town for medical appointments and grocery shopping by appointment.

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

- A transportation coordinator will be designated for the Project to coordinate the elements of the TDM program;
- Information regarding public transportation services, maps, schedules and fare information will be posted in a central location and/or otherwise made available to residents;
- A “welcome packet” will be provided to residents detailing available public transportation services, bicycle and walking alternatives, and commuter options available;
- Pedestrian accommodations will be incorporated into the Project and consist of a sidewalk along the extension of Cape View Way that will connect to the sidewalk along Meetinghouse Lane, and ADA compliant wheelchair ramps at all pedestrian crossings that are to be constructed or modified as a part of the Project;
- A central mail drop will be provided; and
- Secure bicycle parking will be provided within the Project site.

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

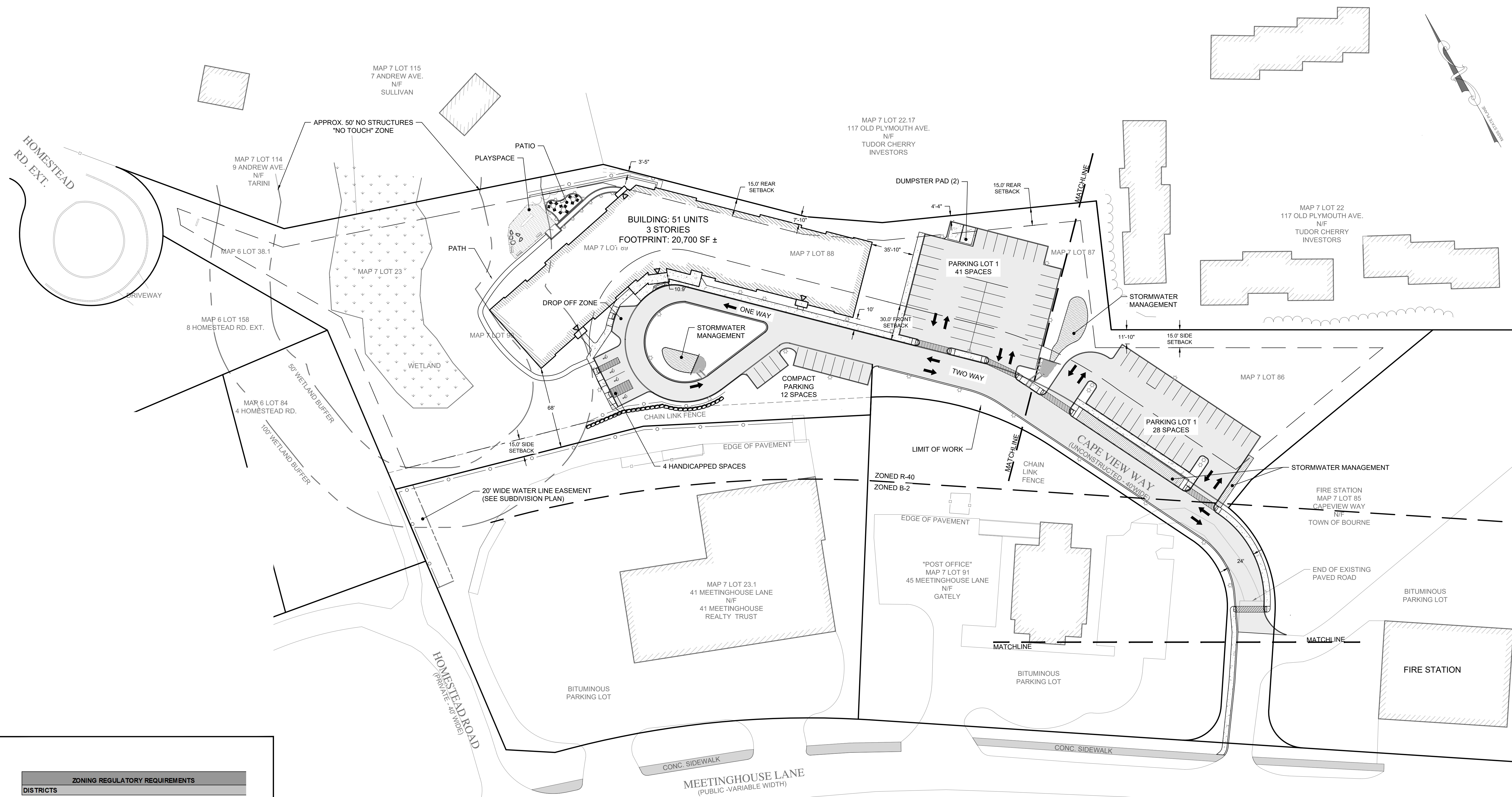
APPENDIX

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



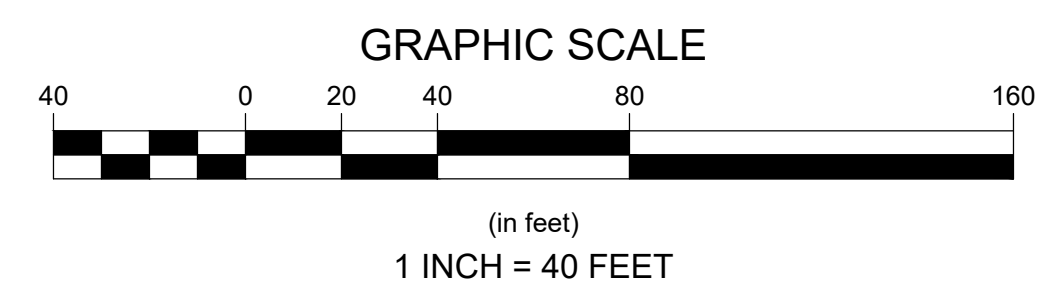
PROJECT SITE PLAN





ZONING REGULATORY REQUIREMENTS			
DISTRICTS			
TOWN: Bourne			
ZONING DISTRICT: R40			
	REQUIRED	PROVIDED	
LOT SIZE AND COVERAGE			
MINIMUM LOT SIZE (sf):	40,000	143,882	
% BUILDING COVERAGE:		14%	
% LOT COVERAGE:	20%	32%	
% USEABLE OPEN SPACE:	20%	64%	
DIMENSIONAL			
MINIMUM LOT FRONTAGE (feet):	125	14293	
FRONT YARD SETBACK (feet):	30	10	
REAR YARD SETBACK (feet):	15	7.8	
SIDE YARD SETBACK (feet):	15	>15	
BUILDING HEIGHT (feet):	35	38.75	
PARKING			
PARKING SPACES:	2 spaces per dwelling		
TOTAL PARKING SPACES (ON-SITE)	102	85	
TOTAL PARKING SPACES (OFF-SITE)			
TOTAL PARKING SPACES:	102	85	
HANDICAP SPACE:	4	4	
		15'-6"x8'-8" (reg)	
		15'-6"x8'-0" (compact)	
MINIMUM PARKING DIMENSIONS	15'-6"x8'-8"		
OTHER PARKING:			

PERMITTING SET ONLY
NOT FOR CONSTRUCTION



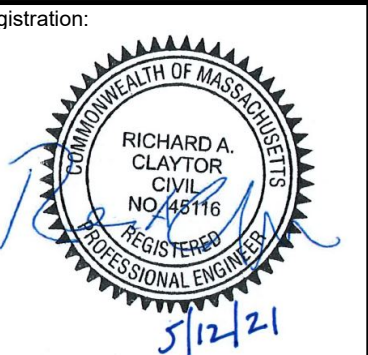
Revisions		5/10/21	EWB/BRK	ADDITION OF DROP OFF ZONE
Δ				
Δ				
Δ				
Δ				
Δ				
Δ				
Δ				
Δ				
Δ				
Rev.	Date	By	Appr	Description

 Horsley Witten Group, Inc. Sustainable Environmental Solutions www.horsleywitten.com 99 Route 634 Sandwich, MA 02563 508-333-5600 voice 508-333-3750 fax	Date:	Designed By:	Drawn By:	Checked By:
	MARCH 5, 2021	EWJH	EWJH	BKR

CAPE VIEW WAY PERMITTING PLANS BOURNE, MASSACHUSETTS	Overall Site Plan
--	-------------------

**PRESERVATION OF
AFFORDABLE HOUSING**
2 OLIVER STREET, SUITE 500
BOSTON, MA 02109
Phone: (617) 261-9898
Fax: -----

Horsley Witten Group, Inc.
90 Route 6A
Sandwich, MA 02563
Phone: (508) 833-6600
Fax: (508) 833-3150
Dated: JUNE 2019



Project Number:	Sheet :
19038	5 of 22
Sheet Number:	
C - 5	

AUTOMATIC TRAFFIC RECORDER COUNT DATA



Accurate Counts
978-664-2565

Location : Meetinghouse Lane
Location : West of Fire Station
City/State: Bourne, MA

89630001

4/27/2021	WB,		Hour Totals		EB,		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	3	56			1	60				
12:15	3	69			1	58				
12:30	1	56			1	52				
12:45	1	39	8	220	2	48	5	218	13	438
1:00	0	59			0	51				
1:15	3	48			1	43				
1:30	4	39			1	58				
1:45	1	59	8	205	1	58	3	210	11	415
2:00	1	62			2	36				
2:15	2	52			1	51				
2:30	2	51			2	81				
2:45	2	56	7	221	3	55	8	223	15	444
3:00	1	58			5	59				
3:15	2	33			0	89				
3:30	1	61			1	83				
3:45	3	55	7	207	1	64	7	295	14	502
4:00	2	50			3	67				
4:15	4	41			13	62				
4:30	17	61			16	72				
4:45	7	51	30	203	17	73	49	274	79	477
5:00	10	57			1	87				
5:15	15	53			10	89				
5:30	17	55			9	71				
5:45	17	59	59	224	2	66	22	313	81	537
6:00	25	43			12	84				
6:15	30	48			8	52				
6:30	47	33			22	59				
6:45	51	39	153	163	30	51	72	246	225	409
7:00	51	71			27	39				
7:15	66	37			24	46				
7:30	61	32			33	36				
7:45	56	25	234	165	37	35	121	156	355	321
8:00	64	17			55	39				
8:15	56	13			50	32				
8:30	60	17			36	27				
8:45	73	14	253	61	50	21	191	119	444	180
9:00	51	22			55	22				
9:15	60	13			37	14				
9:30	87	6			33	12				
9:45	61	10	259	51	41	15	166	63	425	114
10:00	46	18			37	16				
10:15	61	9			36	8				
10:30	46	7			36	8				
10:45	49	0	202	34	35	4	144	36	346	70
11:00	45	1			37	4				
11:15	53	3			53	5				
11:30	56	0			49	4				
11:45	50	2	204	6	62	2	201	15	405	21
Total	1424	1760			989	2168			2413	3928
Percent	44.7%	55.3%			31.3%	68.7%			38.1%	61.9%

Accurate Counts
978-664-2565

Location : Meetinghouse Lane
Location : West of Fire Station
City/State: Bourne, MA

89630001

4/28/2021		WB,		Hour Totals		EB,		Hour Totals		Combined Totals	
Time	Morning	Afternoon		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	66			2	51				
12:15		4	59			7	59				
12:30		2	50			2	52				
12:45		3	66	10	241	2	72	13	234	23	475
1:00		0	54			0	66				
1:15		2	49			4	61				
1:30		4	55			1	42				
1:45		0	61	6	219	0	48	5	217	11	436
2:00		1	63			1	56				
2:15		2	42			3	63				
2:30		0	51			1	70				
2:45		4	55	7	211	3	48	8	237	15	448
3:00		2	61			1	55				
3:15		0	46			1	78				
3:30		1	55			2	58				
3:45		3	69	6	231	0	64	4	255	10	486
4:00		1	61			7	86				
4:15		5	52			7	69				
4:30		8	60			15	94				
4:45		11	49	25	222	21	93	50	342	75	564
5:00		10	73			2	84				
5:15		18	64			4	79				
5:30		16	71			3	77				
5:45		16	42	60	250	7	65	16	305	76	555
6:00		16	56			8	59				
6:15		28	59			4	36				
6:30		46	37			22	68				
6:45		51	47	141	199	32	52	66	215	207	414
7:00		41	38			31	42				
7:15		84	29			37	43				
7:30		57	29			31	38				
7:45		59	21	241	117	27	37	126	160	367	277
8:00		57	24			44	49				
8:15		74	24			52	21				
8:30		70	13			39	26				
8:45		71	13	272	74	59	25	194	121	466	195
9:00		66	14			56	20				
9:15		83	11			45	20				
9:30		60	11			45	18				
9:45		45	9	254	45	37	11	183	69	437	114
10:00		60	9			50	12				
10:15		54	1			43	12				
10:30		49	8			37	6				
10:45		52	4	215	22	37	7	167	37	382	59
11:00		44	3			46	2				
11:15		54	2			49	6				
11:30		47	1			50	8				
11:45		54	0	199	6	52	2	197	18	396	24
Total	1436	1837				1029	2210			2465	4047
Percent	43.9%	56.1%				31.8%	68.2%			37.9%	62.1%
Grand Total	2860	3597				2018	4378			4878	7975
Percent	44.3%	55.7%				31.6%	68.4%			38.0%	62.0%

ADT

ADT: 6,426

AADT: 6,426

89630001

[illegible]

MANUAL TURNING MOVEMENT COUNT DATA



Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 1

Groups Printed- Cars - Trucks

	State Rd From North			Meetinghouse Ln From East			Canal St From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	3	15	34	7	43	7	37	27	10	78	15	46	322
07:15 AM	2	8	37	2	55	8	44	29	7	60	17	62	331
07:30 AM	7	5	45	6	32	16	30	30	9	74	27	48	329
07:45 AM	4	5	26	7	45	13	21	24	9	82	34	43	313
Total	16	33	142	22	175	44	132	110	35	294	93	199	1295
08:00 AM	8	12	25	3	36	13	28	19	7	80	40	40	311
08:15 AM	5	6	30	2	46	8	20	35	8	61	41	36	298
08:30 AM	7	7	24	5	46	8	21	23	6	57	40	58	302
08:45 AM	4	5	26	6	51	19	31	29	15	75	47	42	350
Total	24	30	105	16	179	48	100	106	36	273	168	176	1261
Grand Total	40	63	247	38	354	92	232	216	71	567	261	375	2556
Apprch %	11.4	18	70.6	7.9	73.1	19	44.7	41.6	13.7	47.1	21.7	31.2	
Total %	1.6	2.5	9.7	1.5	13.8	3.6	9.1	8.5	2.8	22.2	10.2	14.7	
Cars	39	61	243	38	330	87	225	213	70	555	249	360	2470
% Cars	97.5	96.8	98.4	100	93.2	94.6	97	98.6	98.6	97.9	95.4	96	96.6
Trucks	1	2	4	0	24	5	7	3	1	12	12	15	86
% Trucks	2.5	3.2	1.6	0	6.8	5.4	3	1.4	1.4	2.1	4.6	4	3.4

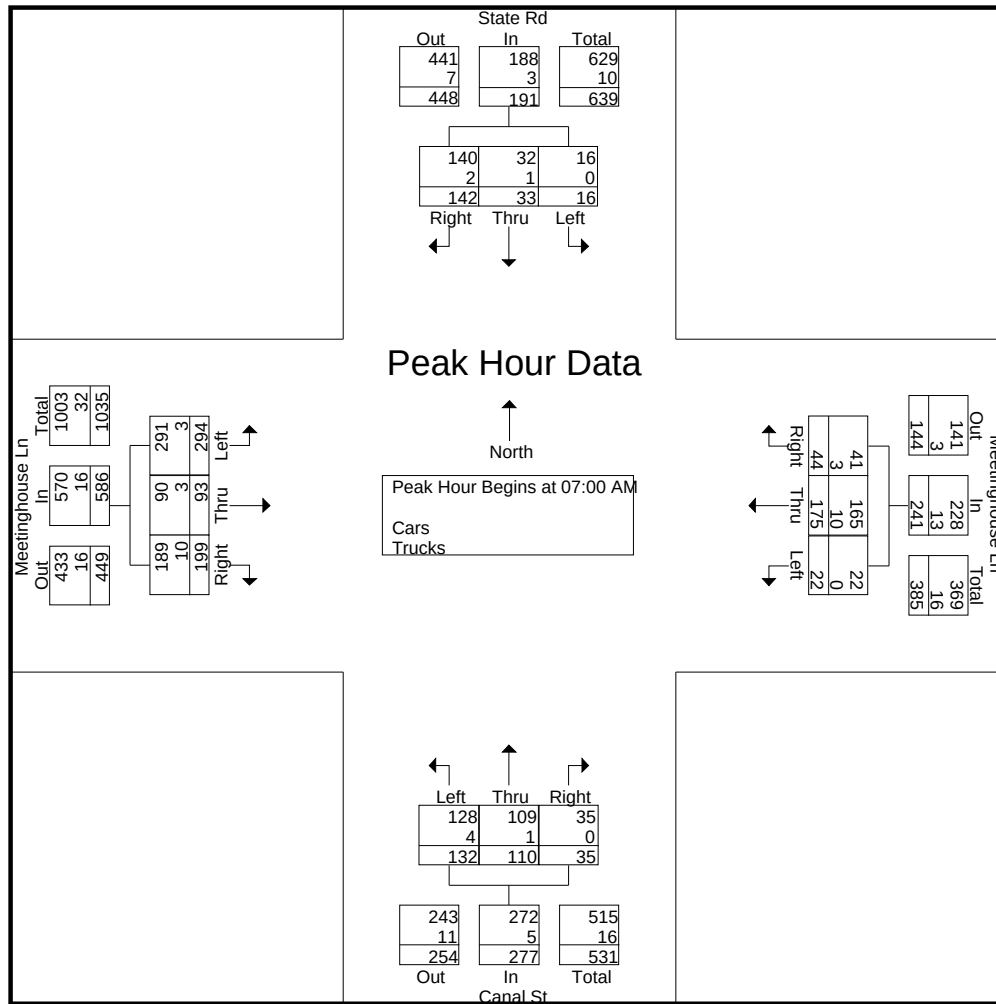
	State Rd From North				Meetinghouse Ln From East				Canal St From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	15	34	52	7	43	7	57	37	27	10	74	78	15	46	139	322
07:15 AM	2	8	37	47	2	55	8	65	44	29	7	80	60	17	62	139	331
07:30 AM	7	5	45	57	6	32	16	54	30	30	9	69	74	27	48	149	329
07:45 AM	4	5	26	35	7	45	13	65	21	24	9	54	82	34	43	159	313
Total Volume	16	33	142	191	22	175	44	241	132	110	35	277	294	93	199	586	1295
% App. Total	8.4	17.3	74.3		9.1	72.6	18.3		47.7	39.7	12.6		50.2	15.9	34		
PHF	.571	.550	.789	.838	.786	.795	.688	.927	.750	.917	.875	.866	.896	.684	.802	.921	.978
Cars	16	32	140	188	22	165	41	228	128	109	35	272	291	90	189	570	1258
% Cars	100	97.0	98.6	98.4	100	94.3	93.2	94.6	97.0	99.1	100	98.2	99.0	96.8	95.0	97.3	97.1
Trucks	0	1	2	3	0	10	3	13	4	1	0	5	3	3	10	16	37
% Trucks	0	3.0	1.4	1.6	0	5.7	6.8	5.4	3.0	0.9	0	1.8	1.0	3.2	5.0	2.7	2.9

Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
 E/W Street : Meetinghouse Lane
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630001
 Site Code : 89630001
 Start Date : 4/27/2021
 Page No : 2

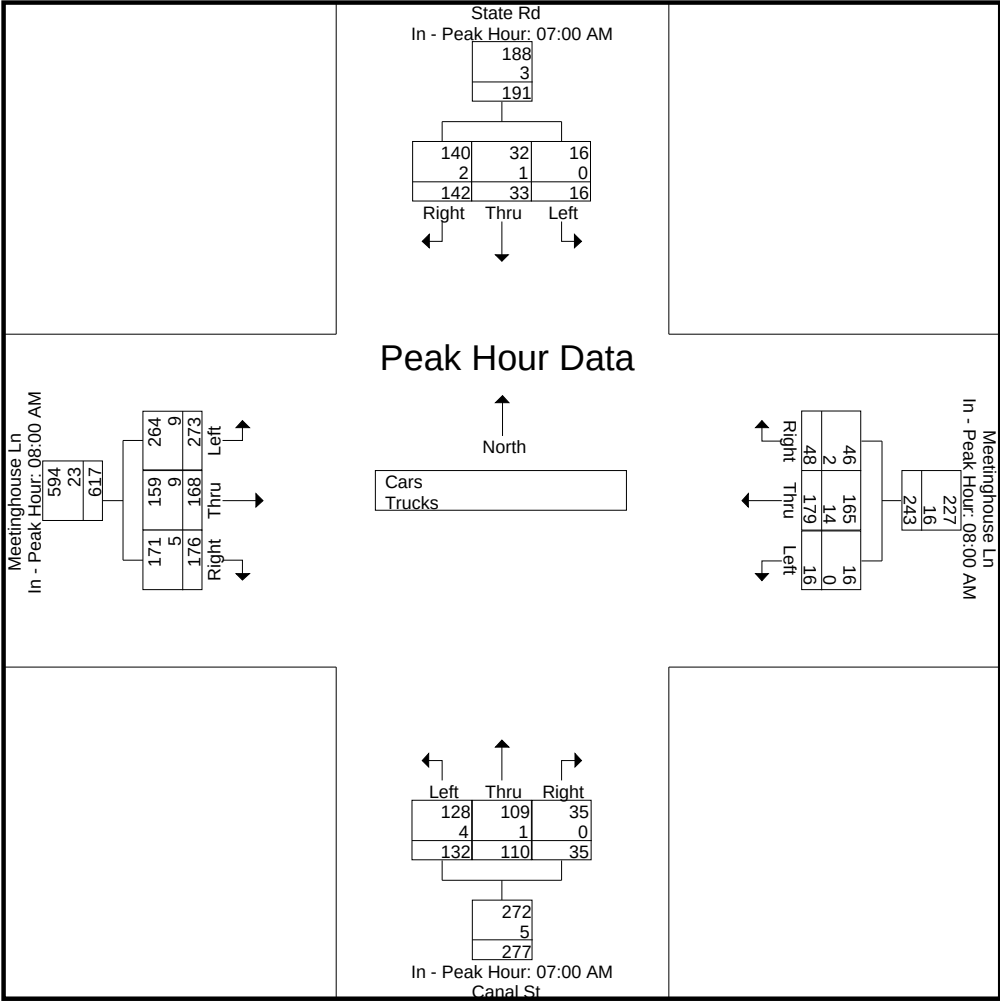


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:00 AM				08:00 AM			
+0 mins.	3	15	34	52	3	36	13	52	37	27	10	74	80	40	40	160
+15 mins.	2	8	37	47	2	46	8	56	44	29	7	80	61	41	36	138
+30 mins.	7	5	45	57	5	46	8	59	30	30	9	69	57	40	58	155
+45 mins.	4	5	26	35	6	51	19	76	21	24	9	54	75	47	42	164
Total Volume	16	33	142	191	16	179	48	243	132	110	35	277	273	168	176	617
% App. Total	8.4	17.3	74.3		6.6	73.7	19.8		47.7	39.7	12.6		44.2	27.2	28.5	
PHF	.571	.550	.789	.838	.667	.877	.632	.799	.750	.917	.875	.866	.853	.894	.759	.941
Cars	16	32	140	188	16	165	46	227	128	109	35	272	264	159	171	594
% Cars	100	97	98.6	98.4	100	92.2	95.8	93.4	97	99.1	100	98.2	96.7	94.6	97.2	96.3
Trucks	0	1	2	3	0	14	2	16	4	1	0	5	9	9	5	23
% Trucks	0	3	1.4	1.6	0	7.8	4.2	6.6	3	0.9	0	1.8	3.3	5.4	2.8	3.7

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 3



Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 4

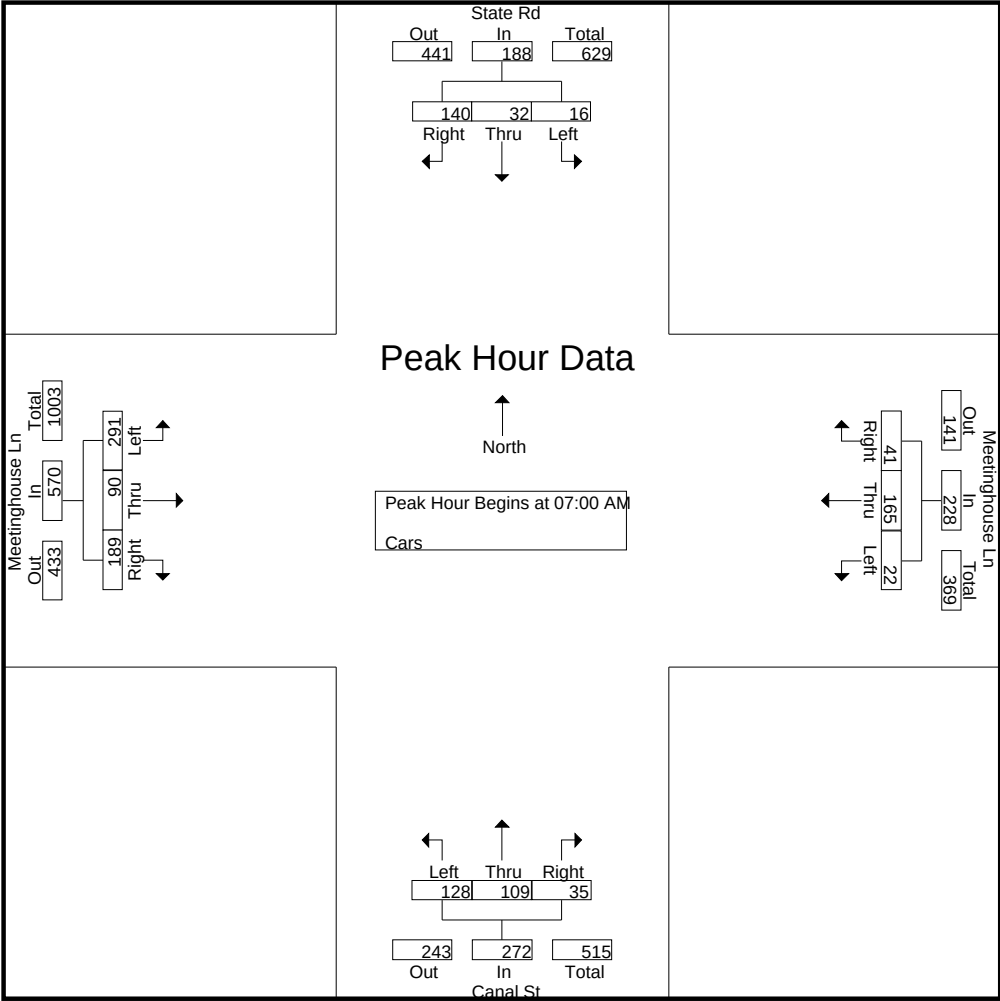
Groups Printed- Cars

	State Rd From North			Meetinghouse Ln From East			Canal St From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	3	15	33	7	40	6	36	26	10	78	14	42	310
07:15 AM	2	8	36	2	50	8	42	29	7	60	15	62	321
07:30 AM	7	4	45	6	30	15	29	30	9	74	27	47	323
07:45 AM	4	5	26	7	45	12	21	24	9	79	34	38	304
Total	16	32	140	22	165	41	128	109	35	291	90	189	1258
08:00 AM	7	11	23	3	35	13	27	19	6	76	37	37	294
08:15 AM	5	6	30	2	43	7	19	34	8	59	40	36	289
08:30 AM	7	7	24	5	44	7	20	23	6	56	37	58	294
08:45 AM	4	5	26	6	43	19	31	28	15	73	45	40	335
Total	23	29	103	16	165	46	97	104	35	264	159	171	1212
Grand Total	39	61	243	38	330	87	225	213	70	555	249	360	2470
Apprch %	11.4	17.8	70.8	8.4	72.5	19.1	44.3	41.9	13.8	47.7	21.4	30.9	
Total %	1.6	2.5	9.8	1.5	13.4	3.5	9.1	8.6	2.8	22.5	10.1	14.6	

	State Rd From North				Meetinghouse Ln From East				Canal St From South				Meetinghouse Ln 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 07:00 AM																	
07:00 AM	3	15	33	51	7	40	6	53	36	26	10	72	78	14	42	134	310
07:15 AM	2	8	36	46	2	50	8	60	42	29	7	78	60	15	62	137	321
07:30 AM	7	4	45	56	6	30	15	51	29	30	9	68	74	27	47	148	323
07:45 AM	4	5	26	35	7	45	12	64	21	24	9	54	79	34	38	151	304
Total Volume	16	32	140	188	22	165	41	228	128	109	35	272	291	90	189	570	1258
% App. Total	8.5	17	74.5		9.6	72.4	18		47.1	40.1	12.9		51.1	15.8	33.2		
PHF	.571	.533	.778	.839	.786	.825	.683	.891	.762	.908	.875	.872	.921	.662	.762	.944	.974

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 5

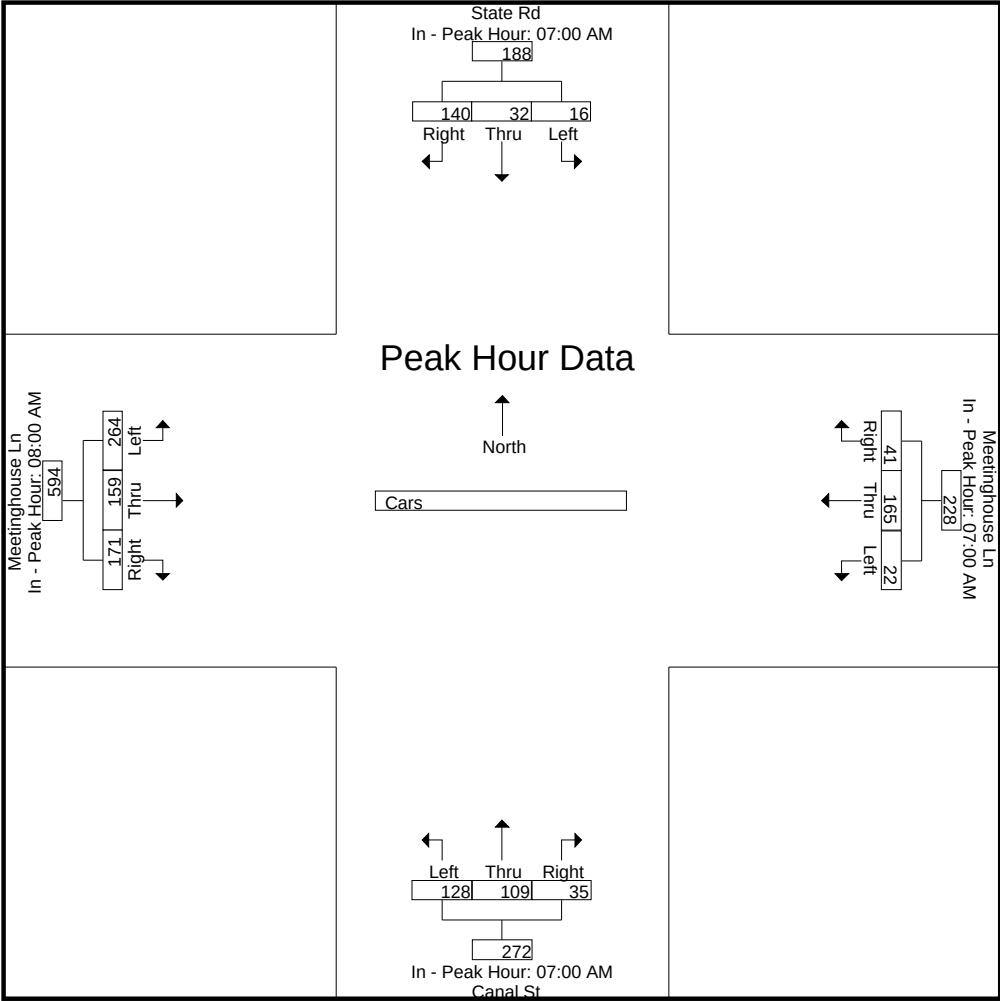


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				08:00 AM			
+0 mins.	3	15	33	51	7	40	6	53	36	26	10	72	76	37	37	150
+15 mins.	2	8	36	46	2	50	8	60	42	29	7	78	59	40	36	135
+30 mins.	7	4	45	56	6	30	15	51	29	30	9	68	56	37	58	151
+45 mins.	4	5	26	35	7	45	12	64	21	24	9	54	73	45	40	158
Total Volume	16	32	140	188	22	165	41	228	128	109	35	272	264	159	171	594
% App. Total	8.5	17	74.5		9.6	72.4	18		47.1	40.1	12.9		44.4	26.8	28.8	
PHF	.571	.533	.778	.839	.786	.825	.683	.891	.762	.908	.875	.872	.868	.883	.737	.940

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 6



Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 7

Groups Printed- Trucks

	State Rd From North			Meetinghouse Ln From East			Canal St From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	1	0	3	1	1	1	0	0	1	4	12
07:15 AM	0	0	1	0	5	0	2	0	0	0	2	0	10
07:30 AM	0	1	0	0	2	1	1	0	0	0	0	1	6
07:45 AM	0	0	0	0	0	1	0	0	0	3	0	5	9
Total	0	1	2	0	10	3	4	1	0	3	3	10	37
08:00 AM	1	1	2	0	1	0	1	0	1	4	3	3	17
08:15 AM	0	0	0	0	3	1	1	1	0	2	1	0	9
08:30 AM	0	0	0	0	2	1	1	0	0	1	3	0	8
08:45 AM	0	0	0	0	8	0	0	1	0	2	2	2	15
Total	1	1	2	0	14	2	3	2	1	9	9	5	49
Grand Total	1	2	4	0	24	5	7	3	1	12	12	15	86
Apprch %	14.3	28.6	57.1	0	82.8	17.2	63.6	27.3	9.1	30.8	30.8	38.5	
Total %	1.2	2.3	4.7	0	27.9	5.8	8.1	3.5	1.2	14	14	17.4	

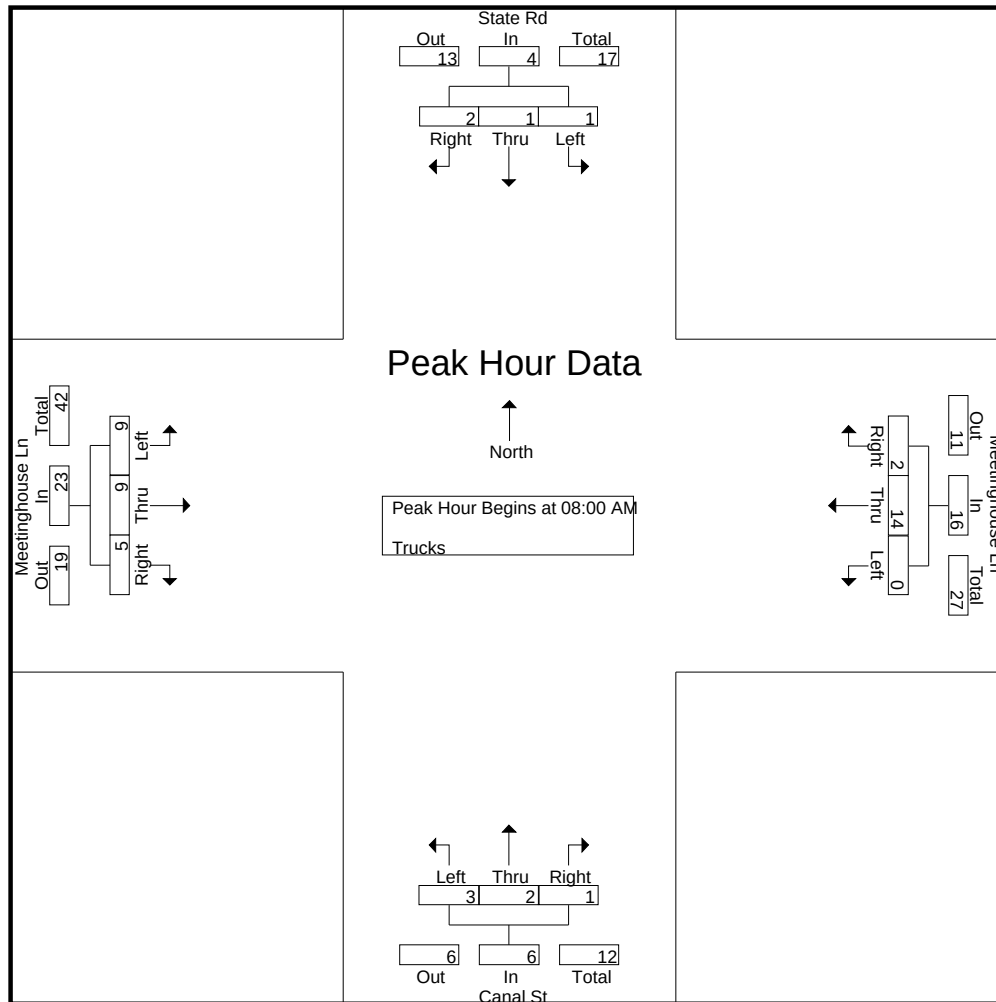
	State Rd From North				Meetinghouse Ln From East				Canal St From South				Meetinghouse Ln From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	1	1	2	4	0	1	0	1	1	0	1	2	4	3	3	10	17
08:15 AM	0	0	0	0	0	3	1	4	1	1	0	2	2	1	0	3	9
08:30 AM	0	0	0	0	0	2	1	3	1	0	0	1	1	3	0	4	8
08:45 AM	0	0	0	0	0	8	0	8	0	1	0	1	2	2	2	6	15
Total Volume	1	1	2	4	0	14	2	16	3	2	1	6	9	9	5	23	49
% App. Total	25	25	50		0	87.5	12.5		50	33.3	16.7		39.1	39.1	21.7		
PHF	.250	.250	.250	.250	.000	.438	.500	.500	.750	.500	.250	.750	.563	.750	.417	.575	.721

Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
 E/W Street : Meetinghouse Lane
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630001
 Site Code : 89630001
 Start Date : 4/27/2021
 Page No : 8

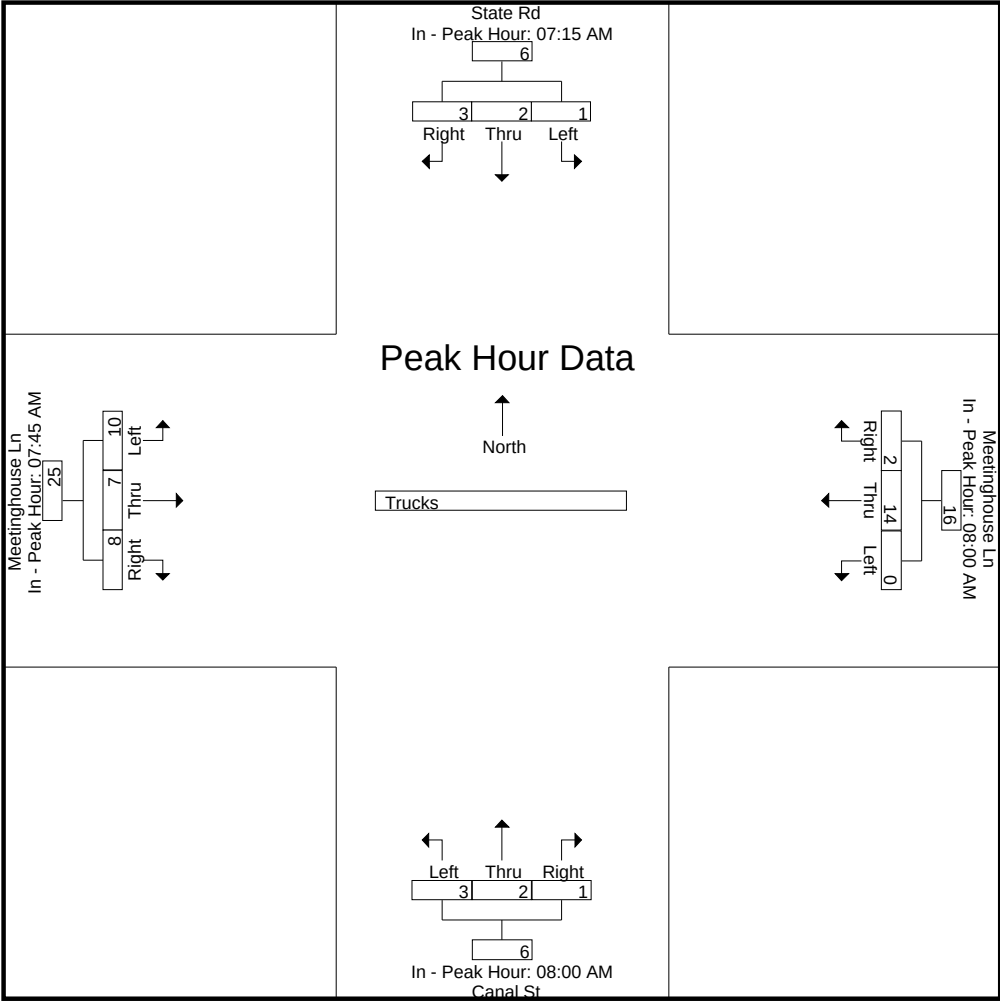


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				08:00 AM				08:00 AM				07:45 AM			
+0 mins.	0	0	1	1	0	1	0	1	1	0	1	2	3	0	5	8
+15 mins.	0	1	0	1	0	3	1	4	1	1	0	2	4	3	3	10
+30 mins.	0	0	0	0	0	2	1	3	1	0	0	1	2	1	0	3
+45 mins.	1	1	2	4	0	8	0	8	0	1	0	1	1	3	0	4
Total Volume	1	2	3	6	0	14	2	16	3	2	1	6	10	7	8	25
% App. Total	16.7	33.3	50		0	87.5	12.5		50	33.3	16.7		40	28	32	
PHF	.250	.500	.375	.375	.000	.438	.500	.500	.750	.500	.250	.750	.625	.583	.400	.625

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 9



978-664-2565

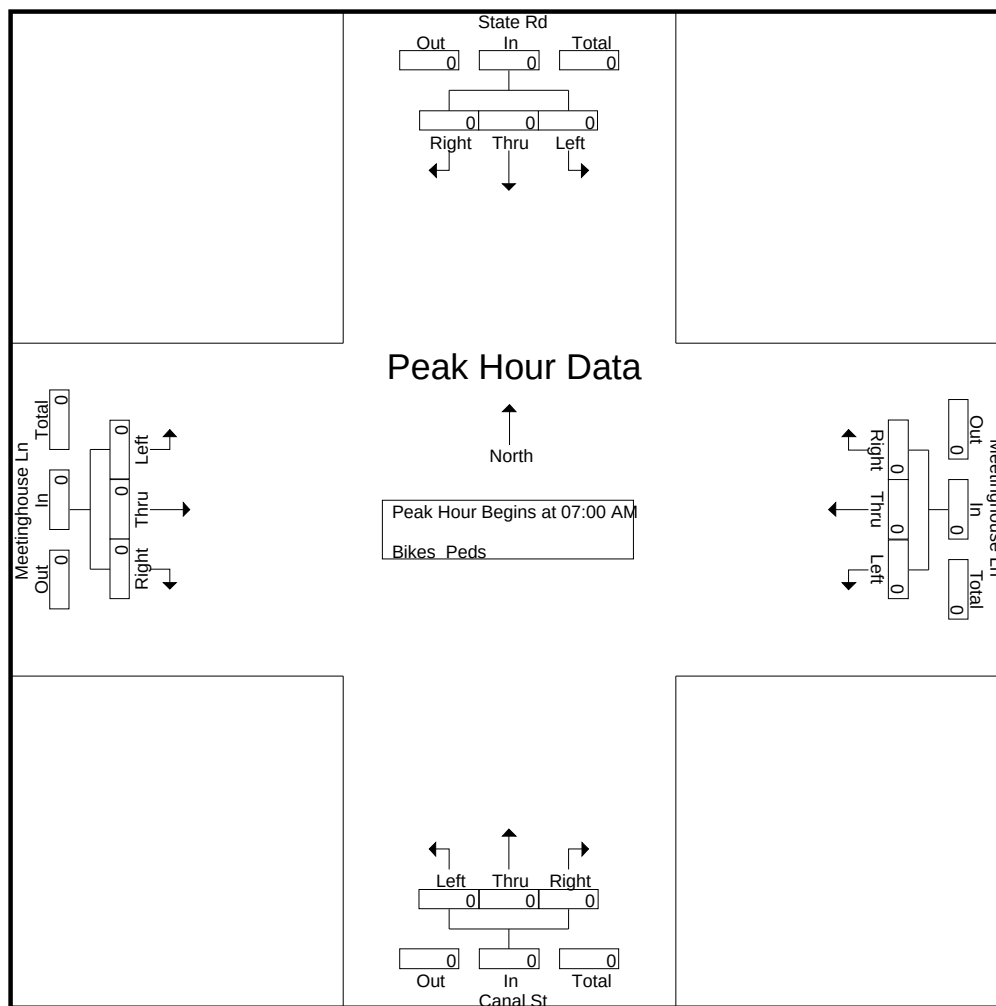
File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 10

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Accurate Counts
978-664-2565

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 11

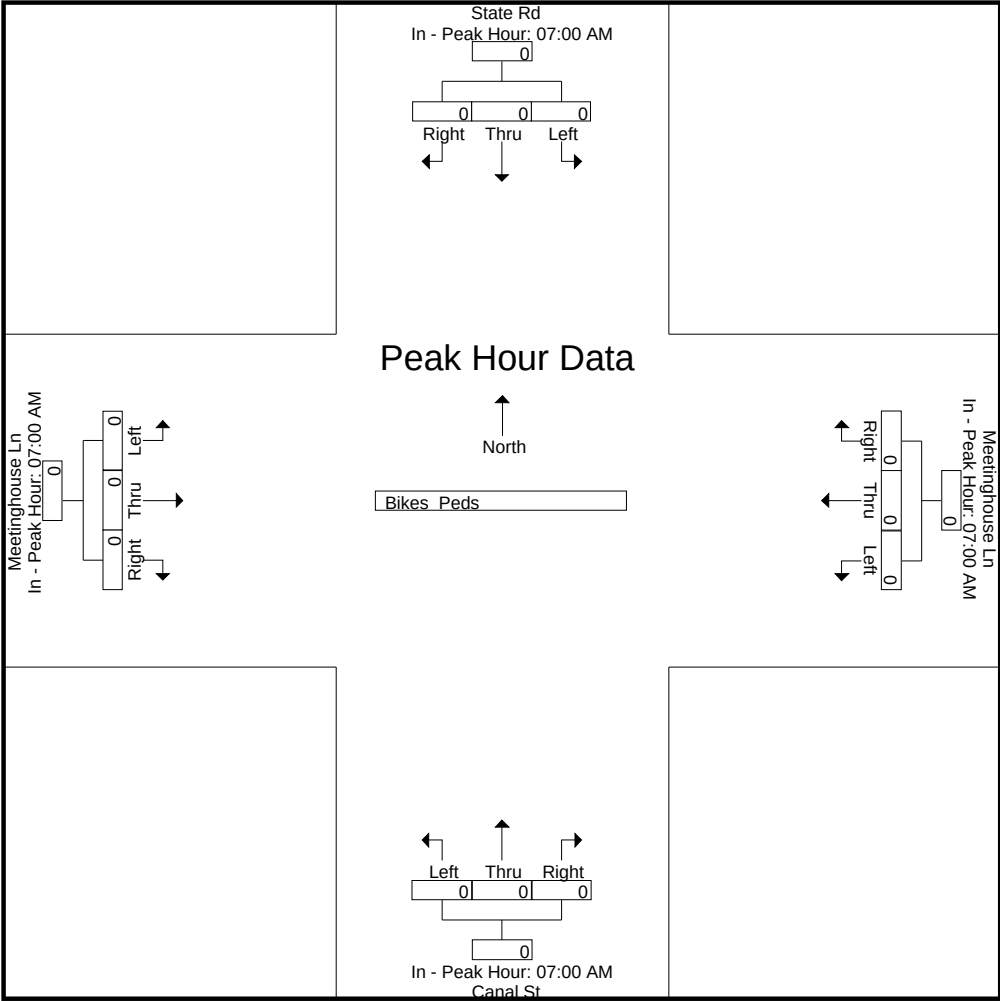


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

Peak Hour for Each Approach Begins at:																
	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 12



Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 1

Groups Printed- Cars - Trucks

	State Rd From North			Meetinghouse Ln From East			Canal St From South			Meetinghouse Ln From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	6	10	36	6	33	16	28	23	7	108	55	54	382
04:15 PM	5	8	26	2	37	28	29	25	12	93	69	49	383
04:30 PM	4	2	30	5	46	19	41	21	3	99	68	49	387
04:45 PM	8	8	24	3	36	11	34	26	10	110	68	39	377
Total	23	28	116	16	152	74	132	95	32	410	260	191	1529
05:00 PM	6	12	28	3	48	20	24	31	6	104	71	39	392
05:15 PM	6	4	21	3	38	24	23	18	8	136	78	42	401
05:30 PM	6	7	35	4	37	32	23	18	7	98	65	41	373
05:45 PM	4	4	19	5	33	12	32	16	4	76	67	30	302
Total	22	27	103	15	156	88	102	83	25	414	281	152	1468
Grand Total	45	55	219	31	308	162	234	178	57	824	541	343	2997
Apprch %	14.1	17.2	68.7	6.2	61.5	32.3	49.9	38	12.2	48.2	31.7	20.1	
Total %	1.5	1.8	7.3	1	10.3	5.4	7.8	5.9	1.9	27.5	18.1	11.4	
Cars	44	55	215	31	307	161	232	176	57	818	531	338	2965
% Cars	97.8	100	98.2	100	99.7	99.4	99.1	98.9	100	99.3	98.2	98.5	98.9
Trucks	1	0	4	0	1	1	2	2	0	6	10	5	32
% Trucks	2.2	0	1.8	0	0.3	0.6	0.9	1.1	0	0.7	1.8	1.5	1.1

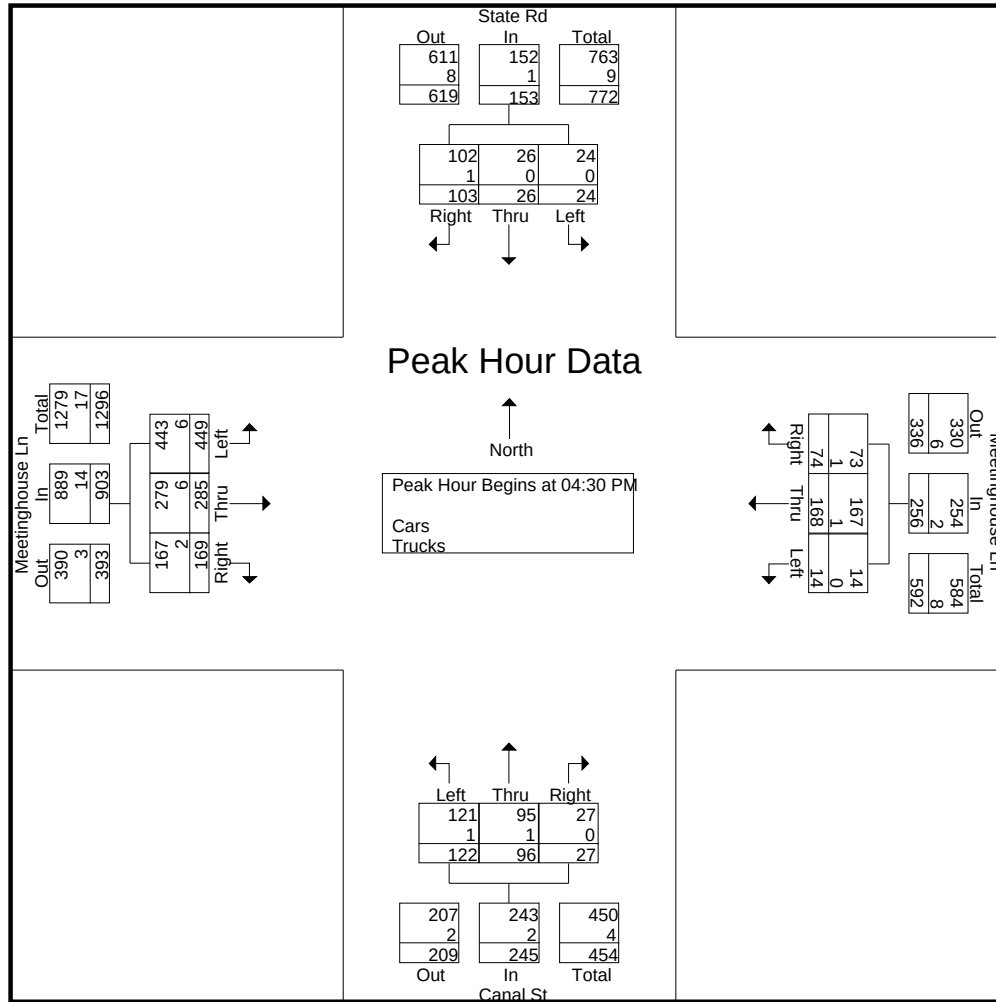
	State Rd From North				Meetinghouse Ln From East				Canal St From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	4	2	30	36	5	46	19	70	41	21	3	65	99	68	49	216	387
04:45 PM	8	8	24	40	3	36	11	50	34	26	10	70	110	68	39	217	377
05:00 PM	6	12	28	46	3	48	20	71	24	31	6	61	104	71	39	214	392
05:15 PM	6	4	21	31	3	38	24	65	23	18	8	49	136	78	42	256	401
Total Volume	24	26	103	153	14	168	74	256	122	96	27	245	449	285	169	903	1557
% App. Total	15.7	17	67.3		5.5	65.6	28.9		49.8	39.2	11		49.7	31.6	18.7		
PHF	.750	.542	.858	.832	.700	.875	.771	.901	.744	.774	.675	.875	.825	.913	.862	.882	.971
Cars	24	26	102	152	14	167	73	254	121	95	27	243	443	279	167	889	1538
% Cars	100	100	99.0	99.3	100	99.4	98.6	99.2	99.2	99.0	100	99.2	98.7	97.9	98.8	98.4	98.8
Trucks	0	0	1	1	0	1	1	2	1	1	0	2	6	6	2	14	19
% Trucks	0	0	1.0	0.7	0	0.6	1.4	0.8	0.8	1.0	0	0.8	1.3	2.1	1.2	1.6	1.2

Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
 E/W Street : Meetinghouse Lane
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630001
 Site Code : 89630001
 Start Date : 4/27/2021
 Page No : 2

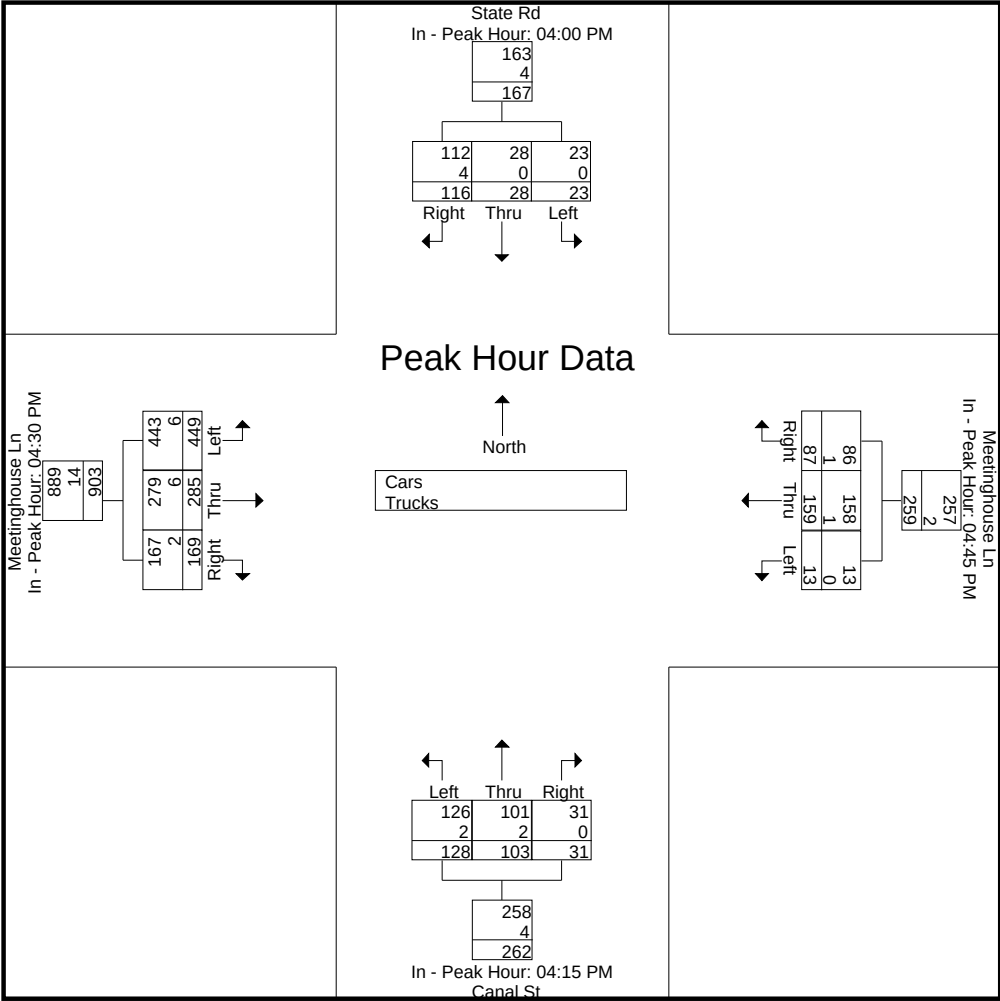


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:15 PM				04:30 PM			
+0 mins.	6	10	36	52	3	36	11	50	29	25	12	66	99	68	49	216
+15 mins.	5	8	26	39	3	48	20	71	41	21	3	65	110	68	39	217
+30 mins.	4	2	30	36	3	38	24	65	34	26	10	70	104	71	39	214
+45 mins.	8	8	24	40	4	37	32	73	24	31	6	61	136	78	42	256
Total Volume	23	28	116	167	13	159	87	259	128	103	31	262	449	285	169	903
% App. Total	13.8	16.8	69.5		5	61.4	33.6		48.9	39.3	11.8		49.7	31.6	18.7	
PHF	.719	.700	.806	.803	.813	.828	.680	.887	.780	.831	.646	.936	.825	.913	.862	.882
Cars	23	28	112	163	13	158	86	257	126	101	31	258	443	279	167	889
% Cars	100	100	96.6	97.6	100	99.4	98.9	99.2	98.4	98.1	100	98.5	98.7	97.9	98.8	98.4
Trucks	0	0	4	4	0	1	1	2	2	2	0	4	6	6	2	14
% Trucks	0	0	3.4	2.4	0	0.6	1.1	0.8	1.6	1.9	0	1.5	1.3	2.1	1.2	1.6

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 3



Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 4

Groups Printed- Cars

	State Rd From North			Meetinghouse Ln From East			Canal St From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	6	10	33	6	33	16	28	23	7	108	55	53	378
04:15 PM	5	8	26	2	37	28	28	24	12	93	69	48	380
04:30 PM	4	2	30	5	46	19	40	21	3	97	68	49	384
04:45 PM	8	8	23	3	36	11	34	25	10	110	65	38	371
Total	23	28	112	16	152	74	130	93	32	408	257	188	1513
05:00 PM	6	12	28	3	48	20	24	31	6	102	69	39	388
05:15 PM	6	4	21	3	37	23	23	18	8	134	77	41	395
05:30 PM	6	7	35	4	37	32	23	18	7	98	64	41	372
05:45 PM	3	4	19	5	33	12	32	16	4	76	64	29	297
Total	21	27	103	15	155	87	102	83	25	410	274	150	1452
Grand Total	44	55	215	31	307	161	232	176	57	818	531	338	2965
Apprch %	14	17.5	68.5	6.2	61.5	32.3	49.9	37.8	12.3	48.5	31.5	20	
Total %	1.5	1.9	7.3	1	10.4	5.4	7.8	5.9	1.9	27.6	17.9	11.4	

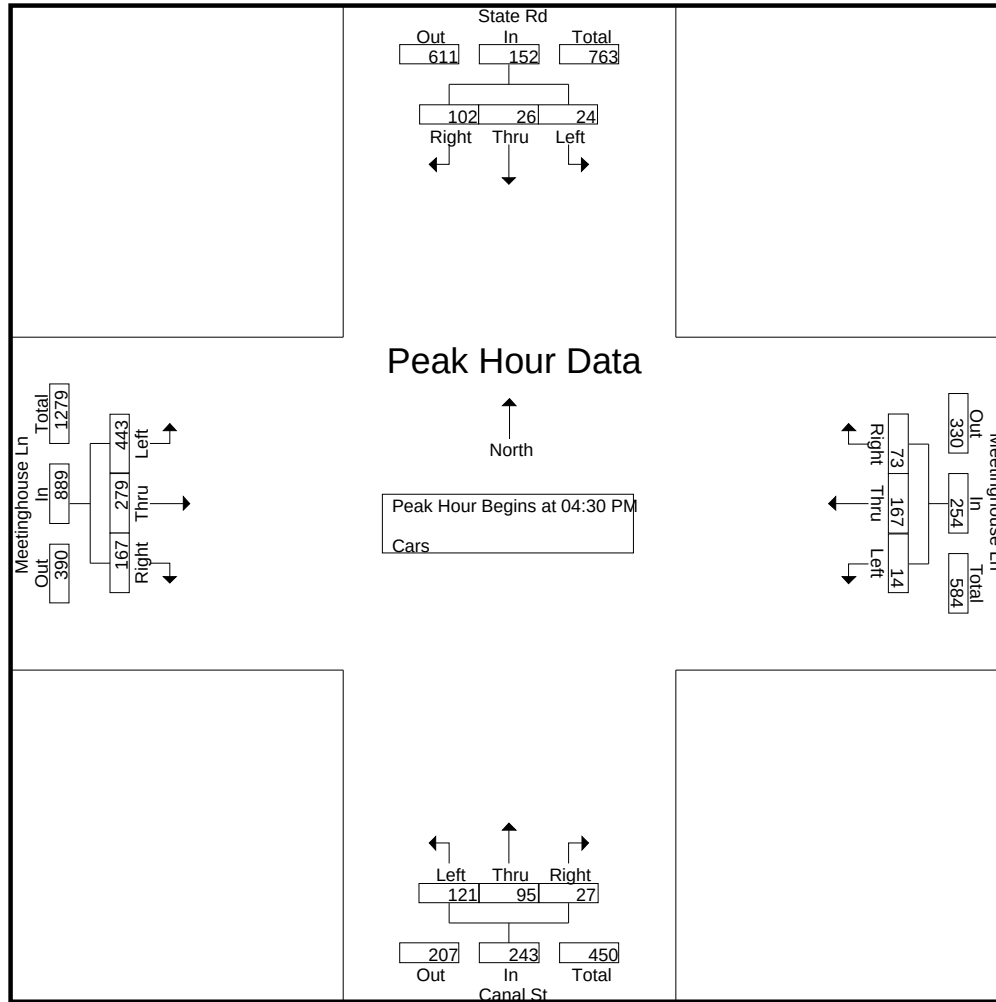
	State Rd From North				Meetinghouse Ln From East				Canal St From South				Meetinghouse Ln From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	4	2	30	36	5	46	19	70	40	21	3	64	97	68	49	214	384
04:45 PM	8	8	23	39	3	36	11	50	34	25	10	69	110	65	38	213	371
05:00 PM	6	12	28	46	3	48	20	71	24	31	6	61	102	69	39	210	388
05:15 PM	6	4	21	31	3	37	23	63	23	18	8	49	134	77	41	252	395
Total Volume	24	26	102	152	14	167	73	254	121	95	27	243	443	279	167	889	1538
% App. Total	15.8	17.1	67.1		5.5	65.7	28.7		49.8	39.1	11.1		49.8	31.4	18.8		
PHF	.750	.542	.850	.826	.700	.870	.793	.894	.756	.766	.675	.880	.826	.906	.852	.882	.973

Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
 E/W Street : Meetinghouse Lane
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630001
 Site Code : 89630001
 Start Date : 4/27/2021
 Page No : 5

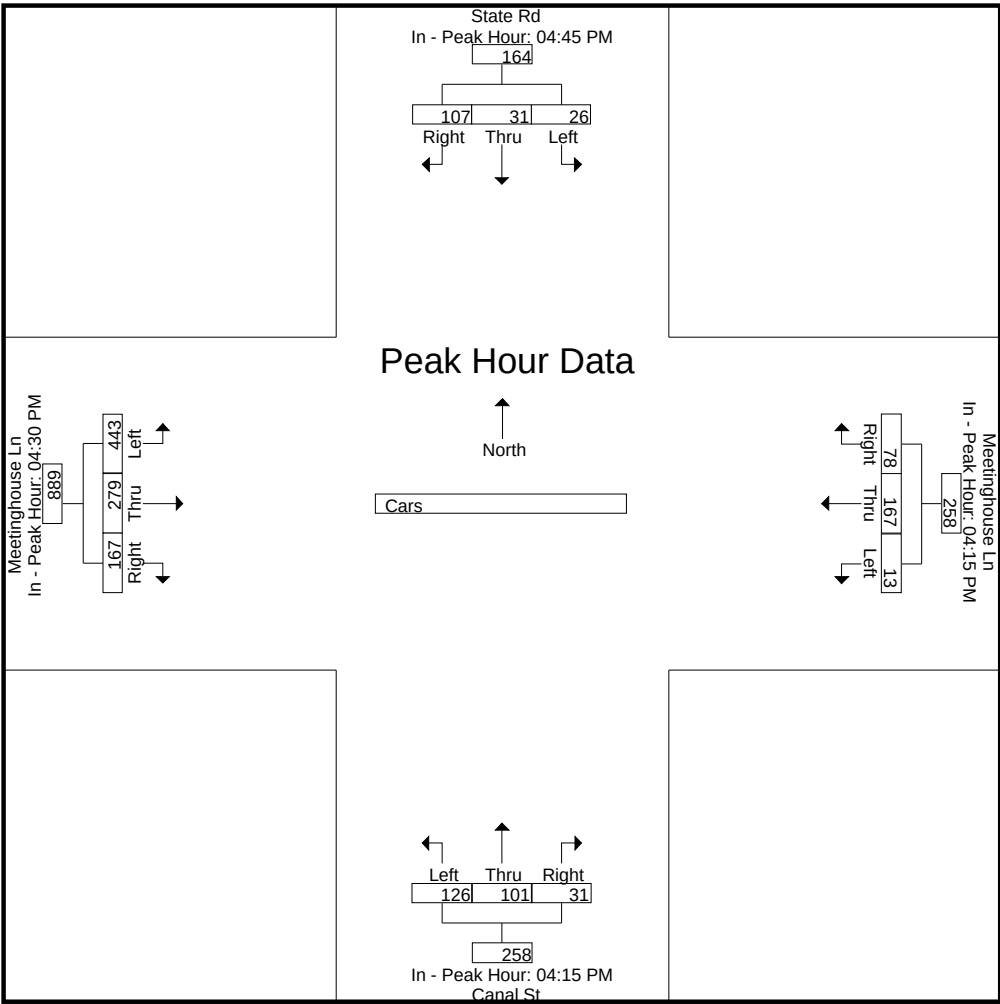


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:15 PM				04:15 PM				04:30 PM			
+0 mins.	8	8	23	39	2	37	28	67	28	24	12	64	97	68	49	214
+15 mins.	6	12	28	46	5	46	19	70	40	21	3	64	110	65	38	213
+30 mins.	6	4	21	31	3	36	11	50	34	25	10	69	102	69	39	210
+45 mins.	6	7	35	48	3	48	20	71	24	31	6	61	134	77	41	252
Total Volume	26	31	107	164	13	167	78	258	126	101	31	258	443	279	167	889
% App. Total	15.9	18.9	65.2		5	64.7	30.2		48.8	39.1	12		49.8	31.4	18.8	
PHF	.813	.646	.764	.854	.650	.870	.696	.908	.788	.815	.646	.935	.826	.906	.852	.882

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 6



Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 7

Groups Printed- Trucks

	State Rd From North			Meetinghouse Ln From East			Canal St From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	3	0	0	0	0	0	0	0	0	1	4
04:15 PM	0	0	0	0	0	0	1	1	0	0	0	1	3
04:30 PM	0	0	0	0	0	0	1	0	0	2	0	0	3
04:45 PM	0	0	1	0	0	0	0	1	0	0	3	1	6
Total	0	0	4	0	0	0	2	2	0	2	3	3	16
05:00 PM	0	0	0	0	0	0	0	0	0	2	2	0	4
05:15 PM	0	0	0	0	1	1	0	0	0	2	1	1	6
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
05:45 PM	1	0	0	0	0	0	0	0	0	0	3	1	5
Total	1	0	0	0	1	1	0	0	0	4	7	2	16
Grand Total	1	0	4	0	1	1	2	2	0	6	10	5	32
Apprch %	20	0	80	0	50	50	50	50	0	28.6	47.6	23.8	
Total %	3.1	0	12.5	0	3.1	3.1	6.2	6.2	0	18.8	31.2	15.6	

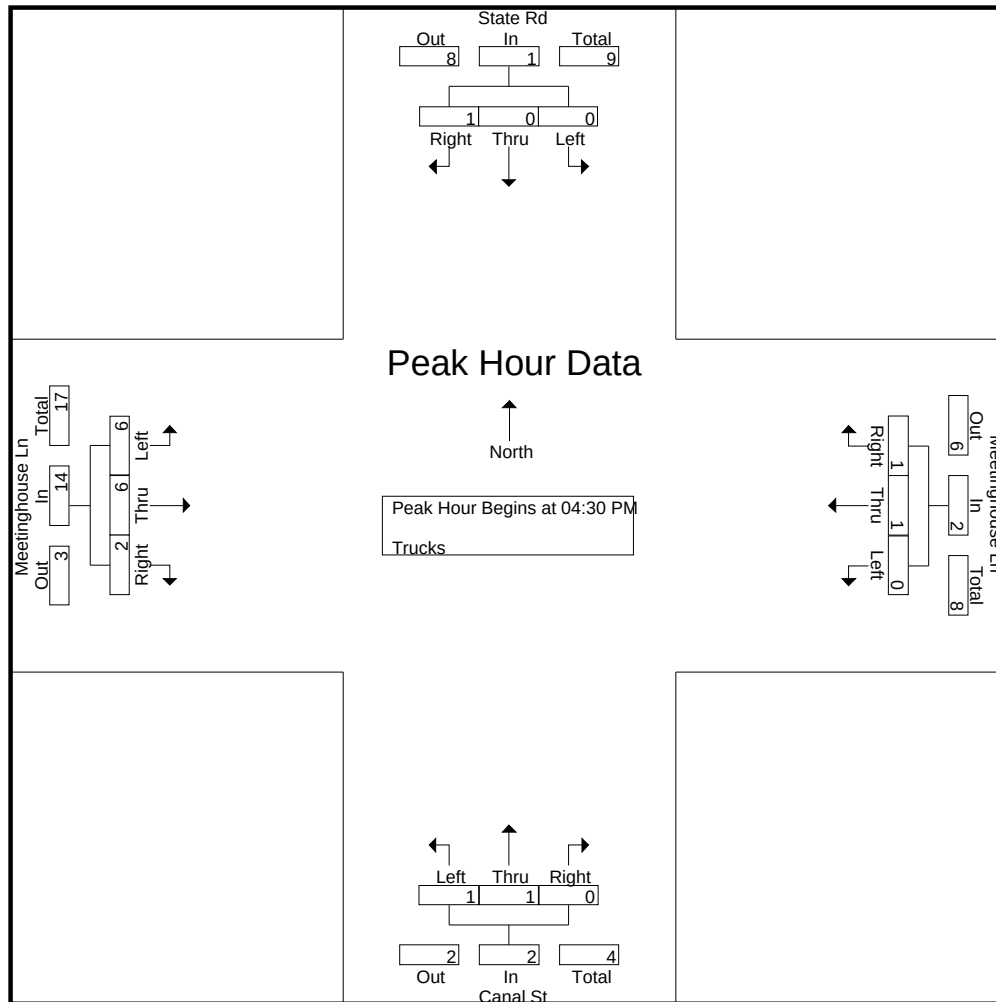
	State Rd From North				Meetinghouse Ln From East				Canal St From South				Meetinghouse Ln From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	2	3
04:45 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	3	1	4	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4
05:15 PM	0	0	0	0	0	1	1	2	0	0	0	0	2	1	1	4	6
Total Volume	0	0	1	1	0	1	1	2	1	1	0	2	6	6	2	14	19
% App. Total	0	0	100		0	50	50		50	50	0		42.9	42.9	14.3		
PHF	.000	.000	.250	.250	.000	.250	.250	.250	.250	.250	.000	.500	.750	.500	.500	.875	.792

Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
 E/W Street : Meetinghouse Lane
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630001
 Site Code : 89630001
 Start Date : 4/27/2021
 Page No : 8

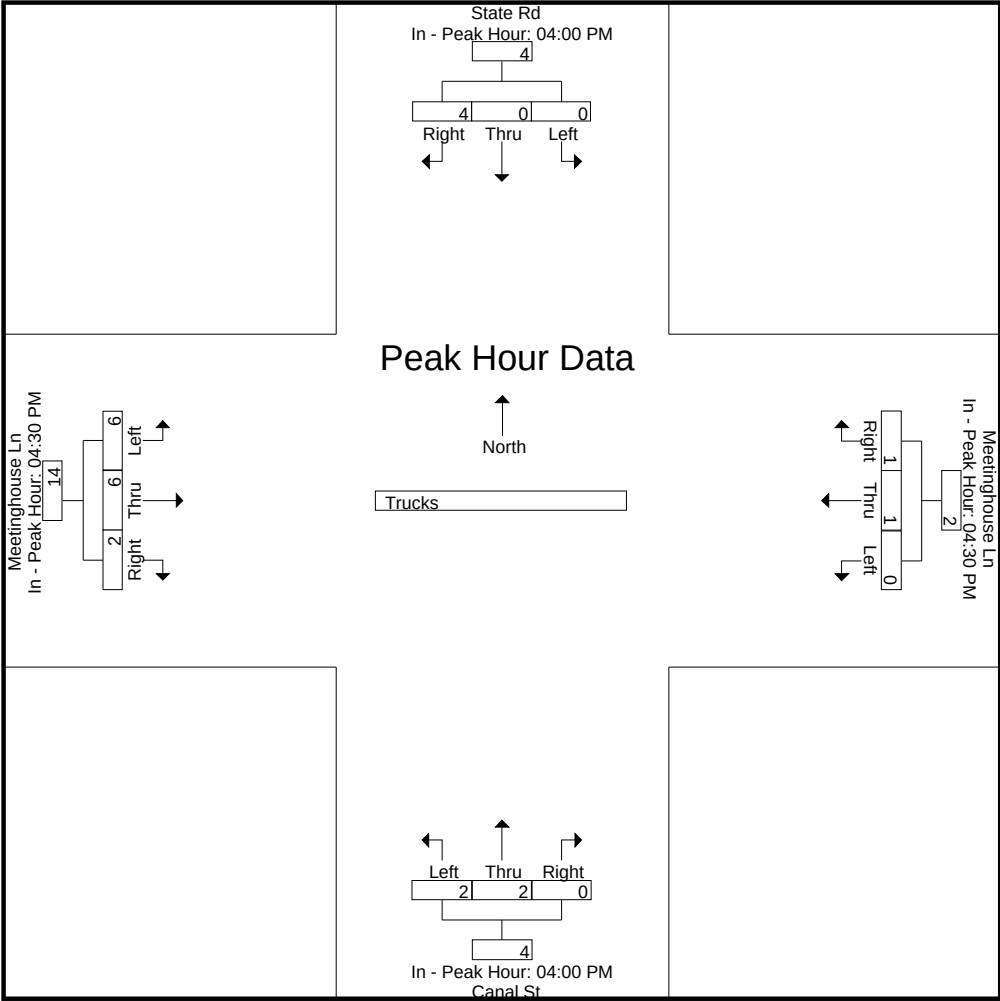


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:30 PM			
+0 mins.	0	0	3	3	0	0	0	0	0	0	0	0	2	0	0	2
+15 mins.	0	0	0	0	0	0	0	0	1	1	0	2	0	3	1	4
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	2	2	0	4
+45 mins.	0	0	1	1	0	1	1	2	0	1	0	1	2	1	1	4
Total Volume	0	0	4	4	0	1	1	2	2	2	0	4	6	6	2	14
% App. Total	0	0	100		0	50	50		50	50	0		42.9	42.9	14.3	
PHF	.000	.000	.333	.333	.000	.250	.250	.250	.500	.500	.000	.500	.750	.500	.500	.875

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 9



Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 10

Groups Printed- Bikes Peds

	State Rd From North				Meetinghouse Ln From East				Canal St From South				Meetinghouse Ln From West				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	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
Grand Total	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	2
Apprch %	0	0	0		100	0	0		0	0	0		0	100	0				
Total %	0	0	0		50	0	0		0	0	0		0	50	0		0	100	

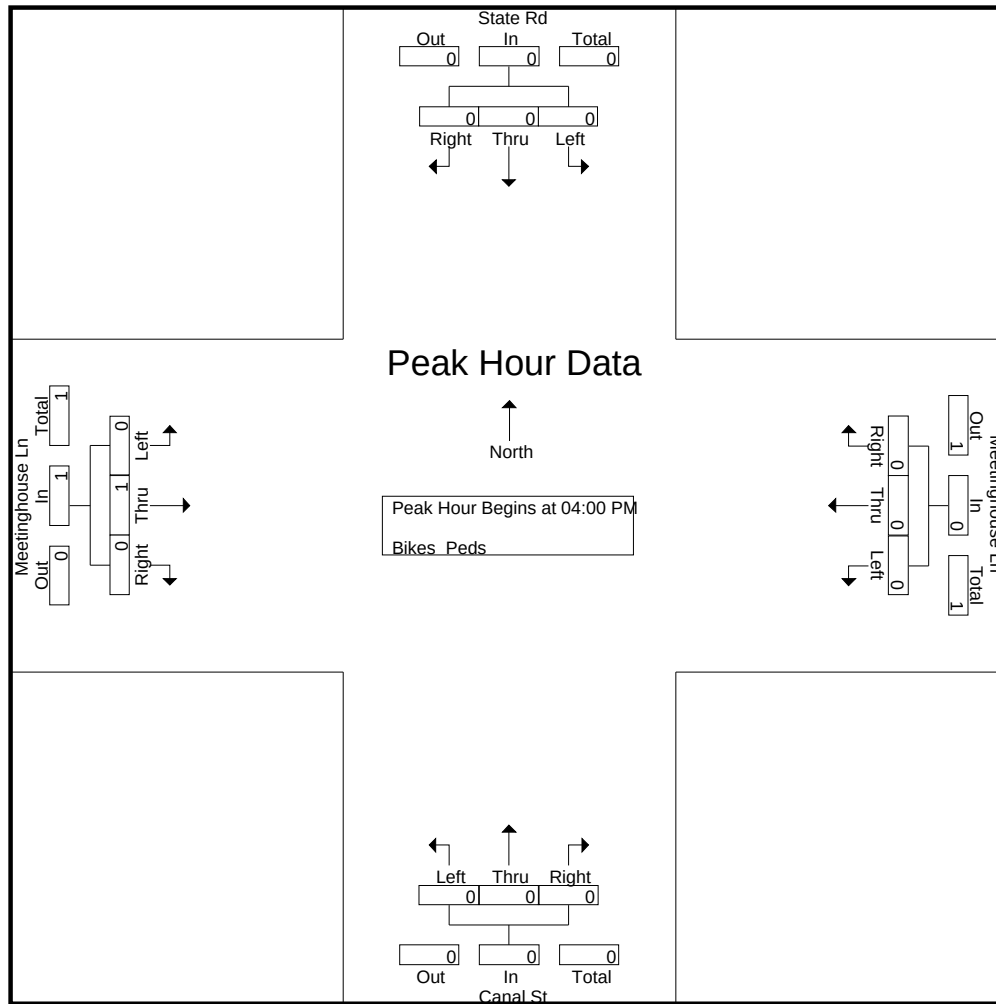
	State Rd From North				Meetinghouse Ln From East				Canal St From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1							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

Accurate Counts

978-664-2565

N/S Street : State Rd / Canal St
 E/W Street : Meetinghouse Lane
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630001
 Site Code : 89630001
 Start Date : 4/27/2021
 Page No : 11

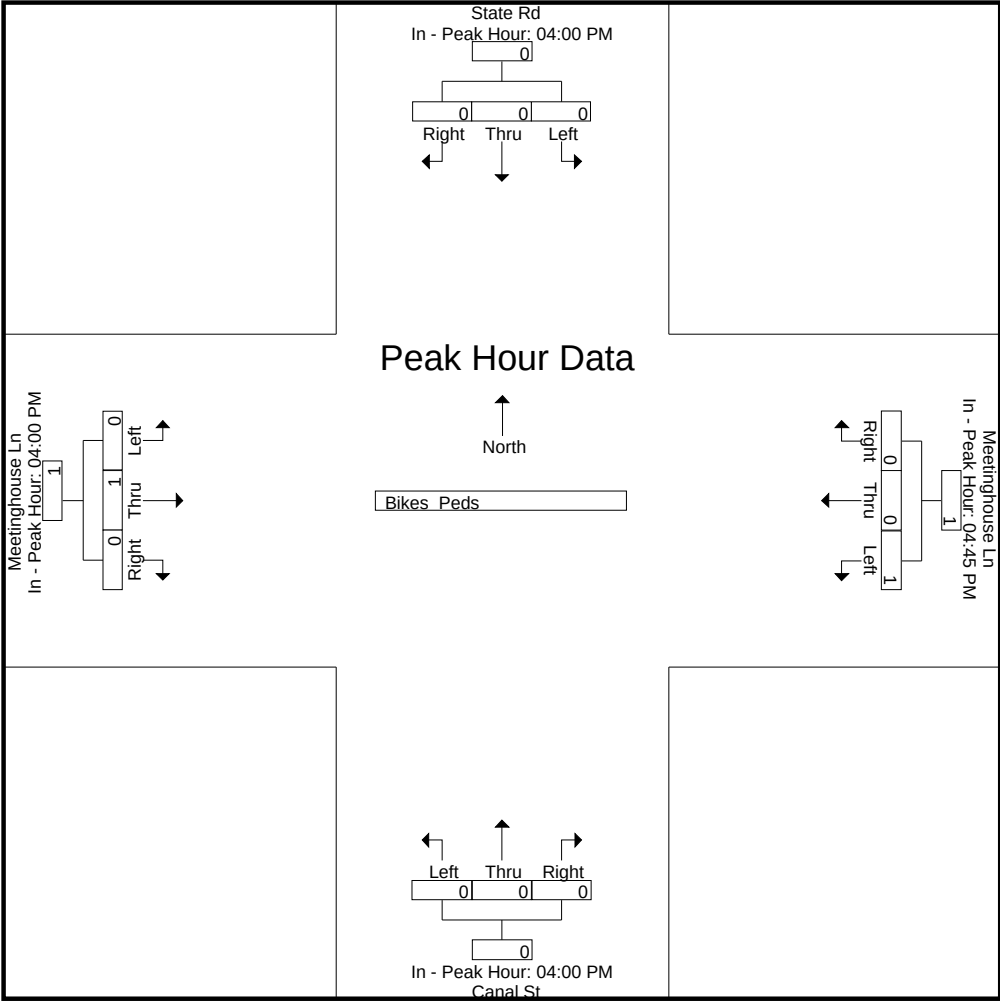


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

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

N/S Street : State Rd / Canal St
E/W Street : Meetinghouse Lane
City/State : Bourne, MA
Weather : Clear

File Name : 89630001
Site Code : 89630001
Start Date : 4/27/2021
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 1

Groups Printed- Cars - Trucks

	Old Plymouth Rd From North			Scusset Beach Rd From East			Old Plymouth Rd From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	2	27	1	23	0	6	0	0	6	9	4	78
07:15 AM	0	3	30	0	20	0	10	4	0	6	10	0	83
07:30 AM	2	2	29	0	13	0	3	3	0	16	7	6	81
07:45 AM	0	2	28	0	31	1	6	1	0	19	11	3	102
Total	2	9	114	1	87	1	25	8	0	47	37	13	344
08:00 AM	2	2	25	1	22	1	8	1	2	16	20	2	102
08:15 AM	2	3	28	1	26	0	2	1	2	17	15	4	101
08:30 AM	1	1	31	1	25	0	6	1	0	17	11	2	96
08:45 AM	2	4	35	0	24	0	2	2	0	12	11	3	95
Total	7	10	119	3	97	1	18	5	4	62	57	11	394
Grand Total	9	19	233	4	184	2	43	13	4	109	94	24	738
Apprch %	3.4	7.3	89.3	2.1	96.8	1.1	71.7	21.7	6.7	48	41.4	10.6	
Total %	1.2	2.6	31.6	0.5	24.9	0.3	5.8	1.8	0.5	14.8	12.7	3.3	
Cars	9	19	225	4	180	2	42	13	2	108	89	24	717
% Cars	100	100	96.6	100	97.8	100	97.7	100	50	99.1	94.7	100	97.2
Trucks	0	0	8	0	4	0	1	0	2	1	5	0	21
% Trucks	0	0	3.4	0	2.2	0	2.3	0	50	0.9	5.3	0	2.8

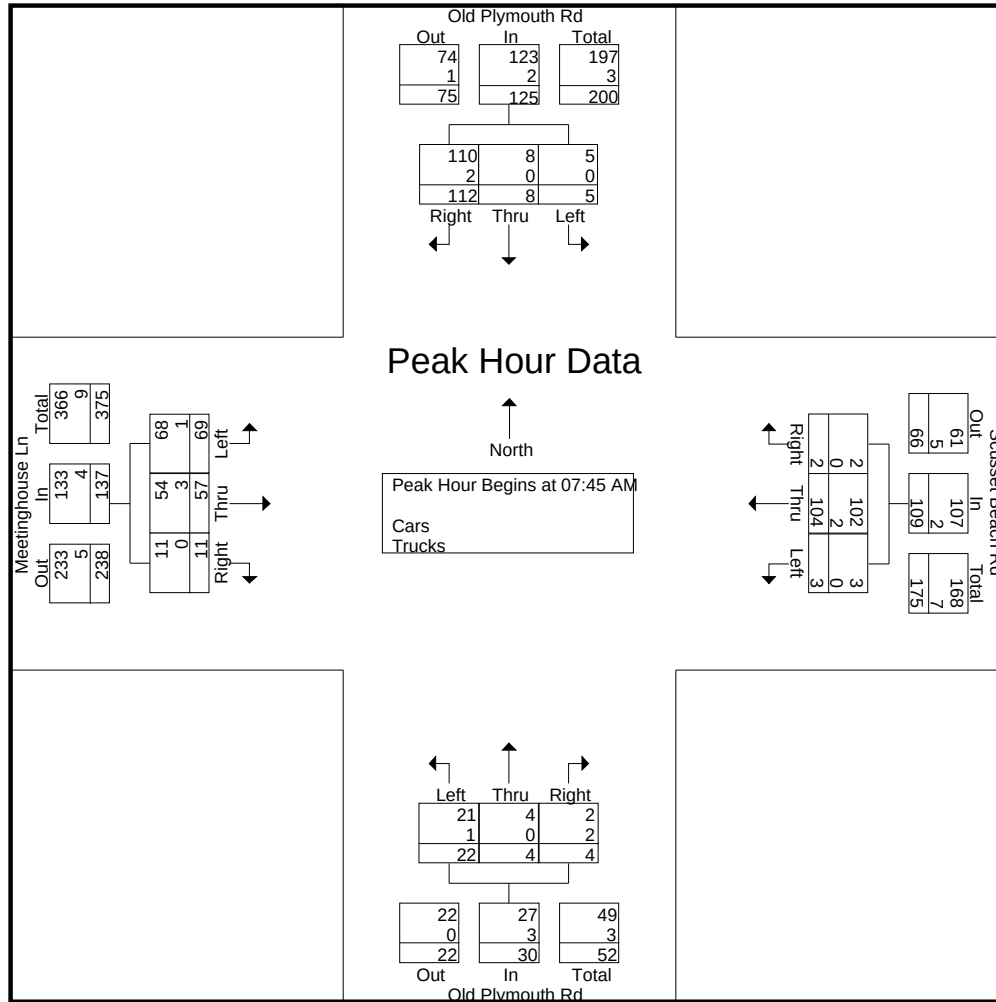
	Old Plymouth Rd From North				Scusset Beach Rd From East				Old Plymouth Rd From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	2	28	30	0	31	1	32	6	1	0	7	19	11	3	33	102
08:00 AM	2	2	25	29	1	22	1	24	8	1	2	11	16	20	2	38	102
08:15 AM	2	3	28	33	1	26	0	27	2	1	2	5	17	15	4	36	101
08:30 AM	1	1	31	33	1	25	0	26	6	1	0	7	17	11	2	30	96
Total Volume	5	8	112	125	3	104	2	109	22	4	4	30	69	57	11	137	401
% App. Total	4	6.4	89.6		2.8	95.4	1.8		73.3	13.3	13.3		50.4	41.6	8		
PHF	.625	.667	.903	.947	.750	.839	.500	.852	.688	1.00	.500	.682	.908	.713	.688	.901	.983
Cars	5	8	110	123	3	102	2	107	21	4	2	27	68	54	11	133	390
% Cars	100	100	98.2	98.4	100	98.1	100	98.2	95.5	100	50.0	90.0	98.6	94.7	100	97.1	97.3
Trucks	0	0	2	2	0	2	0	2	1	0	2	3	1	3	0	4	11
% Trucks	0	0	1.8	1.6	0	1.9	0	1.8	4.5	0	50.0	10.0	1.4	5.3	0	2.9	2.7

Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
 E/W Street : Meetinghouse / Scussett Beach
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630002
 Site Code : 89630002
 Start Date : 4/27/2021
 Page No : 2

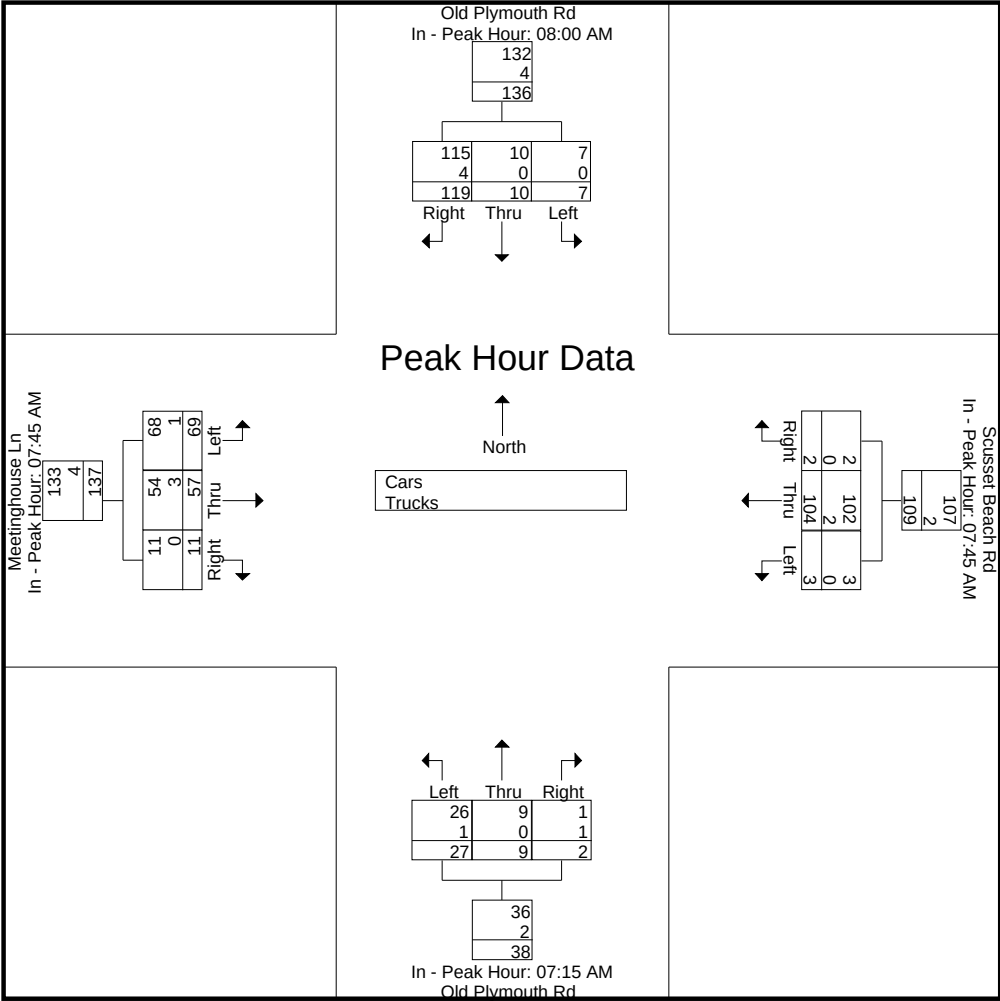


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:15 AM				07:45 AM			
+0 mins.	2	2	25	29	0	31	1	32	10	4	0	14	19	11	3	33
+15 mins.	2	3	28	33	1	22	1	24	3	3	0	6	16	20	2	38
+30 mins.	1	1	31	33	1	26	0	27	6	1	0	7	17	15	4	36
+45 mins.	2	4	35	41	1	25	0	26	8	1	2	11	17	11	2	30
Total Volume	7	10	119	136	3	104	2	109	27	9	2	38	69	57	11	137
% App. Total	5.1	7.4	87.5		2.8	95.4	1.8		71.1	23.7	5.3		50.4	41.6	8	
PHF	.875	.625	.850	.829	.750	.839	.500	.852	.675	.563	.250	.679	.908	.713	.688	.901
Cars	7	10	115	132	3	102	2	107	26	9	1	36	68	54	11	133
% Cars	100	100	96.6	97.1	100	98.1	100	98.2	96.3	100	50	94.7	98.6	94.7	100	97.1
Trucks	0	0	4	4	0	2	0	2	1	0	1	2	1	3	0	4
% Trucks	0	0	3.4	2.9	0	1.9	0	1.8	3.7	0	50	5.3	1.4	5.3	0	2.9

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 4

Groups Printed- Cars

	Old Plymouth Rd From North			Scusset Beach Rd From East			Old Plymouth Rd From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	2	27	1	23	0	6	0	0	6	7	4	76
07:15 AM	0	3	26	0	20	0	10	4	0	6	10	0	79
07:30 AM	2	2	29	0	13	0	3	3	0	16	7	6	81
07:45 AM	0	2	28	0	31	1	5	1	0	19	10	3	100
Total	2	9	110	1	87	1	24	8	0	47	34	13	336
08:00 AM	2	2	25	1	21	1	8	1	1	15	20	2	99
08:15 AM	2	3	27	1	25	0	2	1	1	17	15	4	98
08:30 AM	1	1	30	1	25	0	6	1	0	17	9	2	93
08:45 AM	2	4	33	0	22	0	2	2	0	12	11	3	91
Total	7	10	115	3	93	1	18	5	2	61	55	11	381
Grand Total	9	19	225	4	180	2	42	13	2	108	89	24	717
Apprch %	3.6	7.5	88.9	2.2	96.8	1.1	73.7	22.8	3.5	48.9	40.3	10.9	
Total %	1.3	2.6	31.4	0.6	25.1	0.3	5.9	1.8	0.3	15.1	12.4	3.3	

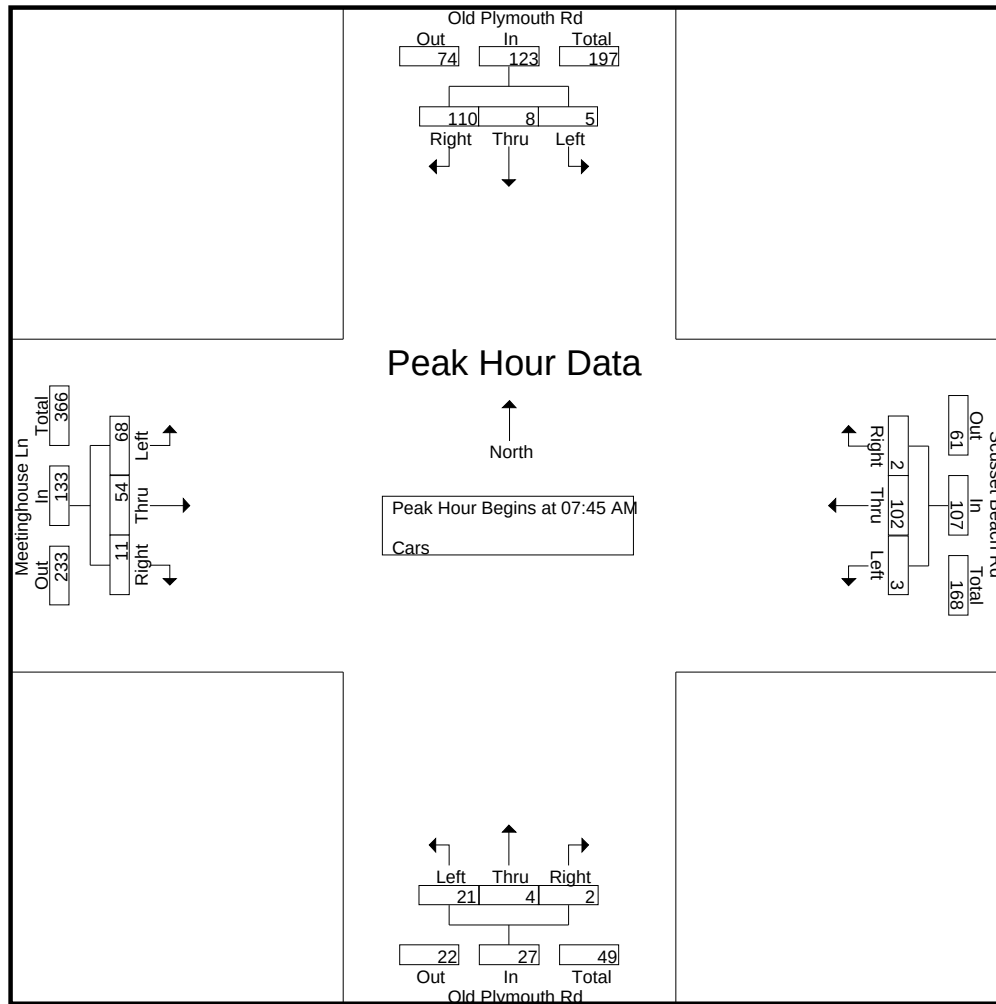
	Old Plymouth Rd From North				Scusset Beach Rd From East				Old Plymouth Rd From South				Meetinghouse Ln From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	2	28	30	0	31	1	32	5	1	0	6	19	10	3	32	100
08:00 AM	2	2	25	29	1	21	1	23	8	1	1	10	15	20	2	37	99
08:15 AM	2	3	27	32	1	25	0	26	2	1	1	4	17	15	4	36	98
08:30 AM	1	1	30	32	1	25	0	26	6	1	0	7	17	9	2	28	93
Total Volume	5	8	110	123	3	102	2	107	21	4	2	27	68	54	11	133	390
% App. Total	4.1	6.5	89.4		2.8	95.3	1.9		77.8	14.8	7.4		51.1	40.6	8.3		
PHF	.625	.667	.917	.961	.750	.823	.500	.836	.656	1.00	.500	.675	.895	.675	.688	.899	.975

Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
 E/W Street : Meetinghouse / Scussett Beach
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630002
 Site Code : 89630002
 Start Date : 4/27/2021
 Page No : 5

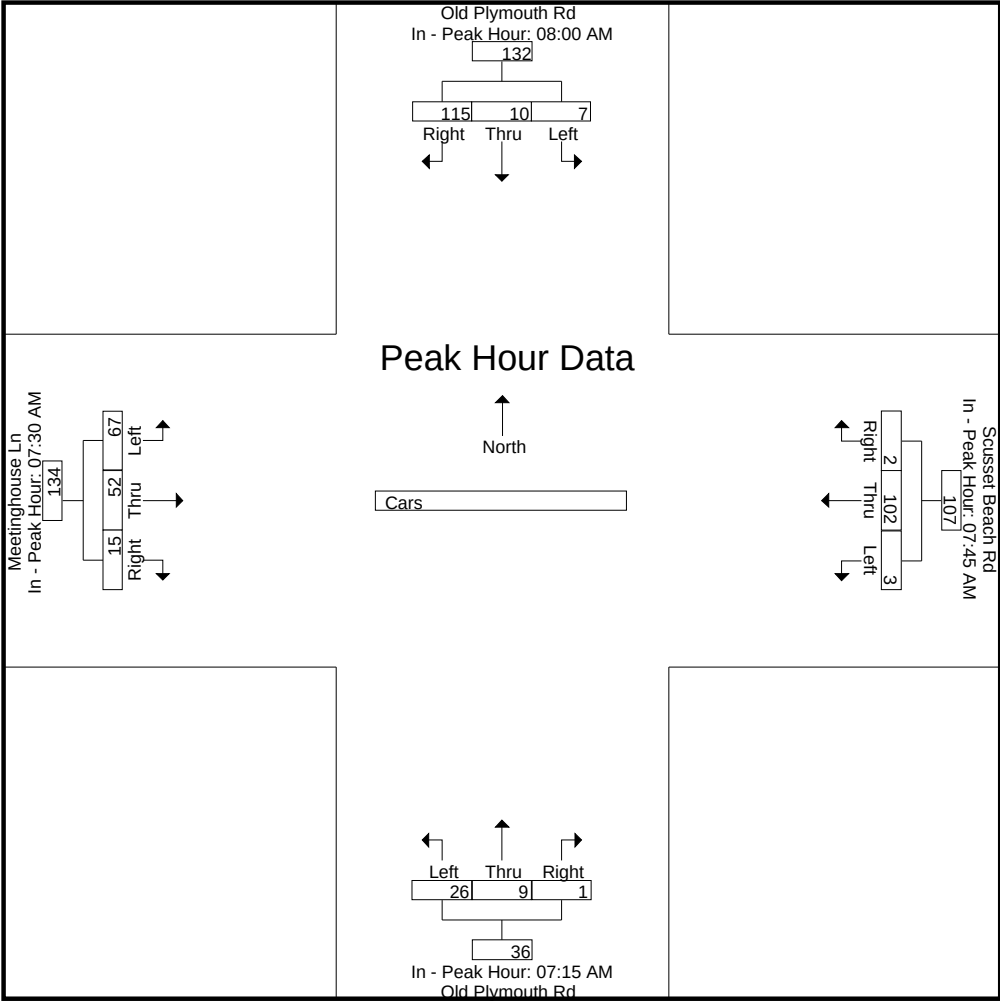


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:15 AM				07:30 AM			
+0 mins.	2	2	25	29	0	31	1	32	10	4	0	14	16	7	6	29
+15 mins.	2	3	27	32	1	21	1	23	3	3	0	6	19	10	3	32
+30 mins.	1	1	30	32	1	25	0	26	5	1	0	6	15	20	2	37
+45 mins.	2	4	33	39	1	25	0	26	8	1	1	10	17	15	4	36
Total Volume	7	10	115	132	3	102	2	107	26	9	1	36	67	52	15	134
% App. Total	5.3	7.6	87.1		2.8	95.3	1.9		72.2	25	2.8		50	38.8	11.2	
PHF	.875	.625	.871	.846	.750	.823	.500	.836	.650	.563	.250	.643	.882	.650	.625	.905

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 7

Groups Printed- Trucks

	Old Plymouth Rd From North			Scusset Beach Rd From East			Old Plymouth Rd From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
07:15 AM	0	0	4	0	0	0	0	0	0	0	0	0	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	1	0	0	0	1	0	2
Total	0	0	4	0	0	0	1	0	0	0	3	0	8
08:00 AM	0	0	0	0	1	0	0	0	1	1	0	0	3
08:15 AM	0	0	1	0	1	0	0	0	1	0	0	0	3
08:30 AM	0	0	1	0	0	0	0	0	0	0	2	0	3
08:45 AM	0	0	2	0	2	0	0	0	0	0	0	0	4
Total	0	0	4	0	4	0	0	0	2	1	2	0	13
Grand Total	0	0	8	0	4	0	1	0	2	1	5	0	21
Apprch %	0	0	100	0	100	0	33.3	0	66.7	16.7	83.3	0	
Total %	0	0	38.1	0	19	0	4.8	0	9.5	4.8	23.8	0	

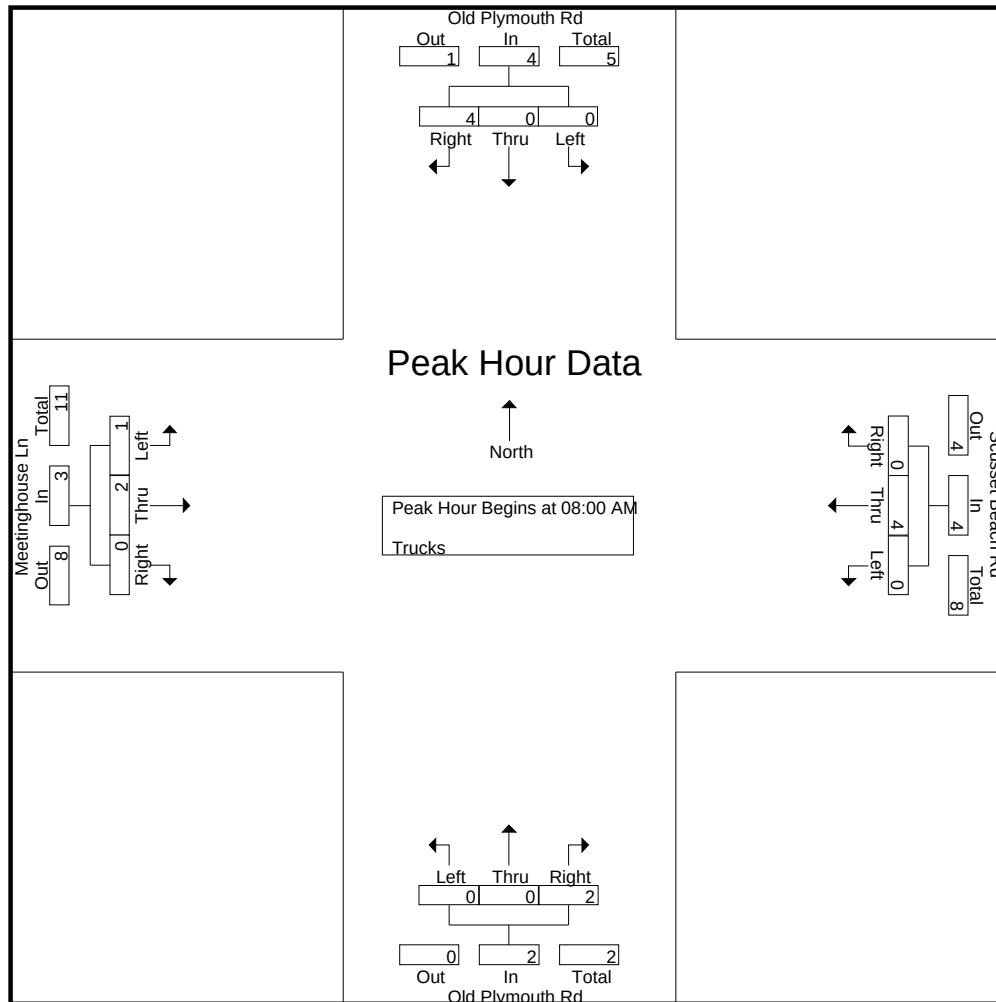
	Old Plymouth Rd From North				Scusset Beach Rd From East				Old Plymouth Rd From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	1	0	1	0	0	1	1	1	0	0	1	3
08:15 AM	0	0	1	1	0	1	0	1	0	0	1	1	0	0	0	0	3
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	2	3
08:45 AM	0	0	2	2	0	2	0	2	0	0	0	0	0	0	0	0	4
Total Volume	0	0	4	4	0	4	0	4	0	0	2	2	1	2	0	3	13
% App. Total	0	0	100		0	100	0		0	0	100		33.3	66.7	0		
PHF	.000	.000	.500	.500	.000	.500	.000	.500	.000	.000	.500	.500	.250	.250	.000	.375	.813

Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
 E/W Street : Meetinghouse / Scussett Beach
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630002
 Site Code : 89630002
 Start Date : 4/27/2021
 Page No : 8

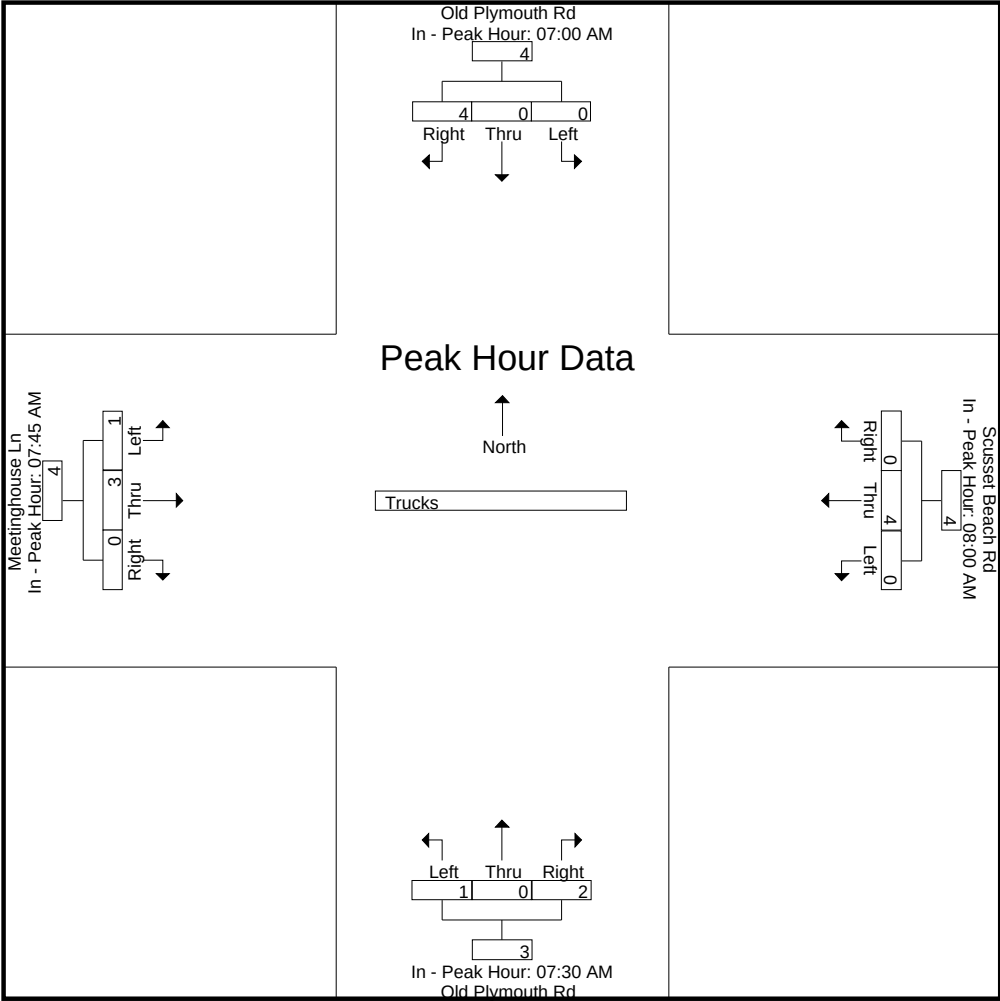


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:30 AM				07:45 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+15 mins.	0	0	4	4	0	1	0	1	1	0	0	1	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
+45 mins.	0	0	0	0	0	2	0	2	0	0	1	1	0	2	0	2
Total Volume	0	0	4	4	0	4	0	4	1	0	2	3	1	3	0	4
% App. Total	0	0	100		0	100	0		33.3	0	66.7		25	75	0	
PHF	.000	.000	.250	.250	.000	.500	.000	.500	.250	.000	.500	.750	.250	.375	.000	.500

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 9



978-664-2565

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 10

	Old Plymouth Rd From North				Scusset Beach Rd From East				Old Plymouth Rd From South				Meetinghouse Ln 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
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
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	1	0	0	0	0	0	0	2	0	0	0	0	2	1	3
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	1	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1
Grand Total	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	3	1	4
Apprch %	0	0	0		100	0	0		0	0	0		0	0	0				
Total %	0	0	0		100	0	0		0	0	0		0	0	0		75	25	

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978-664-2565

File Name : 89630002
Site Code : 89630002
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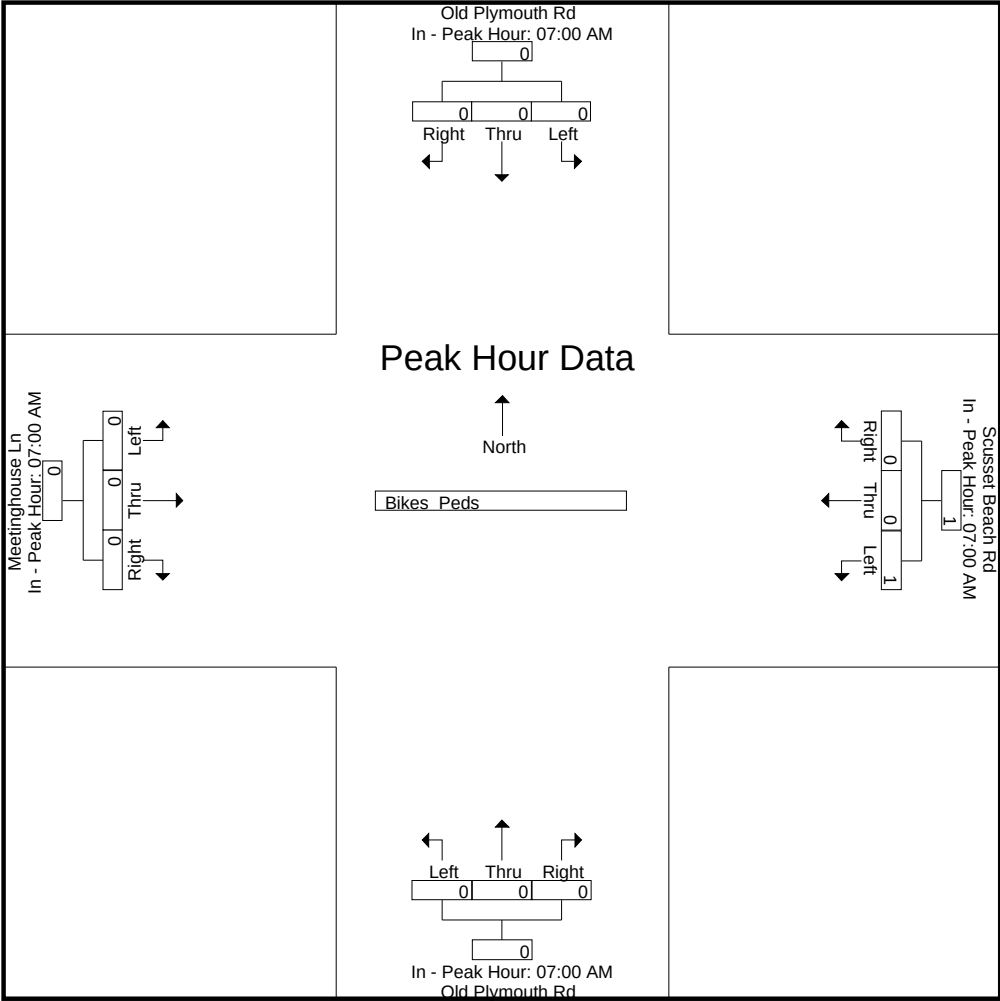
Peak Hour Begins at 07:00 AM
Bikes Peds

Peak Hour for Each Approach Begins at:

[illegible]

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 12



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File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 1

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File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 2



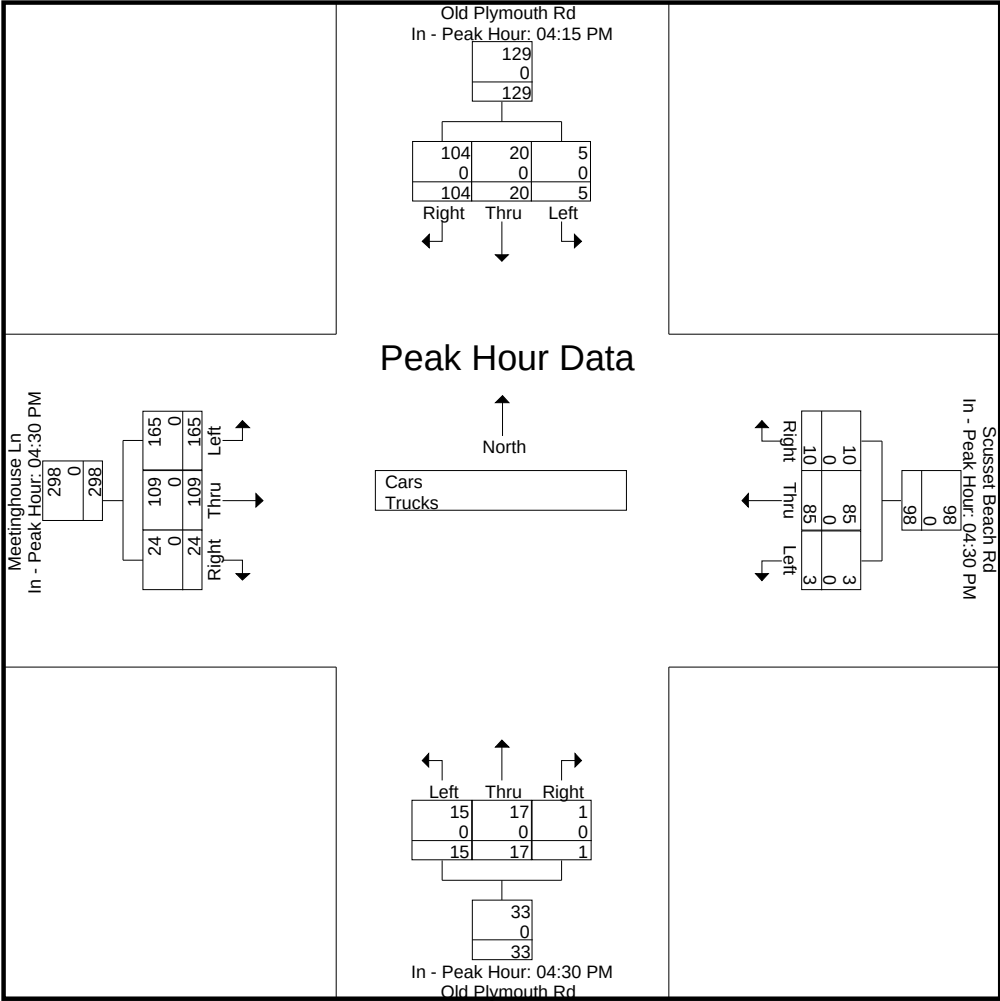
Peak Hour Begins at 04:30 PM
Cars
Trucks

Peak Hour for Each Approach Begins at:

Peak Hour for Each Approach Begins at:																
	04:15 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	5	21	26	3	24	2	29	5	5	0	10	35	28	7	70
+15 mins.	2	4	30	36	0	14	5	19	3	2	1	6	38	30	6	74
+30 mins.	1	4	30	35	0	20	2	22	4	5	0	9	46	22	5	73
+45 mins.	2	7	23	32	0	27	1	28	3	5	0	8	46	29	6	81
Total Volume	5	20	104	129	3	85	10	98	15	17	1	33	165	109	24	298
% App. Total	3.9	15.5	80.6		3.1	86.7	10.2		45.5	51.5	3		55.4	36.6	8.1	
PHF	.625	.714	.867	.896	.250	.787	.500	.845	.750	.850	.250	.825	.897	.908	.857	.920
Cars	5	20	104	129	3	85	10	98	15	17	1	33	165	109	24	298
% Cars	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 4

Groups Printed- Cars

	Old Plymouth Rd From North			Scusset Beach Rd From East			Old Plymouth Rd From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	3	3	17	1	19	2	4	0	0	23	22	8	102
04:15 PM	0	5	21	1	19	0	3	2	1	42	21	7	122
04:30 PM	2	4	30	3	24	2	5	5	0	35	28	7	145
04:45 PM	1	4	30	0	14	5	3	2	1	38	30	6	134
Total	6	16	98	5	76	9	15	9	2	138	101	28	503
05:00 PM	2	7	23	0	20	2	4	5	0	46	22	5	136
05:15 PM	1	4	18	0	27	1	3	5	0	46	29	6	140
05:30 PM	0	4	25	0	28	0	3	2	0	33	31	3	129
05:45 PM	1	6	25	1	17	2	2	4	0	29	33	6	126
Total	4	21	91	1	92	5	12	16	0	154	115	20	531
Grand Total	10	37	189	6	168	14	27	25	2	292	216	48	1034
Apprch %	4.2	15.7	80.1	3.2	89.4	7.4	50	46.3	3.7	52.5	38.8	8.6	
Total %	1	3.6	18.3	0.6	16.2	1.4	2.6	2.4	0.2	28.2	20.9	4.6	

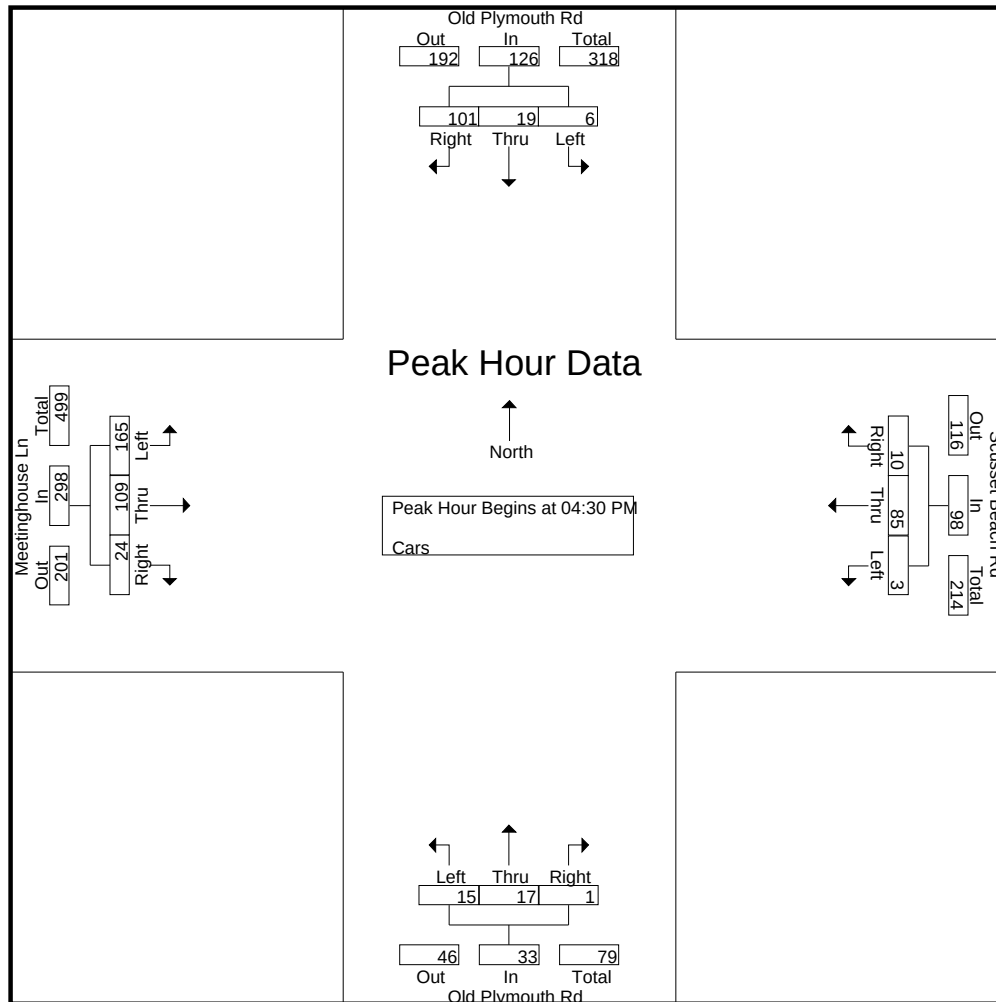
	Old Plymouth Rd From North				Scusset Beach Rd From East				Old Plymouth Rd From South				Meetinghouse Ln From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	4	30	36	3	24	2	29	5	5	0	10	35	28	7	70	145
04:45 PM	1	4	30	35	0	14	5	19	3	2	1	6	38	30	6	74	134
05:00 PM	2	7	23	32	0	20	2	22	4	5	0	9	46	22	5	73	136
05:15 PM	1	4	18	23	0	27	1	28	3	5	0	8	46	29	6	81	140
Total Volume	6	19	101	126	3	85	10	98	15	17	1	33	165	109	24	298	555
% App. Total	4.8	15.1	80.2		3.1	86.7	10.2		45.5	51.5	3		55.4	36.6	8.1		
PHF	.750	.679	.842	.875	.250	.787	.500	.845	.750	.850	.250	.825	.897	.908	.857	.920	.957

Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
 E/W Street : Meetinghouse / Scussett Beach
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630002
 Site Code : 89630002
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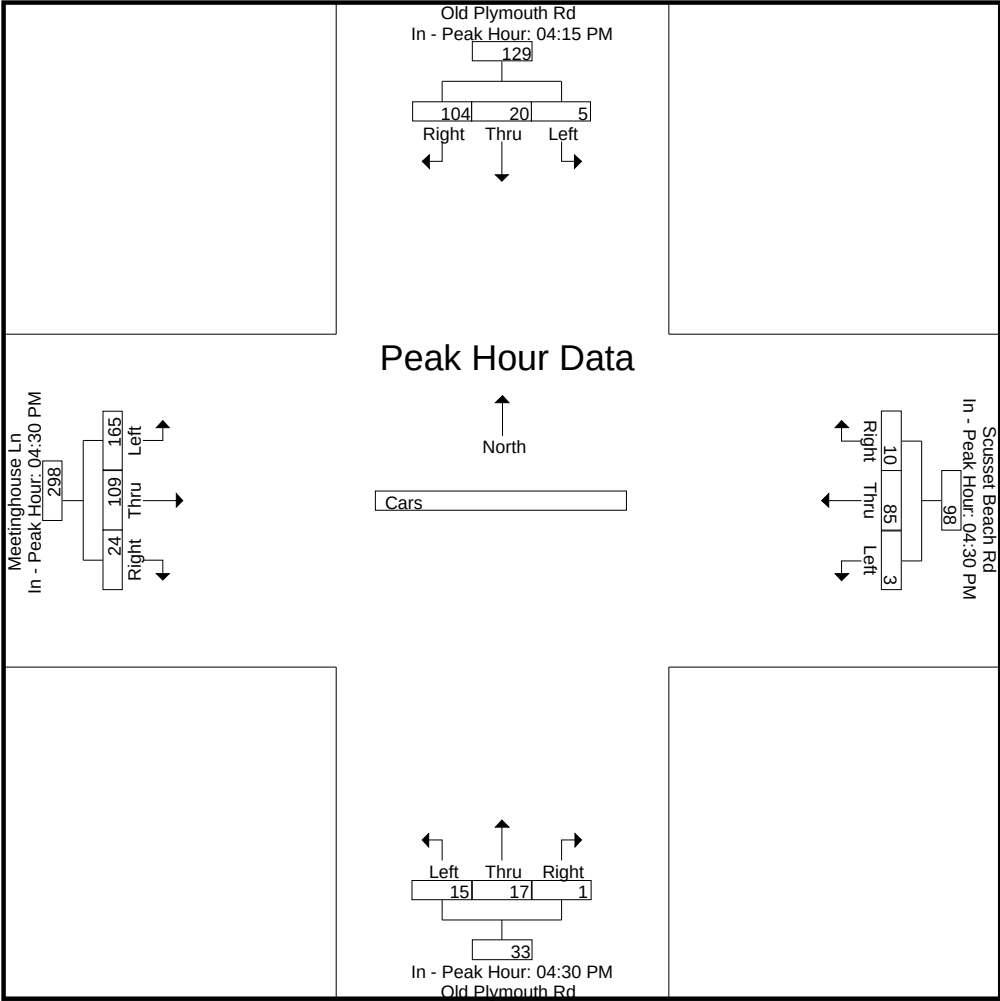


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	5	21	26	3	24	2	29	5	5	0	10	35	28	7	70
+15 mins.	2	4	30	36	0	14	5	19	3	2	1	6	38	30	6	74
+30 mins.	1	4	30	35	0	20	2	22	4	5	0	9	46	22	5	73
+45 mins.	2	7	23	32	0	27	1	28	3	5	0	8	46	29	6	81
Total Volume	5	20	104	129	3	85	10	98	15	17	1	33	165	109	24	298
% App. Total	3.9	15.5	80.6		3.1	86.7	10.2		45.5	51.5	3		55.4	36.6	8.1	
PHF	.625	.714	.867	.896	.250	.787	.500	.845	.750	.850	.250	.825	.897	.908	.857	.920

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
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File Name : 89630002
Site Code : 89630002
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North

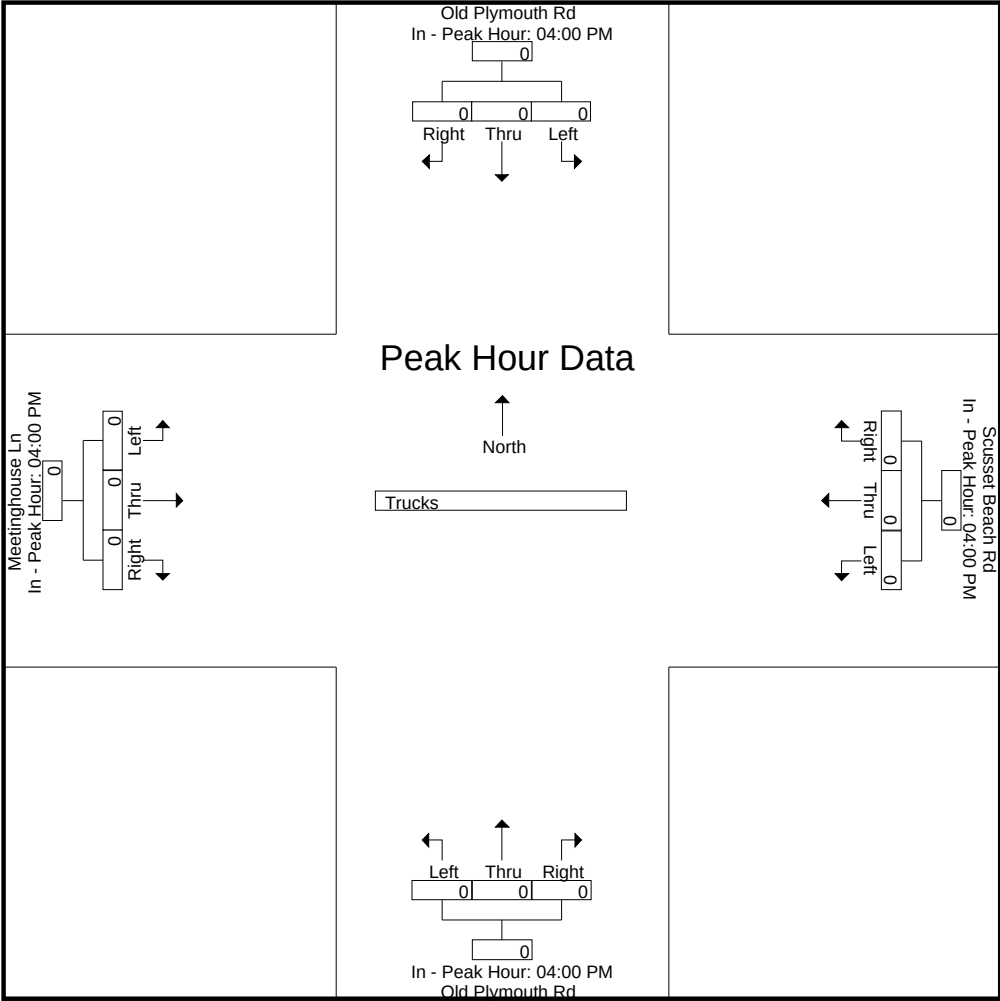
Peak Hour Begins at 04:00 PM

Trucks

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

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
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Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
Page No : 10

Groups Printed- Bikes Peds

	Old Plymouth Rd From North				Scusset Beach Rd From East				Old Plymouth Rd From South				Meetinghouse Ln From West				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	1	2	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
05:15 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	5	0	5
05:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	1	0	1	4	0	0	0	0	0	0	0	0	0	0	0	2	6	2	8
Grand Total	1	0	1	4	0	0	0	0	0	2	0	0	0	0	0	3	7	4	11
Apprch %	50	0	50		0	0	0		0	100	0		0	0	0				
Total %	25	0	25		0	0	0		0	50	0		0	0	0		63.6	36.4	

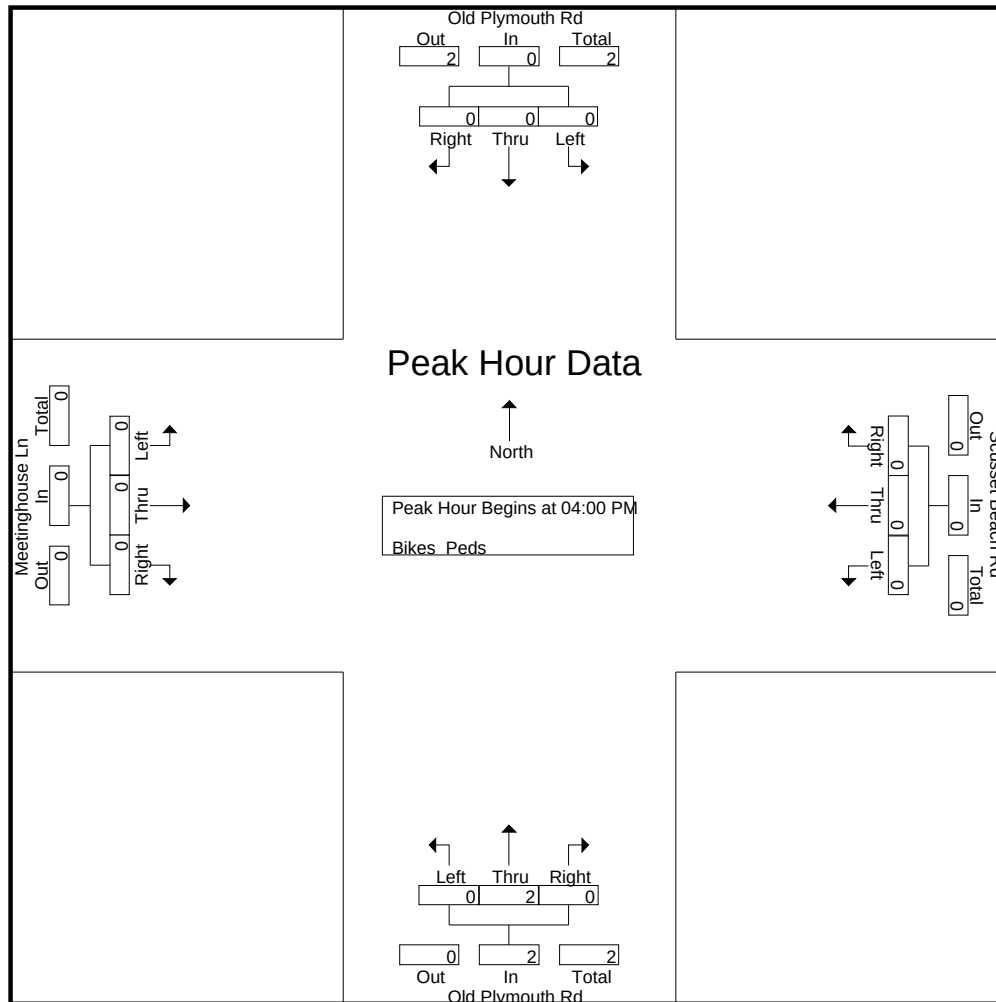
	Old Plymouth Rd From North				Scusset Beach Rd From East				Old Plymouth Rd From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak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

Accurate Counts

978-664-2565

N/S Street : Old Plymouth Road
 E/W Street : Meetinghouse / Scussett Beach
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630002
 Site Code : 89630002
 Start Date : 4/27/2021
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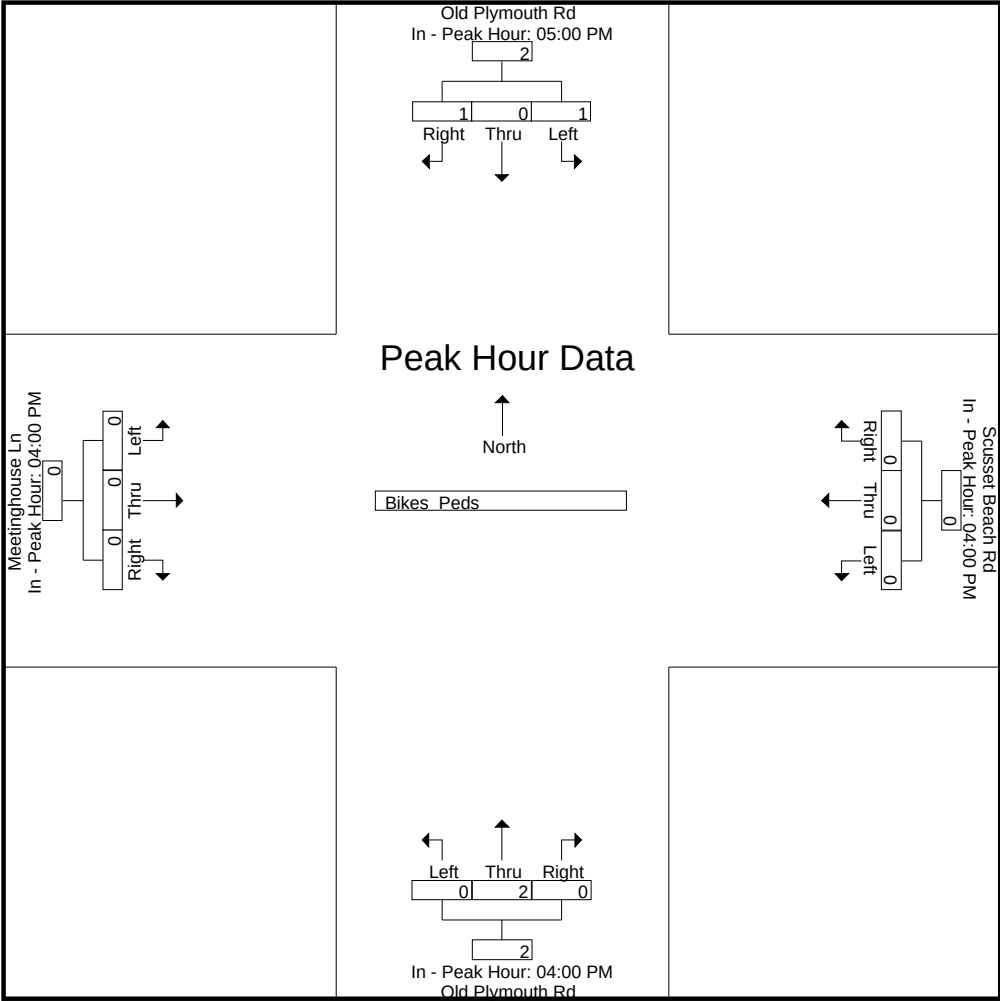


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	0	1	1	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	1	2	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	50	0	50		0	0	0		0	100	0		0	0	0	
PHF	.250	.000	.250	.500	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

N/S Street : Old Plymouth Road
E/W Street : Meetinghouse / Scussett Beach
City/State : Bourne, MA
Weather : Clear

File Name : 89630002
Site Code : 89630002
Start Date : 4/27/2021
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Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 1

Groups Printed- Cars - Trucks

	Cape View Way From North			Meetinghouse Ln From East			#54 Meetinghouse Ln From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	59	0	0	0	0	2	18	1	80
07:15 AM	0	0	0	0	61	0	0	0	0	1	19	0	81
07:30 AM	0	0	0	0	52	1	0	0	0	0	29	2	84
07:45 AM	0	0	0	0	63	0	0	0	0	1	35	4	103
Total	0	0	0	0	235	1	0	0	0	4	101	7	348
08:00 AM	0	0	1	1	56	0	0	0	0	1	41	5	105
08:15 AM	0	0	1	4	53	0	0	0	0	1	38	2	99
08:30 AM	1	0	0	2	59	0	0	0	0	0	33	3	98
08:45 AM	0	0	0	0	65	1	0	0	0	1	34	3	104
Total	1	0	2	7	233	1	0	0	0	3	146	13	406
Grand Total	1	0	2	7	468	2	0	0	0	7	247	20	754
Apprch %	33.3	0	66.7	1.5	98.1	0.4	0	0	0	2.6	90.1	7.3	
Total %	0.1	0	0.3	0.9	62.1	0.3	0	0	0	0.9	32.8	2.7	
Cars	1	0	2	3	448	2	0	0	0	7	240	19	722
% Cars	100	0	100	42.9	95.7	100	0	0	0	100	97.2	95	95.8
Trucks	0	0	0	4	20	0	0	0	0	0	7	1	32
% Trucks	0	0	0	57.1	4.3	0	0	0	0	0	2.8	5	4.2

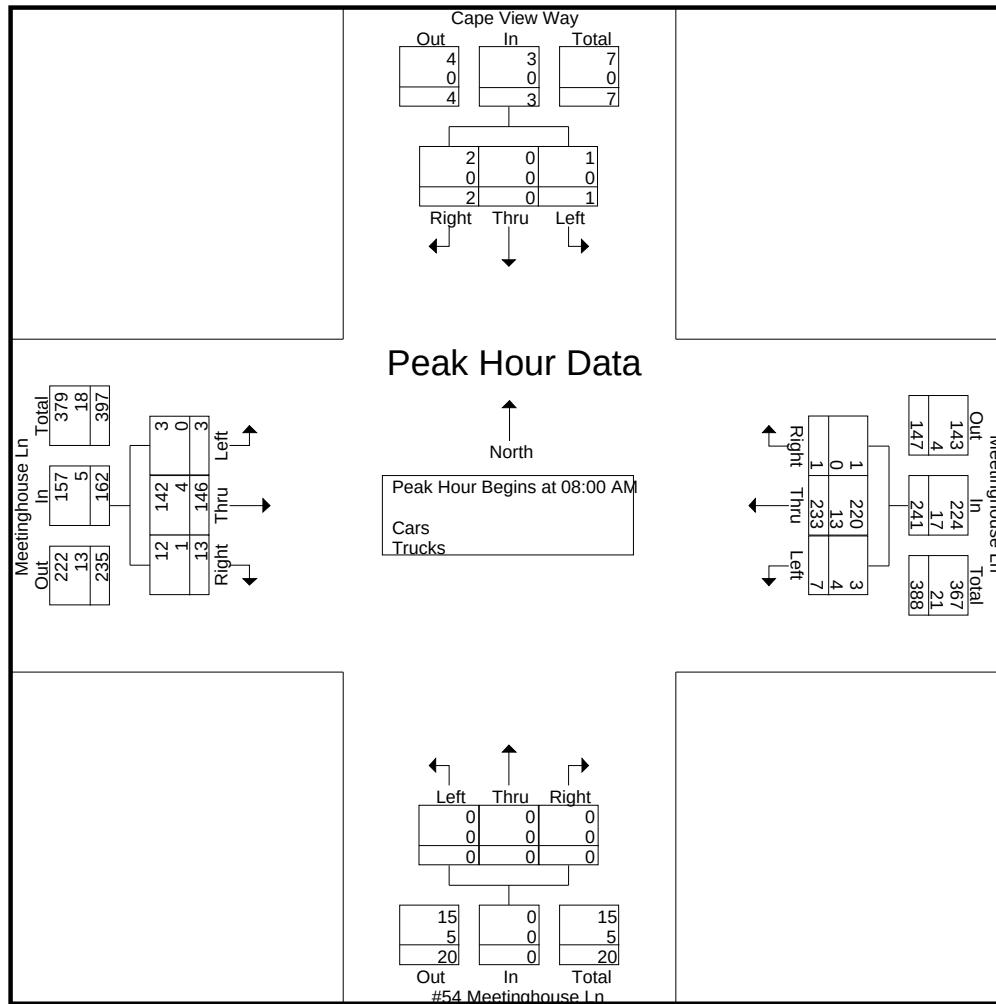
	Cape View Way From North				Meetinghouse Ln From East				#54 Meetinghouse Ln From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	1	1	1	56	0	57	0	0	0	0	1	41	5	47	105
08:15 AM	0	0	1	1	4	53	0	57	0	0	0	0	1	38	2	41	99
08:30 AM	1	0	0	1	2	59	0	61	0	0	0	0	0	33	3	36	98
08:45 AM	0	0	0	0	0	65	1	66	0	0	0	0	1	34	3	38	104
Total Volume	1	0	2	3	7	233	1	241	0	0	0	0	3	146	13	162	406
% App. Total	33.3	0	66.7		2.9	96.7	0.4		0	0	0		1.9	90.1	8		
PHF	.250	.000	.500	.750	.438	.896	.250	.913	.000	.000	.000	.000	.750	.890	.650	.862	.967
Cars	1	0	2	3	3	220	1	224	0	0	0	0	3	142	12	157	384
% Cars	100	0	100	100	42.9	94.4	100	92.9	0	0	0	0	100	97.3	92.3	96.9	94.6
Trucks	0	0	0	0	4	13	0	17	0	0	0	0	0	4	1	5	22
% Trucks	0	0	0	0	57.1	5.6	0	7.1	0	0	0	0	0	2.7	7.7	3.1	5.4

Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse
 E/W Street : Meetinghouse Road
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630003
 Site Code : 89630003
 Start Date : 4/27/2021
 Page No : 2

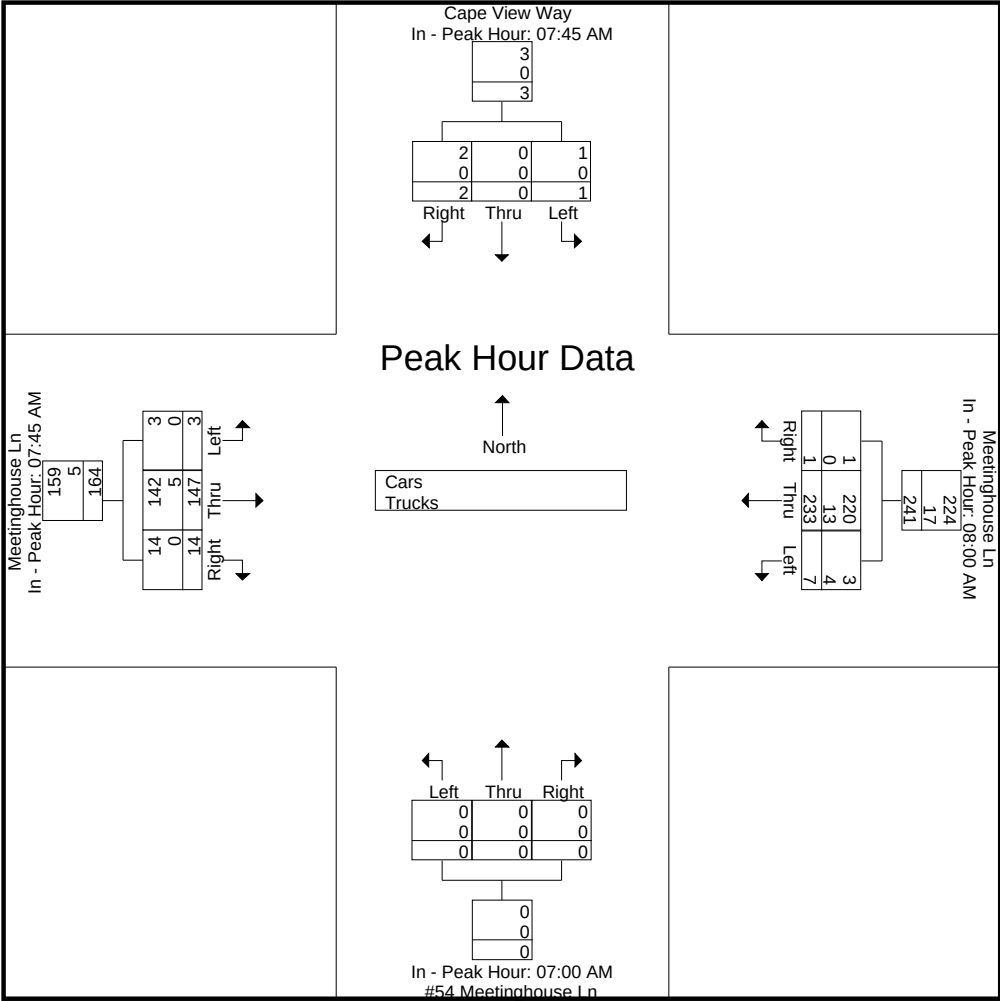


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:00 AM				07:45 AM			
+0 mins.	0	0	0	0	1	56	0	57	0	0	0	0	1	35	4	40
+15 mins.	0	0	1	1	4	53	0	57	0	0	0	0	1	41	5	47
+30 mins.	0	0	1	1	2	59	0	61	0	0	0	0	1	38	2	41
+45 mins.	1	0	0	1	0	65	1	66	0	0	0	0	0	33	3	36
Total Volume	1	0	2	3	7	233	1	241	0	0	0	0	3	147	14	164
% App. Total	33.3	0	66.7		2.9	96.7	0.4		0	0	0		1.8	89.6	8.5	
PHF	.250	.000	.500	.750	.438	.896	.250	.913	.000	.000	.000	.000	.750	.896	.700	.872
Cars	1	0	2	3	3	220	1	224	0	0	0	0	3	142	14	159
% Cars	100	0	100	100	42.9	94.4	100	92.9	0	0	0	0	100	96.6	100	97
Trucks	0	0	0	0	4	13	0	17	0	0	0	0	0	5	0	5
% Trucks	0	0	0	0	57.1	5.6	0	7.1	0	0	0	0	0	3.4	0	3

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 3



Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse

E/W Street : Meetinghouse Road

City/State : Bourne, MA

Weather : Clear

File Name : 89630003

Site Code : 89630003

Start Date : 4/27/2021

Page No : 4

Groups Printed- Cars

	Cape View Way From North			Meetinghouse Ln From East			#54 Meetinghouse Ln From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	59	0	0	0	0	2	16	1	78
07:15 AM	0	0	0	0	56	0	0	0	0	1	19	0	76
07:30 AM	0	0	0	0	50	1	0	0	0	0	29	2	82
07:45 AM	0	0	0	0	63	0	0	0	0	1	34	4	102
Total	0	0	0	0	228	1	0	0	0	4	98	7	338
08:00 AM	0	0	1	1	54	0	0	0	0	1	39	5	101
08:15 AM	0	0	1	1	51	0	0	0	0	1	38	2	94
08:30 AM	1	0	0	1	58	0	0	0	0	0	31	3	94
08:45 AM	0	0	0	0	57	1	0	0	0	1	34	2	95
Total	1	0	2	3	220	1	0	0	0	3	142	12	384
Grand Total	1	0	2	3	448	2	0	0	0	7	240	19	722
Apprch %	33.3	0	66.7	0.7	98.9	0.4	0	0	0	2.6	90.2	7.1	
Total %	0.1	0	0.3	0.4	62	0.3	0	0	0	1	33.2	2.6	

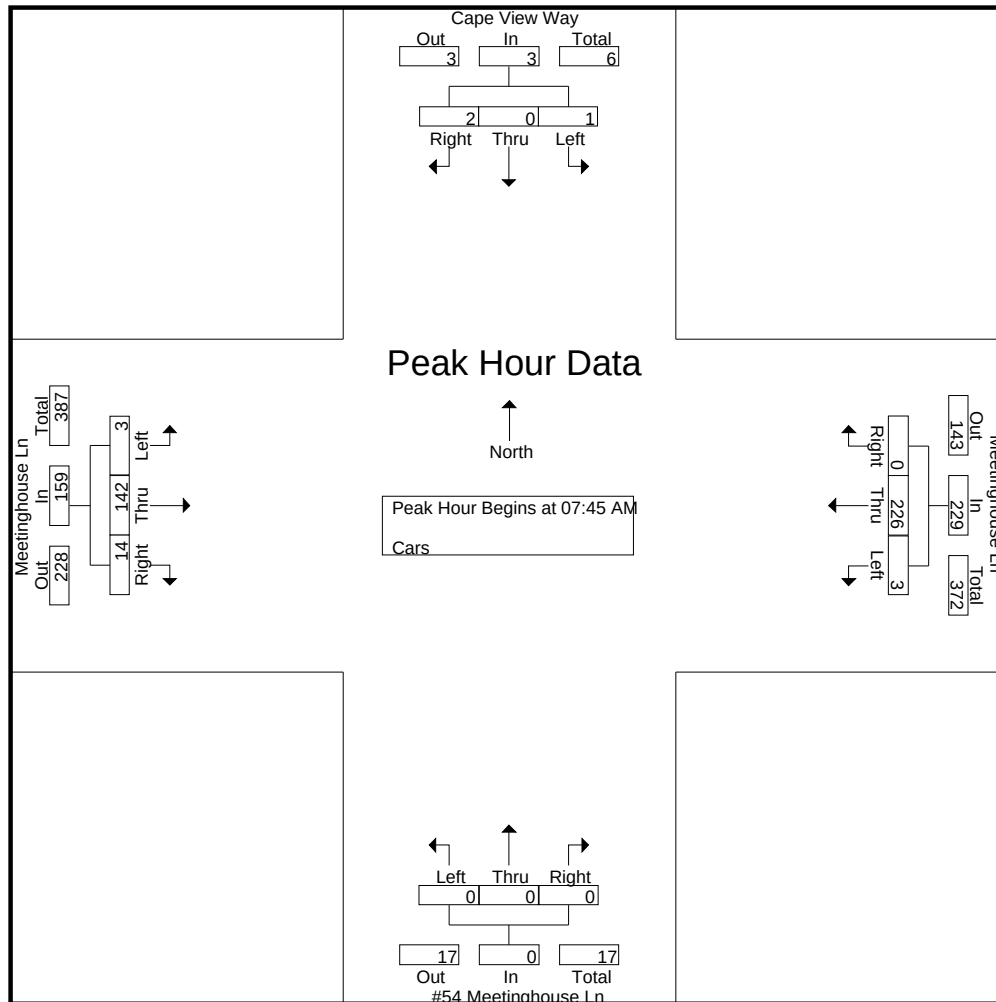
	Cape View Way From North				Meetinghouse Ln From East				#54 Meetinghouse Ln From South				Meetinghouse Ln From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	63	0	63	0	0	0	0	1	34	4	39	102
08:00 AM	0	0	1	1	1	54	0	55	0	0	0	0	1	39	5	45	101
08:15 AM	0	0	1	1	1	51	0	52	0	0	0	0	1	38	2	41	94
08:30 AM	1	0	0	1	1	58	0	59	0	0	0	0	0	31	3	34	94
Total Volume	1	0	2	3	3	226	0	229	0	0	0	0	3	142	14	159	391
% App. Total	33.3	0	66.7		1.3	98.7	0		0	0	0		1.9	89.3	8.8		
PHF	.250	.000	.500	.750	.750	.897	.000	.909	.000	.000	.000	.000	.750	.910	.700	.883	.958

Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse
 E/W Street : Meetinghouse Road
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630003
 Site Code : 89630003
 Start Date : 4/27/2021
 Page No : 5

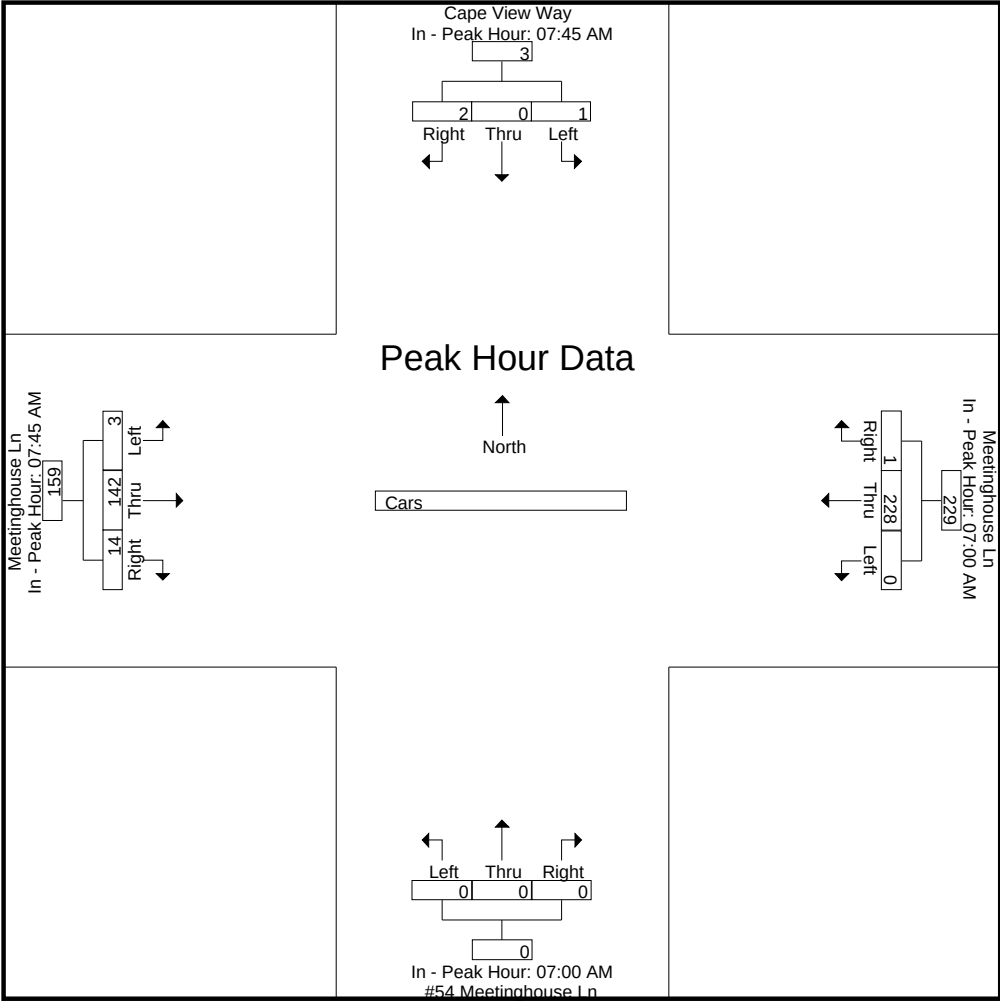


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				07:00 AM				07:00 AM				07:45 AM			
+0 mins.	0	0	0	0	0	59	0	59	0	0	0	0	1	34	4	39
+15 mins.	0	0	1	1	0	56	0	56	0	0	0	0	1	39	5	45
+30 mins.	0	0	1	1	0	50	1	51	0	0	0	0	1	38	2	41
+45 mins.	1	0	0	1	0	63	0	63	0	0	0	0	0	31	3	34
Total Volume	1	0	2	3	0	228	1	229	0	0	0	0	3	142	14	159
% App. Total	33.3	0	66.7		0	99.6	0.4		0	0	0		1.9	89.3	8.8	
PHF	.250	.000	.500	.750	.000	.905	.250	.909	.000	.000	.000	.000	.750	.910	.700	.883

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 6



Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse

E/W Street : Meetinghouse Road

City/State : Bourne, MA

Weather : Clear

File Name : 89630003

Site Code : 89630003

Start Date : 4/27/2021

Page No : 7

Groups Printed- Trucks

	Cape View Way From North			Meetinghouse Ln From East			#54 Meetinghouse Ln From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
07:15 AM	0	0	0	0	5	0	0	0	0	0	0	0	5
07:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	7	0	0	0	0	0	3	0	10
08:00 AM	0	0	0	0	2	0	0	0	0	0	2	0	4
08:15 AM	0	0	0	3	2	0	0	0	0	0	0	0	5
08:30 AM	0	0	0	1	1	0	0	0	0	0	2	0	4
08:45 AM	0	0	0	0	8	0	0	0	0	0	0	1	9
Total	0	0	0	4	13	0	0	0	0	0	4	1	22
Grand Total	0	0	0	4	20	0	0	0	0	0	7	1	32
Apprch %	0	0	0	16.7	83.3	0	0	0	0	0	87.5	12.5	
Total %	0	0	0	12.5	62.5	0	0	0	0	0	21.9	3.1	

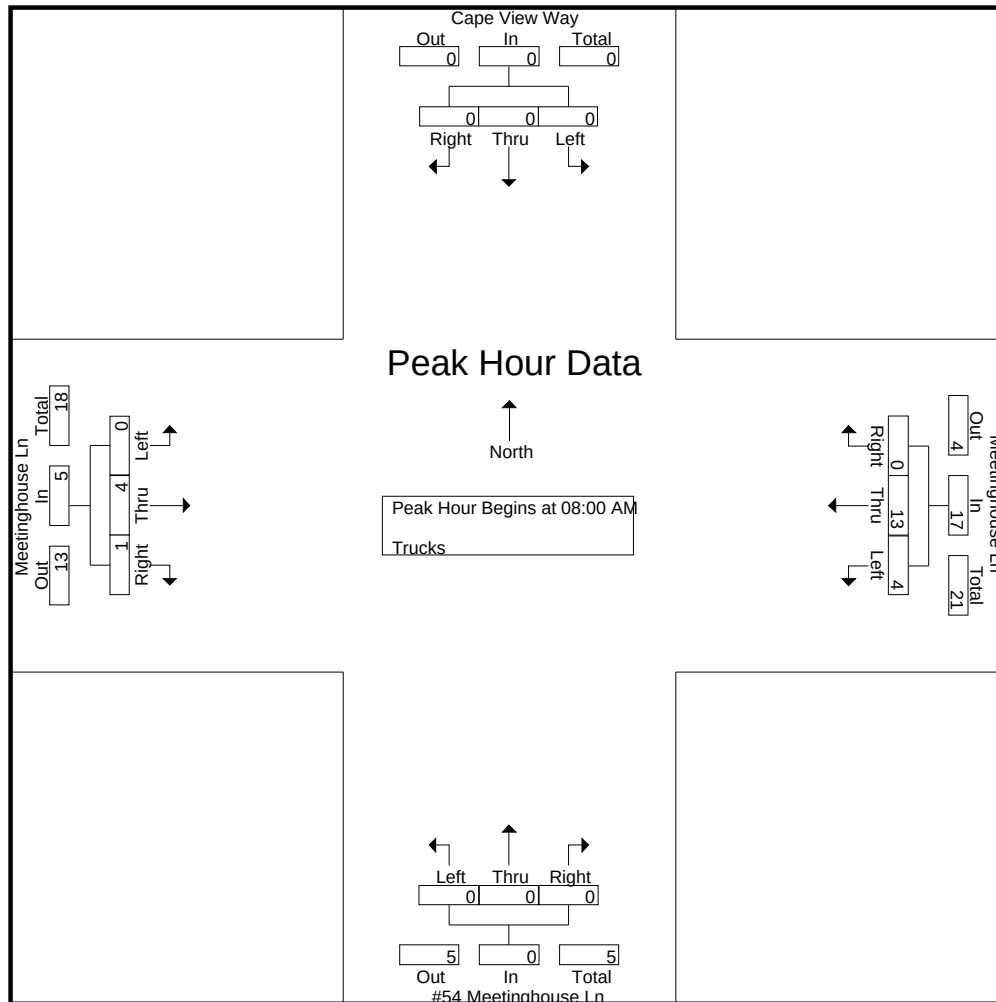
	Cape View Way From North				Meetinghouse Ln From East				#54 Meetinghouse Ln From South				Meetinghouse Ln From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
08:15 AM	0	0	0	0	3	2	0	5	0	0	0	0	0	0	0	0	5
08:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	2	0	2	4
08:45 AM	0	0	0	0	0	8	0	8	0	0	0	0	0	0	1	1	9
Total Volume	0	0	0	0	4	13	0	17	0	0	0	0	0	4	1	5	22
% App. Total	0	0	0		23.5	76.5	0		0	0	0		0	80	20		
PHF	.000	.000	.000	.000	.333	.406	.000	.531	.000	.000	.000	.000	.000	.500	.250	.625	.611

Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse
 E/W Street : Meetinghouse Road
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630003
 Site Code : 89630003
 Start Date : 4/27/2021
 Page No : 8

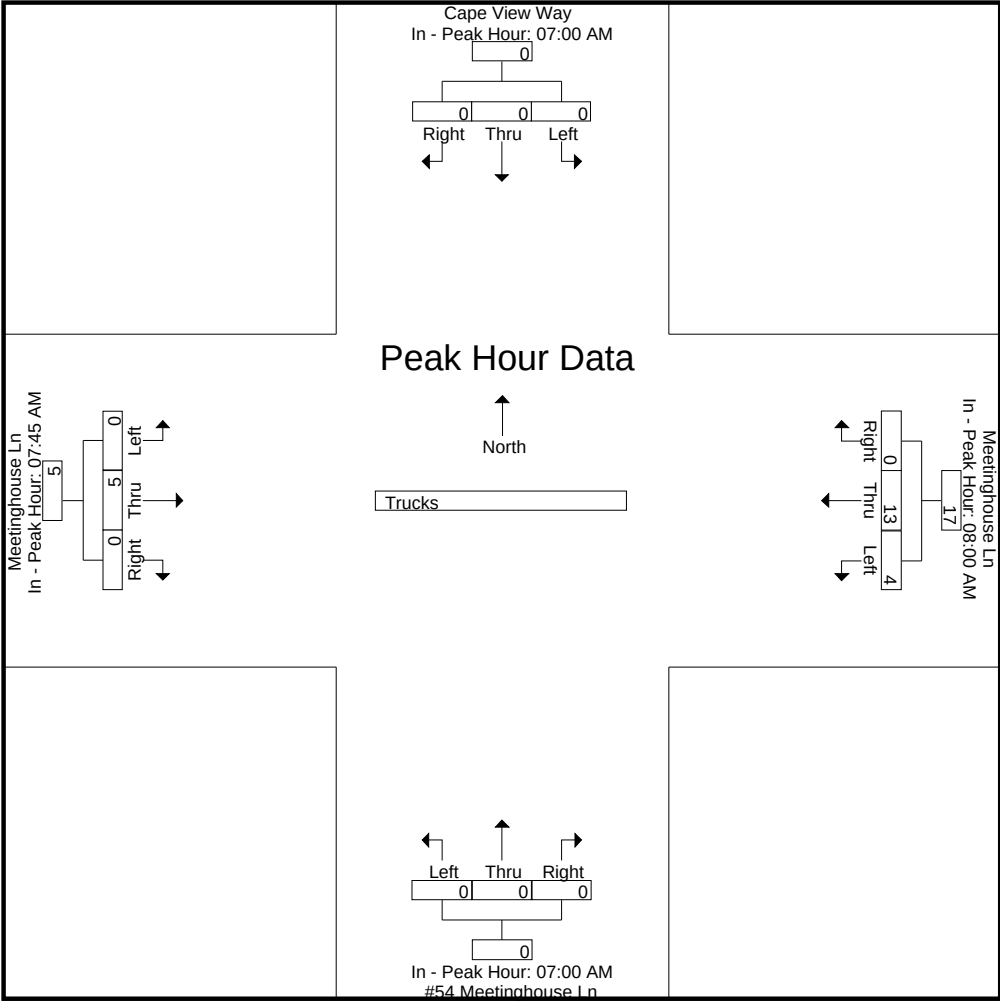


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:00 AM				07:45 AM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	3	2	0	5	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	8	0	8	0	0	0	0	0	2	0	2
Total Volume	0	0	0	0	4	13	0	17	0	0	0	0	0	5	0	5
% App. Total	0	0	0	0	23.5	76.5	0		0	0	0	0	0	100	0	
PHF	.000	.000	.000	.000	.333	.406	.000	.531	.000	.000	.000	.000	.000	.625	.000	.625

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
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978-664-2565

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 10

	Cape View Way From North				Meetinghouse Ln From East				#54 Meetinghouse Ln From South				Meetinghouse Ln 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	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	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	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:15 AM	0	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	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Grand Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0					
Total %																	100	0		

[illegible]

978-664-2565

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
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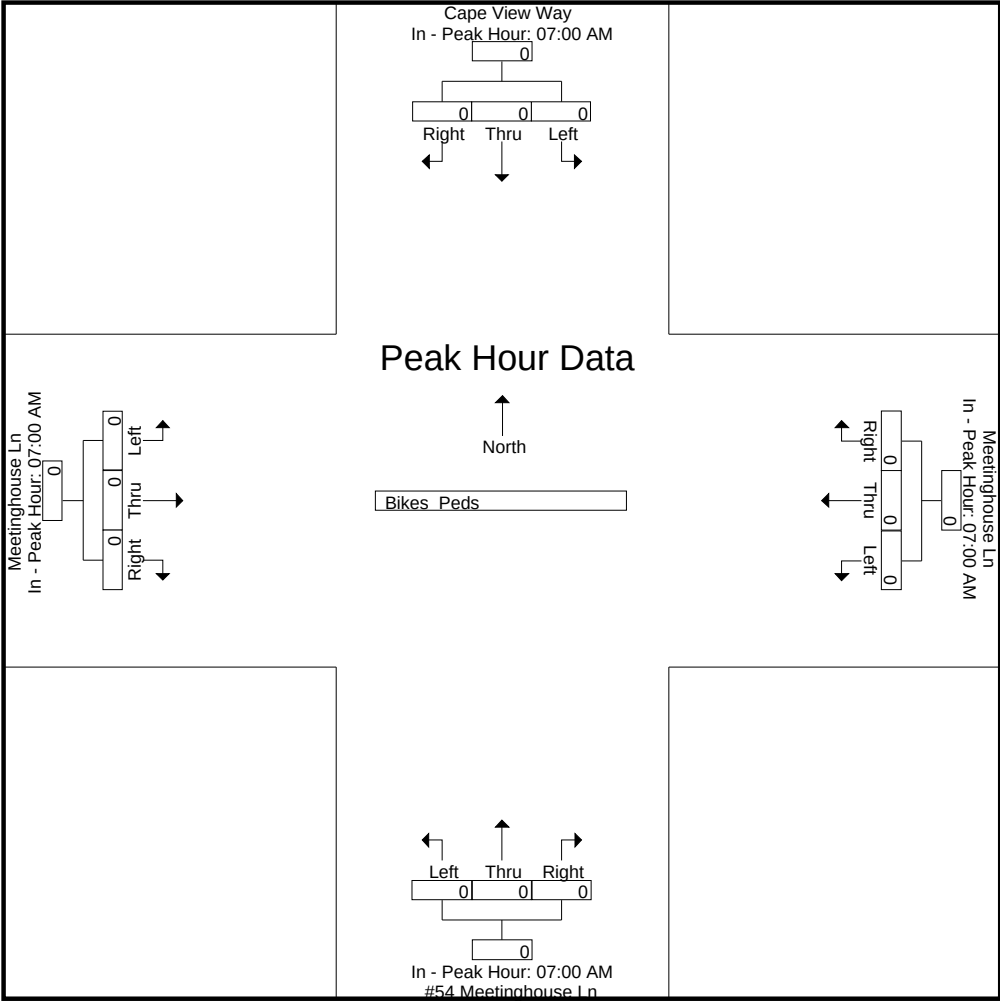
Peak Hour Begins at 07:00 AM
Bikes Peds

Peak Hour for Each Approach Begins at:

[illegible]

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 12



Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 1

Groups Printed- Cars - Trucks

	Cape View Way From North			Meetinghouse Ln From East			#54 Meetinghouse Ln From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	1	0	1	1	45	0	0	0	0	0	54	0	102
04:15 PM	0	0	0	0	47	0	0	0	0	0	72	0	119
04:30 PM	1	0	0	0	58	1	0	0	0	0	71	0	131
04:45 PM	0	0	0	0	50	0	0	0	0	0	70	4	124
Total	2	0	1	1	200	1	0	0	0	0	267	4	476
05:00 PM	0	0	0	0	55	0	0	0	0	0	73	2	130
05:15 PM	0	0	0	0	48	0	2	0	0	0	85	1	136
05:30 PM	0	0	0	0	60	0	1	0	1	0	67	1	130
05:45 PM	0	0	0	0	45	0	1	0	0	0	70	2	118
Total	0	0	0	0	208	0	4	0	1	0	295	6	514
Grand Total	2	0	1	1	408	1	4	0	1	0	562	10	990
Apprch %	66.7	0	33.3	0.2	99.5	0.2	80	0	20	0	98.3	1.7	
Total %	0.2	0	0.1	0.1	41.2	0.1	0.4	0	0.1	0	56.8	1	
Cars	2	0	1	1	408	1	4	0	1	0	560	3	981
% Cars	100	0	100	100	100	100	100	0	100	0	99.6	30	99.1
Trucks	0	0	0	0	0	0	0	0	0	0	2	7	9
% Trucks	0	0	0	0	0	0	0	0	0	0	0.4	70	0.9

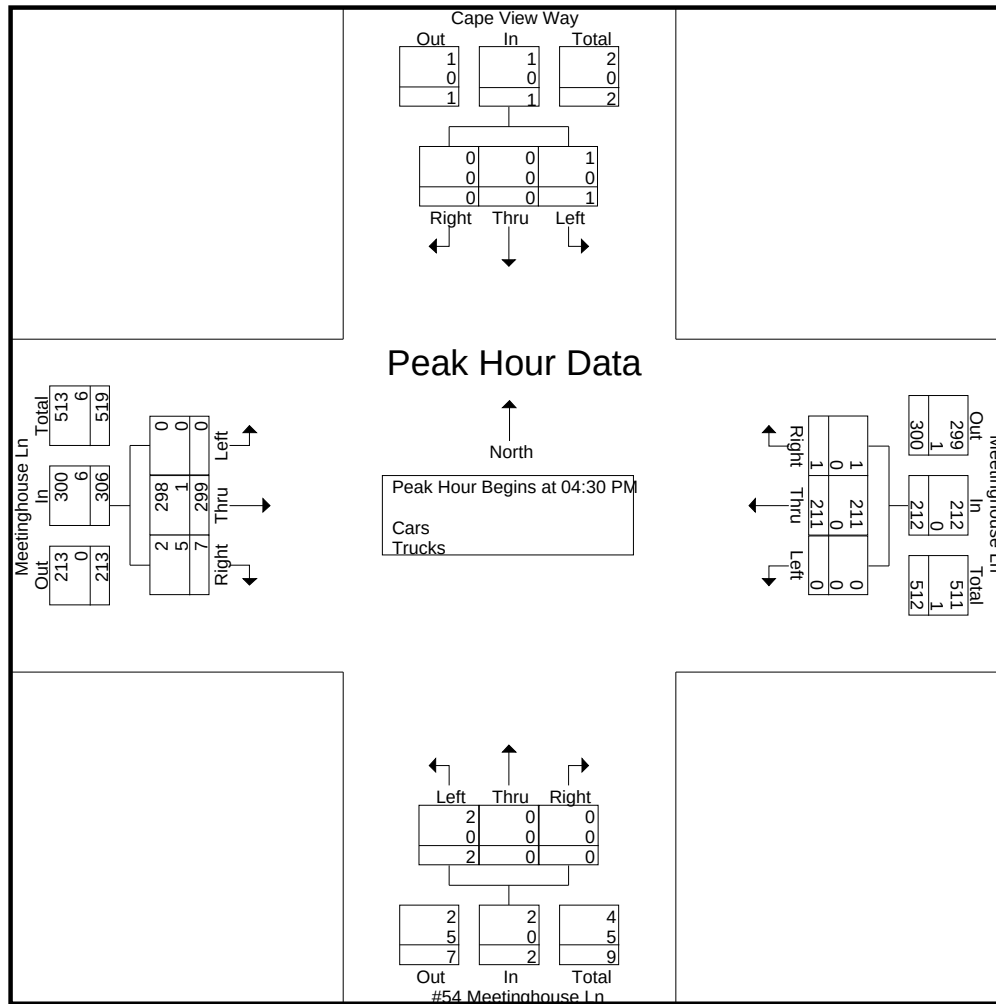
	Cape View Way From North				Meetinghouse Ln From East				#54 Meetinghouse Ln From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	0	0	1	0	58	1	59	0	0	0	0	0	71	0	71	131
04:45 PM	0	0	0	0	0	50	0	50	0	0	0	0	0	70	4	74	124
05:00 PM	0	0	0	0	0	55	0	55	0	0	0	0	0	73	2	75	130
05:15 PM	0	0	0	0	0	48	0	48	2	0	0	2	0	85	1	86	136
Total Volume	1	0	0	1	0	211	1	212	2	0	0	2	0	299	7	306	521
% App. Total	100	0	0		0	99.5	0.5		100	0	0		0	97.7	2.3		
PHF	.250	.000	.000	.250	.000	.909	.250	.898	.250	.000	.000	.250	.000	.879	.438	.890	.958
Cars	1	0	0	1	0	211	1	212	2	0	0	2	0	298	2	300	515
% Cars	100	0	0	100	0	100	100	100	100	0	0	100	0	99.7	28.6	98.0	98.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	6	6
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	71.4	2.0	1.2

Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse
 E/W Street : Meetinghouse Road
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630003
 Site Code : 89630003
 Start Date : 4/27/2021
 Page No : 2

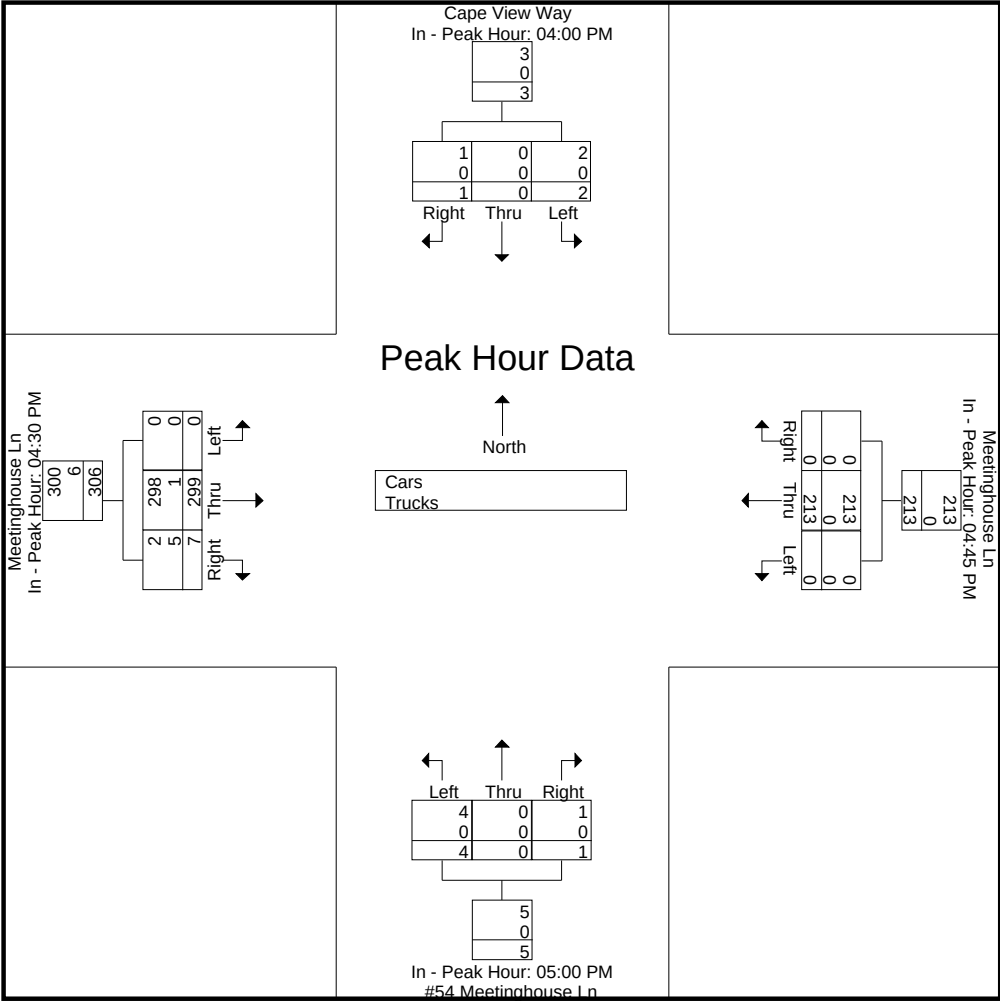


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				05:00 PM				04:30 PM			
+0 mins.	1	0	1	2	0	50	0	50	0	0	0	0	0	71	0	71
+15 mins.	0	0	0	0	0	55	0	55	2	0	0	2	0	70	4	74
+30 mins.	1	0	0	1	0	48	0	48	1	0	1	2	0	73	2	75
+45 mins.	0	0	0	0	0	60	0	60	1	0	0	1	0	85	1	86
Total Volume	2	0	1	3	0	213	0	213	4	0	1	5	0	299	7	306
% App. Total	66.7	0	33.3		0	100	0		80	0	20		0	97.7	2.3	
PHF	.500	.000	.250	.375	.000	.888	.000	.888	.500	.000	.250	.625	.000	.879	.438	.890
Cars	2	0	1	3	0	213	0	213	4	0	1	5	0	298	2	300
% Cars	100	0	100	100	0	100	0	100	100	0	100	100	0	99.7	28.6	98
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	6
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	71.4	2

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 3



Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse

E/W Street : Meetinghouse Road

City/State : Bourne, MA

Weather : Clear

File Name : 89630003

Site Code : 89630003

Start Date : 4/27/2021

Page No : 4

Groups Printed- Cars

	Cape View Way From North			Meetinghouse Ln From East			#54 Meetinghouse Ln From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	1	0	1	1	45	0	0	0	0	0	54	0	102
04:15 PM	0	0	0	0	47	0	0	0	0	0	72	0	119
04:30 PM	1	0	0	0	58	1	0	0	0	0	71	0	131
04:45 PM	0	0	0	0	50	0	0	0	0	0	70	1	121
Total	2	0	1	1	200	1	0	0	0	0	267	1	473
05:00 PM	0	0	0	0	55	0	0	0	0	0	72	1	128
05:15 PM	0	0	0	0	48	0	2	0	0	0	85	0	135
05:30 PM	0	0	0	0	60	0	1	0	1	0	67	0	129
05:45 PM	0	0	0	0	45	0	1	0	0	0	69	1	116
Total	0	0	0	0	208	0	4	0	1	0	293	2	508
Grand Total	2	0	1	1	408	1	4	0	1	0	560	3	981
Apprch %	66.7	0	33.3	0.2	99.5	0.2	80	0	20	0	99.5	0.5	
Total %	0.2	0	0.1	0.1	41.6	0.1	0.4	0	0.1	0	57.1	0.3	

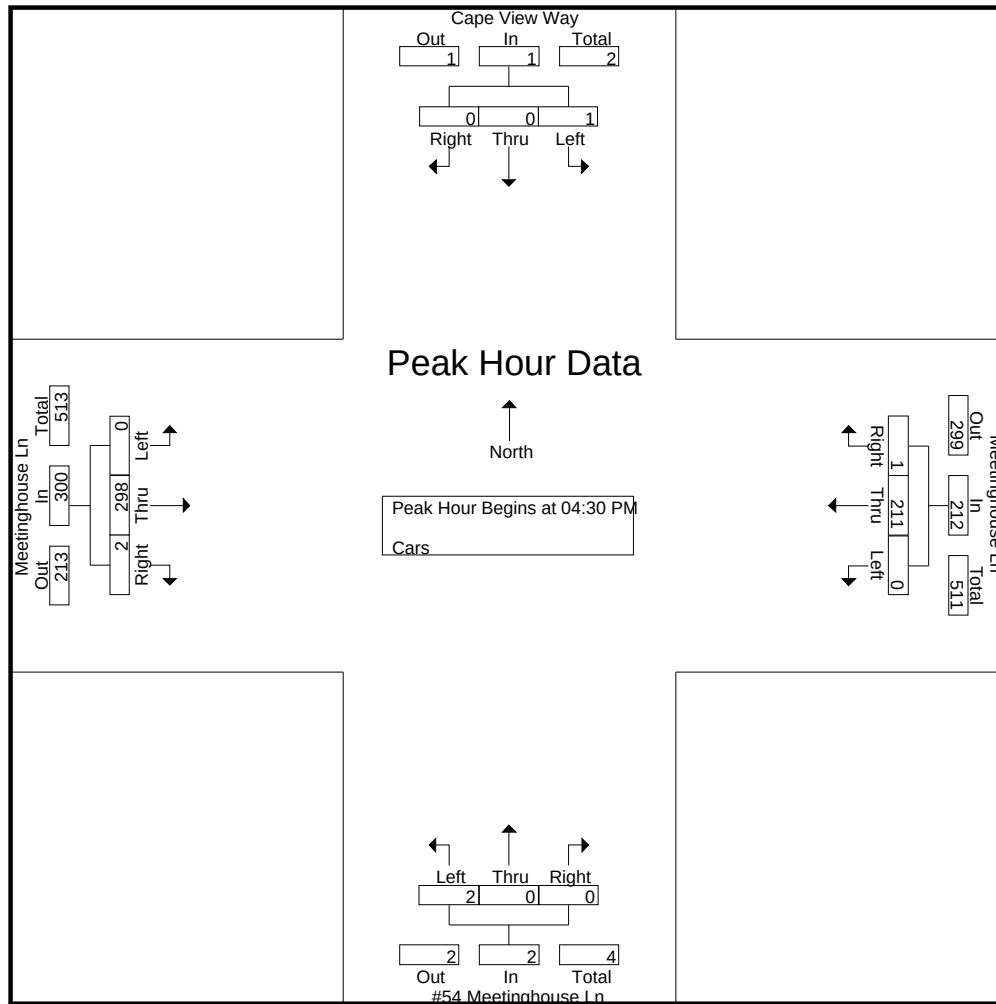
	Cape View Way From North				Meetinghouse Ln From East				#54 Meetinghouse Ln From South				Meetinghouse Ln From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	0	0	1	0	58	1	59	0	0	0	0	0	71	0	71	131
04:45 PM	0	0	0	0	0	50	0	50	0	0	0	0	0	70	1	71	121
05:00 PM	0	0	0	0	0	55	0	55	0	0	0	0	0	72	1	73	128
05:15 PM	0	0	0	0	0	48	0	48	2	0	0	2	0	85	0	85	135
Total Volume	1	0	0	1	0	211	1	212	2	0	0	2	0	298	2	300	515
% App. Total	100	0	0		0	99.5	0.5		100	0	0		0	99.3	0.7		
PHF	.250	.000	.000	.250	.000	.909	.250	.898	.250	.000	.000	.250	.000	.876	.500	.882	.954

Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse
 E/W Street : Meetinghouse Road
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630003
 Site Code : 89630003
 Start Date : 4/27/2021
 Page No : 5

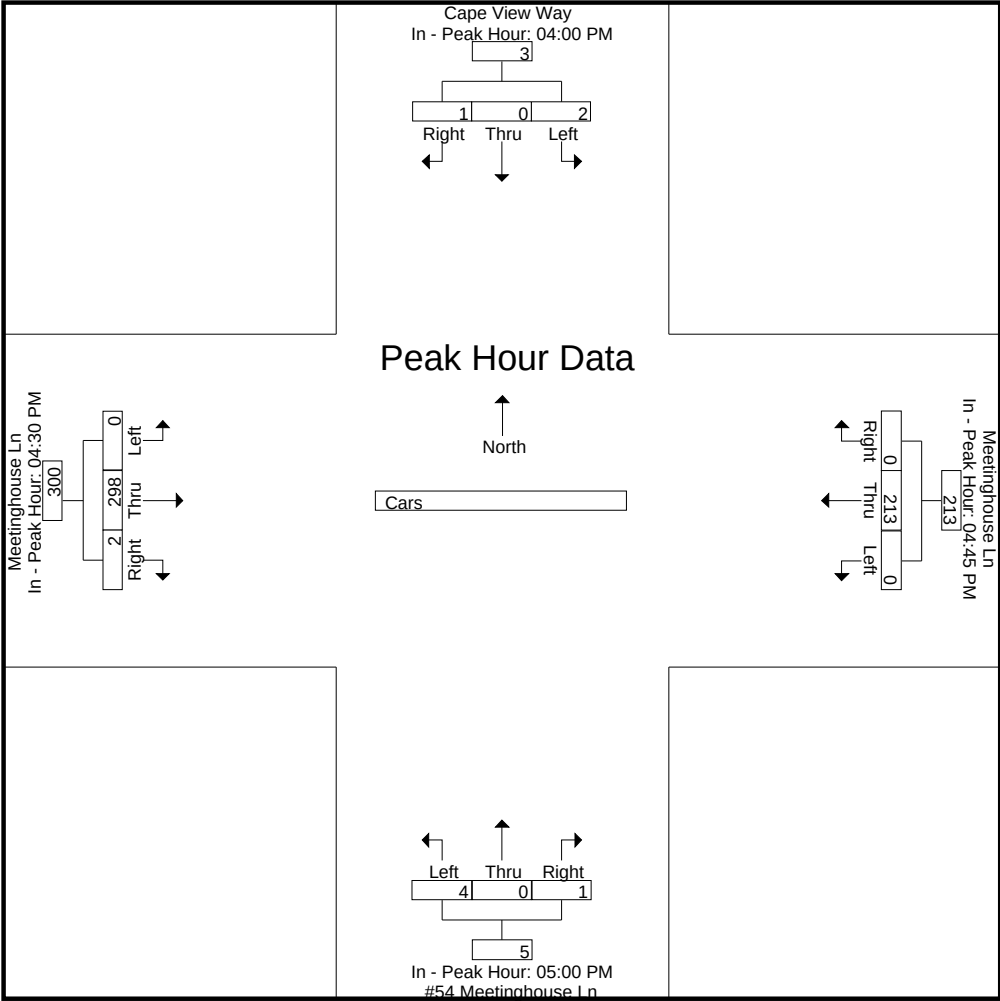


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				05:00 PM				04:30 PM			
+0 mins.	1	0	1	2	0	50	0	50	0	0	0	0	0	71	0	71
+15 mins.	0	0	0	0	0	55	0	55	2	0	0	2	0	70	1	71
+30 mins.	1	0	0	1	0	48	0	48	1	0	1	2	0	72	1	73
+45 mins.	0	0	0	0	0	60	0	60	1	0	0	1	0	85	0	85
Total Volume	2	0	1	3	0	213	0	213	4	0	1	5	0	298	2	300
% App. Total	66.7	0	33.3		0	100	0		80	0	20		0	99.3	0.7	
PHF	.500	.000	.250	.375	.000	.888	.000	.888	.500	.000	.250	.625	.000	.876	.500	.882

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 6



Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse

E/W Street : Meetinghouse Road

City/State : Bourne, MA

Weather : Clear

File Name : 89630003

Site Code : 89630003

Start Date : 4/27/2021

Page No : 7

Groups Printed- Trucks

	Cape View Way From North			Meetinghouse Ln From East			#54 Meetinghouse Ln From South			Meetinghouse Ln From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	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	3	3
Total	0	0	0	0	0	0	0	0	0	0	0	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	0	0	0	0	2	4	6
Grand Total	0	0	0	0	0	0	0	0	0	0	2	7	9
Apprch %	0	0	0	0	0	0	0	0	0	0	22.2	77.8	
Total %	0	0	0	0	0	0	0	0	0	0	22.2	77.8	

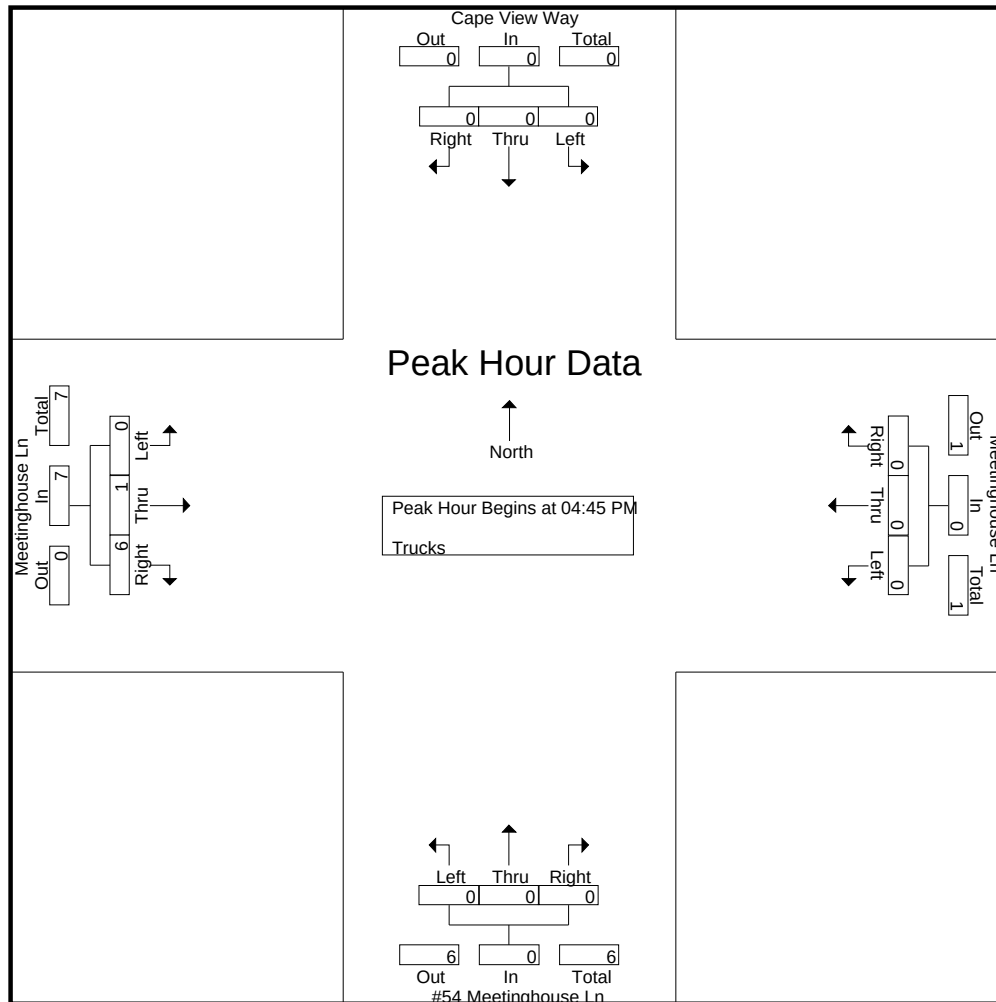
	Cape View Way From North				Meetinghouse Ln From East				#54 Meetinghouse Ln From South				Meetinghouse Ln From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	7	7
% App. Total	0	0	0		0	0	0		0	0	0		0	14.3	85.7		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.500	.583	.583

Accurate Counts

978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse
 E/W Street : Meetinghouse Road
 City/State : Bourne, MA
 Weather : Clear

File Name : 89630003
 Site Code : 89630003
 Start Date : 4/27/2021
 Page No : 8

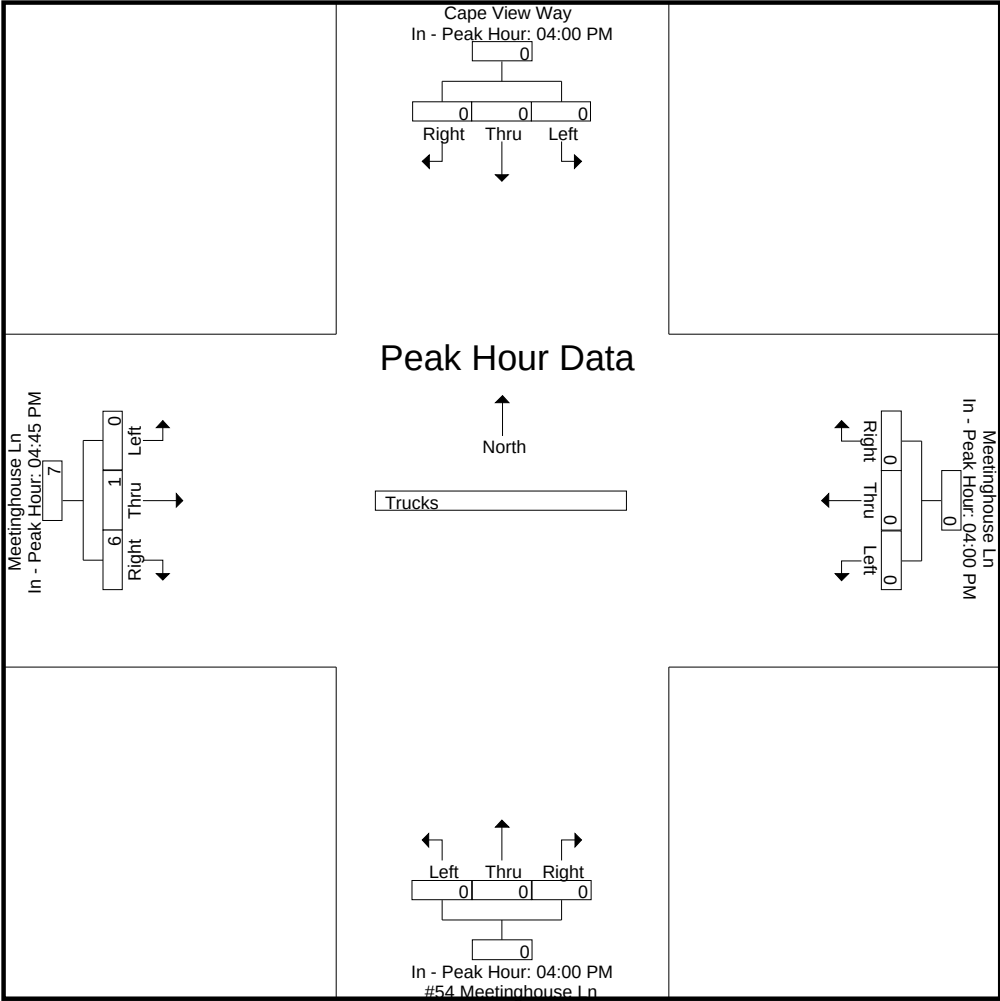


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	7
% App. Total	0	0	0		0	0	0		0	0	0		0	14.3	85.7	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.500	.583

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 9



978-664-2565

N/S Street : CapeViewWy / #54 Meetinghouse

E/W Street : Meetinghouse Road

City/State : Bourne, MA

Weather : Clear

File Name : 89630003

Site Code : 89630003

Start Date : 4/27/2021

Page No : 10

Groups	Printed-	Bikes	Peds
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
5	1	1	1
6	1	1	1
7	1	1	1
8	1	1	1
9	1	1	1
10	1	1	1
11	1	1	1
12	1	1	1
13	1	1	1
14	1	1	1
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91	1	1	1
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93	1	1	1
94	1	1	1
95	1	1	1
96	1	1	1
97	1	1	1
98	1	1	1
99	1	1	1
100	1	1	1

	Cape View Way From North				Meetinghouse Ln From East				#54 Meetinghouse Ln From South				Meetinghouse Ln 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	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
04:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
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	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
05:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
05:15 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
05:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	7	0	1	0	0	0	0	0	0	0	0	0	0	7	1	8
Grand Total	0	0	0	11	0	1	0	0	0	0	0	0	0	0	0	0	11	1	12
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0				
Total %	0	0	0		0	100	0		0	0	0		0	0	0		91.7	8.3	

[illegible]

978-664-2565

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
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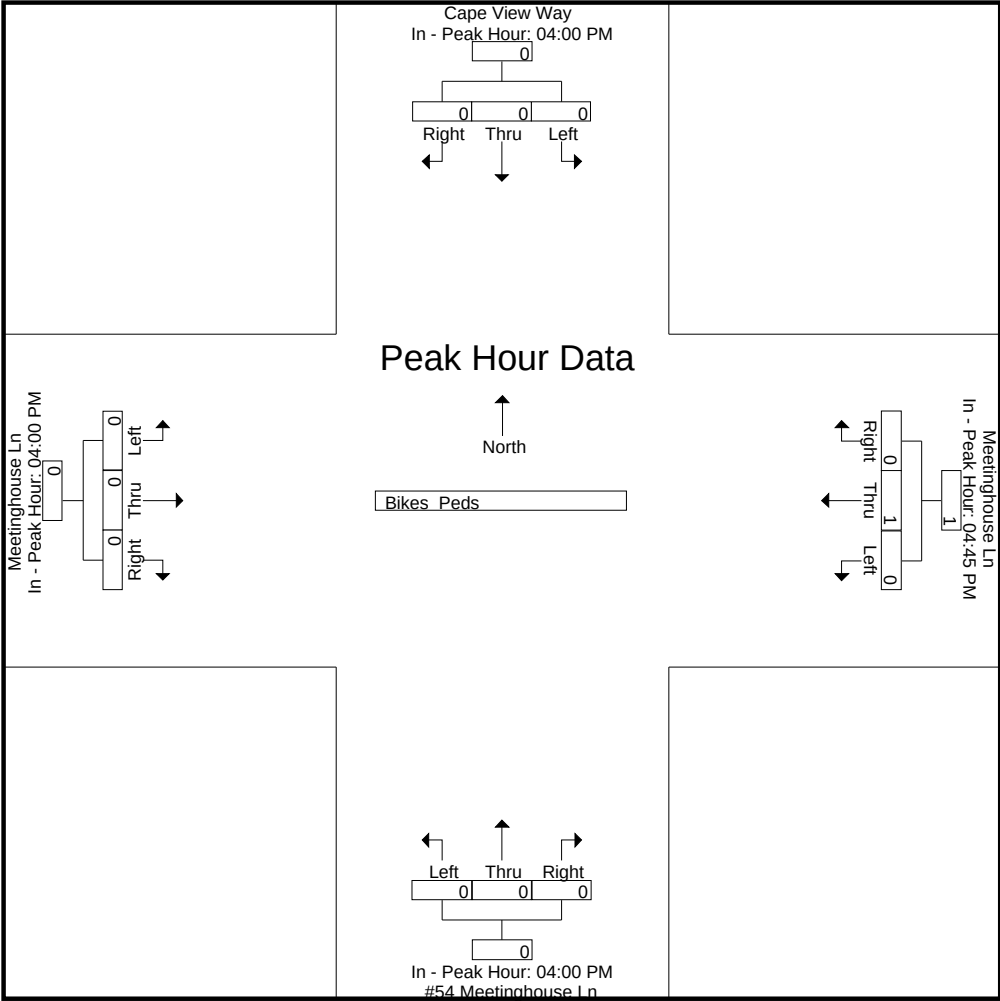


Peak Hour Begins at 04:45 PM
Bikes Peds

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

N/S Street : CapeViewWy / #54 Meetinghouse
E/W Street : Meetinghouse Road
City/State : Bourne, MA
Weather : Clear

File Name : 89630003
Site Code : 89630003
Start Date : 4/27/2021
Page No : 12



SEASONAL ADJUSTMENT DATA



Massachusetts Highway Department

708: Monthly Hourly Volume for April 2019

Location ID: 708
County: Barnstable
Functional Class: 2
Location: MID-CAPE HIGHWAY

Seasonal Factor Group: Rec - East
Daily Factor Group:
Axle Factor Group: Rec - East
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	236	159	141	221	548	1440	3830	4650	4443	3247	3123	3110	3147	3176	3769	4388	4768	4288	2741	1911	1345	952	569	411	56613	Accepted
2	214	171	130	212	553	1400	3820	4756	4443	3364	3072	3137	3188	3229	3886	4747	4975	4664	2974	2073	1391	1047	636	423	58505	Accepted
3	228	140	133	170	491	1192	3335	4428	4236	3284	2950	2979	3058	3229	3759	4522	4739	4408	2853	1995	1510	1071	692	415	55817	Accepted
4	242	127	147	207	523	1357	3830	4894	4541	3667	3110	3329	3335	3547	4107	5001	5146	4944	3448	2224	1633	1118	784	476	61737	Accepted
5	236	176	132	198	511	1247	3580	4629	4182	3451	3375	3621	3822	3952	4673	5633	5688	5442	4091	2576	1894	1383	980	670	66142	Accepted
6	411	230	134	179	266	536	1306	2065	2720	3331	4040	4304	4495	4422	4387	4470	4419	3936	3218	2203	1868	1428	1163	617	56148	Accepted
7	383	272	164	162	190	369	785	1489	2096	2920	3752	4268	4373	4485	4486	4588	4349	3678	2923	2165	1603	918	610	429	51457	Accepted
8	200	125	132	204	561	1394	3663	4579	4255	3230	3091	3182	3228	3331	3690	4107	4491	4128	2633	1652	1221	874	542	333	54846	Accepted
9	223	157	134	199	566	1417	3613	4986	4537	3648	3196	3107	3170	3219	3771	4441	4881	4705	3277	1982	1501	1055	601	390	58776	Accepted
10	221	128	130	198	488	1320	3711	4963	4593	3626	3099	3263	3331	3423	4010	4734	4903	4912	3247	2046	1521	1133	618	457	60075	Accepted
11	244	149	162	186	547	1349	3747	4875	4492	4003	3494	3427	3612	3721	4414	5351	5474	5221	3732	2270	1623	1193	830	548	64664	Accepted
12	340	220	174	205	482	1256	3488	4643	4190	3842	3749	3898	4205	4460	4891	5640	5797	5569	4685	3080	2019	1423	1053	610	69919	Accepted
13	389	221	170	175	267	555	1214	2070	2764	3428	3997	4504	4729	4336	4507	4544	4246	3781	2955	2149	1674	1381	979	648	55683	Accepted
14	439	248	168	163	123	412	749	1374	2133	3043	3956	4500	4498	4487	4168	4750	4435	3928	2978	2187	1467	891	696	430	52223	Accepted
15	258	164	144	209	418	1006	2541	3173	3162	3077	3397	3716	3700	3667	3829	4104	4302	3922	2728	1879	1417	934	684	387	52818	Accepted
16	237	152	150	201	506	1350	3552	4470	4322	4039	3989	4204	4243	3965	4450	5038	5505	5140	3378	2302	1750	1123	739	391	65196	Accepted
17	263	160	150	189	468	1362	3482	4538	4510	4160	4066	4380	4394	4310	4698	5495	5594	5276	3371	2508	1801	1247	817	509	67748	Accepted
18	282	164	156	207	493	1266	3454	4514	4355	3953	3981	4379	4456	4477	4772	5120	5822	5576	3786	2252	1928	1296	878	624	68191	Accepted
19	306	245	162	199	442	1075	3047	3998	3943	3874	4373	4696	4867	5096	5296	5352	5813	5395	4460	2520	2041	1467	1037	794	70498	Accepted
20	364	241	169	172	246	502	1147	1980	2694	3541	4211	4792	4898	4702	4579	4530	4253	3737	2933	2184	1691	1300	1095	651	56612	Accepted
21	373	257	142	133	129	291	569	946	1596	2822	4275	5323	5580	5397	4478	4178	4511	4909	5047	4145	2592	1305	675	394	60067	Accepted
22	189	132	129	207	585	1511	3896	5010	4252	3718	3631	3829	3891	3673	4180	4536	4841	4493	2694	1743	1322	984	627	383	60456	Accepted
23	251	163	177	189	528	1441	3762	4952	4569	3828	3300	3305	3486	3546	4169	5041	5343	4815	3123	2110	1424	948	736	535	61741	Accepted
24	241	154	146	191	509	1475	3799	4916	4610	3811	3322	3587	3722	3724	4189	4870	5175	4999	3262	2359	1859	1182	734	485	63321	Accepted
25	216	160	136	239	549	1470	3926	4986	4743	3997	3763	3840	3775	4226	4621	5379	5670	5427	3656	2417	1814	1363	925	659	67957	Accepted
26																										
27	410	240	156	205	269	623	1432	2271	2999	3994	4334	4808	4881	4720	4520	4780	4433	3932	3033	2291	1854	1534	1111	787	59617	Accepted
28	498	345	174	166	198	377	868	1497	2358	3403	4384	5098	5018	5067	4885	4815	4470	3535	2793	2200	1552	974	601	377	55653	Accepted
29	283	153	165	255	594	1603	4074	5097	4585	3740	3537	3735	3627	3533	4155	4840	5180	4759	3160	2079	1380	985	649	415	62583	Accepted
30	272	165	156	200	508	1355	3709	4817	4534	3680	3321	3293	3494	3668	4200	4962	5261	4599	3327	1958	1422	979	666	418	60964	Accepted

April Average

60553

2019 AADT

61701

Seasonal Adjustment

1.019

COVID-19 ADJUSTMENT DATA



2019 Average Count Data – Sta. 708

April ADT: 60,553

Growth Rate: 1.0%/Year

$$60,553 \times (1.010^2) = 61,770$$

2021 Average Count Data – Sta. 708

April ADT: 49,893

COVID Adjustment

$$\frac{61,770}{49,893} = 1.238$$

Massachusetts Highway Department
708: Monthly Hourly Volume for April 2021

Location ID:	708
County:	Barnstable
Functional Class	2
Location:	MID-CAPE HIGHWAY

Seasonal Factor Group:	Rec - East
Daily Factor Group:	
Axle Factor Group:	Rec - East
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	197	111	98	142	378	1038	2461	3727	3455	3128	3009	3269	3327	3345	3831	4225	4576	4218	2880	1972	1450	1011	639	383	52870	Accepted
2	219	157	109	124	379	1030	2463	3446	3497	3477	3545	3819	3761	3955	4557	4827	4917	4425	3608	2422	1657	1191	743	488	58816	Accepted
3	254	130	111	109	194	443	1037	1884	2575	3348	4134	4423	4449	4358	4360	4232	4020	3564	2870	2064	1596	1146	723	465	52489	Accepted
4	280	123	95	83	99	234	494	948	1503	2614	3768	4548	4588	4056	3690	3776	4017	4451	3996	3263	2050	1067	566	307	50616	Accepted
5	171	109	97	154	460	1258	3005	4056	3642	3325	3334	3413	3521	3414	3718	4367	4156	3747	2515	1611	1152	682	488	321	52716	Accepted
6	173	100	126	144	423	1100	2905	4024	3653	3176	3054	3097	3285	3174	3943	4267	4440	3898	2753	1798	1269	758	492	333	52385	Accepted
7	179	102	111	134	415	1148	2859	4201	3850	3226	3223	3345	3397	3240	3816	4363	4480	3926	2689	1763	1273	895	547	337	53519	Accepted
8	185	96	115	153	378	1191	2794	4244	3805	3277	3166	3279	3385	3510	3771	4228	4419	4042	2996	2044	1462	927	623	422	54512	Accepted
9	192	146	147	160	352	1025	2774	3865	3339	3166	3510	3591	3828	3887	4502	4819	4987	4512	3818	2715	1840	1287	858	532	59852	Accepted
10	283	162	105	112	219	551	1274	2053	2953	3653	4223	4499	4615	4432	4220	3892	4415	3856	3080	2289	1866	1153	767	479	55151	Accepted
11	271	164	117	80	170	341	771	1223	2035	2766	3926	4573	4990	4636	4472	4190	3501	3023	2417	1809	1368	744	461	340	48388	Accepted
12	146	114	101	130	485	1263	3112	4013	3480	2985	2824	2791	3085	2942	3244	3110	3368	3429	2688	2043	1099	758	518	370	48098	Accepted
13	201	124	116	146	430	1289	2827	3190	3079	2939	2747	2608	2861	2659	2995	3118	3145	3181	2768	1949	1338	881	598	381	45570	Accepted
14	241	141	134	153	458	1324	2845	3122	3012	2874	2676	2823	2835	2869	2986	2994	3235	3305	2760	2111	1433	945	663	398	46337	Accepted
15	214	109	118	132	440	1230	2983	3384	3123	2938	2914	2955	3022	3106	3158	3257	3405	3366	2997	2139	1560	1034	657	410	48651	Accepted
16	221	110	118	112	370	1062	2476	2787	2764	2663	2504	2618	2811	2917	2994	3135	3160	3263	3094	2251	1597	1162	738	485	45412	Accepted
17	280	143	136	136	231	529	1162	1901	2450	2934	3027	3049	2996	3124	2936	3137	3135	3113	2448	1957	1546	1171	734	432	42707	Accepted
18	264	147	107	82	169	433	817	1453	2022	2813	3197	3025	3351	3176	3186	3278	3324	3134	2546	2452	1781	1102	691	390	42940	Accepted
19	197	148	106	154	406	1076	2532	2761	2820	2794	2976	2988	2953	3024	3049	3167	3166	3107	2751	2395	1663	1082	655	406	46376	Accepted
20	265	148	116	150	477	1273	2747	3282	3170	3063	3172	3147	2953	2992	2884	2884	2989	2868	2398	2366	1873	1004	586	360	47167	Accepted
21	185	106	101	127	379	1175	2497	2787	2629	2604	2658	2628	2618	2761	2610	2673	2902	2880	2505	2147	1339	871	544	335	42061	Accepted
22	180	91	100	129	368	1126	2447	2810	2775	2623	2715	2583	2742	2912	2893	2999	3052	3024	2540	1885	1461	1002	675	360	43492	Accepted
23	193	90	104	122	353	1003	2311	2722	2668	2678	2721	2814	2657	2684	2820	2901	2979	3006	3006	2545	1807	1201	834	502	44721	Accepted
24	219	131	103	103	240	501	1310	2158	2698	2816	2830	2660	2625	2782	2803	2986	3787	3469	2907	2494	2021	1310	884	509	44346	Accepted
25	293	192	104	85	152	358	743	1338	2110	3199	4094	4436	4608	3996	3994	3404	3103	2664	2168	1639	1243	824	515	297	45559	Accepted
26	163	128	116	180	452	1351	3134	4034	3363	3055	2972	3184	3245	3144	3582	3907	3969	3585	2632	1798	1278	851	573	365	51061	Accepted
27	173	114	96	157	470	1242	3019	4129	3489	3195	3102	3311	3305	3308	3791	4308	4258	3799	2650	1932	1361	965	607	349	53130	Accepted
28	183	152	146	174	448	1214	2949	4081	3961	3336	3278	3272	3292	3404	3757	4162	4302	3976	2920	1905	1457	950	581	397	54297	Accepted
29	203	122	115	196	460	1261	2896	4067	3536	3319	3301	3311	3390	3451	3774	4161	4246	3810	2589	1918	1480	950	614	416	53586	Accepted
30	217	157	130	181	410	1133	2857	3941	3659	3288	3389	3506	3716	3896	4459	4891	4801	4254	3531	2768	1949	1384	910	549	59976	Accepted
April Average																									49893	

PUBLIC TRANSPORTATION SCHEDULES



The Sandwich Line

January 23 - June 25, 2021 MONDAY THROUGH FRIDAY

NextBus
Stop #

DEPARTS								
Buzzards Bay Train Station / MMA	--	6:45	8:30	10:30	12:30	2:30	4:30	6:30
Keystone Place At Buzzards Bay	--	6:47	8:31	10:31	12:31	2:31	4:31	6:31
Bourne Town Hall	--	6:49	8:33	10:33	12:33	2:33	4:33	6:33
Bourne Scenic Park	--	6:54	8:36	10:36	12:36	2:36	4:36	6:36
Sagamore Park and Ride	--	7:00	8:43	10:43	12:43	2:43	4:43	6:43
Market Basket	--	7:04	8:50	10:50	12:50	2:50	4:50	6:50
Canal View Apts.	--	7:07	8:55	10:55	12:55	2:55	4:55	6:55
Super Stop & Shop Plaza - Merchants Square	--	--	8:59	10:59	12:59	2:59	4:59	6:59
Main Street @ Sandwich Town Hall	--	7:14	9:04	11:04	1:04	3:04	5:04	7:04
Spaulding Rehabilitation Hospital	--	--	9:10	11:10	1:10	3:10	5:10	7:10
Sandwich High School	--	--	--	--	--	3:12*	5:12*	--
Sandwich Council On Aging	--	--	9:15	11:15	1:15	3:15	--	--
Heritage Park	--	--	9:21	11:21	1:21	3:21	5:21	7:21
Housing Authority - Tom's Way	--	--	9:23	11:23	1:23	3:23	5:23	7:23
Canterbury Plaza	--	--	9:24	11:24	1:24	3:24	5:24	7:24
Stop & Shop - Quaker Meetinghouse Road	7:20*	7:28	9:27	11:27	1:27	3:27	5:27	7:27
Cotuit Road & Farmersville Road	7:22*	7:30	9:28	11:28	1:28	3:28	5:28	7:28
Farmersville Road & Great Hill Road	7:26*	7:34	9:32	11:32	1:32	3:32	5:32	7:32
Race Lane & Osterville/W. Barnstable Road	7:34*	7:42	9:36	11:36	1:36	3:36	5:36	7:36
Route 28 @ Bell Tower Mall	7:40*	7:48	9:44	11:44	1:44	3:44	5:44	7:44
West Main Street & Route 28	7:42*	7:50	9:45	11:45	1:45	3:45	5:45	7:45
Star Market @ West Main Street	7:44*	7:52	9:47	11:47	1:47	3:47	5:47	7:47
Saint Francis/Saint John Paul	7:47*	7:55*	--	--	--	--	--	--
Sturgis Charter School - Main Street	7:52*	8:00*	--	--	--	--	--	--
Sturgis Charter School - West Main Street	7:57*	8:05*	--	--	--	--	--	--
Hyannis Transportation Center	8:02*	8:10	9:55	11:55	1:55	3:55	5:55	7:55
Patriot Square	--	--	--	12:10	2:10	--	--	8:10

REQ=Request Stop
*=Not Available on Saturday

Times in **BOLD** are PM

NextBus
Stop #

DEPARTS								
Hyannis Transportation Center	6:30	8:30	10:30	12:30	2:30	3:30	4:30	6:30
Sturgis Charter School - Main Street	6:32	8:32	10:32	12:32	2:32	3:32	4:32	6:32
Saint Francis/Saint John Paul	--	--	--	--	--	3:34*	--	--
Sturgis Charter School - West Main Street	--	--	--	--	--	3:36*	--	--
Star Market @ West Main Street	6:38	8:38	10:38	12:38	2:38	3:38	4:38	6:38
West Main Street & Route 28	6:40	8:40	10:40	12:40	2:40	3:40	4:40	6:40
Route 28 @ Bell Tower Mall	6:41	8:41	10:41	12:41	2:41	3:41	4:41	6:41
Race Lane & Osterville/W. Barnstable Road	6:47	8:47	10:47	12:47	2:47	3:47	4:47	6:47
Farmersville Road & Great Hill Road	6:52	8:52	10:52	12:52	2:52	3:52	4:52	6:52
Cotuit Road & Farmersville Road	6:56	8:56	10:56	12:56	2:56	3:56	4:56	6:56
Stop & Shop - Quaker Meetinghouse Road	6:58	8:58	10:58	12:58	2:58	3:58	4:58	6:58
Heritage Park	7:02	9:02	11:02	1:02	3:02	4:02	5:02	7:02
Housing Authority - Tom's Way	7:03	9:03	11:03	1:03	3:03	4:03	5:03	7:03
Canterbury Plaza	7:04	9:04	11:04	1:04	3:04	4:04	5:04	7:04
Sandwich Council On Aging	--	9:12	11:12	1:12	3:12	4:12	--	--
Sandwich High School	--	--	--	--	3:14*	--	5:14*	--
Spaulding Rehabilitation Hospital	7:16	9:16	11:16	1:16	3:16	4:16	5:16	7:16
Main Street @ Sandwich Town Hall	7:23	9:23	11:23	1:23	3:23	4:23	5:23	7:23
Super Stop & Shop Plaza - Merchants Square	7:25	9:25	11:25	1:25	3:25	4:25	5:25	7:25
Market Basket	7:33	9:33	11:33	1:33	3:33	4:33	5:33	7:33
Canal View Apts.	7:37	9:37	11:37	1:37	3:37	4:37	5:37	7:37
Sagamore Park and Ride	7:41	9:41	11:41	1:41	3:41	4:41	5:41	7:41
Bourne Scenic Park	7:48	9:48	11:48	1:48	3:48	4:48	5:48	7:48
Bourne COA - Community Center	7:51	9:51	11:51	1:51	3:51	4:51	5:51	7:51
Keystone Place At Buzzards Bay	7:52	9:52	11:52	1:52	3:52	4:52	5:52	7:52
Bourne Town Hall	7:54	9:54	11:54	1:54	3:54	4:54	5:54	7:54
Buzzards Bay Train Station / MMA	7:57	9:57	11:57	1:57	3:57	4:57	5:57	7:57
Patriot Square	--	--	--	--	--	5:45	--	8:45

VEHICLE TRAVEL SPEED DATA



Accurate Counts
978-664-2565

Location : Meetinghouse Lane
Location : West of Fire Station
City/State: Bourne, MA
Direction: WB,

89630001

4/27/2021	0 - 15	> 15 -	> 20 -	> 25 -	> 30 -	> 35 -	> 40 -	> 45 -	> 50 -	> 55 -	> 60 -	> 65 -	> 70	
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	Total
12:00 AM	0	1	2	2	3	0	0	0	0	0	0	0	0	8
1:00	3	0	0	3	1	1	0	0	0	0	0	0	0	8
2:00	4	1	1	0	0	1	0	0	0	0	0	0	0	7
3:00	0	1	1	1	4	0	0	0	0	0	0	0	0	7
4:00	4	5	3	5	10	3	0	0	0	0	0	0	0	30
5:00	10	2	4	19	15	8	1	0	0	0	0	0	0	59
6:00	8	2	3	34	69	27	10	0	0	0	0	0	0	153
7:00	3	10	10	33	119	52	5	1	1	0	0	0	0	234
8:00	15	18	28	73	86	26	6	1	0	0	0	0	0	253
9:00	24	54	29	60	67	22	3	0	0	0	0	0	0	259
10:00	4	27	30	65	56	19	1	0	0	0	0	0	0	202
11:00	18	26	28	59	52	17	3	1	0	0	0	0	0	204
12:00 PM	6	25	30	59	68	27	5	0	0	0	0	0	0	220
1:00	3	28	23	53	63	31	2	1	0	1	0	0	0	205
2:00	3	31	22	43	72	44	6	0	0	0	0	0	0	221
3:00	2	17	14	61	70	39	4	0	0	0	0	0	0	207
4:00	0	10	16	48	74	47	8	0	0	0	0	0	0	203
5:00	3	6	18	52	91	41	13	0	0	0	0	0	0	224
6:00	8	10	16	33	57	33	5	1	0	0	0	0	0	163
7:00	8	20	13	47	56	16	4	1	0	0	0	0	0	165
8:00	1	8	14	18	15	5	0	0	0	0	0	0	0	61
9:00	11	4	7	12	10	6	1	0	0	0	0	0	0	51
10:00	2	3	4	11	5	8	1	0	0	0	0	0	0	34
11:00	0	0	1	2	2	1	0	0	0	0	0	0	0	6
Total	140	309	317	793	1065	474	78	6	1	1	0	0	0	3184

Location : Meetinghouse Lane
Location : West of Fire Station
City/State: Bourne, MA
Direction: WB,

89630001

4/28/2021	0 - 15	> 15 -	> 20 -	> 25 -	> 30 -	> 35 -	> 40 -	> 45 -	> 50 -	> 55 -	> 60 -	> 65 -	> 70	
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	Total
12:00 AM	2	0	2	3	3	0	0	0	0	0	0	0	0	10
1:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
2:00	1	2	0	1	3	0	0	0	0	0	0	0	0	7
3:00	2	1	0	1	2	0	0	0	0	0	0	0	0	6
4:00	3	1	2	4	13	2	0	0	0	0	0	0	0	25
5:00	5	8	5	12	16	11	3	0	0	0	0	0	0	60
6:00	10	3	4	24	65	30	3	2	0	0	0	0	0	141
7:00	2	10	19	48	100	49	10	2	1	0	0	0	0	241
8:00	6	19	24	70	99	46	8	0	0	0	0	0	0	272
9:00	21	47	40	62	57	24	3	0	0	0	0	0	0	254
10:00	8	24	33	39	79	23	9	0	0	0	0	0	0	215
11:00	1	24	28	54	59	28	5	0	0	0	0	0	0	199
12:00 PM	9	29	25	46	82	41	8	1	0	0	0	0	0	241
1:00	4	16	28	54	81	29	6	1	0	0	0	0	0	219
2:00	3	29	26	36	70	40	7	0	0	0	0	0	0	211
3:00	4	19	28	48	84	41	7	0	0	0	0	0	0	231
4:00	4	14	26	69	66	36	6	1	0	0	0	0	0	222
5:00	3	5	21	70	98	42	10	1	0	0	0	0	0	250
6:00	2	6	11	48	77	48	6	0	1	0	0	0	0	199
7:00	7	14	13	30	36	12	5	0	0	0	0	0	0	117
8:00	5	6	9	22	23	8	0	1	0	0	0	0	0	74
9:00	9	11	4	11	9	0	1	0	0	0	0	0	0	45
10:00	2	3	3	6	4	4	0	0	0	0	0	0	0	22
11:00	0	2	0	1	3	0	0	0	0	0	0	0	0	6
Total	119	293	351	759	1129	514	97	9	2	0	0	0	0	3273
Grand Total	259	602	668	1552	2194	988	175	15	3	1	0	0	0	6457

Stats	Percentile	15th	50th	85th	95th
	Speed	21	30.3	35.9	38.4
Mean Speed (Average)		29.0			
10 MPH Pace Speed		25-34			
Number in Pace		3715			
Percent in Pace		57.5%			
Number > 45 MPH		19			
Percent > 45 MPH		0.3%			

Accurate Counts
978-664-2565

Location : Meetinghouse Lane
Location : West of Fire Station
City/State: Bourne, MA
Direction: EB,

89630001

4/27/2021	0 - 15	> 15 -	> 20 -	> 25 -	> 30 -	> 35 -	> 40 -	> 45 -	> 50 -	> 55 -	> 60 -	> 65 -	> 70	
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	Total
12:00 AM	0	1	0	0	1	2	1	0	0	0	0	0	0	5
1:00	2	0	0	0	1	0	0	0	0	0	0	0	0	3
2:00	5	2	1	0	0	0	0	0	0	0	0	0	0	8
3:00	2	2	0	0	2	1	0	0	0	0	0	0	0	7
4:00	5	28	10	0	2	1	1	2	0	0	0	0	0	49
5:00	6	2	0	4	4	5	1	0	0	0	0	0	0	22
6:00	6	0	3	11	26	19	5	0	0	0	0	0	2	72
7:00	5	4	8	32	34	30	5	1	1	0	0	1	0	121
8:00	20	30	21	41	47	27	3	0	1	0	0	0	1	191
9:00	11	11	25	30	51	30	7	0	0	0	0	1	0	166
10:00	3	14	15	32	48	26	5	1	0	0	0	0	0	144
11:00	9	19	44	44	61	19	5	0	0	0	0	0	0	201
12:00 PM	7	28	26	37	64	44	8	1	1	0	0	0	2	218
1:00	5	13	27	36	77	41	10	1	0	0	0	0	0	210
2:00	7	14	30	42	80	37	10	2	0	0	1	0	0	223
3:00	6	10	24	53	122	67	13	0	0	0	0	0	0	295
4:00	3	13	43	30	90	82	13	0	0	0	0	0	0	274
5:00	14	20	32	48	112	67	19	1	0	0	0	0	0	313
6:00	32	18	20	33	64	64	14	1	0	0	0	0	0	246
7:00	34	11	10	25	34	33	8	1	0	0	0	0	0	156
8:00	12	4	4	11	54	33	1	0	0	0	0	0	0	119
9:00	9	1	2	10	15	17	8	1	0	0	0	0	0	63
10:00	2	1	3	9	10	10	1	0	0	0	0	0	0	36
11:00	0	0	0	1	6	7	1	0	0	0	0	0	0	15
Total	205	246	348	529	1005	662	139	12	3	0	1	2	5	3157

Accurate Counts
978-664-2565

Location : Meetinghouse Lane
Location : West of Fire Station
City/State: Bourne, MA
Direction: EB,

89630001

4/28/2021	0 - 15	> 15 -	> 20 -	> 25 -	> 30 -	> 35 -	> 40 -	> 45 -	> 50 -	> 55 -	> 60 -	> 65 -	> 70	
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	Total
12:00 AM	2	1	0	1	5	2	1	1	0	0	0	0	0	13
1:00	3	0	0	0	1	1	0	0	0	0	0	0	0	5
2:00	4	1	1	1	1	0	0	0	0	0	0	0	0	8
3:00	2	1	1	0	0	0	0	0	0	0	0	0	0	4
4:00	6	28	6	2	5	3	0	0	0	0	0	0	0	50
5:00	5	0	1	3	3	4	0	0	0	0	0	0	0	16
6:00	5	2	4	18	14	19	3	1	0	0	0	0	0	66
7:00	7	10	15	30	32	24	7	1	0	0	0	0	0	126
8:00	31	35	27	26	49	20	5	0	0	0	1	0	0	194
9:00	19	17	26	30	46	36	8	0	0	0	0	0	1	183
10:00	5	13	21	40	43	33	9	2	0	0	0	0	1	167
11:00	3	7	29	49	70	29	8	1	0	0	1	0	0	197
12:00 PM	4	26	27	41	67	57	10	2	0	0	0	0	0	234
1:00	6	14	27	43	72	40	15	0	0	0	0	0	0	217
2:00	5	12	32	48	87	41	10	2	0	0	0	0	0	237
3:00	6	14	15	50	98	62	9	1	0	0	0	0	0	255
4:00	15	21	38	85	104	79	0	0	0	0	0	0	0	342
5:00	10	19	28	56	116	64	11	1	0	0	0	0	0	305
6:00	21	1	16	36	71	61	9	0	0	0	0	0	0	215
7:00	32	9	5	17	43	43	9	2	0	0	0	0	0	160
8:00	19	10	6	20	36	26	3	1	0	0	0	0	0	121
9:00	6	4	4	11	24	15	5	0	0	0	0	0	0	69
10:00	2	1	0	8	16	8	2	0	0	0	0	0	0	37
11:00	0	1	0	3	7	6	1	0	0	0	0	0	0	18
Total	218	247	329	618	1010	673	125	15	0	0	2	0	2	3239
Grand Total	423	493	677	1147	2015	1335	264	27	3	0	3	2	7	6396

Stats	Percentile	15th	50th	85th	95th
	Speed	20.4	31	36.6	39.7
Mean Speed (Average)		29.5			
10 MPH Pace Speed		30-39			
Number in Pace		3346			
Percent in Pace		52.3%			
Number > 45 MPH		42			
Percent > 45 MPH		0.7%			

Accurate Counts
978-664-2565

Location : Meetinghouse Lane
Location : West of Fire Station
City/State: Bourne, MA
Direction: Combined

89630001

4/27/2021	0 - 15	> 15 -	> 20 -	> 25 -	> 30 -	> 35 -	> 40 -	> 45 -	> 50 -	> 55 -	> 60 -	> 65 -	> 70	
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	Total
12:00 AM	0	2	2	2	4	2	1	0	0	0	0	0	0	13
1:00	5	0	0	3	2	1	0	0	0	0	0	0	0	11
2:00	9	3	2	0	0	1	0	0	0	0	0	0	0	15
3:00	2	3	1	1	6	1	0	0	0	0	0	0	0	14
4:00	9	33	13	5	12	4	1	2	0	0	0	0	0	79
5:00	16	4	4	23	19	13	2	0	0	0	0	0	0	81
6:00	14	2	6	45	95	46	15	0	0	0	0	0	2	225
7:00	8	14	18	65	153	82	10	2	2	0	0	1	0	355
8:00	35	48	49	114	133	53	9	1	1	0	0	0	1	444
9:00	35	65	54	90	118	52	10	0	0	0	0	1	0	425
10:00	7	41	45	97	104	45	6	1	0	0	0	0	0	346
11:00	27	45	72	103	113	36	8	1	0	0	0	0	0	405
12:00 PM	13	53	56	96	132	71	13	1	1	0	0	0	2	438
1:00	8	41	50	89	140	72	12	2	0	1	0	0	0	415
2:00	10	45	52	85	152	81	16	2	0	0	1	0	0	444
3:00	8	27	38	114	192	106	17	0	0	0	0	0	0	502
4:00	3	23	59	78	164	129	21	0	0	0	0	0	0	477
5:00	17	26	50	100	203	108	32	1	0	0	0	0	0	537
6:00	40	28	36	66	121	97	19	2	0	0	0	0	0	409
7:00	42	31	23	72	90	49	12	2	0	0	0	0	0	321
8:00	13	12	18	29	69	38	1	0	0	0	0	0	0	180
9:00	20	5	9	22	25	23	9	1	0	0	0	0	0	114
10:00	4	4	7	20	15	18	2	0	0	0	0	0	0	70
11:00	0	0	1	3	8	8	1	0	0	0	0	0	0	21
Total	345	555	665	1322	2070	1136	217	18	4	1	1	2	5	6341

4/28/2021	0 - 15	> 15 -	> 20 -	> 25 -	> 30 -	> 35 -	> 40 -	> 45 -	> 50 -	> 55 -	> 60 -	> 65 -	> 70	
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	Total
12:00 AM	4	1	2	4	8	2	1	1	0	0	0	0	0	23
1:00	9	0	0	0	1	1	0	0	0	0	0	0	0	11
2:00	5	3	1	2	4	0	0	0	0	0	0	0	0	15
3:00	4	2	1	1	2	0	0	0	0	0	0	0	0	10
4:00	9	29	8	6	18	5	0	0	0	0	0	0	0	75
5:00	10	8	6	15	19	15	3	0	0	0	0	0	0	76
6:00	15	5	8	42	79	49	6	3	0	0	0	0	0	207
7:00	9	20	34	78	132	73	17	3	1	0	0	0	0	367
8:00	37	54	51	96	148	66	13	0	0	0	1	0	0	466
9:00	40	64	66	92	103	60	11	0	0	0	0	0	1	437
10:00	13	37	54	79	122	56	18	2	0	0	0	0	1	382
11:00	4	31	57	103	129	57	13	1	0	0	1	0	0	396
12:00 PM	13	55	52	87	149	98	18	3	0	0	0	0	0	475
1:00	10	30	55	97	153	69	21	1	0	0	0	0	0	436
2:00	8	41	58	84	157	81	17	2	0	0	0	0	0	448
3:00	10	33	43	98	182	103	16	1	0	0	0	0	0	486
4:00	19	35	64	154	170	115	6	1	0	0	0	0	0	564
5:00	13	24	49	126	214	106	21	2	0	0	0	0	0	555
6:00	23	7	27	84	148	109	15	0	1	0	0	0	0	414
7:00	39	23	18	47	79	55	14	2	0	0	0	0	0	277
8:00	24	16	15	42	59	34	3	2	0	0	0	0	0	195
9:00	15	15	8	22	33	15	6	0	0	0	0	0	0	114
10:00	4	4	3	14	20	12	2	0	0	0	0	0	0	59
11:00	0	3	0	4	10	6	1	0	0	0	0	0	0	24
Total	337	540	680	1377	2139	1187	222	24	2	0	2	0	2	6512
Grand Total	682	1095	1345	2699	4209	2323	439	42	6	1	3	2	7	12853
Stats	Percentile			15th	50th	85th	95th							
	Speed			21	31	35.9	39							
	Mean Speed (Average)			29.2										
	10 MPH Pace Speed			25-34										
	Number in Pace			6851										
	Percent in Pace			53.3%										
	Number > 45 MPH			61										
	Percent > 45 MPH			0.5%										

MASSDOT CRASH RATE WORKSHEETS



INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Bourne COUNT DATE : Apr-21

DISTRICT : 5 UNSIGNALIZED : ☐ SIGNALIZED : ☒

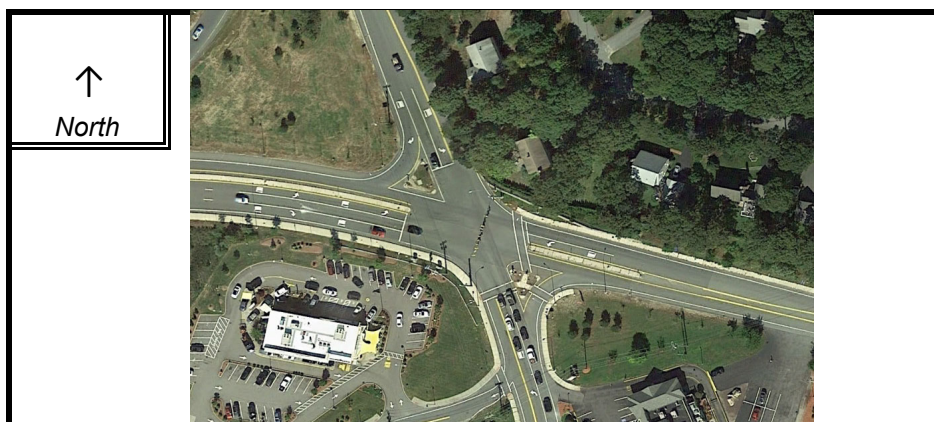
~ INTERSECTION DATA ~

MAJOR STREET : Meetinghouse Lane

MINOR STREET(S) : State Road

Canal Street

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (PM) :	309	193	1,139	323		1,964

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

21,822

TOTAL # OF CRASHES :

24

OF YEARS :

5

AVERAGE # OF CRASHES PER YEAR (A) :

4.80

CRASH RATE CALCULATION :

0.60

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

Comments : Below Statewide and District Crash Rates

Project Title & Date: Proposed Multifamily Housing

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Bourne COUNT DATE : Apr-21

DISTRICT : 5 UNSIGNALIZED : ☒ X SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Meetinghouse Lane

MINOR STREET(S) : Old Plymouth Road

Scusset Beach Road

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/PM) :	41	159	376	124		700

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

7,778

TOTAL # OF CRASHES :

4

OF
YEARS :

3

AVERAGE # OF
CRASHES PER YEAR (A) :

1.33

CRASH RATE CALCULATION :

0.47

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

Comments : Below State and Above District Crash Rates

Project Title & Date: Proposed Multifamily Housing

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Bourne COUNT DATE : Apr-21

DISTRICT : 5 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Meetinghouse Lane

MINOR STREET(S) : Cape View Way

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (PM) :	3	1	386	267		657

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

7,300

TOTAL # OF CRASHES :

2

OF
YEARS :

5

AVERAGE # OF
CRASHES PER YEAR (A) :

0.40

CRASH RATE CALCULATION :

0.15

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

Comments : Below Statewide and District Crash Rates

Project Title & Date: Proposed Multifamily Housing

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
Bourne	Mid-Cape Highway	East of Sagamore Bridge	50,199	50,272	51,492	50,708	51,988	60,208	50,871	48,481	55,245	53,884	61,701	1.54%
Bourne	Sandwich Road	West of Sagamore Bridge	16,300	15,672	15,859	14,943	15,267	15,740	16,102	16,617	16,949	16,145		0.49%
Bourne	Old Plymouth Road	South of Norris Road	3,277	3,500	3,625	3,698	3,568	3,679	3,764	2,945	3,004	3,127	3,054	-1.32%
Bourne	Old Route 3A	North of Meetinghouse Road					8,904	9,046	9,254	9,550	5,156	5,367		-9.77%
Bourne	Sandwich Road	West of Ben Abbey Road					8,654	8,922	9,127	9,419	9,607	10,001		2.85%
Bourne	Sandwich Road	West of Route 3 Access Ramp					25,180	26,565	27,628			29,448		3.70%
Bourne	Church Lane	North of Route 6 Scenic						1,901	1,945	2,007	2,047	2,131		2.85%
Bourne	Adams Street	South of Sandwich Road						6,412	6,559	6,769	6,904	7,187		2.85%
														0.40%

TRIP-GENERATION CALCULATIONS



Multifamily Housing (Mid-Rise) (221)

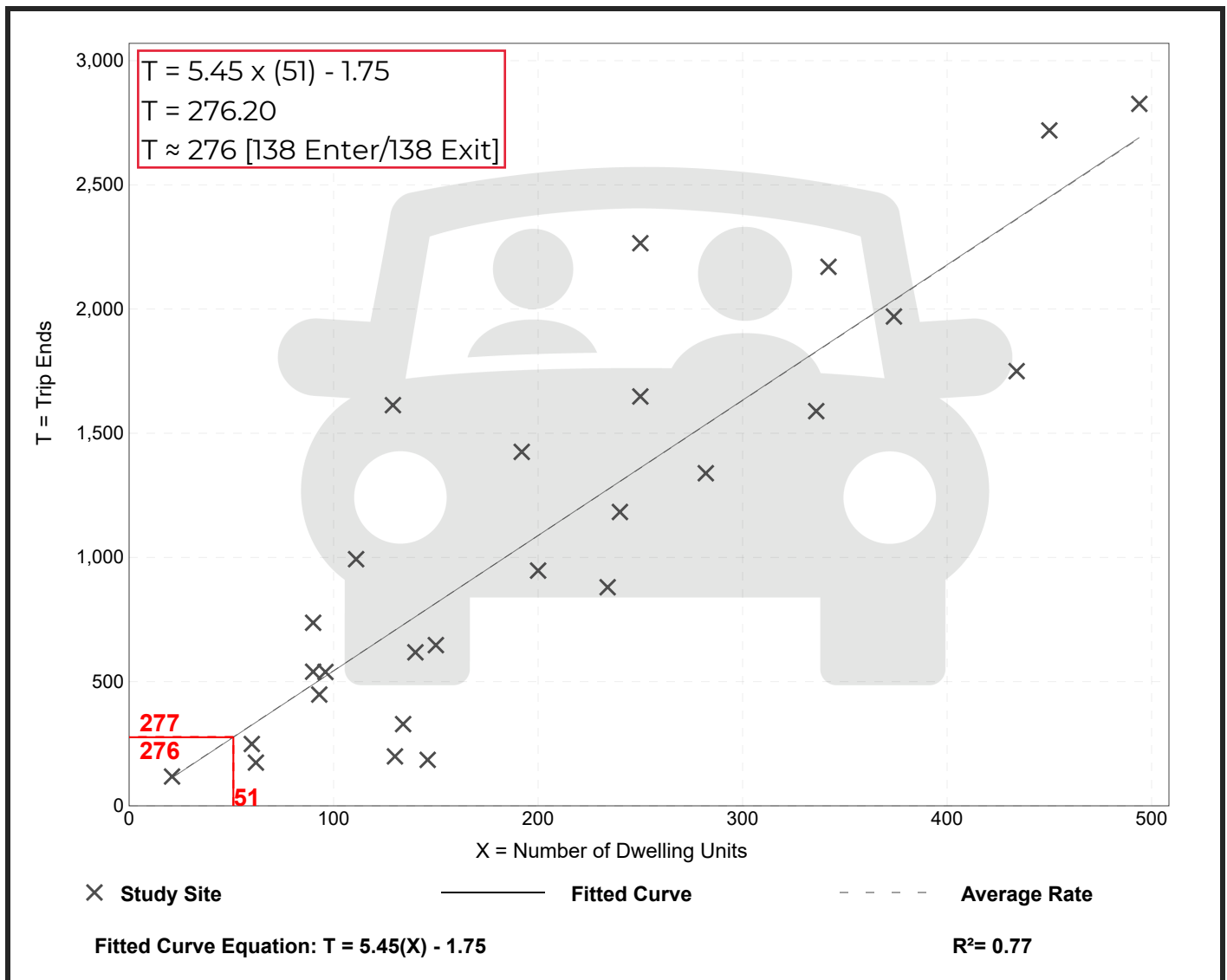
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 27
Avg. Num. of Dwelling Units: 205
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
5.44	1.27 - 12.50	2.03

Data Plot and Equation



Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

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

Setting/Location: General Urban/Suburban

Number of Studies: 53

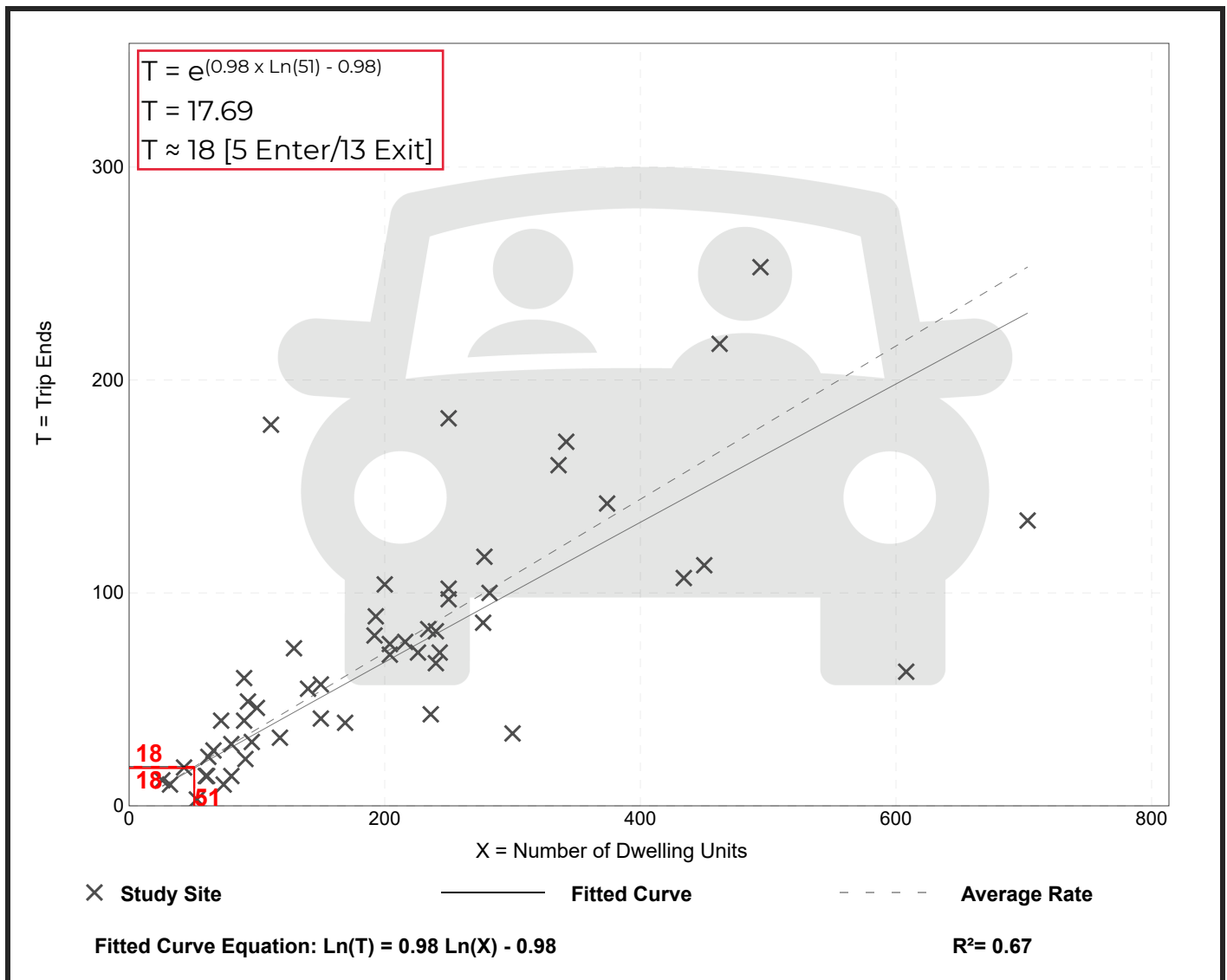
Avg. Num. of Dwelling Units: 207

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

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

Setting/Location: General Urban/Suburban

Number of Studies: 60

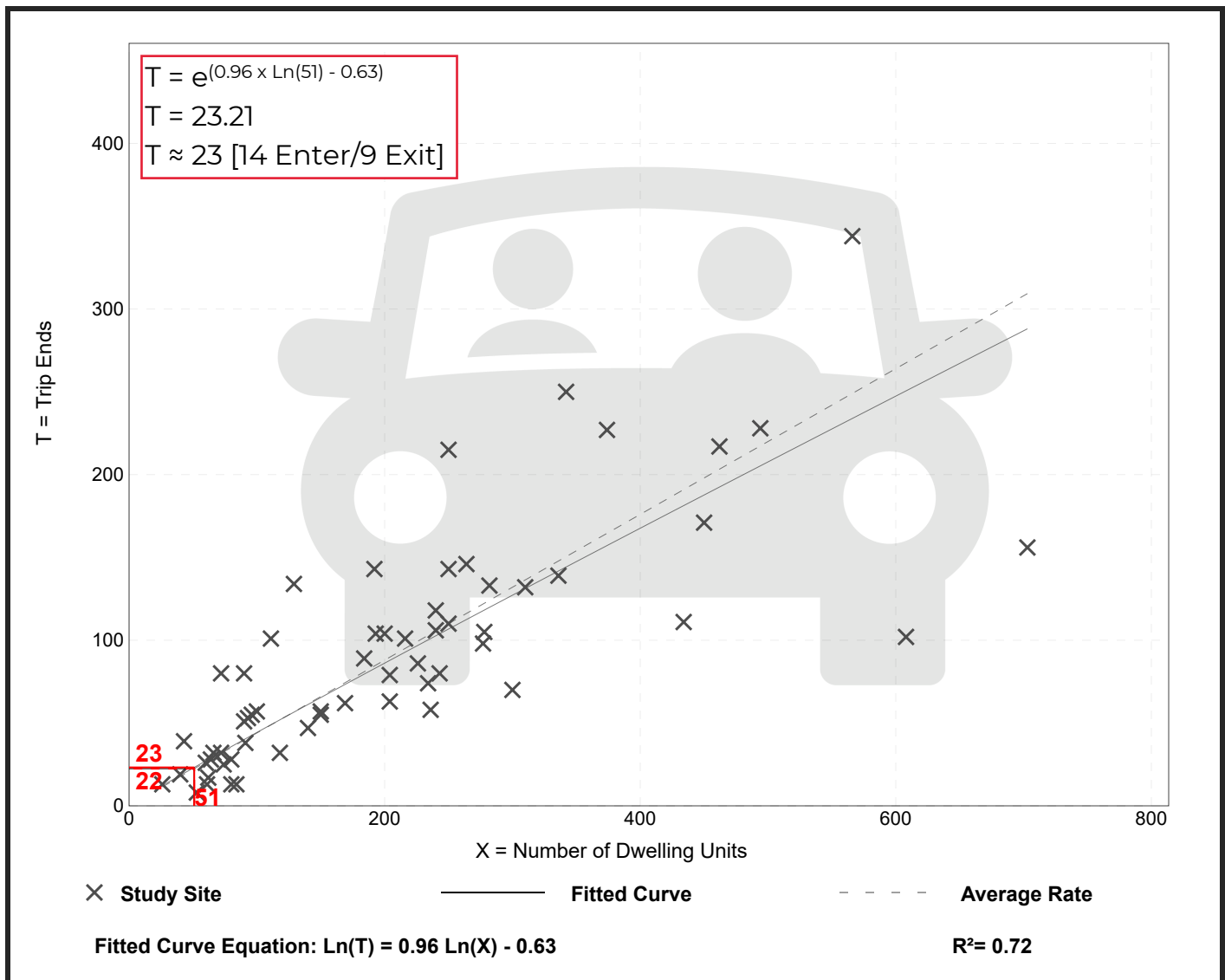
Avg. Num. of Dwelling Units: 208

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



JOURNEY TO WORK TRIP DISTRIBUTION



Proposed Residential Development
Bourne, Massachusetts

Residence	Workplace	Number	Meetinghouse Lane (East)		Meetinghouse Lane (West)		State Road (North)		Canal Street (South)		Old Plymouth Road (North)		Old Plymouth Road (South)	
Bourne town	Bourne town	2,640	15%	396	10%	264	35%	924	15%	396	20%	528	5%	132
Bourne town	Falmouth town	948		0	100%	948		0		0		0		0
Bourne town	Sandwich town	718		0	100%	718		0		0		0		0
Bourne town	Barnstable Town city	657		0	100%	657		0		0		0		0
Bourne town	Plymouth town	640		0	100%	640		0		0		0		0
Bourne town	Wareham town	494		0	100%	494		0		0		0		0
Bourne town	Yarmouth town	432		0	100%	432		0		0		0		0
Bourne town	Boston city	389		0	100%	389		0		0		0		0
Bourne town	Mashpee town	171		0	100%	171		0		0		0		0
Bourne town	Orleans town	130		0	100%	130		0		0		0		0
Bourne town	Taunton city	114		0	100%	114		0		0		0		0
Bourne town	Brockton city	95		0	100%	95		0		0		0		0
Bourne town	Brewster town	81		0	100%	81		0		0		0		0
Bourne town	New Bedford city	73		0	100%	73		0		0		0		0
Bourne town	Hingham town	73		0	100%	73		0		0		0		0
Bourne town	Kingston town	69		0	100%	69		0		0		0		0
Bourne town	Chelsea city	60		0	100%	60		0		0		0		0
Bourne town	Harwich town	54		0	100%	54		0		0		0		0
Bourne town	Truro town	53		0	100%	53		0		0		0		0
Bourne town	Weymouth Town city	50		0	100%	50		0		0		0		0
Bourne town	Stoughton town	47		0	100%	47		0		0		0		0
Bourne town	Bridgewater town	46		0	100%	46		0		0		0		0
Bourne town	Leominster city	45		0	100%	45		0		0		0		0
Bourne town	Chatham town	43		0	100%	43		0		0		0		0
Bourne town	Mansfield town	41		0	100%	41		0		0		0		0
Bourne town	Canton town	40		0	100%	40		0		0		0		0
Bourne town	Norwood town	40		0	100%	40		0		0		0		0
Bourne town	Westborough town	40		0	100%	40		0		0		0		0
Bourne town	Seekonk town	39		0	100%	39		0		0		0		0
Bourne town	Duxbury town	38		0	100%	38		0		0		0		0
Bourne town	Milton town	35		0	100%	35		0		0		0		0
Bourne town	Quincy city	35		0	100%	35		0		0		0		0
8,430				396		6,054		924		396		528		132
				4.7%		71.8%		11.0%		4.7%		6.3%		1.6%
<u>SAY</u>				<u>5%</u>		<u>72%</u>		<u>10%</u>		<u>5%</u>		<u>6%</u>		<u>2%</u>

Proposed Residential Development
Bourne, Massachusetts

Residence	Workplace	Number	Meetinghouse Lane (East)		Meetinghouse Lane (West)		State Road (North)		Canal Street (South)		Old Plymouth Road (North)		Old Plymouth Road (South)	
Bourne town	Bourne town	2,640	15%	396		0	45%	1188	15%	396	20%	528	5%	132
Bourne town	Falmouth town	948		0	100%	948		0		0		0		0
Bourne town	Sandwich town	718		0	100%	718		0		0		0		0
Bourne town	Barnstable Town city	657		0	100%	657		0		0		0		0
Bourne town	Plymouth town	640		0		0	100%	640		0		0		0
Bourne town	Wareham town	494		0	100%	494		0		0		0		0
Bourne town	Yarmouth town	432		0	100%	432		0		0		0		0
Bourne town	Boston city	389		0		0	100%	389		0		0		0
Bourne town	Mashpee town	171		0	100%	171		0		0		0		0
Bourne town	Orleans town	130		0	100%	130		0		0		0		0
Bourne town	Taunton city	114		0	100%	114		0		0		0		0
Bourne town	Brockton city	95		0		0	100%	95		0		0		0
Bourne town	Brewster town	81		0	100%	81		0		0		0		0
Bourne town	New Bedford city	73		0	100%	73		0		0		0		0
Bourne town	Hingham town	73		0		0	100%	73		0		0		0
Bourne town	Kingston town	69		0		0	100%	69		0		0		0
Bourne town	Chelsea city	60		0		0	100%	60		0		0		0
Bourne town	Harwich town	54		0	100%	54		0		0		0		0
Bourne town	Truro town	53		0	100%	53		0		0		0		0
Bourne town	Weymouth Town city	50		0		0	100%	50		0		0		0
Bourne town	Stoughton town	47		0	100%	47		0		0		0		0
Bourne town	Bridgewater town	46		0	100%	46		0		0		0		0
Bourne town	Leominster city	45		0	100%	45		0		0		0		0
Bourne town	Chatham town	43		0	100%	43		0		0		0		0
Bourne town	Mansfield town	41		0	100%	41		0		0		0		0
Bourne town	Canton town	40		0		0	100%	40		0		0		0
Bourne town	Norwood town	40		0		0	100%	40		0		0		0
Bourne town	Westborough town	40		0	100%	40		0		0		0		0
Bourne town	Seekonk town	39		0	100%	39		0		0		0		0
Bourne town	Duxbury town	38		0		0	100%	38		0		0		0
Bourne town	Milton town	35		0		0	100%	35		0		0		0
Bourne town	Quincy city	35		0		0	100%	35		0		0		0
8,430				396		4,226		2,752		396		528		132
				4.7%		50.1%		32.6%		4.7%		6.3%		1.6%
<u>SAY</u>				<u>5%</u>		<u>50%</u>		<u>32%</u>		<u>5%</u>		<u>6%</u>		<u>2%</u>

CAPACITY ANALYSIS WORKSHEETS

Meetinghouse Lane at State Road at Canal Street

Meetinghouse Lane at Old Plymouth Road at Scusset Beach Road

Meetinghouse Lane at Cape View Road at 54 Meetinghouse Lane Driveway

Cape View Road at the Project Site Driveway



Meetinghouse Lane at State Road at Canal Street



2021 Existing Weekday Morning Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	371	117	251	28	221	56	167	139	44	20	42	179
Future Volume (vph)	371	117	251	28	221	56	167	139	44	20	42	179
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.970				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1845	1538	1805	1735	0	1752	1881	1615	1805	1845	1599
Flt Permitted	0.293			0.676			0.393			0.656		
Satd. Flow (perm)	551	1845	1538	1284	1735	0	725	1881	1615	1246	1845	1599
Satd. Flow (RTOR)			273		9				83			213
Adj. Flow (vph)	403	127	273	30	238	60	192	160	51	24	50	213
Lane Group Flow (vph)	403	127	273	30	298	0	192	160	51	24	50	213
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Detector Phase	7	4	4	7 8	8		5	2	2	5 6	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0		1.0		1.0	1.0	1.0		1.0	1.0
Minimum Split (s)	8.0	8.0	8.0		8.0		8.0	8.0	8.0		8.0	8.0
Total Split (s)	33.0	111.0	111.0		78.0		14.0	37.0	37.0		23.0	23.0
Total Split (%)	19.4%	65.3%	65.3%		45.9%		8.2%	21.8%	21.8%		13.5%	13.5%
Maximum Green (s)	26.0	104.0	104.0		71.0		7.0	30.0	30.0		16.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Lead/Lag	Lead				Lag		Lead				Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None		None	None	None		None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.62	0.12	0.27	0.04	0.74		0.71	0.33	0.11	0.07	0.29	0.62
Control Delay	14.5	8.5	1.8	8.0	42.9		45.8	30.4	2.9	28.2	43.8	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	8.5	1.8	8.0	42.9		45.8	30.4	2.9	28.2	43.8	14.6
Queue Length 50th (ft)	108	28	0	6	152		91	74	0	10	27	0
Queue Length 95th (ft)	182	57	30	19	252		#187	138	11	31	62	53
Internal Link Dist (ft)		363			464			190			202	
Turn Bay Length (ft)	190		190	100			310		50	100		100
Base Capacity (vph)	694	1845	1538	1273	1438		271	659	619	436	344	472
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.07	0.18	0.02	0.21		0.71	0.24	0.08	0.06	0.15	0.45
Intersection Summary												
Cycle Length: 170												

2021 Existing Weekday Morning Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	13%
Maximum Green (s)	20.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	13.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2021 Existing Weekday Morning Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

Actuated Cycle Length: 86.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Canal Rd/State Rd & Meetinghouse Ln

 Ø2 37 s		 Ø4 111 s		 Ø9 22 s
 Ø5 14 s	 Ø6 23 s	 Ø7 33 s	 Ø8 78 s	

2021 Existing Weekday Morning Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	371	117	251	28	221	56	167	139	44	20	42	179
Future Volume (vph)	371	117	251	28	221	56	167	139	44	20	42	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1845	1538	1805	1735		1752	1881	1615	1805	1845	1599
Flt Permitted	0.29	1.00	1.00	0.68	1.00		0.39	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	552	1845	1538	1284	1735		725	1881	1615	1246	1845	1599
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84
Adj. Flow (vph)	403	127	273	30	238	60	192	160	51	24	50	213
RTOR Reduction (vph)	0	0	115	0	7	0	0	0	38	0	0	193
Lane Group Flow (vph)	403	127	158	30	291	0	192	160	13	24	50	20
Heavy Vehicles (%)	1%	3%	5%	0%	6%	7%	3%	1%	0%	0%	3%	1%
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Actuated Green, G (s)	50.3	50.3	50.3	50.3	19.9		22.4	22.4	22.4	22.4	8.3	8.3
Effective Green, g (s)	50.3	50.3	50.3	50.3	19.9		22.4	22.4	22.4	22.4	8.3	8.3
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.23		0.26	0.26	0.26	0.26	0.10	0.10
Clearance Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	653	1070	892	744	398		271	485	417	321	176	153
v/s Ratio Prot	c0.17	0.07			c0.17		c0.06	0.09			0.03	
v/s Ratio Perm	0.19		0.10	0.02			c0.12		0.01	0.02		0.01
v/c Ratio	0.62	0.12	0.18	0.04	0.73		0.71	0.33	0.03	0.07	0.28	0.13
Uniform Delay, d1	11.5	8.2	8.5	7.8	30.9		27.7	26.1	24.0	24.3	36.4	35.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.0	0.1	0.0	6.8		8.2	0.4	0.0	0.1	0.9	0.4
Delay (s)	13.2	8.3	8.6	7.8	37.7		35.9	26.5	24.1	24.4	37.3	36.3
Level of Service	B	A	A	A	D		D	C	C	C	D	D
Approach Delay (s)		10.9			35.0			30.7			35.5	
Approach LOS		B			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			23.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			86.7			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			69.7%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

2021 Existing Weekday Evening Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	566	360	213	18	212	93	154	121	34	30	33	130
Future Volume (vph)	566	360	213	18	212	93	154	121	34	30	33	130
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.954				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1863	1599	1805	1795	0	1787	1881	1615	1805	1900	1599
Flt Permitted	0.248			0.489			0.385			0.669		
Satd. Flow (perm)	467	1863	1599	929	1795	0	724	1881	1615	1271	1900	1599
Satd. Flow (RTOR)			242		16				83			157
Adj. Flow (vph)	643	409	242	20	236	103	175	138	39	36	40	157
Lane Group Flow (vph)	643	409	242	20	339	0	175	138	39	36	40	157
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Detector Phase	7	4	4	7 8	8		5	2	2	5 6	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0		1.0		1.0	1.0	1.0		1.0	1.0
Minimum Split (s)	8.0	8.0	8.0		8.0		8.0	8.0	8.0		8.0	8.0
Total Split (s)	33.0	111.0	111.0		78.0		14.0	37.0	37.0		23.0	23.0
Total Split (%)	19.4%	65.3%	65.3%		45.9%		8.2%	21.8%	21.8%		13.5%	13.5%
Maximum Green (s)	26.0	104.0	104.0		71.0		7.0	30.0	30.0		16.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Lead/Lag	Lead				Lag		Lead				Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None		None	None	None		None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.97	0.36	0.23	0.04	0.76		0.69	0.31	0.09	0.12	0.25	0.56
Control Delay	48.4	10.2	1.6	7.6	42.5		46.2	31.8	0.8	30.1	44.6	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	10.2	1.6	7.6	42.5		46.2	31.8	0.8	30.1	44.6	15.6
Queue Length 50th (ft)	259	107	0	4	172		84	65	0	16	22	0
Queue Length 95th (ft)	#529	171	26	14	278		#173	126	3	42	53	47
Internal Link Dist (ft)		363			464			190			202	
Turn Bay Length (ft)	190		190	100			310		50	100		100
Base Capacity (vph)	662	1863	1599	929	1413		255	624	591	421	336	412
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.22	0.15	0.02	0.24		0.69	0.22	0.07	0.09	0.12	0.38
Intersection Summary												
Cycle Length: 170												

2021 Existing Weekday Evening Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	13%
Maximum Green (s)	20.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	13.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2021 Existing Weekday Evening Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

Actuated Cycle Length: 91

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Canal Rd/State Rd & Meetinghouse Ln

 Ø2	 Ø4	 Ø9
37 s	111 s	22 s
 Ø5	 Ø7	
14 s	33 s	
 Ø6	 Ø8	
23 s	78 s	

2021 Existing Weekday Evening Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	566	360	213	18	212	93	154	121	34	30	33	130
Future Volume (vph)	566	360	213	18	212	93	154	121	34	30	33	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1863	1599	1805	1795		1787	1881	1615	1805	1900	1599
Flt Permitted	0.25	1.00	1.00	0.49	1.00		0.39	1.00	1.00	0.67	1.00	1.00
Satd. Flow (perm)	467	1863	1599	929	1795		725	1881	1615	1271	1900	1599
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.83	0.83	0.83
Adj. Flow (vph)	643	409	242	20	236	103	175	138	39	36	40	157
RTOR Reduction (vph)	0	0	95	0	12	0	0	0	30	0	0	144
Lane Group Flow (vph)	643	409	147	20	327	0	175	138	9	36	40	13
Heavy Vehicles (%)	1%	2%	1%	0%	1%	1%	1%	1%	0%	0%	0%	1%
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Actuated Green, G (s)	55.1	55.1	55.1	55.1	21.9		21.8	21.8	21.8	21.8	7.8	7.8
Effective Green, g (s)	55.1	55.1	55.1	55.1	21.9		21.8	21.8	21.8	21.8	7.8	7.8
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.24		0.24	0.24	0.24	0.24	0.09	0.09
Clearance Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	663	1129	969	563	432		255	451	387	304	163	137
v/s Ratio Prot	c0.28	0.22			0.18		c0.05	0.07			0.02	
v/s Ratio Perm	c0.31		0.09	0.02			c0.11		0.01	0.03		0.01
v/c Ratio	0.97	0.36	0.15	0.04	0.76		0.69	0.31	0.02	0.12	0.25	0.10
Uniform Delay, d1	19.2	9.0	7.8	7.2	32.0		29.8	28.3	26.4	27.0	38.8	38.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.2	0.2	0.1	0.0	7.4		7.5	0.4	0.0	0.2	0.8	0.3
Delay (s)	46.4	9.2	7.8	7.2	39.4		37.3	28.7	26.4	27.2	39.6	38.6
Level of Service	D	A	A	A	D		D	C	C	C	D	D
Approach Delay (s)		27.4			37.6			32.7			37.0	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			30.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			90.9			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			83.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

2021 Existing Weekday Morning Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	125	269	30	237	60	179	149	47	21	45	192
Future Volume (vph)	398	125	269	30	237	60	179	149	47	21	45	192
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.970				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1845	1538	1805	1735	0	1752	1881	1615	1805	1845	1599
Flt Permitted	0.274			0.670			0.402			0.648		
Satd. Flow (perm)	515	1845	1538	1273	1735	0	742	1881	1615	1231	1845	1599
Satd. Flow (RTOR)			292		9				83			229
Adj. Flow (vph)	433	136	292	32	255	65	206	171	54	25	54	229
Lane Group Flow (vph)	433	136	292	32	320	0	206	171	54	25	54	229
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Detector Phase	7	4	4	7 8	8		5	2	2	5 6	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0		1.0		1.0	1.0	1.0		1.0	1.0
Minimum Split (s)	8.0	8.0	8.0		8.0		8.0	8.0	8.0		8.0	8.0
Total Split (s)	33.0	111.0	111.0		78.0		14.0	37.0	37.0		23.0	23.0
Total Split (%)	19.4%	65.3%	65.3%		45.9%		8.2%	21.8%	21.8%		13.5%	13.5%
Maximum Green (s)	26.0	104.0	104.0		71.0		7.0	30.0	30.0		16.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Lead/Lag	Lead				Lag		Lead				Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None		None	None	None		None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.67	0.13	0.29	0.04	0.76		0.77	0.36	0.11	0.08	0.31	0.64
Control Delay	16.8	8.6	1.8	8.1	43.7		51.8	31.9	3.3	29.2	45.0	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	8.6	1.8	8.1	43.7		51.8	31.9	3.3	29.2	45.0	14.5
Queue Length 50th (ft)	120	31	0	7	167		101	82	0	11	29	0
Queue Length 95th (ft)	228	63	32	20	276		#214	151	13	32	67	54
Internal Link Dist (ft)		363			464			190			202	
Turn Bay Length (ft)	190		190	100			310		50	100		100
Base Capacity (vph)	676	1837	1532	1250	1391		267	636	601	416	332	476
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.07	0.19	0.03	0.23		0.77	0.27	0.09	0.06	0.16	0.48
Intersection Summary												
Cycle Length: 170												

2021 Existing Weekday Morning Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	13%
Maximum Green (s)	20.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	13.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2021 Existing Weekday Morning Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

Actuated Cycle Length: 90

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Canal Rd/State Rd & Meetinghouse Ln

 Ø2 37 s		 Ø4 111 s		 Ø9 22 s
 Ø5 14 s	 Ø6 23 s	 Ø7 33 s	 Ø8 78 s	

2021 Existing Weekday Morning Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	125	269	30	237	60	179	149	47	21	45	192
Future Volume (vph)	398	125	269	30	237	60	179	149	47	21	45	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1845	1538	1805	1735		1752	1881	1615	1805	1845	1599
Flt Permitted	0.27	1.00	1.00	0.67	1.00		0.40	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	516	1845	1538	1273	1735		742	1881	1615	1232	1845	1599
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84
Adj. Flow (vph)	433	136	292	32	255	65	206	171	54	25	54	229
RTOR Reduction (vph)	0	0	120	0	7	0	0	0	40	0	0	207
Lane Group Flow (vph)	433	136	172	32	313	0	206	171	14	25	54	22
Heavy Vehicles (%)	1%	3%	5%	0%	6%	7%	3%	1%	0%	0%	3%	1%
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Actuated Green, G (s)	52.9	52.9	52.9	52.9	21.6		22.9	22.9	22.9	22.9	8.8	8.8
Effective Green, g (s)	52.9	52.9	52.9	52.9	21.6		22.9	22.9	22.9	22.9	8.8	8.8
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.24		0.26	0.26	0.26	0.26	0.10	0.10
Clearance Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	647	1086	906	749	417		269	479	411	314	180	156
v/s Ratio Prot	c0.18	0.07			c0.18		c0.06	0.09			0.03	
v/s Ratio Perm	0.21		0.11	0.03			c0.13		0.01	0.02		0.01
v/c Ratio	0.67	0.13	0.19	0.04	0.75		0.77	0.36	0.03	0.08	0.30	0.14
Uniform Delay, d1	12.0	8.2	8.5	7.8	31.6		29.9	27.4	25.1	25.4	37.6	37.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	0.1	0.1	0.0	7.4		12.2	0.5	0.0	0.1	0.9	0.4
Delay (s)	14.7	8.2	8.6	7.8	39.1		42.1	27.9	25.2	25.5	38.6	37.5
Level of Service	B	A	A	A	D		D	C	C	C	D	D
Approach Delay (s)		11.6			36.2			34.3			36.7	
Approach LOS		B			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			25.0			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			89.8			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			73.1%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

2028 No Build Weekday Evening Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	607	386	228	19	227	100	165	130	36	32	35	140
Future Volume (vph)	607	386	228	19	227	100	165	130	36	32	35	140
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.954				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1863	1599	1805	1795	0	1787	1881	1615	1805	1900	1599
Flt Permitted	0.233			0.467			0.389			0.663		
Satd. Flow (perm)	438	1863	1599	887	1795	0	732	1881	1615	1260	1900	1599
Satd. Flow (RTOR)			259		16				83			169
Adj. Flow (vph)	690	439	259	21	252	111	188	148	41	39	42	169
Lane Group Flow (vph)	690	439	259	21	363	0	188	148	41	39	42	169
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Detector Phase	7	4	4	7 8	8		5	2	2	5 6	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0		1.0		1.0	1.0	1.0		1.0	1.0
Minimum Split (s)	8.0	8.0	8.0		8.0		8.0	8.0	8.0		8.0	8.0
Total Split (s)	33.0	111.0	111.0		78.0		14.0	37.0	37.0		23.0	23.0
Total Split (%)	19.4%	65.3%	65.3%		45.9%		8.2%	21.8%	21.8%		13.5%	13.5%
Maximum Green (s)	26.0	104.0	104.0		71.0		7.0	30.0	30.0		16.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Lead/Lag	Lead				Lag		Lead				Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None		None	None	None		None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.06	0.39	0.24	0.04	0.78		0.74	0.33	0.09	0.13	0.26	0.58
Control Delay	75.2	10.4	1.6	7.6	43.2		51.4	33.0	1.3	31.1	45.7	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.2	10.4	1.6	7.6	43.2		51.4	33.0	1.3	31.1	45.7	15.7
Queue Length 50th (ft)	~354	118	0	4	188		93	71	0	18	23	0
Queue Length 95th (ft)	#628	187	26	15	300		#203	138	4	45	55	48
Internal Link Dist (ft)		363			464			190			202	
Turn Bay Length (ft)	190		190	100			310		50	100		100
Base Capacity (vph)	648	1856	1594	884	1387		253	613	582	410	330	417
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.24	0.16	0.02	0.26		0.74	0.24	0.07	0.10	0.13	0.41
Intersection Summary												
Cycle Length: 170												

2028 No Build Weekday Evening Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	13%
Maximum Green (s)	20.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	13.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2028 No Build Weekday Evening Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

Actuated Cycle Length: 92.7

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Canal Rd/State Rd & Meetinghouse Ln

 Ø2	 Ø4	 Ø9
37 s	111 s	22 s
 Ø5	 Ø7	
14 s	33 s	
 Ø6	 Ø8	
23 s	78 s	

2028 No Build Weekday Evening Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	607	386	228	19	227	100	165	130	36	32	35	140
Future Volume (vph)	607	386	228	19	227	100	165	130	36	32	35	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1863	1599	1805	1795		1787	1881	1615	1805	1900	1599
Flt Permitted	0.23	1.00	1.00	0.47	1.00		0.39	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	437	1863	1599	887	1795		732	1881	1615	1259	1900	1599
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.83	0.83	0.83
Adj. Flow (vph)	690	439	259	21	252	111	188	148	41	39	42	169
RTOR Reduction (vph)	0	0	101	0	12	0	0	0	31	0	0	154
Lane Group Flow (vph)	690	439	158	21	351	0	188	148	10	39	42	15
Heavy Vehicles (%)	1%	2%	1%	0%	1%	1%	1%	1%	0%	0%	0%	1%
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Actuated Green, G (s)	56.7	56.7	56.7	56.7	23.5		22.0	22.0	22.0	22.0	8.0	8.0
Effective Green, g (s)	56.7	56.7	56.7	56.7	23.5		22.0	22.0	22.0	22.0	8.0	8.0
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.25		0.24	0.24	0.24	0.24	0.09	0.09
Clearance Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	648	1139	978	542	455		253	446	383	298	163	137
v/s Ratio Prot	c0.30	0.24			0.20		c0.06	0.08			0.02	
v/s Ratio Perm	c0.35		0.10	0.02			c0.12		0.01	0.03		0.01
v/c Ratio	1.06	0.39	0.16	0.04	0.77		0.74	0.33	0.03	0.13	0.26	0.11
Uniform Delay, d1	20.9	9.1	7.8	7.2	32.1		31.4	29.3	27.1	27.8	39.6	39.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	53.9	0.2	0.1	0.0	7.9		11.2	0.4	0.0	0.2	0.8	0.3
Delay (s)	74.8	9.4	7.8	7.2	40.0		42.6	29.7	27.2	28.0	40.4	39.4
Level of Service	E	A	A	A	D		D	C	C	C	D	D
Approach Delay (s)		41.6			38.2			35.9			37.8	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			39.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			92.7			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			87.5%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

2028 Build Weekday Morning Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	129	269	31	243	64	179	149	47	21	45	192
Future Volume (vph)	398	129	269	31	243	64	179	149	47	21	45	192
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.969				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1845	1538	1805	1733	0	1752	1881	1615	1805	1845	1599
Flt Permitted	0.267			0.668			0.402			0.646		
Satd. Flow (perm)	502	1845	1538	1269	1733	0	742	1881	1615	1227	1845	1599
Satd. Flow (RTOR)			292		10				83			229
Adj. Flow (vph)	433	140	292	33	261	69	206	171	54	25	54	229
Lane Group Flow (vph)	433	140	292	33	330	0	206	171	54	25	54	229
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Detector Phase	7	4	4	7 8	8		5	2	2	5 6	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0		1.0		1.0	1.0	1.0		1.0	1.0
Minimum Split (s)	8.0	8.0	8.0		8.0		8.0	8.0	8.0		8.0	8.0
Total Split (s)	33.0	111.0	111.0		78.0		14.0	37.0	37.0		23.0	23.0
Total Split (%)	19.4%	65.3%	65.3%		45.9%		8.2%	21.8%	21.8%		13.5%	13.5%
Maximum Green (s)	26.0	104.0	104.0		71.0		7.0	30.0	30.0		16.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Lead/Lag	Lead				Lag		Lead				Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None		None	None	None		None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.67	0.13	0.28	0.04	0.77		0.77	0.36	0.12	0.08	0.31	0.64
Control Delay	17.1	8.6	1.8	8.1	44.0		52.7	32.3	3.4	29.6	45.5	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	8.6	1.8	8.1	44.0		52.7	32.3	3.4	29.6	45.5	14.6
Queue Length 50th (ft)	120	32	0	7	173		102	82	0	11	30	0
Queue Length 95th (ft)	233	64	32	21	285		#217	153	13	33	67	54
Internal Link Dist (ft)		363			464			190			202	
Turn Bay Length (ft)	190		190	100			310		50	100		100
Base Capacity (vph)	670	1834	1530	1244	1380		266	631	597	412	330	474
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.08	0.19	0.03	0.24		0.77	0.27	0.09	0.06	0.16	0.48
Intersection Summary												
Cycle Length: 170												

2028 Build Weekday Morning Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	13%
Maximum Green (s)	20.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	13.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2028 Build Weekday Morning Peak Hour 1: Canal Rd/State Rd & Meetinghouse Ln

Actuated Cycle Length: 90.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Canal Rd/State Rd & Meetinghouse Ln

 Ø2 37 s		 Ø4 111 s		 Ø9 22 s
 Ø5 14 s	 Ø6 23 s	 Ø7 33 s	 Ø8 78 s	

2028 Build Weekday Morning Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	129	269	31	243	64	179	149	47	21	45	192
Future Volume (vph)	398	129	269	31	243	64	179	149	47	21	45	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1845	1538	1805	1733		1752	1881	1615	1805	1845	1599
Flt Permitted	0.27	1.00	1.00	0.67	1.00		0.40	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	502	1845	1538	1269	1733		742	1881	1615	1228	1845	1599
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84
Adj. Flow (vph)	433	140	292	33	261	69	206	171	54	25	54	229
RTOR Reduction (vph)	0	0	119	0	8	0	0	0	40	0	0	207
Lane Group Flow (vph)	433	140	173	33	322	0	206	171	14	25	54	22
Heavy Vehicles (%)	1%	3%	5%	0%	6%	7%	3%	1%	0%	0%	3%	1%
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Actuated Green, G (s)	53.6	53.6	53.6	53.6	22.2		22.9	22.9	22.9	22.9	8.8	8.8
Effective Green, g (s)	53.6	53.6	53.6	53.6	22.2		22.9	22.9	22.9	22.9	8.8	8.8
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.25		0.25	0.25	0.25	0.25	0.10	0.10
Clearance Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	643	1092	910	751	425		266	475	408	310	179	155
v/s Ratio Prot	c0.18	0.08			c0.19		c0.06	0.09			0.03	
v/s Ratio Perm	0.22		0.11	0.03			c0.13		0.01	0.02		0.01
v/c Ratio	0.67	0.13	0.19	0.04	0.76		0.77	0.36	0.03	0.08	0.30	0.14
Uniform Delay, d1	12.1	8.1	8.5	7.7	31.7		30.3	27.8	25.5	25.8	38.0	37.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.1	0.1	0.0	7.6		13.1	0.5	0.0	0.1	1.0	0.4
Delay (s)	14.9	8.2	8.6	7.7	39.3		43.4	28.2	25.5	25.9	38.9	37.8
Level of Service	B	A	A	A	D		D	C	C	C	D	D
Approach Delay (s)		11.7			36.4			35.2			37.1	
Approach LOS		B			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			25.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			90.5			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			73.7%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

2028 Build Weekday Evening Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	607	396	228	19	232	103	165	130	37	33	35	140
Future Volume (vph)	607	396	228	19	232	103	165	130	37	33	35	140
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.954				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1863	1599	1805	1795	0	1787	1881	1615	1805	1900	1599
Flt Permitted	0.227			0.459			0.387			0.663		
Satd. Flow (perm)	427	1863	1599	872	1795	0	728	1881	1615	1260	1900	1599
Satd. Flow (RTOR)			259		16				83			169
Adj. Flow (vph)	690	450	259	21	258	114	188	148	42	40	42	169
Lane Group Flow (vph)	690	450	259	21	372	0	188	148	42	40	42	169
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Detector Phase	7	4	4	7 8	8		5	2	2	5 6	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0		1.0		1.0	1.0	1.0		1.0	1.0
Minimum Split (s)	8.0	8.0	8.0		8.0		8.0	8.0	8.0		8.0	8.0
Total Split (s)	33.0	111.0	111.0		78.0		14.0	37.0	37.0		23.0	23.0
Total Split (%)	19.4%	65.3%	65.3%		45.9%		8.2%	21.8%	21.8%		13.5%	13.5%
Maximum Green (s)	26.0	104.0	104.0		71.0		7.0	30.0	30.0		16.0	16.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Lead/Lag	Lead				Lag		Lead				Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None		None	None	None		None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.07	0.39	0.24	0.04	0.79		0.75	0.33	0.09	0.14	0.26	0.58
Control Delay	78.5	10.5	1.6	7.6	43.3		52.4	33.4	1.4	31.5	46.1	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.5	10.5	1.6	7.6	43.3		52.4	33.4	1.4	31.5	46.1	15.8
Queue Length 50th (ft)	~361	122	0	4	194		94	72	0	19	23	0
Queue Length 95th (ft)	#638	193	26	15	309		#206	139	5	47	56	48
Internal Link Dist (ft)		363			464			190			202	
Turn Bay Length (ft)	190		190	100			310		50	100		100
Base Capacity (vph)	643	1853	1592	867	1378		251	608	578	407	328	415
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.24	0.16	0.02	0.27		0.75	0.24	0.07	0.10	0.13	0.41
Intersection Summary												
Cycle Length: 170												

2028 Build Weekday Evening Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	13%
Maximum Green (s)	20.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	13.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2028 Build Weekday Evening Peak Hour

1: Canal Rd/State Rd & Meetinghouse Ln

Actuated Cycle Length: 93.4

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Canal Rd/State Rd & Meetinghouse Ln

 Ø2	 Ø4	 Ø9
37 s	111 s	22 s
 Ø5	 Ø7	
14 s	33 s	
 Ø6	 Ø8	
23 s	78 s	

2028 Build Weekday Evening Peak Hour
1: Canal Rd/State Rd & Meetinghouse Ln

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	607	396	228	19	232	103	165	130	37	33	35	140
Future Volume (vph)	607	396	228	19	232	103	165	130	37	33	35	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1863	1599	1805	1795		1787	1881	1615	1805	1900	1599
Flt Permitted	0.23	1.00	1.00	0.46	1.00		0.39	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	427	1863	1599	872	1795		728	1881	1615	1259	1900	1599
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.83	0.83	0.83
Adj. Flow (vph)	690	450	259	21	258	114	188	148	42	40	42	169
RTOR Reduction (vph)	0	0	100	0	12	0	0	0	32	0	0	155
Lane Group Flow (vph)	690	450	159	21	360	0	188	148	10	40	42	14
Heavy Vehicles (%)	1%	2%	1%	0%	1%	1%	1%	1%	0%	0%	0%	1%
Turn Type	pm+pt	NA	Perm	custom	NA		pm+pt	NA	Perm	custom	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	7 8			2		2	5 6		6
Actuated Green, G (s)	57.3	57.3	57.3	57.3	24.1		22.0	22.0	22.0	22.0	7.9	7.9
Effective Green, g (s)	57.3	57.3	57.3	57.3	24.1		22.0	22.0	22.0	22.0	7.9	7.9
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.26		0.24	0.24	0.24	0.24	0.08	0.08
Clearance Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0		7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	644	1144	982	535	463		252	443	380	296	160	135
v/s Ratio Prot	c0.30	0.24			0.20		c0.06	0.08			0.02	
v/s Ratio Perm	c0.36		0.10	0.02			c0.12		0.01	0.03		0.01
v/c Ratio	1.07	0.39	0.16	0.04	0.78		0.75	0.33	0.03	0.14	0.26	0.11
Uniform Delay, d1	21.2	9.2	7.7	7.1	32.1		31.7	29.6	27.4	28.1	40.0	39.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.1	0.2	0.1	0.0	8.0		11.4	0.4	0.0	0.2	0.9	0.3
Delay (s)	77.4	9.4	7.8	7.1	40.2		43.1	30.0	27.4	28.3	40.9	39.8
Level of Service	E	A	A	A	D		D	C	C	C	D	D
Approach Delay (s)		42.6			38.4			36.2			38.1	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.5			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			93.3			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			87.9%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Meetinghouse Lane at Old Plymouth Road at Scusset Beach Road



2021 Existing Weekday Morning Peak Hour
2: Driveway/Cape View Way & Meetinghouse Ln

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	184	21	9	294	1	0	0	0	1	0	3
Future Vol, veh/h	4	184	21	9	294	1	0	0	0	1	0	3
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	86	86	86	91	91	91	25	25	25	50	50	50
Heavy Vehicles, %	0	3	6	57	6	0	0	0	0	0	0	0
Mvmt Flow	5	214	24	10	323	1	0	0	0	2	0	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	324	0	0	238	0	0	583	580	226	580	592	324
Stage 1	-	-	-	-	-	-	236	236	-	344	344	-
Stage 2	-	-	-	-	-	-	347	344	-	236	248	-
Critical Hdwy	4.1	-	-	4.67	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.713	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1247	-	-	1064	-	-	427	428	818	429	422	722
Stage 1	-	-	-	-	-	-	772	713	-	676	640	-
Stage 2	-	-	-	-	-	-	673	640	-	772	705	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1247	-	-	1064	-	-	418	421	818	424	415	722
Mov Cap-2 Maneuver	-	-	-	-	-	-	418	421	-	424	415	-
Stage 1	-	-	-	-	-	-	768	709	-	673	633	-
Stage 2	-	-	-	-	-	-	660	633	-	768	701	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			0			10.9		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1247	-	-	1064	-	-	614				
HCM Lane V/C Ratio	-	0.004	-	-	0.009	-	-	0.013				
HCM Control Delay (s)	0	7.9	0	-	8.4	0	-	10.9				
HCM Lane LOS	A	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0				

2021 Existing Weekday Evening Peak Hour
2: Driveway/Cape View Way & Meetinghouse Ln

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	377	9	0	266	1	3	0	0	1	0	0
Future Vol, veh/h	0	377	9	0	266	1	3	0	0	1	0	0
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	89	89	89	90	90	90	25	25	25	25	25	25
Heavy Vehicles, %	0	0	71	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	424	10	0	296	1	12	0	0	4	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	297	0	0	434	0	0	726	726	429	726	731	297
Stage 1	-	-	-	-	-	-	429	429	-	297	297	-
Stage 2	-	-	-	-	-	-	297	297	-	429	434	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1276	-	-	1136	-	-	343	354	630	343	351	747
Stage 1	-	-	-	-	-	-	608	587	-	716	671	-
Stage 2	-	-	-	-	-	-	716	671	-	608	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1276	-	-	1136	-	-	343	354	630	343	351	747
Mov Cap-2 Maneuver	-	-	-	-	-	-	343	354	-	343	351	-
Stage 1	-	-	-	-	-	-	608	587	-	716	671	-
Stage 2	-	-	-	-	-	-	716	671	-	608	585	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			15.9			15.6		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	343	1276	-	-	1136	-	-	343				
HCM Lane V/C Ratio	0.035	-	-	-	-	-	-	0.012				
HCM Control Delay (s)	15.9	0	-	-	0	-	-	15.6				
HCM Lane LOS	C	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0				

2021 Existing Weekday Morning Peak Hour
2: Driveway/Cape View Way & Meetinghouse Ln

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	197	21	9	315	1	0	0	0	1	0	3
Future Vol, veh/h	4	197	21	9	315	1	0	0	0	1	0	3
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	86	86	86	91	91	91	25	25	25	50	50	50
Heavy Vehicles, %	0	3	6	57	6	0	0	0	0	0	0	0
Mvmt Flow	5	229	24	10	346	1	0	0	0	2	0	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	347	0	0	253	0	0	621	618	241	618	630	347
Stage 1	-	-	-	-	-	-	251	251	-	367	367	-
Stage 2	-	-	-	-	-	-	370	367	-	251	263	-
Critical Hdwy	4.1	-	-	4.67	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.713	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1223	-	-	1050	-	-	403	408	803	404	401	701
Stage 1	-	-	-	-	-	-	758	703	-	657	626	-
Stage 2	-	-	-	-	-	-	654	626	-	758	694	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1223	-	-	1050	-	-	395	401	803	399	394	701
Mov Cap-2 Maneuver	-	-	-	-	-	-	395	401	-	399	394	-
Stage 1	-	-	-	-	-	-	754	699	-	654	618	-
Stage 2	-	-	-	-	-	-	641	618	-	754	691	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			0			11.2		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1223	-	-	1050	-	-	589				
HCM Lane V/C Ratio	-	0.004	-	-	0.009	-	-	0.014				
HCM Control Delay (s)	0	8	0	-	8.5	0	-	11.2				
HCM Lane LOS	A	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0				

2028 No Build Weekday Evening Peak Hour
2: Driveway/Cape View Way & Meetinghouse Ln

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	404	9	0	285	1	3	0	0	1	0	0
Future Vol, veh/h	0	404	9	0	285	1	3	0	0	1	0	0
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	89	89	89	90	90	90	25	25	25	25	25	25
Heavy Vehicles, %	0	0	71	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	454	10	0	317	1	12	0	0	4	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	318	0	0	464	0	0	777	777	459	777	782	318
Stage 1	-	-	-	-	-	-	459	459	-	318	318	-
Stage 2	-	-	-	-	-	-	318	318	-	459	464	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1253	-	-	1108	-	-	317	330	606	317	328	727
Stage 1	-	-	-	-	-	-	586	570	-	698	657	-
Stage 2	-	-	-	-	-	-	698	657	-	586	567	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1253	-	-	1108	-	-	317	330	606	317	328	727
Mov Cap-2 Maneuver	-	-	-	-	-	-	317	330	-	317	328	-
Stage 1	-	-	-	-	-	-	586	570	-	698	657	-
Stage 2	-	-	-	-	-	-	698	657	-	586	567	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			16.8			16.5		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	317	1253	-	-	1108	-	-	317				
HCM Lane V/C Ratio	0.038	-	-	-	-	-	-	0.013				
HCM Control Delay (s)	16.8	0	-	-	0	-	-	16.5				
HCM Lane LOS	C	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0				

2028 Build Weekday Morning Peak Hour
2: Driveway/Cape View Way & Meetinghouse Ln

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	197	21	9	315	2	0	0	0	3	0	14
Future Vol, veh/h	8	197	21	9	315	2	0	0	0	3	0	14
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	86	86	86	91	91	91	25	25	25	50	50	50
Heavy Vehicles, %	0	3	6	57	6	0	0	0	0	0	0	0
Mvmt Flow	9	229	24	10	346	2	0	0	0	6	0	28
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	348	0	0	253	0	0	640	627	241	626	638	347
Stage 1	-	-	-	-	-	-	259	259	-	367	367	-
Stage 2	-	-	-	-	-	-	381	368	-	259	271	-
Critical Hdwy	4.1	-	-	4.67	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.713	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1222	-	-	1050	-	-	391	403	803	400	397	701
Stage 1	-	-	-	-	-	-	750	697	-	657	626	-
Stage 2	-	-	-	-	-	-	645	625	-	750	689	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1222	-	-	1050	-	-	369	395	803	394	389	701
Mov Cap-2 Maneuver	-	-	-	-	-	-	369	395	-	394	389	-
Stage 1	-	-	-	-	-	-	743	691	-	651	618	-
Stage 2	-	-	-	-	-	-	612	618	-	743	683	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.2			0			11.2		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1222	-	-	1050	-	-	616				
HCM Lane V/C Ratio	-	0.008	-	-	0.009	-	-	0.055				
HCM Control Delay (s)	0	8	0	-	8.5	0	-	11.2				
HCM Lane LOS	A	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.2				

2028 Build Weekday Evening Peak Hour
2: Driveway/Cape View Way & Meetinghouse Ln

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	404	9	0	285	3	3	0	0	2	0	8
Future Vol, veh/h	12	404	9	0	285	3	3	0	0	2	0	8
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	89	89	89	90	90	90	25	25	25	25	25	25
Heavy Vehicles, %	0	0	71	0	0	0	0	0	0	0	0	0
Mvmt Flow	13	454	10	0	317	3	12	0	0	8	0	32
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	320	0	0	464	0	0	820	805	459	804	809	319
Stage 1	-	-	-	-	-	-	485	485	-	319	319	-
Stage 2	-	-	-	-	-	-	335	320	-	485	490	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1251	-	-	1108	-	-	296	318	606	304	317	726
Stage 1	-	-	-	-	-	-	567	555	-	697	657	-
Stage 2	-	-	-	-	-	-	683	656	-	567	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1251	-	-	1108	-	-	280	314	606	301	313	726
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	314	-	301	313	-
Stage 1	-	-	-	-	-	-	559	547	-	687	657	-
Stage 2	-	-	-	-	-	-	653	656	-	559	544	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			18.4			11.8		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	280	1251	-	-	1108	-	-	566				
HCM Lane V/C Ratio	0.043	0.011	-	-	-	-	-	0.071				
HCM Control Delay (s)	18.4	7.9	0	-	0	-	-	11.8				
HCM Lane LOS	C	A	A	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2				

Meetinghouse Lane at Cape View Road at 54 Meetinghouse Lane Driveway



2021 Existing Weekday Morning Peak Hour
3: Old Plymouth Rd & Meetinghouse Ln/Scusset Beach Rd

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	87	72	14	4	131	3	28	5	5	6	10	141
Future Vol, veh/h	87	72	14	4	131	3	28	5	5	6	10	141
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	90	90	90	85	85	85	68	68	68	95	95	95
Heavy Vehicles, %	1	5	0	0	2	0	5	0	50	0	0	2
Mvmt Flow	97	80	16	5	154	4	41	7	7	6	11	148

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	158	0	0	96	0	0	528	450	88	455	456	156
Stage 1	-	-	-	-	-	-	282	282	-	166	166	-
Stage 2	-	-	-	-	-	-	246	168	-	289	290	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.15	6.5	6.7	7.1	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.545	4	3.75	3.5	4	3.318
Pot Cap-1 Maneuver	1428	-	-	1510	-	-	456	508	853	519	504	890
Stage 1	-	-	-	-	-	-	718	681	-	841	765	-
Stage 2	-	-	-	-	-	-	751	763	-	723	676	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1428	-	-	1510	-	-	352	469	853	479	466	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	352	469	-	479	466	-
Stage 1	-	-	-	-	-	-	666	632	-	780	762	-
Stage 2	-	-	-	-	-	-	615	760	-	657	627	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.9			0.2			15.6			10.5		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	396	1428	-	-	1510	-	-	816
HCM Lane V/C Ratio	0.141	0.068	-	-	0.003	-	-	0.203
HCM Control Delay (s)	15.6	7.7	0	-	7.4	0	-	10.5
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0	-	-	0.8

2021 Existing Weekday Evening Peak Hour
3: Old Plymouth Rd & Meetinghouse Ln/Scusset Beach Rd

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	208	138	30	4	107	13	19	21	1	8	24	127
Future Vol, veh/h	208	138	30	4	107	13	19	21	1	8	24	127
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	92	92	92	84	84	84	82	82	82	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	226	150	33	5	127	15	23	26	1	9	27	144
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	142	0	0	183	0	0	849	771	167	777	780	135
Stage 1	-	-	-	-	-	-	619	619	-	145	145	-
Stage 2	-	-	-	-	-	-	230	152	-	632	635	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1453	-	-	1404	-	-	283	333	882	317	329	919
Stage 1	-	-	-	-	-	-	480	483	-	863	781	-
Stage 2	-	-	-	-	-	-	777	775	-	472	476	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1453	-	-	1404	-	-	191	274	882	255	271	919
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	274	-	255	271	-
Stage 1	-	-	-	-	-	-	396	399	-	713	778	-
Stage 2	-	-	-	-	-	-	629	772	-	364	393	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.4			0.2			24.8			13.3		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	231	1453	-	-	1404	-	-	616				
HCM Lane V/C Ratio	0.216	0.156	-	-	0.003	-	-	0.293				
HCM Control Delay (s)	24.8	7.9	0	-	7.6	0	-	13.3				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.8	0.6	-	-	0	-	-	1.2				

2021 Existing Weekday Morning Peak Hour
3: Old Plymouth Rd & Meetinghouse Ln/Scusset Beach Rd

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	93	77	15	4	140	3	30	5	5	6	11	151
Future Vol, veh/h	93	77	15	4	140	3	30	5	5	6	11	151
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	90	90	90	85	85	85	68	68	68	95	95	95
Heavy Vehicles, %	1	5	0	0	2	0	5	0	50	0	0	2
Mvmt Flow	103	86	17	5	165	4	44	7	7	6	12	159
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	103	0	0	564	480	95	485	486	167
Stage 1	-	-	-	-	-	-	301	301	-	177	177	-
Stage 2	-	-	-	-	-	-	263	179	-	308	309	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.15	6.5	6.7	7.1	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.545	4	3.75	3.5	4	3.318
Pot Cap-1 Maneuver	1415	-	-	1502	-	-	432	488	845	496	484	877
Stage 1	-	-	-	-	-	-	702	669	-	829	756	-
Stage 2	-	-	-	-	-	-	736	755	-	706	663	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1415	-	-	1502	-	-	325	448	845	456	445	877
Mov Cap-2 Maneuver	-	-	-	-	-	-	325	448	-	456	445	-
Stage 1	-	-	-	-	-	-	648	617	-	765	753	-
Stage 2	-	-	-	-	-	-	591	752	-	638	612	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.9			0.2			16.7			10.8		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	366	1415	-	-	1502	-	-	800				
HCM Lane V/C Ratio	0.161	0.073	-	-	0.003	-	-	0.221				
HCM Control Delay (s)	16.7	7.7	0	-	7.4	0	-	10.8				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0.8				

2028 No Build Weekday Evening Peak Hour
3: Old Plymouth Rd & Meetinghouse Ln/Scusset Beach Rd

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	223	148	32	4	115	14	20	23	1	9	26	136
Future Vol, veh/h	223	148	32	4	115	14	20	23	1	9	26	136
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	92	92	92	84	84	84	82	82	82	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	242	161	35	5	137	17	24	28	1	10	30	155
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	154	0	0	196	0	0	911	827	179	833	836	146
Stage 1	-	-	-	-	-	-	663	663	-	156	156	-
Stage 2	-	-	-	-	-	-	248	164	-	677	680	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1439	-	-	1389	-	-	257	309	869	290	305	906
Stage 1	-	-	-	-	-	-	454	462	-	851	772	-
Stage 2	-	-	-	-	-	-	760	766	-	446	454	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1439	-	-	1389	-	-	165	249	869	226	246	906
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	249	-	226	246	-
Stage 1	-	-	-	-	-	-	368	374	-	689	769	-
Stage 2	-	-	-	-	-	-	604	763	-	334	368	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.4			0.2			28.7			14.4		
HCM LOS							D			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	205	1439	-	-	1389	-	-	578				
HCM Lane V/C Ratio	0.262	0.168	-	-	0.003	-	-	0.336				
HCM Control Delay (s)	28.7	8	0	-	7.6	0	-	14.4				
HCM Lane LOS	D	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	1	0.6	-	-	0	-	-	1.5				

2028 Build Weekday Morning Peak Hour
 3: Old Plymouth Rd & Meetinghouse Ln/Scusset Beach Rd

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	94	78	15	4	140	3	30	5	5	6	11	152
Future Vol, veh/h	94	78	15	4	140	3	30	5	5	6	11	152
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	90	90	90	85	85	85	68	68	68	95	95	95
Heavy Vehicles, %	1	5	0	0	2	0	5	0	50	0	0	2
Mvmt Flow	104	87	17	5	165	4	44	7	7	6	12	160
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	104	0	0	567	483	96	488	489	167
Stage 1	-	-	-	-	-	-	304	304	-	177	177	-
Stage 2	-	-	-	-	-	-	263	179	-	311	312	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.15	6.5	6.7	7.1	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.545	4	3.75	3.5	4	3.318
Pot Cap-1 Maneuver	1415	-	-	1500	-	-	430	486	844	493	482	877
Stage 1	-	-	-	-	-	-	699	667	-	829	756	-
Stage 2	-	-	-	-	-	-	736	755	-	704	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1415	-	-	1500	-	-	323	446	844	453	442	877
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	446	-	453	442	-
Stage 1	-	-	-	-	-	-	644	615	-	764	753	-
Stage 2	-	-	-	-	-	-	590	752	-	636	609	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.9			0.2			16.8			10.8		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	364	1415	-	-	1500	-	-	799				
HCM Lane V/C Ratio	0.162	0.074	-	-	0.003	-	-	0.223				
HCM Control Delay (s)	16.8	7.7	0	-	7.4	0	-	10.8				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0.8				

2028 Build Weekday Evening Peak Hour
3: Old Plymouth Rd & Meetinghouse Ln/Scusset Beach Rd

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	224	148	32	4	116	14	20	23	1	9	26	137
Future Vol, veh/h	224	148	32	4	116	14	20	23	1	9	26	137
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	92	92	92	84	84	84	82	82	82	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	243	161	35	5	138	17	24	28	1	10	30	156
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	155	0	0	196	0	0	915	830	179	836	839	147
Stage 1	-	-	-	-	-	-	665	665	-	157	157	-
Stage 2	-	-	-	-	-	-	250	165	-	679	682	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1438	-	-	1389	-	-	256	308	869	289	304	905
Stage 1	-	-	-	-	-	-	453	461	-	850	772	-
Stage 2	-	-	-	-	-	-	759	766	-	445	453	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1438	-	-	1389	-	-	164	249	869	225	245	905
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	249	-	225	245	-
Stage 1	-	-	-	-	-	-	367	373	-	689	769	-
Stage 2	-	-	-	-	-	-	602	763	-	333	367	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.4			0.2			28.8			14.4		
HCM LOS							D			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	204	1438	-	-	1389	-	-	578				
HCM Lane V/C Ratio	0.263	0.169	-	-	0.003	-	-	0.338				
HCM Control Delay (s)	28.8	8	0	-	7.6	0	-	14.4				
HCM Lane LOS	D	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	1	0.6	-	-	0	-	-	1.5				

Cape View Road at the Project Site Driveway



2028 Build Weekday Morning Peak Hour
4: Cape View Way & Driveway

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	0	5	5	0	13
Future Vol, veh/h	4	0	5	5	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	5	5	0	14

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	22	8	0
Stage 1	8	-	-
Stage 2	14	-	-
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	995	1074	-
Stage 1	1015	-	-
Stage 2	1009	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	995	1074	-
Mov Cap-2 Maneuver	995	-	-
Stage 1	1015	-	-
Stage 2	1009	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	995	1610
HCM Lane V/C Ratio	-	-	0.004	-
HCM Control Delay (s)	-	-	8.6	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

2028 Build Weekday Evening Peak Hour
4: Cape View Way & Driveway

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	0	14	1	0	9
Future Vol, veh/h	1	0	14	1	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	15	1	0	10
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	26	16	0	0	16	0
Stage 1	16	-	-	-	-	-
Stage 2	10	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	989	1063	-	-	1602	-
Stage 1	1007	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	989	1063	-	-	1602	-
Mov Cap-2 Maneuver	989	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.6	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 989		1602	-	
HCM Lane V/C Ratio	-	- 0.001		-	-	
HCM Control Delay (s)	-	- 8.6		0	-	
HCM Lane LOS	-	- A		A	-	
HCM 95th %tile Q(veh)	-	- 0		0	-	