

Transportation Impact Assessment

Proposed Multifamily Residential Development
125 Broad Street
Weymouth, Massachusetts

Prepared for:

Sawyer Realty Holdings, LLC
Newton, Massachusetts

July 2021

Prepared by:

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

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Dear Reviewer:

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

Sincerely,

VANASSE & ASSOCIATES, INC.



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

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EXECUTIVE SUMMARY

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed redevelopment of the former Colonial Rehab & Nursing Center located at 125 Broad Street in Weymouth, Massachusetts, to accommodate a multifamily residential development (hereafter referred to as the Project). This assessment was prepared in consultation with the Town of Weymouth and the Massachusetts Department of Transportation (MassDOT), and was performed in accordance with MassDOT's *Transportation Impact Assessment (TIA) Guidelines* and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports.

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

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE)¹ and without consideration of the use of alternative modes of transportation to single-occupancy vehicles (SOVs), the Project is expected to generate approximately 434 vehicle trips on an average weekday (two-way, 24-hour volume), with 28 vehicle trips expected during the weekday morning peak hour and 36 vehicle trips expected during the weekday evening peak hour;
2. In comparison to the former use that operated at the Project site (Colonial Rehab & Nursing Center), the Project is expected to generate approximately 130 *fewer* vehicle trips on an average weekday (a 23 percent reduction), with 12 *fewer* vehicle trips expected during the weekday morning peak-hour (a 30 percent reduction) and 19 *fewer* vehicle trips expected during the weekday evening peak-hour (a 34 percent reduction);
3. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with the majority of the movements at the study area intersections shown to continue to operate at level-of-service (LOS) D or better with the addition of Project-related traffic, where an LOS of "D" or better is defined as "acceptable" traffic operations;
4. Independent of the Project, the Route 53/Broad Street and Broad Street/Webb Street/Vine Street intersections were found to have motor vehicle crash rates that are above the MassDOT average crash rates for similar intersections, and the Route 53/Broad Street

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

intersection is included on MassDOT's Highway Safety Improvement Program (HSIP) listing as high crash location for 2015-2017. The Boston Region Metropolitan Planning Organization (Boston MPO) performed an evaluation of safety and traffic operations at the Route 53/Broad Street intersection in 2014.² This study recommended several specific improvements to enhance safety, many of which were completed in conjunction with the recent reconstruction of the intersection and are expected to enhance safety and reduce the frequency of occurrence of motor vehicle crashes; and

5. Lines of sight to and from the Project site driveway intersections can be made to exceed the recommended minimum distance for safe operation based on the appropriate approach speed.

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

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 four (4) driveways configured as follows: a one-way entrance driveway that will intersect the south side of Broad Street at the location of the existing driveway that served the former Colonial Rehab & Nursing Center; a service driveway that will also intersect the south side of Broad Street at the location of the existing service driveway that served the former Colonial Rehab & Nursing Center; a full access driveway that will intersect the west side of Vine Street at the location of the existing shared access driveway that also serves the multifamily residential building located at 31 Vine Street; and a new full access driveway that will intersect the north side of Vine Street approximately 280 feet west of Washington Street (Route 53). The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the site plans:

- The Project site driveways should be a minimum of 24 feet in width where two-way traffic is to be conveyed and a minimum of 20 feet in width for one-way travel unless a reduced width is approved by the Weymouth Fire Department, and designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle.
- Where perpendicular parking is proposed, the drive aisle behind the parking spaces should be a minimum of 23 feet in order to facilitate parking maneuvers.

²*Safety and Operations Analyses at Selected Intersections, Washington Street at Broad Street Intersection in Weymouth;* Boston Region Metropolitan Planning Organization; December 19, 2014.

- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.
- All signs and pavement markings to be installed within the Project site shall conform to the applicable standards of the *Manual on Uniform Traffic Control Devices (MUTCD)*.³
- Pedestrian accommodations should be provided to link the Project to the existing sidewalk infrastructure.
- Americans with Disabilities Act (ADA)-compliant wheelchair ramps should be provided at all pedestrian crossings internal to the Project site and for crossing the Project site driveways or the driveways should be designed so that the sidewalk crosses the driveway (i.e., pan-type driveway).
- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveways should be designed and maintained so as not to restrict lines of sight.
- Snow accumulations (windrows) within the sight triangle areas of the Project site driveways should be promptly removed where such accumulations would impede sight lines.
- Consideration should be given to providing electric vehicle (EV) charging stations for residents of the Project.

Off Site

Route 53 at Broad Street

Independent of the Project, the Route 53/Broad Street intersection was found to have a motor vehicle crash rate that exceeds the MassDOT average crash rate for similar intersections and the intersection is included on MassDOT's HSIP listing as a high crash location. This intersection was the subject of a safety and operations study that was completed by the Boston MPO, and the intersection was recently reconstructed to incorporate the recommendations from the study. As such, no additional improvements are recommended at this time to accommodate the Project, particularly given the expected reduction in traffic that the Project represents over the prior use.

Broad Street at Webb Street and Vine Street

Independent of the Project, the Broad Street/Webb Street/Vine Street intersection was identified as having a motor vehicle crash history that warrants further review and advancement of specific improvements to enhance safety. In an effort to identify safety improvements at this intersection, the Project proponent will facilitate the completion of a Road Safety Audit (RSA). The RSA will be performed prior to the issuance of a Certificate of Occupancy for the Project.

Transportation Demand Management

Public transportation services are provided within the study area by the Massachusetts Bay Transportation Authority (MBTA). MBTA bus Route 225, *Weymouth Landing - Quincy Center Station*, and Route 226, *Columbian Square - Braintree Station*, provide service along

³*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

Route 53 with continued service to Quincy Center Station (Route 225) and Braintree Station (Route 226), where connections can be made to the Red Line subway system, the Commuter Rail (Greenbush Line, Kingston Line and Middleborough/Lakeville Line, with service to South Station in Boston) and other MBTA bus routes. The closest bus stop to the Project site for these bus routes is located at the intersection of Route 53 at Broad Street, which is within an approximate 4 minute walking distance. In addition to fixed-route bus services, the MBTA operates The Ride paratransit services for eligible persons 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.

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

- A transportation coordinator should be designated for the Project to coordinate the elements of the TDM program;
- Information regarding public transportation services, maps, schedules and fare information should be posted in a central location and/or otherwise made available to residents of the Project;
- A “welcome packet” should be provided to residents detailing available public transportation services, bicycle and walking alternatives, and commuter options available;
- Work-at-home workspaces should be provided to support telecommuting by residents of the Project;
- Pedestrian accommodations should be incorporated into the Project that facilitate safe connections to the existing sidewalk infrastructure;
- A central mail drop should be provided; and
- Secure bicycle parking should be provided including both an exterior bicycle rack and weather protected bicycle parking within the building.

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 redevelopment of the former Colonial Rehab & Nursing Center located at 125 Broad Street in Weymouth, Massachusetts, to accommodate a multifamily residential development (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 Washington Street (Route 53), Broad Street and Vine Street, and at the following specific intersections: Route 53 at Broad Street, Broad Street at Webb Street at Vine Street, and Route 53 at Vine Street and Common Street.

PROJECT DESCRIPTION

The Project will entail the redevelopment of the former Colonial Rehab & Nursing Center located at 125 Broad Street in Weymouth, Massachusetts, to accommodate an 80 unit multifamily residential community. The Project site encompasses approximately 2.35± acres of land that is bounded by Broad Street and residential properties to the north; residential and commercial properties to the east and west; and residential and commercial properties and Vine Street the south. Figure 1 depicts the Project site location in relation to the existing roadway network. The Project site is currently occupied by the former Colonial Rehab & Nursing Center building, and associated parking areas and appurtenances. In conjunction with the Project, the existing building will be renovated, and the parking areas will be improved.

Access to the Project site will be provided by way of four (4) driveways configured as follows: a one-way entrance driveway that will intersect the south side of Broad Street at the location of the existing driveway that served the former Colonial Rehab & Nursing Center; a service driveway that will also intersect the south side of Broad Street at the location of the existing service driveway that served the former Colonial Rehab & Nursing Center; a full access driveway that will intersect the west side of Vine Street at the location of the existing shared access driveway that also serves the multifamily residential building located at 31 Vine Street; and a new full access driveway that will intersect the north side of Vine Street approximately 280 feet west of Washington Street (Route 53).



Figure 1

Site Location Map



On-site parking will be provided for 122 vehicles in a surface parking lot, or a parking ratio of 1.52 parking spaces per unit, which is below the parking requirements of Section 120-74, *Minimum required spaces*, of Article XVII, *Off-Street Requirements*, of the Zoning Ordinance of the Town of Weymouth,⁴ but is within the range of values documented by the Institute of Transportation Engineers (ITE) for multifamily (mid-rise) residential communities in a similar settings.⁵

STUDY METHODOLOGY

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

The first stage involved an assessment of existing conditions in the study area and included an inventory of roadway geometrics; pedestrian and bicycle facilities; 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.

⁴The Zoning Bylaw requires that 2.0 parking spaces per dwelling unit be provided for dwellings with multiple units.

⁵*Parking Generation Manual*, 5th Edition; Institute of Transportation Engineers; Washington D.C.; 2019. For multifamily (mid-rise) residential developments, the average observed peak parking demand was found to be 1.21 parking spaces per dwelling unit and the 85th percentile peak parking demand (typical design value) was observed to be 1.52 spaces per dwelling unit.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in April and May 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 Route 53, Broad Street and Vine Street, and the following specific intersections: Route 53 at Broad Street; Broad Street at Webb Street at Vine Street; and Route 53 at Vine Street and Common Street.

The following describes the study area roadways and intersections.

ROADWAYS

Route 53

- Two-lane urban principal arterial roadway under Town jurisdiction north of the intersection with Broad Street and under MassDOT jurisdiction to the south
- Traverses the study area in a general northwest-southeast alignment
- Provides two 10 to 16 foot wide travel lanes that are separated by a double-yellow centerline with 1 to 8 foot wide marked shoulders and additional travel lanes provided at major intersections
- The posted speed limit varies between 30 and 35 miles per hour (mph)
- Sidewalks are provided along both sides of the roadway
- Illumination is provided by way of streetlights mounted on wood poles
- Land use within the study area consists of the Project site and residential and commercial properties

Broad Street

- Two-lane urban minor arterial roadway under Town jurisdiction
- Traverses the study area in a general east-west alignment

- Provides two 10 foot wide travel lanes that are separated by a double-yellow centerline with 1 to 7 foot wide marked shoulders and additional travel lanes provided at major intersections
- The posted speed limit is 30 mph
- Sidewalks are provided along both sides of the roadway
- Illumination is provided by way of streetlights mounted on wood poles
- Land use within the study area consists of the Project site and residential and commercial properties

Vine Street

- Two-lane local access roadway under Town jurisdiction
- Traverses the study area in a circuitous north-south direction between Route 53 and Broad Street
- Provides a 21 to 30 foot wide traveled-way that accommodated two-way travel with no marked centerline or shoulders
- A posted speed limit is not provided and, therefore, the statutory or “prima facie” speed limit pursuant to M.G.L. Chapter 90 Section 17 is 30 mph⁶
- A sidewalk is provided along the east side of the roadway for a distance of approximately 600 feet south of Broad Street and then along the north side for a distance of approximately 650 feet east of Route 53
- Illumination is provided by way of streetlights mounted on wood poles
- Land use within the study area consists of the Project site and residential and commercial properties

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 May 2021.

⁶The 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.

**Table 1
STUDY AREA INTERSECTION DESCRIPTION**

Intersection	Traffic Control Type^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Rte. 53/ Broad St.	TS	1 left-turn lane, 1 through lane and 1 right-turn lane on Rte. 53 northbound; 1 left-turn lane and 1 through/right-turn lane on Rte. 53 southbound; 1 general-purpose travel lane on Broad St. eastbound; 1 through/left-turn lane and 1 right-turn lane on Broad St. westbound	Yes; 1 to 8 feet on Rte. 53 and 1 to 5 feet on Broad St.	Yes; both sides of the intersecting roadways; crosswalks provided across all legs; pedestrian traffic signal equipment and phasing (exclusive) provided	Yes; shared traveled-way ^b on all legs with bicycle detection provided as a part of the traffic signal system
Broad St./ Webb St./ Vine St.	S	1 general purpose travel lane on all approaches	Yes; 6 to 7 feet on Broad St.	Yes; one or both sides of the intersecting roadways; crosswalks provided across Webb St. and the Broad St. east leg	Yes; shared traveled-way
Rte. 53/ Vine St./ Common St.	S	1 general purpose travel lane on all approaches	Yes; 8 to 9 feet on Rte. 53	Yes; one or both sides of the intersecting roadways	Yes; shared traveled-way

^aTS = Traffic Signal Control; S = Stop control

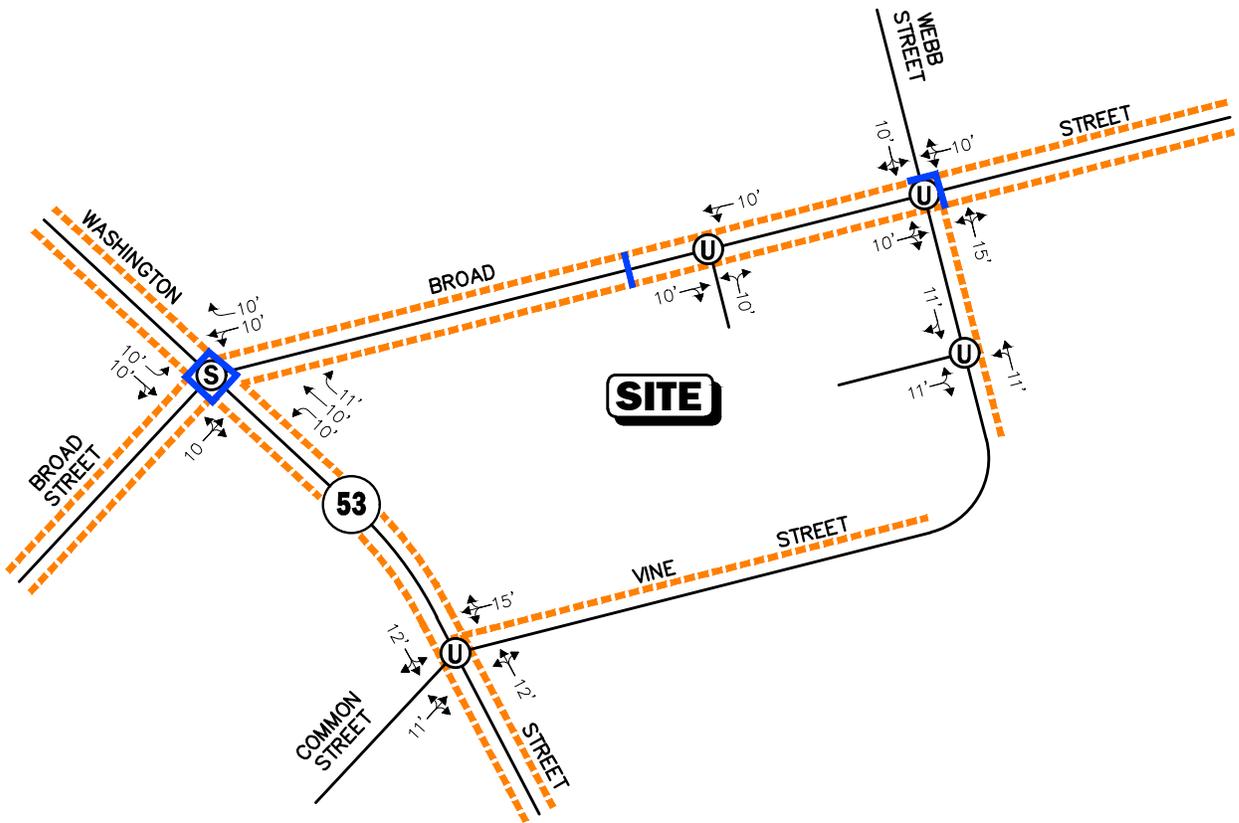
^bCombined shoulder and travel lane width equal to or exceed 14 feet.

TRAFFIC VOLUMES

In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, manual turning movement counts (TMCs) and vehicle classification counts were completed in April, June and July 2021. The ATR counts were conducted on Broad Street in the vicinity of the Project site on April 27th and 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) and on

Legend:

-  Signalized Intersection
-  Unsignalized Intersection
-  Sidewalk
-  Crosswalk
-  Lane Use and Travel Lane Width



 Not To Scale



Figure 2

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

June 30, 2021 (Wednesday) and July 1, 2021 (Thursday). These time periods were selected for analysis purposes as they are representative of the peak traffic-volume hours for both the Project and the adjacent roadway network.

Traffic-Volume Adjustments

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, traffic-volume data from MassDOT Continuous Count Station No. 6255 located on Route 3, north of Route 18, in Weymouth were reviewed.⁷ Based on a review of this data, it was determined that traffic volumes for the month of April are approximately 2.4 percent *below* average-month conditions, with those during the months of June and July found to be approximately 5.0 to 7.0 percent *above* average-month conditions. As such, the April traffic volumes were adjusted upward accordingly (by 2.4 percent) in order to be representative of average-month conditions, with no adjustment required to the June and July traffic volumes.

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 collected at MassDOT Continuous Count Station No. 6255 in April 2019 were 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 April 2021 traffic-volume data that was collected as a part of this assessment was adjusted upward by an additional 8.0 percent in order to account for the reduced traffic volumes resulting from the phased “Reopening Massachusetts” plan. No adjustment was required to the June or July traffic volumes as all restrictions that were associated with the COVID-19 pandemic were lifted on May 29, 2021.

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 that are presented in Table 2 were obtained from the aforementioned figure.

Table 2
2021 EXISTING TRAFFIC VOLUMES

Location/Peak Hour	AWT ^a	VPH ^b	K Factor ^c	Directional Distribution ^d
<i>Broad Street, west of Vine Street:</i>	10,070	--	--	--
Weekday Morning (7:45 – 8:45 AM)	--	682	6.8	53.1% WB
Weekday Evening (4:30 – 5:30 PM)	--	868	8.6	55.1% EB

^aAverage weekday traffic in vehicles per day.

^bVehicles per hour.

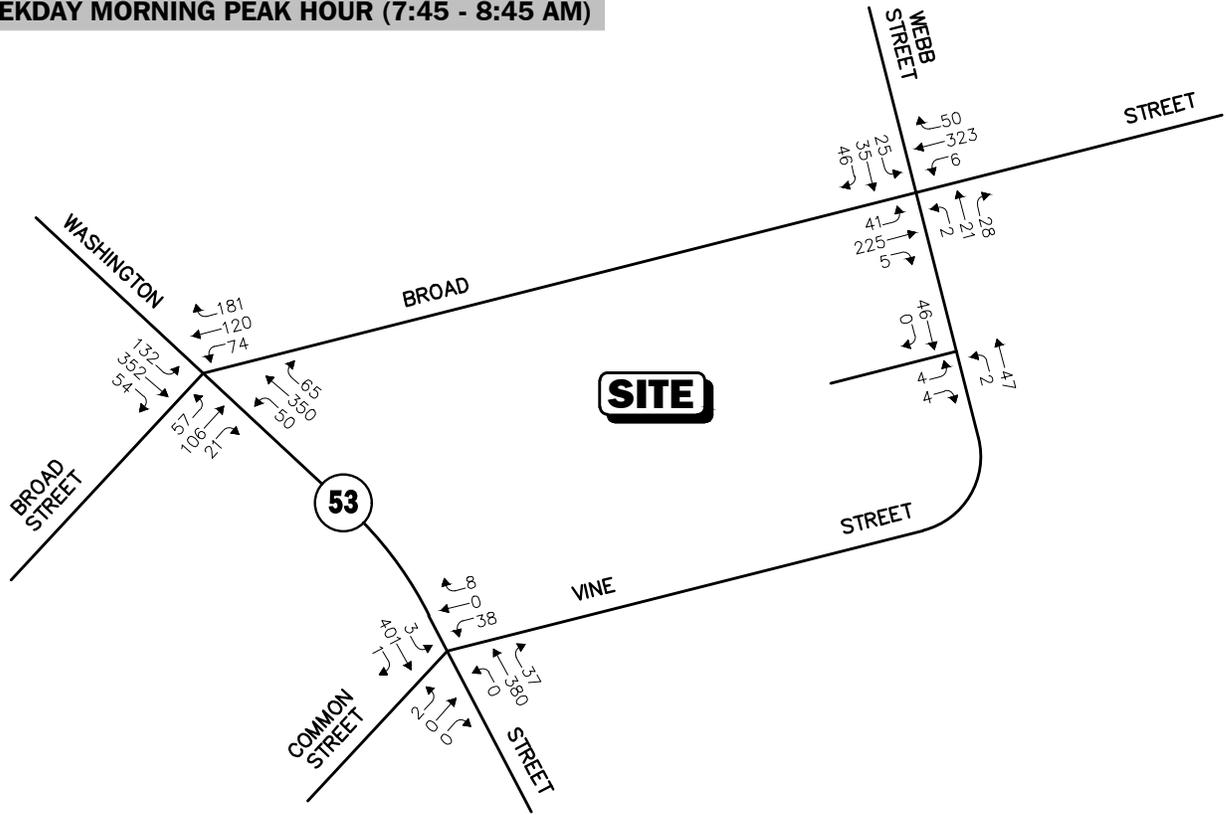
^cPercent of daily traffic occurring during the peak hour.

^dPercent traveling in peak direction.

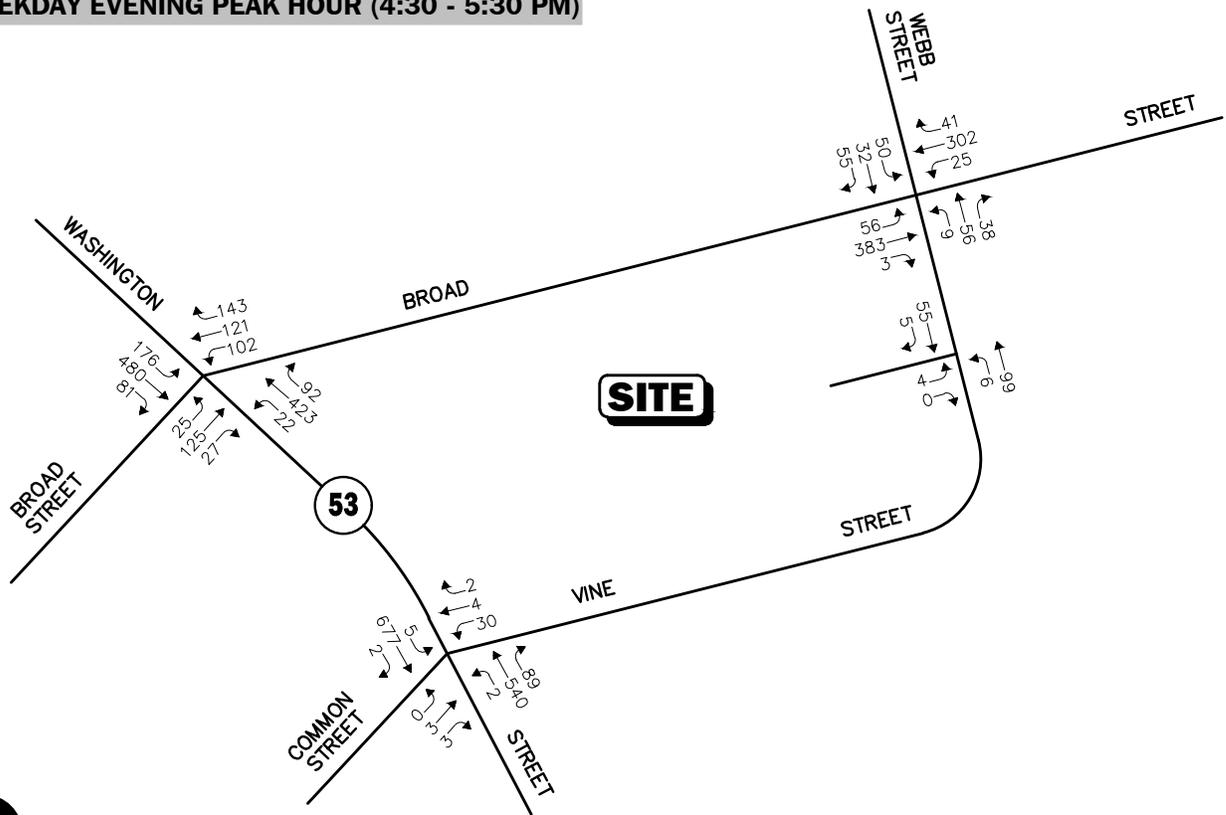
EB=eastbound; WB = westbound.

⁷MassDOT Traffic Volumes for the Commonwealth of Massachusetts; 2021.

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



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



Not To Scale

Figure 3

2021 Existing Peak Hour Traffic Volumes



As can be seen in Table 2, Broad Street in the vicinity of the Project site was found to accommodate approximately 10,070 vehicles on an average weekday (two-way, 24-hour volume), with approximately 682 vehicles per hour (vph) during the weekday morning peak hour and 868 vph during the weekday evening peak hour.

PEDESTRIAN AND BICYCLE FACILITIES

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in May 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 generally provided along one or both sides of the study area roadways, with crosswalks provided for crossing all legs of the Route 53/Broad Street intersection (signalized) and Webb Street the Broad Street west leg of the Broad Street/Webb Street/Vine Street intersection. Pedestrian traffic signal equipment (i.e., push buttons and signal indications) and phasing (exclusive) are provided as a part of the traffic signal system at the Route 53/Broad Street intersection.

Formal bicycle facilities are not provided within the study area; however, the study area roadways generally provide sufficient width to accommodate bicycle travel in a shared traveled-way configuration (i.e., bicyclists and motor vehicles sharing the traveled-way).⁸ Bicycle detection is provided as a part of the traffic signal systems at the Route 53/Broad Street intersection.

PUBLIC TRANSPORTATION

Public transportation services are provided within the study area by the Massachusetts Bay Transportation Transit Authority (MBTA). MBTA bus Route 225, *Weymouth Landing - Quincy Center Station*, and Route 226, *Columbian Square - Braintree Station*, provide service along Route 53 with continued service to Quincy Center Station (Route 225) and Braintree Station (Route 226), where connections can be made to the Red Line subway system, the Commuter Rail (Greenbush Line, Kingston Line and Middleborough/Lakeville Line, with service to South Station in Boston) and other MBTA bus routes. The closest bus stop to the Project site for these bus routes is located at the intersection of Route 53 at Broad Street, which is within an approximate 4 minute walking distance. In addition to fixed-route bus services, the MBTA operates The Ride paratransit services for eligible persons who cannot use fixed-route transit all or some of the time due to a physical, cognitive, or mental disability in compliance with the Americans with Disabilities Act (ADA).

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

SPOT SPEED MEASUREMENTS

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

⁸A minimum combined travel lane and paved shoulder width of 14 feet is required to support bicycle travel in a shared traveled-way condition.

Table 3
VEHICLE TRAVEL SPEED MEASUREMENTS

	Broad Street	
	Eastbound	Westbound
Mean Travel Speed (mph)	30	32
85 th Percentile Speed (mph)	34	34
Posted Speed Limit (mph)	30	30

mph = miles per hour.

As can be seen in Table 3, the mean vehicle travel speed along Broad Street in the vicinity of the Project site was found to be 30 mph eastbound and 32 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 34 mph in both the east and westbound directions, which is 4 mph above the posted speed limit in the vicinity of the Project site (30 mph). The 85th percentile speed is used as the basis of engineering design and in the evaluation of sight distances and is often used in establishing posted speed limits.

MOTOR VEHICLE CRASH DATA

Motor vehicle crash information for the study area 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 is presented in Table 4.

As can be seen in Table 4, the intersections of Route 53 at Vine Street and Vine Street at the common driveway (31 Vine Street) were found to have experienced an average of approximately two (2) or fewer reported motor vehicle crashes per year over the five-year review period and were found to have a motor vehicle crash rate that is *below* the MassDOT average crash rates for similar intersections for the MassDOT Highway Division District in which the intersections are located (District 6).

The intersection of Route 53 at Broad Street was found to have experienced 34 crashes over the five-year review period, or an average of 6.80 crashes per year, the majority of which occurred on a weekday, during daylight, under clear weather conditions and were classified as angle or rear-end type crashes that resulted in property damage only. The calculated motor vehicle crash rate was found to exceed the MassDOT average crash rates for similar intersections and the intersection is included on MassDOT's Highway Safety Improvement Program (HSIP) listing as high crash cluster location for 2015-2017.

Table 4
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Rte. 53/ Broad St.	Broad St./ Webb St./Vine St.	Rte. 53/ Vine St.	Vine St./ 31 Vine Driveway
Traffic Control Type: ^b	TS	S	S	S
<i>Year:</i>				
2014	5	1	2	0
2015	9	7	2	0
2016	4	3	2	1
2017	9	1	2	0
<u>2018</u>	<u>7</u>	<u>5</u>	<u>1</u>	<u>0</u>
Total	34	17	9	1
Average	6.80	3.40	1.80	0.20
Rate ^c	1.10	0.80	0.33	0.29
MassDOT Crash Rate: ^d	0.78/0.71	0.57/0.52	0.57/0.52	0.57/0.52
Significant? ^e	Yes	Yes	No	No
<i>Type:</i>				
Angle	13	9	6	0
Rear-End	10	1	1	1
Head-On	1	1	1	0
Sideswipe	5	0	1	0
Fixed Object	4	4	0	0
Pedestrian/Bicycle	0	0	0	0
<u>Unknown/Other</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	34	17	9	1
<i>Conditions:</i>				
Clear	24	12	6	1
Cloudy	4	2	0	0
Rain	6	2	3	0
<u>Snow/Ice</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	34	17	9	1
<i>Lighting:</i>				
Daylight	24	12	8	1
Dawn/Dusk	0	1	0	0
Dark (Road Lit)	10	4	0	0
<u>Dark (Road Unlit)</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
Total	34	17	9	1
<i>Day of Week:</i>				
Monday through Friday	29	11	7	0
Saturday	2	5	2	0
<u>Sunday</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>
Total	34	17	9	1
<i>Severity:</i>				
Property Damage Only	27	12	6	1
Personal Injury	7	5	3	0
Fatality	0	0	0	0
<u>Unknown</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	34	17	9	1

^aSource: MassDOT Safety Management/Traffic Operations Unit records, 2014 through 2018.

^bTraffic Control Type: TS = traffic signal. S = STOP-sign control.

^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 6).

The Boston Region Metropolitan Planning Organization (Boston MPO) performed an evaluation of safety and traffic operations at the Route 53/Broad Street intersection in 2014 as a part of an assessment of several intersection in the Boston MPO region.⁹ This study recommended several specific improvements to enhance safety, many of which have been implemented as a part of the reconstruction of the intersection, including the addition of travel lanes, sidewalk reconstruction, bicycle accommodations and replacement of the traffic signal system. These recent improvements are expected to enhance safety at the intersection and reduce the frequency of occurrence of motor vehicle crashes.

The intersection of Broad Street at Webb Street and Vine Street was found to have experienced 17 crashes over the five-year review period, or an average of 3.40 crashes per year, the majority of which occurred on a weekday, during daylight, under clear weather conditions and were classified as angle-type crashes that resulted in property damage only. The calculated motor vehicle crash rate was found to exceed the MassDOT average crash rates for similar intersections; however, the intersection is not included on MassDOT's HSIP listing as high crash cluster location. Specific recommendations have been provided as a part of this assessment that are intended to advance safety-related improvements at this intersection (see *Recommendations*).

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.

⁹Ibid 2.

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 actually grow at either a higher or a lower rate at particular intersections.

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

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

Specific Development by Others

The Department of Planning and Community Development for the Town of Weymouth and the Hingham Planning Board were 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 these consultations, the following projects were identified for inclusion in this assessment:

- ***Union Point (Southfield), Abington, Rockland and Weymouth, Massachusetts.*** This project consists of the phased redevelopment of the former South Weymouth Naval Air Station in Abington, Rockland and Weymouth, Massachusetts, to accommodate a mixed-

use development to be known as Union Point (formerly Southfield). When complete, Union Point is expected to encompass 8 million± sf of commercial space and 3,855 residential units. Phase 1 of the project is expected to be completed within the seven-year planning horizon of this assessment (2028) and will include 2,855 residential units and 2.06 million± sf of commercial space.

- ***Trinity Green Mixed-Use Development, 655 Washington Street, Weymouth, Massachusetts.*** This project will entail the construction of a 160-unit multifamily residential community and 6,000± sf of commercial space to be located at 655 Washington Street.
- ***Hanover Apartments, Washington Street, Weymouth, Massachusetts.*** This project will entail the construction of a 270-unit multifamily residential community and 4,200± sf of ground floor retail space to be located along the south side of Washington Street and east of Argyle Court.
- ***Pleasant Street Residences, 881 & 897 Pleasant Street, Weymouth, Massachusetts.*** This proposed project will entail the construction of a 34-unit multifamily residential community to be located at 881 & 897 Pleasant Street.
- ***Switch House Lofts, 44 Allen Street, Braintree, Massachusetts.*** This proposed project will entail the construction of a 53± unit multifamily residential community to be located at 44 Allen Street in Braintree.

Traffic volumes associated with the aforementioned development projects by others were either estimated using trip-generation statistics published by the Institute of Transportation Engineers (ITE)¹⁰ for the appropriate land use(s) or were obtained from the traffic study conducted for the specific development(s),^{11,12,13} and were assigned onto the study area roadway network based on existing traffic patterns where no other information was available. No other developments were identified at this time that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate.

General Background Traffic Growth

Traffic-volume data compiled by MassDOT for Continuous Count Station No. 5255 in Weymouth was reviewed in order to determine general traffic growth trends in the area. Based on a review of this data, 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.

¹⁰Ibid 1.

¹¹*Final Environmental Impact Report*, Naval Air Station Development Project, Weymouth, Massachusetts (EEA No. 11085R); Epsilon Associates, Inc., et al; May 31, 2007.

¹²*Transportation Impact Assessment*, Proposed Mixed-Use Development, 655 Washington Street (Route 53), Weymouth, Massachusetts; VAI; April 2021.

¹³*Transportation Impact Assessment*, Proposed Mixed-Use Development, Washington Street (Route 53), Weymouth, Massachusetts; VAI; March 2021.

Roadway Improvement Projects

The Town of Weymouth 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, a Complete Streets improvement project has been designed for Broad Street that will include specific improvements to the pedestrian crossings between Route 53 and Phillips Street. Specifically, these improvements will include the replacement of the existing pedestrian crossing warning signs at each crossing with a solar-powered, pedestrian actuated Rectangular Rapid Flashing Beacon (RRFB) and the installation of new crosswalk markings and accompanying wheelchair ramps for crossing Phillips Street.

No other roadway improvement projects aside from routine maintenance activities were identified to be planned within the study area at this time.

No-Build Traffic Volumes

The 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 and then adding the peak-hour traffic volumes associated with the identified specific development projects by others. 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 redevelopment of the former Colonial Rehab & Nursing Center to accommodate an 80 unit multifamily residential community. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the ITE¹⁴ for similar land uses as those proposed were used. ITE Land Use Code (LUC) 221, *Multifamily Housing (Mid-Rise)*, was used to establish the base trip-generation calculations for the Project.

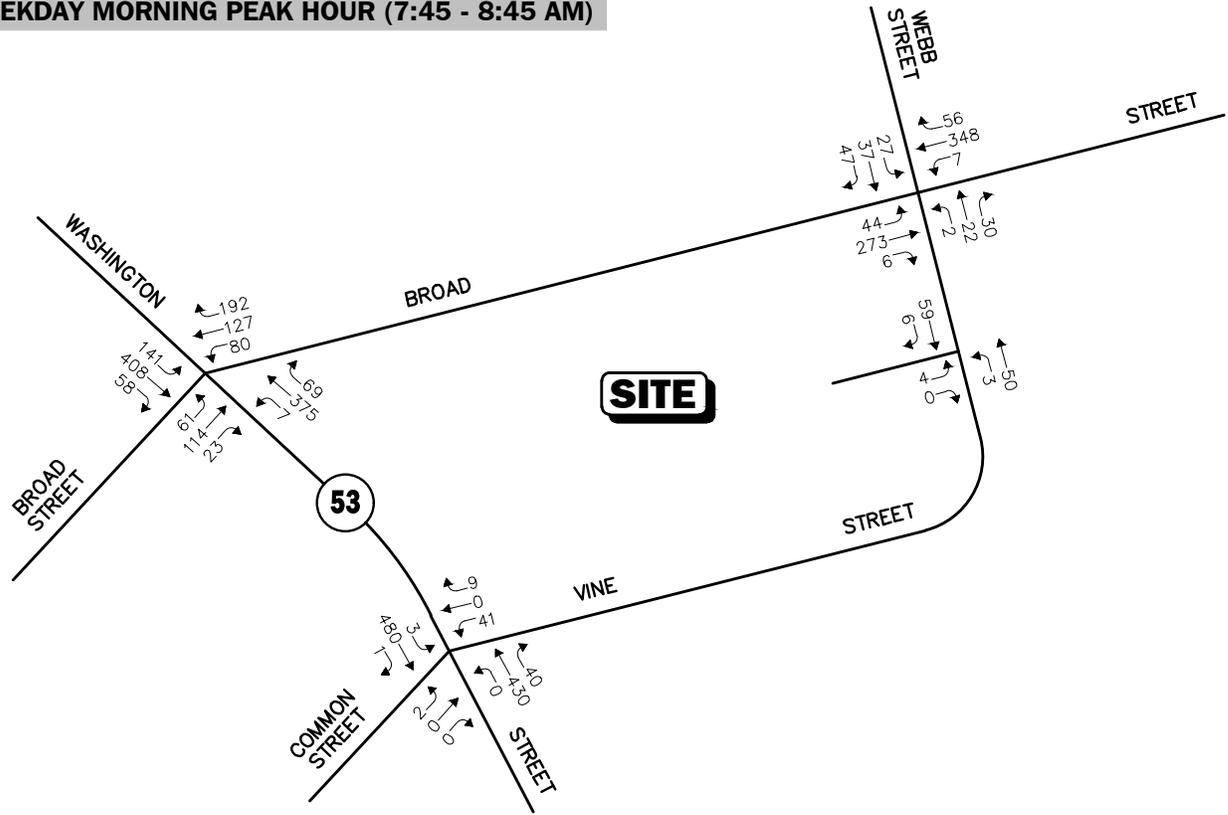
Transit Use

Given that the Project site is located within walking distance of two (2) MBTA bus routes (Routes 225 and 226), it is expected that a portion of the residents of the Project will use public transportation services. A review of the 2019 American Community Survey (ACS) indicates approximately 10.0 percent of workers age 16 or older that reside within the Town use public transportation as their primary mode of travel to work. That being said, in order to provide conservative (high) traffic volumes from which to assess the potential impact of the Project on the transportation infrastructure, a transit reduction was not applied to the base ITE trip-generation calculations.

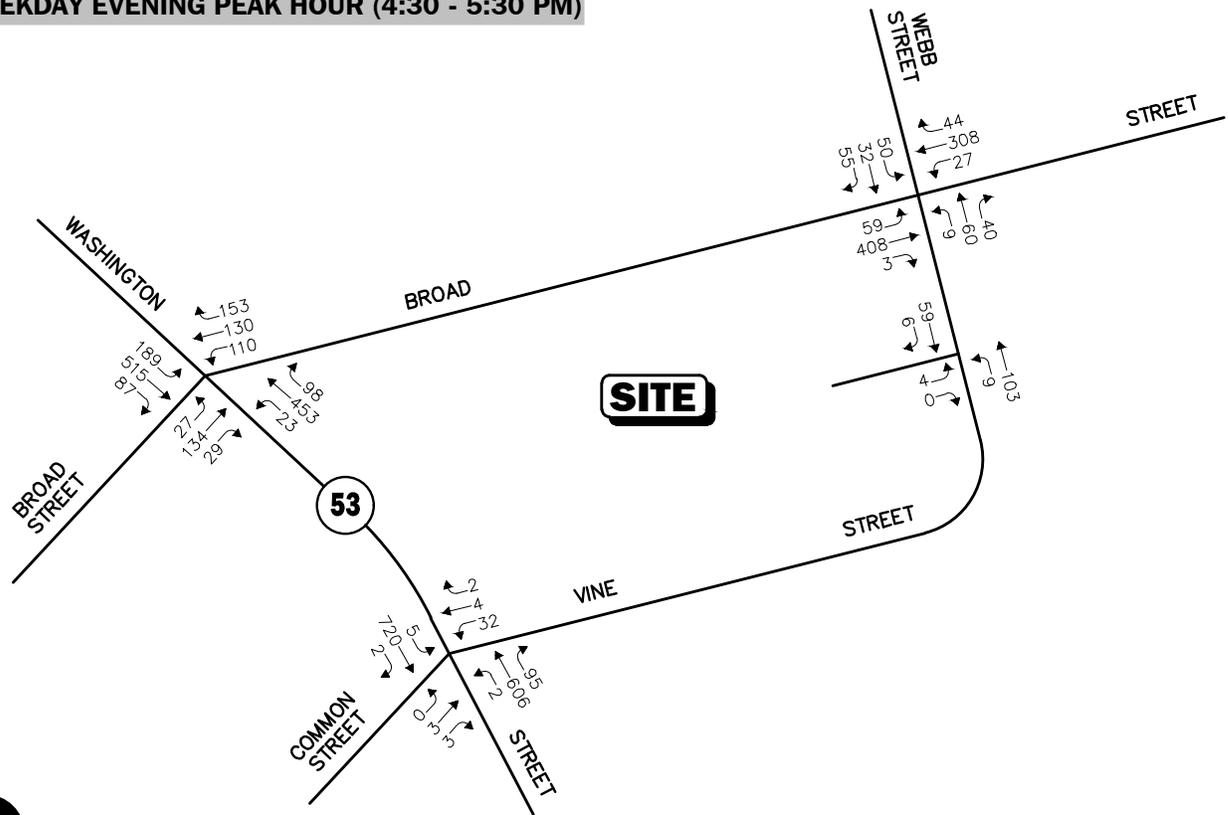
Table 5 summarizes the anticipated trip characteristics of the Project using the above methodology.

¹⁴Ibid 1.

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



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



Not To Scale

Figure 4

2021 No-Build Peak Hour Traffic Volumes



Table 5
TRIP-GENERATION SUMMARY

Time Period	Vehicle Trips ^a		
	Entering	Exiting	Total
<i>Average Weekday:</i>	217	217	434
<i>Weekday Morning Peak-Hour:</i>	7	21	28
<i>Weekday Evening Peak-Hour:</i>	22	14	36

^aBased on ITE LUC 221, *Multifamily Housing (Mid-Rise)*; 80 dwelling units.

Project-Generated Traffic Volume Summary

As can be seen in Table 5, and without consideration of the use of public transportation or other alternative modes of transportation to single-occupancy vehicles (SOVs), the Project is expected to generate approximately 434 vehicle trips on an average weekday (two-way, 24-hour volume, or 217 vehicles entering and 217 exiting), with 28 vehicle trips (7 vehicles entering and 21 exiting) expected during the weekday morning peak hour and 36 vehicle trips (22 vehicles entering and 14 exiting) expected during the weekday evening peak hour.

Table 6 compares the traffic volumes associated with the Project to those of the former Colonial Rehab & Nursing Center that will be renovated to accommodate the Project.

Table 6
TRAFFIC-VOLUME COMPARISON

Time Period/Direction	Vehicle Trips		
	(A) Proposed Multifamily Residential Development ^a	(B) Existing Assisted Living ^b	(A-B) Difference
<i>Average Weekday Daily</i>	434	546	-112
<i>Weekday Morning Peak Hour</i>	28	40	-12
<i>Weekday Evening Peak Hour</i>	36	55	-19

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

^bBased on ITE LUC 254, *Assisted Living*; 210 beds.

Traffic-Volume Comparison

As can be seen in Table 6, in comparison to the former Colonial Rehab & Nursing Center, the Project is expected to generate approximately 112 *fewer* vehicle trips on an average weekday (a 23 percent reduction), with 12 *fewer* vehicle trips expected during the weekday morning peak-hour (a 30 percent reduction) and 19 *fewer* vehicle trips expected during the weekday evening peak-hour (a 34 percent reduction). ***Based on this comparative analysis, it is clear that the Project will be less impactful on the transportation infrastructure when compared to the former use that operated at the Project site.***

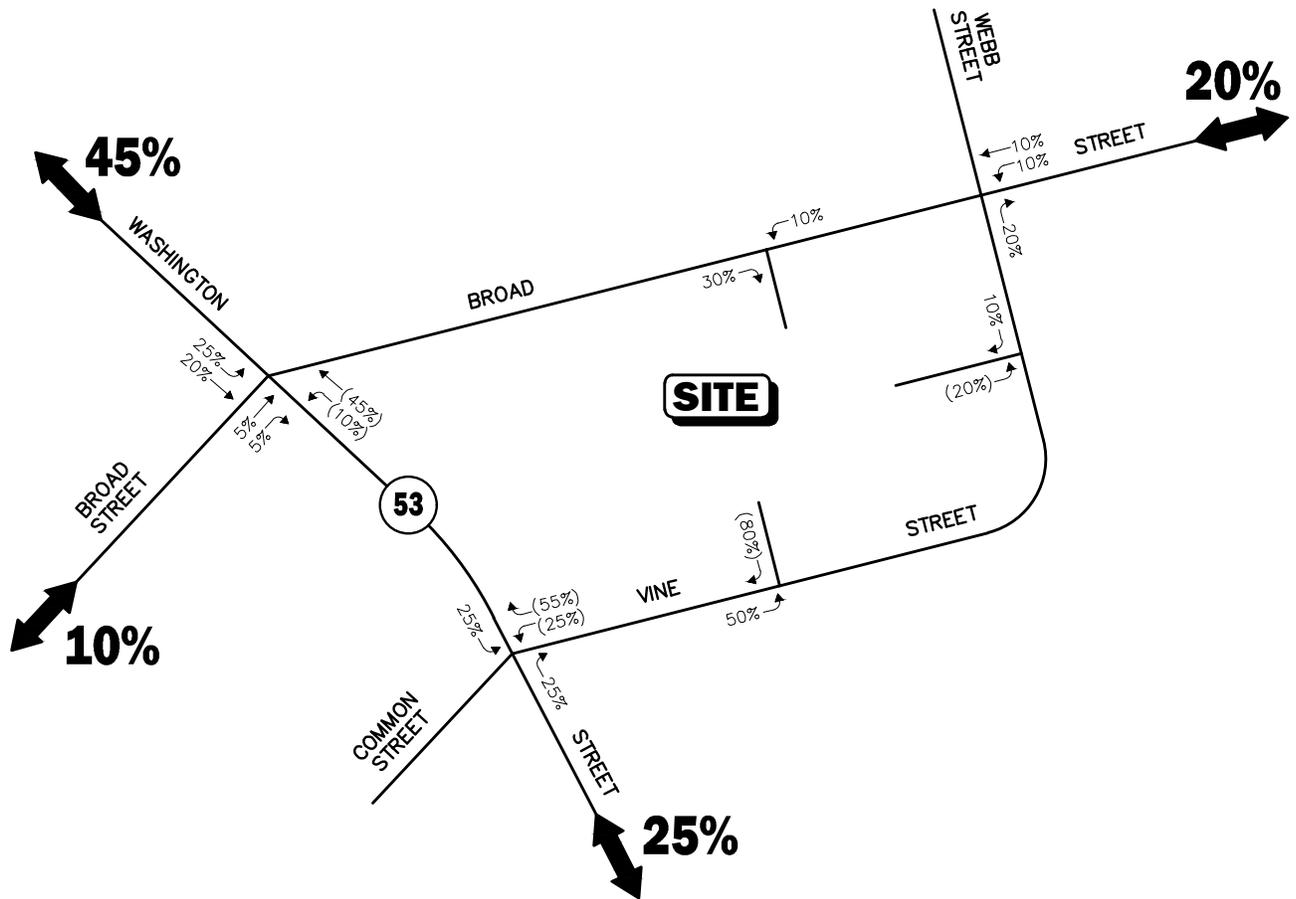
TRIP DISTRIBUTION AND ASSIGNMENT

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 Weymouth 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 7. These changes are a result of the construction of the Project.



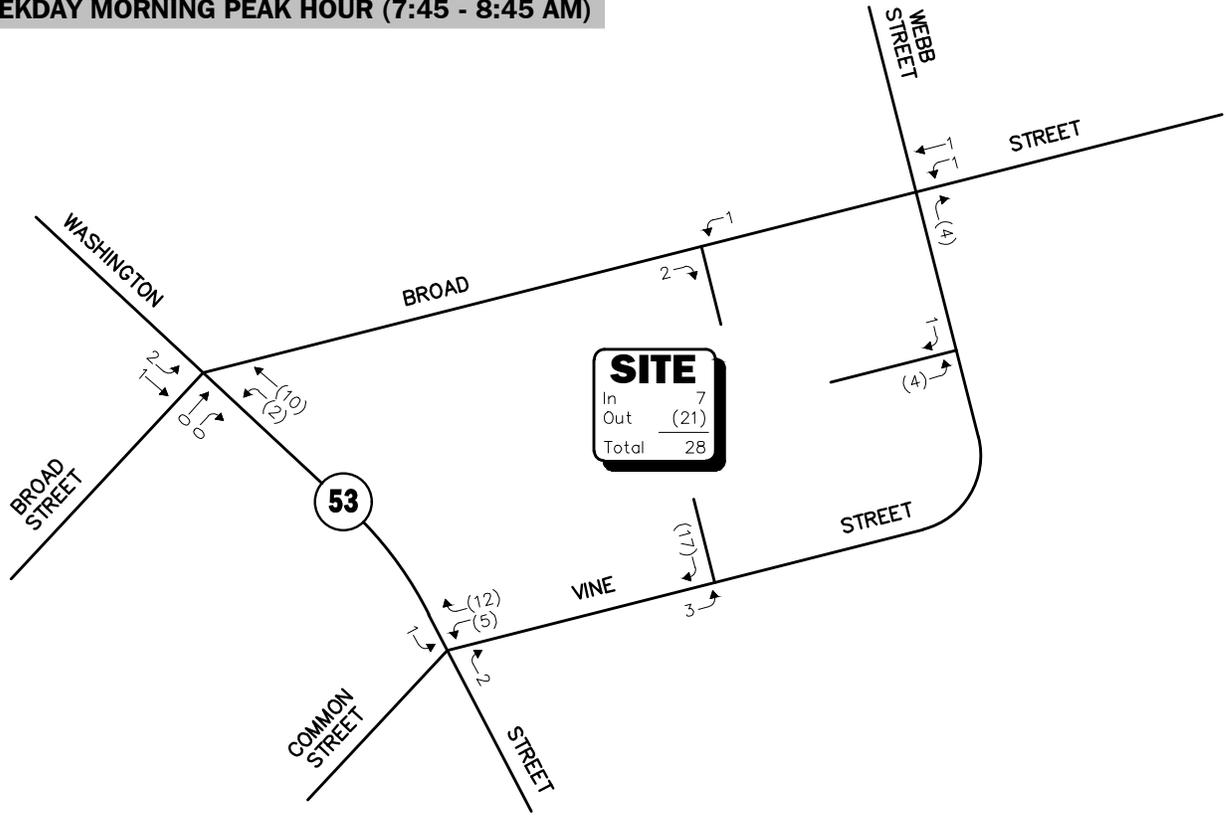
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Figure 5
Trip Distribution Map

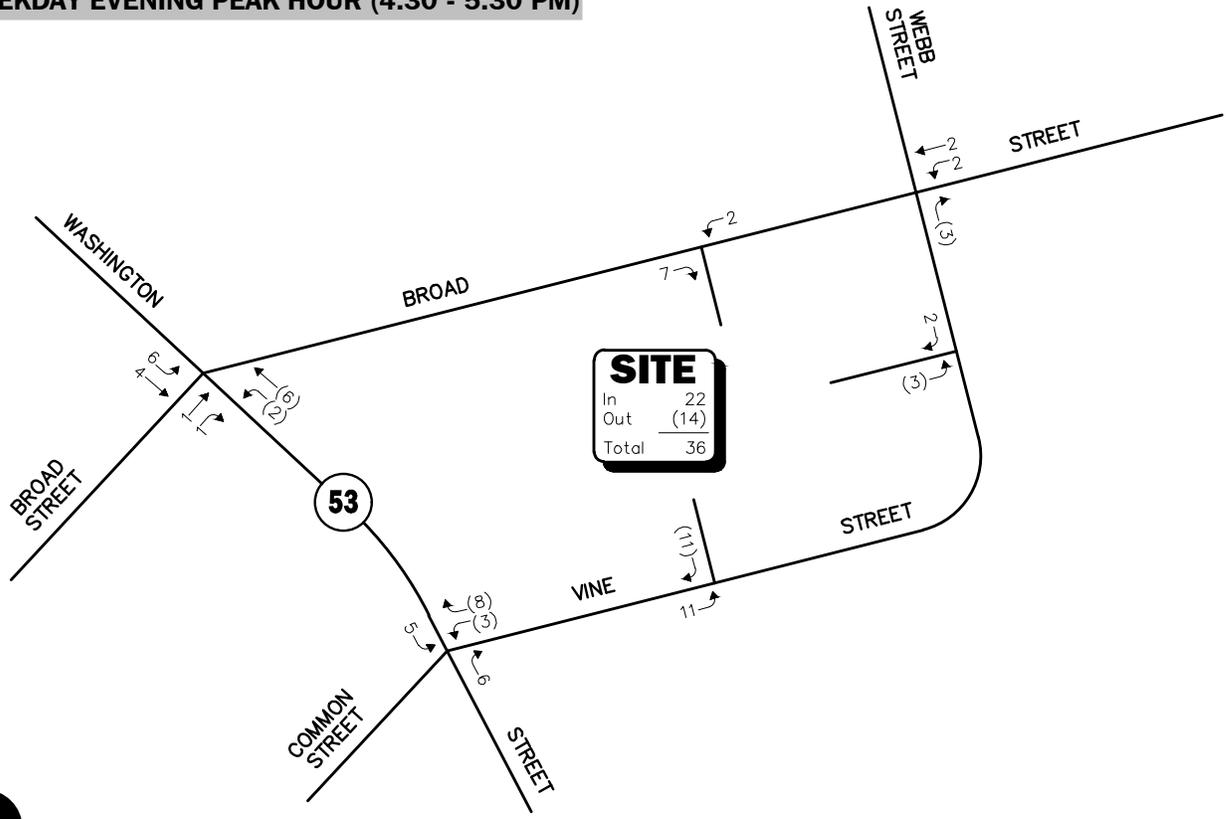


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WEEKDAY MORNING PEAK HOUR (7:45 - 8:45 AM)



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



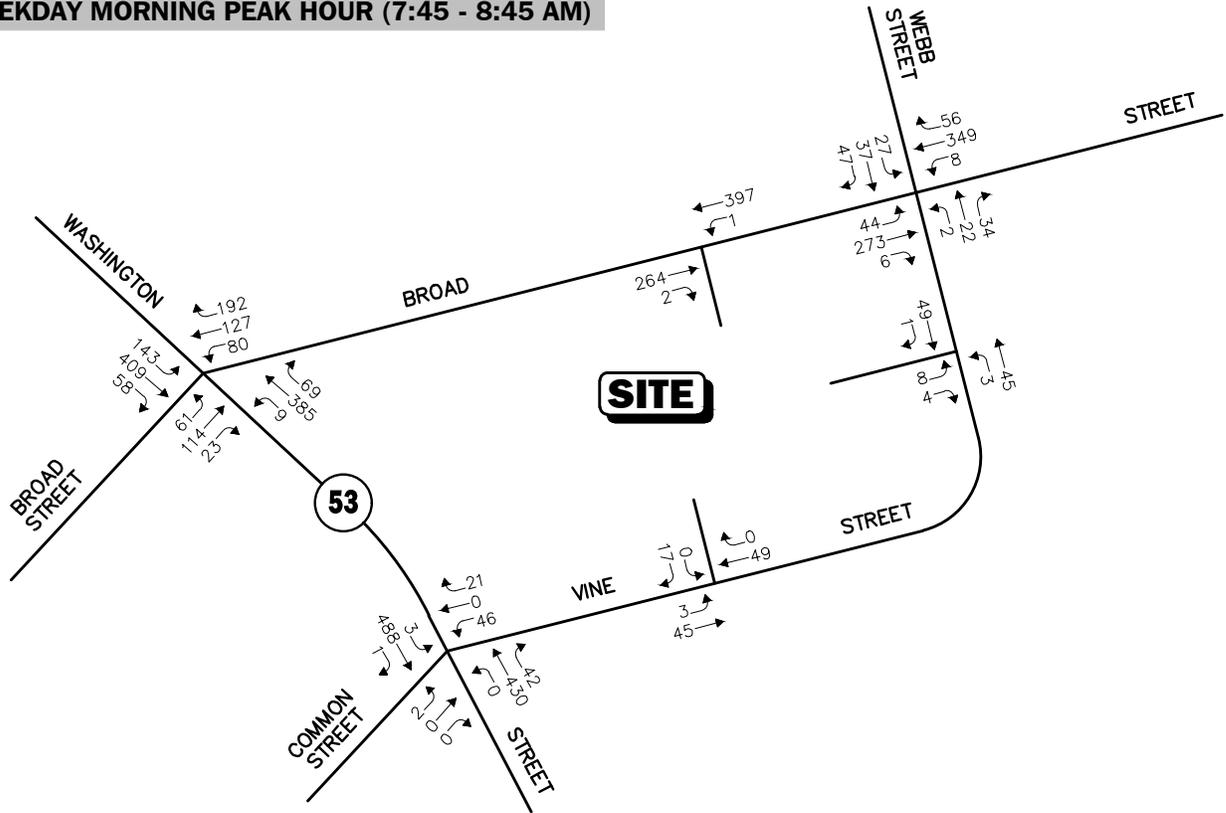
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Figure 6

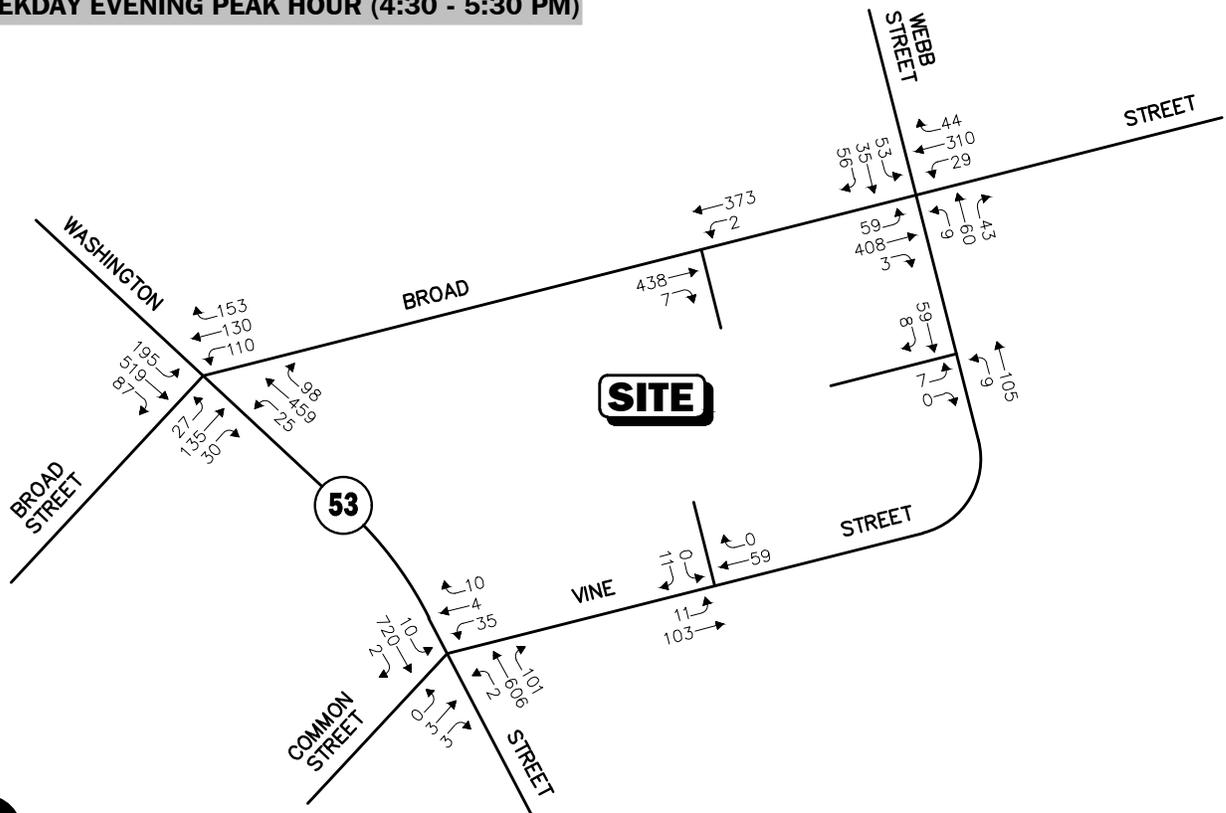
Project-Generated Peak Hour Traffic Volumes



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



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



Not To Scale

Figure 7

2028 Build Peak Hour Traffic Volumes



Table 7
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>Route 53, north of Broad Street:</i>					
Weekday Morning	1,126	1,235	1,248	13	1.0
Weekday Evening	1,328	1,424	1,440	16	1.1
<i>Route 53, south of Vine Street:</i>					
Weekday Morning	856	991	998	7	0.7
Weekday Evening	1,332	1,458	1,467	9	0.6
<i>Broad Street, east of Webb Street:</i>					
Weekday Morning	657	741	747	6	0.8
Weekday Evening	839	880	887	7	0.8
<i>Broad Street, west of Route 53:</i>					
Weekday Morning	364	390	392	2	0.5
Weekday Evening	401	430	434	4	0.9

As shown in Table 7, Project-related traffic-volume increases outside of the study area relative to 2028 No-Build conditions are anticipated to range from 0.4 to 1.6 percent during the peak periods, with vehicle increases shown to range from 2 to 10 vehicles. *When distributed over the respective peak hours, the predicted traffic-volume increases would not result in a significant 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.¹⁵ 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.

¹⁵The 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 oversaturation. 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*¹⁶ and implemented as a part of the Synchro® 10 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 8 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.

¹⁶*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2000.

Table 8
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*.¹⁷ 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 9 summarizes the relationship between level of service and average control delay for two-way stop controlled and all-way stop controlled intersections.

¹⁷*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Table 9
LEVEL-OF-SERVICE CRITERIA FOR
UNSIGNALIZED INTERSECTIONS^a

Level-Of-Service by Volume-to-Capacity Ratio		Average Control Delay (Seconds Per Vehicle)
v/c ≤ 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.

Vehicle Queue Analysis

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

ANALYSIS RESULTS

Level-of-service and vehicle queue analyses were conducted for 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 10 and 11, 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.

As can be seen in Tables 10 and 11, ***the addition of Project-related traffic to the study area intersections is not predicted to result in a significant increase in motorist delays or vehicle queuing over No-Build conditions.*** Project-related impacts at the study area intersections were identified as follows:

Route 53 at Broad Street. No change in overall level of service is expected to occur over No-Build conditions; however, the addition of Project-related traffic was shown to result in an increase in average motorists delay that resulted in the following changes in level-of-service: *weekday morning peak-hour* – the Route 53 northbound right-turn movement was shown to degrade from LOS C to LOS D as a result of a predicted increase in average motorist delay of 0.7 seconds; *weekday evening peak-hour* – the Route 53 southbound left-turn movement was shown to degrade from LOS B to LOS C as a result of a predicted increase in average motorist delay of 0.7 seconds and left-turn/through movements from the Broad Street westbound approach were shown to degrade from LOS D to LOS E as a result of a predicted increase in average motorist delay of 4.8 seconds. Vehicle queues at the intersection were shown to increase by up to one (1) vehicle with the addition of Project-related traffic.

Broad Street at Webb Street and Vine Street. No change in level-of-service or increase in vehicle queuing was shown to occur for any movement over No-Build conditions. Independent of the Project, all movements from Webb Street and Vine Street were shown to be operating at or over capacity (defined as LOS “E” or “F”, respectively) during the weekday evening peak-hour as a result of the relatively large volume of conflicting traffic on Broad Street during this period.

Route 53 at Vine Street and Common Street. The addition of Project-related traffic was shown to result in an increase in average motorist delay of 0.8 seconds for the Common Street approach during the weekday morning peak-hour that caused a degradation in level-of-service to occur over No-Build conditions from LOS C to LOS D with no increase in vehicle queuing. Independent of the Project, all movements from Vine Street were shown to be operating over capacity during the weekday evening peak-hour as a result of the relatively large volume of conflicting traffic on Route 53 during this period. Vehicle queues at the intersection were shown to increase by up to one (1) vehicle with the addition of Project-related traffic.

Vine Street at the East Project Site Driveway. All movements at the east Project site driveway, which is a shared access with 31 Vine Street and other properties, are expected to continue to operate at LOS A during the peak hours with negligible vehicle queuing.

Vine Street at the South (New) Project Site Driveway. All movements at the south Project site driveway, which is a new driveway that will be constructed as a part of the Project, are expected to continue to operate at LOS A during the peak hours with negligible vehicle queuing.

Table 10
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
Route 53 at Broad Street												
<i>Weekday Morning:</i>												
Route 53 NB LT	0.03	18.5	B	0/1	0.03	19.9	B	0/1	0.04	19.9	B	0/1
Route 53 NB TH	0.74	29.3	C	6/15	0.80	34.8	C	7/16	0.81	35.5	D	7/17
Route 53 NB RT	0.05	18.7	B	0/1	0.06	20.1	C	0/1	0.06	20.1	C	0/1
Route 53 SB LT	0.40	13.6	B	1/4	0.47	15.9	B	2/5	0.49	16.1	B	2/5
Route 53 SB TH/RT	0.51	14.1	B	4/13	0.60	17.1	B	5/16	0.59	17.1	B	6/16
Broad Street EB LT/TH/RT	0.48	23.2	C	3/9	0.49	23.3	C	3/10	0.49	23.6	C	3/10
Broad Street WB LT/TH	0.48	23.2	C	3/10	0.49	23.4	C	3/11	0.50	23.7	C	3/11
Broad Street WB RT	0.12	13.7	B	0/2	0.13	13.8	B	0/2	0.13	14.1	B	0/2
Overall	--	20.2	C	--	--	22.5	C	--	--	22.8	C	--
<i>Weekday Evening:</i>												
Route 53 NB LT	0.11	20.1	C	1/2	0.12	20.1	B	1/2	0.12	20.1	B	1/2
Route 53 NB TH	0.83	36.0	D	8/19	0.84	36.2	D	9/22	0.83	36.2	D	10/22
Route 53 NB RT	0.07	19.7	B	0/2	0.08	19.7	B	0/2	0.08	19.7	B	0/2
Route 53 SB LT	0.58	18.2	B	2/6	0.63	19.7	B	2/7	0.64	20.4	C	2/8
Route 53 SB TH/RT	0.68	18.4	B	7/21	0.70	18.8	B	8/23	0.70	18.8	B	8/23
Broad Street EB LT/TH/RT	0.41	25.0	C	3/9	0.48	27.8	C	4/9	0.50	28.5	C	4/9
Broad Street WB LT/TH	0.73	34.3	C	5/14	0.88	53.7	D	6/16	0.90	58.5	E	6/16
Broad Street WB RT	0.11	15.4	B	0/2	0.13	16.9	B	0/2	0.13	17.3	B	0/2
Overall	--	25.2	C	--	--	28.4	C	--	--	29.0	C	--

^aVolume-to-capacity ratio.

^bControl (signal) 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.

Table 11
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
Broad Street at Webb Street at Vine Street												
<i>Weekday Morning:</i>												
Broad Street EB LT/TH/RT	271	1.3	A	0	323	1.3	A	0	323	1.3	A	0
Broad Street WB LT/TH/RT	379	0.1	A	0	411	0.1	A	0	413	0.2	A	0
Vine Street NB LT/TH/RT	51	13.8	B	1	54	15.1	C	1	58	15.1	C	1
Webb Street SB LT/TH/RT	106	17.7	C	2	111	20.8	C	2	111	21.1	C	2
<i>Weekday Evening:</i>												
Broad Street EB LT/TH/RT	442	1.0	A	0	470	1.0	A	0	470	1.0	A	0
Broad Street WB LT/TH/RT	368	0.6	A	0	379	0.6	A	0	383	0.6	A	0
Vine Street NB LT/TH/RT	103	31.1	D	3	109	37.3	E	4	112	38.1	E	4
Webb Street SB LT/TH/RT	137	>50.0	F	5	144	>50.0	F	6	144	>50.0	F	6
Route 53 at Vine Street at Common Street												
<i>Weekday Morning:</i>												
Common Street EB LT/TH/RT	2	20.3	C	0	2	24.5	C	0	2	25.3	D	0
Vine Street WB LT/TH/RT	46	21.6	C	1	50	27.5	D	1	67	27.5	D	2
Route 53 NB LT/TH/RT	417	0.0	A	0	470	0.0	A	0	472	0.0	A	0
Route 53 SB LT/TH/RT	405	0.1	A	0	484	0.1	A	0	484	0.1	A	0
<i>Weekday Evening:</i>												
Common Street EB LT/TH/RT	6	24.3	C	0	6	27.6	D	0	6	28.4	D	0
Vine Street WB LT/TH/RT	36	>50.0	F	2	38	>50.0	F	3	49	>50.0	F	4
Route 53 NB LT/TH/RT	631	0.0	A	0	703	0.0	A	0	709	0.0	A	0
Route 53 SB LT/TH/RT	684	0.1	A	0	727	0.1	A	0	732	0.1	A	0
Vine Street at East (Common)												
Project Site Driveway												
<i>Weekday Morning:</i>												
Project Site Driveway EB LT/RT	8	8.9	A	0	8	9.0	A	0	12	9.1	A	0
Vine Street NB LT/TH	49	0.3	A	0	53	0.4	A	0	48	0.5	A	0
Vine Street SB TH/RT	46	0.0	A	0	49	0.0	A	0	50	0.0	A	0
<i>Weekday Evening:</i>												
Project Site Driveway EB LT/RT	4	9.7	A	0	4	9.8	A	0	7	9.9	A	0
Vine Street NB LT/TH	105	0.4	A	0	112	0.6	A	0	114	0.6	A	0
Vine Street SB TH/RT	60	0.0	A	0	65	0.0	A	0	67	0.0	A	0

See notes at end of table.

Table 11 (Continued)
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
<i>Vine Street at South Project Site Driveway</i>												
<i>Weekday Morning:</i>												
Vine Street EB LT/TH	--	--	--	--	--	--	--	--	48	0.5	A	0
Vine Street WB TH/RT	--	--	--	--	--	--	--	--	49	0.0	A	0
Project Site Driveway SB LT/RT	--	--	--	--	--	--	--	--	17	8.6	A	0
<i>Weekday Evening:</i>												
Vine Street EB LT/TH	--	--	--	--	--	--	--	--	114	0.7	A	0
Vine Street WB TH/RT	--	--	--	--	--	--	--	--	59	0.0	A	0
Project Site Driveway SB LT/RT	--	--	--	--	--	--	--	--	11	8.6	A	0

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel of service.

^dQueue length in vehicles.

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

SIGHT DISTANCE EVALUATION

Sight distance measurements were performed at the Project site driveway intersections with Broad Street and Vine Street in accordance with American Association of State Highway and Transportation Officials (AASHTO)¹⁸ 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 12 presents the measured SSD and ISD at the subject intersections.

¹⁸*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 12
SIGHT DISTANCE MEASUREMENTS^a

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD) ^a	Desirable (ISD) ^b	Measured
<i>Broad Street at the west Project Site Driveway (Entrance)</i>			
<i>Stopping Sight Distance:</i>			
Broad Street approaching from the east	250	--	500+
Broad Street approaching from the west	250	--	478
<i>Broad Street at the east Project Site Driveway (Service)</i>			
<i>Stopping Sight Distance:</i>			
Broad Street approaching from the east	250	--	500+
Broad Street approaching from the west	250	--	430
<i>Intersection Sight Distance:</i>			
Looking to the east from the east Project Site Driveway	250	390	500+
Looking to the west from the west Project Site Driveway	250	335	351
<i>Vine Street at the Common Driveway (31 Vine Street)</i>			
<i>Stopping Sight Distance:</i>			
Vine Street approaching from the north	200	--	500+
Vine Street approaching from the south	200	--	277
<i>Intersection Sight Distance:</i>			
Looking to the north from the Project Site Driveway	200	290	86/500 ^{+c}
Looking to the south from the Project Site Driveway	200	335	220
<i>Vine Street at the south Project Site Driveway (New)</i>			
<i>Stopping Sight Distance:</i>			
Vine Street approaching from the east	200	--	374
Vine Street approaching from the west	200	--	279 ^d
<i>Intersection Sight Distance:</i>			
Looking to the east from the Project Site Driveway	200	290	374
Looking to the west from the Project Site Driveway	200	335	279 ^d

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on a 35 mph approach speed along Broad Street and a 30 mph approach speed along Vine Street.

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

^cWith the selective trimming/removal of vegetation along the west side of Vine Street.

^dClear line of sight is provided to/from Route 53.

As can be seen in Table 12, with the selective trimming/removal of vegetation along the west side Vine Street and north of the common driveway (31 Vine Street), the available lines of sight at the Project site driveway intersections will exceed the recommended minimum sight distances to function in a safe manner based the appropriate approach speed along the intersecting roadway.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

VAI has conducted a TIA in order to determine the potential impacts on the transportation infrastructure associated with the proposed redevelopment of the former Colonial Rehab & Nursing Center located at 125 Broad Street in Weymouth, Massachusetts, to accommodate a multifamily residential development. 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 ITE¹⁹ and without consideration of the use of alternative modes of transportation to single-occupancy vehicles (SOVs), the Project is expected to generate approximately 434 vehicle trips on an average weekday (two-way, 24-hour volume), with 28 vehicle trips expected during the weekday morning peak hour and 36 vehicle trips expected during the weekday evening peak hour;
2. In comparison to the former use that operated at the Project site (Colonial Rehab & Nursing Center), the Project is expected to generate approximately 130 *fewer* vehicle trips on an average weekday (a 23 percent reduction), with 12 *fewer* vehicle trips expected during the weekday morning peak-hour (a 30 percent reduction) and 19 *fewer* vehicle trips expected during the weekday evening peak-hour (a 34 percent reduction);
3. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with the majority of the movements at the study area intersections shown to continue to operate LOS D or better with the addition of Project-related traffic, where an LOS of “D” or better is defined as “acceptable” traffic operations;
4. Independent of the Project, the Route 53/Broad Street and Broad Street/Webb Street/Vine Street intersections were found to have motor vehicle crash rates that are above the MassDOT average crash rates for similar intersections, and the Route 53/Broad Street intersection is included on MassDOT’s Highway Safety Improvement Program (HSIP) listing as high crash location for 2015-2017. The Boston Region Metropolitan Planning

¹⁹Ibid 1.

Organization (Boston MPO) performed an evaluation of safety and traffic operations at the Route 53/Broad Street intersection in 2014.²⁰ This study recommended several specific improvements to enhance safety, many of which were completed in conjunction with the recent reconstruction of the intersection and are expected to enhance safety and reduce the frequency of occurrence of motor vehicle crashes; and

5. Lines of sight to and from the Project site driveway intersections can be made to exceed the recommended minimum distance for safe operation based on the appropriate approach speed.

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

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 four (4) driveways configured as follows: a one-way entrance driveway that will intersect the south side of Broad Street at the location of the existing driveway that served the former Colonial Rehab & Nursing Center; a service driveway that will also intersect the south side of Broad Street at the location of the existing service driveway that served the former Colonial Rehab & Nursing Center; a full access driveway that will intersect the west side of Vine Street at the location of the existing shared access driveway that also serves the multifamily residential building located at 31 Vine Street; and a new full access driveway that will intersect the north side of Vine Street approximately 280 feet west of Washington Street (Route 53). The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the site plans:

- The Project site driveways should be a minimum of 24 feet in width where two-way traffic is to be conveyed and a minimum of 20 feet in width for one-way travel unless a reduced width is approved by the Weymouth Fire Department, and designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle.
- Where perpendicular parking is proposed, the drive aisle behind the parking spaces should be a minimum of 23 feet in order to facilitate parking maneuvers.
- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.

²⁰Ibid 2.

- All signs and pavement markings to be installed within the Project site shall conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).²¹
- Pedestrian accommodations should be provided to link the Project to the existing sidewalk infrastructure.
- Americans with Disabilities Act (ADA)-compliant wheelchair ramps should be provided at all pedestrian crossings internal to the Project site and for crossing the Project site driveways or the driveways should be designed so that the sidewalk crosses the driveway (i.e., pan-type driveway).
- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveways should be designed and maintained so as not to restrict lines of sight.
- Snow accumulations (windrows) within the sight triangle areas of the Project site driveways should be promptly removed where such accumulations would impede sight lines.
- Consideration should be given to providing electric vehicle (EV) charging stations for residents of the Project.

Off Site

Route 53 at Broad Street

Independent of the Project, the Route 53/Broad Street intersection was found to have a motor vehicle crash rate that exceeds the MassDOT average crash rate for similar intersections and the intersection is included on MassDOT's HSIP listing as a high crash location. This intersection was the subject of a safety and operations study that was completed by the Boston MPO, and the intersection was recently reconstructed to incorporate the recommendations from the study. As such, no additional improvements are recommended at this time to accommodate the Project, particularly given the expected reduction in traffic that the Project represents over the prior use.

Broad Street at Webb Street and Vine Street

Independent of the Project, the Broad Street/Webb Street/Vine Street intersection was identified as having a motor vehicle crash history that warrants further review and advancement of specific improvements to enhance safety. In an effort to identify safety improvements at this intersection, the Project proponent will facilitate the completion of a Road Safety Audit (RSA). The RSA will be performed prior to the issuance of a Certificate of Occupancy for the Project.

Transportation Demand Management

Public transportation services are provided within the study area by the MBTA. MBTA bus Route 225, *Weymouth Landing - Quincy Center Station*, and Route 226, *Columbian Square - Braintree Station*, provide service along Route 53 with continued service to Quincy Center Station (Route 225) and Braintree Station (Route 226), where connections can be made to the Red Line subway system, the Commuter Rail (Greenbush Line, Kingston Line and Middleborough/Lakeville Line, with service to South Station in Boston) and other MBTA bus routes. The closest bus stop

²¹Ibid 3.

to the Project site for these bus routes is located at the intersection of Route 53 at Broad Street, which is within an approximate 4 minute walking distance. In addition to fixed-route bus services, the MBTA operates The Ride paratransit services for eligible persons 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.

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

- A transportation coordinator should be designated for the Project to coordinate the elements of the TDM program;
- Information regarding public transportation services, maps, schedules and fare information should be posted in a central location and/or otherwise made available to residents of the Project;
- A “welcome packet” should be provided to residents detailing available public transportation services, bicycle and walking alternatives, and commuter options available;
- Work-at-home workspaces should be provided to support telecommuting by residents of the Project;
- Pedestrian accommodations should be incorporated into the Project that facilitate safe connections to the existing sidewalk infrastructure;
- A central mail drop should be provided; and
- Secure bicycle parking should be provided including both an exterior bicycle rack and weather protected bicycle parking within the building.

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

VEHICLE TRAVEL SPEED DATA

PUBLIC TRANSPORTATION SCHEDULES

MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION
MAPPING

BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS

TRIP DISTRIBUTION TABLE

TRIP-GENERATION CALCULATIONS

CAPACITY ANALYSIS WORKSHEETS



PROJECT SITE PLAN



ZONING TABLE:

ZONING DISTRICT: RESIDENTIAL 4 (R-4) & RESIDENTIAL 1 (R-1) OVERLAY DISTRICT: NONE PROPOSED USE: MULTIFAMILY RESIDENCE			
ZONE R-4 REQUIREMENT	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT SIZE (SF)	15,000 SF	102,409; 9F (2.95± AC)	102,409; 9F (2.95± AC)
MINIMUM LOT AREA (FAR)	9.0	XX	XX
MINIMUM LOT WIDTH (FT)	120'	162.99'	162.99'
MINIMUM FRONT YARD (FT)	40' 1	24.3'	24.3'
MINIMUM SIDE YARD (FT)	20' 2	8.3'	8.3'
MINIMUM REAR YARD (FT)	30' 1	19.6'	19.6'
MAXIMUM LOT COVERAGE (%)	20%	XX%	XX%
MAXIMUM HEIGHT (FT)	80' / 6 STORIES	31.4' / 3 STORIES	31.4' / 3 STORIES

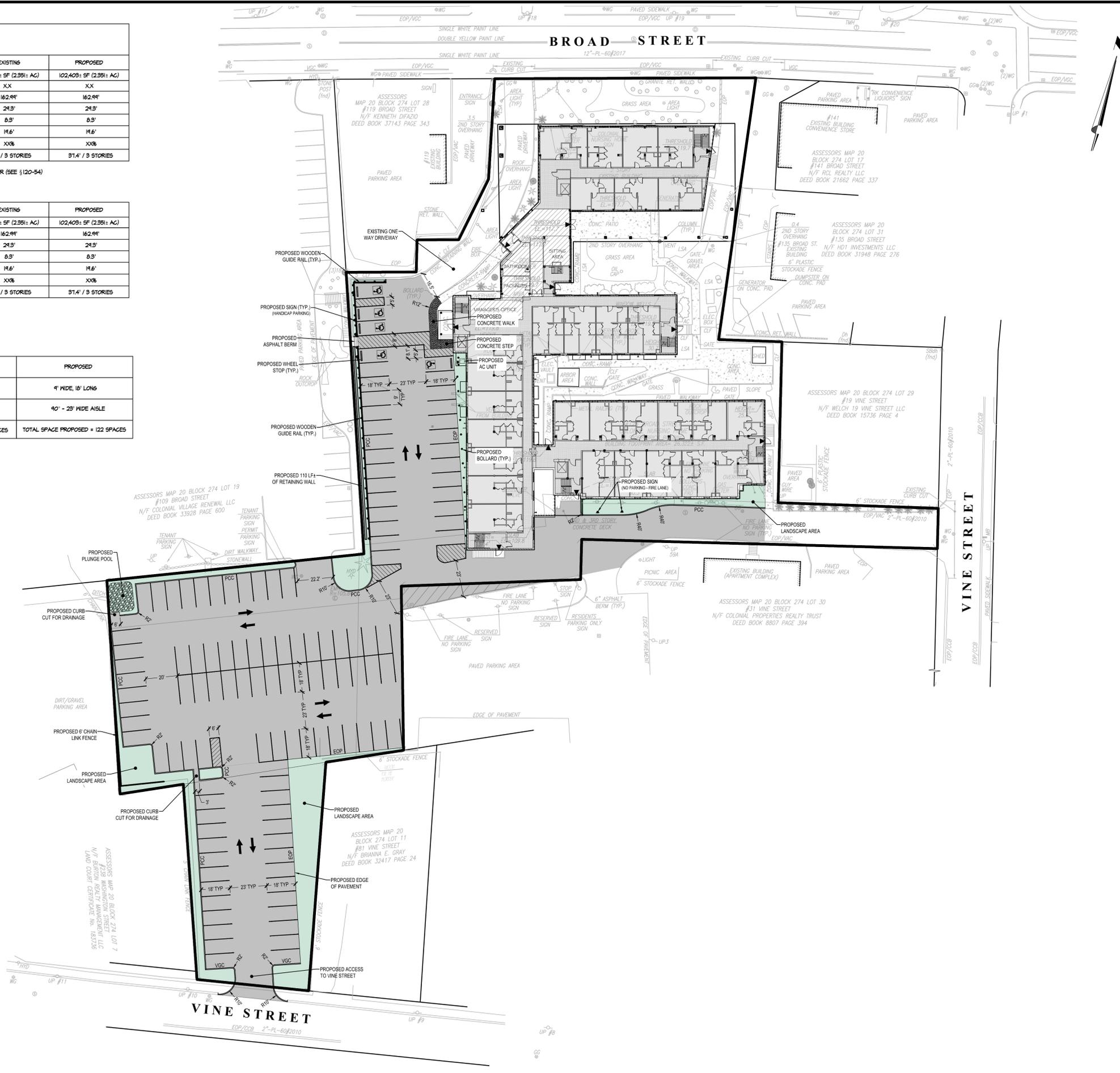
- PLUS 5 FEET FOR EACH SETBACK FOR EACH STORY ABOVE 3RD FLOOR (SEE § 120-54)
- PLUS 2 FEET FOR EACH STORY ABOVE THE 3RD FLOOR (SEE § 120-54)
- OR 1/2 THE BUILDING HEIGHT, WHICHEVER IS GREATER (SEE § 120-54)

ZONE R-1 REQUIREMENT	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT SIZE (SF)	25,000 SF	102,409; 9F (2.95± AC)	102,409; 9F (2.95± AC)
MINIMUM LOT WIDTH (FT)	120'	162.99'	162.99'
MINIMUM FRONT YARD (FT)	18'	24.3'	24.3'
MINIMUM SIDE YARD (FT)	10' 1	8.3'	8.3'
MINIMUM REAR YARD (FT)	24' 2	19.6'	19.6'
MAXIMUM LOT COVERAGE (%)	30%	XX%	XX%
MAXIMUM HEIGHT (FT)	35' / 2.5 STORIES	31.4' / 3 STORIES	31.4' / 3 STORIES

- 20 FEET OF ANY D'VELLING (SEE § 120-55)
- OR 1/5 OF DEPTH OF LOT, WHICHEVER IS LESS (SEE § 120-55)

PARKING ANALYSIS:

REQUIREMENT	EXISTING	PROPOSED
STANDARD PARKING DIMENSIONS REG. 4' WIDE, 18' LONG	VARIABLES	4' WIDE, 18' LONG
STANDARD PARKING AISLE WIDTH REG. 40' - 23' WIDE AISLE	VARIABLES	40' - 23' WIDE AISLE
NUMBER OF PARKING SPACES REG. 120	TOTAL SPACE EXISTING = 41 SPACES	TOTAL SPACE PROPOSED = 122 SPACES



GENERAL NOTES:

- THIS PLAN REFERENCES A SURVEY PLAN PREPARED BY CROCKER DESIGN GROUP IN FEBRUARY 2021.
- ACCESSIBLE CURB RAMPS SHALL BE PER THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) AND THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES.
- THE FOLLOWING LAYOUT CRITERIA SHALL CONTROL UNLESS OTHERWISE NOTED ON THE PLAN:
 - DIMENSIONS ARE TO FACE OF CURB AT GUTTER LINE.
 - DIMENSIONS ARE TO THE CENTER OF PAVEMENT MARKINGS.
 - ALL TIES TO PROPERTY LINES ARE PERPENDICULAR TO THE PROPERTY LINE UNLESS OTHERWISE NOTED.
- ALL LINES AND DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
- CONTRACTOR SHALL REPORT SIGNIFICANT CONFLICTS TO THE OWNER OR HIS REPRESENTATIVE FOR RESOLUTION.
- THE CONTRACTOR SHALL FURNISH AND SET ALL LINES AND GRADES REQUIRED AND PROTECT ALL PERMANENT BENCHMARKS OR MONUMENTS. DAMAGED MONUMENTS SHALL BE REPLACED BY A LICENSED SURVEYOR AT NO COST TO THE OWNER.
- ALL CONCRETE WORK SHALL COMPLY WITH ACI 308, 'SPECIFICATION FOR STRUCTURAL CONCRETE' AND ACI 318R, 'UNLESS MODIFIED BY THE CONTRACT DOCUMENTS, COMPLY WITH CRES'S 'MANUAL OF STANDARD PRACTICE' FOR FABRICATING, PLACING AND SUPPORTING REINFORCEMENT. COMPLY WITH ACI 308.1 FOR COLD WEATHER PROTECTION, AND FOLLOW RECOMMENDATIONS IN ACI 308R FOR HOT WEATHER PROTECTION DURING CURING. COMPLY WITH ACI 304 GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE.'
- BITUMINOUS CONCRETE PAVEMENT, CLASS 1, TYPE 1-I CONFORMING TO THE STANDARD SPECIFICATIONS, SECTIONS 460 THROUGH 460.02 FOR BINDER COURSE AND TOP COURSE JOB MIX FORMULAS. THE GENERAL CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A CERTIFICATE OF COMPLIANCE SUPPLIED BY THE PAVING CONTRACTOR.
- SAW-CUT EXISTING PAVEMENT WHERE NEW BITUMINOUS CONCRETE PAVEMENT IS TO COME IN CONTACT. PRIME COAT THE CUT EDGE PRIOR TO PLACEMENT.



Date	Description	No.
Revisions		

DRAFT

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group 2 SHARP STREET, UNIT B
HINGHAM, MA 02043
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Project
MULTIFAMILY RESIDENTIAL DEVELOPMENT
126 BROAD STREET
WEYMOUTH, MASSACHUSETTS

Prepared for
SAWYER REALTY HOLDINGS, LLC
1215 CHESTNUT STREET
NEWTON, MA 02464

Drawing Title
LAYOUT AND MATERIAL PLAN

Project No.	100-126	Drawing No.	C-2
Date	XX/XX/2021		
Scale	1" = 30'		
Drawn By	JPM		
Approved By	GRC		

AUTOMATIC TRAFFIC RECORDER COUNT DATA



Accurate Counts
978-664-2565

Location : Broad Street
Location : West of Vine Street
City/State: Weymouth, MA

89640001

4/27/2021 Time	WB,		Hour Totals		EB,		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	4	57			6	64				
12:15	3	76			6	66				
12:30	2	71			5	80				
12:45	0	68	9	272	2	59	19	269	28	541
1:00	1	71			1	75				
1:15	2	69			2	62				
1:30	3	73			4	86				
1:45	0	70	6	283	3	53	10	276	16	559
2:00	0	76			2	61				
2:15	3	68			1	75				
2:30	2	103			0	81				
2:45	1	91	6	338	1	80	4	297	10	635
3:00	1	117			1	107				
3:15	1	71			1	87				
3:30	3	87			3	138				
3:45	1	78	6	353	1	83	6	415	12	768
4:00	3	80			4	96				
4:15	5	97			1	92				
4:30	8	80			1	111				
4:45	4	93	20	350	3	110	9	409	29	759
5:00	16	73			6	104				
5:15	20	74			5	109				
5:30	27	77			5	118				
5:45	29	78	92	302	7	128	23	459	115	761
6:00	34	73			12	115				
6:15	39	57			21	111				
6:30	40	60			21	89				
6:45	53	88	166	278	32	98	86	413	252	691
7:00	61	52			41	70				
7:15	60	60			59	73				
7:30	98	40			63	58				
7:45	87	34	306	186	87	66	250	267	556	453
8:00	76	47			92	46				
8:15	86	30			84	44				
8:30	70	34			62	56				
8:45	96	22	328	133	54	21	292	167	620	300
9:00	90	24			53	48				
9:15	66	30			61	31				
9:30	61	15			54	18				
9:45	61	19	278	88	54	29	222	126	500	214
10:00	60	17			49	18				
10:15	53	12			73	11				
10:30	52	13			57	12				
10:45	71	6	236	48	69	10	248	51	484	99
11:00	67	8			56	4				
11:15	86	10			63	10				
11:30	53	4			62	14				
11:45	69	5	275	27	66	5	247	33	522	60
Total	1728	2658			1416	3182			3144	5840
Percent	39.4%	60.6%			30.8%	69.2%			35.0%	65.0%

Accurate Counts
978-664-2565

Location : Broad Street
Location : West of Vine Street
City/State: Weymouth, MA

89640001

4/28/2021 Time	WB,		Hour Totals		EB,		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	1	77			7	72				
12:15	2	66			10	67				
12:30	1	68			5	74				
12:45	2	64	6	275	4	69	26	282	32	557
1:00	4	68			4	80				
1:15	3	75			4	69				
1:30	3	93			1	84				
1:45	1	73	11	309	1	70	10	303	21	612
2:00	3	84			4	70				
2:15	4	65			3	73				
2:30	2	79			3	99				
2:45	0	113	9	341	3	91	13	333	22	674
3:00	1	95			2	124				
3:15	0	91			2	103				
3:30	2	99			1	144				
3:45	0	96	3	381	3	97	8	468	11	849
4:00	1	74			1	104				
4:15	5	99			4	97				
4:30	6	85			2	125				
4:45	9	88	21	346	0	96	7	422	28	768
5:00	19	62			5	151				
5:15	17	101			5	105				
5:30	25	81			13	133				
5:45	23	92	84	336	7	80	30	469	114	805
6:00	46	74			11	92				
6:15	41	64			24	101				
6:30	40	62			26	71				
6:45	46	69	173	269	25	76	86	340	259	609
7:00	75	48			35	76				
7:15	65	68			51	62				
7:30	56	40			56	67				
7:45	89	54	285	210	68	64	210	269	495	479
8:00	64	39			90	46				
8:15	101	51			85	41				
8:30	84	15			70	48				
8:45	86	29	335	134	58	33	303	168	638	302
9:00	105	27			68	41				
9:15	89	31			66	22				
9:30	73	14			52	25				
9:45	55	17	322	89	57	17	243	105	565	194
10:00	56	13			41	18				
10:15	58	14			67	22				
10:30	56	9			58	9				
10:45	65	6	235	42	78	16	244	65	479	107
11:00	66	6			57	9				
11:15	87	8			69	10				
11:30	61	6			62	8				
11:45	77	1	291	21	74	8	262	35	553	56
Total	1775	2753			1442	3259			3217	6012
Percent	39.2%	60.8%			30.7%	69.3%			34.9%	65.1%
Grand Total	3503	5411			2858	6441			6361	11852
Percent	39.3%	60.7%			30.7%	69.3%			34.9%	65.1%

ADT

ADT: 9,106

AADT: 9,106

MANUAL TURNING MOVEMENT COUNT DATA



Accurate Counts

978-664-2565

N/S Street : Route 53
 E/W Street : Broad Street
 City/State : Weymouth, MA
 Weather : Clear

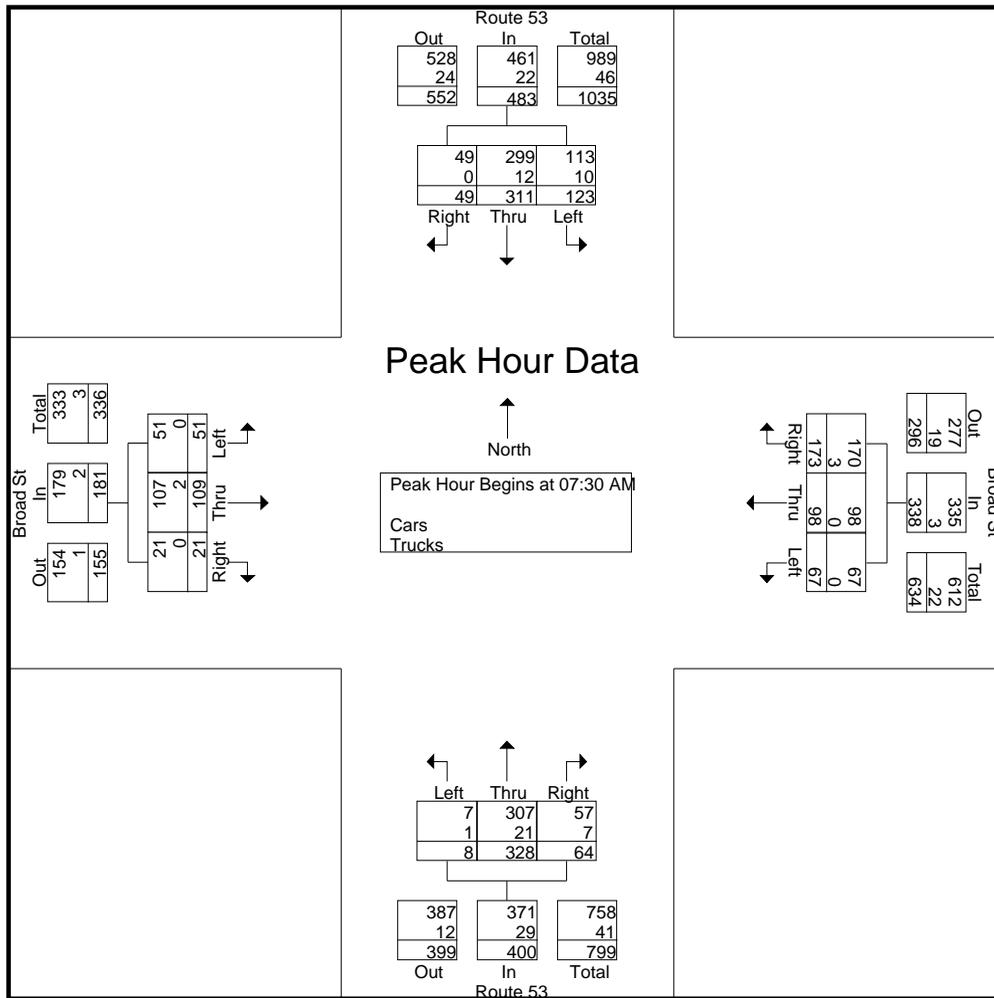
File Name : 89640001
 Site Code : 89640001
 Start Date : 4/27/2021
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Route 53 From North			Broad St From East			Route 53 From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	22	52	13	22	15	35	3	66	11	2	25	2	268
07:15 AM	27	62	7	17	24	41	1	76	3	8	17	2	285
07:30 AM	27	83	11	19	21	44	2	82	14	12	28	5	348
07:45 AM	32	70	14	18	30	44	5	70	17	14	27	10	351
Total	108	267	45	76	90	164	11	294	45	36	97	19	1252
08:00 AM	31	77	12	19	21	42	1	79	18	14	34	5	353
08:15 AM	33	81	12	11	26	43	0	97	15	11	20	1	350
08:30 AM	26	97	12	21	33	37	0	78	10	14	17	3	348
08:45 AM	26	69	9	26	29	46	3	87	9	3	17	4	328
Total	116	324	45	77	109	168	4	341	52	42	88	13	1379
Grand Total	224	591	90	153	199	332	15	635	97	78	185	32	2631
Apprch %	24.8	65.3	9.9	22.4	29.1	48.5	2	85	13	26.4	62.7	10.8	
Total %	8.5	22.5	3.4	5.8	7.6	12.6	0.6	24.1	3.7	3	7	1.2	
Cars	213	564	90	148	199	322	14	592	90	78	182	32	2524
% Cars	95.1	95.4	100	96.7	100	97	93.3	93.2	92.8	100	98.4	100	95.9
Trucks	11	27	0	5	0	10	1	43	7	0	3	0	107
% Trucks	4.9	4.6	0	3.3	0	3	6.7	6.8	7.2	0	1.6	0	4.1

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	27	83	11	121	19	21	44	84	2	82	14	98	12	28	5	45	348
07:45 AM	32	70	14	116	18	30	44	92	5	70	17	92	14	27	10	51	351
08:00 AM	31	77	12	120	19	21	42	82	1	79	18	98	14	34	5	53	353
08:15 AM	33	81	12	126	11	26	43	80	0	97	15	112	11	20	1	32	350
Total Volume	123	311	49	483	67	98	173	338	8	328	64	400	51	109	21	181	1402
% App. Total	25.5	64.4	10.1		19.8	29	51.2		2	82	16		28.2	60.2	11.6		
PHF	.932	.937	.875	.958	.882	.817	.983	.918	.400	.845	.889	.893	.911	.801	.525	.854	.993
Cars	113	299	49	461	67	98	170	335	7	307	57	371	51	107	21	179	1346
% Cars	91.9	96.1	100	95.4	100	100	98.3	99.1	87.5	93.6	89.1	92.8	100	98.2	100	98.9	96.0
Trucks	10	12	0	22	0	0	3	3	1	21	7	29	0	2	0	2	56
% Trucks	8.1	3.9	0	4.6	0	0	1.7	0.9	12.5	6.4	10.9	7.3	0	1.8	0	1.1	4.0

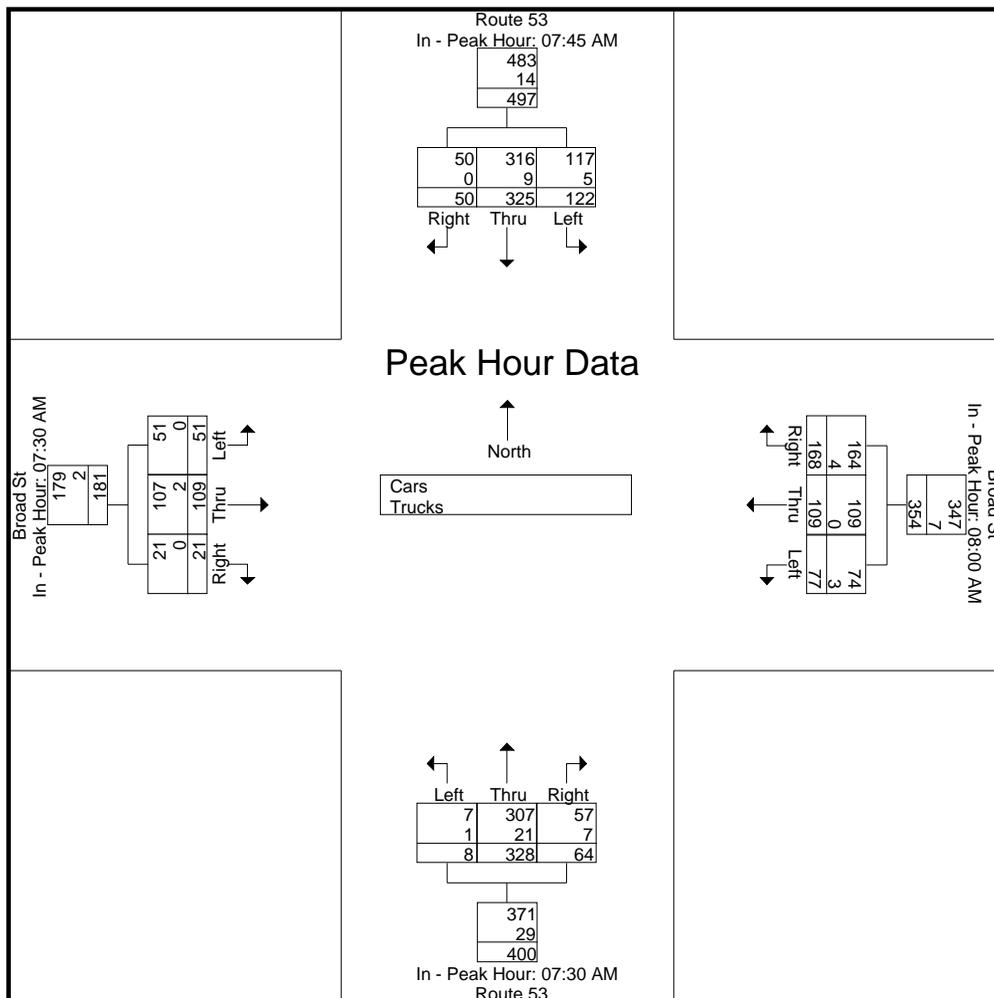
N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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

	07:45 AM				08:00 AM				07:30 AM				07:30 AM			
+0 mins.	32	70	14	116	19	21	42	82	2	82	14	98	12	28	5	45
+15 mins.	31	77	12	120	11	26	43	80	5	70	17	92	14	27	10	51
+30 mins.	33	81	12	126	21	33	37	91	1	79	18	98	14	34	5	53
+45 mins.	26	97	12	135	26	29	46	101	0	97	15	112	11	20	1	32
Total Volume	122	325	50	497	77	109	168	354	8	328	64	400	51	109	21	181
% App. Total	24.5	65.4	10.1		21.8	30.8	47.5		2	82	16		28.2	60.2	11.6	
PHF	.924	.838	.893	.920	.740	.826	.913	.876	.400	.845	.889	.893	.911	.801	.525	.854
Cars	117	316	50	483	74	109	164	347	7	307	57	371	51	107	21	179
% Cars	95.9	97.2	100	97.2	96.1	100	97.6	98	87.5	93.6	89.1	92.8	100	98.2	100	98.9
Trucks	5	9	0	14	3	0	4	7	1	21	7	29	0	2	0	2
% Trucks	4.1	2.8	0	2.8	3.9	0	2.4	2	12.5	6.4	10.9	7.2	0	1.8	0	1.1

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Route 53
 E/W Street : Broad Street
 City/State : Weymouth, MA
 Weather : Clear

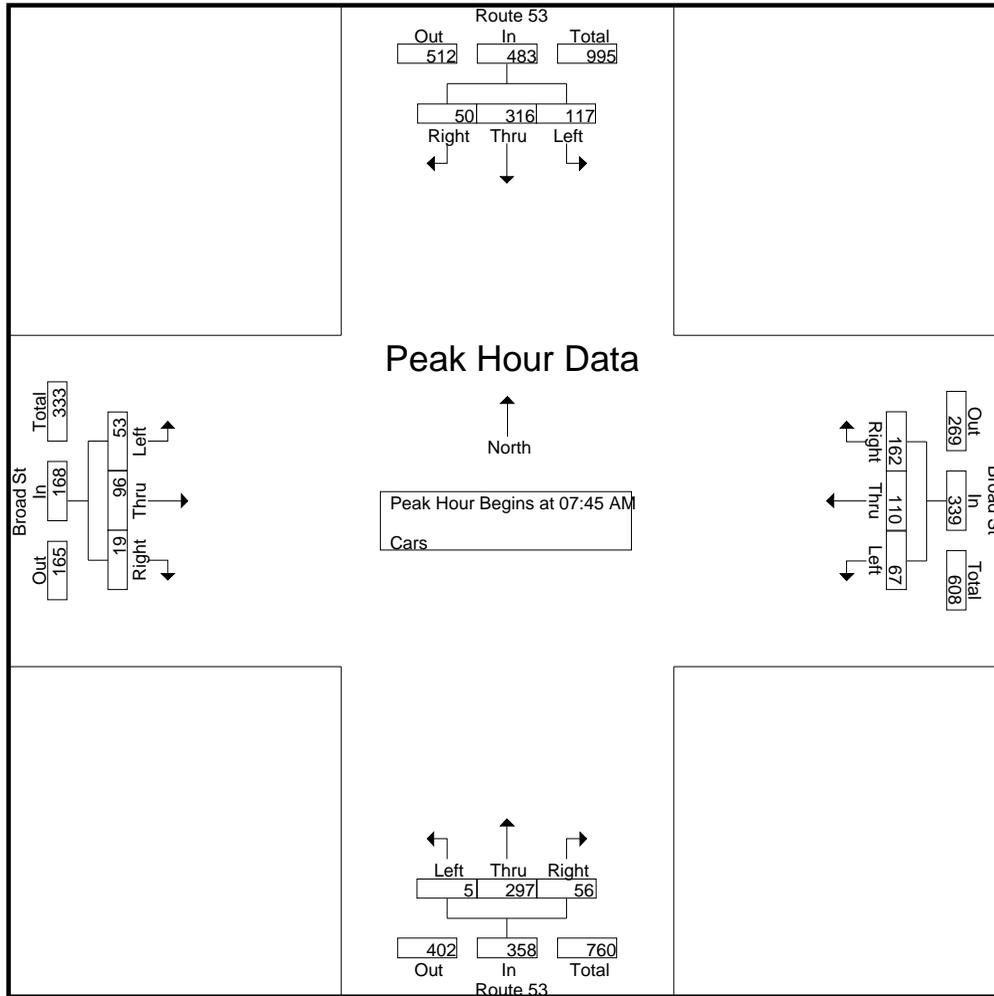
File Name : 89640001
 Site Code : 89640001
 Start Date : 4/27/2021
 Page No : 4

Groups Printed- Cars

Start Time	Route 53 From North			Broad St From East			Route 53 From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	22	49	13	20	15	34	3	60	11	2	25	2	256
07:15 AM	26	55	7	17	24	37	1	75	3	8	17	2	272
07:30 AM	22	76	11	19	21	44	2	80	11	12	27	5	330
07:45 AM	29	68	14	18	30	43	5	67	14	14	27	10	339
Total	99	248	45	74	90	158	11	282	39	36	96	19	1197
08:00 AM	31	75	12	19	21	41	0	72	18	14	33	5	341
08:15 AM	31	80	12	11	26	42	0	88	14	11	20	1	336
08:30 AM	26	93	12	19	33	36	0	70	10	14	16	3	332
08:45 AM	26	68	9	25	29	45	3	80	9	3	17	4	318
Total	114	316	45	74	109	164	3	310	51	42	86	13	1327
Grand Total	213	564	90	148	199	322	14	592	90	78	182	32	2524
Apprch %	24.6	65.1	10.4	22.1	29.7	48.1	2	85.1	12.9	26.7	62.3	11	
Total %	8.4	22.3	3.6	5.9	7.9	12.8	0.6	23.5	3.6	3.1	7.2	1.3	

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	29	68	14	111	18	30	43	91	5	67	14	86	14	27	10	51	339
08:00 AM	31	75	12	118	19	21	41	81	0	72	18	90	14	33	5	52	341
08:15 AM	31	80	12	123	11	26	42	79	0	88	14	102	11	20	1	32	336
08:30 AM	26	93	12	131	19	33	36	88	0	70	10	80	14	16	3	33	332
Total Volume	117	316	50	483	67	110	162	339	5	297	56	358	53	96	19	168	1348
% App. Total	24.2	65.4	10.4		19.8	32.4	47.8		1.4	83	15.6		31.5	57.1	11.3		
PHF	.944	.849	.893	.922	.882	.833	.942	.931	.250	.844	.778	.877	.946	.727	.475	.808	.988

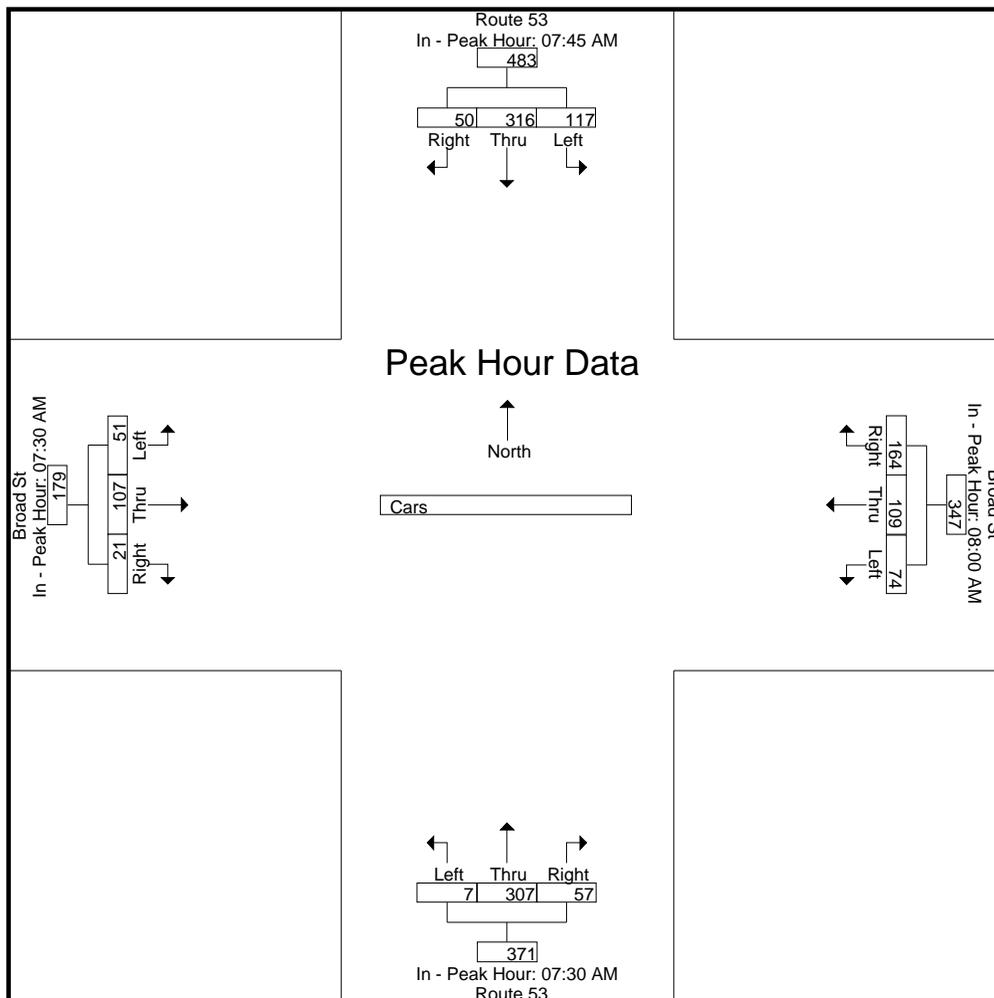
N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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

	07:45 AM				08:00 AM				07:30 AM				07:30 AM			
+0 mins.	29	68	14	111	19	21	41	81	2	80	11	93	12	27	5	44
+15 mins.	31	75	12	118	11	26	42	79	5	67	14	86	14	27	10	51
+30 mins.	31	80	12	123	19	33	36	88	0	72	18	90	14	33	5	52
+45 mins.	26	93	12	131	25	29	45	99	0	88	14	102	11	20	1	32
Total Volume	117	316	50	483	74	109	164	347	7	307	57	371	51	107	21	179
% App. Total	24.2	65.4	10.4		21.3	31.4	47.3		1.9	82.7	15.4		28.5	59.8	11.7	
PHF	.944	.849	.893	.922	.740	.826	.911	.876	.350	.872	.792	.909	.911	.811	.525	.861

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

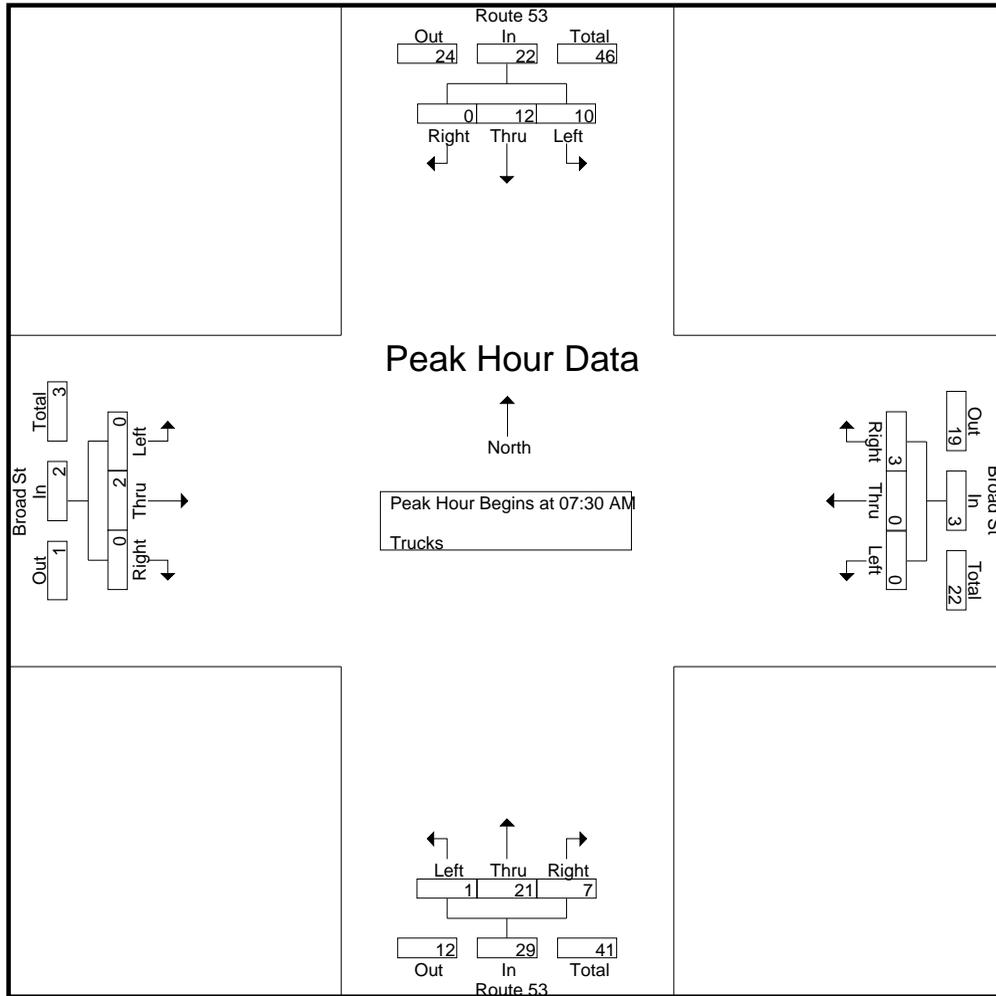
File Name : 89640001
Site Code : 89640001
Start Date : 4/27/2021
Page No : 7

Groups Printed- Trucks

Start Time	Route 53 From North			Broad St From East			Route 53 From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	3	0	2	0	1	0	6	0	0	0	0	12
07:15 AM	1	7	0	0	0	4	0	1	0	0	0	0	13
07:30 AM	5	7	0	0	0	0	0	2	3	0	1	0	18
07:45 AM	3	2	0	0	0	1	0	3	3	0	0	0	12
Total	9	19	0	2	0	6	0	12	6	0	1	0	55
08:00 AM	0	2	0	0	0	1	1	7	0	0	1	0	12
08:15 AM	2	1	0	0	0	1	0	9	1	0	0	0	14
08:30 AM	0	4	0	2	0	1	0	8	0	0	1	0	16
08:45 AM	0	1	0	1	0	1	0	7	0	0	0	0	10
Total	2	8	0	3	0	4	1	31	1	0	2	0	52
Grand Total	11	27	0	5	0	10	1	43	7	0	3	0	107
Apprch %	28.9	71.1	0	33.3	0	66.7	2	84.3	13.7	0	100	0	
Total %	10.3	25.2	0	4.7	0	9.3	0.9	40.2	6.5	0	2.8	0	

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	7	0	12	0	0	0	0	0	2	3	5	0	1	0	1	18
07:45 AM	3	2	0	5	0	0	1	1	0	3	3	6	0	0	0	0	12
08:00 AM	0	2	0	2	0	0	1	1	1	7	0	8	0	1	0	1	12
08:15 AM	2	1	0	3	0	0	1	1	0	9	1	10	0	0	0	0	14
Total Volume	10	12	0	22	0	0	3	3	1	21	7	29	0	2	0	2	56
% App. Total	45.5	54.5	0	0	0	0	100	0	3.4	72.4	24.1	0	0	100	0	0	0
PHF	.500	.429	.000	.458	.000	.000	.750	.750	.250	.583	.583	.725	.000	.500	.000	.500	.778

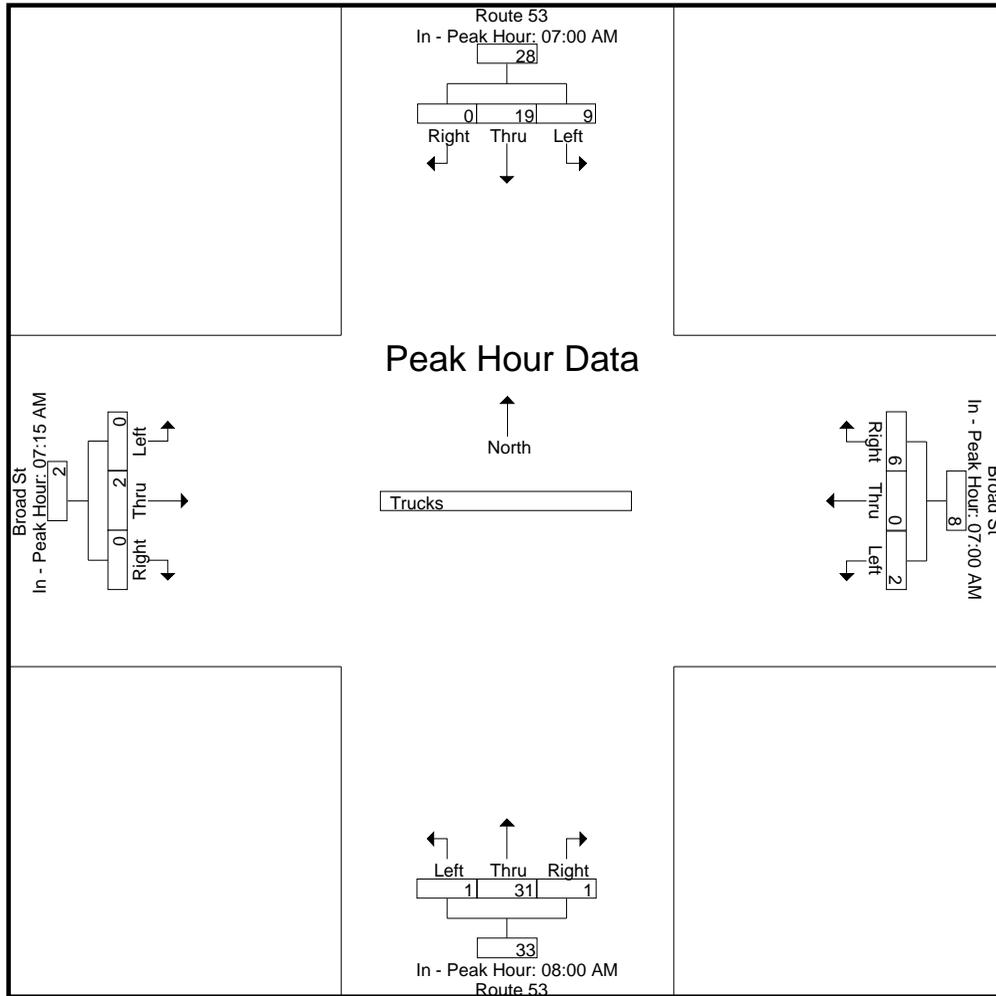
N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				08:00 AM				07:15 AM			
+0 mins.	0	3	0	3	2	0	1	3	1	7	0	8	0	0	0	0
+15 mins.	1	7	0	8	0	0	4	4	0	9	1	10	0	1	0	1
+30 mins.	5	7	0	12	0	0	0	0	0	8	0	8	0	0	0	0
+45 mins.	3	2	0	5	0	0	1	1	0	7	0	7	0	1	0	1
Total Volume	9	19	0	28	2	0	6	8	1	31	1	33	0	2	0	2
% App. Total	32.1	67.9	0		25	0	75		3	93.9	3		0	100	0	
PHF	.450	.679	.000	.583	.250	.000	.375	.500	.250	.861	.250	.825	.000	.500	.000	.500

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

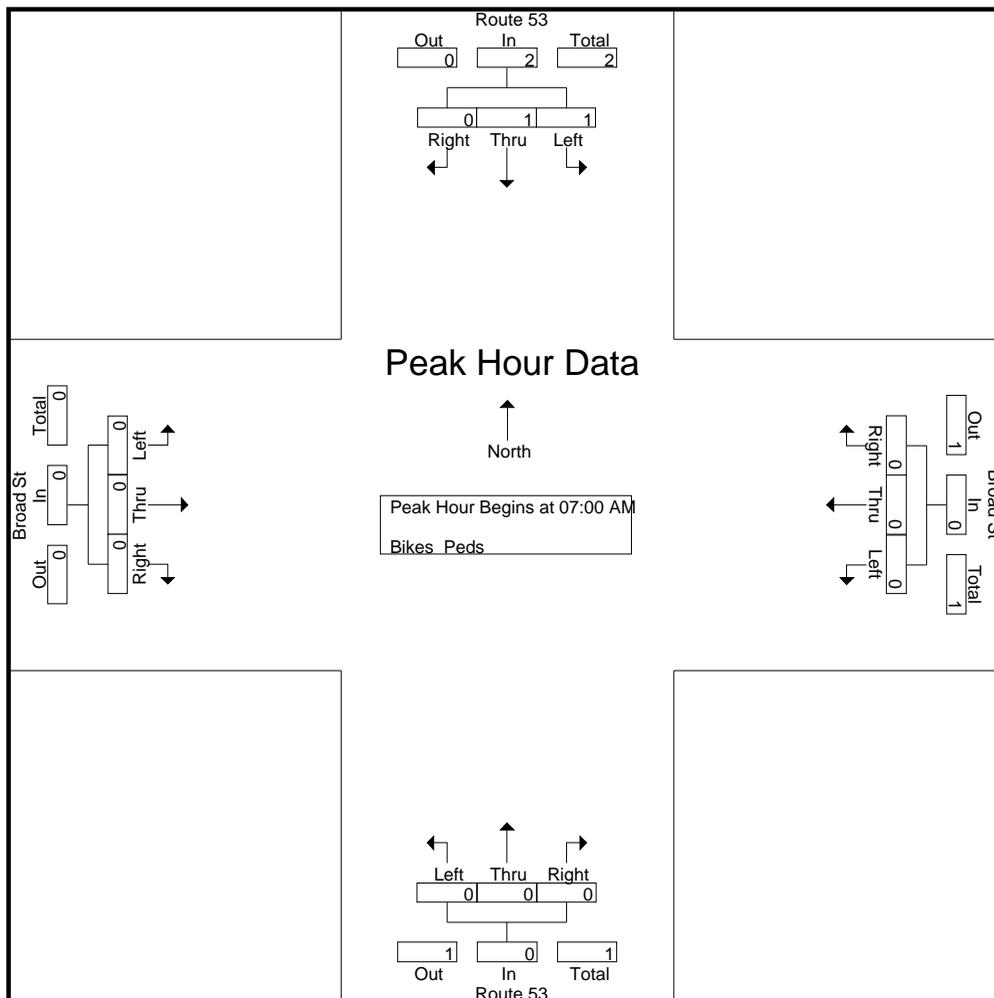
File Name : 89640001
Site Code : 89640001
Start Date : 4/27/2021
Page No : 10

Groups Printed- Bikes Peds

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
07:45 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	3	0	3
Total	1	1	0	2	0	0	0	0	0	0	0	2	0	0	0	1	5	2	7
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
08:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	4	0	4
Grand Total	1	1	0	5	0	0	0	0	0	0	0	3	0	0	0	1	9	2	11
Apprch %	50	50	0		0	0	0		0	0	0		0	0	0				
Total %	50	50	0		0	0	0		0	0	0		0	0	0		81.8	18.2	

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	50	50	0		0	0	0		0	0	0		0	0	0		
PHF	.250	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

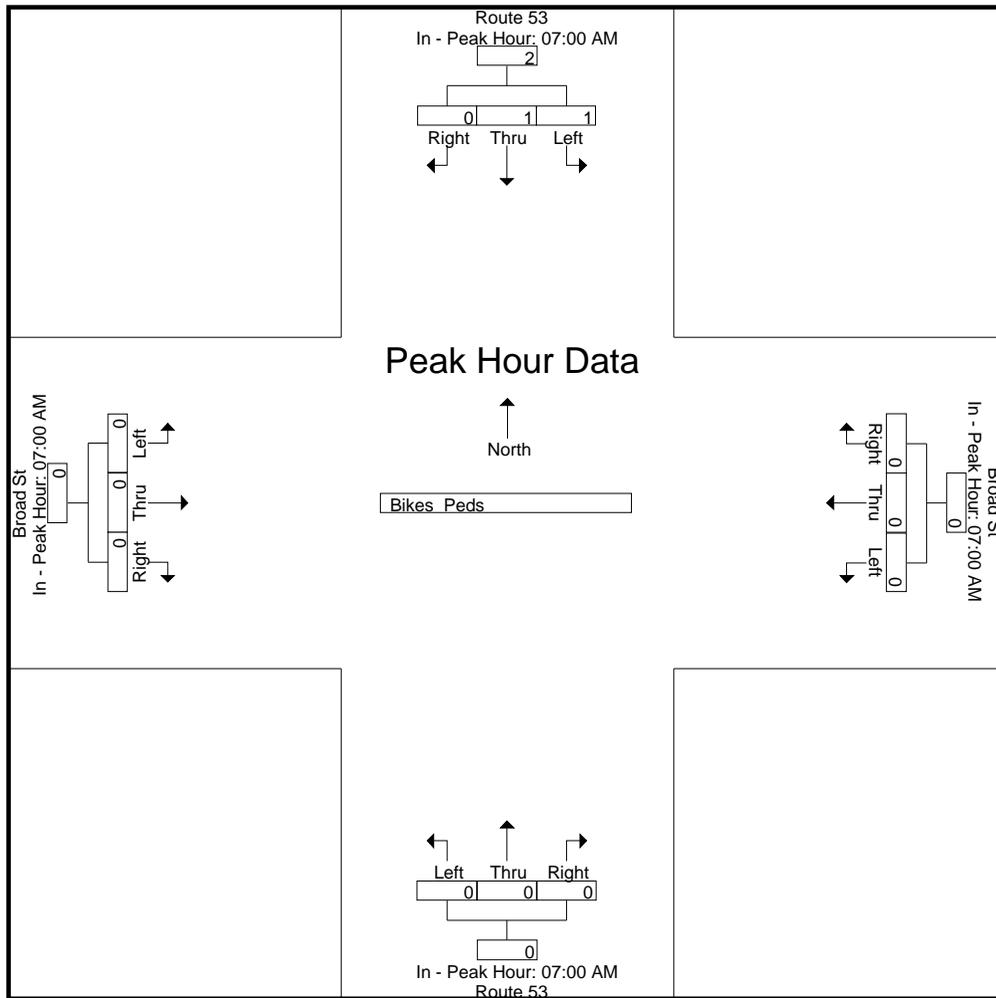
N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	1	1	0	2	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	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	50	50	0		0	0	0		0	0	0		0	0	0	
PHF	.250	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Route 53
 E/W Street : Broad Street
 City/State : Weymouth, MA
 Weather : Clear

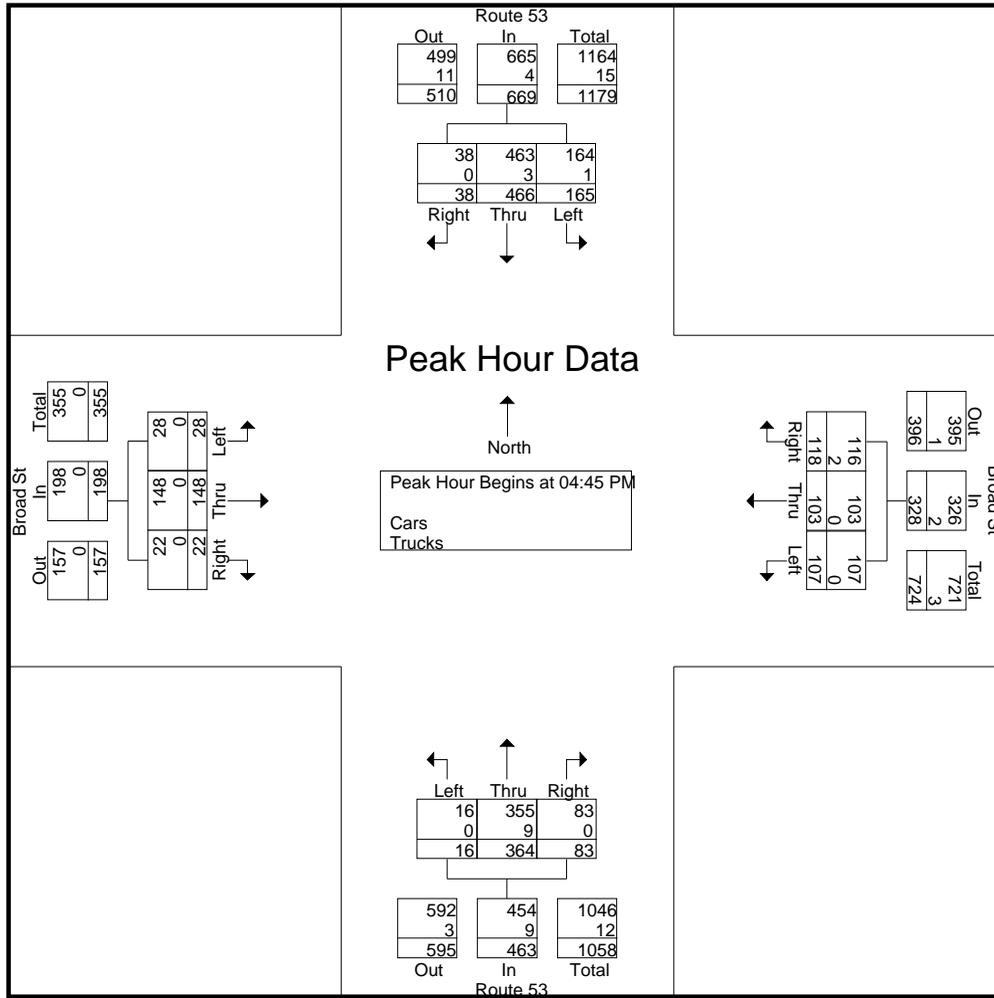
File Name : 89640001
 Site Code : 89640001
 Start Date : 4/27/2021
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Route 53 From North			Broad St From East			Route 53 From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	42	110	8	30	22	35	2	108	14	6	31	10	418
04:15 PM	33	107	4	29	24	42	4	95	25	3	30	5	401
04:30 PM	42	95	8	14	26	27	5	87	27	8	13	8	360
04:45 PM	46	119	13	31	37	33	4	115	16	3	34	2	453
Total	163	431	33	104	109	137	15	405	82	20	108	25	1632
05:00 PM	42	124	12	21	25	30	7	95	17	9	39	10	431
05:15 PM	33	113	10	30	22	25	3	82	26	11	34	6	395
05:30 PM	44	110	3	25	19	30	2	72	24	5	41	4	379
05:45 PM	57	129	7	20	22	30	4	87	21	5	26	1	409
Total	176	476	32	96	88	115	16	336	88	30	140	21	1614
Grand Total	339	907	65	200	197	252	31	741	170	50	248	46	3246
Apprch %	25.9	69.2	5	30.8	30.4	38.8	3.3	78.7	18	14.5	72.1	13.4	
Total %	10.4	27.9	2	6.2	6.1	7.8	1	22.8	5.2	1.5	7.6	1.4	
Cars	337	895	65	198	197	250	31	722	170	50	248	46	3209
% Cars	99.4	98.7	100	99	100	99.2	100	97.4	100	100	100	100	98.9
Trucks	2	12	0	2	0	2	0	19	0	0	0	0	37
% Trucks	0.6	1.3	0	1	0	0.8	0	2.6	0	0	0	0	1.1

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	46	119	13	178	31	37	33	101	4	115	16	135	3	34	2	39	453
05:00 PM	42	124	12	178	21	25	30	76	7	95	17	119	9	39	10	58	431
05:15 PM	33	113	10	156	30	22	25	77	3	82	26	111	11	34	6	51	395
05:30 PM	44	110	3	157	25	19	30	74	2	72	24	98	5	41	4	50	379
Total Volume	165	466	38	669	107	103	118	328	16	364	83	463	28	148	22	198	1658
% App. Total	24.7	69.7	5.7		32.6	31.4	36		3.5	78.6	17.9		14.1	74.7	11.1		
PHF	.897	.940	.731	.940	.863	.696	.894	.812	.571	.791	.798	.857	.636	.902	.550	.853	.915
Cars	164	463	38	665	107	103	116	326	16	355	83	454	28	148	22	198	1643
% Cars	99.4	99.4	100	99.4	100	100	98.3	99.4	100	97.5	100	98.1	100	100	100	100	99.1
Trucks	1	3	0	4	0	0	2	2	0	9	0	9	0	0	0	0	15
% Trucks	0.6	0.6	0	0.6	0	0	1.7	0.6	0	2.5	0	1.9	0	0	0	0	0.9

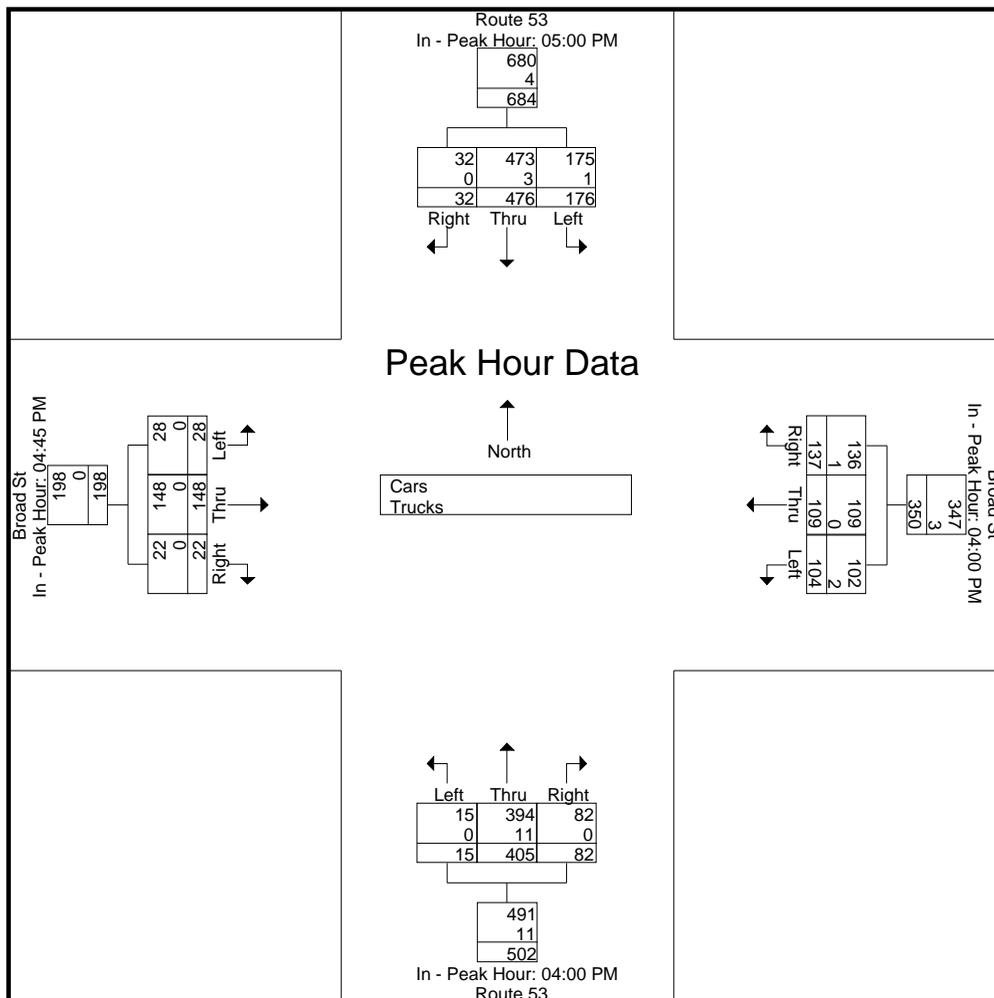
N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				04:45 PM			
+0 mins.	42	124	12	178	30	22	35	87	2	108	14	124	3	34	2	39
+15 mins.	33	113	10	156	29	24	42	95	4	95	25	124	9	39	10	58
+30 mins.	44	110	3	157	14	26	27	67	5	87	27	119	11	34	6	51
+45 mins.	57	129	7	193	31	37	33	101	4	115	16	135	5	41	4	50
Total Volume	176	476	32	684	104	109	137	350	15	405	82	502	28	148	22	198
% App. Total	25.7	69.6	4.7		29.7	31.1	39.1		3	80.7	16.3		14.1	74.7	11.1	
PHF	.772	.922	.667	.886	.839	.736	.815	.866	.750	.880	.759	.930	.636	.902	.550	.853
Cars	175	473	32	680	102	109	136	347	15	394	82	491	28	148	22	198
% Cars	99.4	99.4	100	99.4	98.1	100	99.3	99.1	100	97.3	100	97.8	100	100	100	100
Trucks	1	3	0	4	2	0	1	3	0	11	0	11	0	0	0	0
% Trucks	0.6	0.6	0	0.6	1.9	0	0.7	0.9	0	2.7	0	2.2	0	0	0	0

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Route 53
 E/W Street : Broad Street
 City/State : Weymouth, MA
 Weather : Clear

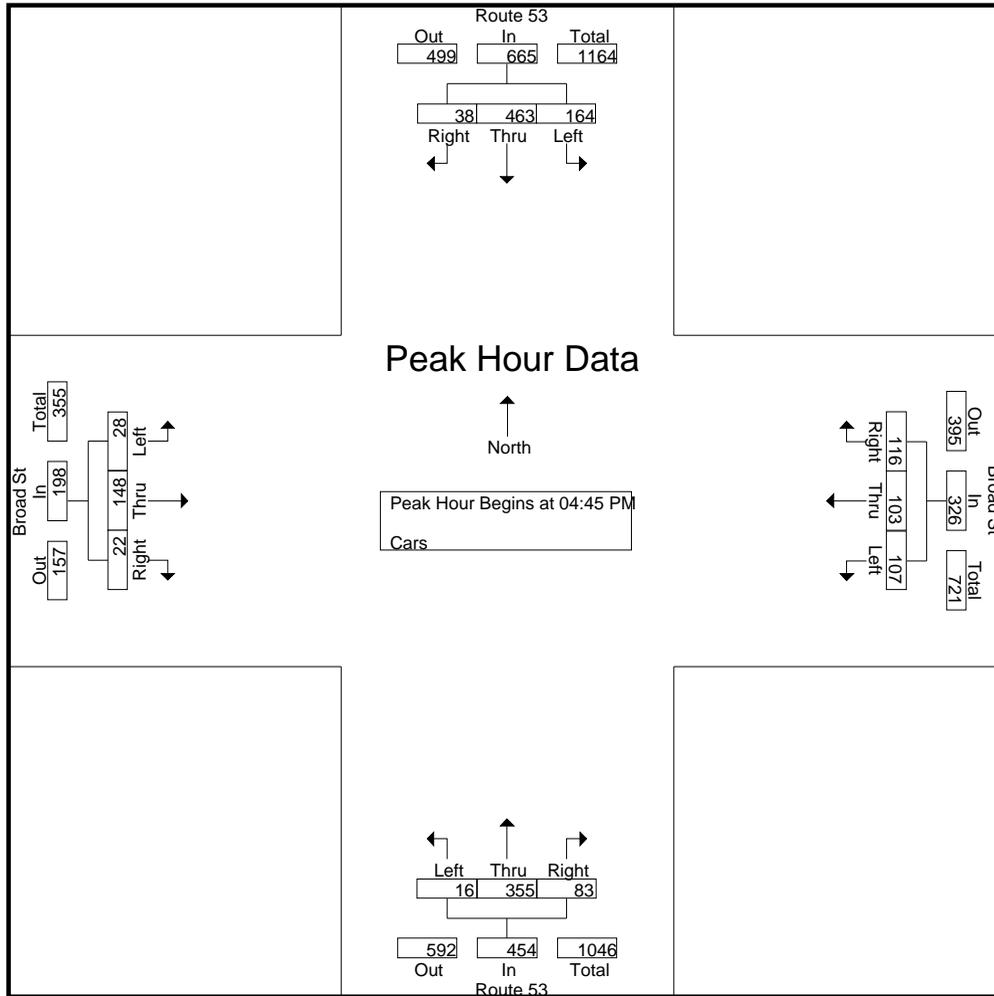
File Name : 89640001
 Site Code : 89640001
 Start Date : 4/27/2021
 Page No : 4

Groups Printed- Cars

Start Time	Route 53 From North			Broad St From East			Route 53 From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	42	106	8	28	22	35	2	106	14	6	31	10	410
04:15 PM	33	104	4	29	24	42	4	94	25	3	30	5	397
04:30 PM	41	94	8	14	26	27	5	83	27	8	13	8	354
04:45 PM	46	118	13	31	37	32	4	111	16	3	34	2	447
Total	162	422	33	102	109	136	15	394	82	20	108	25	1608
05:00 PM	42	123	12	21	25	29	7	93	17	9	39	10	427
05:15 PM	33	112	10	30	22	25	3	80	26	11	34	6	392
05:30 PM	43	110	3	25	19	30	2	71	24	5	41	4	377
05:45 PM	57	128	7	20	22	30	4	84	21	5	26	1	405
Total	175	473	32	96	88	114	16	328	88	30	140	21	1601
Grand Total	337	895	65	198	197	250	31	722	170	50	248	46	3209
Apprch %	26	69	5	30.7	30.5	38.8	3.4	78.2	18.4	14.5	72.1	13.4	
Total %	10.5	27.9	2	6.2	6.1	7.8	1	22.5	5.3	1.6	7.7	1.4	

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	46	118	13	177	31	37	32	100	4	111	16	131	3	34	2	39	447
05:00 PM	42	123	12	177	21	25	29	75	7	93	17	117	9	39	10	58	427
05:15 PM	33	112	10	155	30	22	25	77	3	80	26	109	11	34	6	51	392
05:30 PM	43	110	3	156	25	19	30	74	2	71	24	97	5	41	4	50	377
Total Volume	164	463	38	665	107	103	116	326	16	355	83	454	28	148	22	198	1643
% App. Total	24.7	69.6	5.7		32.8	31.6	35.6		3.5	78.2	18.3		14.1	74.7	11.1		
PHF	.891	.941	.731	.939	.863	.696	.906	.815	.571	.800	.798	.866	.636	.902	.550	.853	.919

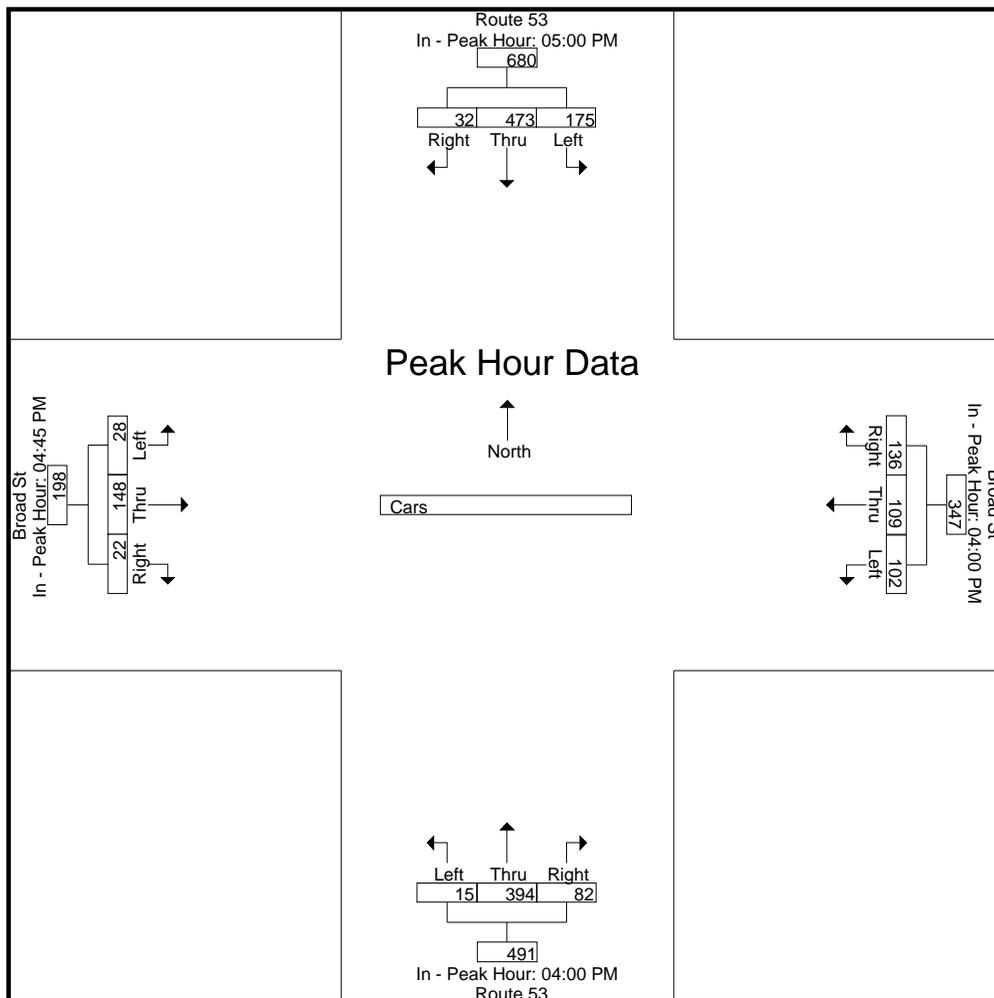
N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				04:45 PM			
+0 mins.	42	123	12	177	28	22	35	85	2	106	14	122	3	34	2	39
+15 mins.	33	112	10	155	29	24	42	95	4	94	25	123	9	39	10	58
+30 mins.	43	110	3	156	14	26	27	67	5	83	27	115	11	34	6	51
+45 mins.	57	128	7	192	31	37	32	100	4	111	16	131	5	41	4	50
Total Volume	175	473	32	680	102	109	136	347	15	394	82	491	28	148	22	198
% App. Total	25.7	69.6	4.7		29.4	31.4	39.2		3.1	80.2	16.7		14.1	74.7	11.1	
PHF	.768	.924	.667	.885	.823	.736	.810	.868	.750	.887	.759	.937	.636	.902	.550	.853

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

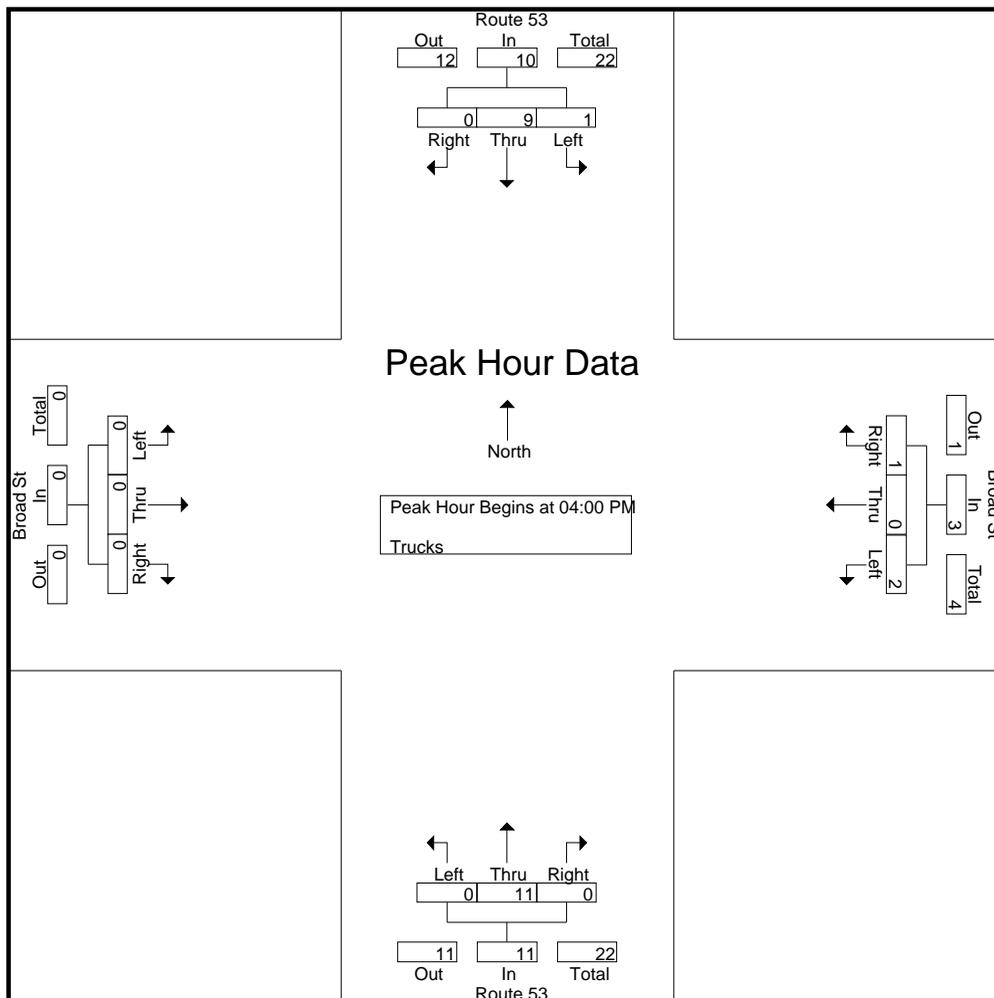
File Name : 89640001
Site Code : 89640001
Start Date : 4/27/2021
Page No : 7

Groups Printed- Trucks

Start Time	Route 53 From North			Broad St From East			Route 53 From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	4	0	2	0	0	0	2	0	0	0	0	8
04:15 PM	0	3	0	0	0	0	0	1	0	0	0	0	4
04:30 PM	1	1	0	0	0	0	0	4	0	0	0	0	6
04:45 PM	0	1	0	0	0	1	0	4	0	0	0	0	6
Total	1	9	0	2	0	1	0	11	0	0	0	0	24
05:00 PM	0	1	0	0	0	1	0	2	0	0	0	0	4
05:15 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
05:30 PM	1	0	0	0	0	0	0	1	0	0	0	0	2
05:45 PM	0	1	0	0	0	0	0	3	0	0	0	0	4
Total	1	3	0	0	0	1	0	8	0	0	0	0	13
Grand Total	2	12	0	2	0	2	0	19	0	0	0	0	37
Apprch %	14.3	85.7	0	50	0	50	0	100	0	0	0	0	
Total %	5.4	32.4	0	5.4	0	5.4	0	51.4	0	0	0	0	

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	4	0	4	2	0	0	2	0	2	0	2	0	0	0	0	8
04:15 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
04:30 PM	1	1	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6
04:45 PM	0	1	0	1	0	0	1	1	0	4	0	4	0	0	0	0	6
Total Volume	1	9	0	10	2	0	1	3	0	11	0	11	0	0	0	0	24
% App. Total	10	90	0		66.7	0	33.3		0	100	0		0	0	0		
PHF	.250	.563	.000	.625	.250	.000	.250	.375	.000	.688	.000	.688	.000	.000	.000	.000	.750

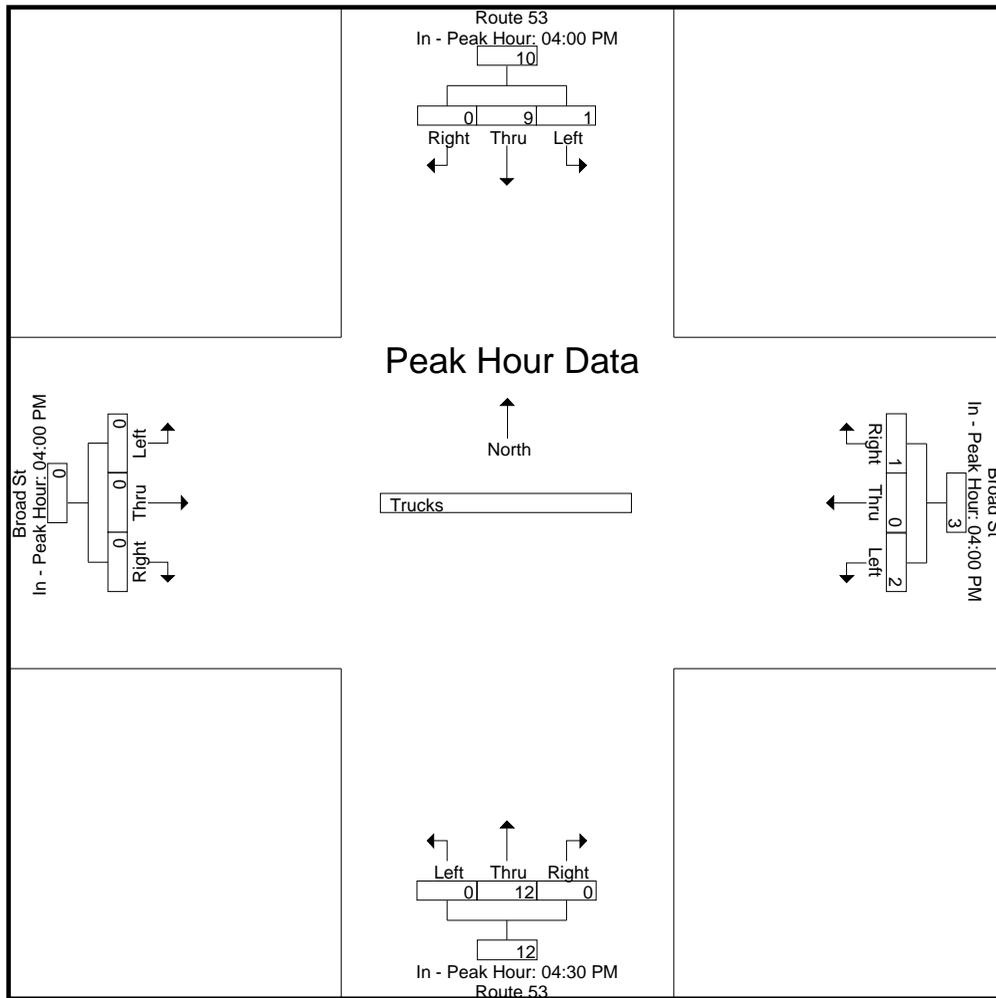
N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				04:30 PM				04:00 PM			
+0 mins.	0	4	0	4	2	0	0	2	0	4	0	4	0	0	0	0
+15 mins.	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0
+30 mins.	1	1	0	2	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	1	0	1	0	0	1	1	0	2	0	2	0	0	0	0
Total Volume	1	9	0	10	2	0	1	3	0	12	0	12	0	0	0	0
% App. Total	10	90	0		66.7	0	33.3		0	100	0		0	0	0	
PHF	.250	.563	.000	.625	.250	.000	.250	.375	.000	.750	.000	.750	.000	.000	.000	.000

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

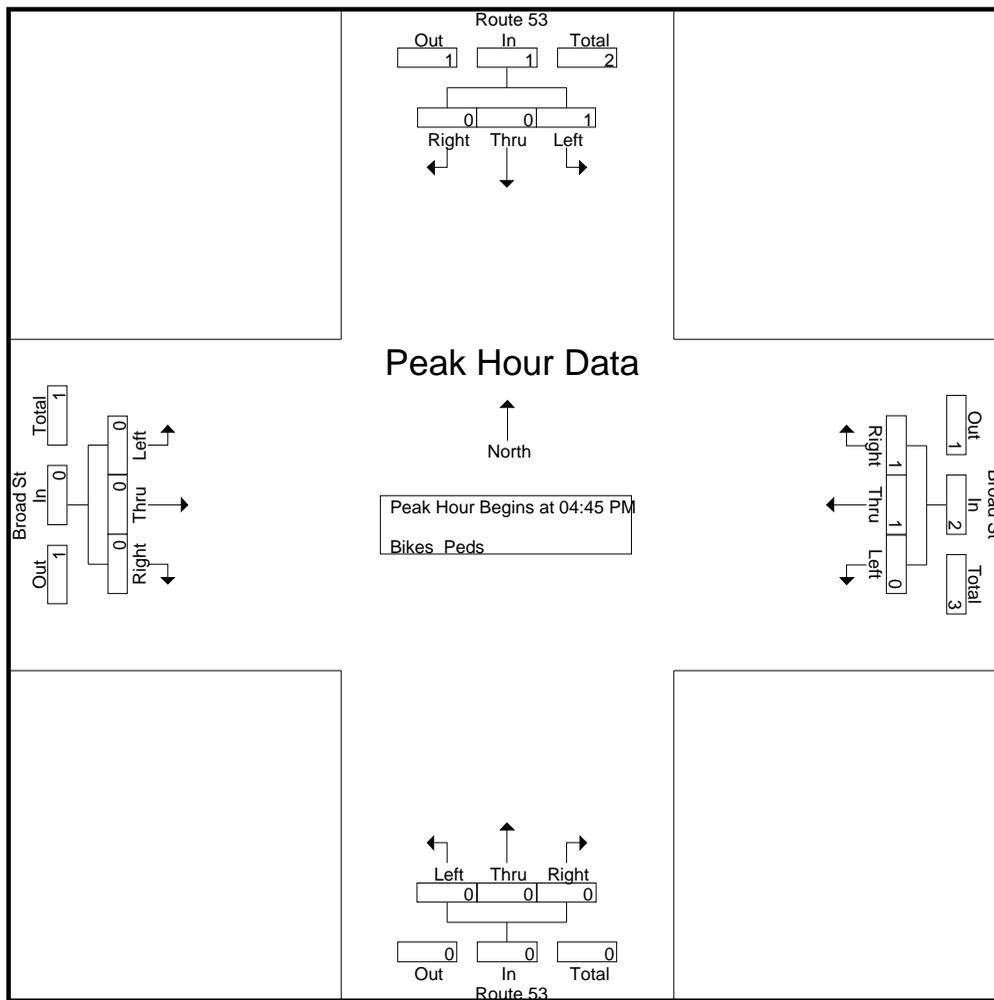
File Name : 89640001
Site Code : 89640001
Start Date : 4/27/2021
Page No : 10

Groups Printed- Bikes Peds

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
04:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	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	1	0	0	0	1	0	0	0	1	0	0	0	0	3	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	2
05:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
05:30 PM	1	0	0	0	0	1	1	0	0	0	0	3	0	0	0	1	4	3	7
05:45 PM	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0	5	0	5
Total	1	0	0	6	0	1	1	0	0	0	0	5	0	0	0	2	13	3	16
Grand Total	1	0	0	7	0	1	1	1	0	0	0	6	0	0	0	2	16	3	19
Apprch %	100	0	0		0	50	50		0	0	0		0	0	0				
Total %	33.3	0	0		0	33.3	33.3		0	0	0		0	0	0		84.2	15.8	

Start Time	Route 53 From North				Broad St From East				Route 53 From South				Broad St From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:45 PM																		
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0	0	3
Total Volume	1	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0	0	3
% App. Total	100	0	0		0	50	50		0	0	0		0	0	0			
PHF	.250	.000	.000	.250	.000	.250	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

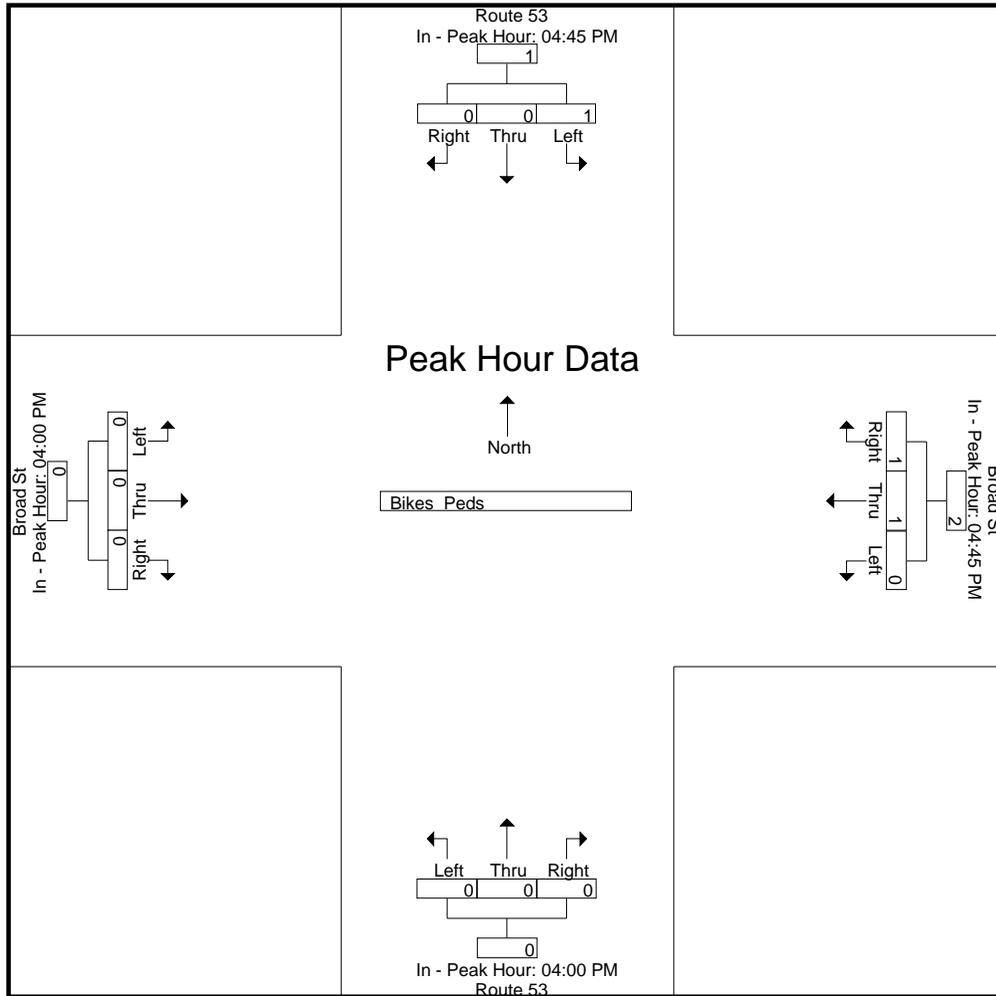
N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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

	04:45 PM				04:45 PM				04:00 PM				04:00 PM			
+0 mins.	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.	1	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0
% App. Total	100	0	0		0	50	50		0	0	0		0	0	0	
PHF	.250	.000	.000	.250	.000	.250	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Route 53
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Webb St / Vine St
 E/W Street : Broad Street
 City/State : Weymouth, MA
 Weather : Clear

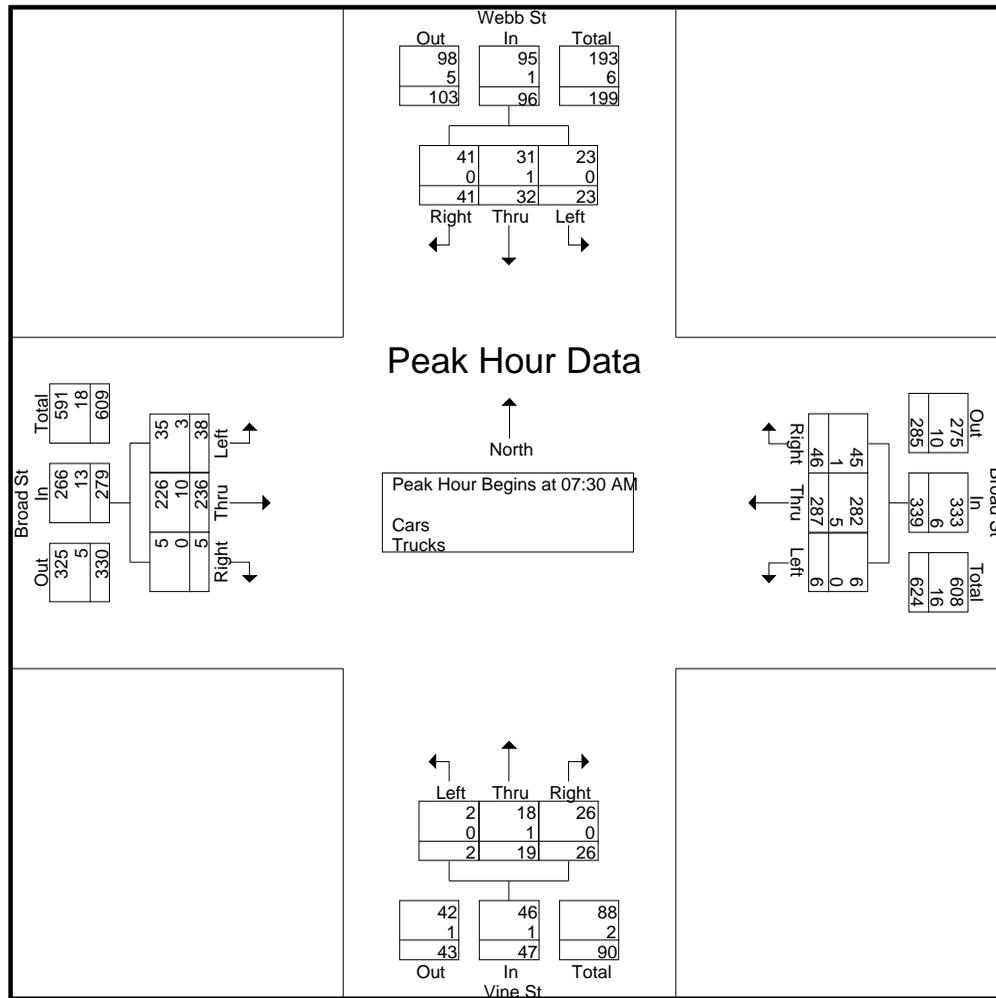
File Name : 89640002
 Site Code : 89640002
 Start Date : 4/27/2021
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Webb St From North			Broad St From East			Vine St From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	6	8	12	2	60	13	2	6	2	10	44	1	166
07:15 AM	2	5	16	0	60	6	5	3	3	4	47	1	152
07:30 AM	1	7	11	3	76	10	0	6	5	14	53	1	187
07:45 AM	5	8	11	1	70	10	1	5	8	8	62	1	190
Total	14	28	50	6	266	39	8	20	18	36	206	4	695
08:00 AM	9	8	12	0	67	13	0	4	5	8	68	1	195
08:15 AM	8	9	7	2	74	13	1	4	8	8	53	2	189
08:30 AM	16	5	15	2	64	15	1	5	5	6	45	1	180
08:45 AM	7	5	25	2	74	13	0	7	3	7	42	0	185
Total	40	27	59	6	279	54	2	20	21	29	208	4	749
Grand Total	54	55	109	12	545	93	10	40	39	65	414	8	1444
Apprch %	24.8	25.2	50	1.8	83.8	14.3	11.2	44.9	43.8	13.3	85	1.6	
Total %	3.7	3.8	7.5	0.8	37.7	6.4	0.7	2.8	2.7	4.5	28.7	0.6	
Cars	54	53	104	11	529	92	9	37	38	62	402	8	1399
% Cars	100	96.4	95.4	91.7	97.1	98.9	90	92.5	97.4	95.4	97.1	100	96.9
Trucks	0	2	5	1	16	1	1	3	1	3	12	0	45
% Trucks	0	3.6	4.6	8.3	2.9	1.1	10	7.5	2.6	4.6	2.9	0	3.1

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	7	11	19	3	76	10	89	0	6	5	11	14	53	1	68	187
07:45 AM	5	8	11	24	1	70	10	81	1	5	8	14	8	62	1	71	190
08:00 AM	9	8	12	29	0	67	13	80	0	4	5	9	8	68	1	77	195
08:15 AM	8	9	7	24	2	74	13	89	1	4	8	13	8	53	2	63	189
Total Volume	23	32	41	96	6	287	46	339	2	19	26	47	38	236	5	279	761
% App. Total	24	33.3	42.7		1.8	84.7	13.6		4.3	40.4	55.3		13.6	84.6	1.8		
PHF	.639	.889	.854	.828	.500	.944	.885	.952	.500	.792	.813	.839	.679	.868	.625	.906	.976
Cars	23	31	41	95	6	282	45	333	2	18	26	46	35	226	5	266	740
% Cars	100	96.9	100	99.0	100	98.3	97.8	98.2	100	94.7	100	97.9	92.1	95.8	100	95.3	97.2
Trucks	0	1	0	1	0	5	1	6	0	1	0	1	3	10	0	13	21
% Trucks	0	3.1	0	1.0	0	1.7	2.2	1.8	0	5.3	0	2.1	7.9	4.2	0	4.7	2.8

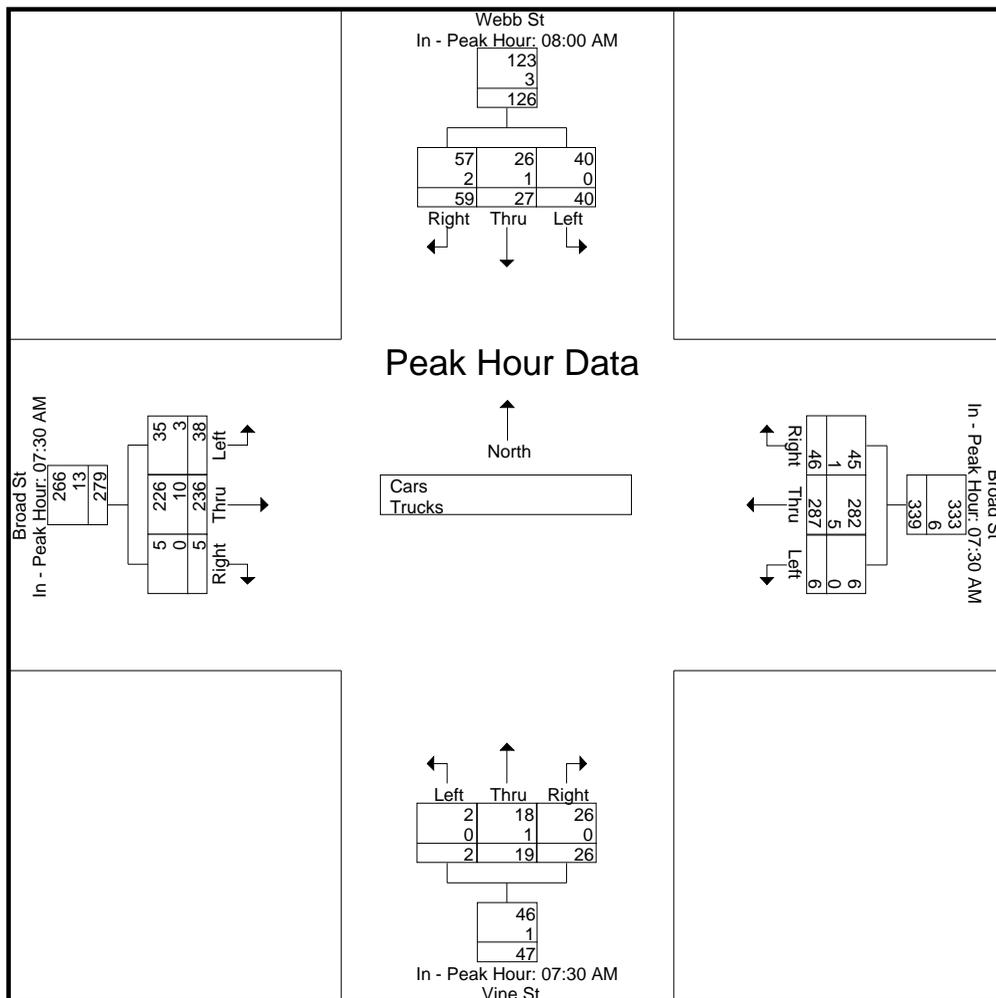
N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	9	8	12	29	3	76	10	89	0	6	5	11	14	53	1	68
+15 mins.	8	9	7	24	1	70	10	81	1	5	8	14	8	62	1	71
+30 mins.	16	5	15	36	0	67	13	80	0	4	5	9	8	68	1	77
+45 mins.	7	5	25	37	2	74	13	89	1	4	8	13	8	53	2	63
Total Volume	40	27	59	126	6	287	46	339	2	19	26	47	38	236	5	279
% App. Total	31.7	21.4	46.8		1.8	84.7	13.6		4.3	40.4	55.3		13.6	84.6	1.8	
PHF	.625	.750	.590	.851	.500	.944	.885	.952	.500	.792	.813	.839	.679	.868	.625	.906
Cars	40	26	57	123	6	282	45	333	2	18	26	46	35	226	5	266
% Cars	100	96.3	96.6	97.6	100	98.3	97.8	98.2	100	94.7	100	97.9	92.1	95.8	100	95.3
Trucks	0	1	2	3	0	5	1	6	0	1	0	1	3	10	0	13
% Trucks	0	3.7	3.4	2.4	0	1.7	2.2	1.8	0	5.3	0	2.1	7.9	4.2	0	4.7

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Webb St / Vine St
 E/W Street : Broad Street
 City/State : Weymouth, MA
 Weather : Clear

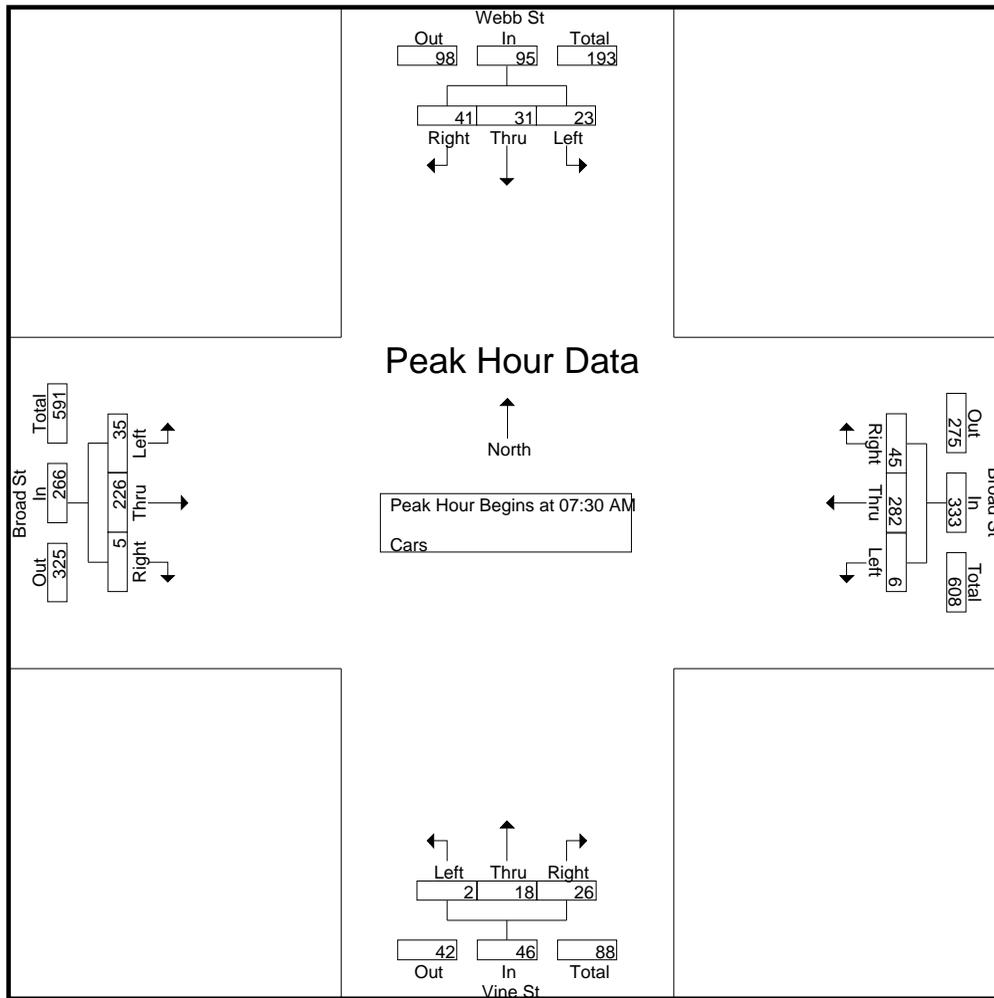
File Name : 89640002
 Site Code : 89640002
 Start Date : 4/27/2021
 Page No : 4

Groups Printed- Cars

Start Time	Webb St From North			Broad St From East			Vine St From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	6	8	10	2	58	13	1	5	2	10	44	1	160
07:15 AM	2	5	15	0	57	6	5	3	3	4	47	1	148
07:30 AM	1	6	11	3	76	9	0	5	5	11	48	1	176
07:45 AM	5	8	11	1	69	10	1	5	8	8	59	1	186
Total	14	27	47	6	260	38	7	18	18	33	198	4	670
08:00 AM	9	8	12	0	66	13	0	4	5	8	67	1	193
08:15 AM	8	9	7	2	71	13	1	4	8	8	52	2	185
08:30 AM	16	5	14	2	60	15	1	5	5	6	44	1	174
08:45 AM	7	4	24	1	72	13	0	6	2	7	41	0	177
Total	40	26	57	5	269	54	2	19	20	29	204	4	729
Grand Total	54	53	104	11	529	92	9	37	38	62	402	8	1399
Apprch %	25.6	25.1	49.3	1.7	83.7	14.6	10.7	44	45.2	13.1	85.2	1.7	
Total %	3.9	3.8	7.4	0.8	37.8	6.6	0.6	2.6	2.7	4.4	28.7	0.6	

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	6	11	18	3	76	9	88	0	5	5	10	11	48	1	60	176
07:45 AM	5	8	11	24	1	69	10	80	1	5	8	14	8	59	1	68	186
08:00 AM	9	8	12	29	0	66	13	79	0	4	5	9	8	67	1	76	193
08:15 AM	8	9	7	24	2	71	13	86	1	4	8	13	8	52	2	62	185
Total Volume	23	31	41	95	6	282	45	333	2	18	26	46	35	226	5	266	740
% App. Total	24.2	32.6	43.2		1.8	84.7	13.5		4.3	39.1	56.5		13.2	85	1.9		
PHF	.639	.861	.854	.819	.500	.928	.865	.946	.500	.900	.813	.821	.795	.843	.625	.875	.959

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				07:30 AM				07:45 AM				07:30 AM			
+0 mins.	9	8	12	29	3	76	9	88	1	5	8	14	11	48	1	60
+15 mins.	8	9	7	24	1	69	10	80	0	4	5	9	8	59	1	68
+30 mins.	16	5	14	35	0	66	13	79	1	4	8	13	8	67	1	76
+45 mins.	7	4	24	35	2	71	13	86	1	5	5	11	8	52	2	62
Total Volume	40	26	57	123	6	282	45	333	3	18	26	47	35	226	5	266
% App. Total	32.5	21.1	46.3		1.8	84.7	13.5		6.4	38.3	55.3		13.2	85	1.9	
PHF	.625	.722	.594	.879	.500	.928	.865	.946	.750	.900	.813	.839	.795	.843	.625	.875

Accurate Counts

978-664-2565

File Name : 89640002

Site Code : 89640002

Start Date : 4/27/2021

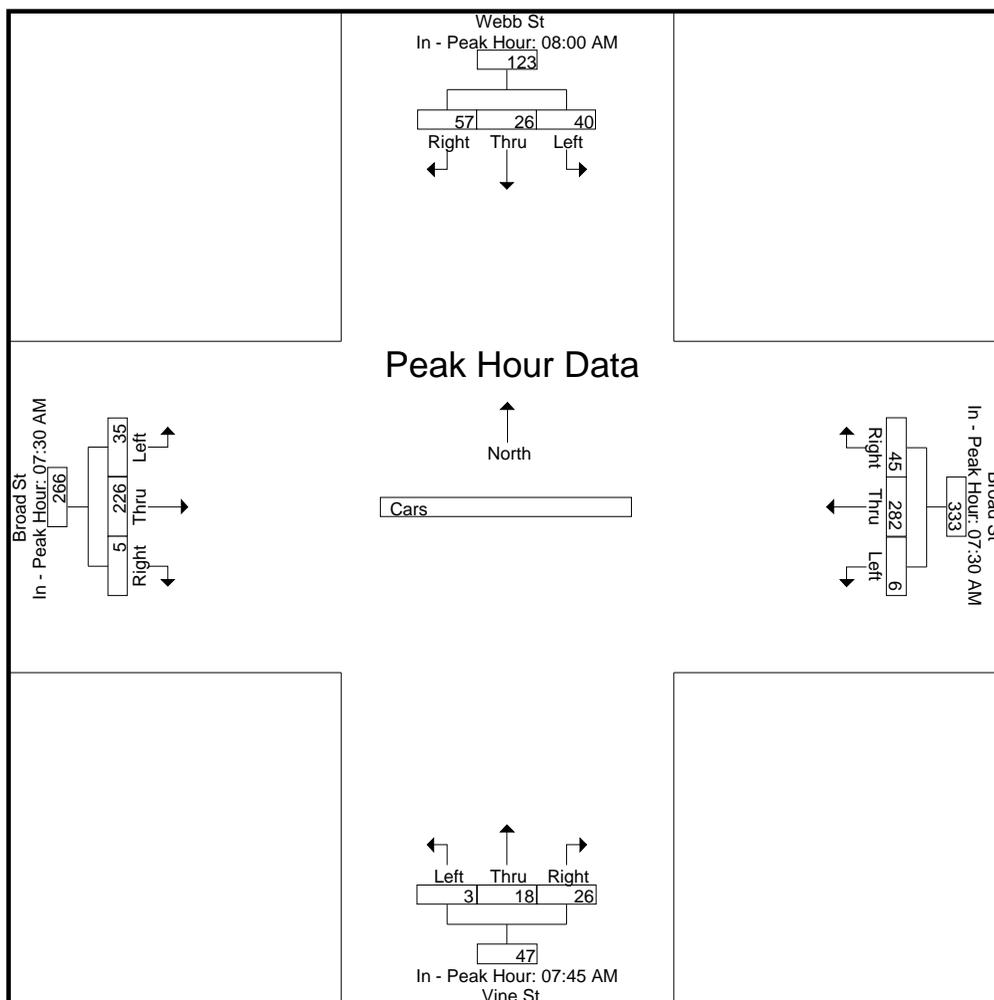
Page No : 6

N/S Street : Webb St / Vine St

E/W Street : Broad Street

City/State : Weymouth, MA

Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

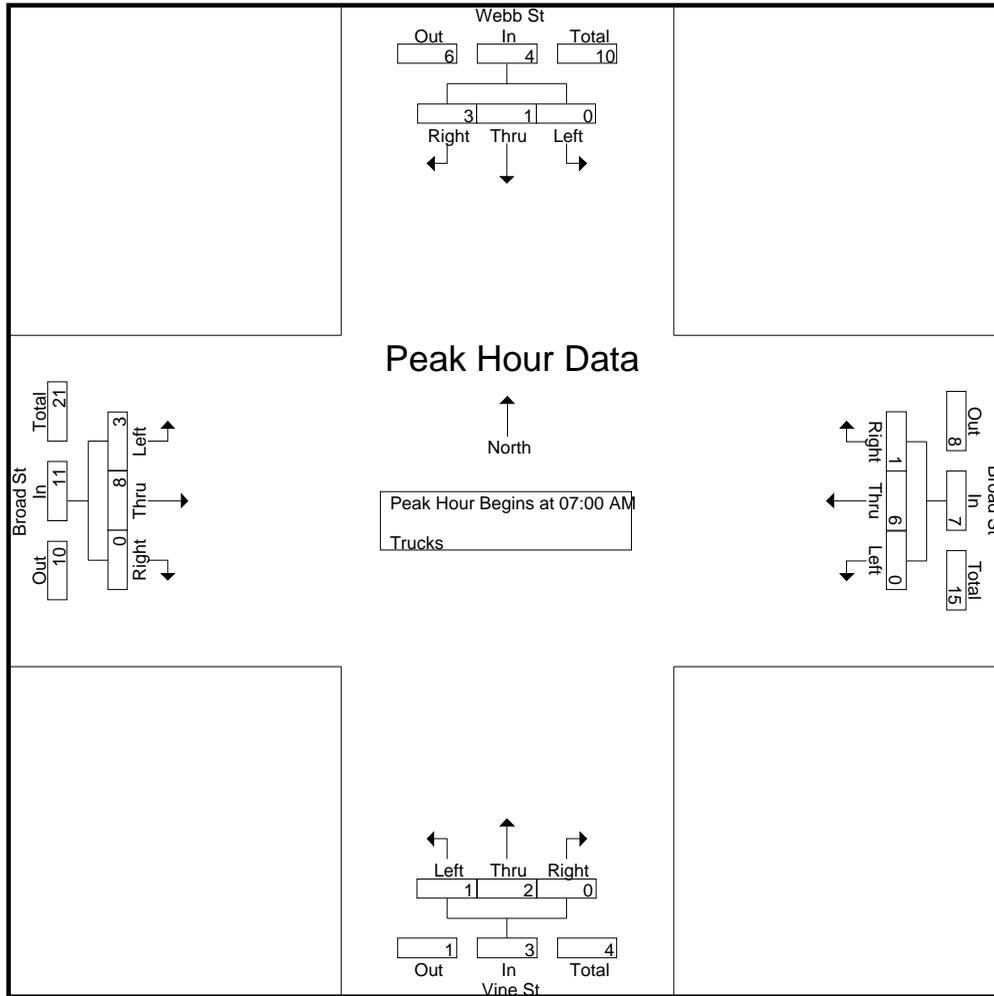
File Name : 89640002
Site Code : 89640002
Start Date : 4/27/2021
Page No : 7

Groups Printed- Trucks

Start Time	Webb St From North			Broad St From East			Vine St From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	2	0	2	0	1	1	0	0	0	0	6
07:15 AM	0	0	1	0	3	0	0	0	0	0	0	0	4
07:30 AM	0	1	0	0	0	1	0	1	0	3	5	0	11
07:45 AM	0	0	0	0	1	0	0	0	0	0	3	0	4
Total	0	1	3	0	6	1	1	2	0	3	8	0	25
08:00 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
08:15 AM	0	0	0	0	3	0	0	0	0	0	1	0	4
08:30 AM	0	0	1	0	4	0	0	0	0	0	1	0	6
08:45 AM	0	1	1	1	2	0	0	1	1	0	1	0	8
Total	0	1	2	1	10	0	0	1	1	0	4	0	20
Grand Total	0	2	5	1	16	1	1	3	1	3	12	0	45
Apprch %	0	28.6	71.4	5.6	88.9	5.6	20	60	20	20	80	0	
Total %	0	4.4	11.1	2.2	35.6	2.2	2.2	6.7	2.2	6.7	26.7	0	

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	2	2	0	2	0	2	1	1	0	2	0	0	0	0	6
07:15 AM	0	0	1	1	0	3	0	3	0	0	0	0	0	0	0	0	4
07:30 AM	0	1	0	1	0	0	1	1	0	1	0	1	3	5	0	8	11
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
Total Volume	0	1	3	4	0	6	1	7	1	2	0	3	3	8	0	11	25
% App. Total	0	25	75		0	85.7	14.3		33.3	66.7	0		27.3	72.7	0		
PHF	.000	.250	.375	.500	.000	.500	.250	.583	.250	.500	.000	.375	.250	.400	.000	.344	.568

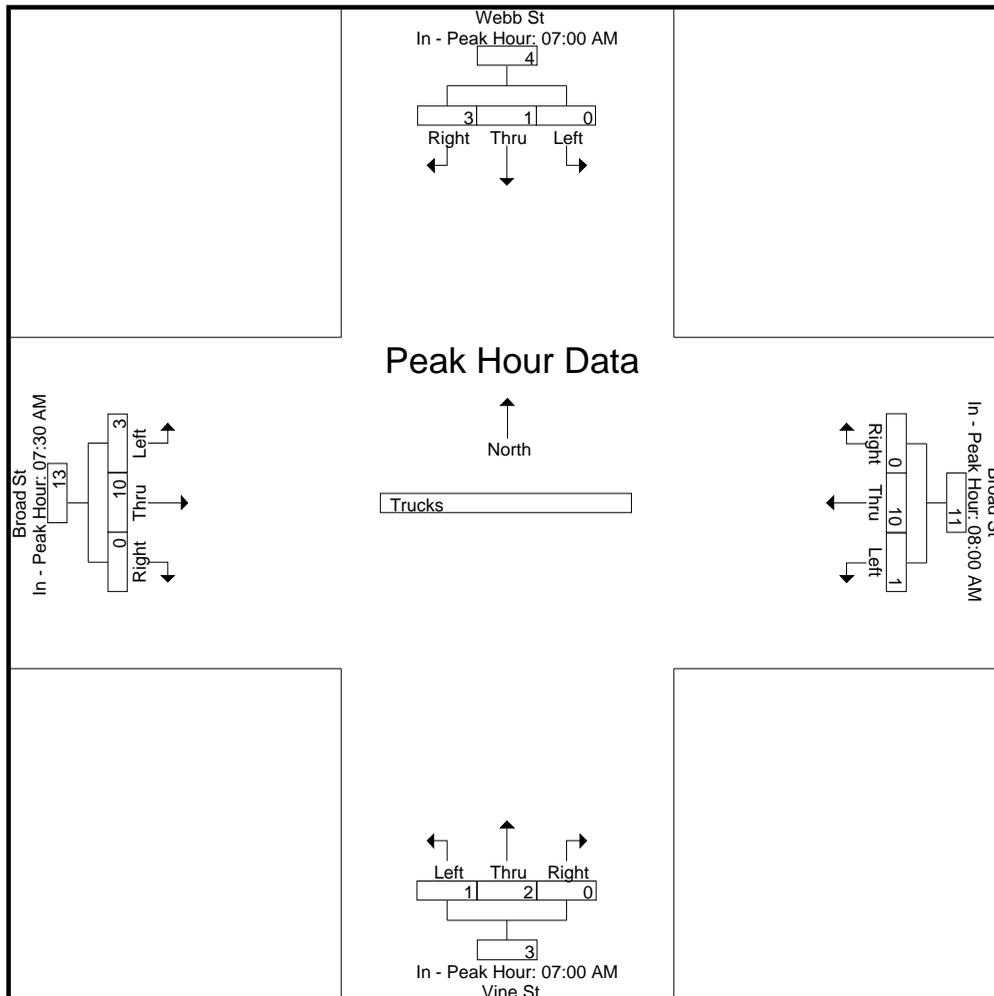
N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				07:30 AM			
+0 mins.	0	0	2	2	0	1	0	1	1	1	0	2	3	5	0	8
+15 mins.	0	0	1	1	0	3	0	3	0	0	0	0	0	3	0	3
+30 mins.	0	1	0	1	0	4	0	4	0	1	0	1	0	1	0	1
+45 mins.	0	0	0	0	1	2	0	3	0	0	0	0	0	1	0	1
Total Volume	0	1	3	4	1	10	0	11	1	2	0	3	3	10	0	13
% App. Total	0	25	75		9.1	90.9	0		33.3	66.7	0		23.1	76.9	0	
PHF	.000	.250	.375	.500	.250	.625	.000	.688	.250	.500	.000	.375	.250	.500	.000	.406

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

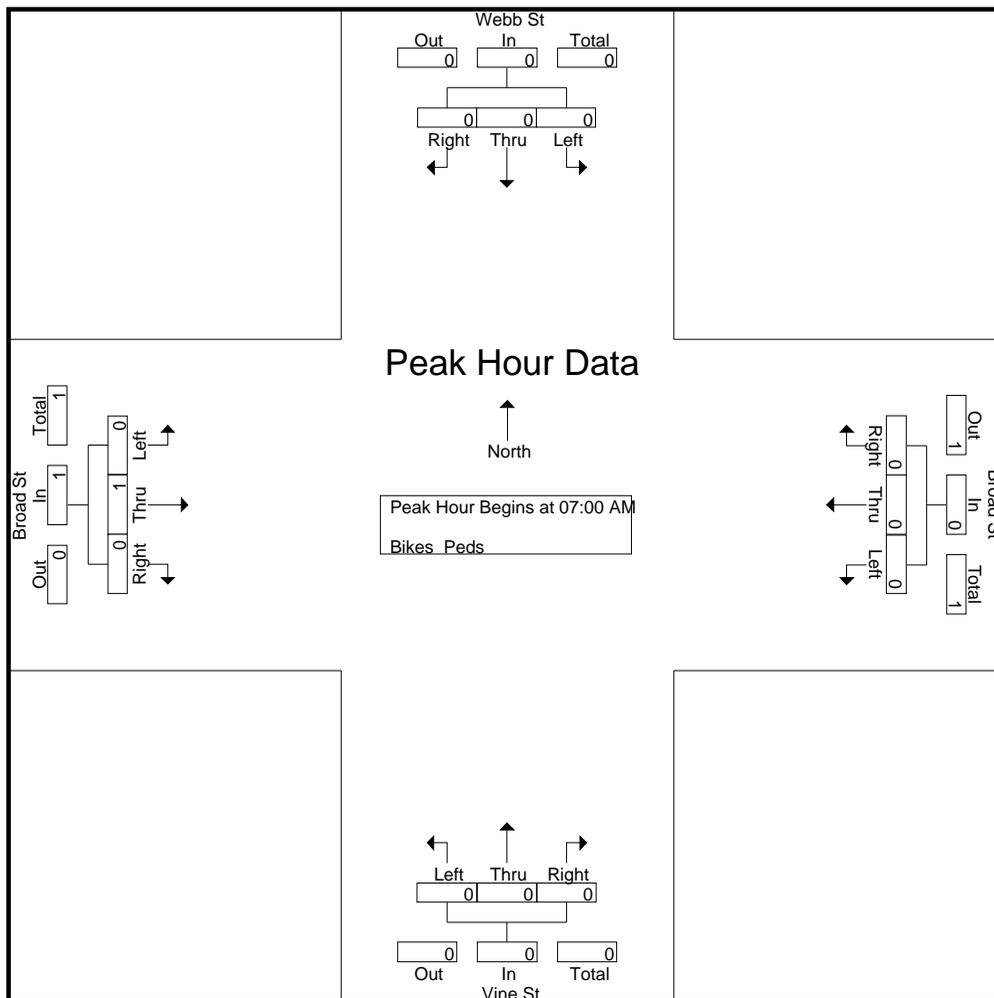
File Name : 89640002
Site Code : 89640002
Start Date : 4/27/2021
Page No : 10

Groups Printed- Bikes Peds

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds															
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	2	1	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1
07:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	1	4	1	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
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	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	4	0	4
Grand Total	0	0	0	3	0	0	0	2	0	0	0	2	0	1	0	1	8	1	9
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0				
Total %	0	0	0		0	0	0		0	0	0		0	100	0		88.9	11.1	

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% App. Total	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

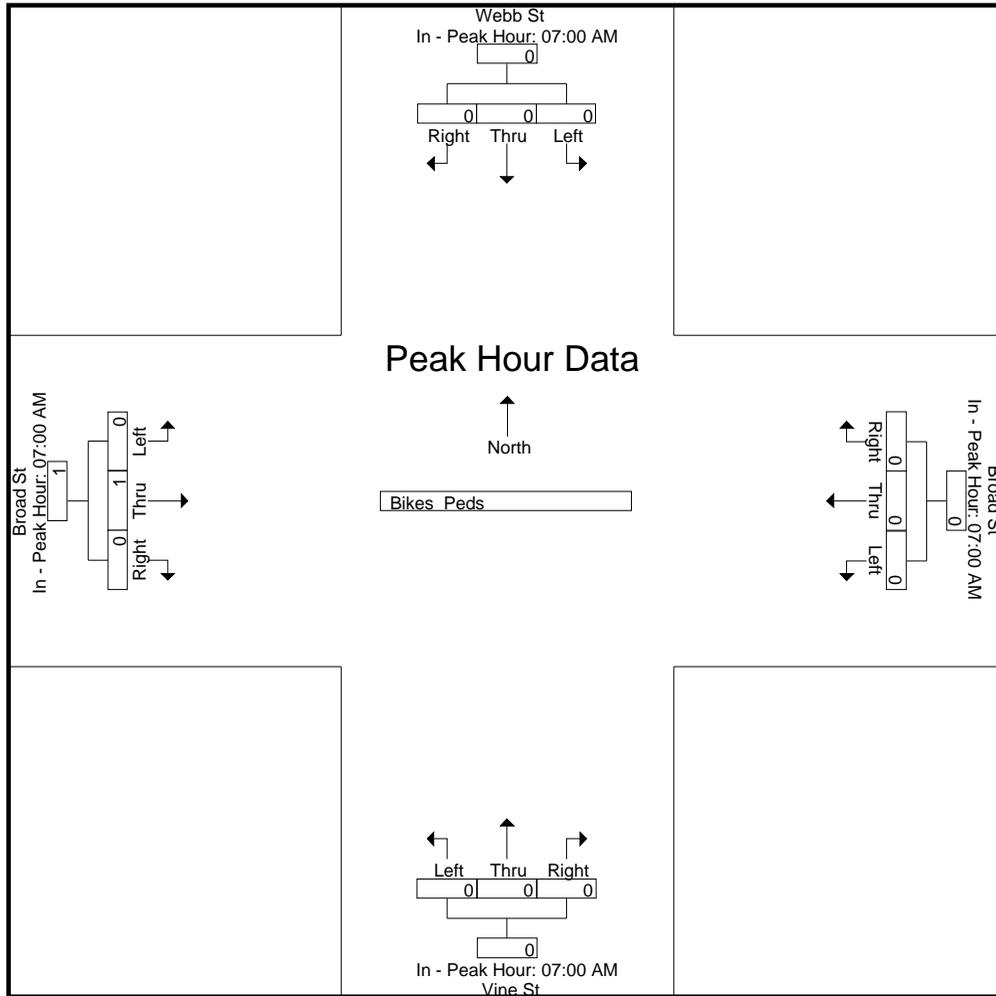
N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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

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

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Webb St / Vine St
 E/W Street : Broad Street
 City/State : Weymouth, MA
 Weather : Clear

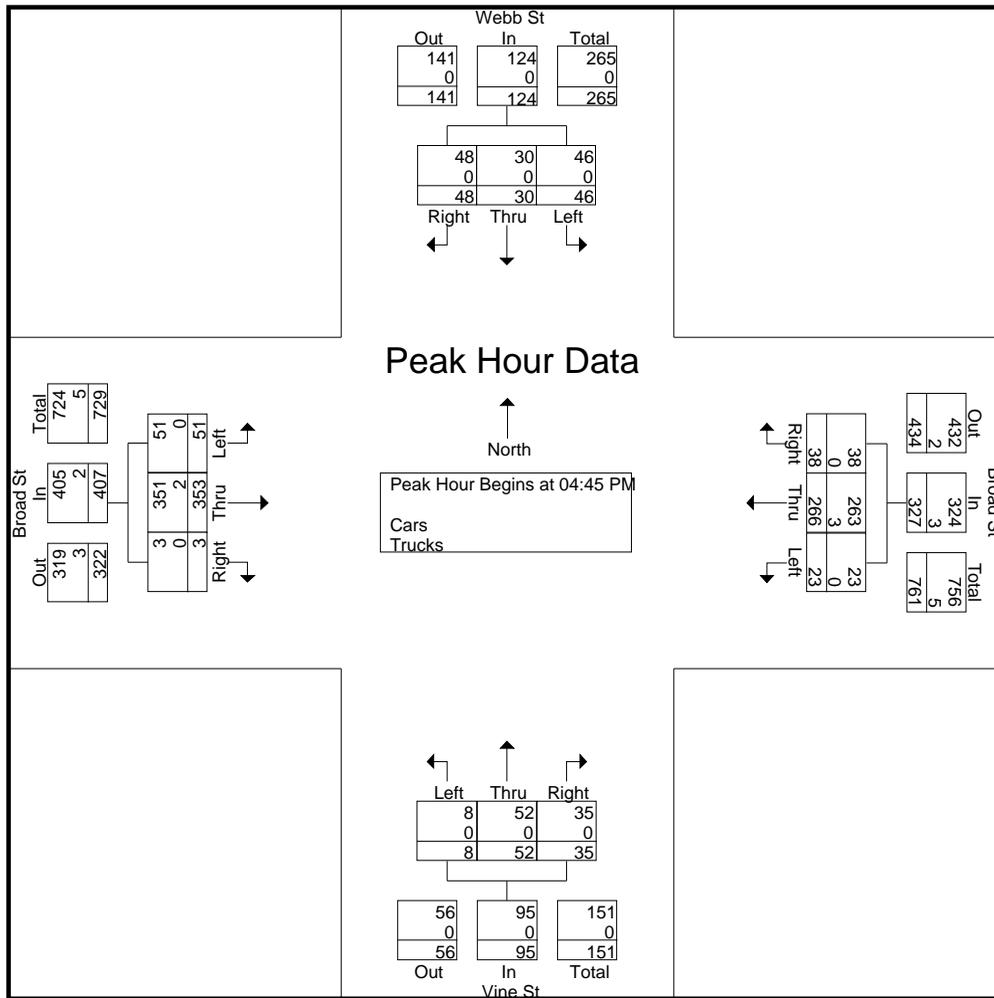
File Name : 89640002
 Site Code : 89640002
 Start Date : 4/27/2021
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Webb St From North			Broad St From East			Vine St From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	19	8	13	2	67	3	1	11	5	12	72	2	215
04:15 PM	10	4	9	2	81	7	2	9	16	12	82	0	234
04:30 PM	24	7	5	5	77	12	1	16	7	14	69	2	239
04:45 PM	5	10	14	7	76	10	3	11	16	13	75	0	240
Total	58	29	41	16	301	32	7	47	44	51	298	4	928
05:00 PM	15	8	12	5	60	7	1	8	7	13	83	3	222
05:15 PM	14	4	15	4	63	10	1	12	4	12	92	0	231
05:30 PM	12	8	7	7	67	11	3	21	8	13	103	0	260
05:45 PM	11	9	19	4	61	2	2	10	12	12	81	2	225
Total	52	29	53	20	251	30	7	51	31	50	359	5	938
Grand Total	110	58	94	36	552	62	14	98	75	101	657	9	1866
Apprch %	42	22.1	35.9	5.5	84.9	9.5	7.5	52.4	40.1	13.2	85.7	1.2	
Total %	5.9	3.1	5	1.9	29.6	3.3	0.8	5.3	4	5.4	35.2	0.5	
Cars	110	58	94	36	548	62	14	98	75	101	654	9	1859
% Cars	100	100	100	100	99.3	100	100	100	100	100	99.5	100	99.6
Trucks	0	0	0	0	4	0	0	0	0	0	3	0	7
% Trucks	0	0	0	0	0.7	0	0	0	0	0	0.5	0	0.4

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	5	10	14	29	7	76	10	93	3	11	16	30	13	75	0	88	240
05:00 PM	15	8	12	35	5	60	7	72	1	8	7	16	13	83	3	99	222
05:15 PM	14	4	15	33	4	63	10	77	1	12	4	17	12	92	0	104	231
05:30 PM	12	8	7	27	7	67	11	85	3	21	8	32	13	103	0	116	260
Total Volume	46	30	48	124	23	266	38	327	8	52	35	95	51	353	3	407	953
% App. Total	37.1	24.2	38.7		7	81.3	11.6		8.4	54.7	36.8		12.5	86.7	0.7		
PHF	.767	.750	.800	.886	.821	.875	.864	.879	.667	.619	.547	.742	.981	.857	.250	.877	.916
Cars	46	30	48	124	23	263	38	324	8	52	35	95	51	351	3	405	948
% Cars	100	100	100	100	100	98.9	100	99.1	100	100	100	100	100	99.4	100	99.5	99.5
Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
% Trucks	0	0	0	0	0	1.1	0	0.9	0	0	0	0	0	0.6	0	0.5	0.5

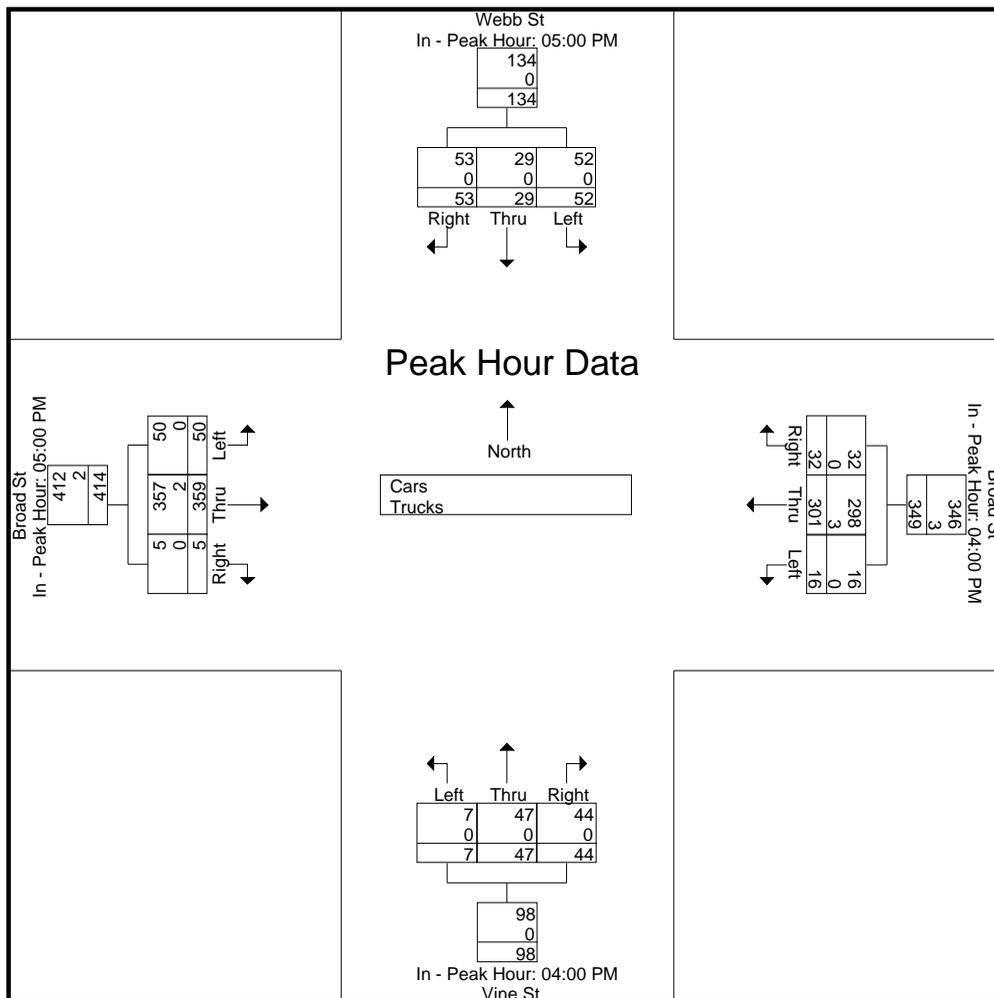
N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				05:00 PM			
+0 mins.	15	8	12	35	2	67	3	72	1	11	5	17	13	83	3	99
+15 mins.	14	4	15	33	2	81	7	90	2	9	16	27	12	92	0	104
+30 mins.	12	8	7	27	5	77	12	94	1	16	7	24	13	103	0	116
+45 mins.	11	9	19	39	7	76	10	93	3	11	16	30	12	81	2	95
Total Volume	52	29	53	134	16	301	32	349	7	47	44	98	50	359	5	414
% App. Total	38.8	21.6	39.6		4.6	86.2	9.2		7.1	48	44.9		12.1	86.7	1.2	
PHF	.867	.806	.697	.859	.571	.929	.667	.928	.583	.734	.688	.817	.962	.871	.417	.892
Cars	52	29	53	134	16	298	32	346	7	47	44	98	50	357	5	412
% Cars	100	100	100	100	100	99	100	99.1	100	100	100	100	100	99.4	100	99.5
Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
% Trucks	0	0	0	0	0	1	0	0.9	0	0	0	0	0	0.6	0	0.5

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

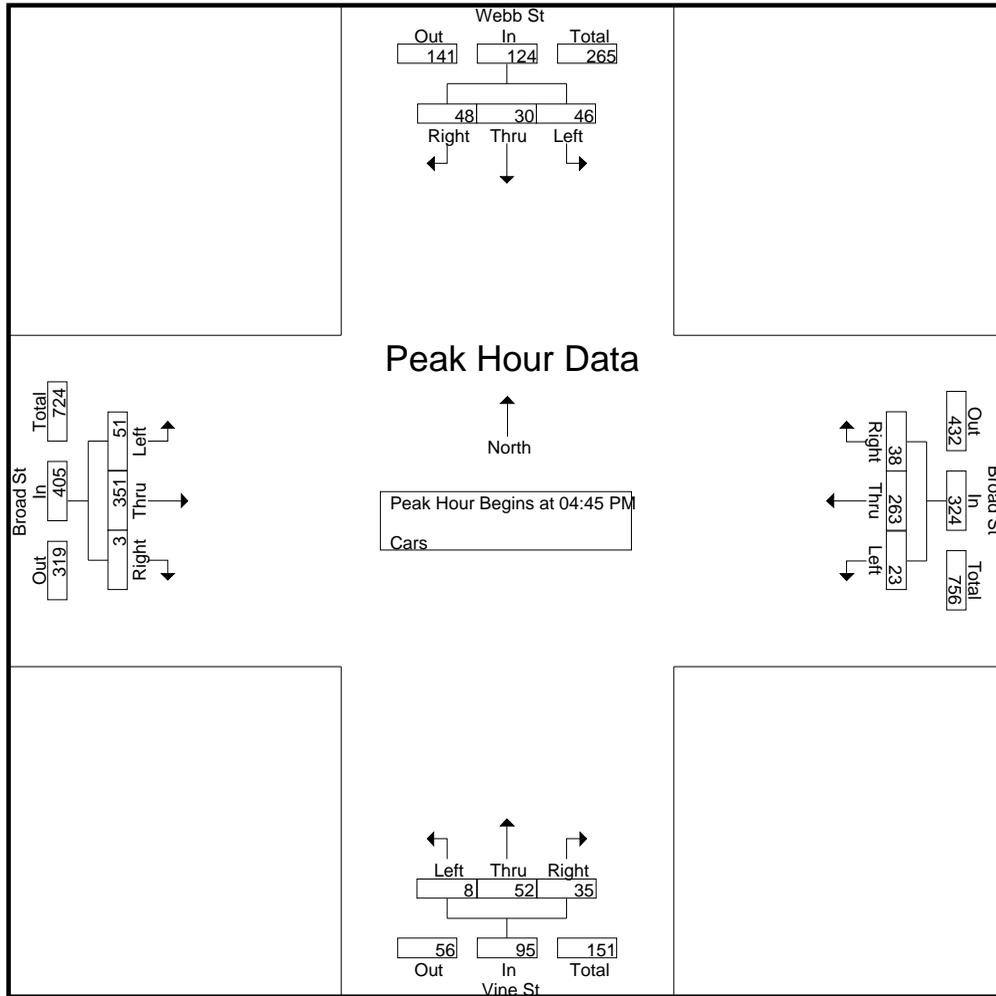
File Name : 89640002
Site Code : 89640002
Start Date : 4/27/2021
Page No : 4

Groups Printed- Cars

Start Time	Webb St From North			Broad St From East			Vine St From South			Broad St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	19	8	13	2	67	3	1	11	5	12	72	2	215
04:15 PM	10	4	9	2	80	7	2	9	16	12	82	0	233
04:30 PM	24	7	5	5	77	12	1	16	7	14	68	2	238
04:45 PM	5	10	14	7	74	10	3	11	16	13	75	0	238
Total	58	29	41	16	298	32	7	47	44	51	297	4	924
05:00 PM	15	8	12	5	59	7	1	8	7	13	82	3	220
05:15 PM	14	4	15	4	63	10	1	12	4	12	92	0	231
05:30 PM	12	8	7	7	67	11	3	21	8	13	102	0	259
05:45 PM	11	9	19	4	61	2	2	10	12	12	81	2	225
Total	52	29	53	20	250	30	7	51	31	50	357	5	935
Grand Total	110	58	94	36	548	62	14	98	75	101	654	9	1859
Apprch %	42	22.1	35.9	5.6	84.8	9.6	7.5	52.4	40.1	13.2	85.6	1.2	
Total %	5.9	3.1	5.1	1.9	29.5	3.3	0.8	5.3	4	5.4	35.2	0.5	

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	5	10	14	29	7	74	10	91	3	11	16	30	13	75	0	88	238
05:00 PM	15	8	12	35	5	59	7	71	1	8	7	16	13	82	3	98	220
05:15 PM	14	4	15	33	4	63	10	77	1	12	4	17	12	92	0	104	231
05:30 PM	12	8	7	27	7	67	11	85	3	21	8	32	13	102	0	115	259
Total Volume	46	30	48	124	23	263	38	324	8	52	35	95	51	351	3	405	948
% App. Total	37.1	24.2	38.7		7.1	81.2	11.7		8.4	54.7	36.8		12.6	86.7	0.7		
PHF	.767	.750	.800	.886	.821	.889	.864	.890	.667	.619	.547	.742	.981	.860	.250	.880	.915

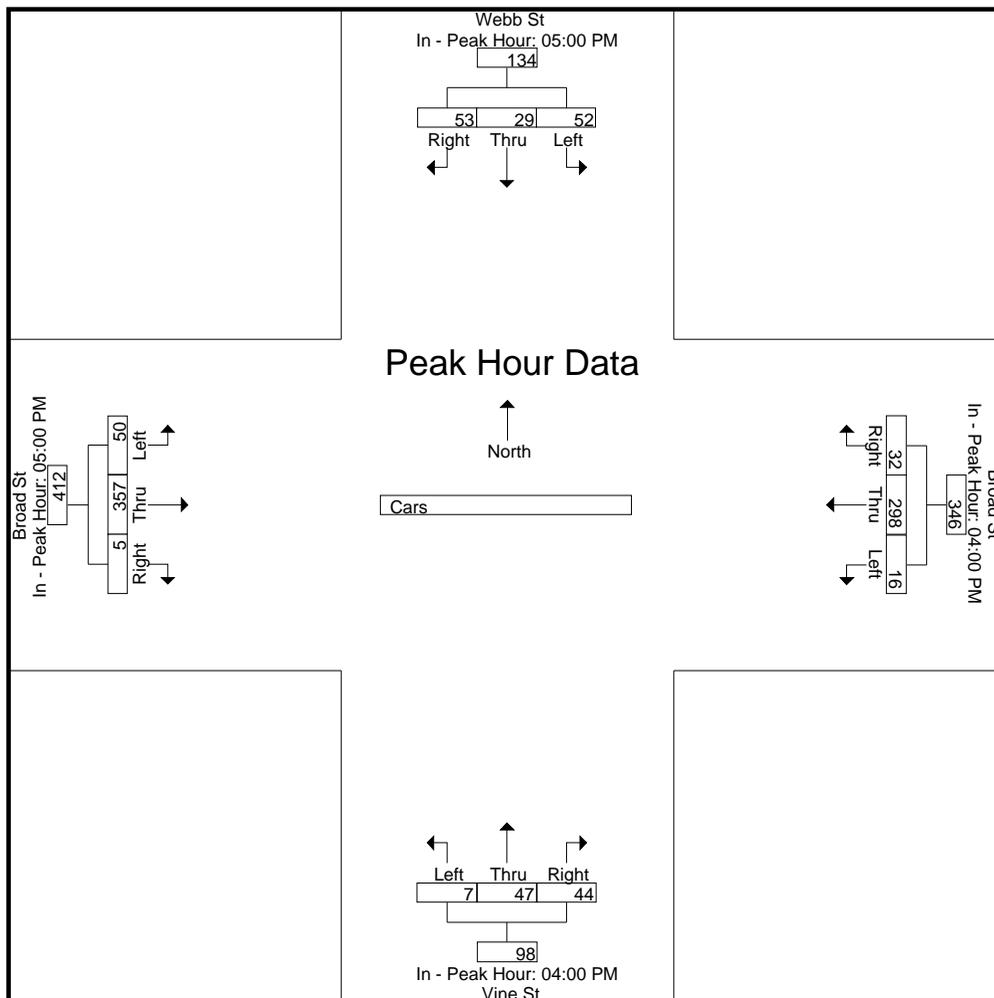
N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				05:00 PM			
+0 mins.	15	8	12	35	2	67	3	72	1	11	5	17	13	82	3	98
+15 mins.	14	4	15	33	2	80	7	89	2	9	16	27	12	92	0	104
+30 mins.	12	8	7	27	5	77	12	94	1	16	7	24	13	102	0	115
+45 mins.	11	9	19	39	7	74	10	91	3	11	16	30	12	81	2	95
Total Volume	52	29	53	134	16	298	32	346	7	47	44	98	50	357	5	412
% App. Total	38.8	21.6	39.6		4.6	86.1	9.2		7.1	48	44.9		12.1	86.7	1.2	
PHF	.867	.806	.697	.859	.571	.931	.667	.920	.583	.734	.688	.817	.962	.875	.417	.896

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

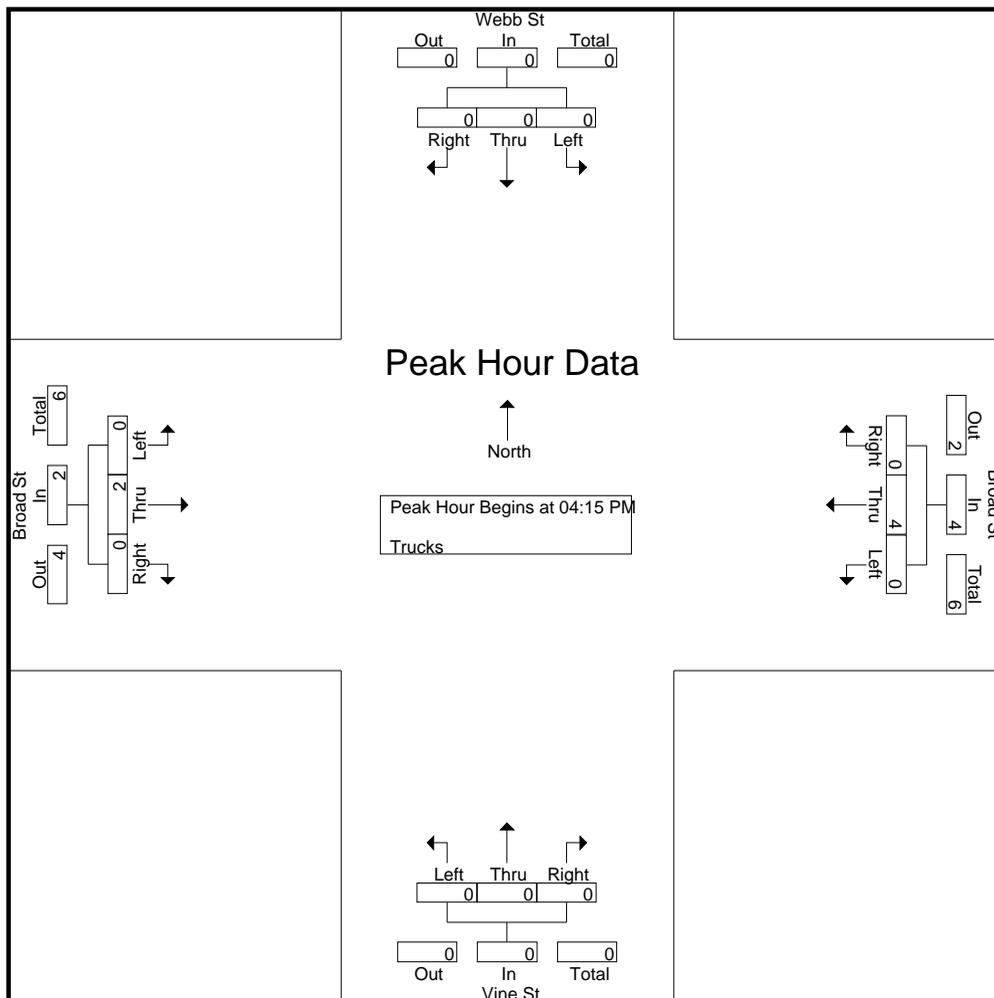
File Name : 89640002
Site Code : 89640002
Start Date : 4/27/2021
Page No : 7

Groups Printed- Trucks

Start Time	Webb St From North			Broad St From East			Vine St From South			Broad St From West			Int. Total
	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	1	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
04:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	0	0	0	3	0	0	0	0	0	1	0	4
05:00 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	2	0	3
Grand Total	0	0	0	0	4	0	0	0	0	0	3	0	7
Apprch %	0	0	0	0	100	0	0	0	0	0	100	0	
Total %	0	0	0	0	57.1	0	0	0	0	0	42.9	0	

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.750

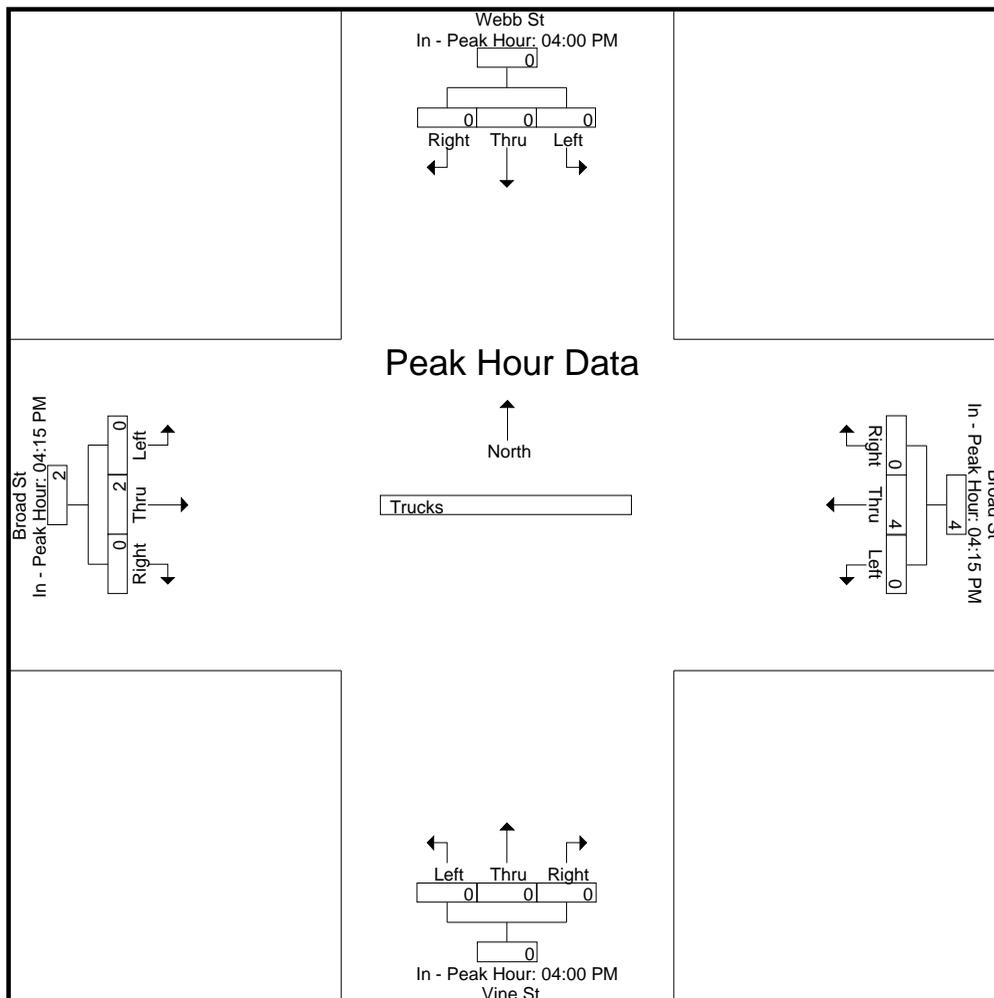
N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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				04:15 PM				04:00 PM				04:15 PM					
	Out	In	Total	PHF														
+0 mins.	0	0	0	.000	0	1	1	.500	0	0	0	.000	0	0	0	.000	0	0
+15 mins.	0	0	0	.000	0	0	0	.000	0	0	0	.000	0	1	1	.500	0	1
+30 mins.	0	0	0	.000	0	2	2	.500	0	0	0	.000	0	0	0	.000	0	0
+45 mins.	0	0	0	.000	0	1	1	.500	0	0	0	.000	0	1	1	.500	0	1
Total Volume	0	0	0	.000	0	4	4	.500	0	0	0	.000	0	2	2	.500	0	2
% App. Total	0	0	0	.000	0	100	100	.500	0	0	0	.000	0	100	100	.500	0	100
PHF	.000	.000	.000	.000	.000	.500	.500	.500	.000	.000	.000	.000	.000	.500	.500	.500	.000	.500

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear

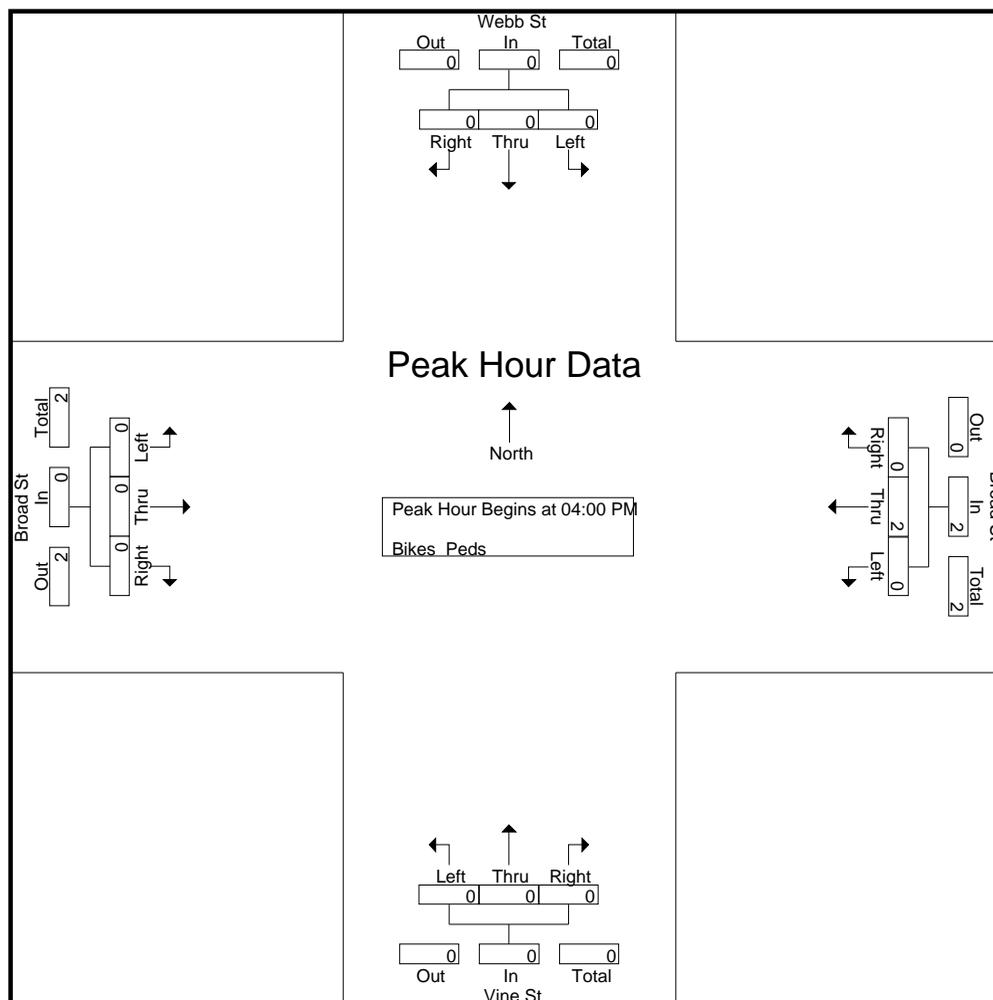
File Name : 89640002
Site Code : 89640002
Start Date : 4/27/2021
Page No : 10

Groups Printed- Bikes Peds

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds															
04:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
04:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1	2	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	2	0	1	0	0	2	1	3
Grand Total	0	0	0	1	0	2	0	0	0	0	0	2	0	1	0	0	3	3	6
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0				
Total %	0	0	0		0	66.7	0		0	0	0		0	33.3	0		50	50	

Start Time	Webb St From North				Broad St From East				Vine St From South				Broad St From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:00 PM																		
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

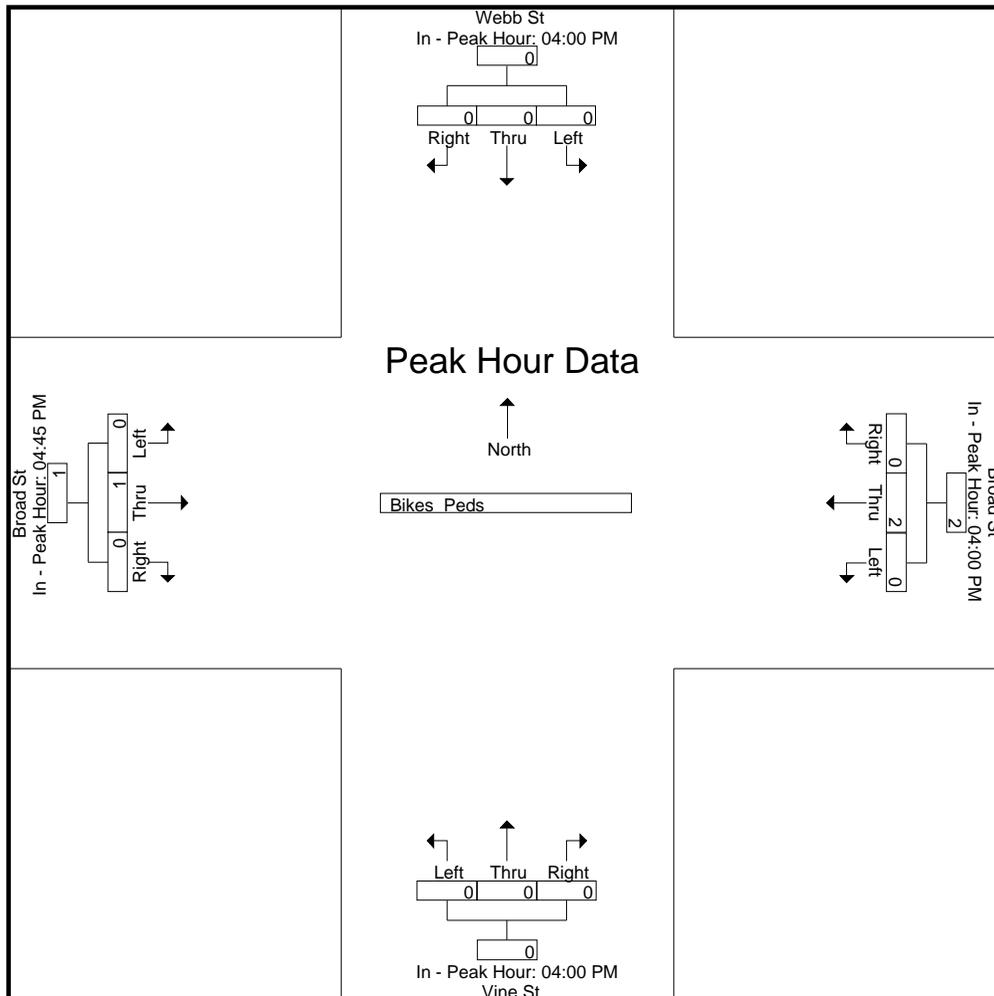
N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



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	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250

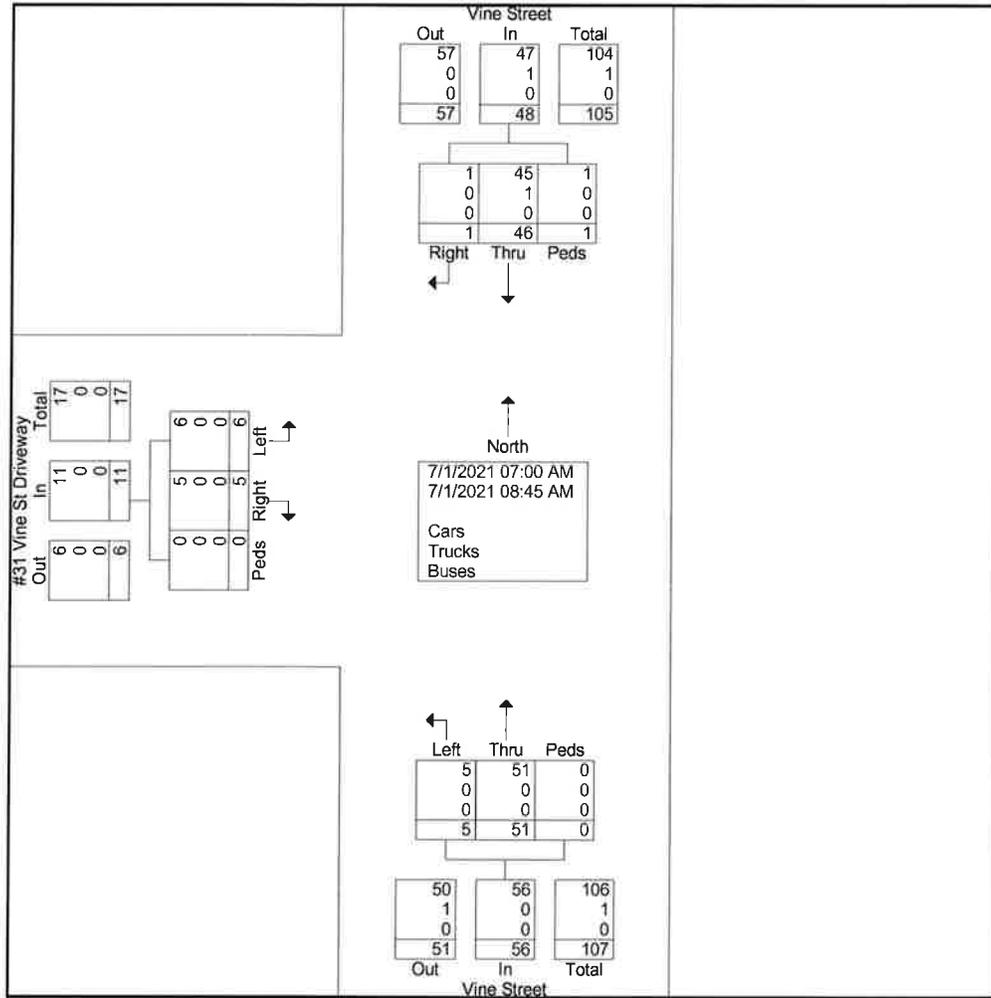
N/S Street : Webb St / Vine St
E/W Street : Broad Street
City/State : Weymouth, MA
Weather : Clear



Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401am
 Site Code : 00896401
 Start Date : 7/1/2021
 Page No : 2

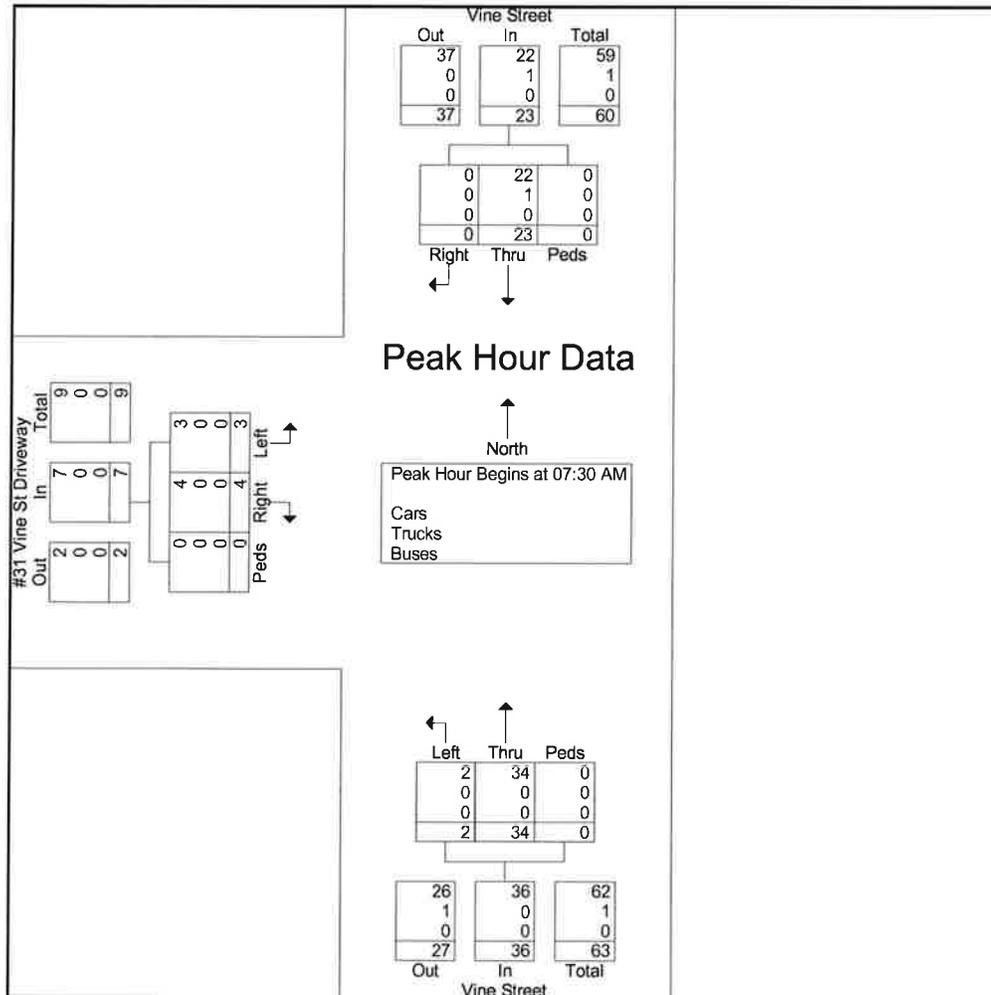


Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401am
 Site Code : 00896401
 Start Date : 7/1/2021
 Page No : 3

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	6	0	6	11	1	0	12	3	0	0	3	21
07:45 AM	0	7	0	7	14	0	0	14	1	2	0	3	24
08:00 AM	0	3	0	3	6	1	0	7	0	1	0	1	11
08:15 AM	0	7	0	7	3	0	0	3	0	0	0	0	10
Total Volume	0	23	0	23	34	2	0	36	4	3	0	7	66
% App. Total	0	100	0		94.4	5.6	0		57.1	42.9	0		
PHF	.000	.821	.000	.821	.607	.500	.000	.643	.333	.375	.000	.583	.688
Cars	0	22	0	22	34	2	0	36	4	3	0	7	65
% Cars	0	95.7	0	95.7	100	100	0	100	100	100	0	100	98.5
Trucks	0	1	0	1	0	0	0	0	0	0	0	0	1
% Trucks	0	4.3	0	4.3	0	0	0	0	0	0	0	0	1.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0



Vanasse & Associates

Vine Street at #31 Vine St Driveway
Weymouth, MA
Weather : Clear

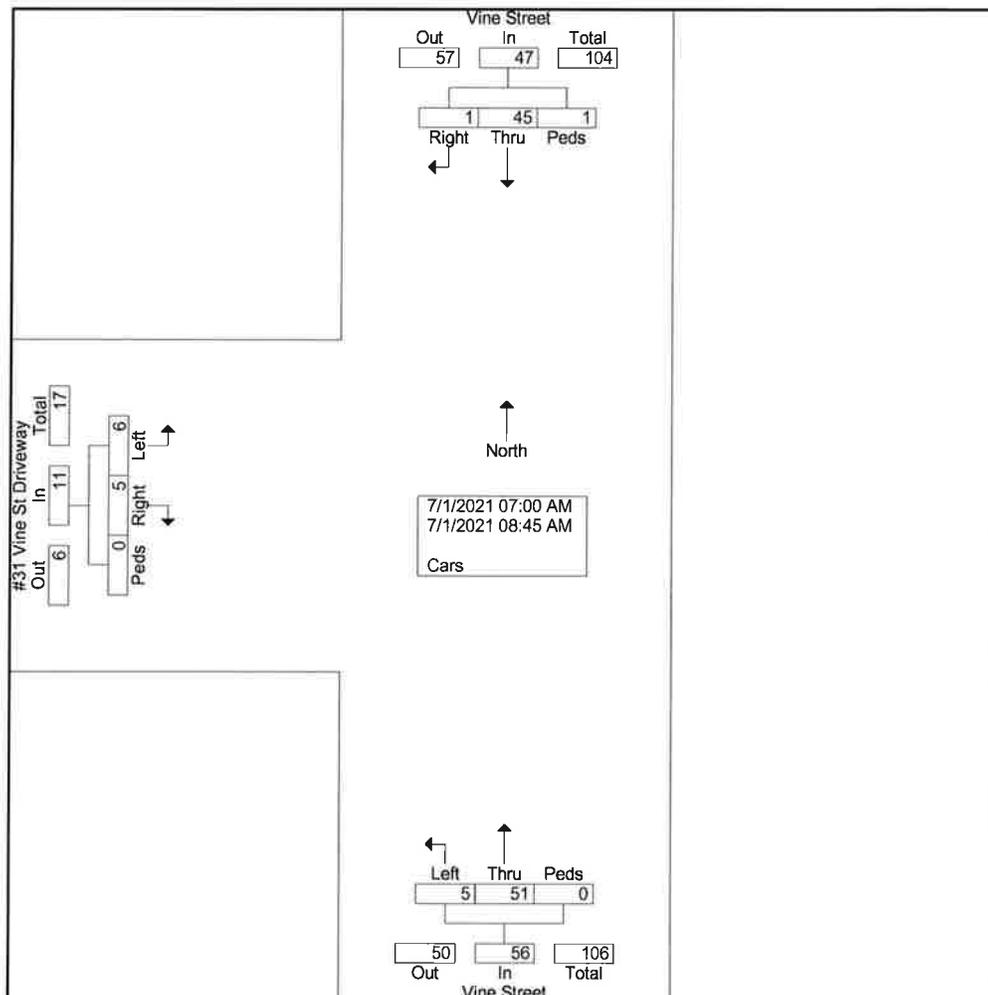
Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401am
 Site Code : 00896401
 Start Date : 7/1/2021
 Page No : 1

Groups Printed- Cars

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
07:00 AM	0	6	1	7	2	1	0	3	1	1	0	2	12
07:15 AM	1	3	0	4	3	0	0	3	0	0	0	0	7
07:30 AM	0	5	0	5	11	1	0	12	3	0	0	3	20
07:45 AM	0	7	0	7	14	0	0	14	1	2	0	3	24
Total	1	21	1	23	30	2	0	32	5	3	0	8	63
08:00 AM	0	3	0	3	6	1	0	7	0	1	0	1	11
08:15 AM	0	7	0	7	3	0	0	3	0	0	0	0	10
08:30 AM	0	5	0	5	5	2	0	7	0	0	0	0	12
08:45 AM	0	9	0	9	7	0	0	7	0	2	0	2	18
Total	0	24	0	24	21	3	0	24	0	3	0	3	51
Grand Total	1	45	1	47	51	5	0	56	5	6	0	11	114
Apprch %	2.1	95.7	2.1		91.1	8.9	0		45.5	54.5	0		
Total %	0.9	39.5	0.9	41.2	44.7	4.4	0	49.1	4.4	5.3	0	9.6	

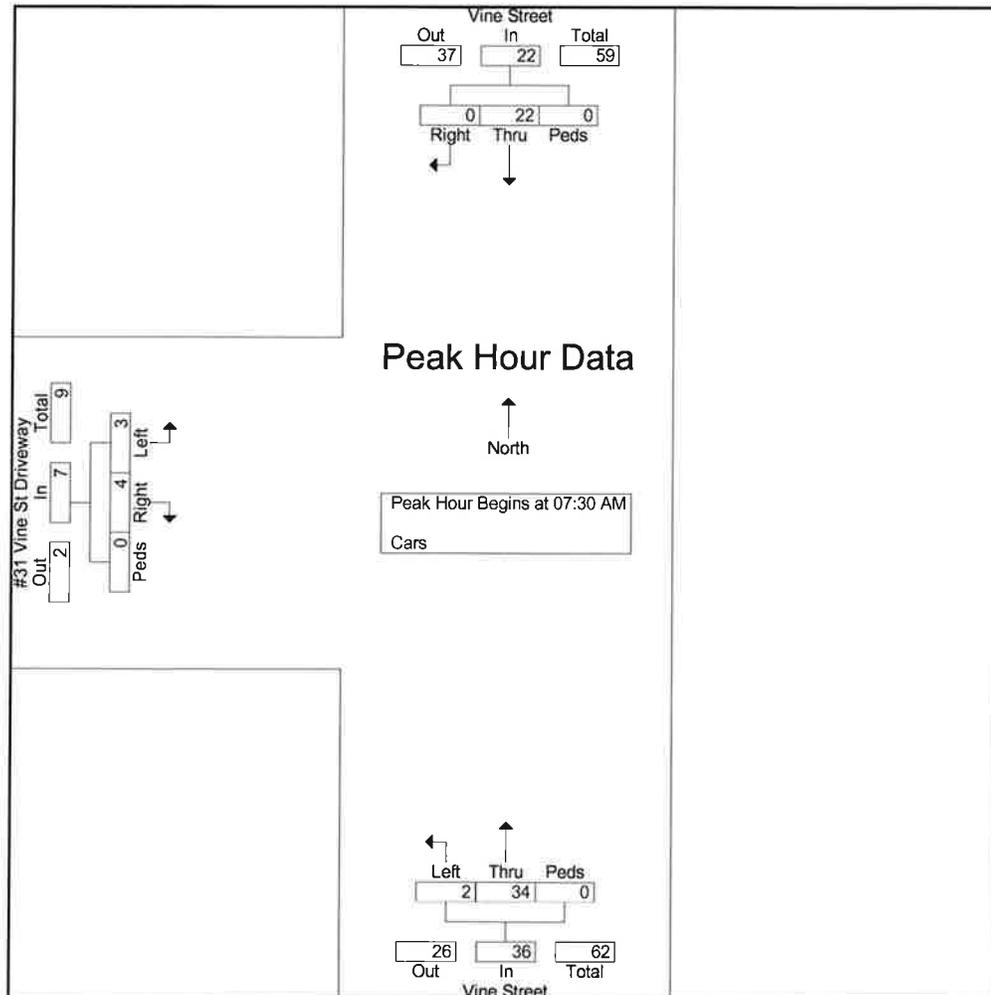


Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401am
 Site Code : 00896401
 Start Date : 7/1/2021
 Page No : 2

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	5	0	5	11	1	0	12	3	0	0	3	20
07:45 AM	0	7	0	7	14	0	0	14	1	2	0	3	24
08:00 AM	0	3	0	3	6	1	0	7	0	1	0	1	11
08:15 AM	0	7	0	7	3	0	0	3	0	0	0	0	10
Total Volume	0	22	0	22	34	2	0	36	4	3	0	7	65
% App. Total	0	100	0		94.4	5.6	0		57.1	42.9	0		
PHF	.000	.786	.000	.786	.607	.500	.000	.643	.333	.375	.000	.583	.677



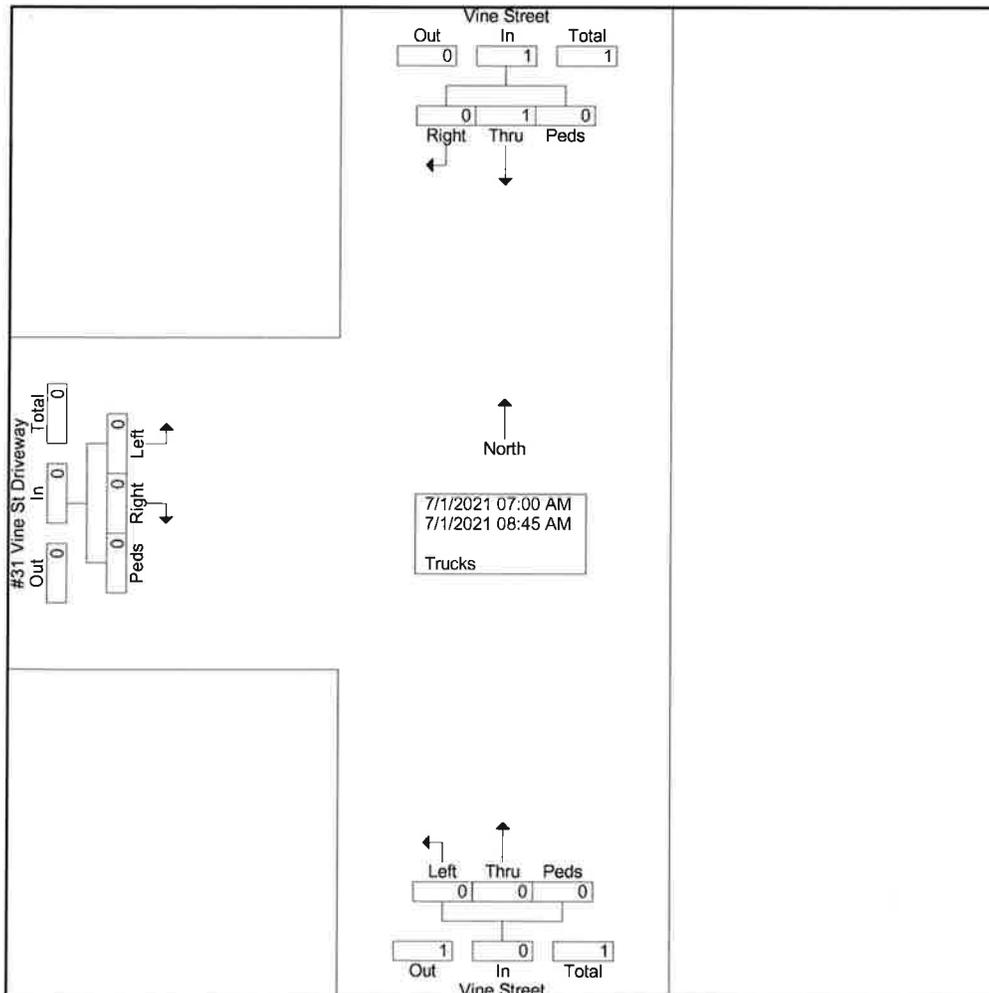
Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401am
 Site Code : 00896401
 Start Date : 7/1/2021
 Page No : 1

Groups Printed- Trucks

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
07:00 AM	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
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	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
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0	0	0	0	0	0	

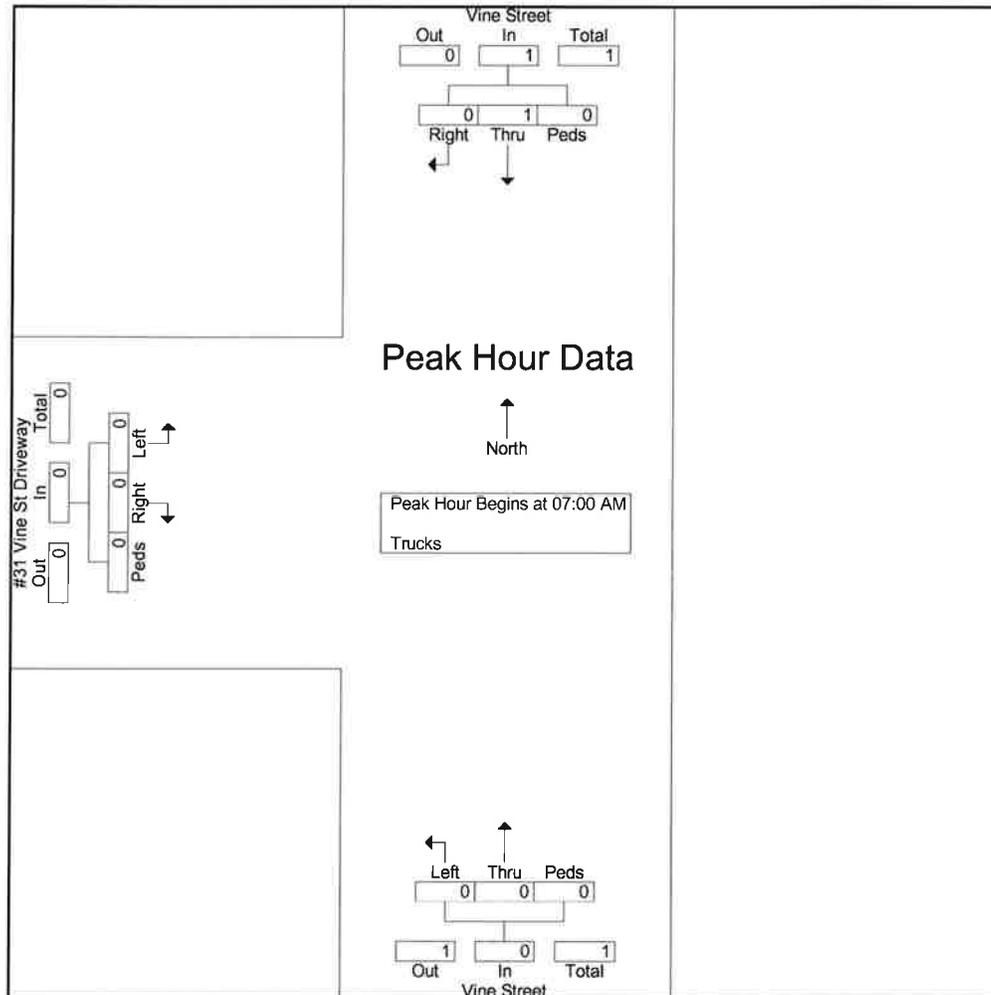


Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401am
 Site Code : 00896401
 Start Date : 7/1/2021
 Page No : 2

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250



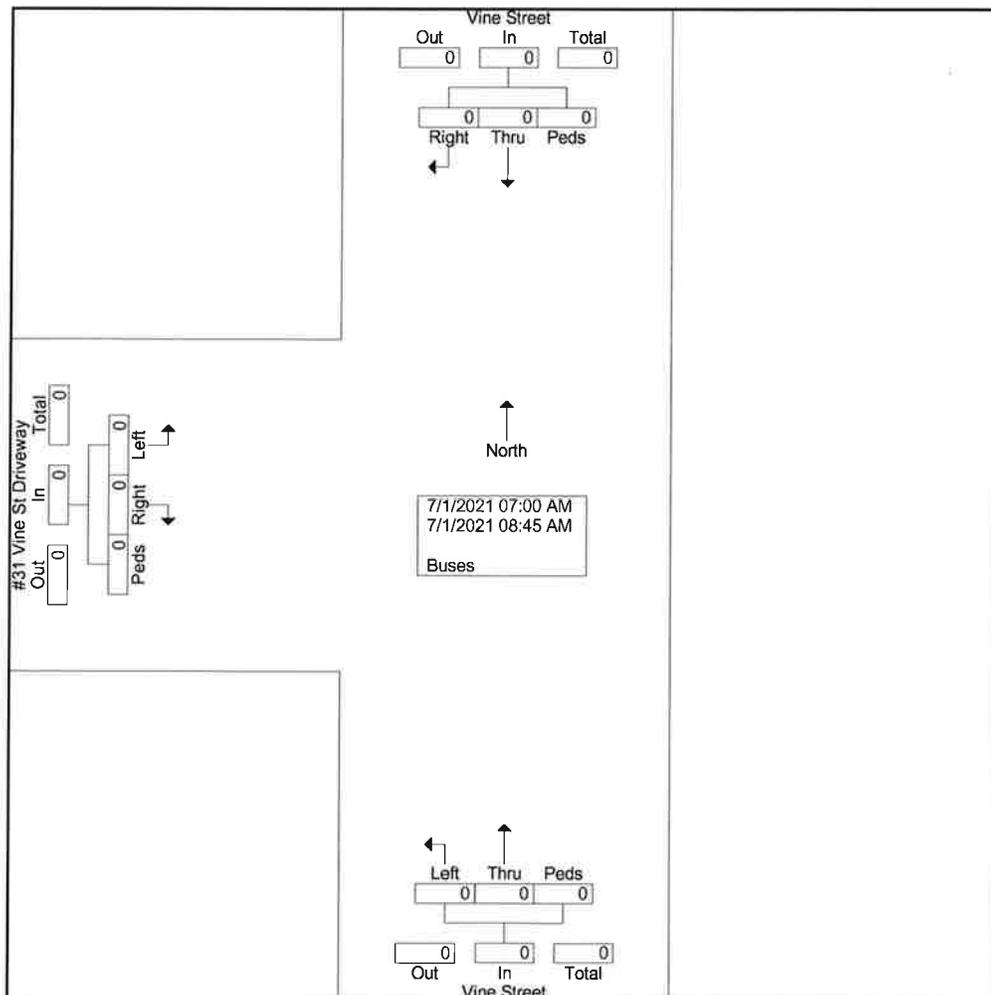
Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401am
 Site Code : 00896401
 Start Date : 7/1/2021
 Page No : 1

Groups Printed- Buses

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
07:00 AM	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
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	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	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
08:30 AM	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
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		
Total %													

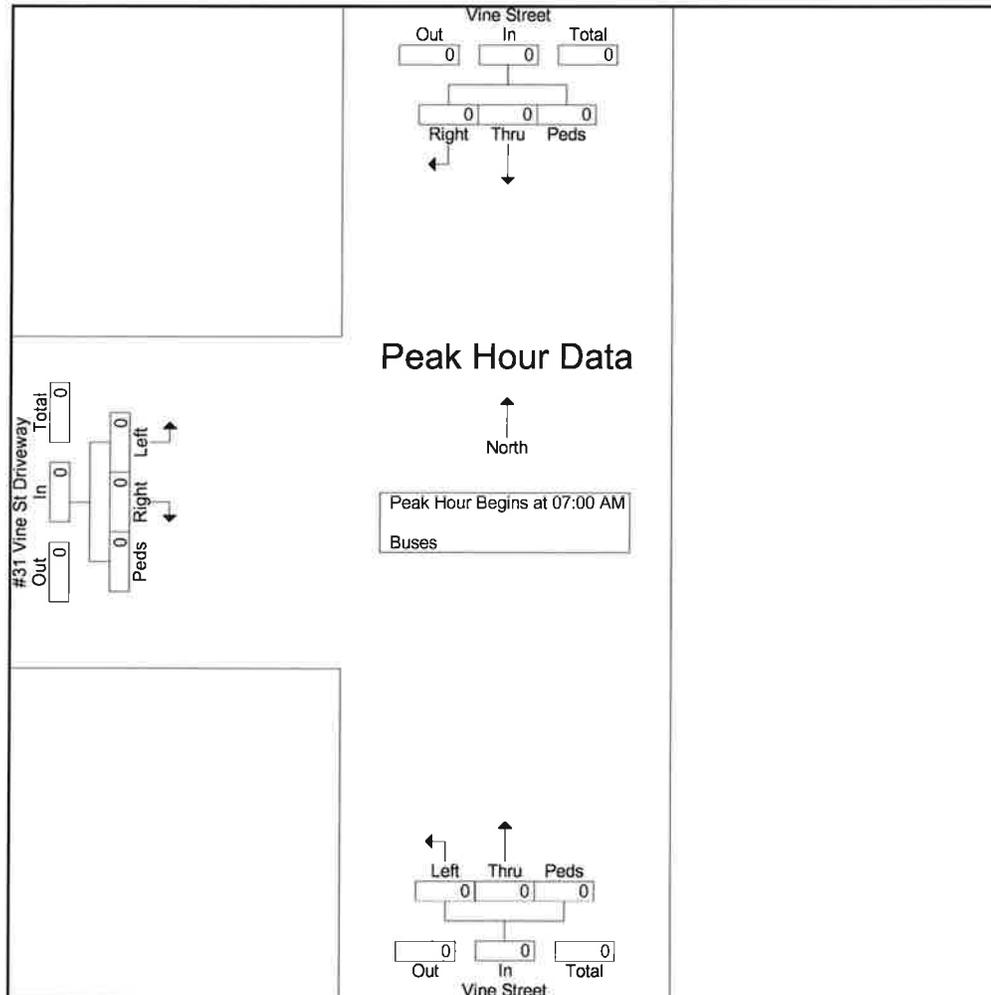


Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401am
 Site Code : 00896401
 Start Date : 7/1/2021
 Page No : 2

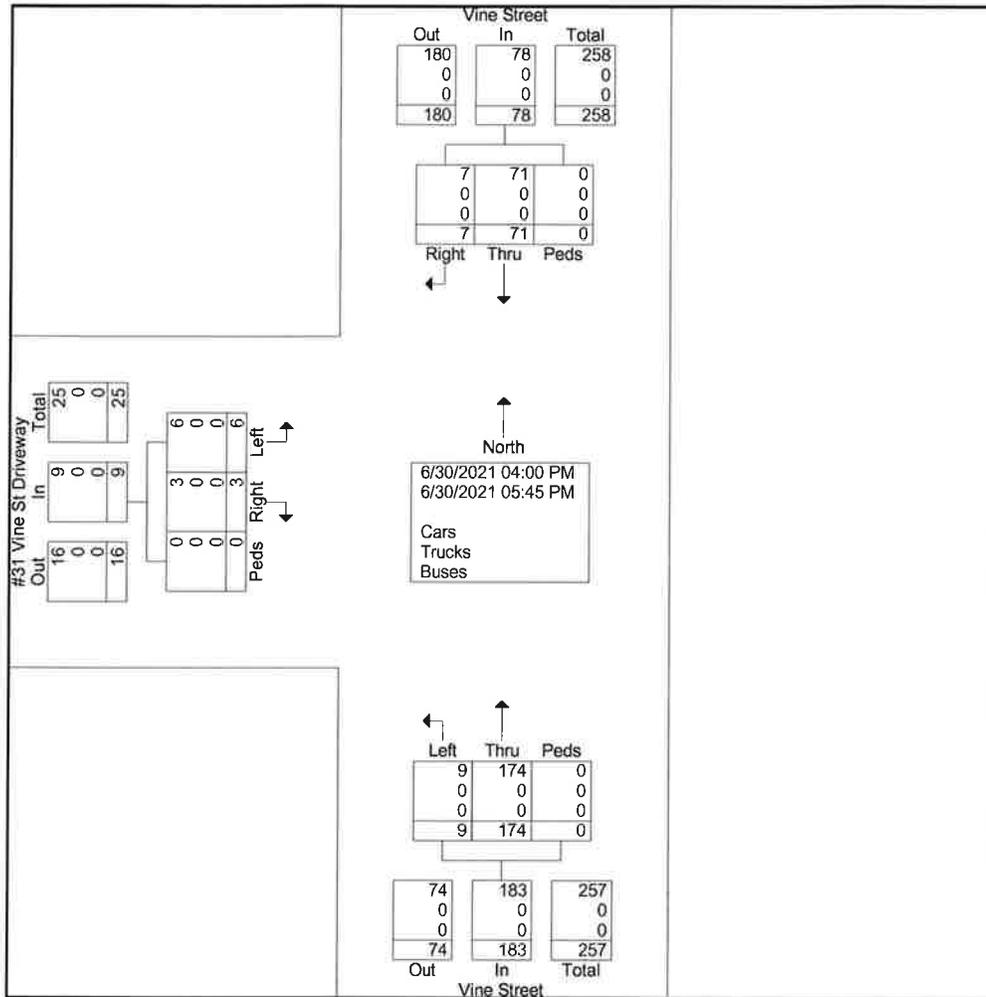
Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	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
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401pm
 Site Code : 00896401
 Start Date : 6/30/2021
 Page No : 2

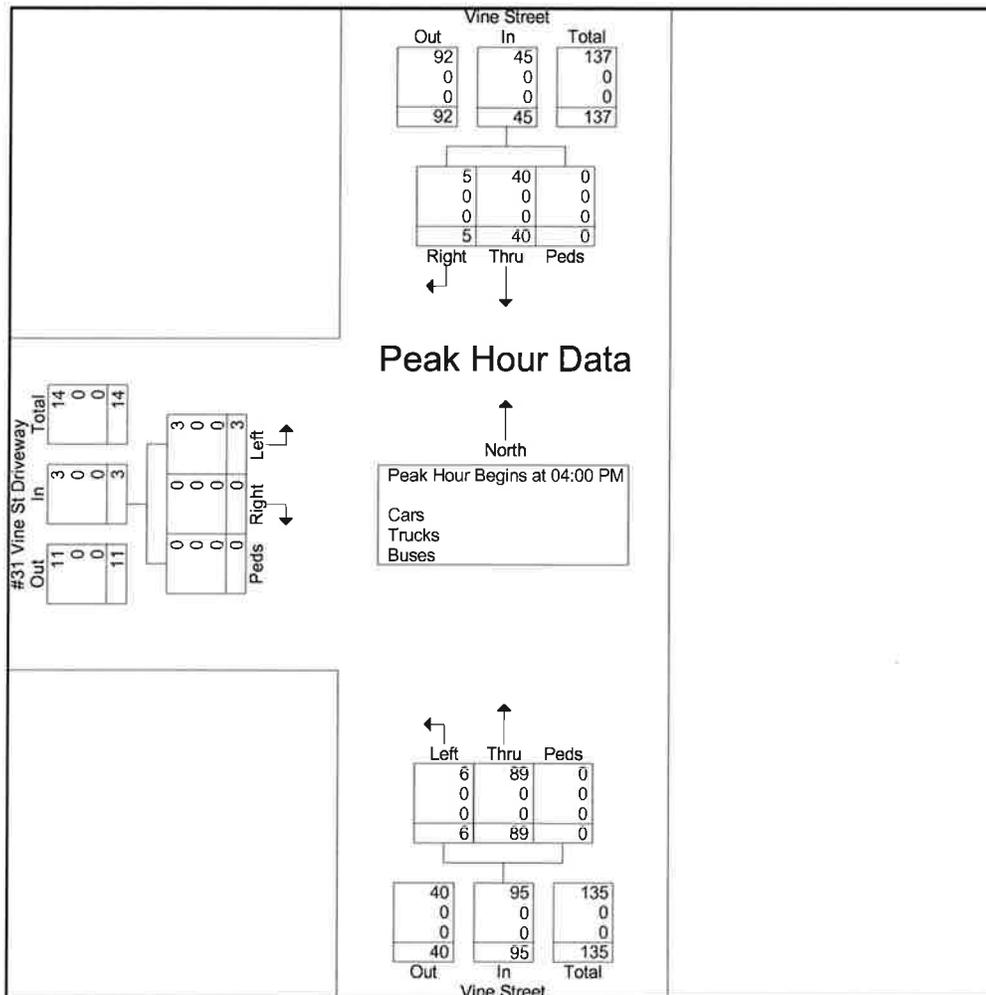


Vanasse & Associates

Vine Street at #31 Vine St Driveway
Weymouth, MA
Weather : Clear

File Name : 896401pm
Site Code : 00896401
Start Date : 6/30/2021
Page No : 3

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	1	10	0	11	30	1	0	31	0	0	0	0	42
04:15 PM	0	10	0	10	17	3	0	20	0	0	0	0	30
04:30 PM	0	13	0	13	21	0	0	21	0	2	0	2	36
04:45 PM	4	7	0	11	21	2	0	23	0	1	0	1	35
Total Volume	5	40	0	45	89	6	0	95	0	3	0	3	143
% App. Total	11.1	88.9	0		93.7	6.3	0		0	100	0		
PHF	.313	.769	.000	.865	.742	.500	.000	.766	.000	.375	.000	.375	.851
Cars	5	40	0	45	89	6	0	95	0	3	0	3	143
% Cars	100	100	0	100	100	100	0	100	0	100	0	100	100
Trucks	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
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0



Vanasse & Associates

Vine Street at #31 Vine St Driveway
Weymouth, MA
Weather : Clear

Vanasse & Associates

Vine Street at #31 Vine St Driveway
Weymouth, MA
Weather : Clear

File Name : 896401pm

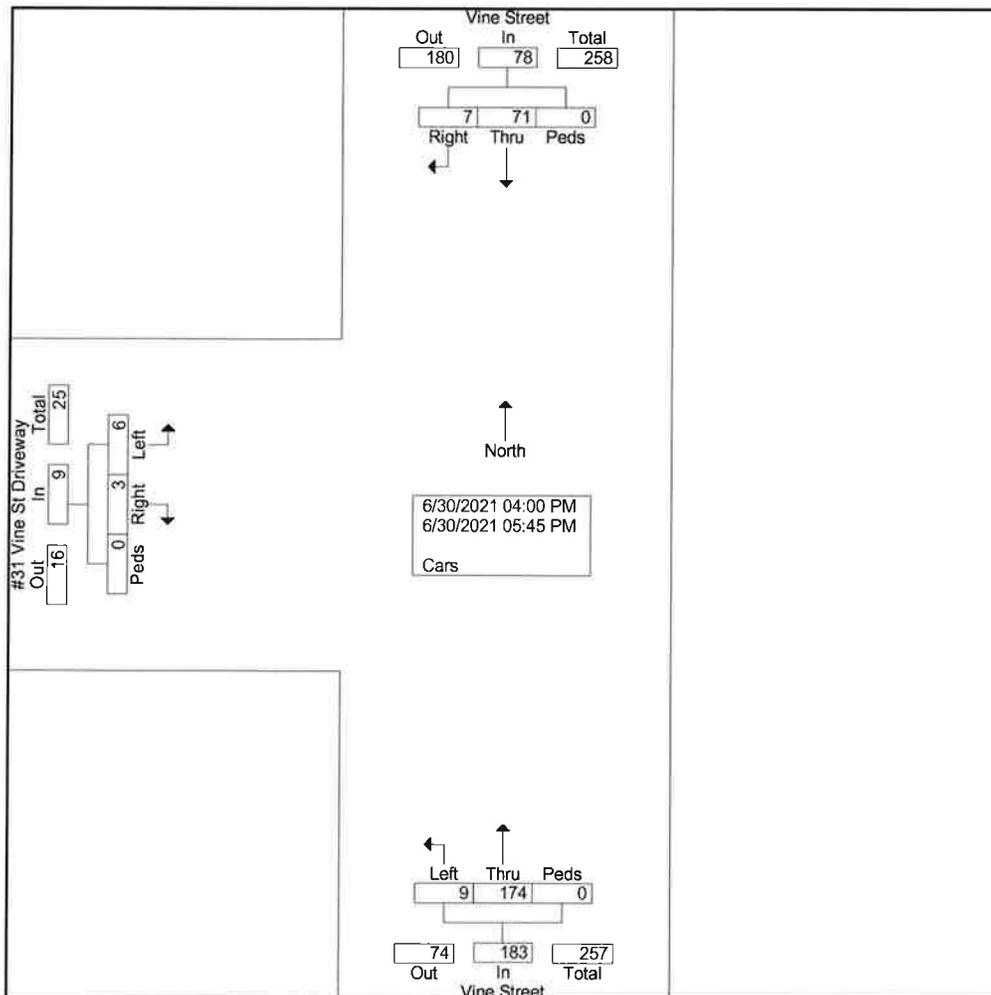
Site Code : 00896401

Start Date : 6/30/2021

Page No : 1

Groups Printed- Cars

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
04:00 PM	1	10	0	11	30	1	0	31	0	0	0	0	42
04:15 PM	0	10	0	10	17	3	0	20	0	0	0	0	30
04:30 PM	0	13	0	13	21	0	0	21	0	2	0	2	36
04:45 PM	4	7	0	11	21	2	0	23	0	1	0	1	35
Total	5	40	0	45	89	6	0	95	0	3	0	3	143
05:00 PM	2	4	0	6	15	3	0	18	1	1	0	2	26
05:15 PM	0	8	0	8	25	0	0	25	2	0	0	2	35
05:30 PM	0	10	0	10	25	0	0	25	0	0	0	0	35
05:45 PM	0	9	0	9	20	0	0	20	0	2	0	2	31
Total	2	31	0	33	85	3	0	88	3	3	0	6	127
Grand Total	7	71	0	78	174	9	0	183	3	6	0	9	270
Apprch %	9	91	0	28.9	95.1	4.9	0	67.8	33.3	66.7	0	3.3	
Total %	2.6	26.3	0	28.9	64.4	3.3	0	67.8	1.1	2.2	0	3.3	

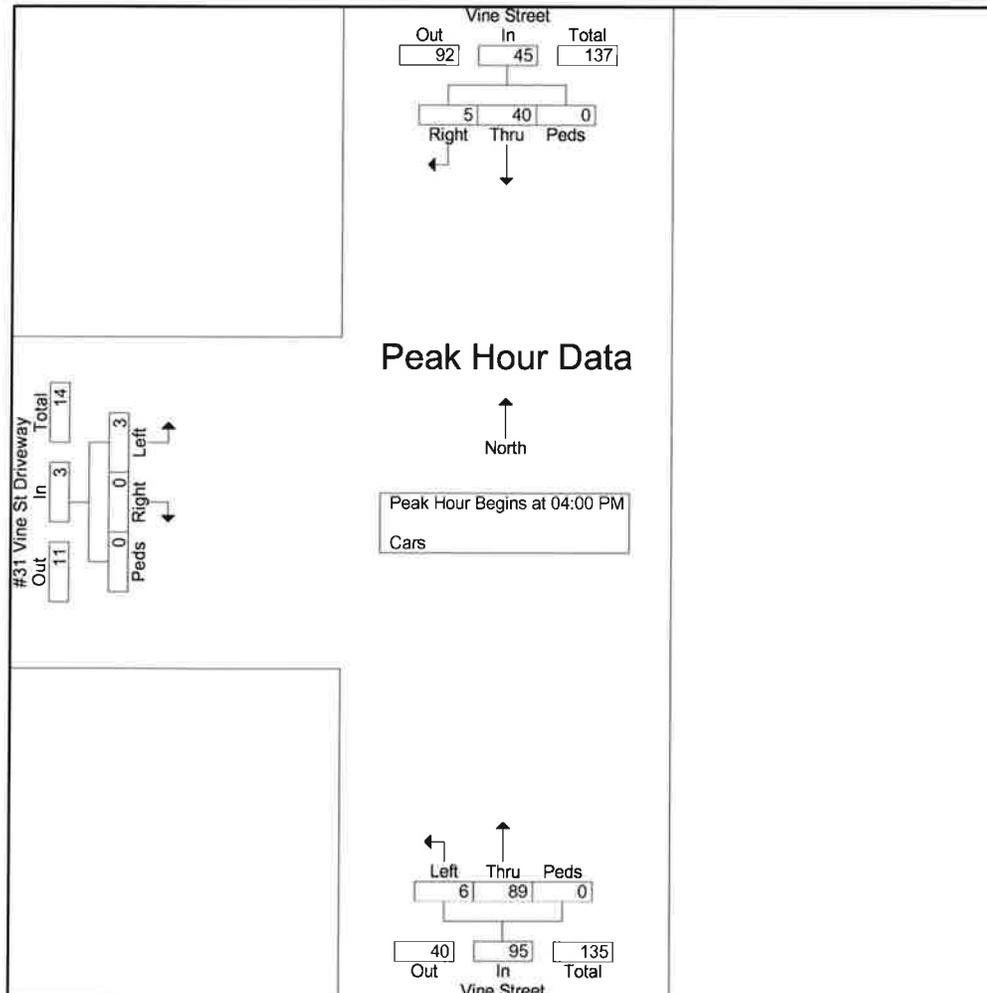


Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401pm
 Site Code : 00896401
 Start Date : 6/30/2021
 Page No : 2

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	1	10	0	11	30	1	0	31	0	0	0	0	42
04:15 PM	0	10	0	10	17	3	0	20	0	0	0	0	30
04:30 PM	0	13	0	13	21	0	0	21	0	2	0	2	36
04:45 PM	4	7	0	11	21	2	0	23	0	1	0	1	35
Total Volume	5	40	0	45	89	6	0	95	0	3	0	3	143
% App. Total	11.1	88.9	0		93.7	6.3	0		0	100	0		
PHF	.313	.769	.000	.865	.742	.500	.000	.766	.000	.375	.000	.375	.851



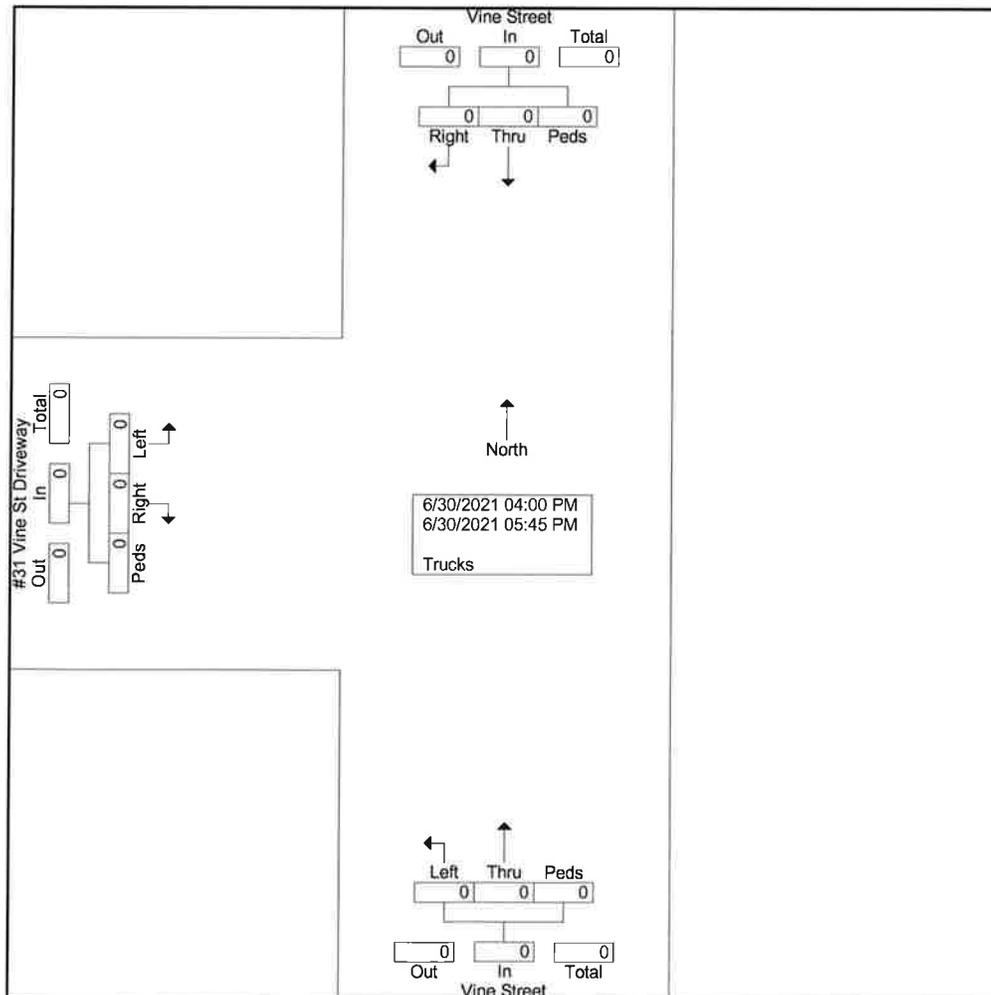
Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401pm
 Site Code : 00896401
 Start Date : 6/30/2021
 Page No : 1

Groups Printed- Trucks

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
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	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		
Total %													

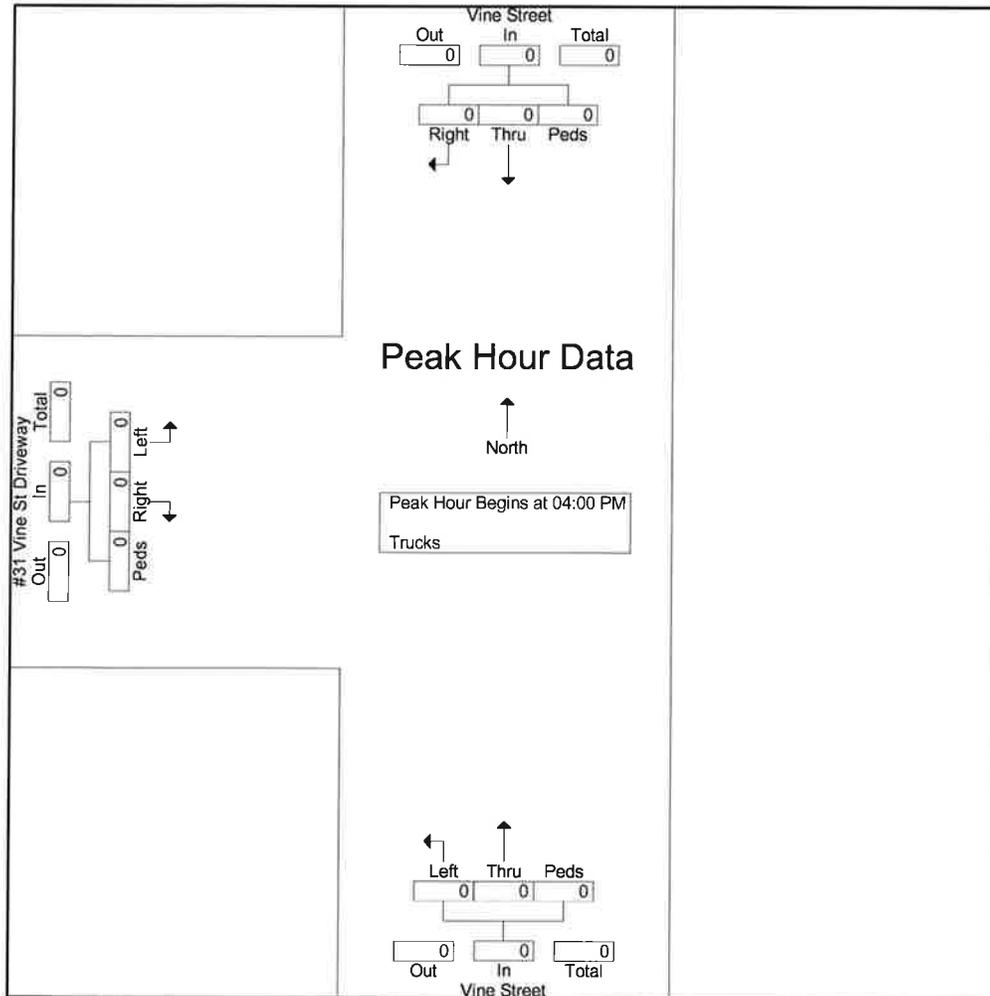


Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401pm
 Site Code : 00896401
 Start Date : 6/30/2021
 Page No : 2

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	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	0	0
Total Volume	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
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



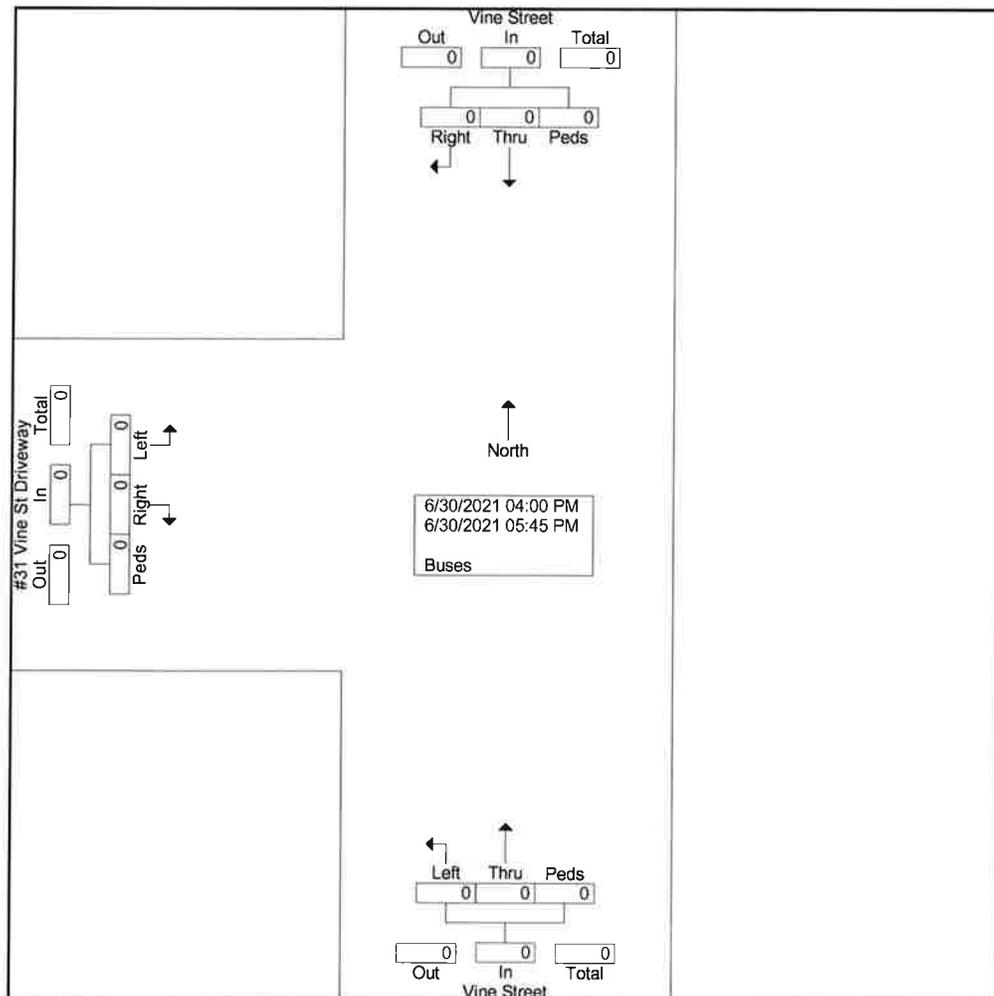
Vanasse & Associates

Vine Street at #31 Vine St Driveway
Weymouth, MA
Weather : Clear

File Name : 896401pm
Site Code : 00896401
Start Date : 6/30/2021
Page No : 1

Groups Printed- Buses

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
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	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		
Total %													

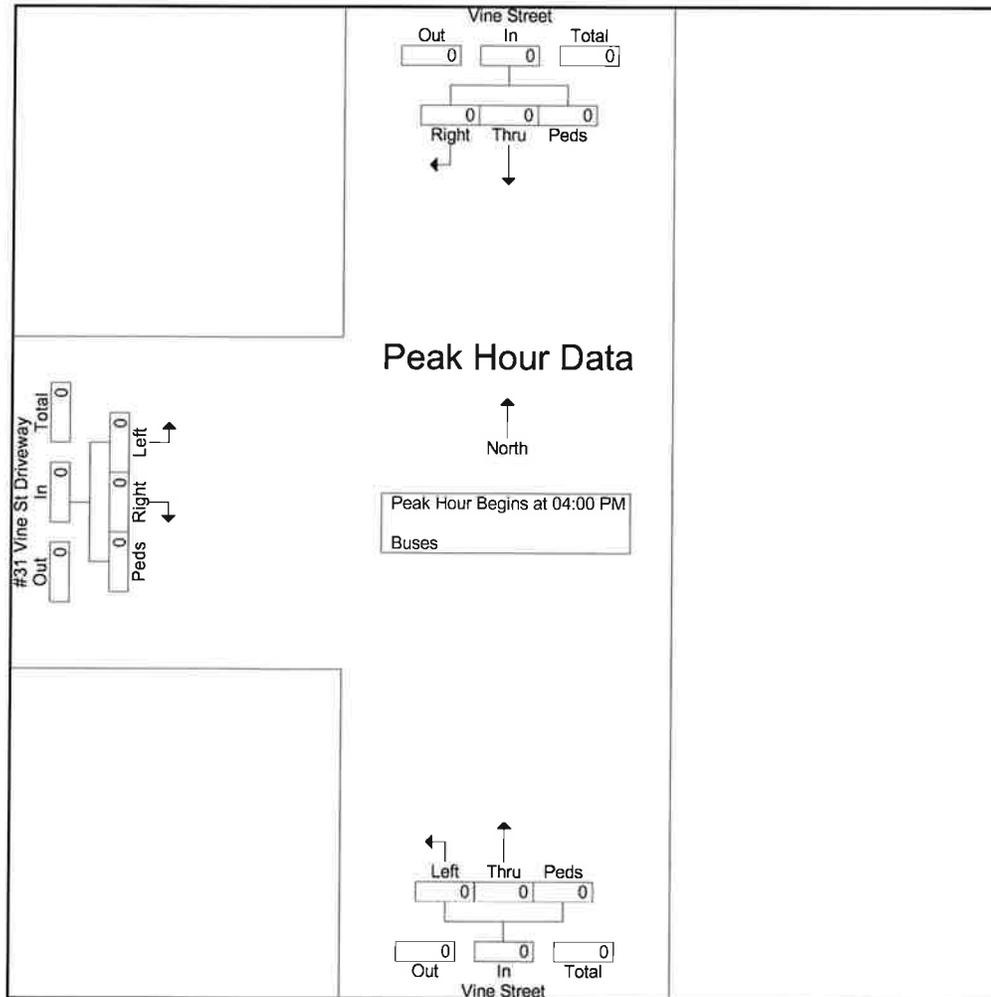


Vanasse & Associates

Vine Street at #31 Vine St Driveway
 Weymouth, MA
 Weather : Clear

File Name : 896401pm
 Site Code : 00896401
 Start Date : 6/30/2021
 Page No : 2

Start Time	Vine Street From North				Vine Street From South				#31 Vine St Driveway From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	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	0	0
Total Volume	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
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Vanasse & Associates

Washington St at Vine St / Common St
Weymouth, MA
Weather : Clear

File Name : 896402am
Site Code : 00896402
Start Date : 7/1/2021
Page No : 1

Groups Printed- Cars - Trucks - Buses

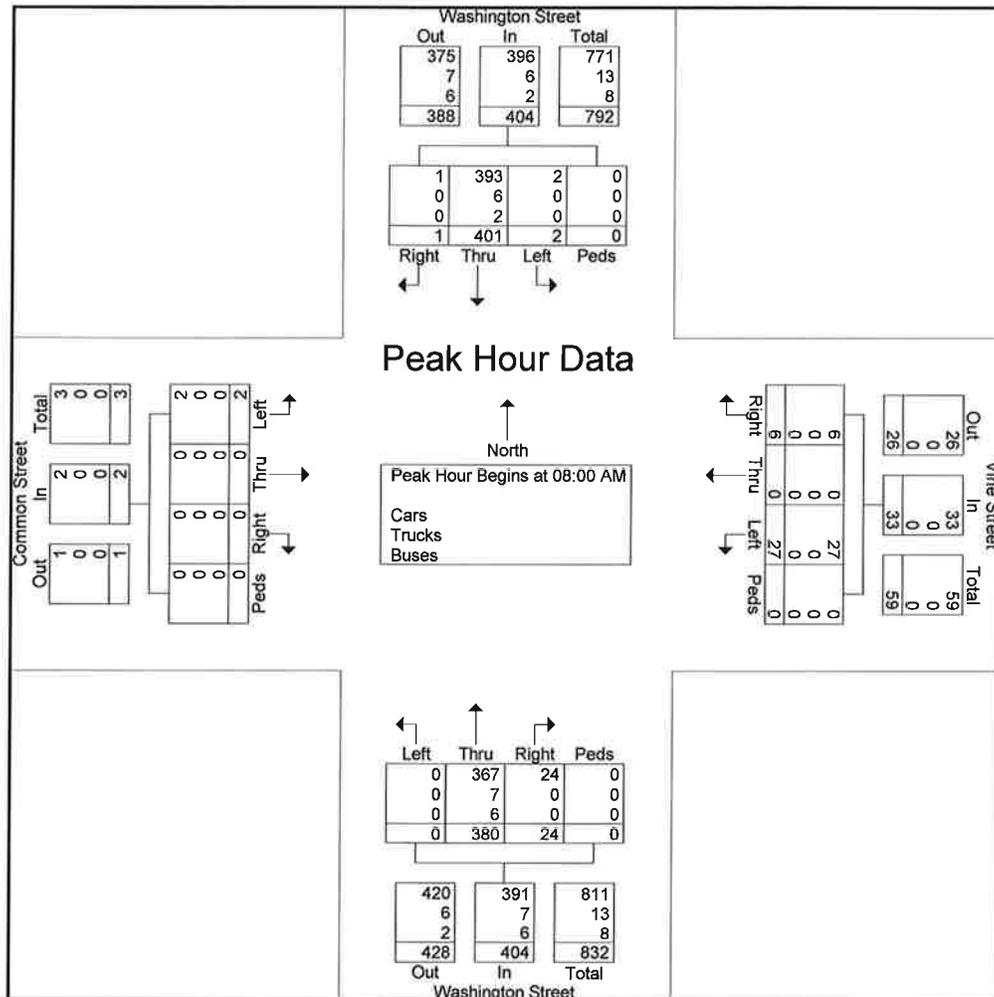
Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	72	1	0	73	2	0	7	0	9	2	66	0	0	68	0	0	0	0	0	150
07:15 AM	0	66	0	0	66	3	0	4	0	7	3	70	0	0	73	0	0	0	0	0	146
07:30 AM	0	94	1	0	95	0	0	10	0	10	8	90	0	0	98	1	1	1	0	3	206
07:45 AM	0	107	0	0	107	2	0	4	0	6	13	104	1	0	118	0	0	1	0	1	232
Total	0	339	2	0	341	7	0	25	0	32	26	330	1	0	357	1	1	2	0	4	734
08:00 AM	0	95	0	0	95	1	0	6	0	7	7	77	0	0	84	0	0	1	0	1	187
08:15 AM	1	103	0	0	104	3	0	7	0	10	3	84	0	0	87	0	0	0	0	0	201
08:30 AM	0	96	0	0	96	0	0	10	0	10	9	98	0	0	107	0	0	1	0	1	214
08:45 AM	0	107	2	0	109	2	0	4	0	6	5	121	0	0	126	0	0	0	0	0	241
Total	1	401	2	0	404	6	0	27	0	33	24	380	0	0	404	0	0	2	0	2	843
Grand Total	1	740	4	0	745	13	0	52	0	65	50	710	1	0	761	1	1	4	0	6	1577
Apprch %	0.1	99.3	0.5	0		20	0	80	0		6.6	93.3	0.1	0		16.7	16.7	66.7	0		
Total %	0.1	46.9	0.3	0	47.2	0.8	0	3.3	0	4.1	3.2	45	0.1	0	48.3	0.1	0.1	0.3	0	0.4	
Cars	1	725	4	0	730	13	0	52	0	65	50	679	1	0	730	1	1	4	0	6	1531
% Cars	100	98	100	0	98	100	0	100	0	100	100	95.6	100	0	95.9	100	100	100	0	100	97.1
Trucks	0	11	0	0	11	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	30
% Trucks	0	1.5	0	0	1.5	0	0	0	0	0	0	2.7	0	0	2.5	0	0	0	0	0	1.9
Buses	0	4	0	0	4	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	16
% Buses	0	0.5	0	0	0.5	0	0	0	0	0	0	1.7	0	0	1.6	0	0	0	0	0	1

Vanasse & Associates

Washington St at Vine St / Common St
Weymouth, MA
Weather : Clear

File Name : 896402am
Site Code : 00896402
Start Date : 7/1/2021
Page No : 3

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	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	95	0	0	95	1	0	6	0	7	7	77	0	0	84	0	0	1	0	1	187
08:15 AM	1	103	0	0	104	3	0	7	0	10	3	84	0	0	87	0	0	0	0	0	201
08:30 AM	0	96	0	0	96	0	0	10	0	10	9	98	0	0	107	0	0	1	0	1	214
08:45 AM	0	107	2	0	109	2	0	4	0	6	5	121	0	0	126	0	0	0	0	0	241
Total Volume	1	401	2	0	404	6	0	27	0	33	24	380	0	0	404	0	0	2	0	2	843
% App. Total	0.2	99.3	0.5	0		18.2	0	81.8	0		5.9	94.1	0	0		0	0	100	0		
PHF	.250	.937	.250	.000	.927	.500	.000	.675	.000	.825	.667	.785	.000	.000	.802	.000	.000	.500	.000	.500	.874
Cars	1	393	2	0	396	6	0	27	0	33	24	367	0	0	391	0	0	2	0	2	822
% Cars	100	98.0	100	0	98.0	100	0	100	0	100	100	96.6	0	0	96.8	0	0	100	0	100	97.5
Trucks	0	6	0	0	6	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	13
% Trucks	0	1.5	0	0	1.5	0	0	0	0	0	0	1.8	0	0	1.7	0	0	0	0	0	1.5
Buses	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	8
% Buses	0	0.5	0	0	0.5	0	0	0	0	0	0	1.6	0	0	1.5	0	0	0	0	0	0.9



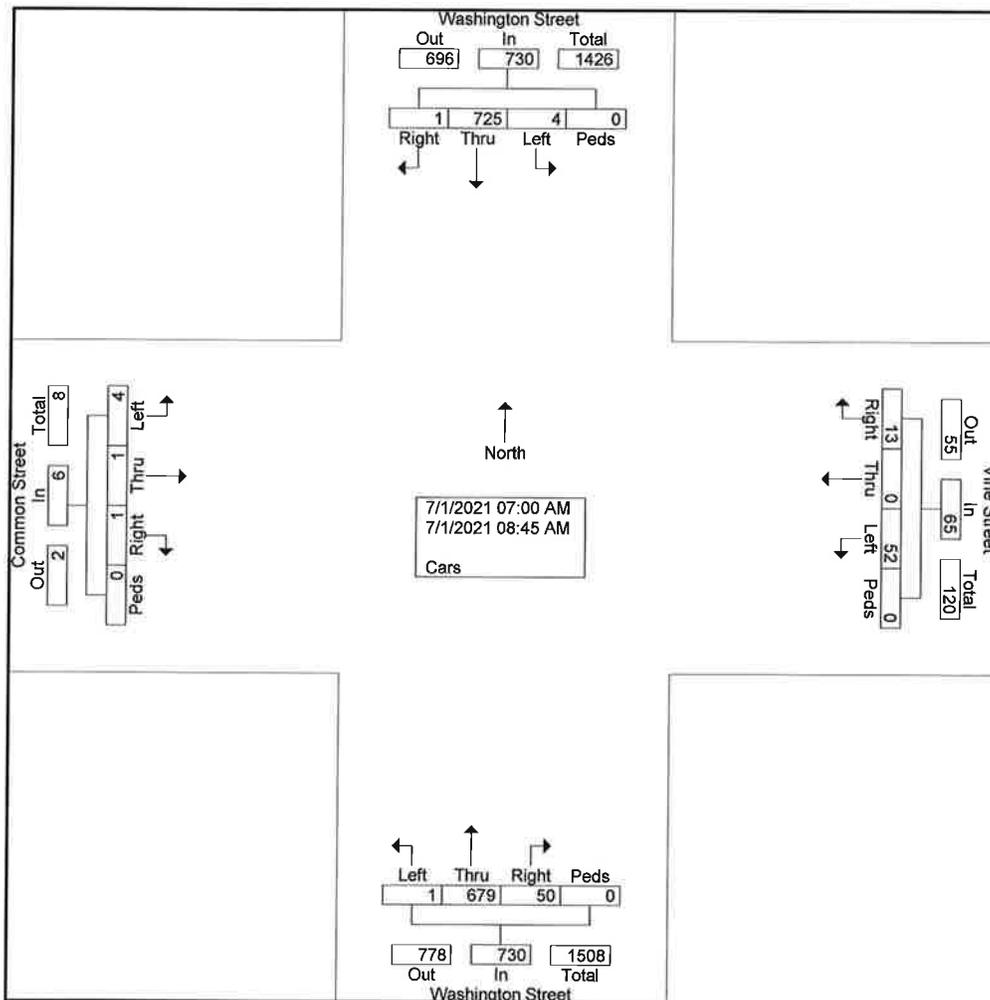
Vanasse & Associates

Washington St at Vine St / Common St
Weymouth, MA
Weather : Clear

File Name : 896402am
Site Code : 00896402
Start Date : 7/1/2021
Page No : 1

Groups Printed- Cars

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	70	1	0	71	2	0	7	0	9	2	61	0	0	63	0	0	0	0	0	143
07:15 AM	0	63	0	0	63	3	0	4	0	7	3	68	0	0	71	0	0	0	0	0	141
07:30 AM	0	93	1	0	94	0	0	10	0	10	8	83	0	0	91	1	1	1	0	3	198
07:45 AM	0	106	0	0	106	2	0	4	0	6	13	100	1	0	114	0	0	1	0	1	227
Total	0	332	2	0	334	7	0	25	0	32	26	312	1	0	339	1	1	2	0	4	709
08:00 AM	0	93	0	0	93	1	0	6	0	7	7	74	0	0	81	0	0	1	0	1	182
08:15 AM	1	99	0	0	100	3	0	7	0	10	3	80	0	0	83	0	0	0	0	0	193
08:30 AM	0	95	0	0	95	0	0	10	0	10	9	94	0	0	103	0	0	1	0	1	209
08:45 AM	0	106	2	0	108	2	0	4	0	6	5	119	0	0	124	0	0	0	0	0	238
Total	1	393	2	0	396	6	0	27	0	33	24	367	0	0	391	0	0	2	0	2	822
Grand Total	1	725	4	0	730	13	0	52	0	65	50	679	1	0	730	1	1	4	0	6	1531
Apprch %	0.1	99.3	0.5	0		20	0	80	0		6.8	93	0.1	0		16.7	16.7	66.7	0		
Total %	0.1	47.4	0.3	0	47.7	0.8	0	3.4	0	4.2	3.3	44.4	0.1	0	47.7	0.1	0.1	0.3	0	0.4	

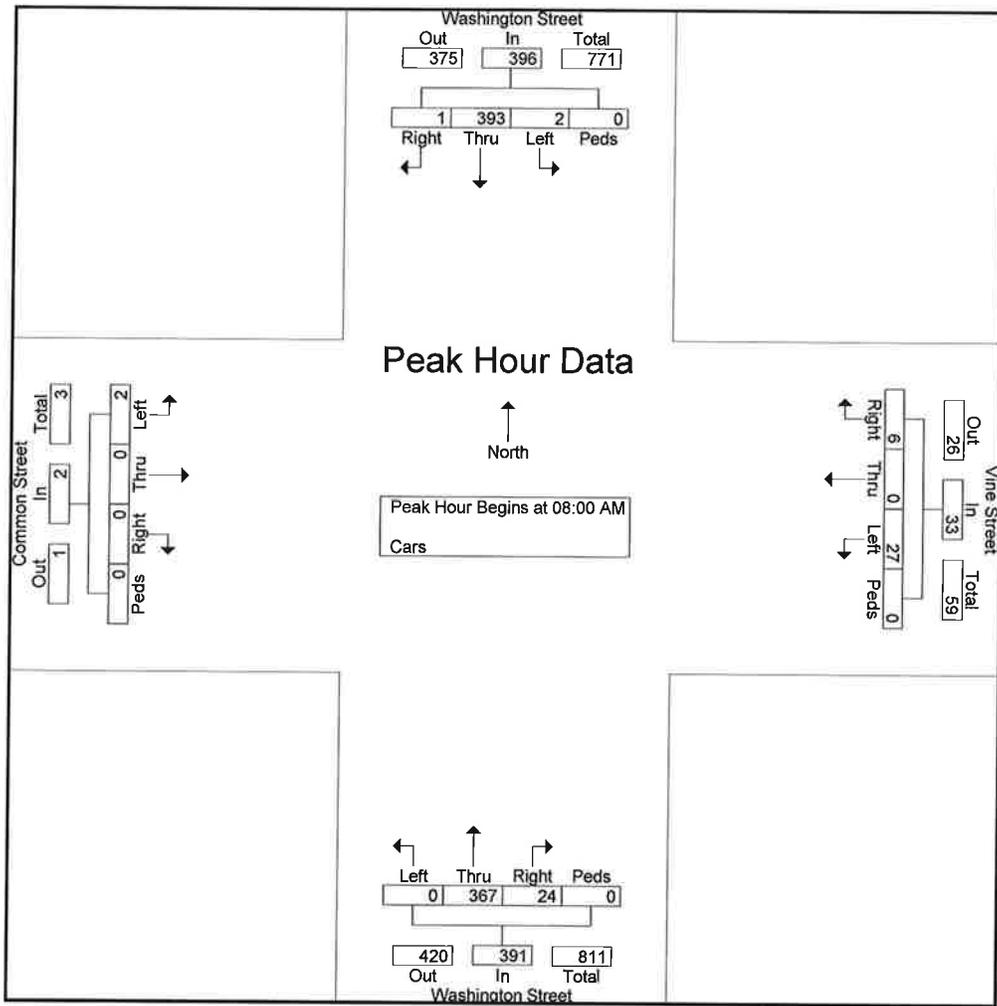


Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402am
 Site Code : 00896402
 Start Date : 7/1/2021
 Page No : 2

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	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	93	0	0	93	1	0	6	0	7	7	74	0	0	81	0	0	1	0	1	182
08:15 AM	1	99	0	0	100	3	0	7	0	10	3	80	0	0	83	0	0	0	0	0	193
08:30 AM	0	95	0	0	95	0	0	10	0	10	9	94	0	0	103	0	0	1	0	1	209
08:45 AM	0	106	2	0	108	2	0	4	0	6	5	119	0	0	124	0	0	0	0	0	238
Total Volume	1	393	2	0	396	6	0	27	0	33	24	367	0	0	391	0	0	2	0	2	822
% App. Total	0.3	99.2	0.5	0		18.2	0	81.8	0		6.1	93.9	0	0		0	0	100	0		
PHF	.250	.927	.250	.000	.917	.500	.000	.675	.000	.825	.667	.771	.000	.000	.788	.000	.000	.500	.000	.500	.863



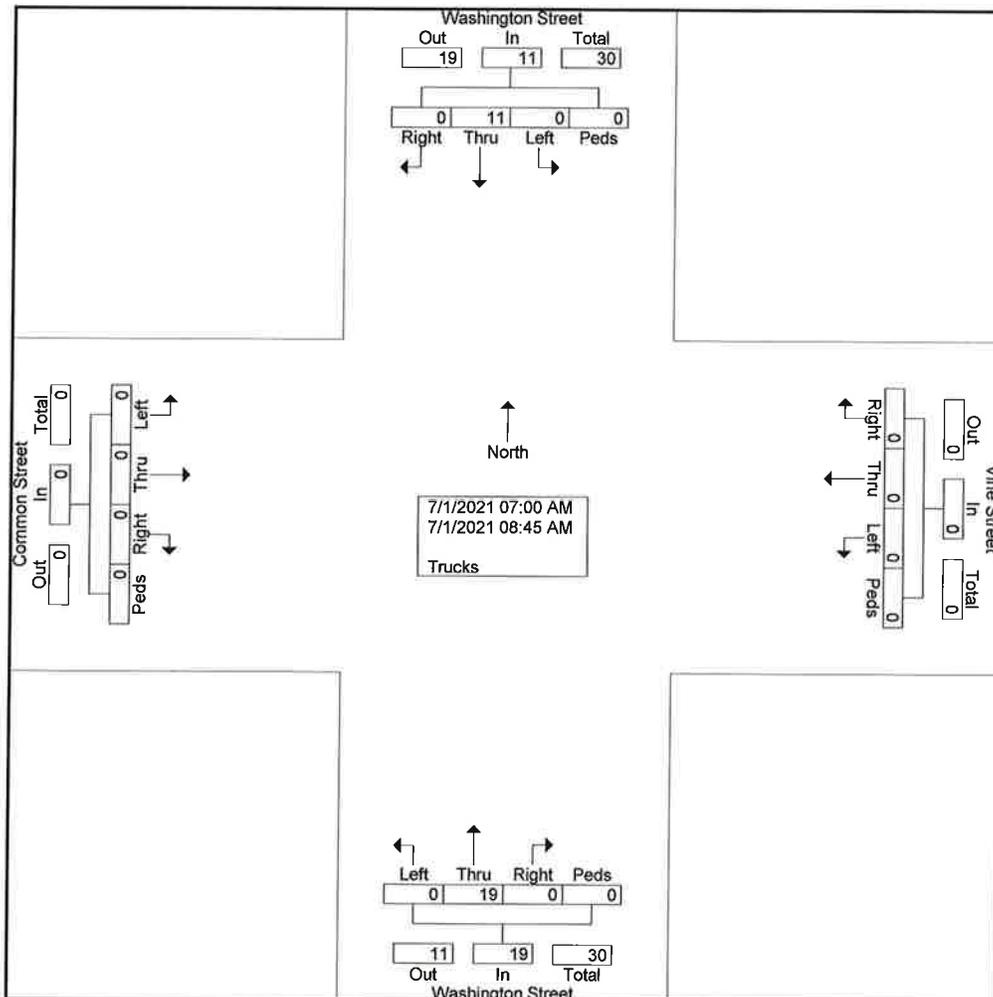
Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402am
 Site Code : 00896402
 Start Date : 7/1/2021
 Page No : 1

Groups Printed- Trucks

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total						
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
07:15 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	5
Total	0	5	0	0	5	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	17
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	8
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	6	0	0	6	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	13
Grand Total	0	11	0	0	11	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	0	0	30
Apprch %	0	100	0	0		0	0	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
Total %	0	36.7	0	0	36.7	0	0	0	0	0	0	63.3	0	0	63.3	0	0	0	0	0	0	0	0	0	0	

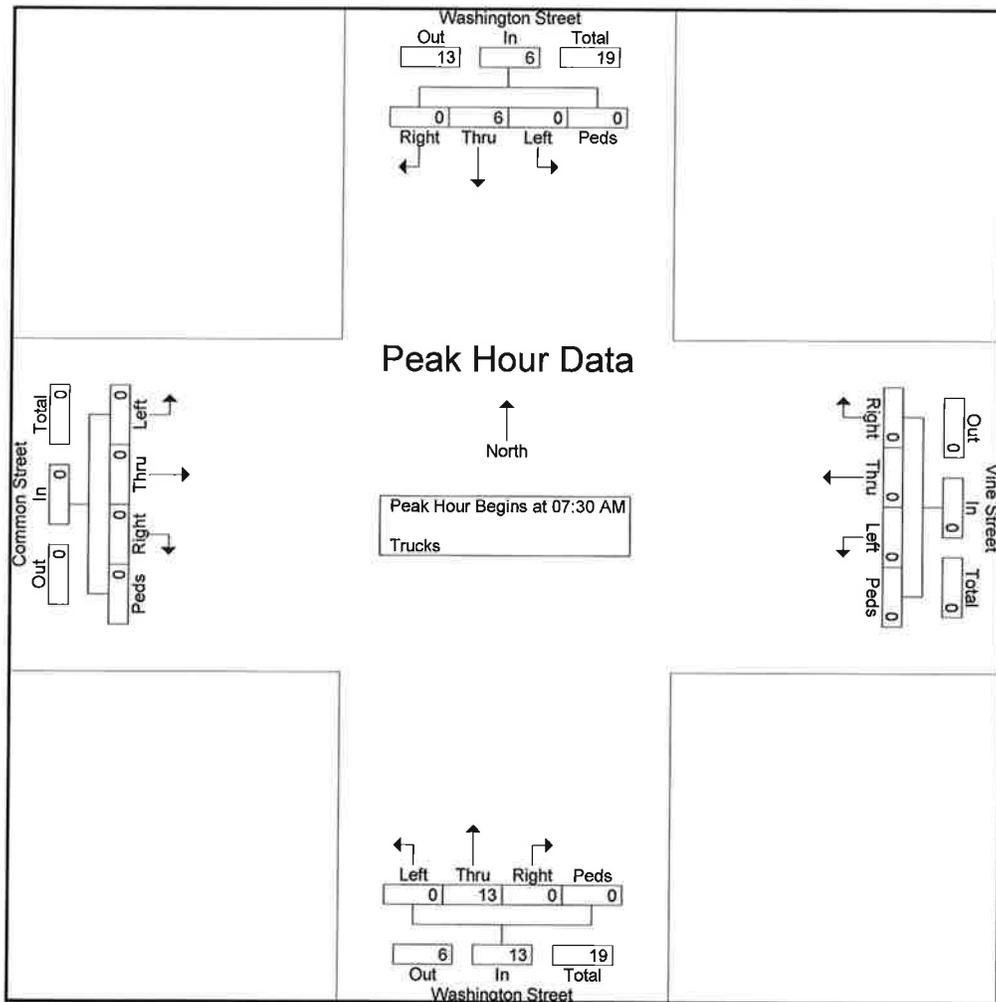


Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402am
 Site Code : 00896402
 Start Date : 7/1/2021
 Page No : 2

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:30 AM																						
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
08:15 AM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4
Total Volume	0	6	0	0	6	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	13
% App. Total	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100
PHF	.000	.375	.000	.000	.375	.000	.000	.000	.000	.000	.000	.813	.000	.000	.813	.000	.000	.000	.000	.000	.000	.594



Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402am

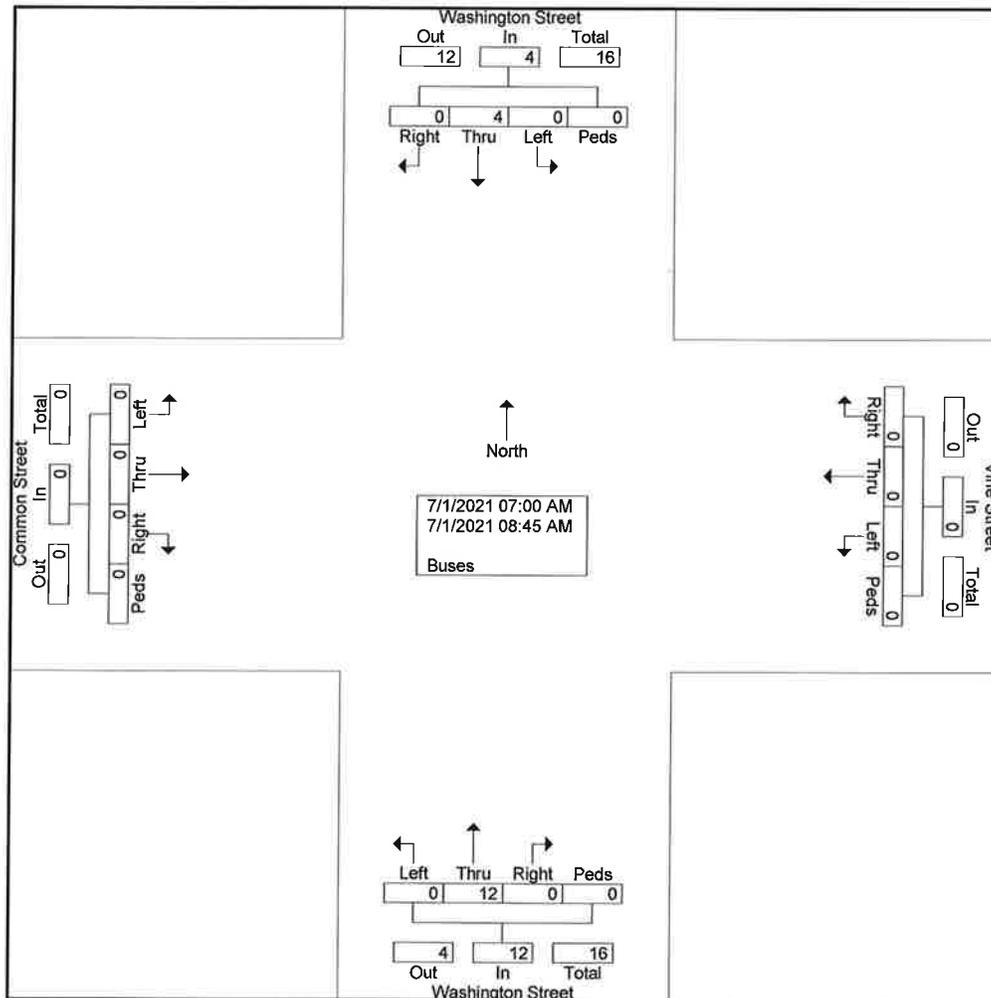
Site Code : 00896402

Start Date : 7/1/2021

Page No : 1

Groups Printed- Buses

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total						
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	8
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	0	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	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
Total	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	8
Grand Total	0	4	0	0	4	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	16
Apprch %	0	100	0	0		0	0	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
Total %	0	25	0	0	25	0	0	0	0	0	0	75	0	0	75	0	0	0	0	0	0	0	0	0	0	

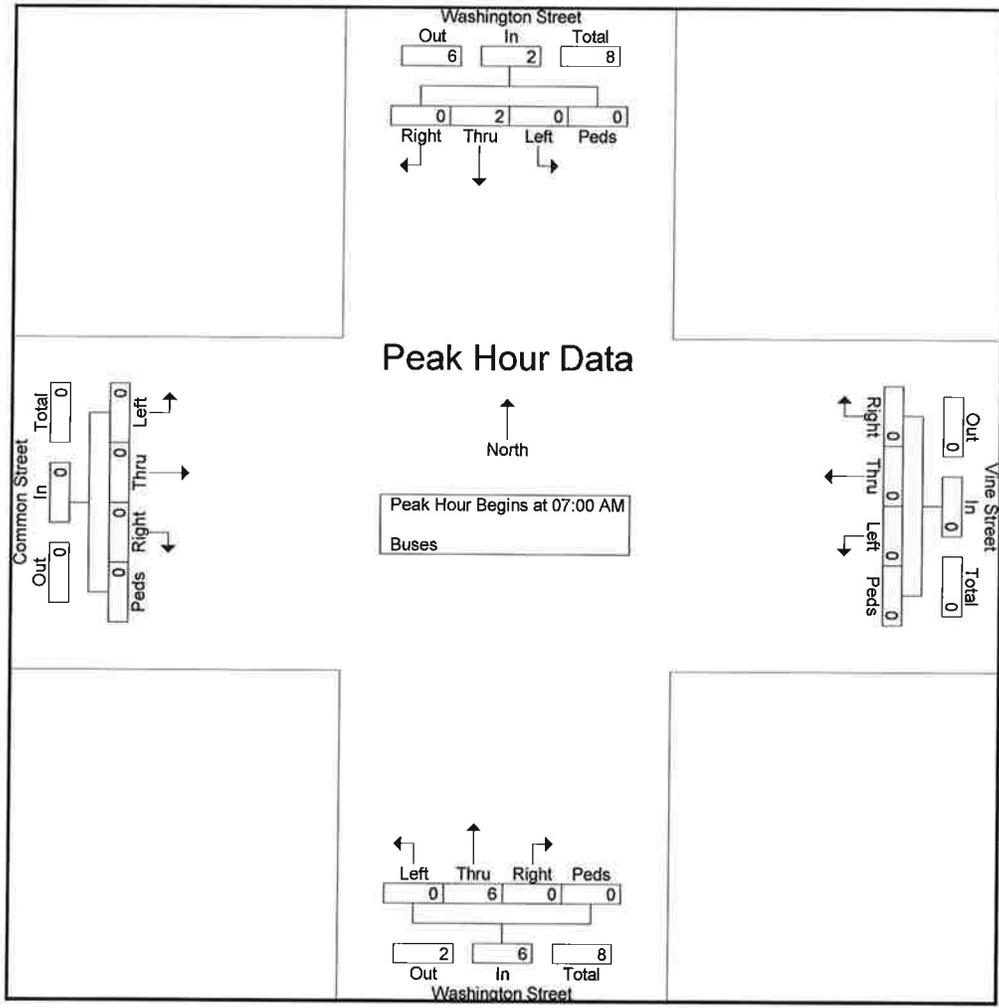


Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402am
 Site Code : 00896402
 Start Date : 7/1/2021
 Page No : 2

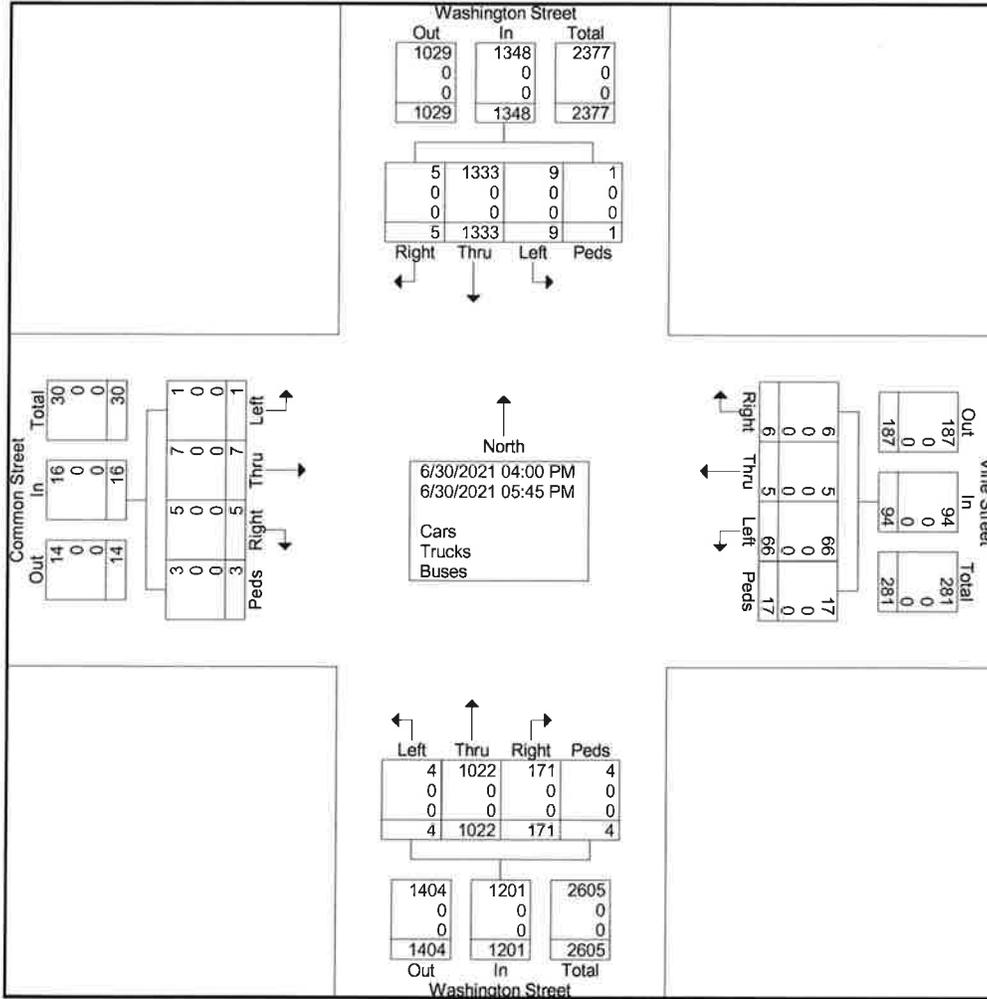
Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:00 AM																						
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	8
% App. Total	0	100	0	0		0	0	0	0		0	100	0	0		0	0	0	0		0	
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.500



Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402pm
 Site Code : 00896402
 Start Date : 6/30/2021
 Page No : 2

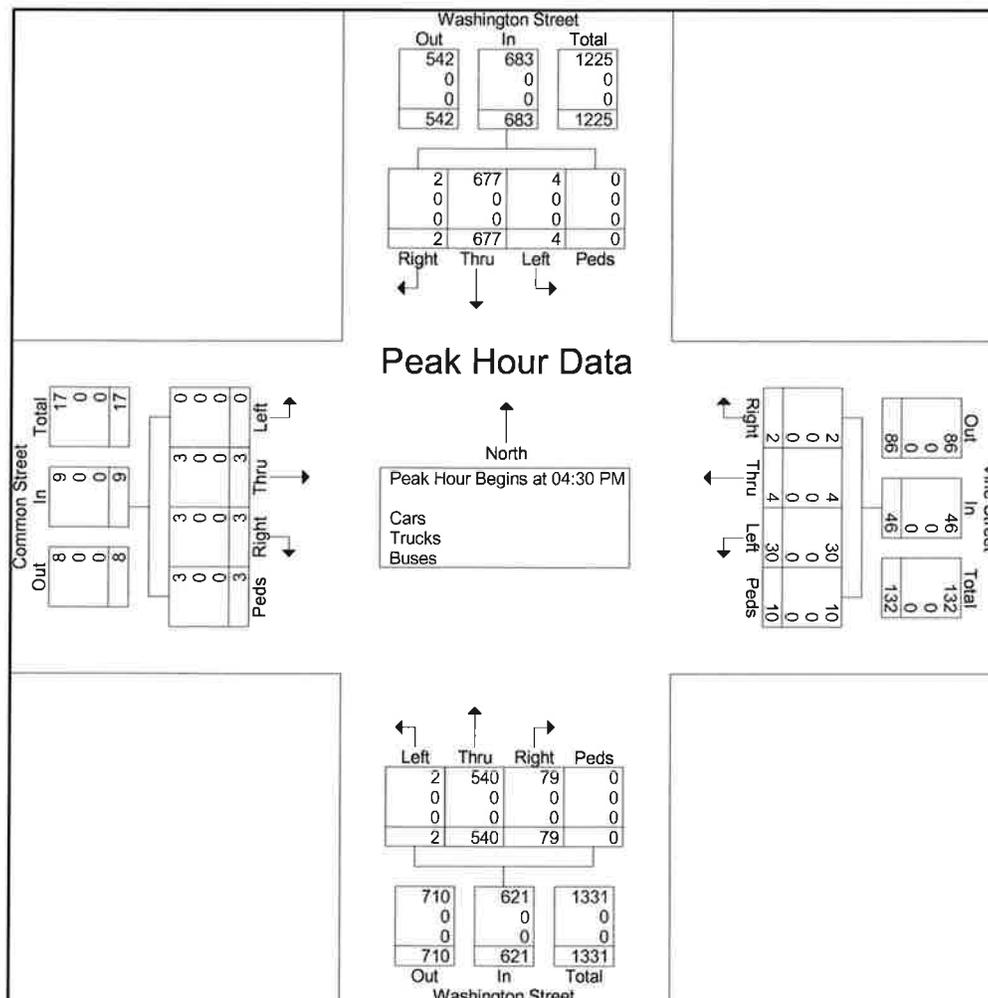


Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402pm
 Site Code : 00896402
 Start Date : 6/30/2021
 Page No : 3

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	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	159	1	0	162	0	2	11	4	17	22	142	0	0	164	1	0	0	2	3	346
04:45 PM	0	168	0	0	168	1	0	7	1	9	18	124	1	0	143	1	1	0	0	2	322
05:00 PM	0	161	1	0	162	0	0	2	4	6	15	132	0	0	147	1	1	0	1	3	318
05:15 PM	0	189	2	0	191	1	2	10	1	14	24	142	1	0	167	0	1	0	0	1	373
Total Volume	2	677	4	0	683	2	4	30	10	46	79	540	2	0	621	3	3	0	3	9	1359
% App. Total	0.3	99.1	0.6	0		4.3	8.7	65.2	21.7		12.7	87	0.3	0		33.3	33.3	0	33.3		
PHF	.250	.896	.500	.000	.894	.500	.500	.682	.625	.676	.823	.951	.500	.000	.930	.750	.750	.000	.375	.750	.911
Cars	2	677	4	0	683	2	4	30	10	46	79	540	2	0	621	3	3	0	3	9	1359
% Cars	100	100	100	0	100	100	100	100	100	100	100	100	100	0	100	100	100	0	100	100	100
Trucks	0	0	0	0	0	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	0	0	0	0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



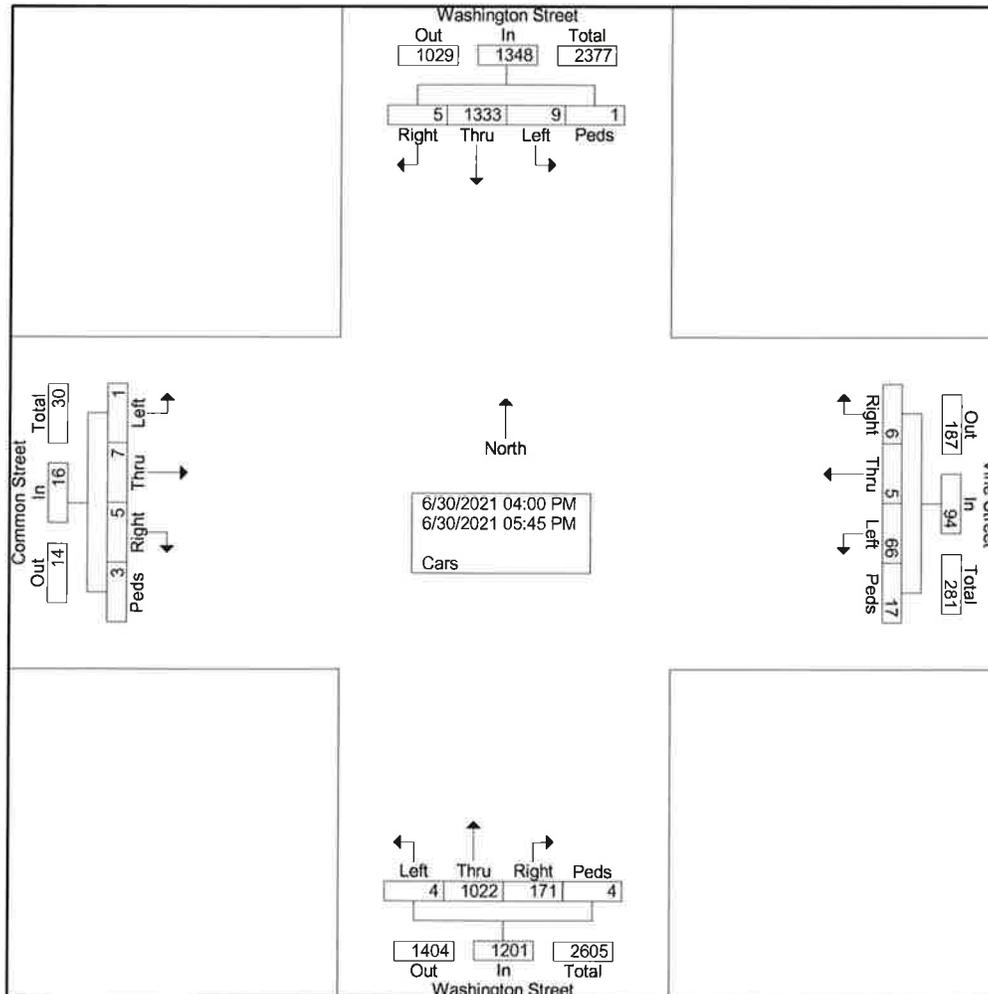
Vanasse & Associates

Washington St at Vine St / Common St
Weymouth, MA
Weather : Clear

File Name : 896402pm
Site Code : 00896402
Start Date : 6/30/2021
Page No : 1

Groups Printed- Cars

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
04:00 PM	1	174	1	1	177	2	0	7	0	9	31	122	0	3	156	0	1	0	0	1	343
04:15 PM	0	180	1	0	181	1	0	11	4	16	20	127	0	0	147	0	0	0	0	0	344
04:30 PM	2	159	1	0	162	0	2	11	4	17	22	142	0	0	164	1	0	0	2	3	346
04:45 PM	0	168	0	0	168	1	0	7	1	9	18	124	1	0	143	1	1	0	0	2	322
Total	3	681	3	1	688	4	2	36	9	51	91	515	1	3	610	2	2	0	2	6	1355
05:00 PM	0	161	1	0	162	0	0	2	4	6	15	132	0	0	147	1	1	0	1	3	318
05:15 PM	0	189	2	0	191	1	2	10	1	14	24	142	1	0	167	0	1	0	0	1	373
05:30 PM	1	152	1	0	154	0	1	10	1	12	23	126	2	0	151	2	1	1	0	4	321
05:45 PM	1	150	2	0	153	1	0	8	2	11	18	107	0	1	126	0	2	0	0	2	292
Total	2	652	6	0	660	2	3	30	8	43	80	507	3	1	591	3	5	1	1	10	1304
Grand Total	5	1333	9	1	1348	6	5	66	17	94	171	1022	4	4	1201	5	7	1	3	16	2659
Apprch %	0.4	98.9	0.7	0.1		6.4	5.3	70.2	18.1		14.2	85.1	0.3	0.3		31.2	43.8	6.2	18.8		
Total %	0.2	50.1	0.3	0	50.7	0.2	0.2	2.5	0.6	3.5	6.4	38.4	0.2	0.2	45.2	0.2	0.3	0	0.1	0.6	

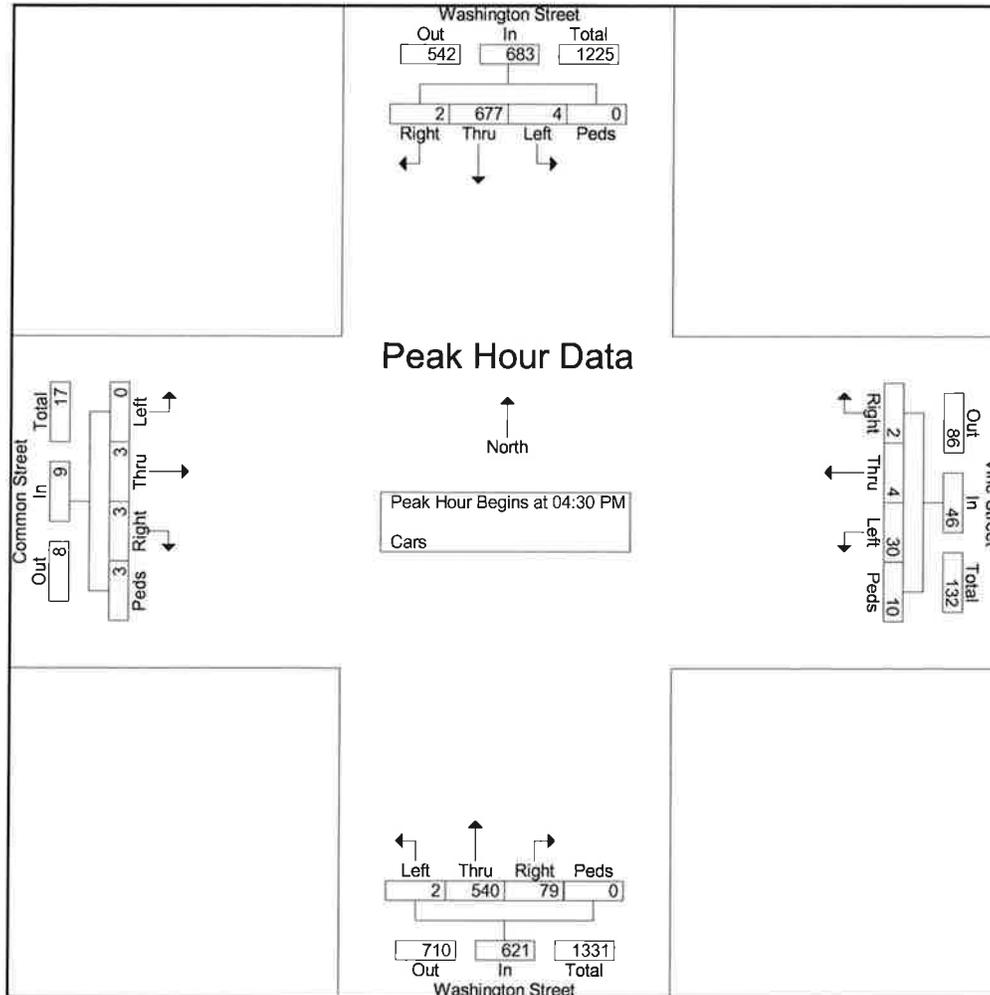


Vanasse & Associates

Washington St at Vine St / Common St
Weymouth, MA
Weather : Clear

File Name : 896402pm
Site Code : 00896402
Start Date : 6/30/2021
Page No : 2

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total
	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	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	159	1	0	162	0	2	11	4	17	22	142	0	0	164	1	0	0	2	3	346
04:45 PM	0	168	0	0	168	1	0	7	1	9	18	124	1	0	143	1	1	0	0	2	322
05:00 PM	0	161	1	0	162	0	0	2	4	6	15	132	0	0	147	1	1	0	1	3	318
05:15 PM	0	189	2	0	191	1	2	10	1	14	24	142	1	0	167	0	1	0	0	1	373
Total Volume	2	677	4	0	683	2	4	30	10	46	79	540	2	0	621	3	3	0	3	9	1359
% App. Total	0.3	99.1	0.6	0		4.3	8.7	65.2	21.7		12.7	87	0.3	0		33.3	33.3	0	33.3		
PHF	.250	.896	.500	.000	.894	.500	.500	.682	.625	.676	.823	.951	.500	.000	.930	.750	.750	.000	.375	.750	.911



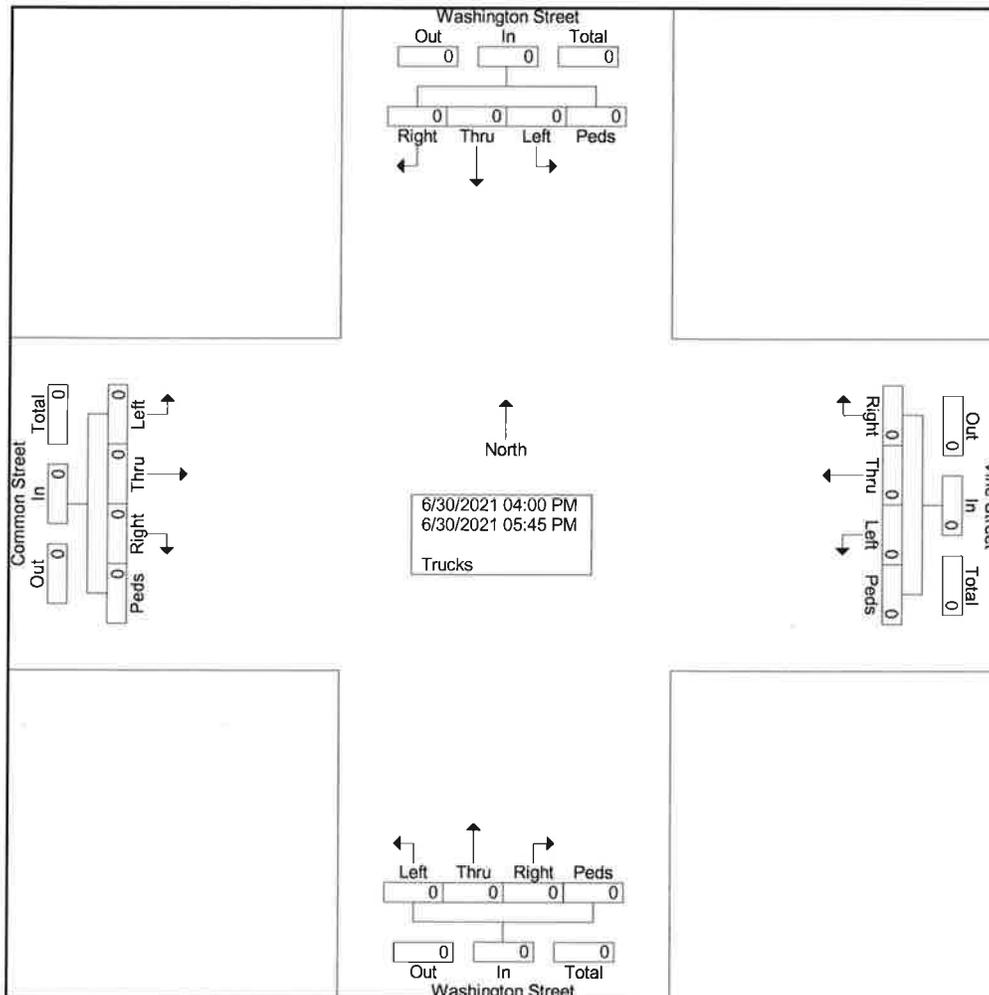
Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402pm
 Site Code : 00896402
 Start Date : 6/30/2021
 Page No : 1

Groups Printed- Trucks

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total						
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																										

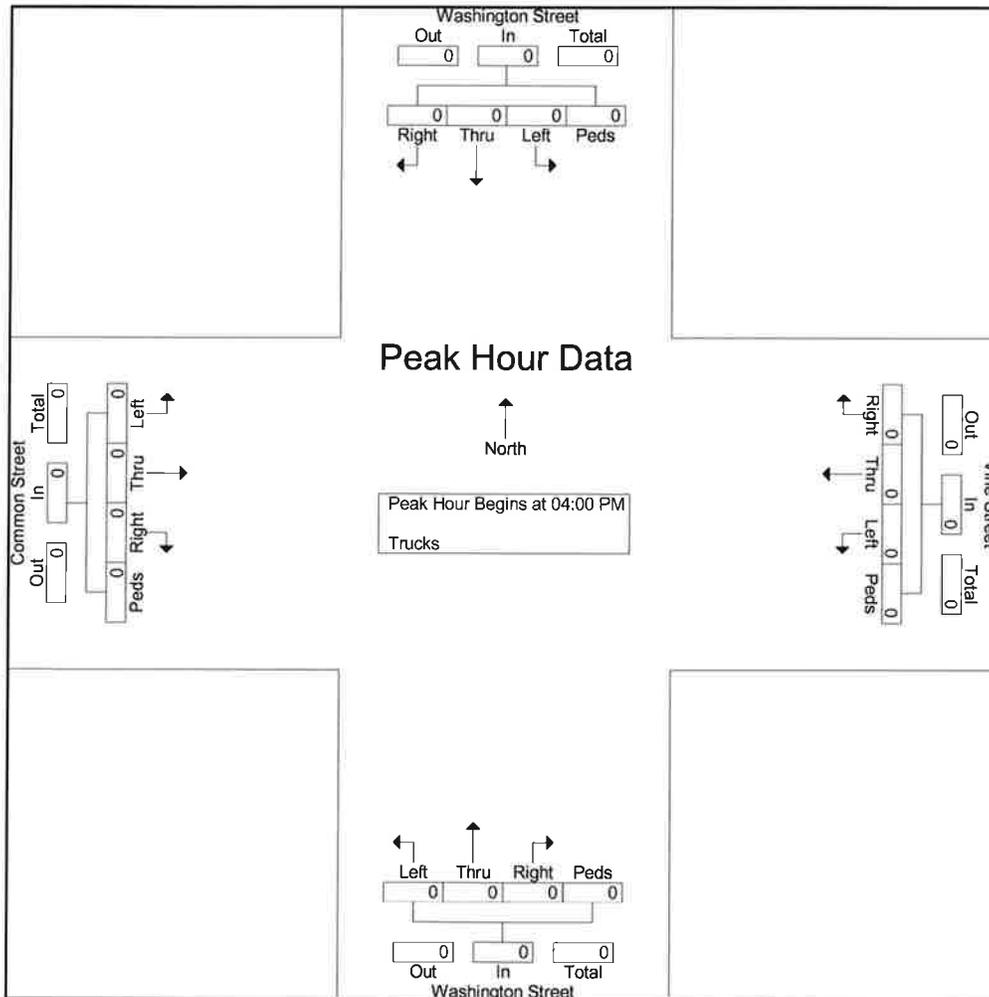


Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402pm
 Site Code : 00896402
 Start Date : 6/30/2021
 Page No : 2

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



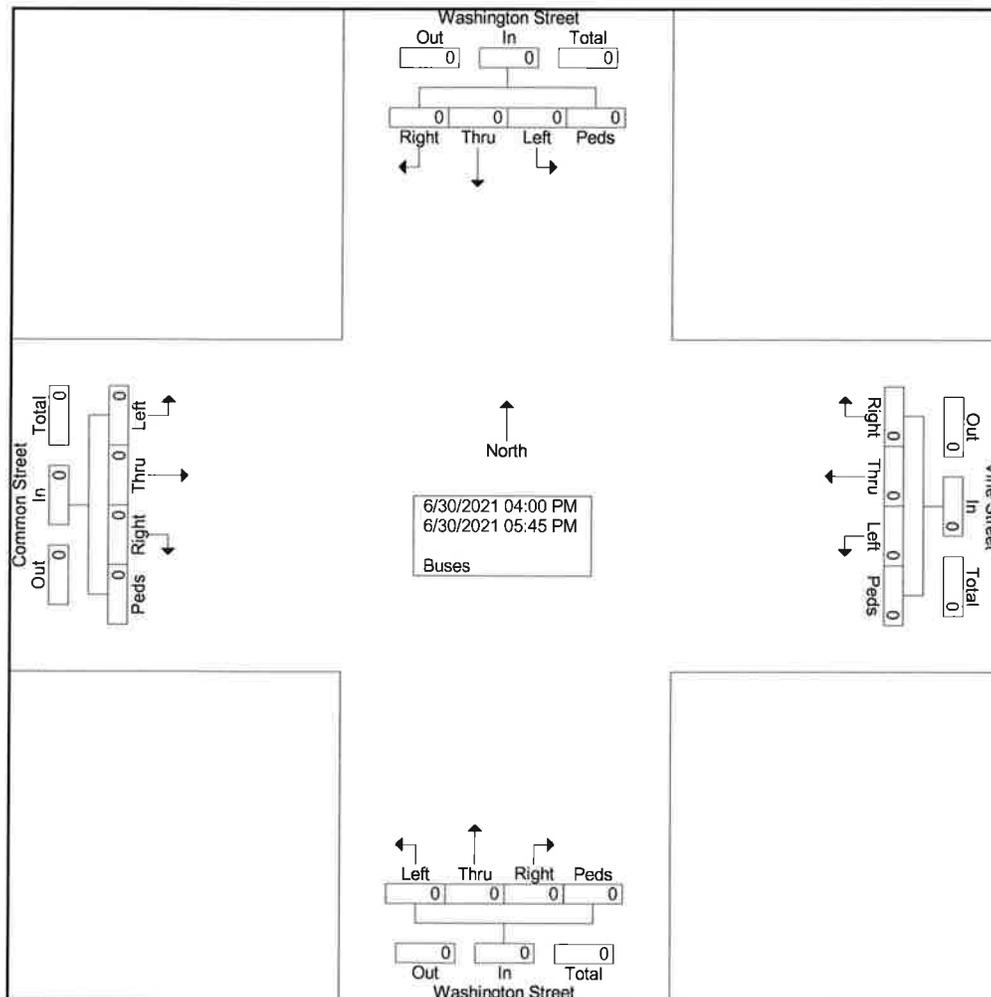
Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402pm
 Site Code : 00896402
 Start Date : 6/30/2021
 Page No : 1

Groups Printed- Buses

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0			
Total %																						

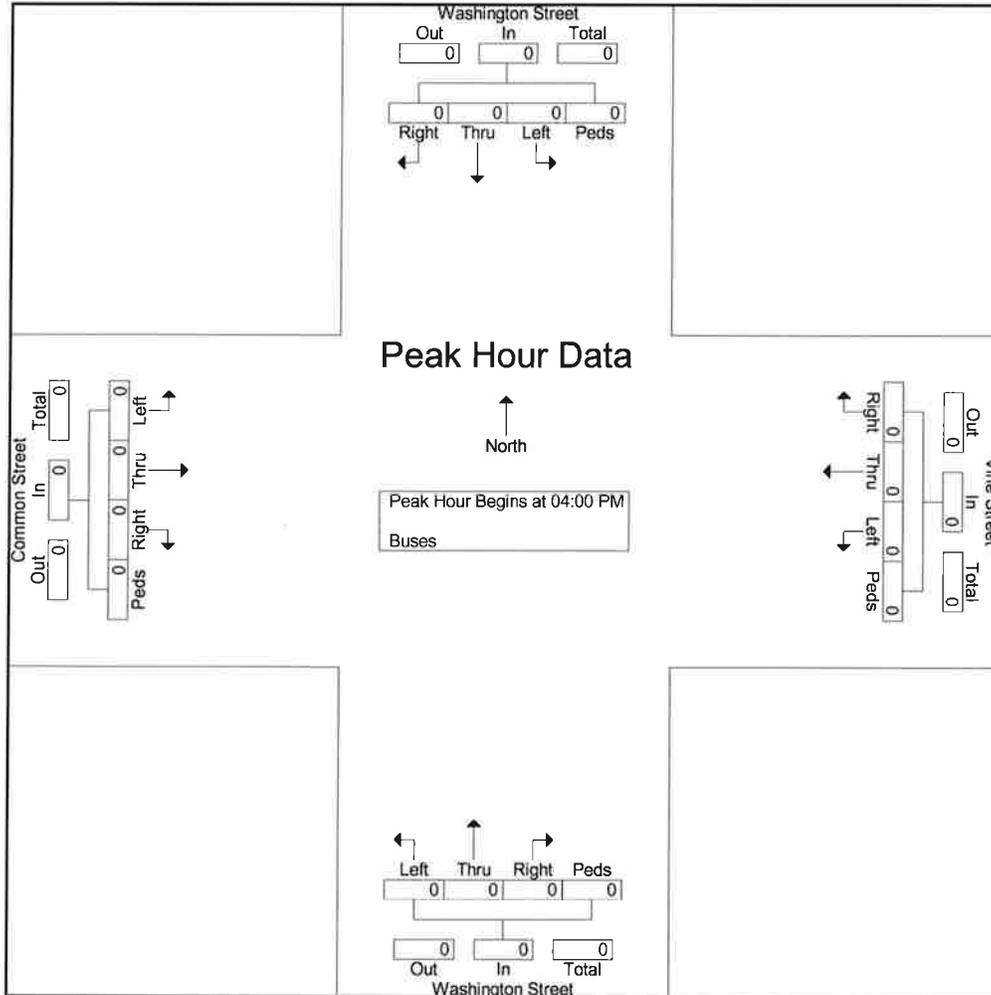


Vanasse & Associates

Washington St at Vine St / Common St
 Weymouth, MA
 Weather : Clear

File Name : 896402pm
 Site Code : 00896402
 Start Date : 6/30/2021
 Page No : 2

Start Time	Washington Street From North					Vine Street From East					Washington Street From South					Common Street From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



SEASONAL ADJUSTMENT DATA



Massachusetts Highway Department

6255: Monthly Hourly Volume for April 2019

Location ID:	6255																							Seasonal Factor Group:	U2		
County:	Norfolk																							Daily Factor Group:			
Functional Class	2																							Axle Factor Group:	U2		
Location:	PILGRIM HIGHWAY																							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	560	503	669	2212	6628	8388	7961	8146	7438	7263	7145	7335	7759	8084	8190	8183	8692	8068	6029	4676	3577	2590	1939	1124	133159	Accepted	
2	579	476	750	2188	6715	8259	8410	8441	7694	7466	7420	7686	7739	8461	8704	8274	8965	7847	6001	5120	3694	2744	1911	1049	136593	Accepted	
3																											
4	1105	639	470	688	2272	6582	8195	8587	8343	7821	7616	7646	7622	7844	8345	8739	8544	8948	7938	6867	5395	4288	3126	2092	139712	Accepted	
5	1195	651	561	734	2130	6132	8176	9214	8580	7879	7690	7985	8067	8380	8524	8749	8833	8901	8297	6409	5058	4148	3698	2582	142573	Accepted	
6	1686	1066	766	641	979	2243	3683	5529	6930	7640	8897	9292	9165	9091	8965	9054	9097	8575	7661	6226	5216	4522	4288	3007	134219	Accepted	
7	2014	1228	802	584	549	1176	2438	3864	5076	6704	7965	8397	8530	8997	8563	8397	8629	8121	6904	5615	4544	3268	2498	1598	116461	Accepted	
8	852	506	373	705	2184	6232	7303	7696	7789	7365	6837	7044	7301	7527	8006	8385	8450	8338	7487	5653	4448	3298	2349	1707	127835	Accepted	
9	1114	589	459	707	2211	6581	8112	8327	8462	8212	7675	7361	7505	7695	8305	8537	8633	8743	7623	6152	5142	3724	2721	1923	136513	Accepted	
10	1121	632	487	731	2320	6594	8089	8192	8490	8148	7321	7586	7766	7996	8400	8795	8814	8980	8097	6319	5368	4164	2998	2152	139560	Accepted	
11	1334	676	529	785	2290	6681	8201	8305	8375	8078	7861	7683	7760	8268	8959	9113	9338	9512	8020	6388	5647	4366	3438	2617	144224	Accepted	
12	1718	768	572	796	2164	5963	8211	9003	8593	7980	7849	7941	8265	8488	8452	8725	8949	9063	8186	6350	5049	4151	3672	2735	143643	Accepted	
13	1777	1065	746	699	1106	2078	3481	5059	6612	7685	8523	9117	9215	8998	8680	8948	8639	8387	7908	6139	5243	4267	3985	3342	131699	Accepted	
14	1986	1144	832	656	656	1150	2209	3485	4543	6320	7712	8860	8968	8504	7924	8516	8138	7751	6890	5316	4332	2924	2443	1817	113076	Accepted	
15	1053	590	509	647	1569	3957	5891	6320	6843	6995	7180	7191	7316	7668	7771	7213	8209	8213	7102	5213	4345	3221	2532	1672	119220	Accepted	
16	1011	601	452	679	2133	6499	7892	8684	8273	8237	7800	7971	7679	8291	8271	8602	8725	8613	7929	6546	5040	4002	2860	1962	138752	Accepted	
17	1209	626	480	717	2191	6444	8180	8733	8465	8172	8295	8458	8232	8575	8861	8896	8616	8940	7800	6749	5151	4039	3354	2302	143485	Accepted	
18	1246	703	520	729	2170	6173	8063	8736	8442	8187	8061	8290	8391	8378	8570	8573	8797	9100	8313	6855	5549	4173	3262	2450	143731	Accepted	
19	1489	893	560	722	1962	5425	7275	8277	8227	8002	8502	8815	8458	8742	8793	8752	9106	9099	7890	5793	5006	4034	3909	3047	142778	Accepted	
20	1816	1201	839	714	934	1792	3110	4236	5729	6726	7876	8782	9119	9064	8570	8395	8278	7452	6806	5466	4736	4017	3541	2749	121948	Accepted	
21	1711	1070	758	496	475	849	1628	2290	3123	5444	7751	9204	8765	8975	8488	7989	8428	8702	8687	8287	7519	3979	2651	1598	118867	Accepted	
22	833	514	471	694	2195	6562	8143	8962	8273	7748	7531	7792	7732	7688	8118	8004	7862	7554	7220	6289	4908	3278	2372	1715	132458	Accepted	
23	1029	692	526	704	2173	6487	7584	7753	8046	8014	6881	6952	7667	7732	8307	8900	9081	8747	7607	6355	4867	3971	3463	2296	135834	Accepted	
24	1185	738	524	762	2154	6610	8257	8524	8411	8023	7611	7655	7776	8105	8459	9026	8855	9077	8204	6905	5490	4065	3095	2235	141746	Accepted	
25	1260	808	515	767	2295	6707	8323	8473	8460	8232	7796	7914	8176	7974	8961	8625	9236	9469	8376	6741	5556	4477	3854	2837	145832	Accepted	
26	1466	804	609	868	2175	5989	7946	8553	8426	7904	7839	8357	8329	8413	7986	8107	8271	8424	7783	6600	4872	4118	3668	2795	140302	Accepted	
27	1847	1062	774	884	1065	2170	3754	5542	6964	7675	8604	9196	9399	9189	9469	9399	8772	8655	7961	6229	5138	4585	3900	3124	135357	Accepted	
28	2510	1640	950	630	584	1129	2523	3748	4766	6795	8224	9316	9180	8804	8596	8407	8344	7974	6845	5311	4310	2995	2371	1908	117860	Accepted	
29	1067	603	466	650	2109	6654	8129	8350	8054	7679	7314	7647	7455	7738	8459	8760	8854	9119	7779	6143	4734	3496	2703	2036	135998	Accepted	
30	1049	632	559	934	2378	6511	7557	8074	8255	7735	7386	7384	7651	7962	8604	9077	9021	9057	8132	6089	5083	3784	2973	2078	137965	Accepted	

April Average **134186**
2019 ADT **130987**
Seasonal Adjustment **1.024424**

Massachusetts Highway Department

6255: Monthly Hourly Volume for April 2021

Location ID:	6255																							Seasonal Factor Group:	U2	
County:	Norfolk																							Daily Factor Group:		
Functional Class:	2																							Axle Factor Group:	U2	
Location:	PILGRIM HIGHWAY																							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	605	348	306	483	1654	4919	6716	8516	8257	7187	7213	7317	8150	8417	9142	9866	9604	9697	7551	5363	3925	2960	2057	1428	131681	Accepted
2	694	376	332	461	1639	4805	6470	7839	7955	7819	8652	8162	9277	9346	9006	9338	9607	9246	8383	5823	4278	3145	2382	1792	136827	Accepted
3	923	567	389	375	648	1507	2927	4392	5908	7540	9071	9567	9214	9344	9262	9245	8758	8103	6930	5650	4360	3299	2590	1728	122297	Accepted
4	978	584	379	254	311	698	1487	2192	3080	4889	7298	8917	9634	8963	7928	7512	7801	8495	8075	7771	5433	2968	1791	1033	108471	Accepted
5	502	279	276	433	1746	5174	7206	8976	8337	7289	7394	7645	7948	8062	8906	9902	9525	9142	6727	4786	3370	2292	1718	1203	128838	Accepted
6	560	317	285	469	1752	5267	7322	8944	8518	7505	7365	7555	7745	8302	8923	9607	9103	9347	7130	4929	3783	2473	1740	1212	130153	Accepted
7	660	328	278	494	1758	5328	7278	9160	8728	7213	6997	7439	6953	6656	9168	9432	9545	9387	7519	5281	3970	2610	1906	1316	129404	Accepted
8	562	360	330	502	1785	5095	7017	9046	8637	7118	7464	7646	8130	8499	9334	9424	9193	9052	7832	5606	4077	2905	2051	1395	133060	Accepted
9	624	367	331	503	1686	5042	7070	8680	7660	6928	7759	8370	8708	9073	9326	8573	8978	9271	8178	6196	4460	3085	2424	1772	135064	Accepted
10	944	527	349	393	695	1704	3448	5046	6465	8358	8996	9455	9258	9354	9078	8896	8962	8395	7216	6262	4689	3676	2812	2093	127071	Accepted
11	1144	649	399	344	411	943	2163	2983	3741	5671	7276	8589	9033	9167	8799	8656	7546	6799	5591	4541	3335	2263	1577	1001	102621	Accepted
12	515	309	289	461	1675	5264	7354	9229	8207	6927	7054	7109	7502	7715	8710	9058	9019	8874	6485	4804	3397	2301	1608	1089	124955	Accepted
13	552	349	333	500	1833	5314	6202	9074	8341	7055	6941	7480	7703	8130	8969	9197	8943	8763	7303	5098	3777	2577	1860	1210	127504	Accepted
14	643	332	300	480	1774	5366	7040	8881	8634	7034	7483	7804	7858	8154	9034	9440	9113	9097	7507	5480	4220	2792	1836	1314	131616	Accepted
15	603	371	313	547	1876	5476	7376	9184	8609	7748	7623	7741	8224	8453	8897	9082	9468	8820	7442	5618	3860	2695	1932	1274	133232	Accepted
16	659	367	286	478	1659	4695	6316	7923	7433	6599	6630	7150	7126	7460	7939	8692	8816	8269	6910	4915	3645	2705	2190	1655	120517	Accepted
17	900	485	342	422	786	1612	3088	4605	5743	7626	8628	9051	9334	9265	9050	8980	7948	7574	6302	5102	3927	3147	2445	1763	118125	Accepted
18	1046	616	386	354	469	983	2100	3264	4053	6070	7711	8613	8470	9397	8597	8517	8103	6879	6352	5145	4260	2776	1865	1203	107229	Accepted
19	625	393	303	415	1096	3241	5621	7106	7184	7400	8024	8537	8414	8371	8864	8838	8698	8306	6398	5289	3948	2574	1875	1208	122728	Accepted
20	610	325	268	496	1803	5318	6856	8439	8110	7687	8135	8390	8156	8592	9471	9253	9686	8862	6887	5412	4218	3100	2089	1385	133548	Accepted
21	664	369	293	504	1758	5296	6927	8287	8155	7500	7479	8271	8335	8980	8537	9069	8721	8878	7129	5162	3305	2935	1788	1316	129658	Accepted
22	683	374	346	507	1746	5223	6760	8190	8081	7411	7964	8126	8892	8937	9331	9618	9399	9409	7111	5519	4267	3018	2156	1493	134561	Accepted
23	716	413	313	479	1713	4909	6506	7828	8015	7676	8184	8688	8890	8393	9392	9504	9319	9085	7820	6245	4737	3472	2654	1973	136924	Accepted
24	1049	616	348	348	779	1700	3380	5116	6495	8166	9108	9552	9323	9312	9010	9219	9040	8485	7487	6416	5142	3801	3142	1958	128992	Accepted
25	1232	744	428	343	459	861	1899	2805	3537	5428	7076	8200	8434	8438	8675	8265	7381	6551	5543	4387	3383	2331	1637	1162	99199	Accepted
26	582	361	324	496	1776	5465	7511	9072	8328	7200	7135	7351	7617	8087	8875	9341	9318	9023	7014	5077	3683	2593	1816	1219	129264	Accepted
27	638	359	319	528	1879	5451	7635	9318	8369	7738	7438	7888	7835	8139	9233	9480	9237	7467	7934	5346	4047	2795	1888	1269	132230	Accepted
28	679	388	337	546	1800	5355	7468	9294	8731	7547	7478	7505	8090	8339	9229	9335	9494	9779	7696	5635	4021	2790	2000	1340	134876	Accepted
29	638	366	325	500	1906	5367	7395	9369	8821	7730	7713	7981	8244	8167	8677	8758	8881	8756	7469	5207	3793	2818	2007	1414	132302	Accepted
30	710	387	335	527	1714	5099	7236	9010	8527	8017	8141	8702	8980	9141	9212	9457	8359	9379	8602	6369	4753	3489	2761	1946	140853	Accepted

April Average 126793

Massachusetts Highway Department

6255: Monthly Hourly Volume for June 2019

Location ID: 6255
County: Norfolk
Functional Class: 2
Location: PILGRIM HIGHWAY
Seasonal Factor Group: U2
Daily Factor Group:
Axle Factor Group: U2
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	1857	1199	942	768	1112	2466	4294	6282	7369	8047	8720	8819	9304	9336	9300	8963	9007	8682	7798	6755	5505	4705	4082	3401	138713	Accepted
2	2153	1359	848	673	632	1289	2536	3607	4726	6789	8450	9071	8962	8799	8809	8759	8613	8327	7642	6657	5413	4009	2704	1784	122611	Accepted
3	964	651	531	792	2359	6858	8056	8432	8431	7900	7887	8228	8148	8126	8826	8888	8505	8902	7938	6693	5177	3609	2573	2117	140591	Accepted
4	1097	671	514	703	2364	6751	8270	8033	8297	8278	7977	8343	8194	8324	8728	8405	9238	9093	8525	6738	5586	4207	2962	2071	143369	Accepted
5	1127	605	462	716	2269	6939	8374	8519	8495	8281	8068	8425	8497	8494	8922	8806	8887	8984	8085	7179	5728	4272	3075	2230	145439	Accepted
6	1373	731	559	703	2151	6557	7730	8151	8327	8461	8029	8615	8676	8412	8821	8789	8940	9227	8204	7435	6092	4611	3394	2956	146944	Accepted
7	1783	910	589	832	2171	6225	8154	9074	8651	8555	8727	8646	8500	8643	8119	8421	9099	8921	8135	7180	6051	4938	4406	3277	150007	Accepted
8	1999	1267	805	803	1107	2438	4400	6166	7748	8725	9152	9151	8966	8715	8969	8970	8752	8598	7616	6916	6050	5443	4906	3572	141234	Accepted
9	2070	1302	758	783	788	1375	2856	4132	5327	7656	8889	9104	8860	8833	8372	8463	8479	8076	7450	7251	6461	4326	2927	2223	126761	Accepted
10	1200	649	470	744	2313	6822	8010	8145	8175	8206	7929	8061	8255	8298	8842	8799	9063	9180	8469	6706	4914	4056	2858	2023	142187	Accepted
11																										
12	1261	690	510	762	2337	6757	7357	7784	8290	8255	7985	8280	8519	8345	9085	9032	8809	8975	8029	7601	5820	3764	3016	3172	144435	Accepted
13	1806	847	585	770	2122	6586	8108	7970	8275	7927	7824	8091	8072	8063	8104	7819	8369	8351	7610	6851	5627	4760	3267	2278	140082	Accepted
14	1621	806	651	856	2171	6383	8182	9049	8393	8162	8728	8786	8726	8666	8287	8420	8808	8773	8065	7313	6322	4841	3921	3193	149123	Accepted
15	1972	1095	835	812	1251	2545	4323	6131	7552	8423	8926	9159	9031	8800	9090	8745	8630	8423	7787	6857	6176	5541	4609	3447	140160	Accepted
16	1861	1462	854	602	573	1172	2503	3237	4499	6553	8130	9040	8882	8708	8380	7933	8249	7772	7149	6895	6243	4362	2971	1598	119628	Accepted
17	904	550	416	657	2334	6570	7979	8046	7900	8098	8263	8362	8407	8541	8714	9179	8909	8960	8054	7168	5587	4183	3034	2009	142824	Accepted
18	1078	611	528	741	2320	6774	7989	8031	8277	8056	7815	8154	8316	8133	8306	8142	8372	8923	7968	7042	5304	4053	3034	2071	140038	Accepted
19	1099	657	507	736	2248	6657	8186	8250	8206	8298	8152	8660	8453	8453	8618	8908	9087	9334	8700	7393	6090	4657	3216	2541	147106	Accepted
20	1406	818	592	762	2261	6747	7999	8148	7921	7803	7935	8514	8615	8294	8247	7796	8790	9086	8349	7297	5873	4674	3553	2419	143899	Accepted
21	1434	899	703	890	2035	5866	7207	8379	8288	8074	8865	9055	8782	8406	8239	8057	8224	8144	7777	6797	5588	4741	3986	3376	143812	Accepted
22	2430	1365	809	837	1191	2705	4584	5901	7264	8048	8602	8976	9075	8890	9116	8661	8362	8142	7628	6653	5873	5476	4608	3492	138688	Accepted
23	2396	1431	897	689	825	1639	2894	3989	5505	7398	8783	9064	8950	8686	8411	8494	8235	8292	7667	6829	6547	6291	4189	2190	130291	Accepted
24	1161	623	557	797	2429	6758	7904	7881	8191	8286	8236	8028	8294	8639	9046	9052	9439	9235	8383	6882	5805	4251	3225	2305	145407	Accepted
25	1273	698	567	788	2423	6829	7743	8143	8406	8119	8192	8277	8472	8245	8250	8573	8853	9108	7959	6910	5298	4128	3001	2394	142649	Accepted
26	1407	730	492	760	2399	6898	7943	8514	8629	8516	8520	8768	8615	8683	8815	8834	8856	9212	8431	7721	6657	5007	3465	2496	150368	Accepted
27	1336	770	626	800	2380	6636	8129	8768	8155	8297	8636	8860	8696	8695	8287	8832	9147	9030	8368	7764	6933	5028	3963	2984	151120	Accepted
28	1590	808	615	740	2282	6400	7862	8748	8421	8836	8540	8474	7972	8068	7580	8277	8786	8706	7520	7268	5948	5081	4287	3184	145993	Accepted
29	2264	1205	850	763	1139	2536	4159	5700	6771	7528	8507	9344	8806	8972	8826	8834	8391	7828	6943	6012	5387	4757	4359	3418	133299	Accepted
30	2080	1324	901	706	746	1185	2546	3393	4527	6533	8105	8806	8812	8774	8340	7797	7773	7461	6997	5949	5581	4492	3122	2059	118009	Accepted

June Average 140165
2019 ADT 130967
Seasonaal Adjustment 1.0702

Massachusetts Highway Department

6255: Monthly Hourly Volume for June 2021

Location ID: 6255
County: Norfolk
Functional Class: 2
Location: PILGRIM HIGHWAY
Seasonal Factor Group: U2
Daily Factor Group:
Axle Factor Group: U2
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	887	377	350	489	2053	5937	8131	9436	8607	7997	7855	8293	8461	8644	9495	9368	9619	9506	8316	6233	4798	3397	2261	1514	142024	Accepted	
2	782	445	363	547	2065	5979	8059	9182	8839	8135	8186	8458	8340	8909	9430	9613	9505	9764	8759	6384	5014	3582	2432	1596	144368	Accepted	
3	816	447	396	570	2048	5599	6924	9453	8671	8195	8231	8550	8924	8946	9513	9278	9794	9774	8800	7048	5027	3740	2587	1764	145095	Accepted	
4	866	543	383	525	1872	5419	7310	8928	8743	8208	8602	8852	9133	9179	9266	9306	8661	9156	7996	7087	5314	4383	3289	2385	145406	Accepted	
5	1327	749	569	520	969	2158	3886	6310	8113	8819	9063	8882	8956	8878	8644	8603	8631	8471	7893	6842	5984	4889	4046	2596	135798	Accepted	
6	1441	822	587	505	634	1286	2577	3967	5756	8010	9332	9326	9217	8971	9001	8661	8559	8247	7630	6970	6702	5243	2820	1634	127898	Accepted	
7	862	461	397	562	2124	5662	7802	8014	8619	8114	7988	8574	8615	8576	9393	9371	9538	9497	7695	6192	4841	3769	2891	1520	141077	Accepted	
8	803	448	371	558	2046	5896	8272	9132	8812	8023	8167	8177	8455	8755	9512	9562	9254	9553	7959	5869	4538	3308	2403	1779	141652	Accepted	
9	809	418	356	554	2048	5856	8050	9488	8872	8245	8420	8475	8115	8736	9492	9276	9471	9543	8638	6559	5014	3797	2714	1941	144887	Accepted	
10	960	482	394	586	2139	5887	7854	8992	8990	8326	7955	8319	9091	8614	9438	9733	9457	9787	8541	7618	5932	4355	3121	2064	148635	Accepted	
11	1114	558	446	590	1953	5584	7549	9123	8841	8525	8410	8885	8882	8656	8713	9501	9753	9536	8585	7289	5411	4048	3363	2471	147786	Accepted	
12	1388	809	503	457	938	2020	3311	5144	6913	8604	9441	9866	9473	9178	9448	9445	8569	8478	8080	6664	6061	5237	4023	2690	136740	Accepted	
13	1518	895	556	491	634	1294	2557	3775	5467	7728	9147	9411	9684	9159	8658	8938	7830	8184	7813	7218	6573	5057	2835	1583	127005	Accepted	
14	749	430	357	557	2065	5985	8071	9218	8546	7629	7730	8130	7988	8370	8957	9035	8705	8916	7872	5652	4298	2990	2160	1490	135900	Accepted	
15																											
16	757	393	361	597	2103	5966	7780	8569	9216	8532	8499	8935	8712	8937	9034	9523	9882	10012	8442	7074	5694	4226	2784	1781	147809	Accepted	
17	866	476	382	606	2083	5830	7977	8027	8834	8710	8602	8131	8130	8754	8944	9368	9489	9556	8710	7903	6440	4834	3173	1982	147807	Accepted	
18	1012	560	438	578	1983	5315	7353	8741	8432	9021	8655	8775	8404	8436	8386	8748	9287	8794	8503	7502	6020	4751	3621	2379	145694	Accepted	
19	1285	862	520	537	902	2209	3834	5637	7604	8781	9082	7680	8900	8694	8830	8969	8926	8509	7811	7280	5955	5097	3679	2591	134174	Accepted	
20	1437	774	534	455	649	1244	2339	3409	5429	7949	9076	9150	9104	9069	8760	8539	8287	7911	7501	7042	6780	6011	4052	1788	127289	Accepted	
21	792	497	353	593	2088	5941	7904	9009	8894	8349	8695	8934	8674	8583	9423	9328	9583	9745	8333	6610	5039	3697	2426	1500	144990	Accepted	
22	742	462	355	551	2085	5937	7841	9263	8904	8189	8011	8695	8716	9347	8215	7386	8859	9262	7735	6270	4542	3194	2189	1504	138254	Accepted	
23	794	450	351	554	2149	5988	7981	9241	9139	8742	8595	8987	8669	9049	9531	8732	9184	9700	9124	7394	6010	4372	3063	1920	149719	Accepted	
24	959	466	466	609	2077	5868	7830	9114	9102	8722	8816	8996	8849	8761	9113	9239	9464	9679	8988	8168	6699	4579	3211	1978	151753	Accepted	
25	1149	654	445	575	1950	5200	6994	8141	8521	8548	8684	9081	8907	9377	8857	9328	9577	9427	8522	7265	5721	4515	3516	2655	147609	Accepted	
26																											
27																											
28																											
29																											
30																											

June Average 141640

COVID-19 ADJUSTMENT DATA



2019 Average Count Data – Sta. 6255

April ADT: 134,186

Growth Rate: 1.0%/Year

$$134,186 \times (1.010^2) = 136,883$$

2021 Average Count Data – Sta. 6255

April ADT: 126,793

COVID Adjustment

$$\frac{136,883}{126,793} = 1.0796$$

2019 Average Count Data – Sta. 6255

June ADT: 140,165

Growth Rate: 1.0%/Year

$$140,165 \times (1.010^2) = 142,982$$

2021 Average Count Data – Sta. 6255

June ADT: 141,641

COVID Adjustment

$$\frac{142,982}{141,641} = 1.009$$

VEHICLE TRAVEL SPEED DATA



Accurate Counts
978-664-2565

89640001

Location : Broad Street
Location : West of Vine Street
City/State: Weymouth, MA
Direction: WB,

4/27/2021	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39					
Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	MPH	MPH	MPH	MPH	MPH	MPH					
12:00 AM	0	0	0	0	0	0	0	4	1	1	0	2	1	9	
1:00	0	0	0	0	0	0	0	0	0	0	2	0	2	6	
2:00	0	0	0	0	0	0	0	0	0	2	1	2	1	6	
3:00	0	0	0	0	0	0	0	1	0	1	0	1	2	6	
4:00	0	0	0	0	0	0	0	1	0	3	6	3	4	20	
5:00	0	0	0	0	0	0	0	2	8	11	21	21	16	92	
6:00	0	0	0	0	0	0	0	7	9	18	42	46	26	166	
7:00	0	0	4	1	1	2	10	30	46	68	58	56	23	306	
8:00	0	0	0	0	0	0	10	39	53	88	89	26	18	328	
9:00	0	0	0	0	0	0	12	20	47	76	59	41	20	278	
10:00	0	0	0	0	0	1	9	19	29	61	51	41	19	236	
11:00	0	0	3	1	1	1	10	29	30	86	72	27	14	275	
12:00 PM	0	0	0	0	1	0	14	20	43	64	71	39	14	272	
1:00	0	0	0	0	0	1	8	22	51	49	81	48	15	283	
2:00	0	0	2	1	3	1	7	33	72	109	70	22	14	338	
3:00	0	0	0	0	4	2	8	45	54	76	101	38	21	353	
4:00	0	0	0	0	2	1	9	25	62	88	89	50	17	350	
5:00	0	0	0	0	0	3	7	30	66	65	70	41	14	302	
6:00	0	0	0	2	0	1	10	25	42	65	64	48	17	278	
7:00	0	0	0	0	0	2	2	17	22	57	43	19	20	186	
8:00	0	0	0	1	1	0	4	10	23	34	28	18	9	133	
9:00	0	0	0	0	0	1	2	2	7	27	25	11	9	88	
10:00	0	0	0	0	0	0	1	1	8	9	12	8	9	48	
11:00	0	0	0	0	0	0	1	1	1	12	5	1	3	27	
Total	0	0	9	6	14	15	124	379	677	1070	1061	607	309	115	4386

Percentile	15th	50th	85th	95th
Speed	24.8	29.7	34.7	37.2
Mean Speed (Average)	32.5			
10 MPH Pace Speed	24-33			
Number in Pace	3003			
Percent in Pace	68.5%			
Number > 45 MPH	112			
Percent > 45 MPH	2.6%			

Accurate Counts
978-664-2565

Location : Broad Street
Location : West of Vine Street
City/State: Weymouth, MA
Direction: EB,

89640001

4/27/2021	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	1	4	3	4	2	4	1	19
1:00	0	0	0	0	0	0	0	1	1	1	2	2	2	1	10
2:00	0	0	0	0	0	0	0	0	0	1	1	1	0	1	4
3:00	0	0	0	0	0	0	0	0	3	0	2	1	0	0	6
4:00	0	0	0	0	0	0	0	0	1	2	1	2	3	0	9
5:00	0	0	0	0	0	0	0	0	2	3	7	4	2	5	23
6:00	0	0	0	0	0	0	0	2	11	17	24	12	12	8	86
7:00	0	0	9	2	5	8	11	30	23	57	62	27	10	6	250
8:00	0	0	6	3	4	3	18	27	65	66	64	20	10	6	292
9:00	0	0	2	1	0	2	12	27	38	59	37	27	13	4	222
10:00	0	0	5	3	3	3	12	24	43	55	47	24	23	6	248
11:00	0	0	3	3	6	8	14	22	54	52	49	23	7	6	247
12:00 PM	0	0	6	0	0	2	7	28	63	74	49	14	25	1	269
1:00	0	0	1	3	3	4	18	28	51	58	61	29	13	7	276
2:00	0	0	5	2	5	7	21	39	62	60	55	16	20	5	297
3:00	0	0	7	2	2	11	25	53	81	108	71	32	21	2	415
4:00	0	0	5	1	5	8	33	54	71	89	74	40	26	3	409
5:00	0	0	4	10	7	12	30	51	83	95	104	27	27	9	459
6:00	0	0	5	1	8	16	28	49	66	102	83	32	17	6	413
7:00	0	0	0	0	2	8	18	40	52	47	58	27	8	7	267
8:00	0	0	0	0	0	2	19	6	28	32	34	19	18	9	167
9:00	0	0	0	0	0	0	1	13	22	27	26	17	12	8	126
10:00	0	0	0	0	0	0	1	4	11	3	16	5	8	3	51
11:00	0	0	0	0	2	1	1	2	5	2	7	6	4	3	33
Total	0	0	58	31	52	95	269	501	840	1013	938	409	285	107	4598

Percentile	15th	50th	85th	95th
Speed	22.3	28.5	33.5	36.6
Mean Speed (Average)	30.5			
10 MPH Pace Speed	23-32			
Number in Pace	2943			
Percent in Pace	64.0%			
Number > 45 MPH	104			
Percent > 45 MPH	2.3%			

Accurate Counts
978-664-2565

Location : Broad Street
Location : West of Vine Street
City/State: Weymouth, MA
Direction: Combined

89640001

4/27/2021	0 - 3	> 3 - 6	> 6 - 9	> 9 - 12	> 12 - 15	> 15 - 18	> 18 - 21	> 21 - 24	> 24 - 27	> 27 - 30	> 30 - 33	> 33 - 36	> 36 - 39	> 39	
Time	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH
12:00 AM	0	0	0	0	0	0	0	1	8	4	5	2	6	2	28
1:00	0	0	0	0	0	0	0	1	1	1	4	2	4	3	16
2:00	0	0	0	0	0	0	0	0	0	3	2	3	1	1	10
3:00	0	0	0	0	0	0	0	1	3	1	2	2	2	1	12
4:00	0	0	0	0	0	0	0	1	1	5	7	5	7	3	29
5:00	0	0	0	0	0	0	0	2	10	14	28	25	18	18	115
6:00	0	0	0	0	0	0	0	9	20	35	66	58	38	26	252
7:00	0	0	13	3	6	10	21	60	69	125	120	83	33	13	556
8:00	0	0	6	3	4	3	28	66	118	154	153	46	28	11	620
9:00	0	0	2	1	0	2	24	47	85	135	96	68	33	7	500
10:00	0	0	5	3	4	3	21	43	72	116	98	65	42	12	484
11:00	0	0	6	4	7	9	24	51	84	138	121	50	21	7	522
12:00 PM	0	0	6	0	1	2	21	48	106	138	120	53	39	7	541
1:00	0	0	1	3	3	5	26	50	102	107	142	77	28	15	559
2:00	0	0	7	3	8	8	28	72	134	169	125	38	34	9	635
3:00	0	0	7	2	6	13	33	98	135	184	172	70	42	6	768
4:00	0	0	5	1	7	9	42	79	133	177	163	90	43	10	759
5:00	0	0	4	10	7	15	37	81	149	160	174	68	41	15	761
6:00	0	0	5	3	8	17	38	74	108	167	147	80	34	10	691
7:00	0	0	0	0	2	10	20	57	74	104	101	46	28	11	453
8:00	0	0	0	1	1	2	23	16	51	66	62	37	27	14	300
9:00	0	0	0	0	0	1	3	15	29	54	51	28	21	12	214
10:00	0	0	0	0	0	0	2	5	19	12	28	13	17	3	99
11:00	0	0	0	0	2	1	2	3	6	14	12	7	7	6	60
Total	0	0	67	37	66	110	393	880	1517	2083	1999	1016	594	222	8984

Percentile	15th	50th	85th	95th
Speed	23.5	29.1	34.1	37.2
Mean Speed (Average)	31.5			
10 MPH Pace Speed	24-33			
Number in Pace	5933			
Percent in Pace	66.0%			
Number > 45 MPH	216			
Percent > 45 MPH	2.4%			

PUBLIC TRANSPORTATION SCHEDULES



Effective Jun 20, 2021

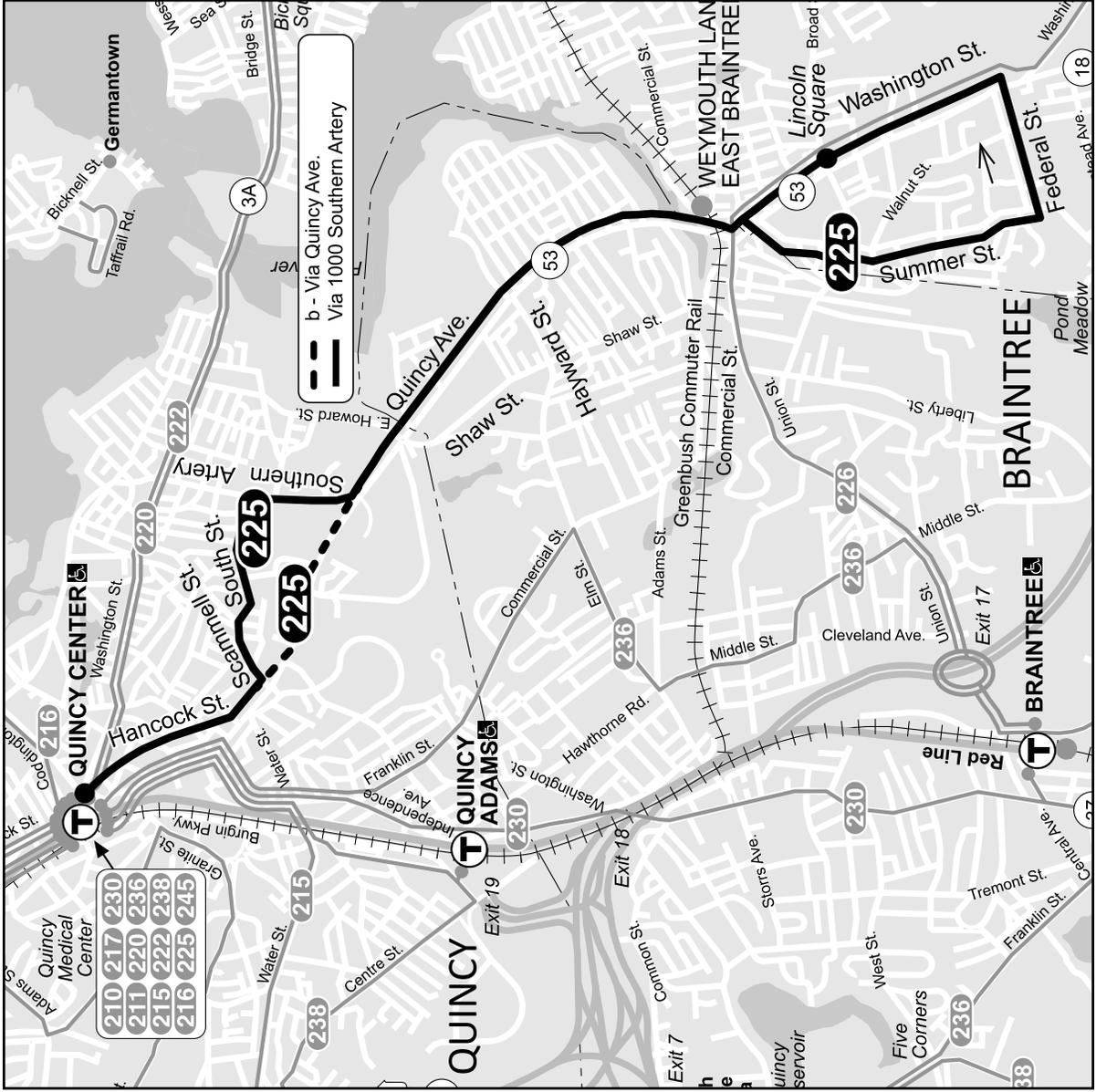
225

A Schedule Change

Weymouth Landing - Quincy Center Sta



mbta.com
 617-222-3200
 617-222-5146 (TTY)
Lost & Found
 617-222-5367



A Information in this timetable is subject to change without notice. Traffic conditions and weather can affect running time.

225

Weekday

Inbound				Outbound				225				Saturday				Sunday						
Weymouth Landing	Southern Artery	Pres. Plaza	Quincy Center Sta.	Quincy Center Sta.	Pres. Plaza	Southern Artery	Weymouth Landing	Weymouth Landing	Southern Artery	Pres. Plaza	Southern Artery	Weymouth Landing	Quincy Center Sta.	Quincy Center Sta.	Pres. Plaza	Southern Artery	Weymouth Landing	Quincy Center Sta.	Quincy Center Sta.	Southern Artery	Weymouth Landing	
5:30A	.....	5:38A	5:49A	5:10A	5:13A	.....	5:26A	6:30A	.....	6:39A	6:48A	6:05A	6:09A	.....	6:09A	.....	6:23A	7:50A	8:10A	7:25A	7:38A	7:38A
5:50	.....	5:58	5:30	5:30	5:33	.....	5:46	7:30	7:38A	.....	7:51	7:05	.....	.....	.....	.....	7:25	8:50	9:10	8:20	8:58	8:58
6:11	6:18A	.....	6:31	6:31	5:55	6:06A	6:08	8:30	8:39	8:39	8:50	8:00	8:06	8:22	8:06	8:38	8:53	9:50	10:10	9:20	9:57	9:40
6:23	.....	6:31	6:43	6:00	.....	.....	6:20	9:00	9:08	9:39	9:21	8:30	9:30	9:06	9:06	8:38	9:22	10:50	11:13	10:20	10:28	10:41
6:35	6:45	.....	6:59	6:13	6:16	.....	6:29	9:30	.....	9:39	9:50	9:00	9:06	9:06	9:06	9:22	9:33	11:50	12:13P	11:22	11:30	11:43
6:47	.....	6:58	7:10	6:23	.....	6:29	6:43	10:00	10:08	.....	10:21	9:30	10:06	10:06	10:06	9:38	9:33	.....	.....	12:22P	12:30P	12:43P
6:59	7:09	7:22	7:23	6:37	6:40	6:53	6:53	10:30	11:08	10:39	10:53	10:00	10:06	10:06	10:06	10:38	10:22	1:50	2:12	2:21	2:29	2:42
7:11	7:35	.....	7:34	7:03	7:06	7:19	7:19	11:00	11:08	11:39	11:23	11:30	11:06	11:06	11:06	11:24	11:24	2:50	3:11	3:20	3:28	3:42
7:24	.....	7:49	7:49	7:14	.....	7:20	7:34	11:30	.....	.....	11:53	11:00	11:06	11:06	11:38	11:55	11:55	3:50	4:11	4:20	4:28	4:42
7:38	8:03	.....	8:01	7:14	7:32	7:46	7:46	12:00N	12:08P	.....	12:23P	12:00N	12:06P	.....	.....	.....	12:24P	4:50	5:11	5:20	5:28	5:42
8:05	.....	8:16	8:28	7:40	7:59	7:48	8:02	12:30	1:08	12:39P	1:23	12:30	12:06P	12:38P	.....	.....	12:55	5:50	6:11	6:20	6:28	6:42
8:18	8:29	8:42	8:43	7:53	7:59	8:14	8:13	1:30	2:08	.....	1:53	1:30	1:06	1:38	.....	.....	1:24	6:50	7:08	7:20	7:27	7:40
8:31	.....	8:42	8:54	8:06	8:27	8:41	8:28	2:00	2:08	1:39	2:23	1:30	.....	1:38	.....	.....	1:55	7:50	8:07	8:20	8:26	8:38
8:44	8:55	9:09	9:09	8:21	8:27	8:41	8:41	2:20	2:48	.....	2:43	1:50	1:56	2:14	.....	.....	2:14	8:50	9:07	9:20	9:26	9:38
8:58	.....	9:09	9:21	8:32	8:54	9:09	9:09	2:40	2:48	2:29	3:03	2:10	.....	2:18	.....	.....	2:35	9:50	10:07	10:20	10:26	10:38
9:12	9:23	9:37	9:37	8:47	8:54	9:07	9:21	3:00	3:28	3:09	3:23	2:30	2:36	2:54	.....	.....	2:54	10:50	10:56	11:20	11:25	11:37
9:26	.....	9:37	9:49	8:58	8:54	9:07	9:21	3:30	3:28	.....	3:41	2:50	2:36	2:54	.....	.....	2:54	.....	.....	.....	.....	.....
9:40	9:51	10:20	10:05	9:15	9:22	9:37	9:37	3:40	3:28	3:48	3:59	3:10	.....	3:15	.....	.....	3:15	.....	.....	.....	.....	.....
10:09	.....	10:20	10:32	9:43	.....	9:52	10:06	3:40	3:40	3:48	3:59	3:10	3:16	3:33	.....	.....	3:33	.....	.....	.....	.....	.....
10:37	10:46	11:16	11:00	10:11	10:18	10:33	10:33	4:00	4:07	4:20	4:20	3:30	3:55	3:37	.....	.....	3:53	.....	.....	.....	.....	.....
11:05	.....	11:16	11:28	10:36	11:04	10:45	10:59	4:20	4:20	4:28	4:39	3:50	3:55	4:12	.....	.....	4:12	.....	.....	.....	.....	.....
11:35	11:44	.....	11:58	11:04	11:11	11:26	11:26	4:40	4:47	5:08	5:00	4:10	4:35	4:17	.....	.....	4:33	.....	.....	.....	.....	.....
12:05P	.....	12:16P	12:28P	12:04P	12:11P	12:28P	12:28P	5:00	5:00	5:08	5:19	4:30	4:35	4:52	.....	.....	4:52	.....	.....	.....	.....	.....
12:35	12:44P	.....	12:58	12:34	12:41P	12:58	12:58	5:20	5:27	5:48	5:40	4:50	5:15	4:57	.....	.....	5:13	.....	.....	.....	.....	.....
1:05	1:16	1:44	1:28	1:34	.....	1:43P	1:43P	5:40	5:40	5:48	5:59	5:10	5:15	5:32	.....	.....	5:32	.....	.....	.....	.....	.....
1:35	1:44	.....	1:58	1:04	1:11	1:28	1:28	6:05	6:12	6:43	6:25	5:35	5:42	5:58	.....	.....	5:58	.....	.....	.....	.....	.....
2:05	2:16	2:44	2:28	1:34	2:09	2:42	2:42	6:35	7:12	6:43	6:54	6:05	6:10	6:42	.....	.....	6:42	.....	.....	.....	.....	.....
2:35	2:44	3:14	2:58	2:02	2:09	2:27	2:59	7:05	7:05	8:13	7:22	7:35	7:39	6:42	.....	.....	6:58	.....	.....	.....	.....	.....
3:03	3:14	3:42	3:26	2:32	3:09	2:42	3:27	8:05	9:12	8:13	8:21	7:35	7:39	6:42	.....	.....	7:55	.....	.....	.....	.....	.....
3:31	3:38	4:11	3:52	3:02	3:09	3:27	3:27	9:05	9:12	10:12	9:22	8:35	9:39	8:42	.....	.....	8:57	.....	.....	.....	.....	.....
4:02	.....	4:11	4:23	3:30	3:09	3:40	3:58	10:05	11:07	10:12	10:20	9:35	9:39	8:42	.....	.....	9:55	.....	.....	.....	.....	.....
4:18	4:25	4:40	4:39	3:45	3:54	4:09	4:13	11:00	11:07	12:02A	11:16	10:35	9:39	8:42	.....	.....	10:57	.....	.....	.....	.....	.....
4:32	.....	4:40	4:52	3:59	4:21	4:27	4:27	11:55	.....	.....	12:10A	11:30	11:34	10:42	.....	.....	11:47	.....	.....	.....	.....	.....
4:45	4:52	5:05	5:06	4:12	4:21	4:40	4:40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4:57	5:17	5:05	5:17	4:24	4:21	4:34	4:52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5:10	.....	5:05	5:31	4:38	4:47	4:58	5:06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5:21	.....	5:29	5:41	4:48	5:09	4:58	5:17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5:33	5:40	5:53	5:54	5:00	5:09	5:29	5:29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5:45	.....	5:53	6:05	5:12	5:33	5:41	5:41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5:57	6:04	6:18	6:18	5:24	5:33	5:53	5:53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6:10	6:28	6:40	6:30	5:37	5:57	6:06	6:06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6:21	6:28	6:40	6:52	6:00	5:57	6:09	6:16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6:32	6:50	7:01	7:03	6:12	6:18	6:37	6:37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6:43	.....	7:01	7:11	6:24	.....	6:50	6:50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6:54	7:10	7:24	7:21	6:36	6:42	7:01	7:01	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7:05	7:18	7:58	7:34	6:48	7:06	7:15	7:15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7:53	.....	8:09	8:09	7:00	7:06	7:25	7:25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8:38	.....	8:44	8:54	7:24	8:17	7:33	7:50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9:28	9:33	10:18	9:44	8:12	8:17	9:08	8:34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10:12	11:05	.....	10:28	8:59	9:52	9:25	9:25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11:00	.....	12:03A	11:14	9:47	9:52	10:40	10:54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11:57	.....	.....	12:11A	10:32	11:39	10:40	11:52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

All buses are accessible to persons with disabilities

Fare	Local Bus	Bus + Bus	Subway	Bus + Subway
CharlieCard	\$1.70	\$1.70	\$2.40	\$2.40
CharlieTicket	\$1.70	\$3.40	\$2.40	\$4.10*
Cash-on-Board	\$1.70	\$3.40	\$2.40	\$4.10
Student/Youth**	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP***	\$0.85	\$0.85	\$1.10	\$1.10

FREE FARES: Children 11 and under ride free when accompanied by a paying customer; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.
 * Transfers Subway to Silver Line SL4 or SL5 pay \$2.40
 ** Requires Student CharlieCard or Youth CharlieCard. Student CharlieCards available to students through participating middle and high schools. Youth CharlieCards available through community partners across greater Boston.
 *** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Summer 2021 Holidays
7/4 Sun; 7/5 Sun(Bus) Sat(Rail)

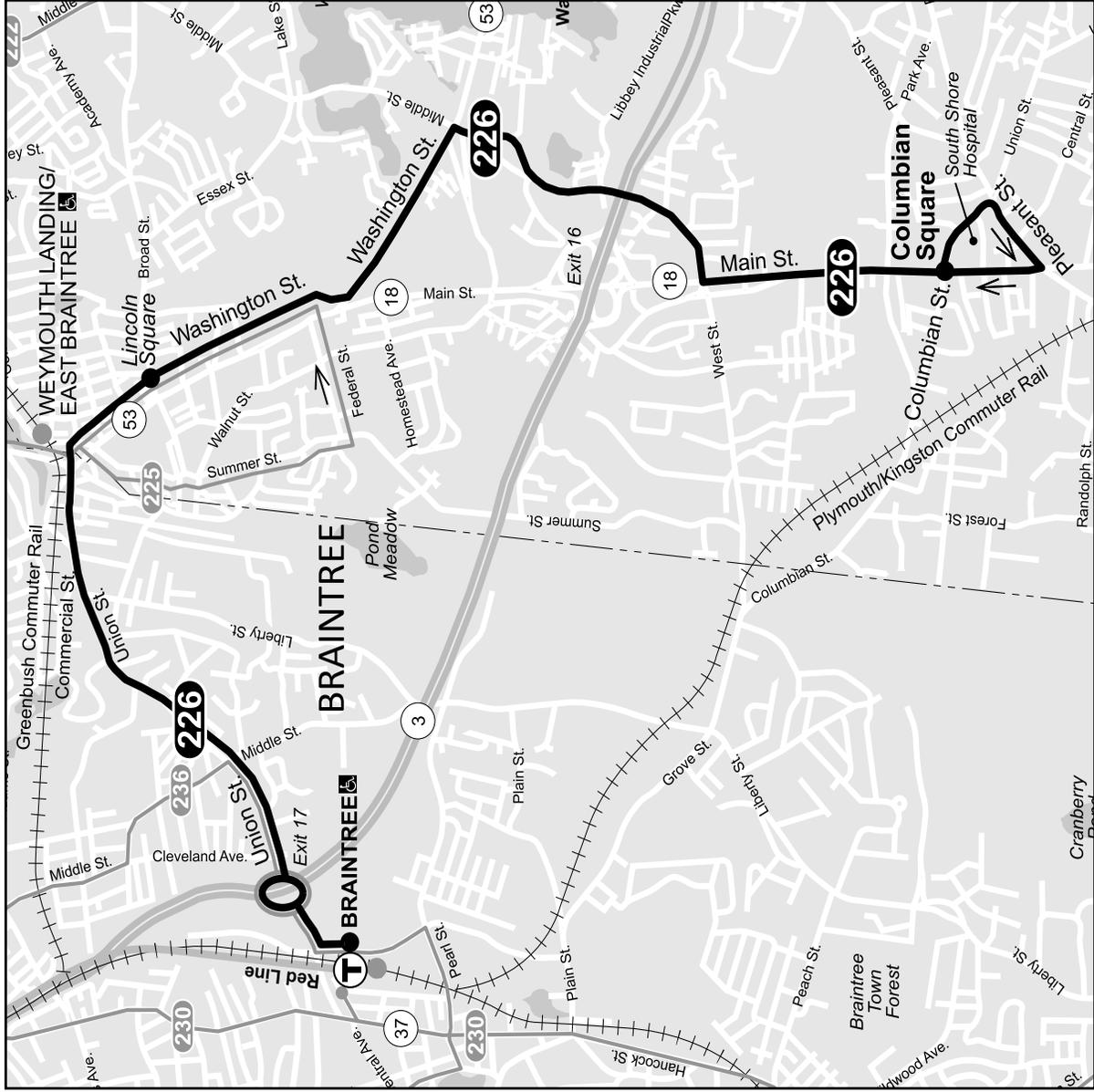
Effective Jun 20, 2021

226

Columbian Sq - Braintree Station



mbta.com
617-222-3200
617-222-5146 (TTY)
Lost & Found
617-222-5367



▲ Information in this timetable is subject to change without notice. Traffic conditions and weather can affect running time.

226

Weekday

Inbound		Outbound			226			Saturday			Outbound		
Column-bian Sq	Weymouth Landing	Braintree Station	Weymouth Landing	Column-bian Sq	Column-bian Sq	Weymouth Landing	Braintree Station	Weymouth Landing	Column-bian Sq	Braintree Station	Weymouth Landing	Column-bian Sq	
6:20A	6:28A	6:38A	5:45A	5:53A	6:05A	7:00A	7:12A	7:21A	6:35A	6:42A	6:52A		
6:50	6:58	7:13	6:25	6:33	6:45	7:50	8:02	8:11	7:25	7:32	7:44		
7:30	7:41	7:56	6:55	7:03	7:15	8:40	8:52	9:01	8:15	8:23	8:35		
8:00	8:11	8:26	7:25	7:34	7:50	9:35	9:48	9:58	9:10	9:18	9:30		
8:35	8:46	9:01	8:01	8:12	8:28	10:35	10:48	10:58	10:05	10:13	10:25		
9:05	9:16	9:31	8:35	8:44	9:01	11:35	11:48	11:58	11:05	11:16	11:30		
9:50	10:01	10:16	9:20	9:29	9:46								
10:50	11:00	11:13	10:20	10:29	10:46								
11:50	12:00N	12:13P	11:20	11:29	11:46								
12:50P	1:00	1:13	12:20P	12:29P	12:46P								
1:50	2:00	2:13	1:20	1:29	1:46								
2:50	3:00	3:13	2:20	2:29	2:46								
3:50	4:01	4:15	3:17	3:26	3:44								
4:35	4:46	5:00	4:26	4:37	4:55								
5:05	5:17	5:32	4:58	5:08	5:38								
5:45	5:57	6:10	5:40	5:52	6:10								
6:15	6:26	6:39	6:15	6:27	6:43								
6:48	6:59	7:12	6:45	6:56	7:12								
7:16	7:26	7:39	7:43	7:52	8:06								
8:10	8:20	8:33	8:37	8:46	9:00								
9:04	9:14	9:27	9:31	9:40	9:54								
9:58	10:07	10:17	10:21	10:29	10:40								
10:44	10:53	11:03	11:07	11:15	11:26								
11:30	11:39	11:49											

All buses are accessible to persons with disabilities

Fare	Local Bus	Bus + Bus	Subway	Bus + Subway
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CharlieTicket	\$1.70	\$1.70	\$2.40	\$4.10*
Cash-on-Board	\$1.70	\$3.40	\$2.40	\$4.10
Student/Youth**	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP***	\$0.85	\$0.85	\$1.10	\$1.10

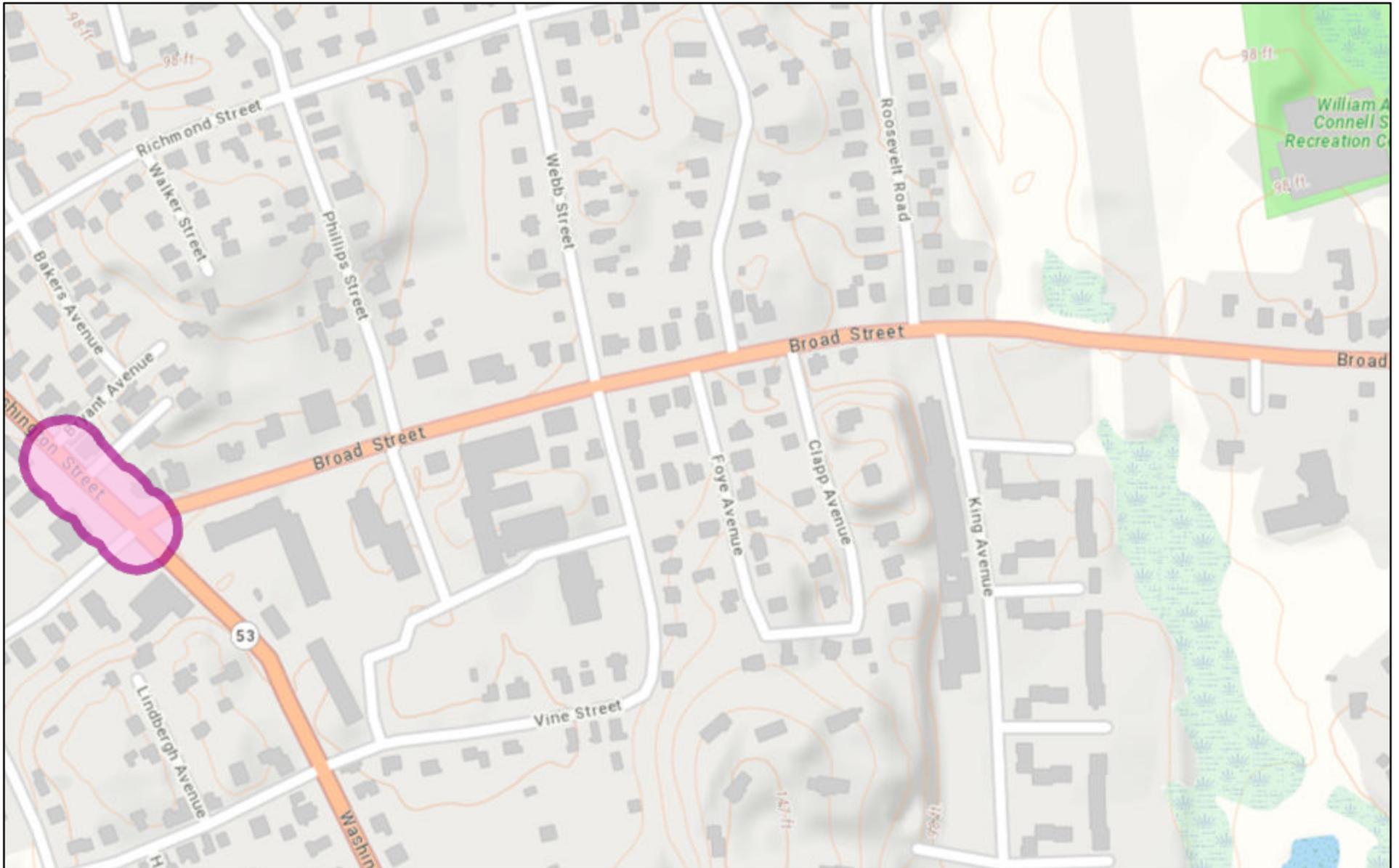
FREE FARES: Children 11 and under ride free when accompanied by a paying customer; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.
 * Transfers Subway to Silver Line S4 or S15 pay \$2.40
 ** Requires Student CharlieCard or Youth CharlieCard. Student CharlieCards available to students through participating middle and high schools. Youth CharlieCards available through community partners across Greater Boston.
 *** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Summer 2021 Holidays
 7/4 Sun; 7/5 Sun(Bus) Sat(Rail)

MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAPPING

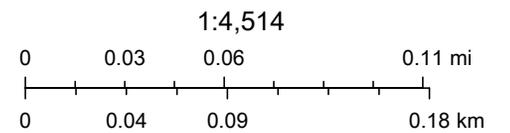


MassDOT Top Crash Locations



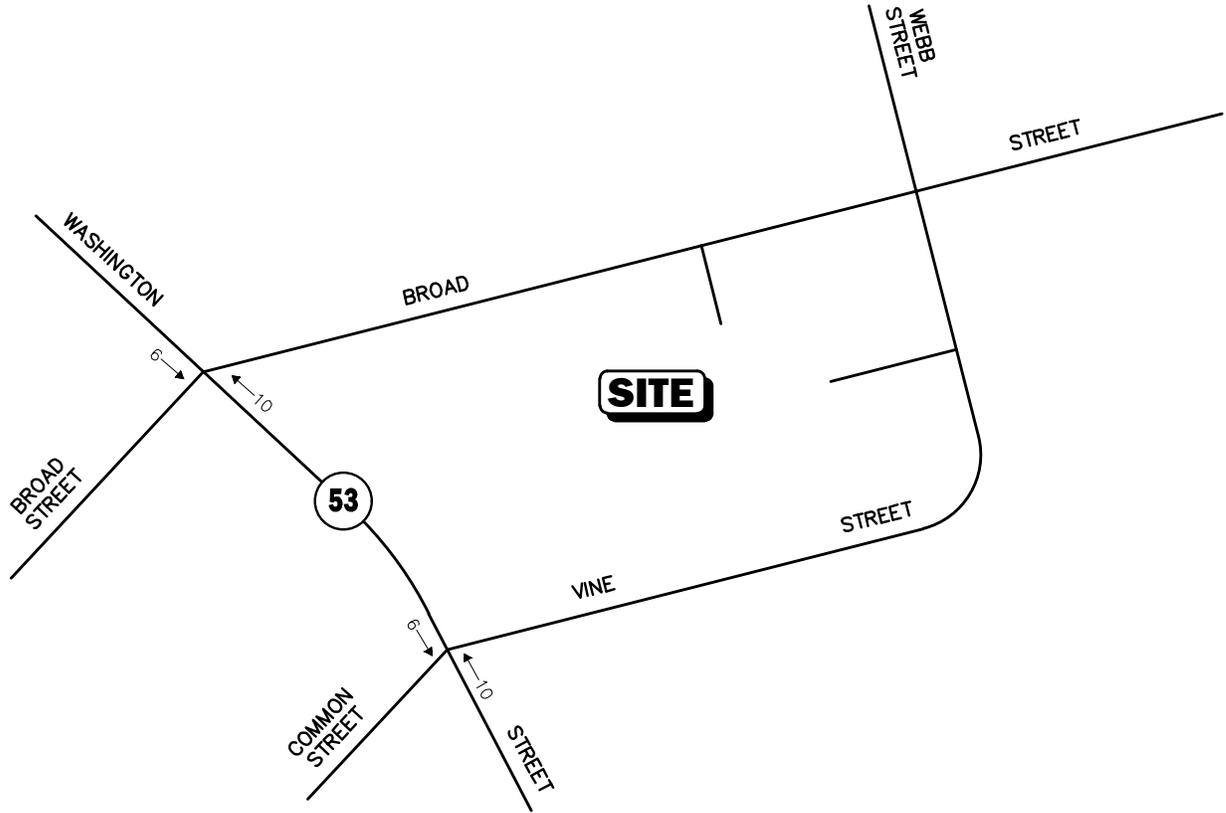
6/28/2021, 1:22:02 PM

 2015-2017 HSIP Cluster



BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS





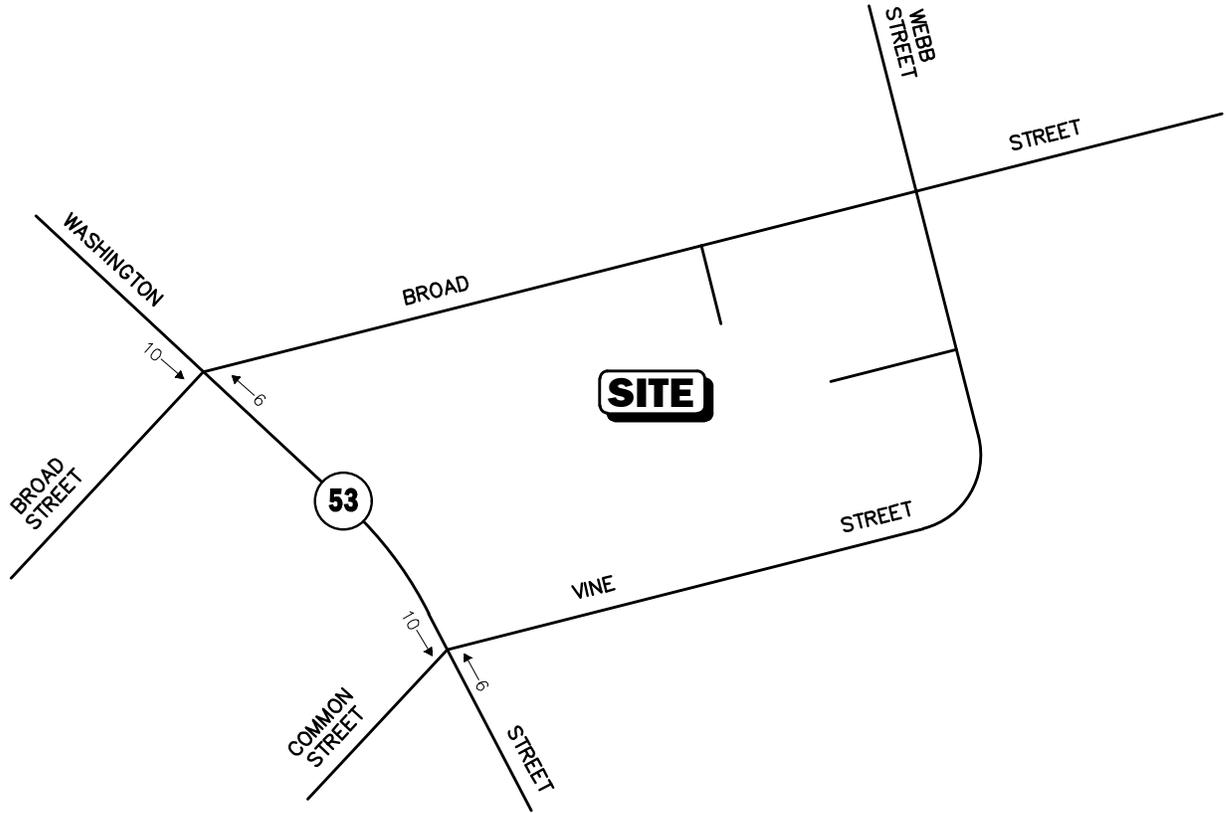
 Not To Scale



Figure A-1

Trinity Green
Weekday Morning
Peak Hour Traffic Volumes

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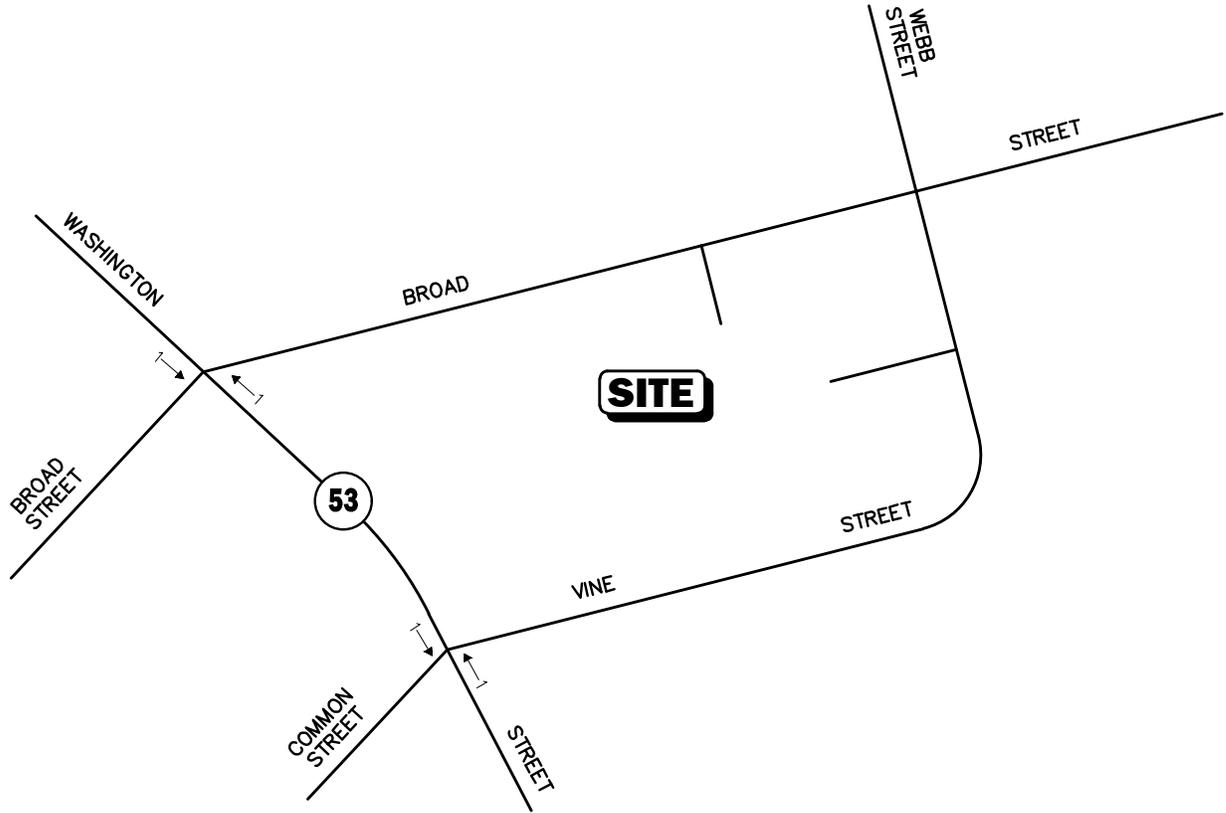


 Not To Scale



Figure A-2

Trinity Green
Weekday Evening
Peak Hour Traffic Volumes



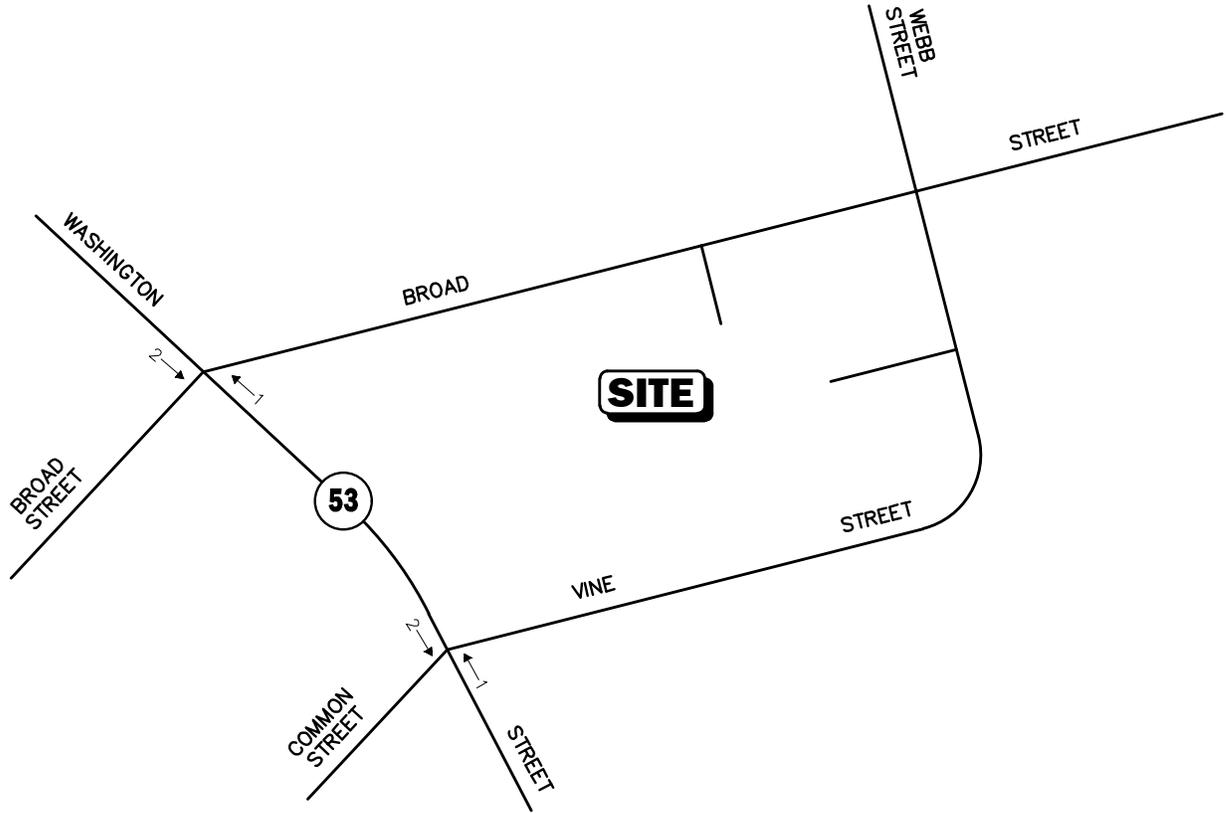
 Not To Scale



Figure A-3

Pleasant Street Residences
Weekday Morning
Peak Hour Traffic Volumes

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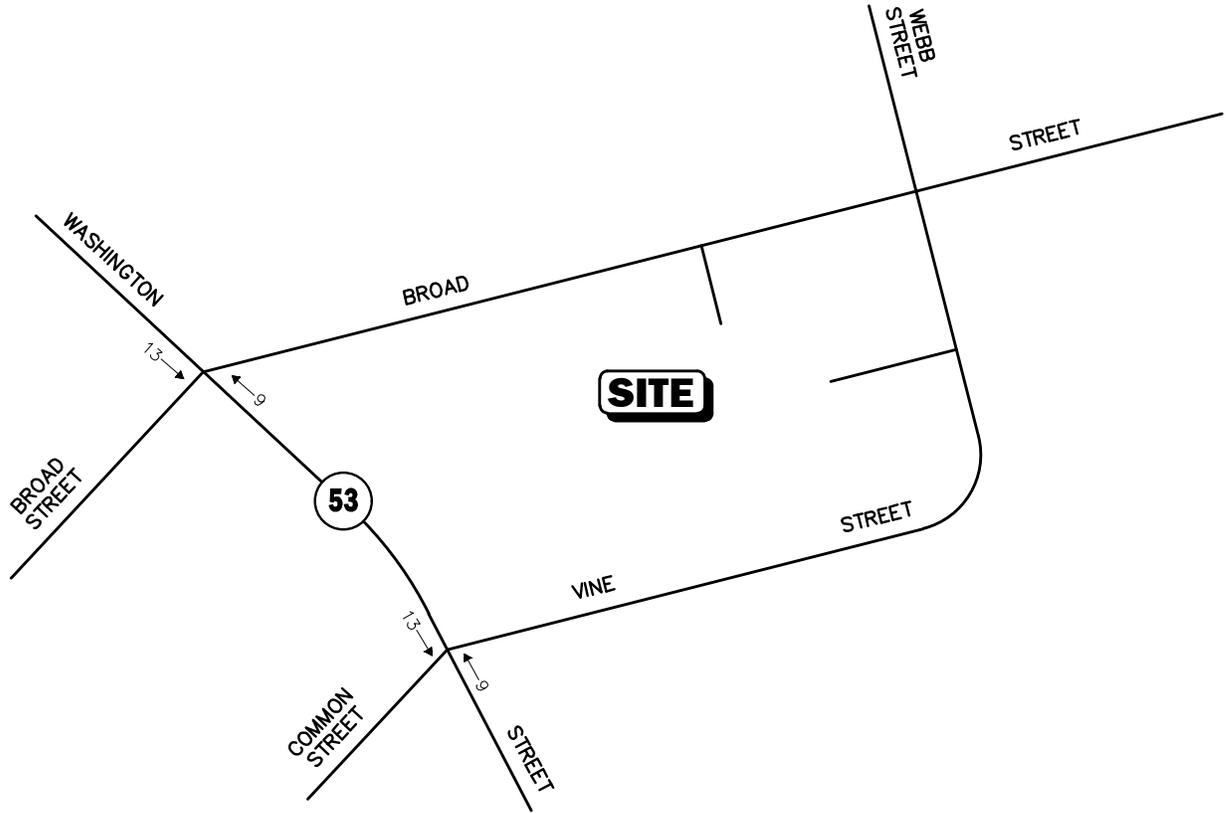
 Not To Scale



Figure A-4

Pleasant Street Residences
Weekday Evening
Peak Hour Traffic Volumes

R:\8964\8964NT1.dwg, 7/2/2021 3:31:36 PM



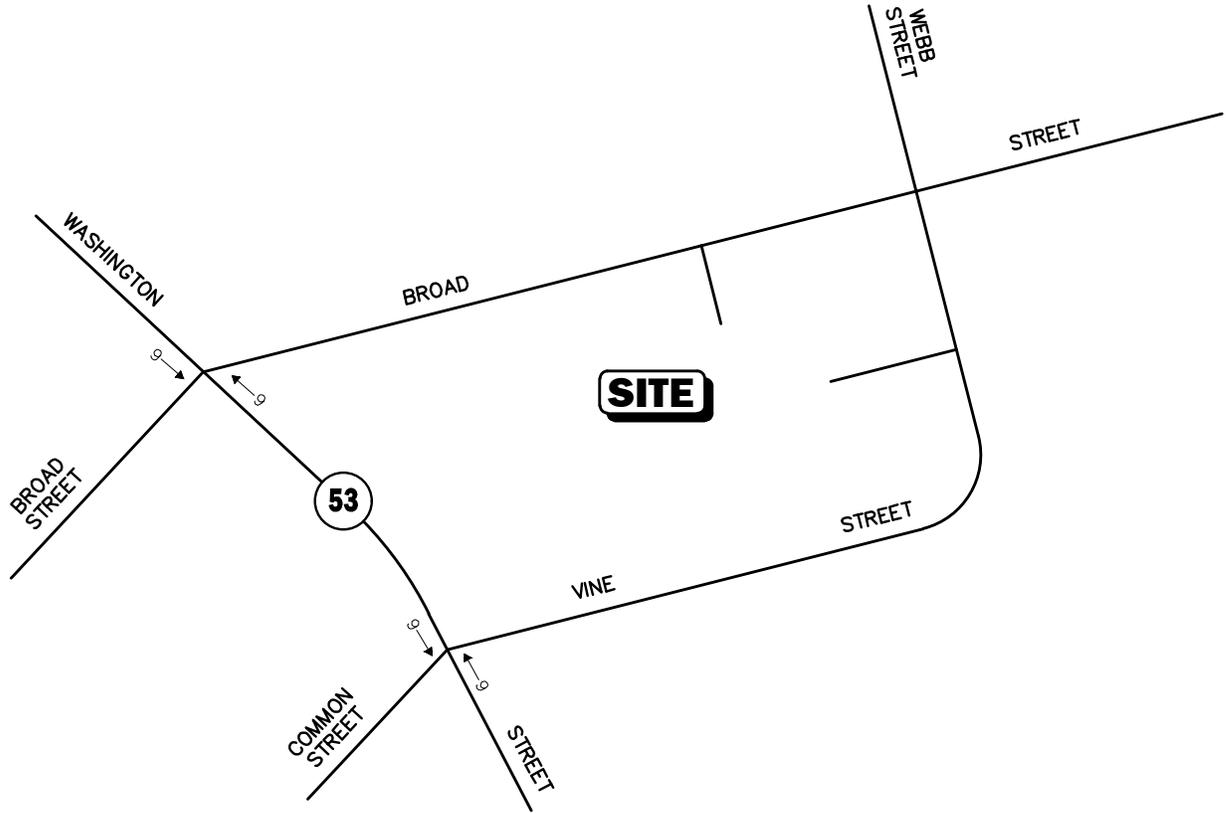
 Not To Scale



Figure A-5

Hanover Apartments
Weekday Morning
Peak Hour Traffic Volumes

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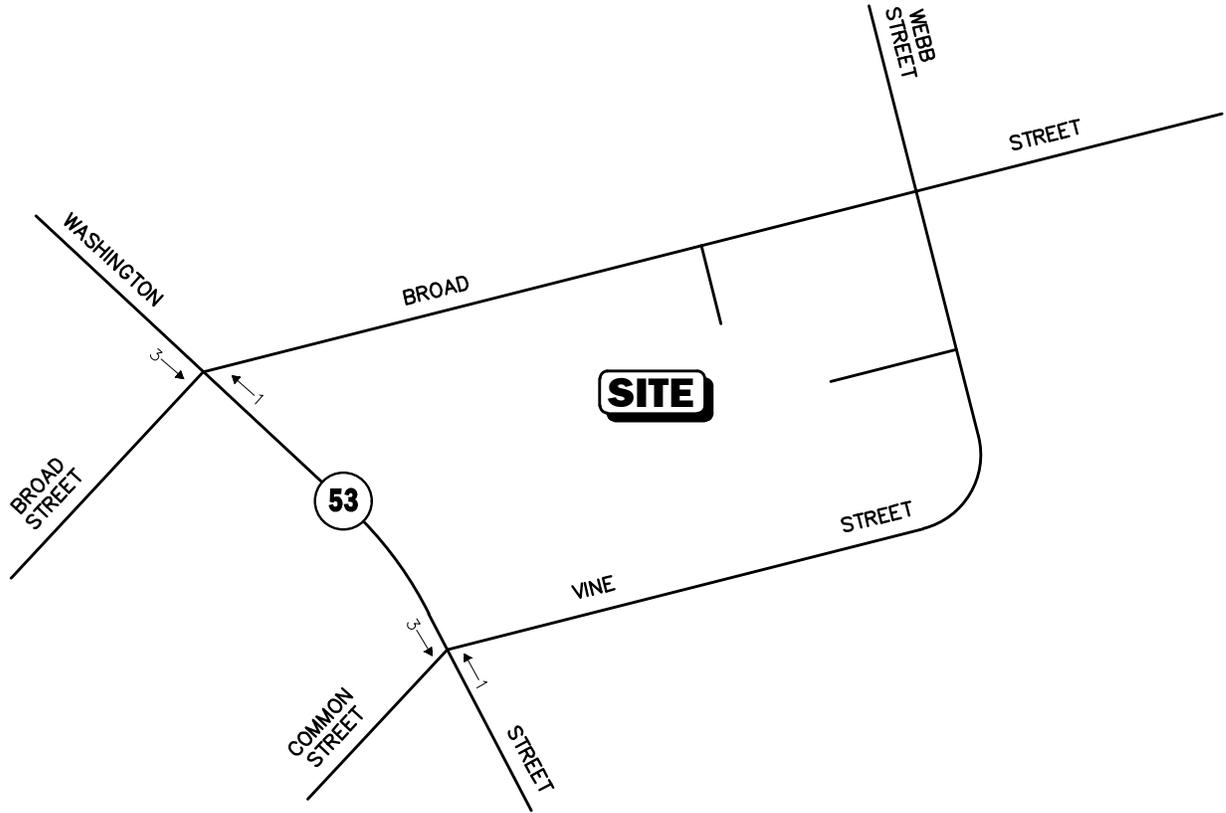
 Not To Scale



Figure A-6

Hanover Apartments
Weekday Evening
Peak Hour Traffic Volumes

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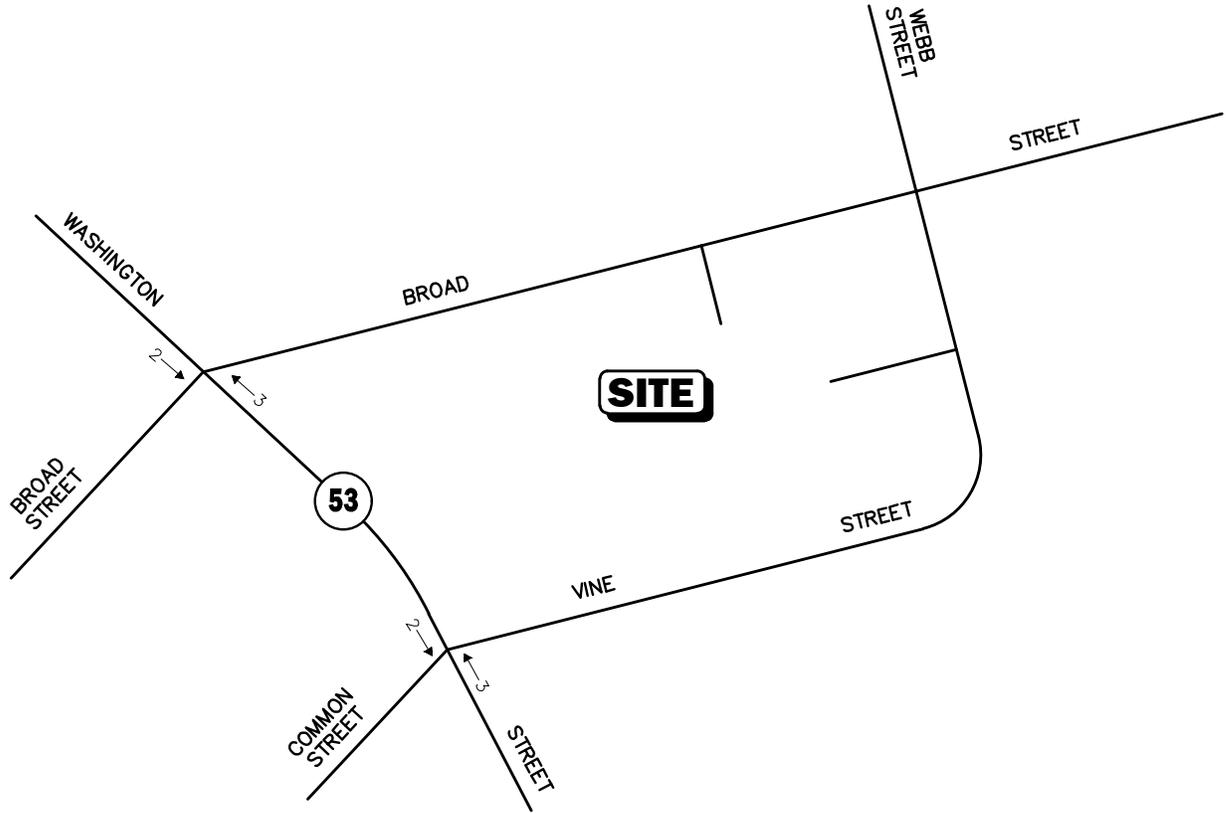

 Not To Scale



Figure A-7

**Switch House Lofts
 Weekday Morning
 Peak Hour Traffic Volumes**

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 Not To Scale



Figure A-8

Switch House Lofts
Weekday Evening
Peak Hour Traffic Volumes

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TRIP DISTRIBUTION TABLE



Proposed Residential Development - Weymouth, MA

Residence	Workplace			Number	Route 53 (North)	Route 53 (South)	Broad Street (East)	Broad Street (West)
Weymouth Town city	Massachusetts	Suffolk County	Boston city	6,610	5619	992		
Weymouth Town city	Massachusetts	Norfolk County	Weymouth Town city	4,877		2195	2195	488
Weymouth Town city	Massachusetts	Norfolk County	Quincy city	3,244	3244			
Weymouth Town city	Massachusetts	Plymouth County	Hingham town	1,828			1828	
Weymouth Town city	Massachusetts	Norfolk County	Braintree Town city	1,700	850			850
Weymouth Town city	Massachusetts	Plymouth County	Norwell town	646		258	388	
Weymouth Town city	Massachusetts	Plymouth County	Rockland town	602		602		
Weymouth Town city	Massachusetts	Middlesex County	Cambridge city	596	596			
Weymouth Town city	Massachusetts	Plymouth County	Brockton city	476		286		190
Weymouth Town city	Massachusetts	Plymouth County	Hanover town	465		233	233	
Weymouth Town city	Massachusetts	Norfolk County	Norwood town	371	167			204
Weymouth Town city	Massachusetts	Norfolk County	Randolph town	349		87		262
Weymouth Town city	Massachusetts	Norfolk County	Canton town	330	182			149
Weymouth Town city	Massachusetts	Norfolk County	Stoughton town	302	151	151		
Weymouth Town city	Massachusetts	Middlesex County	Waltham city	290	145	145		
Weymouth Town city	Massachusetts	Plymouth County	Plymouth town	249		249		
Weymouth Town city	Massachusetts	Norfolk County	Dedham town	244	122	122		
Weymouth Town city	Massachusetts	Middlesex County	Newton city	225		225		
Weymouth Town city	Massachusetts	Plymouth County	Abington town	223		145		78
Weymouth Town city	Massachusetts	Plymouth County	Pembroke town	218		218		
Weymouth Town city	Massachusetts	Plymouth County	Marshfield town	195		195		
Weymouth Town city	Massachusetts	Norfolk County	Wellesley town	166	166			
Weymouth Town city	Massachusetts	Middlesex County	Somerville city	164	164			
Weymouth Town city	Massachusetts	Norfolk County	Milton town	164	164			
				24,534	11,569	6,102	4,643	2,220
					47%	25%	19%	9%
				SAY	45%	25%	20%	10%

TRIP-GENERATION CALCULATIONS



Multifamily Housing (Mid-Rise) (221)

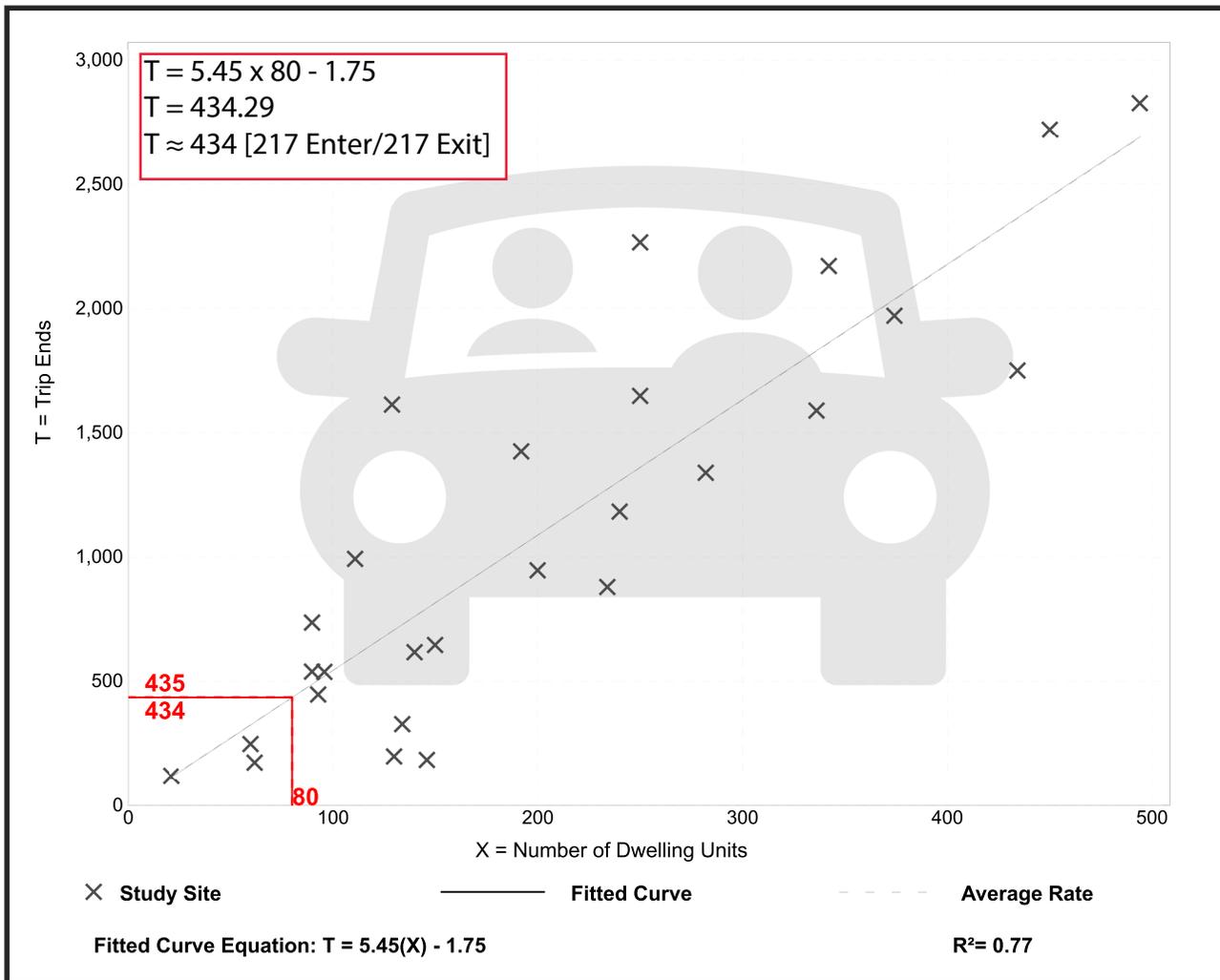
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

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



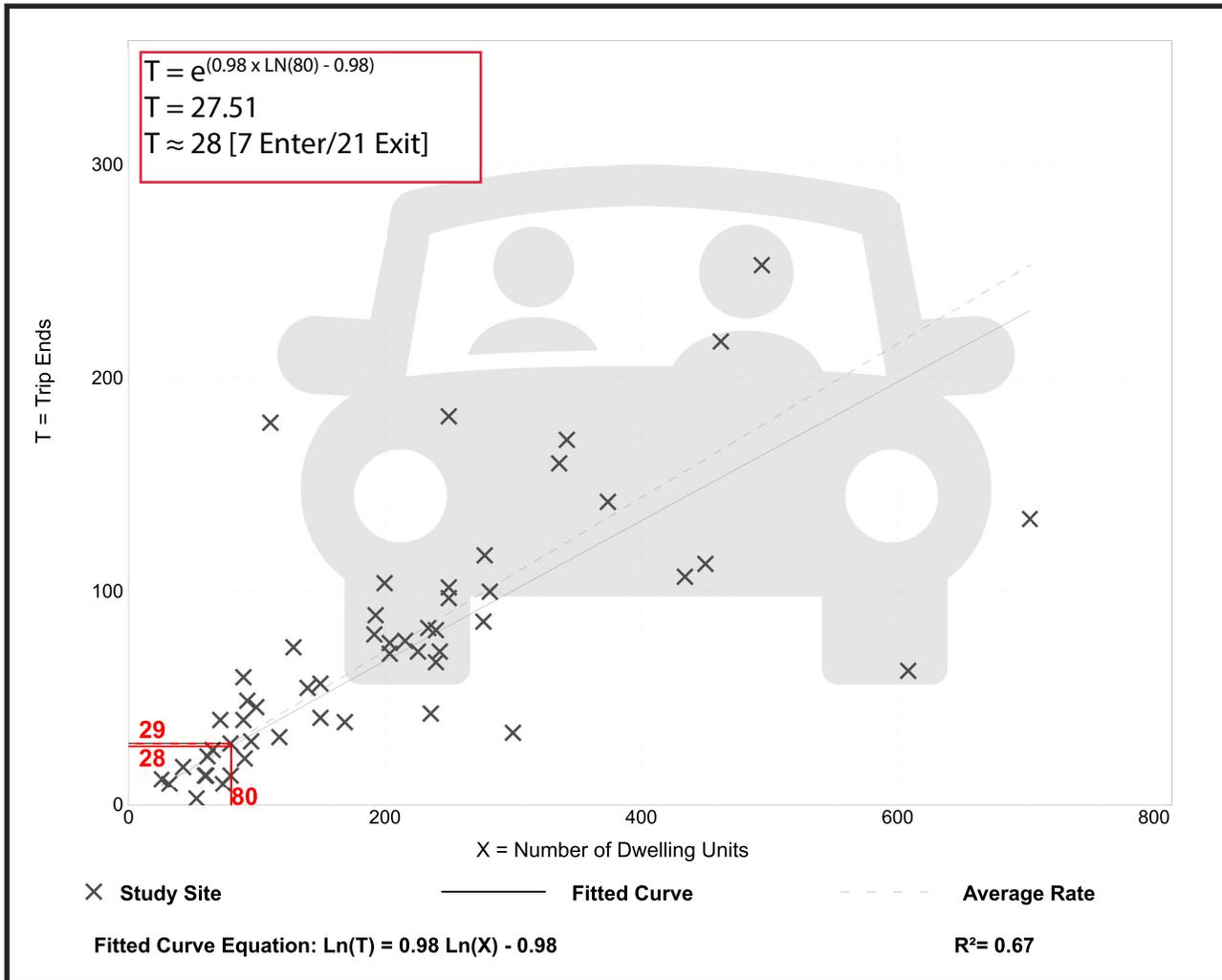
Multifamily Housing (Mid-Rise) (221)

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)

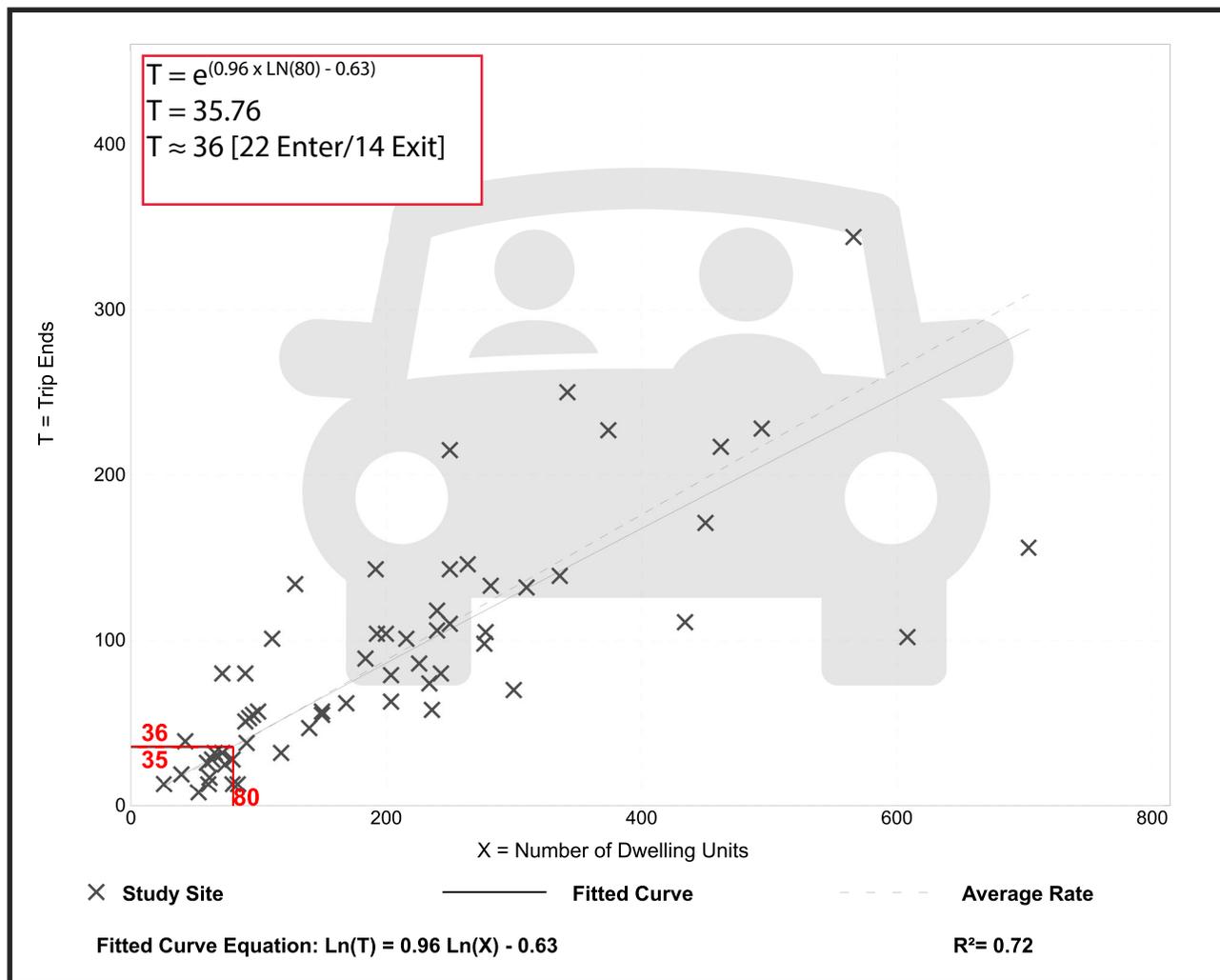
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

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



Assisted Living (254)

Vehicle Trip Ends vs: **Beds**
On a: **Weekday**

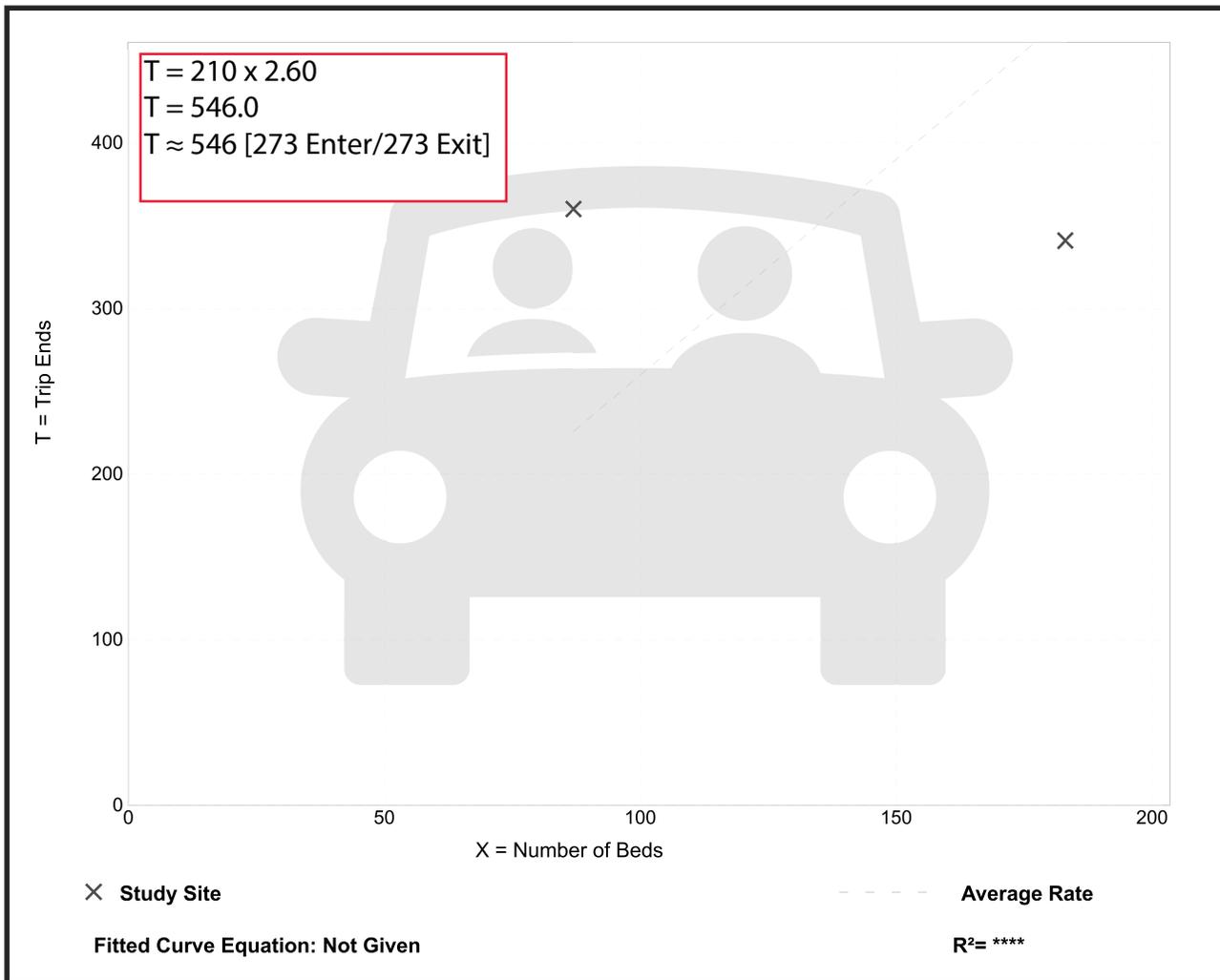
Setting/Location: General Urban/Suburban
Number of Studies: 2
Avg. Num. of Beds: 135
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
2.60	1.86 - 4.14	*

Data Plot and Equation

Caution – Small Sample Size



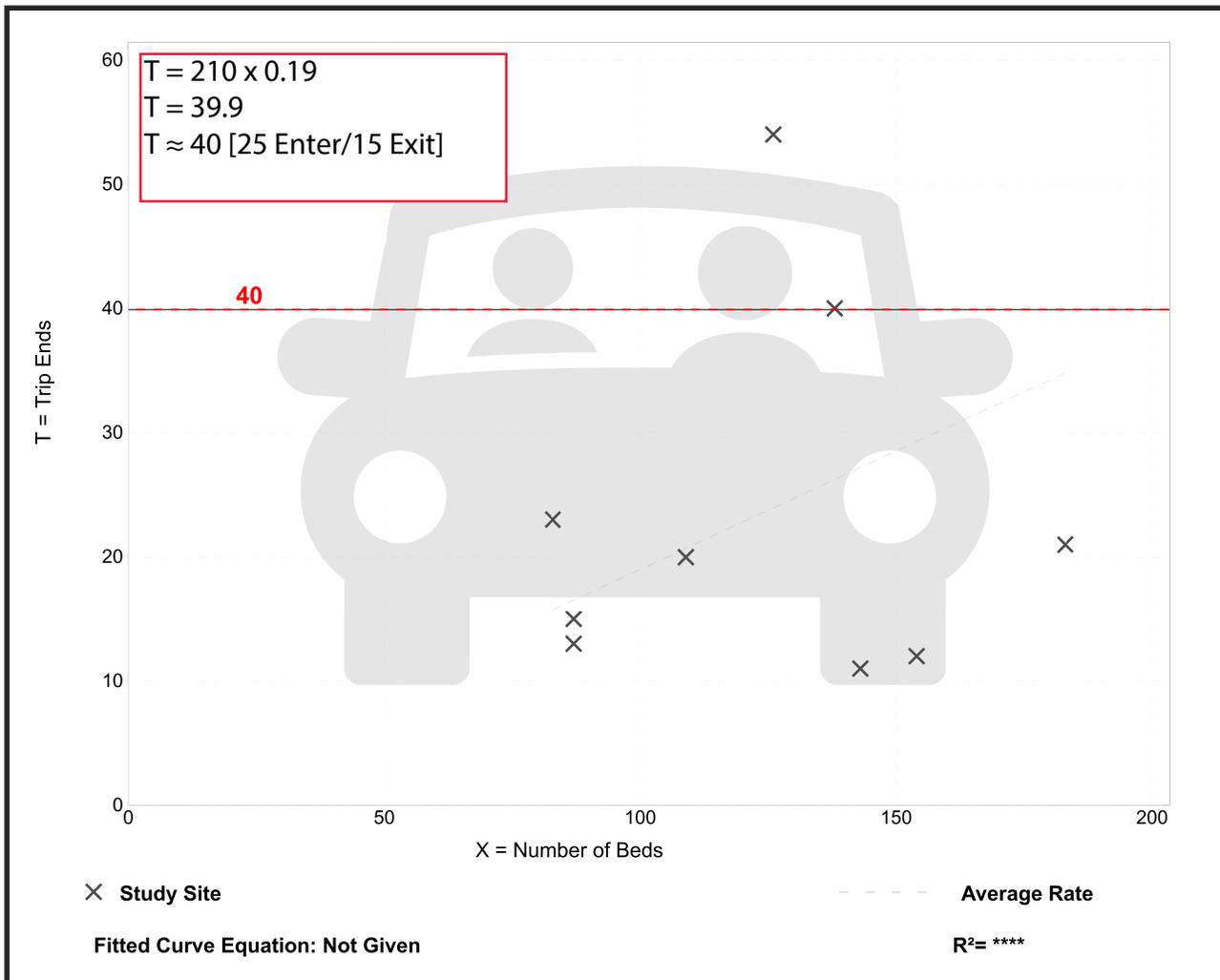
Assisted Living (254)

Vehicle Trip Ends vs: Beds
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 9
 Avg. Num. of Beds: 123
 Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
0.19	0.08 - 0.43	0.12

Data Plot and Equation



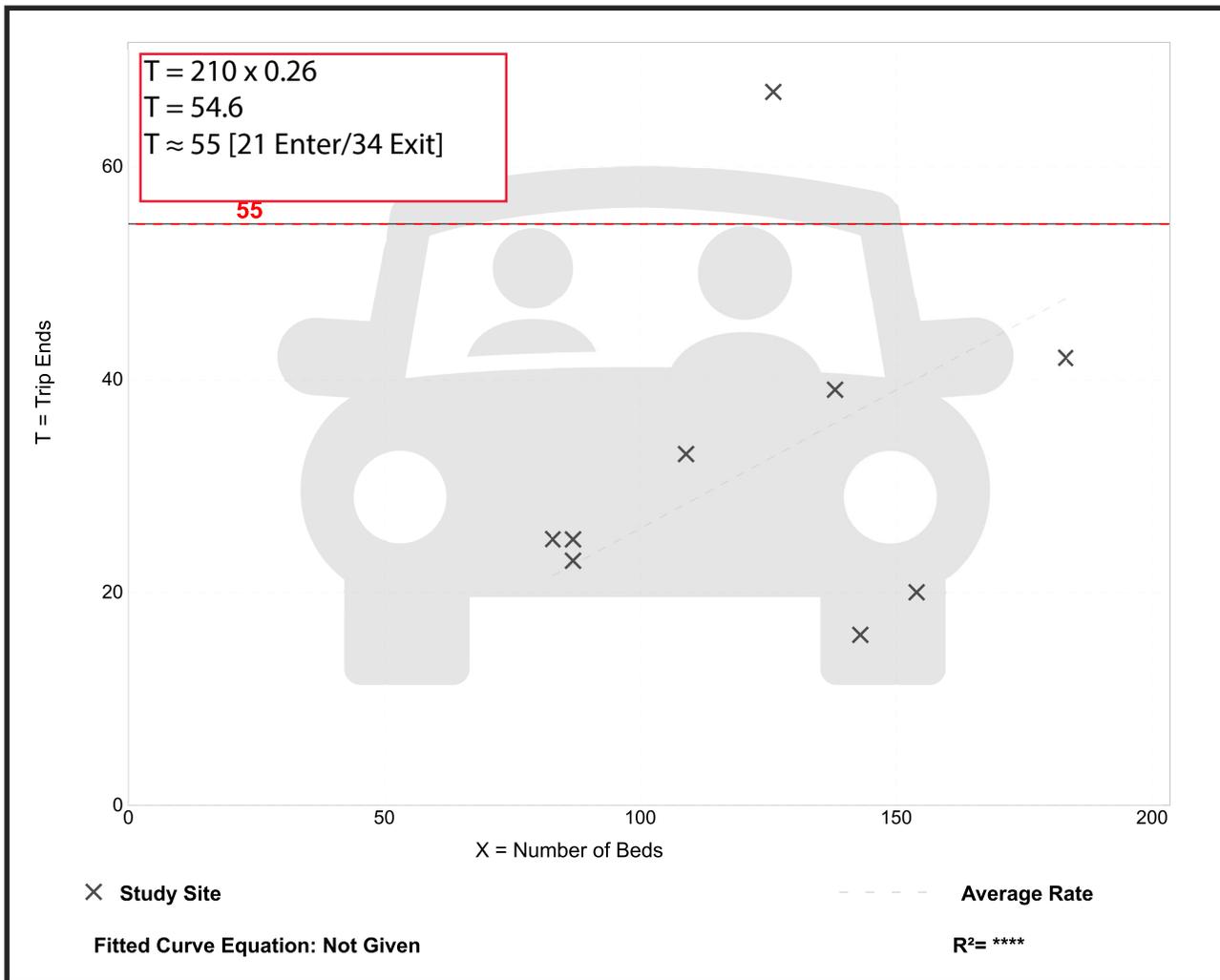
Assisted Living (254)

Vehicle Trip Ends vs: Beds
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 9
 Avg. Num. of Beds: 123
 Directional Distribution: 38% entering, 62% exiting

Vehicle Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
0.26	0.11 - 0.53	0.13

Data Plot and Equation



CAPACITY ANALYSIS WORKSHEETS

Route 53 at Broad Street

Broad Street at Webb Street at Vine Street

Route 53 at Vine Street at Common Street

Vine Street at the East Project Site Driveway

Vine Street at the South Project Site Driveway



Route 53 at Broad Street



2021 Existing Weekday Morning Peak Hour
1: Route 53 & Broad St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	106	21	74	120	181	6	350	65	132	352	54
Future Volume (vph)	57	106	21	74	120	181	6	350	65	132	352	54
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		0.984				0.850			0.850		0.980	
Flt Protected		0.985			0.981		0.950			0.950		
Satd. Flow (prot)	0	1699	0	0	1740	1478	1504	1673	1358	1560	1680	0
Flt Permitted		0.847			0.806		0.515			0.256		
Satd. Flow (perm)	0	1461	0	0	1429	1478	815	1673	1358	420	1680	0
Satd. Flow (RTOR)		5				197			109		9	
Adj. Flow (vph)	67	125	25	80	130	197	7	393	73	138	367	56
Lane Group Flow (vph)	0	217	0	0	210	197	7	393	73	138	423	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	15.0	15.0	15.0	11.0	15.0	
Total Split (s)	30.0	30.0		30.0	30.0	14.0	46.0	46.0	46.0	14.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%	11.7%	38.3%	38.3%	38.3%	11.7%	50.0%	
Maximum Green (s)	25.0	25.0		25.0	25.0	9.0	41.0	41.0	41.0	9.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	4.0	3.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	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	Min	Min	Min	None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.46			0.46	0.23	0.03	0.72	0.14	0.38	0.49	
Control Delay		29.0			29.8	4.2	21.3	32.2	2.3	15.3	15.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		29.0			29.8	4.2	21.3	32.2	2.3	15.3	15.8	
Queue Length 50th (ft)		67			67	0	2	146	0	29	104	
Queue Length 95th (ft)		225			239	52	15	366	13	103	321	
Internal Link Dist (ft)		423			453			477			446	
Turn Bay Length (ft)						120	25		75	125		
Base Capacity (vph)		549			534	863	492	1010	863	380	1320	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.40			0.39	0.23	0.01	0.39	0.08	0.36	0.32	
Intersection Summary												
Cycle Length: 120												

2021 Existing Weekday Morning Peak Hour
 1: Route 53 & Broad St

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)	30.0
Total Split (s)	30.0
Total Split (%)	25%
Maximum Green (s)	25.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
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)	18.0
Pedestrian Calls (#/hr)	6
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

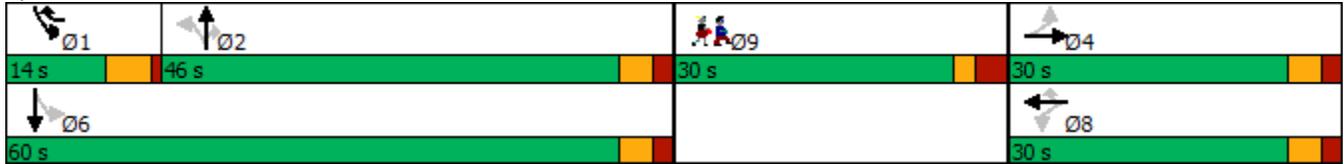
1: Route 53 & Broad St

Actuated Cycle Length: 75.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 53 & Broad St



2021 Existing Weekday Morning Peak Hour
1: Route 53 & Broad St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	106	21	74	120	181	6	350	65	132	352	54
Future Volume (vph)	57	106	21	74	120	181	6	350	65	132	352	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.98			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1700			1740	1478	1504	1673	1358	1560	1680	
Flt Permitted		0.85			0.81	1.00	0.52	1.00	1.00	0.26	1.00	
Satd. Flow (perm)		1462			1430	1478	816	1673	1358	421	1680	
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.92	0.92	0.89	0.89	0.89	0.96	0.96	0.96
Adj. Flow (vph)	67	125	25	80	130	197	7	393	73	138	367	56
RTOR Reduction (vph)	0	3	0	0	0	113	0	0	50	0	5	0
Lane Group Flow (vph)	0	214	0	0	210	84	7	393	23	138	418	0
Heavy Vehicles (%)	0%	2%	0%	0%	0%	2%	12%	6%	11%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2		6	
Actuated Green, G (s)		23.0			23.0	31.7	24.1	24.1	24.1	37.8	37.8	
Effective Green, g (s)		24.0			24.0	33.7	25.1	25.1	25.1	38.8	38.8	
Actuated g/C Ratio		0.30			0.30	0.43	0.32	0.32	0.32	0.49	0.49	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		444			434	706	259	532	432	347	826	
v/s Ratio Prot						0.01		c0.23		0.05	c0.25	
v/s Ratio Perm		0.15			c0.15	0.04	0.01		0.02	0.15		
v/c Ratio		0.48			0.48	0.12	0.03	0.74	0.05	0.40	0.51	
Uniform Delay, d1		22.4			22.4	13.6	18.5	24.0	18.7	12.9	13.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8			0.9	0.1	0.0	5.3	0.1	0.8	0.5	
Delay (s)		23.2			23.2	13.7	18.5	29.3	18.7	13.6	14.1	
Level of Service		C			C	B	B	C	B	B	B	
Approach Delay (s)		23.2			18.6			27.5			14.0	
Approach LOS		C			B			C			B	
Intersection Summary												
HCM 2000 Control Delay			20.2									C
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			78.9								17.0	
Intersection Capacity Utilization			56.8%									B
Analysis Period (min)			15									

c Critical Lane Group

2021 Existing Weekday Evening Peak Hour
1: Route 53 & Broad St

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	125	27	102	121	143	22	423	92	176	480	81
Future Volume (vph)	25	125	27	102	121	143	22	423	92	176	480	81
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		0.979				0.850			0.850		0.978	
Flt Protected		0.993			0.978		0.950			0.950		
Satd. Flow (prot)	0	1724	0	0	1734	1478	1685	1739	1507	1668	1720	0
Flt Permitted		0.930			0.699		0.397			0.174		
Satd. Flow (perm)	0	1615	0	0	1240	1478	704	1739	1507	306	1720	0
Satd. Flow (RTOR)		7				170			109		9	
Adj. Flow (vph)	29	147	32	126	149	177	26	492	107	187	511	86
Lane Group Flow (vph)	0	208	0	0	275	177	26	492	107	187	597	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	15.0	15.0	15.0	11.0	15.0	
Total Split (s)	30.0	30.0		30.0	30.0	15.0	45.0	45.0	45.0	15.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%	12.5%	37.5%	37.5%	37.5%	12.5%	50.0%	
Maximum Green (s)	25.0	25.0		25.0	25.0	10.0	40.0	40.0	40.0	10.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	4.0	3.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	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	Min	Min	Min	None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.40			0.69	0.22	0.10	0.79	0.18	0.56	0.65	
Control Delay		29.2			40.3	4.7	22.1	36.5	5.4	19.7	19.6	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		29.2			40.3	4.7	22.1	36.5	5.4	19.7	19.6	
Queue Length 50th (ft)		74			114	2	8	205	0	41	175	
Queue Length 95th (ft)		208			#336	38	35	#460	33	#139	510	
Internal Link Dist (ft)		423			453			477			446	
Turn Bay Length (ft)						120	25		75	125		
Base Capacity (vph)		521			396	829	355	877	814	346	1187	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.40			0.69	0.21	0.07	0.56	0.13	0.54	0.50	
Intersection Summary												
Cycle Length: 120												

2021 Existing Weekday Evening Peak Hour
 1: Route 53 & Broad St

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)	30.0
Total Split (s)	30.0
Total Split (%)	25%
Maximum Green (s)	25.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
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)	18.0
Pedestrian Calls (#/hr)	8
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: Route 53 & Broad St

Actuated Cycle Length: 84.6

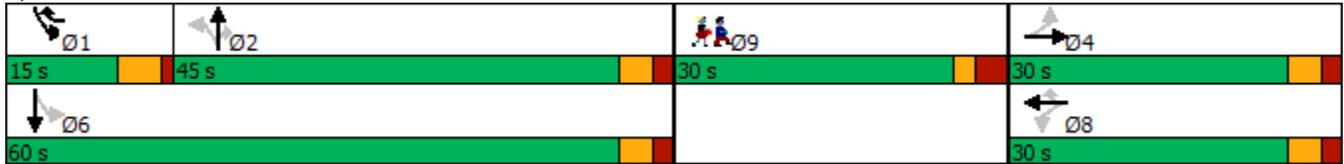
Natural Cycle: 100

Control Type: Actuated-Uncoordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Route 53 & Broad St



2021 Existing Weekday Evening Peak Hour
1: Route 53 & Broad St

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	25	125	27	102	121	143	22	423	92	176	480	81	
Future Volume (vph)	25	125	27	102	121	143	22	423	92	176	480	81	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10	
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	0.98		
Flt Protected		0.99			0.98	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)		1724			1734	1478	1685	1739	1507	1668	1720		
Flt Permitted		0.93			0.70	1.00	0.40	1.00	1.00	0.17	1.00		
Satd. Flow (perm)		1616			1239	1478	704	1739	1507	306	1720		
Peak-hour factor, PHF	0.85	0.85	0.85	0.81	0.81	0.81	0.86	0.86	0.86	0.94	0.94	0.94	
Adj. Flow (vph)	29	147	32	126	149	177	26	492	107	187	511	86	
RTOR Reduction (vph)	0	5	0	0	0	98	0	0	70	0	4	0	
Lane Group Flow (vph)	0	203	0	0	275	80	26	492	37	187	593	0	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	2%	0%	1%	1%	0%	
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA		
Protected Phases		4			8	1		2		1	6		
Permitted Phases	4			8		8	2		2		6		
Actuated Green, G (s)		26.0			26.0	35.7	29.2	29.2	29.2	43.9	43.9		
Effective Green, g (s)		27.0			27.0	37.7	30.2	30.2	30.2	44.9	44.9		
Actuated g/C Ratio		0.31			0.31	0.43	0.34	0.34	0.34	0.51	0.51		
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0		
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)		493			378	697	240	594	514	320	873		
v/s Ratio Prot						0.01		c0.28		0.07	c0.34		
v/s Ratio Perm		0.13			c0.22	0.04	0.04		0.02	0.23			
v/c Ratio		0.41			0.73	0.11	0.11	0.83	0.07	0.58	0.68		
Uniform Delay, d1		24.4			27.4	15.3	19.9	26.7	19.6	15.5	16.3		
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2		0.6			6.8	0.1	0.2	9.3	0.1	2.7	2.1		
Delay (s)		25.0			34.3	15.4	20.1	36.0	19.7	18.2	18.4		
Level of Service		C			C	B	C	D	B	B	B		
Approach Delay (s)		25.0			26.9			32.6			18.4		
Approach LOS		C			C			C			B		
Intersection Summary													
HCM 2000 Control Delay			25.2									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.74										
Actuated Cycle Length (s)			88.4									Sum of lost time (s)	17.0
Intersection Capacity Utilization			73.5%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

2028 No Build Weekday Morning Peak Hour
1: Route 53 & Broad St

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	114	23	80	127	192	7	375	69	141	408	58
Future Volume (vph)	61	114	23	80	127	192	7	375	69	141	408	58
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		0.984				0.850			0.850		0.981	
Flt Protected		0.985			0.981		0.950			0.950		
Satd. Flow (prot)	0	1699	0	0	1740	1478	1504	1673	1358	1560	1681	0
Flt Permitted		0.840			0.791		0.487			0.218		
Satd. Flow (perm)	0	1449	0	0	1403	1478	771	1673	1358	358	1681	0
Satd. Flow (RTOR)		5				209			109		8	
Adj. Flow (vph)	72	134	27	87	138	209	8	421	78	147	425	60
Lane Group Flow (vph)	0	233	0	0	225	209	8	421	78	147	485	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	15.0	15.0	15.0	11.0	15.0	
Total Split (s)	30.0	30.0		30.0	30.0	14.0	46.0	46.0	46.0	14.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%	11.7%	38.3%	38.3%	38.3%	11.7%	50.0%	
Maximum Green (s)	25.0	25.0		25.0	25.0	9.0	41.0	41.0	41.0	9.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	4.0	3.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	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	Min	Min	Min	None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.47			0.47	0.24	0.03	0.77	0.15	0.45	0.57	
Control Delay		29.3			30.0	4.1	21.4	35.9	2.8	17.1	18.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		29.3			30.0	4.1	21.4	35.9	2.8	17.1	18.1	
Queue Length 50th (ft)		77			76	0	2	164	0	32	130	
Queue Length 95th (ft)		242			#277	53	15	398	16	109	385	
Internal Link Dist (ft)		423			453			477			446	
Turn Bay Length (ft)						120	25		75	125		
Base Capacity (vph)		500			481	878	426	927	801	338	1243	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.47			0.47	0.24	0.02	0.45	0.10	0.43	0.39	
Intersection Summary												
Cycle Length: 120												

2028 No Build Weekday Morning Peak Hour
 1: Route 53 & Broad St

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)	30.0
Total Split (s)	30.0
Total Split (%)	25%
Maximum Green (s)	25.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
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)	18.0
Pedestrian Calls (#/hr)	6
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 Morning Peak Hour

1: Route 53 & Broad St

Actuated Cycle Length: 79.8

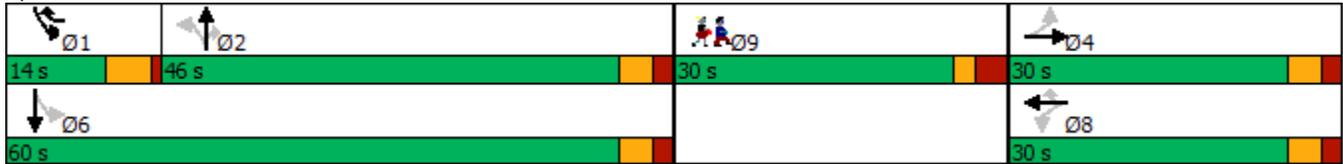
Natural Cycle: 90

Control Type: Actuated-Uncoordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Route 53 & Broad St



2028 No Build Weekday Morning Peak Hour
1: Route 53 & Broad St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	114	23	80	127	192	7	375	69	141	408	58
Future Volume (vph)	61	114	23	80	127	192	7	375	69	141	408	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.98			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1699			1740	1478	1504	1673	1358	1560	1681	
Flt Permitted		0.84			0.79	1.00	0.49	1.00	1.00	0.22	1.00	
Satd. Flow (perm)		1450			1403	1478	771	1673	1358	358	1681	
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.92	0.92	0.89	0.89	0.89	0.96	0.96	0.96
Adj. Flow (vph)	72	134	27	87	138	209	8	421	78	147	425	60
RTOR Reduction (vph)	0	3	0	0	0	117	0	0	53	0	4	0
Lane Group Flow (vph)	0	230	0	0	225	93	8	421	25	147	481	0
Heavy Vehicles (%)	0%	2%	0%	0%	0%	2%	12%	6%	11%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2		6	
Actuated Green, G (s)		26.3			26.3	35.0	25.3	25.3	25.3	39.0	39.0	
Effective Green, g (s)		27.3			27.3	37.0	26.3	26.3	26.3	40.0	40.0	
Actuated g/C Ratio		0.33			0.33	0.44	0.31	0.31	0.31	0.48	0.48	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		473			458	724	242	526	427	310	804	
v/s Ratio Prot						0.01		c0.25		0.05	c0.29	
v/s Ratio Perm		0.16			c0.16	0.05	0.01		0.02	0.17		
v/c Ratio		0.49			0.49	0.13	0.03	0.80	0.06	0.47	0.60	
Uniform Delay, d1		22.5			22.6	13.8	19.8	26.2	20.0	14.8	15.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8			0.8	0.1	0.1	8.5	0.1	1.1	1.2	
Delay (s)		23.3			23.4	13.8	19.9	34.8	20.1	15.9	17.1	
Level of Service		C			C	B	B	C	C	B	B	
Approach Delay (s)		23.3			18.8			32.3			16.8	
Approach LOS		C			B			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			83.6			Sum of lost time (s)				17.0		
Intersection Capacity Utilization			68.5%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

2028 No Build Weekday Evening Peak Hour
1: Route 53 & Broad St

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	134	29	110	130	153	23	453	98	189	515	87
Future Volume (vph)	27	134	29	110	130	153	23	453	98	189	515	87
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		0.980				0.850			0.850		0.978	
Flt Protected		0.993			0.978		0.950			0.950		
Satd. Flow (prot)	0	1726	0	0	1734	1478	1685	1739	1507	1668	1720	0
Flt Permitted		0.896			0.652		0.360			0.165		
Satd. Flow (perm)	0	1557	0	0	1156	1478	638	1739	1507	290	1720	0
Satd. Flow (RTOR)		7				169			109		10	
Adj. Flow (vph)	32	158	34	136	160	189	27	527	114	201	548	93
Lane Group Flow (vph)	0	224	0	0	296	189	27	527	114	201	641	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	15.0	15.0	15.0	11.0	15.0	
Total Split (s)	30.0	30.0		30.0	30.0	15.0	45.0	45.0	45.0	15.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%	12.5%	37.5%	37.5%	37.5%	12.5%	50.0%	
Maximum Green (s)	25.0	25.0		25.0	25.0	10.0	40.0	40.0	40.0	10.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	4.0	3.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	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	Min	Min	Min	None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.47			0.84	0.24	0.11	0.80	0.18	0.60	0.67	
Control Delay		32.2			54.9	5.6	22.0	36.2	5.8	21.3	20.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		32.2			54.9	5.6	22.0	36.2	5.8	21.3	20.0	
Queue Length 50th (ft)		90			142	5	8	226	2	44	195	
Queue Length 95th (ft)		226			#386	46	36	#538	38	#177	570	
Internal Link Dist (ft)		423			453			477			446	
Turn Bay Length (ft)						120	25		75	125		
Base Capacity (vph)		477			351	796	305	833	778	337	1128	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.47			0.84	0.24	0.09	0.63	0.15	0.60	0.57	
Intersection Summary												
Cycle Length: 120												

2028 No Build Weekday Evening Peak Hour
 1: Route 53 & Broad St

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)	30.0
Total Split (s)	30.0
Total Split (%)	25%
Maximum Green (s)	25.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
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)	18.0
Pedestrian Calls (#/hr)	8
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: Route 53 & Broad St

Actuated Cycle Length: 88.3

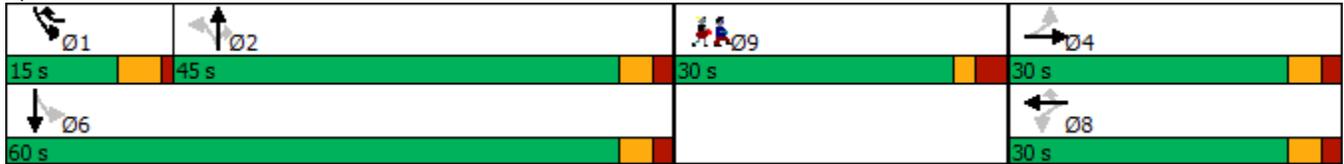
Natural Cycle: 110

Control Type: Actuated-Uncoordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Route 53 & Broad St



2028 No Build Weekday Evening Peak Hour
1: Route 53 & Broad St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	134	29	110	130	153	23	453	98	189	515	87
Future Volume (vph)	27	134	29	110	130	153	23	453	98	189	515	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.99			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1725			1734	1478	1685	1739	1507	1668	1720	
Flt Permitted		0.90			0.65	1.00	0.36	1.00	1.00	0.16	1.00	
Satd. Flow (perm)		1557			1156	1478	639	1739	1507	289	1720	
Peak-hour factor, PHF	0.85	0.85	0.85	0.81	0.81	0.81	0.86	0.86	0.86	0.94	0.94	0.94
Adj. Flow (vph)	32	158	34	136	160	189	27	527	114	201	548	93
RTOR Reduction (vph)	0	5	0	0	0	99	0	0	69	0	5	0
Lane Group Flow (vph)	0	219	0	0	296	90	27	527	45	201	636	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	2%	0%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2		6	
Actuated Green, G (s)		25.8			25.8	36.0	32.5	32.5	32.5	47.7	47.7	
Effective Green, g (s)		26.8			26.8	38.0	33.5	33.5	33.5	48.7	48.7	
Actuated g/C Ratio		0.29			0.29	0.41	0.36	0.36	0.36	0.53	0.53	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		452			336	673	232	631	547	320	908	
v/s Ratio Prot						0.02		c0.30		0.08	c0.37	
v/s Ratio Perm		0.14			c0.26	0.04	0.04		0.03	0.25		
v/c Ratio		0.48			0.88	0.13	0.12	0.84	0.08	0.63	0.70	
Uniform Delay, d1		27.0			31.2	16.9	19.5	26.8	19.3	15.9	16.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8			22.5	0.1	0.2	9.3	0.1	3.8	2.5	
Delay (s)		27.8			53.7	16.9	19.7	36.2	19.3	19.7	18.8	
Level of Service		C			D	B	B	D	B	B	B	
Approach Delay (s)		27.8			39.4			32.6			19.0	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			28.4				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			92.2			Sum of lost time (s)				17.0		
Intersection Capacity Utilization			77.3%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

2028 Build Weekday Morning Peak Hour
1: Route 53 & Broad St

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	114	23	80	127	192	9	385	69	143	409	58
Future Volume (vph)	61	114	23	80	127	192	9	385	69	143	409	58
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		0.984				0.850			0.850		0.981	
Flt Protected		0.985			0.981		0.950			0.950		
Satd. Flow (prot)	0	1699	0	0	1740	1478	1504	1673	1358	1560	1681	0
Flt Permitted		0.837			0.790		0.486			0.210		
Satd. Flow (perm)	0	1444	0	0	1401	1478	769	1673	1358	345	1681	0
Satd. Flow (RTOR)		5				209			109		8	
Adj. Flow (vph)	72	134	27	87	138	209	10	433	78	149	426	60
Lane Group Flow (vph)	0	233	0	0	225	209	10	433	78	149	486	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	15.0	15.0	15.0	11.0	15.0	
Total Split (s)	30.0	30.0		30.0	30.0	14.0	46.0	46.0	46.0	14.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%	11.7%	38.3%	38.3%	38.3%	11.7%	50.0%	
Maximum Green (s)	25.0	25.0		25.0	25.0	9.0	41.0	41.0	41.0	9.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	4.0	3.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	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	Min	Min	Min	None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.47			0.47	0.24	0.04	0.78	0.15	0.46	0.57	
Control Delay		29.6			30.4	4.1	21.3	36.4	2.8	17.4	18.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		29.6			30.4	4.1	21.3	36.4	2.8	17.4	18.0	
Queue Length 50th (ft)		78			77	0	3	170	0	32	131	
Queue Length 95th (ft)		242			#278	53	18	412	16	110	387	
Internal Link Dist (ft)		423			453			477			446	
Turn Bay Length (ft)						120	25		75	125		
Base Capacity (vph)		494			477	874	423	920	796	333	1235	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.47			0.47	0.24	0.02	0.47	0.10	0.45	0.39	
Intersection Summary												
Cycle Length: 120												

2028 Build Weekday Morning Peak Hour
 1: Route 53 & Broad St

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)	30.0
Total Split (s)	30.0
Total Split (%)	25%
Maximum Green (s)	25.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
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)	18.0
Pedestrian Calls (#/hr)	6
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: Route 53 & Broad St

Actuated Cycle Length: 80.3

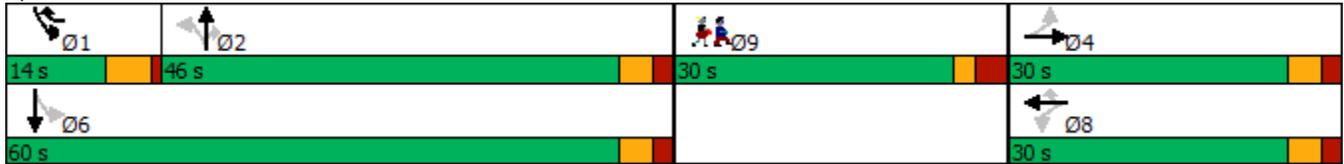
Natural Cycle: 90

Control Type: Actuated-Uncoordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Route 53 & Broad St



2028 Build Weekday Morning Peak Hour
1: Route 53 & Broad St

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	61	114	23	80	127	192	9	385	69	143	409	58	
Future Volume (vph)	61	114	23	80	127	192	9	385	69	143	409	58	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10	
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	0.98		
Flt Protected		0.98			0.98	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)		1699			1740	1478	1504	1673	1358	1560	1682		
Flt Permitted		0.84			0.79	1.00	0.49	1.00	1.00	0.21	1.00		
Satd. Flow (perm)		1444			1400	1478	770	1673	1358	344	1682		
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.92	0.92	0.89	0.89	0.89	0.96	0.96	0.96	
Adj. Flow (vph)	72	134	27	87	138	209	10	433	78	149	426	60	
RTOR Reduction (vph)	0	3	0	0	0	117	0	0	53	0	4	0	
Lane Group Flow (vph)	0	230	0	0	225	92	10	433	25	149	482	0	
Heavy Vehicles (%)	0%	2%	0%	0%	0%	2%	12%	6%	11%	8%	4%	0%	
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA		
Protected Phases		4			8	1		2		1	6		
Permitted Phases	4			8		8	2		2		6		
Actuated Green, G (s)		26.3			26.3	35.0	25.8	25.8	25.8	39.5	39.5		
Effective Green, g (s)		27.3			27.3	37.0	26.8	26.8	26.8	40.5	40.5		
Actuated g/C Ratio		0.32			0.32	0.44	0.32	0.32	0.32	0.48	0.48		
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0		
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)		468			454	720	245	533	432	305	810		
v/s Ratio Prot						0.01		c0.26		0.06	c0.29		
v/s Ratio Perm		0.16			c0.16	0.05	0.01		0.02	0.18			
v/c Ratio		0.49			0.50	0.13	0.04	0.81	0.06	0.49	0.59		
Uniform Delay, d1		22.8			22.9	14.0	19.8	26.3	19.9	14.9	15.8		
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2		0.8			0.9	0.1	0.1	9.2	0.1	1.2	1.2		
Delay (s)		23.6			23.7	14.1	19.8	35.5	19.9	16.1	17.0		
Level of Service		C			C	B	B	D	B	B	B		
Approach Delay (s)		23.6			19.1			32.9			16.8		
Approach LOS		C			B			C			B		
Intersection Summary													
HCM 2000 Control Delay			22.8		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.63										
Actuated Cycle Length (s)			84.1		Sum of lost time (s)					17.0			
Intersection Capacity Utilization			68.6%		ICU Level of Service					C			
Analysis Period (min)			15										
c Critical Lane Group													

2028 Build Weekday Evening Peak Hour
1: Route 53 & Broad St

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	135	30	110	130	153	25	459	98	195	519	87
Future Volume (vph)	27	135	30	110	130	153	25	459	98	195	519	87
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		0.979				0.850			0.850		0.978	
Flt Protected		0.993			0.978		0.950			0.950		
Satd. Flow (prot)	0	1724	0	0	1734	1478	1685	1739	1507	1668	1720	0
Flt Permitted		0.887			0.646		0.359			0.165		
Satd. Flow (perm)	0	1540	0	0	1146	1478	637	1739	1507	290	1720	0
Satd. Flow (RTOR)		7				169			109		9	
Adj. Flow (vph)	32	159	35	136	160	189	29	534	114	207	552	93
Lane Group Flow (vph)	0	226	0	0	296	189	29	534	114	207	645	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	15.0	15.0	15.0	11.0	15.0	
Total Split (s)	30.0	30.0		30.0	30.0	15.0	45.0	45.0	45.0	15.0	60.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%	12.5%	37.5%	37.5%	37.5%	12.5%	50.0%	
Maximum Green (s)	25.0	25.0		25.0	25.0	10.0	40.0	40.0	40.0	10.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	4.0	3.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	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	Min	Min	Min	None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.48			0.86	0.24	0.12	0.80	0.18	0.62	0.67	
Control Delay		32.9			57.6	5.6	22.0	36.2	5.8	21.9	20.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		32.9			57.6	5.6	22.0	36.2	5.8	21.9	20.0	
Queue Length 50th (ft)		93			145	5	9	231	2	46	198	
Queue Length 95th (ft)		229			#388	46	38	#550	38	#188	577	
Internal Link Dist (ft)		423			453			477			446	
Turn Bay Length (ft)						120	25		75	125		
Base Capacity (vph)		467			344	789	301	824	771	336	1116	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.48			0.86	0.24	0.10	0.65	0.15	0.62	0.58	
Intersection Summary												
Cycle Length: 120												

2028 Build Weekday Evening Peak Hour
 1: Route 53 & Broad St

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)	30.0
Total Split (s)	30.0
Total Split (%)	25%
Maximum Green (s)	25.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
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)	18.0
Pedestrian Calls (#/hr)	8
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: Route 53 & Broad St

Actuated Cycle Length: 89

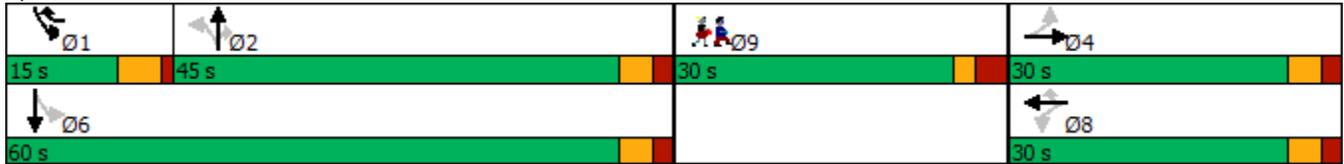
Natural Cycle: 120

Control Type: Actuated-Uncoordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Route 53 & Broad St



2028 Build Weekday Evening Peak Hour
1: Route 53 & Broad St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	135	30	110	130	153	25	459	98	195	519	87
Future Volume (vph)	27	135	30	110	130	153	25	459	98	195	519	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.99			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1724			1734	1478	1685	1739	1507	1668	1720	
Flt Permitted		0.89			0.65	1.00	0.36	1.00	1.00	0.16	1.00	
Satd. Flow (perm)		1541			1145	1478	637	1739	1507	289	1720	
Peak-hour factor, PHF	0.85	0.85	0.85	0.81	0.81	0.81	0.86	0.86	0.86	0.94	0.94	0.94
Adj. Flow (vph)	32	159	35	136	160	189	29	534	114	207	552	93
RTOR Reduction (vph)	0	5	0	0	0	100	0	0	69	0	4	0
Lane Group Flow (vph)	0	221	0	0	296	89	29	534	45	207	641	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	2%	0%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2		6	
Actuated Green, G (s)		25.7			25.7	36.0	33.3	33.3	33.3	48.6	48.6	
Effective Green, g (s)		26.7			26.7	38.0	34.3	34.3	34.3	49.6	49.6	
Actuated g/C Ratio		0.29			0.29	0.41	0.37	0.37	0.37	0.53	0.53	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		442			328	667	234	641	555	321	917	
v/s Ratio Prot						0.02		c0.31		0.08	c0.37	
v/s Ratio Perm		0.14			c0.26	0.04	0.05		0.03	0.27		
v/c Ratio		0.50			0.90	0.13	0.12	0.83	0.08	0.64	0.70	
Uniform Delay, d1		27.6			31.9	17.2	19.4	26.7	19.1	16.0	16.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9			26.6	0.1	0.2	9.1	0.1	4.4	2.3	
Delay (s)		28.5			58.5	17.3	19.7	35.8	19.2	20.4	18.5	
Level of Service		C			E	B	B	D	B	C	B	
Approach Delay (s)		28.5			42.4			32.3			18.9	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			29.0									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			93.0								17.0	Sum of lost time (s)
Intersection Capacity Utilization			77.6%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

Broad Street at Webb Street at Vine Street



2021 Existing Weekday Morning Peak Hour
2: Vine St/Webb St & Broad St

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	225	5	6	323	50	2	21	28	25	35	46
Future Vol, veh/h	41	225	5	6	323	50	2	21	28	25	35	46
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	91	91	91	95	95	95	84	84	84	83	83	83
Heavy Vehicles, %	8	4	0	0	2	2	0	5	0	0	3	0
Mvmt Flow	45	247	5	6	340	53	2	25	33	30	42	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	393	0	0	252	0	0	767	745	250	748	721	367
Stage 1	-	-	-	-	-	-	340	340	-	379	379	-
Stage 2	-	-	-	-	-	-	427	405	-	369	342	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.55	6.2	7.1	6.53	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.55	-	6.1	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.55	-	6.1	5.53	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4.045	3.3	3.5	4.027	3.3
Pot Cap-1 Maneuver	1134	-	-	1325	-	-	322	339	794	331	352	683
Stage 1	-	-	-	-	-	-	679	634	-	647	613	-
Stage 2	-	-	-	-	-	-	610	593	-	655	636	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1134	-	-	1325	-	-	257	321	794	287	334	683
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	321	-	287	334	-
Stage 1	-	-	-	-	-	-	648	605	-	617	609	-
Stage 2	-	-	-	-	-	-	519	589	-	574	607	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			0.1			13.8			17.7		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	470	1134	-	-	1325	-	-	409
HCM Lane V/C Ratio	0.129	0.04	-	-	0.005	-	-	0.312
HCM Control Delay (s)	13.8	8.3	0	-	7.7	0	-	17.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	1.3

2021 Existing Weekday Evening Peak Hour
2: Vine St/Webb St & Broad St

Intersection												
Int Delay, s/veh	10.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	56	383	3	25	302	41	9	56	38	50	32	55
Future Vol, veh/h	56	383	3	25	302	41	9	56	38	50	32	55
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	88	88	88	88	88	88	74	74	74	89	89	89
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	64	435	3	28	343	47	12	76	51	56	36	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	438	0	0	1037	1011	437	1051	989	367
Stage 1	-	-	-	-	-	-	565	565	-	423	423	-
Stage 2	-	-	-	-	-	-	472	446	-	628	566	-
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	1180	-	-	1133	-	-	211	241	624	207	249	683
Stage 1	-	-	-	-	-	-	513	511	-	613	591	-
Stage 2	-	-	-	-	-	-	576	577	-	474	511	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1180	-	-	1133	-	-	156	216	624	128	224	683
Mov Cap-2 Maneuver	-	-	-	-	-	-	156	216	-	128	224	-
Stage 1	-	-	-	-	-	-	476	474	-	569	572	-
Stage 2	-	-	-	-	-	-	475	559	-	339	474	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.6			31.1			50.8		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	273	1180	-	-	1133	-	-	223
HCM Lane V/C Ratio	0.51	0.054	-	-	0.025	-	-	0.69
HCM Control Delay (s)	31.1	8.2	0	-	8.3	0	-	50.8
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	2.7	0.2	-	-	0.1	-	-	4.4

2028 No Build Weekday Morning Peak Hour
2: Vine St/Webb St & Broad St

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	44	273	6	7	348	56	2	22	30	27	37	47
Future Vol, veh/h	44	273	6	7	348	56	2	22	30	27	37	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	95	95	95	84	84	84	83	83	83
Heavy Vehicles, %	8	4	0	0	2	2	0	5	0	0	3	0
Mvmt Flow	48	300	7	7	366	59	2	26	36	33	45	57

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	425	0	0	307	0	0	861	839	304	841	813	396
Stage 1	-	-	-	-	-	-	400	400	-	410	410	-
Stage 2	-	-	-	-	-	-	461	439	-	431	403	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.55	6.2	7.1	6.53	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.55	-	6.1	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.55	-	6.1	5.53	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4.045	3.3	3.5	4.027	3.3
Pot Cap-1 Maneuver	1103	-	-	1265	-	-	278	299	740	287	312	658
Stage 1	-	-	-	-	-	-	630	596	-	623	594	-
Stage 2	-	-	-	-	-	-	584	573	-	607	598	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1103	-	-	1265	-	-	215	281	740	243	294	658
Mov Cap-2 Maneuver	-	-	-	-	-	-	215	281	-	243	294	-
Stage 1	-	-	-	-	-	-	597	565	-	591	590	-
Stage 2	-	-	-	-	-	-	490	569	-	522	567	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			15.1			20.8		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	421	1103	-	-	1265	-	-	360
HCM Lane V/C Ratio	0.153	0.044	-	-	0.006	-	-	0.371
HCM Control Delay (s)	15.1	8.4	0	-	7.9	0	-	20.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	1.7

2028 No Build Weekday Evening Peak Hour
 2: Vine St/Webb St & Broad St

Intersection												
Int Delay, s/veh	14.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	408	3	27	308	44	9	60	40	53	35	56
Future Vol, veh/h	59	408	3	27	308	44	9	60	40	53	35	56
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	88	88	88	88	88	88	74	74	74	89	89	89
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	67	464	3	31	350	50	12	81	54	60	39	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	400	0	0	467	0	0	1088	1062	466	1104	1038	375
Stage 1	-	-	-	-	-	-	600	600	-	437	437	-
Stage 2	-	-	-	-	-	-	488	462	-	667	601	-
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	1170	-	-	1105	-	-	195	225	601	190	233	676
Stage 1	-	-	-	-	-	-	491	493	-	602	583	-
Stage 2	-	-	-	-	-	-	565	568	-	451	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1170	-	-	1105	-	-	139	200	601	109	207	676
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	200	-	109	207	-
Stage 1	-	-	-	-	-	-	453	455	-	556	562	-
Stage 2	-	-	-	-	-	-	459	548	-	311	455	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.6			37.3			76.6		
HCM LOS							E			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	253	1170	-	-	1105	-	-	195
HCM Lane V/C Ratio	0.582	0.057	-	-	0.028	-	-	0.83
HCM Control Delay (s)	37.3	8.3	0	-	8.4	0	-	76.6
HCM Lane LOS	E	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	3.3	0.2	-	-	0.1	-	-	6

2028 Build Weekday Morning Peak Hour
2: Vine St/Webb St & Broad St

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	44	273	6	8	349	56	2	22	34	27	37	47
Future Vol, veh/h	44	273	6	8	349	56	2	22	34	27	37	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	95	95	95	84	84	84	83	83	83
Heavy Vehicles, %	8	4	0	0	2	2	0	5	0	0	3	0
Mvmt Flow	48	300	7	8	367	59	2	26	40	33	45	57

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	426	0	0	307	0	0	864	842	304	846	816	397
Stage 1	-	-	-	-	-	-	400	400	-	413	413	-
Stage 2	-	-	-	-	-	-	464	442	-	433	403	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.55	6.2	7.1	6.53	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.55	-	6.1	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.55	-	6.1	5.53	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4.045	3.3	3.5	4.027	3.3
Pot Cap-1 Maneuver	1102	-	-	1265	-	-	277	297	740	284	310	657
Stage 1	-	-	-	-	-	-	630	596	-	620	592	-
Stage 2	-	-	-	-	-	-	582	571	-	605	598	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1102	-	-	1265	-	-	213	279	740	238	291	657
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	279	-	238	291	-
Stage 1	-	-	-	-	-	-	597	564	-	587	587	-
Stage 2	-	-	-	-	-	-	488	566	-	516	566	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	1.1		0.2		14.9		21.1	
HCM LOS					B		C	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	432	1102	-	-	1265	-	-	356
HCM Lane V/C Ratio	0.16	0.044	-	-	0.007	-	-	0.376
HCM Control Delay (s)	14.9	8.4	0	-	7.9	0	-	21.1
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	1.7

2028 Build Weekday Evening Peak Hour
2: Vine St/Webb St & Broad St

Intersection												
Int Delay, s/veh	15.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	408	3	29	310	44	9	60	43	53	35	56
Future Vol, veh/h	59	408	3	29	310	44	9	60	43	53	35	56
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	88	88	88	88	88	88	74	74	74	89	89	89
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	67	464	3	33	352	50	12	81	58	60	39	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	402	0	0	467	0	0	1094	1068	466	1112	1044	377
Stage 1	-	-	-	-	-	-	600	600	-	443	443	-
Stage 2	-	-	-	-	-	-	494	468	-	669	601	-
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	1168	-	-	1105	-	-	193	223	601	188	231	674
Stage 1	-	-	-	-	-	-	491	493	-	598	579	-
Stage 2	-	-	-	-	-	-	561	565	-	450	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1168	-	-	1105	-	-	137	198	601	106	205	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	137	198	-	106	205	-
Stage 1	-	-	-	-	-	-	453	455	-	551	556	-
Stage 2	-	-	-	-	-	-	454	543	-	308	455	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.6			38.1			80.9		
HCM LOS							E			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	254	1168	-	-	1105	-	-	191
HCM Lane V/C Ratio	0.596	0.057	-	-	0.03	-	-	0.847
HCM Control Delay (s)	38.1	8.3	0	-	8.4	0	-	80.9
HCM Lane LOS	E	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	3.5	0.2	-	-	0.1	-	-	6.2

Route 53 at Vine Street at Common Street



2021 Existing Weekday Morning Peak Hour
 3: Route 53 & Common St/Vine St

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	0	38	0	8	0	380	37	3	401	1
Future Vol, veh/h	2	0	0	38	0	8	0	380	37	3	401	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	82	82	82	80	80	80	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	2	0
Mvmt Flow	4	0	0	46	0	10	0	475	46	3	431	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	941	959	432	936	936	498	432	0	0	521	0	0
Stage 1	438	438	-	498	498	-	-	-	-	-	-	-
Stage 2	503	521	-	438	438	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	245	259	628	247	267	576	1138	-	-	1056	-	-
Stage 1	601	582	-	558	548	-	-	-	-	-	-	-
Stage 2	555	535	-	601	582	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	240	258	628	246	266	576	1138	-	-	1056	-	-
Mov Cap-2 Maneuver	240	258	-	246	266	-	-	-	-	-	-	-
Stage 1	601	580	-	558	548	-	-	-	-	-	-	-
Stage 2	546	535	-	599	580	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	20.3		21.6		0		0.1	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1138	-	-	240	273	1056	-	-
HCM Lane V/C Ratio	-	-	-	0.017	0.205	0.003	-	-
HCM Control Delay (s)	0	-	-	20.3	21.6	8.4	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	0	-	-

2021 Existing Weekday Evening Peak Hour
 3: Route 53 & Common St/Vine St

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	3	30	4	2	2	540	89	5	677	2
Future Vol, veh/h	0	3	3	30	4	2	2	540	89	5	677	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	68	68	68	93	93	93	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	4	44	6	3	2	581	96	6	761	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1412	1455	762	1411	1408	629	763	0	0	677	0	0
Stage 1	774	774	-	633	633	-	-	-	-	-	-	-
Stage 2	638	681	-	778	775	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	116	130	405	116	139	482	850	-	-	915	-	-
Stage 1	391	408	-	468	473	-	-	-	-	-	-	-
Stage 2	465	450	-	389	408	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	110	128	405	111	137	482	850	-	-	915	-	-
Mov Cap-2 Maneuver	110	128	-	111	137	-	-	-	-	-	-	-
Stage 1	389	404	-	466	471	-	-	-	-	-	-	-
Stage 2	455	448	-	377	404	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	24.3		57.5		0		0.1	
HCM LOS	C		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	850	-	-	195	119	915	-	-
HCM Lane V/C Ratio	0.003	-	-	0.041	0.445	0.006	-	-
HCM Control Delay (s)	9.2	0	-	24.3	57.5	9	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.9	0	-	-

2028 No Build Weekday Morning Peak Hour
 3: Route 53 & Common St/Vine St

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	0	41	0	9	0	430	40	3	480	1
Future Vol, veh/h	2	0	0	41	0	9	0	430	40	3	480	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	82	82	82	80	80	80	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	2	0
Mvmt Flow	4	0	0	50	0	11	0	538	50	3	516	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1092	1111	517	1086	1086	563	517	0	0	588	0	0
Stage 1	523	523	-	563	563	-	-	-	-	-	-	-
Stage 2	569	588	-	523	523	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	194	211	562	196	218	530	1059	-	-	997	-	-
Stage 1	541	534	-	514	512	-	-	-	-	-	-	-
Stage 2	511	499	-	541	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	189	210	562	195	217	530	1059	-	-	997	-	-
Mov Cap-2 Maneuver	189	210	-	195	217	-	-	-	-	-	-	-
Stage 1	541	532	-	514	512	-	-	-	-	-	-	-
Stage 2	500	499	-	539	532	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	24.5		27.5		0		0.1	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1059	-	-	189	220	997	-	-
HCM Lane V/C Ratio	-	-	-	0.021	0.277	0.003	-	-
HCM Control Delay (s)	0	-	-	24.5	27.5	8.6	0	-
HCM Lane LOS	A	-	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.1	0	-	-

2028 No Build Weekday Evening Peak Hour
 3: Route 53 & Common St/Vine St

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	3	32	4	2	2	606	95	5	720	2
Future Vol, veh/h	0	3	3	32	4	2	2	606	95	5	720	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	68	68	68	93	93	93	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	4	47	6	3	2	652	102	6	809	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1534	1580	810	1533	1530	703	811	0	0	754	0	0
Stage 1	822	822	-	707	707	-	-	-	-	-	-	-
Stage 2	712	758	-	826	823	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	95	109	380	95	117	438	815	-	-	856	-	-
Stage 1	368	388	-	426	438	-	-	-	-	-	-	-
Stage 2	423	415	-	366	388	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	89	107	380	90	115	438	815	-	-	856	-	-
Mov Cap-2 Maneuver	89	107	-	90	115	-	-	-	-	-	-	-
Stage 1	367	383	-	424	436	-	-	-	-	-	-	-
Stage 2	413	413	-	354	383	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.6	85.1	0	0.1
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	815	-	-	167	96	856	-	-
HCM Lane V/C Ratio	0.003	-	-	0.048	0.582	0.007	-	-
HCM Control Delay (s)	9.4	0	-	27.6	85.1	9.2	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	2.7	0	-	-

2028 Build Weekday Morning Peak Hour
 3: Route 53 & Common St/Vine St

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	0	46	0	21	0	430	42	3	480	1
Future Vol, veh/h	2	0	0	46	0	21	0	430	42	3	480	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	82	82	82	80	80	80	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	2	0
Mvmt Flow	4	0	0	56	0	26	0	538	53	3	516	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1101	1114	517	1088	1088	565	517	0	0	591	0	0
Stage 1	523	523	-	565	565	-	-	-	-	-	-	-
Stage 2	578	591	-	523	523	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	191	210	562	195	218	528	1059	-	-	995	-	-
Stage 1	541	534	-	513	511	-	-	-	-	-	-	-
Stage 2	505	498	-	541	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	181	209	562	194	217	528	1059	-	-	995	-	-
Mov Cap-2 Maneuver	181	209	-	194	217	-	-	-	-	-	-	-
Stage 1	541	532	-	513	511	-	-	-	-	-	-	-
Stage 2	481	498	-	539	532	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	25.3		27.3		0			0.1		
HCM LOS	D		D							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1059	-	-	181	242	995	-	-
HCM Lane V/C Ratio	-	-	-	0.022	0.338	0.003	-	-
HCM Control Delay (s)	0	-	-	25.3	27.3	8.6	0	-
HCM Lane LOS	A	-	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.4	0	-	-

2028 Build Weekday Evening Peak Hour
 3: Route 53 & Common St/Vine St

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	3	35	4	10	2	606	101	10	720	2
Future Vol, veh/h	0	3	3	35	4	10	2	606	101	10	720	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	68	68	68	93	93	93	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	4	51	6	15	2	652	109	11	809	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1553	1597	810	1547	1544	707	811	0	0	761	0	0
Stage 1	832	832	-	711	711	-	-	-	-	-	-	-
Stage 2	721	765	-	836	833	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	92	106	380	93	115	435	815	-	-	851	-	-
Stage 1	363	384	-	424	436	-	-	-	-	-	-	-
Stage 2	419	412	-	362	384	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	84	103	380	87	112	435	815	-	-	851	-	-
Mov Cap-2 Maneuver	84	103	-	87	112	-	-	-	-	-	-	-
Stage 1	362	375	-	422	434	-	-	-	-	-	-	-
Stage 2	398	410	-	346	375	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s	28.4		91.7		0		0.1		
HCM LOS	D		F						

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	815	-	-	162	106	851	-	-
HCM Lane V/C Ratio	0.003	-	-	0.049	0.68	0.013	-	-
HCM Control Delay (s)	9.4	0	-	28.4	91.7	9.3	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	3.5	0	-	-

Vine Street at the East Project Site Driveway



2021 Existing Weekday Morning Peak Hour
4: Vine St & East Driveway

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	4	4	2	47	46	0
Future Vol, veh/h	4	4	2	47	46	0
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	58	58	64	64	82	82
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	7	7	3	73	56	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	135	56	56	0	0
Stage 1	56	-	-	-	-
Stage 2	79	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	863	1016	1562	-	-
Stage 1	972	-	-	-	-
Stage 2	949	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	861	1016	1562	-	-
Mov Cap-2 Maneuver	861	-	-	-	-
Stage 1	970	-	-	-	-
Stage 2	949	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1562	-	932	-	-
HCM Lane V/C Ratio	0.002	-	0.015	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2021 Existing Weekday Evening Peak Hour
4: Vine St & East Driveway

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	4	0	6	99	55	5
Future Vol, veh/h	4	0	6	99	55	5
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	38	38	77	77	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	0	8	129	64	6

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	212	67	70	0	0
Stage 1	67	-	-	-	-
Stage 2	145	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	781	1002	1544	-	-
Stage 1	961	-	-	-	-
Stage 2	887	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	776	1002	1544	-	-
Mov Cap-2 Maneuver	776	-	-	-	-
Stage 1	955	-	-	-	-
Stage 2	887	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1544	-	776	-	-
HCM Lane V/C Ratio	0.005	-	0.014	-	-
HCM Control Delay (s)	7.3	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2028 No Build Weekday Morning Peak Hour
4: Vine St & East Driveway

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	4	4	3	50	49	0
Future Vol, veh/h	4	4	3	50	49	0
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	58	58	64	64	82	82
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	7	7	5	78	60	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	148	60	60	0	0
Stage 1	60	-	-	-	-
Stage 2	88	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	849	1011	1556	-	-
Stage 1	968	-	-	-	-
Stage 2	940	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	846	1011	1556	-	-
Mov Cap-2 Maneuver	846	-	-	-	-
Stage 1	965	-	-	-	-
Stage 2	940	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1556	-	921	-	-
HCM Lane V/C Ratio	0.003	-	0.015	-	-
HCM Control Delay (s)	7.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2028 No Build Weekday Evening Peak Hour
4: Vine St & East Driveway

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	FF			FF	FF	
Traffic Vol, veh/h	4	0	9	103	59	6
Future Vol, veh/h	4	0	9	103	59	6
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	38	38	77	77	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	0	12	134	69	7

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	231	73	76	0	0
Stage 1	73	-	-	-	-
Stage 2	158	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	762	995	1536	-	-
Stage 1	955	-	-	-	-
Stage 2	875	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	756	995	1536	-	-
Mov Cap-2 Maneuver	756	-	-	-	-
Stage 1	947	-	-	-	-
Stage 2	875	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1536	-	756	-	-
HCM Lane V/C Ratio	0.008	-	0.014	-	-
HCM Control Delay (s)	7.4	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2028 Build Weekday Morning Peak Hour
4: Vine St & East Driveway

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	8	4	3	45	49	1
Future Vol, veh/h	8	4	3	45	49	1
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	58	58	64	64	82	82
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	14	7	5	70	60	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	141	61	61	0	0
Stage 1	61	-	-	-	-
Stage 2	80	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	857	1010	1555	-	-
Stage 1	967	-	-	-	-
Stage 2	948	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	854	1010	1555	-	-
Mov Cap-2 Maneuver	854	-	-	-	-
Stage 1	964	-	-	-	-
Stage 2	948	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1555	-	900	-	-
HCM Lane V/C Ratio	0.003	-	0.023	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

2028 Build Weekday Evening Peak Hour
4: Vine St & East Driveway

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	FF			FF	FF	
Traffic Vol, veh/h	7	0	9	105	59	8
Future Vol, veh/h	7	0	9	105	59	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	38	38	77	77	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	0	12	136	69	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	234	74	78	0	0
Stage 1	74	-	-	-	-
Stage 2	160	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	759	993	1533	-	-
Stage 1	954	-	-	-	-
Stage 2	874	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	753	993	1533	-	-
Mov Cap-2 Maneuver	753	-	-	-	-
Stage 1	946	-	-	-	-
Stage 2	874	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1533	-	753	-	-
HCM Lane V/C Ratio	0.008	-	0.024	-	-
HCM Control Delay (s)	7.4	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Vine Street at the South Project Site Driveway



2028 Build Weekday Morning Peak Hour
6: Vine St & Driveway

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	3	45	49	0	0	17
Future Vol, veh/h	3	45	49	0	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	49	53	0	0	18

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	53	0	-	0	108 53
Stage 1	-	-	-	-	53 -
Stage 2	-	-	-	-	55 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1553	-	-	-	889 1014
Stage 1	-	-	-	-	970 -
Stage 2	-	-	-	-	968 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1553	-	-	-	887 1014
Mov Cap-2 Maneuver	-	-	-	-	887 -
Stage 1	-	-	-	-	968 -
Stage 2	-	-	-	-	968 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1553	-	-	-	1014
HCM Lane V/C Ratio	0.002	-	-	-	0.018
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

2028 Build Weekday Evening Peak Hour
6: Vine St & Driveway

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	11	103	59	0	0	11
Future Vol, veh/h	11	103	59	0	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	112	64	0	0	12

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	64	0	-	0	200
Stage 1	-	-	-	-	64
Stage 2	-	-	-	-	136
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1538	-	-	-	789
Stage 1	-	-	-	-	959
Stage 2	-	-	-	-	890
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1538	-	-	-	783
Mov Cap-2 Maneuver	-	-	-	-	783
Stage 1	-	-	-	-	951
Stage 2	-	-	-	-	890

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1538	-	-	-	1000
HCM Lane V/C Ratio	0.008	-	-	-	0.012
HCM Control Delay (s)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0