

# Traffic Impact Study

## Proposed Mixed-Use Development

33 New Driftway  
Scituate, MA

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## **INTRODUCTION**

McMahon Associates has completed a review of the existing traffic operations and potential traffic impacts associated with the proposed mixed-use and multi-family dwelling development located at 33 New Driftway and 7 MacDonald Terrace in Scituate, Massachusetts. The purpose of this traffic impact study is to evaluate existing and projected traffic operations and safety conditions associated with the proposed development within the study area.

The assessment documented in this traffic impact study is based on a review of existing traffic volumes, recent crash data, and the anticipated traffic generating characteristics of the proposed project. The study examines existing and projected traffic operations (both without and with the proposed development) at the project site driveway and the Herring Brook Place driveway. This study provides a detailed analysis of traffic operations during the weekday morning and weekday afternoon peak hours, when the combination of adjacent roadway volumes and project trips would be expected to be the greatest.

Based on the analysis presented in this study, the traffic projected to be generated by the proposed development would have a minimal effect on the area roadways and intersections.

### ***Project Description***

The proposed mixed-use and multi-family dwelling development located at 33 New Driftway and 7 MacDonald Terrace in Scituate, Massachusetts as shown in Figure 1. The site is bounded by New Driftway to the south, commercial land uses to the west, residential land uses to the north, and the MBTA Commuter Rail Greenbush station to the east.

The proposed project would include construction of two buildings, with both residential and commercial uses on site. The buildings would include 20 residential units and approximately 3,485 square feet of commercial office space. A total of 38 parking spaces are provided on site, including 14 total tandem spaces and two accessible spaces. Access to the main parking area would be provided by a full-access driveway on New Driftway, across from the Herring Brook Place driveway. As part of the project, the existing driveway which connects to CP's Wood Fired Pizza and Rivershed would be adjusted and combined with the site driveway of the proposed mixed-use development, providing a single, more conventional driveway alignment with the Herring Brook Place driveway.



### ***Study Methodology***

This traffic impact study evaluates existing and projected traffic operations within the study area for the weekday morning and weekday afternoon peak hours, when the combination of the adjacent roadway volumes and estimated project trips would be expected to be the greatest.

The study was conducted in three steps. The first step consisted of an inventory of existing traffic conditions within the project study area. As part of this inventory, manual turning movement counts were collected during the weekday morning and weekday afternoon peak periods. A field visit was also completed to document intersection and roadway geometries and measure available sight distances at the proposed site driveway location. Crash data for the study area was obtained from the Massachusetts Department of Transportation (MassDOT) to determine if the study area intersection has existing safety deficiencies.

The second step of the study built upon the data collected in the first step to establish the basis for evaluating potential transportation impacts associated with the projected future conditions. During this second step, the projected traffic demands associated with known planned future developments that could influence traffic volumes at the proposed site driveway intersection were assessed. Consistent with MassDOT traffic study guidelines, 2022 Existing traffic volumes were forecasted to the future year 2029 to determine 2029 No Build (without project) conditions and 2029 Build (with project) conditions.

The third step of this study determined if measures are necessary to improve future traffic operations and safety, minimize potential traffic impacts, and provide safe and efficient access to the site with the proposed project in place.

### ***Study Area***

Based on a review of the anticipated traffic generating characteristics of the proposed project and a review of the adjacent roadways serving the project site, the intersection of New Driftway with the Herring Brook Place driveway and the driveway serving businesses just west of the project site were selected for analysis. For the purposes of this report, the intersection of New Driftway with the site and Herring Brook Place driveways is considered to be a single, four-leg intersection. This report documents existing and future traffic conditions for this intersection.

## **EXISTING CONDITIONS**

An assessment of the potential traffic impacts associated with the proposed mixed-use development requires a comprehensive understanding of the existing traffic conditions within the project study area. The existing conditions assessment included in this study consists of an inventory of intersection and roadway geometries, an inventory of traffic control devices, the collection of peak period traffic volumes, and a review of recent crash data. The existing conditions in the vicinity of the project site are summarized below.

### ***Study Area***

#### New Driftway

New Driftway generally runs in the east-west direction through the Town of Scituate and is classified as an urban collector under Town jurisdiction. In the vicinity of the project site, New Driftway serves primarily commercial land uses, and provides one approximately 12- to 14-foot travel lane in each direction with one- to two-foot shoulders on each side of the roadway. A six-foot sidewalk is provided on the northern side of the roadway. No dedicated bicycle facilities are provided. A speed limit of 30 miles per hour (mph) is posted in both directions along New Driftway in the vicinity of study area.

#### Greenbush Station

The project site is directly adjacent to Greenbush station, which serves as the southern terminus MBTA Commuter Rail Greenbush Line. The Greenbush line connects Greenbush to South Station in Boston, with approximately 13 trains traveling between the two locations over the course of a typical weekday.

### ***Existing Traffic Volumes***

#### Existing Peak Hour Traffic Volumes

To assess peak hour traffic conditions, manual turning movement counts were conducted at the study area intersection during the weekday morning and weekday afternoon peak periods.

Counts were conducted on Thursday, February 17, 2022 from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. The results of the turning movement counts are tabulated by 15-minute periods and are provided in Appendix A of this report. The four highest consecutive 15-minute intervals during each of these count periods constitute the peak hours that are the basis of the traffic analysis provided in this report. Based on a review of the peak period traffic data, the weekday morning peak hour at the study area intersection occurs between 8:00 AM and 9:00 AM and the weekday afternoon peak hour occurs between 4:00 PM and 5:00 PM.

Automatic traffic recorder (ATR) counts were conducted on Thursday, February 17, 2022 on New Driftway to the west of the site driveway. The results of the ATR counts are provided in Appendix A of the report and summarized in Table 1 below.

**Table 1: ATR Data Summary**

Roadway	Direction	ADT <sup>1</sup>	HV% <sup>2</sup>	85th % <sup>3</sup>
				Speed
New Driftway	Eastbound	5,455	1.5%	37
	<u>Westbound</u>	<u>5,025</u>	<u>1.7%</u>	<u>36</u>
	Combined	10,480	1.6%	37

1 Average daily traffic volume in vehicles per day

2 Heavy vehicle percentage

3 85th percentile vehicle speed in mph

### Volume Adjustments

The COVID-19 pandemic and the associated changes in travel patterns resulted in decreases in roadway traffic volumes relative to recent prior years. Though the impacts of the pandemic on roadway volumes have begun to subside, in order to provide an assessment of more typical traffic conditions, the counted volumes at the study area intersection were adjusted upwards to reflect pre-COVID conditions. In order to achieve this, the counted vehicle volumes at the intersection of New Driftway at the project site driveway/Herring Brook Place driveway were compared to vehicle volumes at the rotary to the east, obtained from a turning movement counts performed for the Drew Company Mixed-Use project at 247 Driftway in June of 2018.

Additionally, normal variation in traffic volumes is expected to occur throughout the year. To determine whether any seasonal adjustment of the counted traffic volumes was necessary, continuous count data was obtained from the MassDOT Transportation Data Management System dashboard for a count station located on Route 3 in Hingham. Based on the seasonal trends of the data, vehicle volumes during the month of June are shown to be approximately eight percent higher than those of the average month. The continuous count station data used for seasonal adjustment is provided in Appendix B of this report.

Based on the comparison of the February 2022 and June 2018 vehicle volumes, and the seasonal adjustment data for the month of June this comparison, vehicle volumes at the intersection of New Driftway at the project site driveway/Herring Brook Place driveway were grown to match the June 2018 volumes. This resulted in a growth of approximately 13 percent for the weekday morning peak hour conditions and of approximately 22 percent during the weekday afternoon peak period.

The resulting 2022 Existing condition peak hourly traffic flows for the weekday morning and afternoon peak hours are depicted in Figure 2, and presented in the traffic projection model provided in Appendix C of this report.

### ***Crash Summary***

Crash data for the study area intersection was obtained from MassDOT for the most recent five-year period available, from 2015 through 2019. A summary of the crash data is presented in Appendix D.

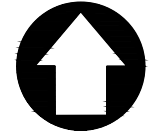
The MassDOT Crash Rate Worksheet calculations were used to determine whether the crash frequency at the study area intersection was unusually high given the travel demands. The MassDOT Crash Rate Worksheet calculates a crash rate expressed in crashes per million entering vehicles. The calculated rate is then compared to the average rate for signalized and unsignalized intersections



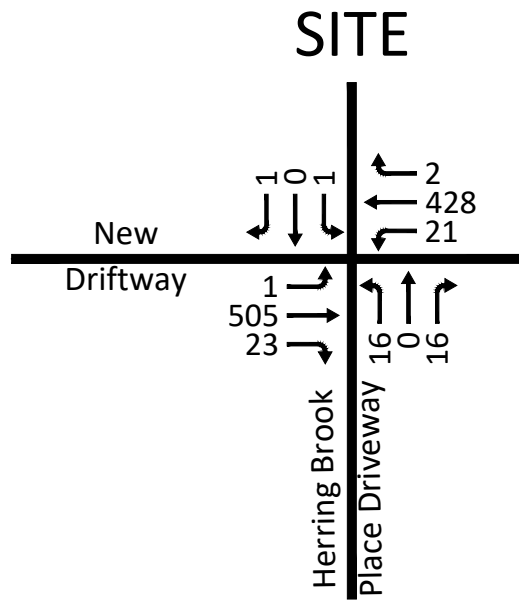
statewide and within MassDOT District 5. For unsignalized intersections, the statewide and District 5 average crash rates are both 0.57 crashes per million entering vehicles.

Only one crash is reported to have occurred at the unsignalized intersection of New Driftway at the project site driveway/Herring Brook Place driveway during the five-year period analyzed, a 2016 crash involving a pedestrian which is reported to have resulted in property damage only. The single crash during the analysis period is equivalent to a crash rate of approximately 0.04 crashes per million entering vehicles.

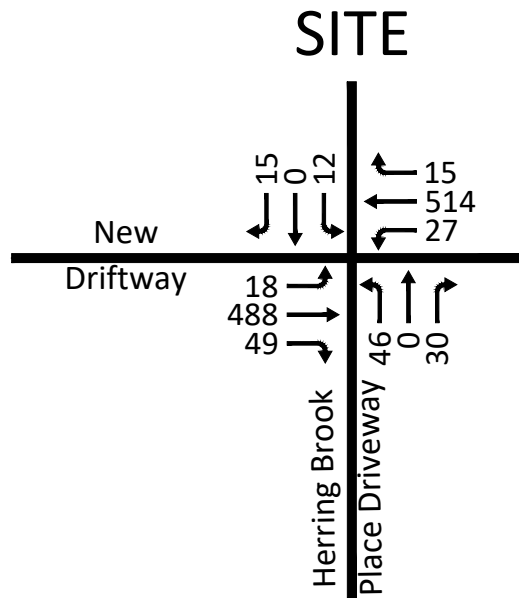
The intersection of New Driftway at the project site driveway/Herring Brook Place driveway is not identified as part of a high-crash cluster by the MassDOT Highway Safety Improvement Program.



SCHEMATIC-  
NOT TO SCALE



Weekday Morning  
Peak Hour



Weekday Afternoon  
Peak Hour

## **FUTURE CONDITIONS**

To determine future traffic demands within the study area, the 2022 Existing traffic volumes were projected to the future-year 2029, in accordance with MassDOT guidelines. Traffic volumes on the study area roadways in 2029 are considered to include all existing traffic, as well as new traffic resulting from general growth in the study area and from other planned developments, independent of the proposed project. The potential background traffic growth, unrelated to the proposed project, was considered in the development of the 2029 No Build (without project) peak hour traffic volumes. The estimated traffic increases associated with the proposed project were then added to the 2029 No Build volumes to reflect the 2029 Build (with project) traffic conditions. A more detailed description of the development of the 2029 No Build and 2029 Build traffic volume networks is presented below.

### ***Future Roadway Improvements***

Based on coordination with the Town of Scituate, no roadway improvement projects are planned which would be expected to directly impact vehicle conditions at the intersection of New Driftway and project site driveway/Herring Brook Place Driveway.

### ***Background Traffic Growth***

Traffic growth is generally a function of changes in motor vehicle use and anticipated land development within the area. To predict the rate at which traffic on the study area roadways can be expected to grow during the seven-year forecast period (2022 to 2029), both constructed site developments and historic traffic growth were reviewed.

#### Site-Specific Growth

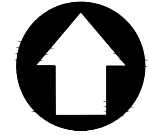
Discussions with the Town of Scituate identified two development projects which would be expected to impact vehicle volumes within the study area network: the mixed-use Drew Company development at 247 Driftway, and the gas station at 48-52 New Driftway. In order to account for the estimated impact of these developments on roadway volumes at the study area intersection, the Traffic Impact and Assessment Studies (TIAS) prepared by VHB for each development were reviewed. Additional vehicle trips for the Drew Company mixed-use development were obtained from the TIAS dated July 31, 2018 and revised on January 16, 2019. Vehicle trips associated with the proposed gas station at 48-52 New Driftway were obtained from the TIAS dated July 21, 2020. These trips were added to the 2022 Existing conditions vehicle volumes as part of establishing the 2029 No Build volume network.

#### Historic Traffic Growth

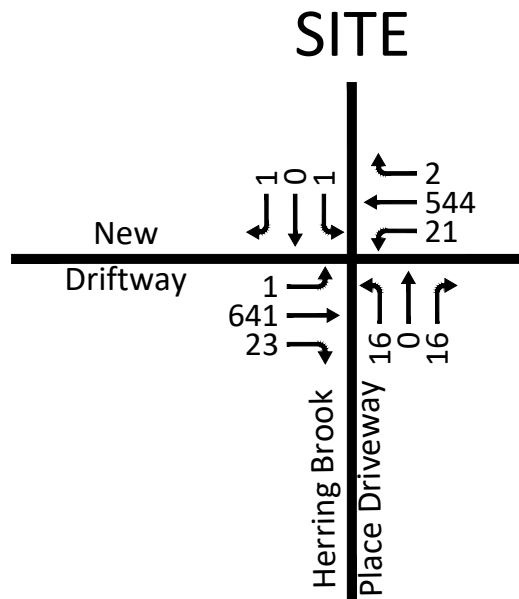
Based on conversations with the Town of Scituate, a background growth rate of one percent per year was identified. This growth rate, compounded annually, was utilized to estimate traffic growth associated with general changes in population and any developments that may not be known at this time.

### ***2029 No Build Traffic Volumes***

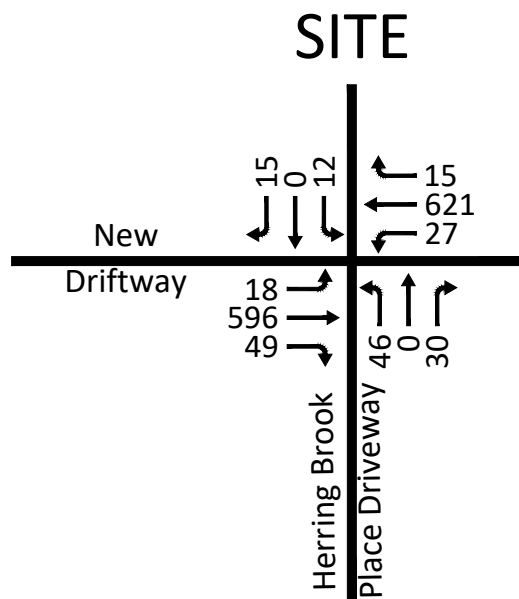
The 2022 Existing peak hour traffic volumes were grown by one percent per year (compounded annually) over the seven-year study horizon (2022 to 2029), and the estimated trips associated with the Drew Company mixed-use and 48-52 New Driftway gas station projects were added to establish baseline future traffic volumes. The resulting 2029 No Build peak hour volumes are illustrated in Figure 3, and are documented in the traffic projection model presented in Appendix C of this report.



SCHEMATIC-  
NOT TO SCALE



Weekday Morning  
Peak Hour



Weekday Afternoon  
Peak Hour

**Site-Generated Traffic**

To estimate the number of vehicle trips associated with the proposed mixed-use development, the Institute of Transportation Engineers’ (ITE) publication, *Trip Generation Manual, 11<sup>th</sup> Edition*, was referenced. ITE is a national research organization of transportation professionals, and *Trip Generation Manual, 11<sup>th</sup> Edition* provides traffic generation information for various land uses compiled from studies conducted by members nationwide. For the proposed mixed-use development, Land Use Code 220 (Multifamily Housing, Low Rise) and Land Use Code 710 (General Office Building) were utilized. This reference establishes vehicle trip rates (in this case expressed in trips per unit and per square foot) based on actual traffic counts conducted at similar types of existing land uses.

The estimated vehicle trips associated with the proposed mixed-use development are presented in Table 2 below.

**Table 2: Project Trip Generation**

Description	Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
	In	Out	Total	In	Out	Total
Multifamily Housing <sup>1</sup>	7	22	29	18	11	29
Commercial Office Space <sup>2</sup>	5	1	6	3	5	8
<b>Total Project Trips</b>	<b>12</b>	<b>23</b>	<b>35</b>	<b>21</b>	<b>16</b>	<b>37</b>

<sup>1</sup> ITE Land Use Code 220 (Multifamily Housing, Low-Rise), based on 20 units.

<sup>2</sup> ITE Land Use Code 712 (Small Office Building), based on 3,485 sf.

As shown in Table 2, the proposed project is estimated to result in approximately 35 total vehicle trips (12 entering vehicles and 23 exiting vehicles) during the weekday morning peak hour and approximately total 37 vehicle trips (21 entering vehicles and 16 exiting vehicles) during the weekday afternoon peak hour.

The *Trip Generation Manual, 11<sup>th</sup> Edition* provides data for Land Use Code 220 based on general low-rise residential developments, as well as those within a half mile of rail transit. Given the site’s proximity to Greenbush station, it is expected that a portion of trips to and from the site will utilize the MBTA Commuter Rail. However, in order to provide a conservative estimate of vehicle trips to the proposed site, the data for general low-rise residential developments was utilized.

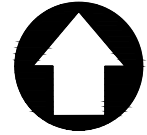
**Project Trip Distribution and Assignment**

Due to the nature of the proposed development, trips to and from the residential portions of the site may have different travel characteristics than those trips traveling to and from the commercial portions of the site. In order to distribute the vehicle trips related to the residential component of the project, U.S. Census Journey-to-Work data for the Town of Scituate was reviewed and is provided in Appendix E of this report. The office trips were distributed onto the study area roadways based on existing travel patterns of the adjacent roadway network during the weekday morning and weekday afternoon peak hours. The resulting overall arrival and departure patterns for the residential and commercial components of the proposed project are presented in Figure 4.

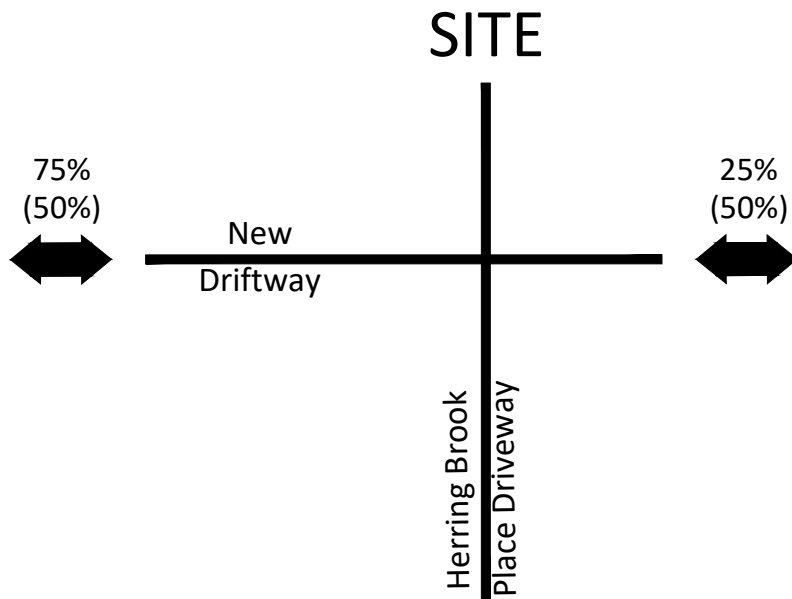
The new vehicle trips associated with the residential and commercial portions of the project were then assigned to the surrounding roadway network based on the project trip distribution patterns presented in Figure 4. The resulting distributed new project trips for the weekday morning and weekday afternoon peak hours are shown in Figure 5 and are documented in the traffic projection model found in Appendix C.

***2029 Build Traffic Volumes***

To establish the 2029 Build peak hour traffic volumes, the distributed new project trips were then added to the 2029 No Build peak hour traffic volumes to reflect the 2029 Build peak hour traffic volumes. The resulting 2029 Build weekday morning and weekday afternoon peak hour traffic volumes are presented in Figure 6 and are documented in the traffic projection model presented in Appendix C.

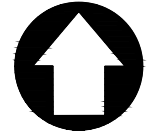


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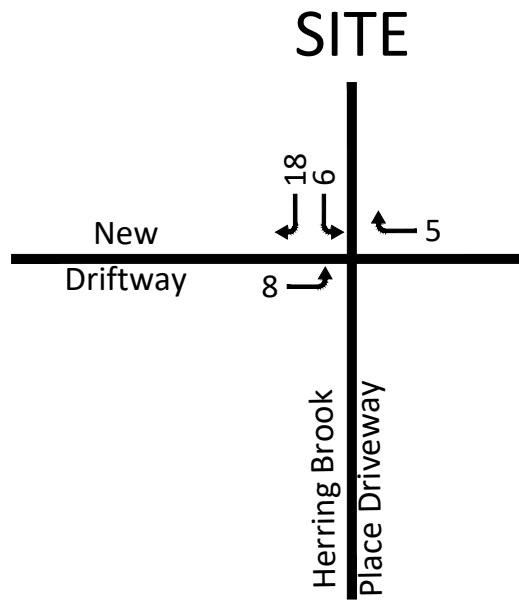


Legend  
Residential (Commercial)

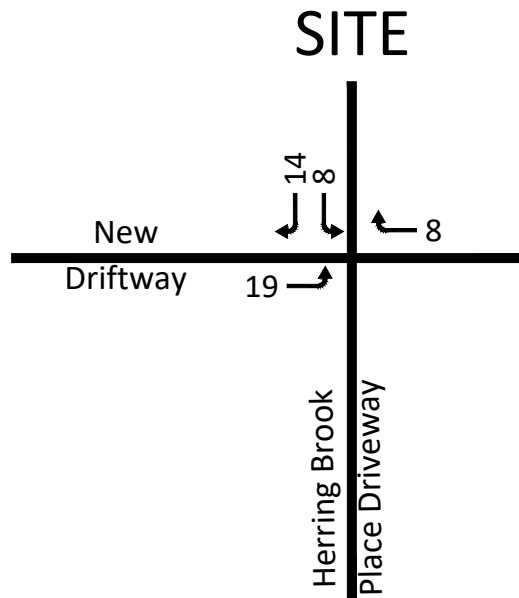




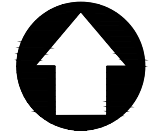
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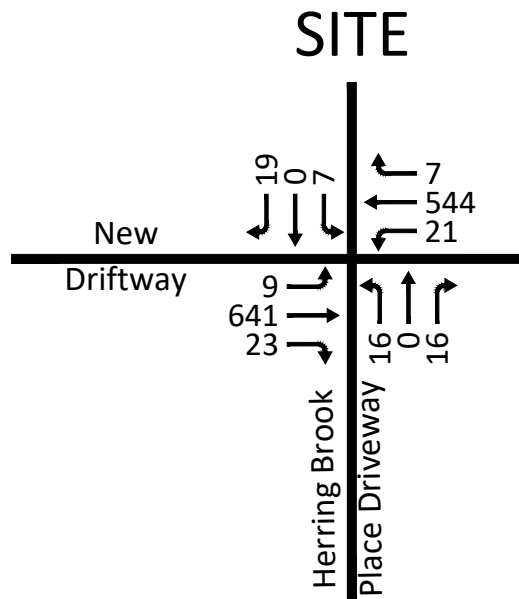
Weekday Morning  
Peak Hour



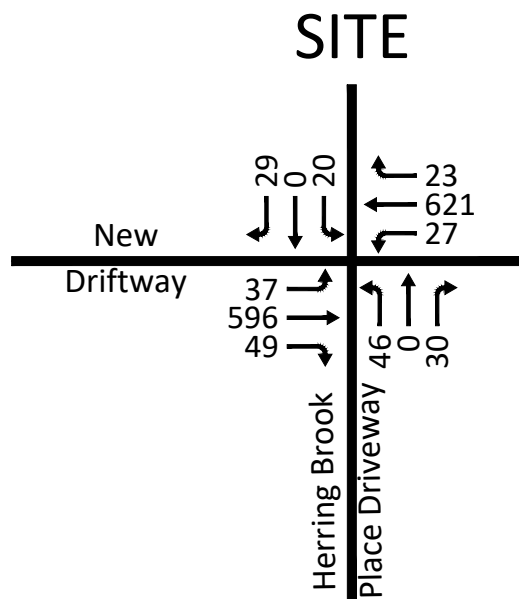
Weekday Afternoon  
Peak Hour



SCHEMATIC-  
NOT TO SCALE



Weekday Morning  
Peak Hour



Weekday Afternoon  
Peak Hour

## **TRAFFIC OPERATIONS ANALYSIS**

In previous sections of this report, the quantity of traffic at the study area intersection has been discussed. The following sections describe the overall quality of the traffic flow at the study area intersection during the weekday morning and weekday afternoon peak hours. As a basis for this assessment, intersection capacity analysis was conducted using the Synchro capacity analysis software at the study area intersection under the 2022 Existing, 2029 No Build, and 2029 Build peak hour traffic conditions. The analysis is based on Synchro capacity analysis methodologies and procedures contained in the *Highway Capacity Manual, 6<sup>th</sup> Edition* (HCM), which is summarized in Appendix F. A discussion of the evaluation criteria and a summary of the results of the capacity analysis are presented below.

### ***Level-of-Service Criteria***

Average total vehicle delay is reported as level-of-service (LOS) on a scale of A to F. LOS A represents delays of 10 seconds or less and LOS F represents delays in excess of 50 seconds for unsignalized intersections and greater than 80 seconds for signalized intersections. A more detailed description of the LOS criteria is provided in Appendix F.

### ***Delay & Gap Study***

Vehicle delay studies use queue measurements taken at short intervals, combined with vehicle counts, to measure approximate average vehicle delay experienced for a given movement at an intersection. A 60-minute vehicle delay study was performed for the Herring Brooke Place driveway approach to New Driftway on Thursday, April 7, 2022 during the weekday afternoon peak hour between 4:00 PM and 5:00 PM. Queue measurements, measured by the total number of stopped vehicles, were taken in 15-second increments. During the 60-minute count period, a total of 72 vehicles were counted turning from Herring Brook Place onto New Driftway. The average delay per vehicle was calculated to be approximately 14.6 seconds.

Based on a review of the field measured approach delay, the critical headway within the capacity analysis for this project was adjusted to reflect the shorter gap acceptance of vehicles traveling within the corridor. Critical headways of five seconds for left- and right-turn movements for vehicles turning onto New Driftway were identified to better align the capacity analysis results with observed field conditions. In order to confirm this reduced critical gap, measurements of existing gap acceptance times for vehicles exiting the Herring Brook Place driveway were made on April 7, 2022 from 3:00 PM to 4:00 PM. During the one-hour observation period, four vehicles were observed to accept gaps of less than five seconds, including gaps as short as three seconds being accepted. Based on the the observed gap acceptance in the field and the results of the delay study, the use of a five-second critical headway is expected to result in a more accurate model of vehicle operations at the driveways on New Driftway than using default values for the critical headways. The detailed delay study results are documented in Appendix G.

**Capacity Analysis Results**

Intersection capacity analysis was conducted using Synchro capacity analysis software for the study area intersection to evaluate the 2022 Existing, 2029 No Build, and 2029 Build traffic conditions during the weekday morning and weekday afternoon peak hours. As mentioned previously, the peak hour traffic volumes utilized as part of this analysis are provided in the traffic projection model, attached in Appendix C of this report.

The Synchro capacity analysis results for the 2022 Existing, 2029 No Build, and 2029 Build traffic conditions are presented in Appendix H, Appendix I, and Appendix J, respectively. A detailed summary of the capacity analysis results are include in Appendix K of this report.

The capacity analysis results for each approach to the study area intersection is presented in Table 3.

**Table 3: Intersection Capacity Analysis Results**

Intersection	Peak Period	Movement	2022 Existing			2029 No Build			2029 Build		
			LOS <sup>1</sup>	Delay <sup>2</sup>	V/C <sup>3</sup>	LOS	Delay	V/C	LOS	Delay	V/C
New Driftway at Site Driveway/ Herring Brook Place Driveway	AM	NB L	C	15.6	0.07	C	19.3	0.09	C	20.4	0.10
			R	B	10.7	0.04	B	11.6	0.04	B	11.6
		SB LR/L	B	12.9	0.02	C	15.1	0.02	C	19.5	0.03
			R	n/a	n/a	n/a	n/a	n/a	n/a	B	11.2
	PM	NB L	C	19.8	0.19	D	25.1	0.24	D	27.7	0.26
			R	B	10.9	0.06	B	11.6	0.06	B	11.6
		SB LR/L	B	14.6	0.07	C	17.0	0.09	C	24.3	0.09
			R	n/a	n/a	n/a	n/a	n/a	n/a	B	11.9

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume-to-capacity ratio

n/a Not applicable

As shown in Table 3, the Herring Brook Place driveway northbound left-turn movement at New Driftway is shown to currently operate at LOS C during the weekday morning and weekday afternoon peak hours. The right-turn movement is shown to currently operate at LOS B during the weekday morning and afternoon peak hours. During the weekday afternoon peak hour, the combined Herring Brook Place driveway approach is shown to operate with approximately 16 seconds of average vehicle delay, which aligns with the average vehicle delay of approximately 15 seconds measured by the field delay study. Under 2029 No Build conditions during the weekday morning peak hour, the Herring Brook Place driveway is projected to continue operating at LOS C for left-turning vehicles and at LOS B for right-turning vehicles. During the weekday afternoon peak hour, the left-turning movement exiting Herring Brook Place is projected to operate at LOS D, while the right-turning movement is projected to operate at LOS B. Under 2029 Build conditions, the Herring Brook Place driveway would be projected to operate at the same LOS for left- and right-turn movements as under 2029 No Build conditions, with less than three seconds of additional average vehicle delay for both left and right turns during the weekday morning and afternoon peak hours.

The existing southbound driveway serving CP’s Wood Fired Pizza and Rivershed is shown to currently operate at LOS B during the weekday morning and weekday afternoon peak hours. Under 2029 No Build conditions, the southbound approach under the existing driveway configuration would be

projected to operate at LOS C during the weekday morning and afternoon peak hours. The proposed site driveway would be striped to provide separate right- and left-turn lanes. The left-turn movement exiting the proposed driveway is projected to operate at LOS C during the weekday morning and afternoon peak hours, and the right-turn movement is projected to operate at LOS B during both peak hours analyzed.

The westbound left-turn movement into the Herring Brook Place driveway is projected to operate at LOS A during the weekday morning and afternoon peak hours under all existing and future conditions, without and with the proposed project in place. The eastbound and westbound through movements on New Driftway across the intersection are projected to operate with negligible delay under all conditions during the weekday morning and afternoon peak hours.

### ***Site Access and Circulation***

Access to the mixed-use development would be primarily provided via one full-access driveway on New Driftway Driftway across from the Herring Brook Place driveway. This driveway would serve the proposed site as well as the CP's Wood Fired Pizza and Rivershed restaurants, and the existing driveway serving these locations would be removed. The strategy of combining driveways for multiple land uses, typically referred to as access management, reduces the number of conflict points along New Driftway between vehicles entering and exiting the sites and vehicles traveling past them. Further, the existing driveway serving the CP's Wood Fired Pizza and Rivershed restaurants does not include lane markings and intersects New Driftway at a shallow angle approximately 100 feet west of the Herring Brook Place driveway. The proposed combined driveway would intersect New Driftway perpendicularly across from the Herring Brook Place driveway, allowing the combined driveways to operate as a more typical four-leg intersection. Overall, the proposed shared site driveway and internal roadways of the site are designed to allow for safe, efficient access.

A total of 38 parking spaces are provided on site, including a total of 14 tandem parking spaces, and two accessible spaces.

### ***Sight Distance***

A field review of sight distance was conducted at the location of the proposed site driveway on New Driftway. The American Association of State Highway and Transportation Officials (AASHTO) publication, *A Policy on Geometric Design, 2018 Edition*, defines minimum and recommended sight distances at intersections. The minimum sight distance is based on the required stopping sight distance (SSD) for vehicles traveling along the main road. The recommended sight distance allows vehicles to enter the main street traffic flow without requiring the mainline traffic to slow to less than 70% of their speed and is referred to as intersection sight distance (ISD). According to AASHTO, "If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient time to anticipate and avoid collisions."

To assess the required sight distance at the proposed site driveway on New Driftway, vehicle speed data from the automatic traffic recorder (ATR) count conducted on New Driftway was reviewed. Based on this ATR data, the 85<sup>th</sup> percentile vehicle speeds on New Driftway in the vicinity of the site were measured to be 37 miles per hour (mph) in the eastbound direction and 36 mph in the

westbound direction. The posted speed limit along New Driftway is 30 mph in both directions. To present a conservative analysis, the 85<sup>th</sup> percentile speeds were used in the sight distance analysis provided below. Table 4 summarizes the AASHTO sight distance standards for the 85<sup>th</sup> percentile speeds on New Driftway and the available sight distances measured at the proposed site driveway.

**Table 4: Sight Distance Requirements**

<b>Location</b>	<b>Looking</b>	<b>Speed Limit (mph)</b>	<b>85th % Speed (mph)</b>	<b>SSD<sup>1</sup> Required</b>	<b>ISD<sup>2</sup> Recommended</b>	<b>Sight Distance Measured</b>	<b>Meets Required SSD/ISD?</b>
Site Driveway on	Left (West)	30	36	260	345	450 <sup>3</sup>	Yes
New Driftway	Right (East)	30	37	270	440	>500	Yes

1 Stopping sight distance (see AASHTO equations 3-2 and 3-3) for 85th% speed.

2 Intersection sight distance (see AASHTO equations 9-1 and 9-2) for 85th% speed.

3 Reported sight distance is based on planned clearance of existing vegetation as part of the project.

As shown in Table 4 above, the available sight distances looking in both directions along New Driftway from the proposed site driveway location exceed the AASHTO required SSD and recommended ISD for exiting vehicles for the 85<sup>th</sup> percentile speeds.

## CONCLUSION

The proposed project includes construction of 20 residential units and approximately 3,485 square feet of commercial office space in a mixed-use and multi-family dwelling development located at 33 New Driftway and 7 MacDonald Terrace in Scituate, Massachusetts. A total of 38 parking spaces would be provided on site, including 14 total tandem spaces and two accessible spaces. Access to the main parking area would be provided by a full-access driveway on New Driftway, across from the Herring Brook Place driveway. As part of the project, the existing driveway which connects to CP's Wood Fired Pizza and Rivershed would be adjusted and combined with the site driveway of the proposed mixed-use development, providing a single, more conventional driveway alignment with the Herring Brook Place driveway.

Based on the analysis presented in this traffic impact study, the proposed project is estimated to generate approximately 35 vehicle trips (12 entering vehicles and 23 exiting vehicles) during the weekday morning peak hour and approximately 37 vehicle trips (21 entering vehicles and 16 exiting vehicles) during the weekday afternoon peak hour.

A delay study performed for the existing Herring Brook Place driveway measured the average vehicle delay for vehicles exiting Herring Brook Place onto New Driftway to be approximately 14.6 seconds. This delay study was used to calibrate the capacity analysis in order to provide a more accurate modeling of vehicle operations for the study area intersection. The capacity analysis performed for the study intersection indicates that the proposed development is projected to have a limited impact on the operations of the intersection, with all movements projected to operate at the same LOS under 2029 No Build and 2029 Build conditions. During the weekday morning and afternoon peak hours, the proposed site driveway approach is projected to operate at LOS C for left-turning traffic and at LOS B for right-turning traffic.

Available sight distances at the proposed site driveway location on New Driftway exceed the required and recommended sight distances for the 85<sup>th</sup> percentile vehicle speeds, allowing for safe and efficient access and egress for vehicles entering and exiting the proposed development.

Based on a review of the analysis contained within this traffic impact study, the proposed mixed-use development is not shown to have a significant impact on the overall traffic operations of the study area roadways.

# Appendix for Traffic Impact Study

## Proposed Mixed-Use Development

33 New Driftway  
Scituate, MA

Prepared by  
**McMahon Associates, Inc.**  
120 Water Street, 4th Floor  
Boston, MA 02109  
617-556-0020

Prepared for  
**Saoirse LLC**

July 2022





**APPENDIX A**  
Traffic Count Data



**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N/S: #17 Parcel Drive/Plaza Drive  
 E/W: New Driftway  
 City, State: Scituate, MA  
 Client: McM/S. Tagar

File Name : 05519A  
 Site Code : Y-22086  
 Start Date : 2/17/2022  
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	78	2	0	4	0	3	0	3	67	0	0	157
07:15 AM	0	0	0	0	0	79	1	0	3	0	1	0	6	67	0	0	157
07:30 AM	0	0	0	1	0	95	1	0	3	0	1	0	3	86	0	0	190
07:45 AM	0	0	0	0	0	89	6	0	2	0	4	0	5	101	0	0	207
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>341</b>	<b>10</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>17</b>	<b>321</b>	<b>0</b>	<b>0</b>	<b>711</b>
08:00 AM	0	0	0	0	0	108	4	0	3	0	1	0	5	117	0	0	238
08:15 AM	1	0	1	0	0	87	4	0	4	0	4	0	0	110	1	0	212
08:30 AM	0	0	0	2	0	89	6	0	2	0	3	0	7	110	0	0	219
08:45 AM	0	0	0	0	2	95	5	0	5	0	6	0	8	111	0	0	232
<b>Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>379</b>	<b>19</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>20</b>	<b>448</b>	<b>1</b>	<b>0</b>	<b>901</b>
<b>Grand Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>720</b>	<b>29</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>37</b>	<b>769</b>	<b>1</b>	<b>0</b>	<b>1612</b>
Apprch %	20	0	20	60	0.3	95.9	3.9	0	53.1	0	46.9	0	4.6	95.3	0.1	0	
Total %	0.1	0	0.1	0.2	0.1	44.7	1.8	0	1.6	0	1.4	0	2.3	47.7	0.1	0	
Cars & Peds	1	0	1	3	2	705	29	0	26	0	23	0	37	754	1	0	1582
% Cars & Peds	100	0	100	100	100	97.9	100	0	100	0	100	0	100	98	100	0	98.1
Trucks & Buses																	
% Trucks & Buses	0	0	0	0	0	2.1	0	0	0	0	0	0	0	2	0	0	1.9
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North					New Driftway From East				Herring Brook Place Plaza Drive From South					New Driftway 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	0	0	0	0	0	<b>108</b>	4	0	<b>112</b>	3	0	1	0	4	5	<b>117</b>	0	0	<b>122</b>	<b>238</b>
08:15 AM	<b>1</b>	0	<b>1</b>	0	<b>2</b>	0	87	4	0	91	4	0	4	0	8	0	110	<b>1</b>	0	111	212
08:30 AM	0	0	0	<b>2</b>	<b>2</b>	0	89	<b>6</b>	0	95	2	0	3	0	5	7	110	0	0	117	219
08:45 AM	0	0	0	0	0	<b>2</b>	95	5	0	102	<b>5</b>	0	<b>6</b>	0	<b>11</b>	<b>8</b>	111	0	0	119	232
Total Volume	1	0	1	2	4	2	379	19	0	400	14	0	14	0	28	20	448	1	0	469	901
% App. Total	.25	0	.25	.50		.5	94.8	4.8	0		.50	0	.50	0		4.3	95.5	0.2	0		
PHF	.250	.000	.250	.250	.500	.250	.877	.792	.000	.893	.700	.000	.583	.000	.636	.625	.957	.250	.000	.961	.946
Cars & Peds	1	0	1	2	4	2	373	19	0	394	14	0	14	0	28	20	439	1	0	460	886
% Cars & Peds	100	0	100	100	100	100	98.4	100	0	98.5	100	0	100	0	100	100	98.0	100	0	98.1	98.3
Trucks & Buses	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	9	0	0	9	15
% Trucks & Buses	0	0	0	0	0	0	1.6	0	0	1.5	0	0	0	0	0	0	2.0	0	0	1.9	1.7
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N/S: #17 Parcel Drive/Plaza Drive  
 E/W: New Driftway  
 City, State: Scituate, MA  
 Client: McM/S. Tagar

File Name : 05519A  
 Site Code : Y-22086  
 Start Date : 2/17/2022  
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	76	2	0	4	0	3	0	3	66	0	0	154
07:15 AM	0	0	0	0	0	78	1	0	3	0	1	0	6	65	0	0	154
07:30 AM	0	0	0	1	0	91	1	0	3	0	1	0	3	83	0	0	183
07:45 AM	0	0	0	0	0	87	6	0	2	0	4	0	5	101	0	0	205
Total	0	0	0	1	0	332	10	0	12	0	9	0	17	315	0	0	696
08:00 AM	0	0	0	0	0	108	4	0	3	0	1	0	5	116	0	0	237
08:15 AM	1	0	1	0	0	85	4	0	4	0	4	0	0	108	1	0	208
08:30 AM	0	0	0	2	0	86	6	0	2	0	3	0	7	108	0	0	214
08:45 AM	0	0	0	0	2	94	5	0	5	0	6	0	8	107	0	0	227
Total	1	0	1	2	2	373	19	0	14	0	14	0	20	439	1	0	886
Grand Total	1	0	1	3	2	705	29	0	26	0	23	0	37	754	1	0	1582
Apprch %	20	0	20	60	0.3	95.8	3.9	0	53.1	0	46.9	0	4.7	95.2	0.1	0	
Total %	0.1	0	0.1	0.2	0.1	44.6	1.8	0	1.6	0	1.5	0	2.3	47.7	0.1	0	

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total				
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds					
08:00 AM	0	0	0	0	0	<b>108</b>	4	0	<b>112</b>	3	0	1	0	4	5	<b>116</b>	0	0	<b>121</b>	<b>237</b>	
08:15 AM	<b>1</b>	0	<b>1</b>	0	2	0	85	4	0	89	4	0	4	0	8	0	108	<b>1</b>	0	109	208
08:30 AM	0	0	0	<b>2</b>	2	0	86	<b>6</b>	0	92	2	0	3	0	5	7	108	0	0	115	214
08:45 AM	0	0	0	0	0	<b>2</b>	94	5	0	101	<b>5</b>	0	<b>6</b>	0	<b>11</b>	<b>8</b>	107	0	0	115	227
Total Volume	1	0	1	2	4	2	373	19	0	394	14	0	14	0	28	20	439	1	0	460	886
% App. Total	25	0	25	50		0.5	94.7	4.8	0		50	0	50	0		4.3	95.4	0.2	0		
PHF	.250	.000	.250	.250	.500	.250	.863	.792	.000	.879	.700	.000	.583	.000	.636	.625	.946	.250	.000	.950	.935

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

**Transportation Data Corporation**  
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 tel (781) 587-0086 cell (781) 439-4999

N/S: #17 Parcel Drive/Plaza Drive  
 E/W: New Driftway  
 City, State: Scituate, MA  
 Client: McM/S. Tagar

File Name : 05519A  
 Site Code : Y-22086  
 Start Date : 2/17/2022  
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
07:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
07:30 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	3	0	0	7
07:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>15</b>
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
08:15 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	4
08:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	5
08:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0	0	5
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>15</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>30</b>
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	50	0	0	0	0	0	0	0	50	0	0	

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
07:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
07:30 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	3	0	0	7
07:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
<b>Total Volume</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>15</b>
<b>% App. Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	
<b>PHF</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.563</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.500</b>	<b>.000</b>	<b>.500</b>	<b>.536</b>

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

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File Name : 05519A  
 Site Code : Y-22086  
 Start Date : 2/17/2022  
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	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	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	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
Grand Total	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 %																	

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0
% App. Total	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

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

# Transportation Data Corporation

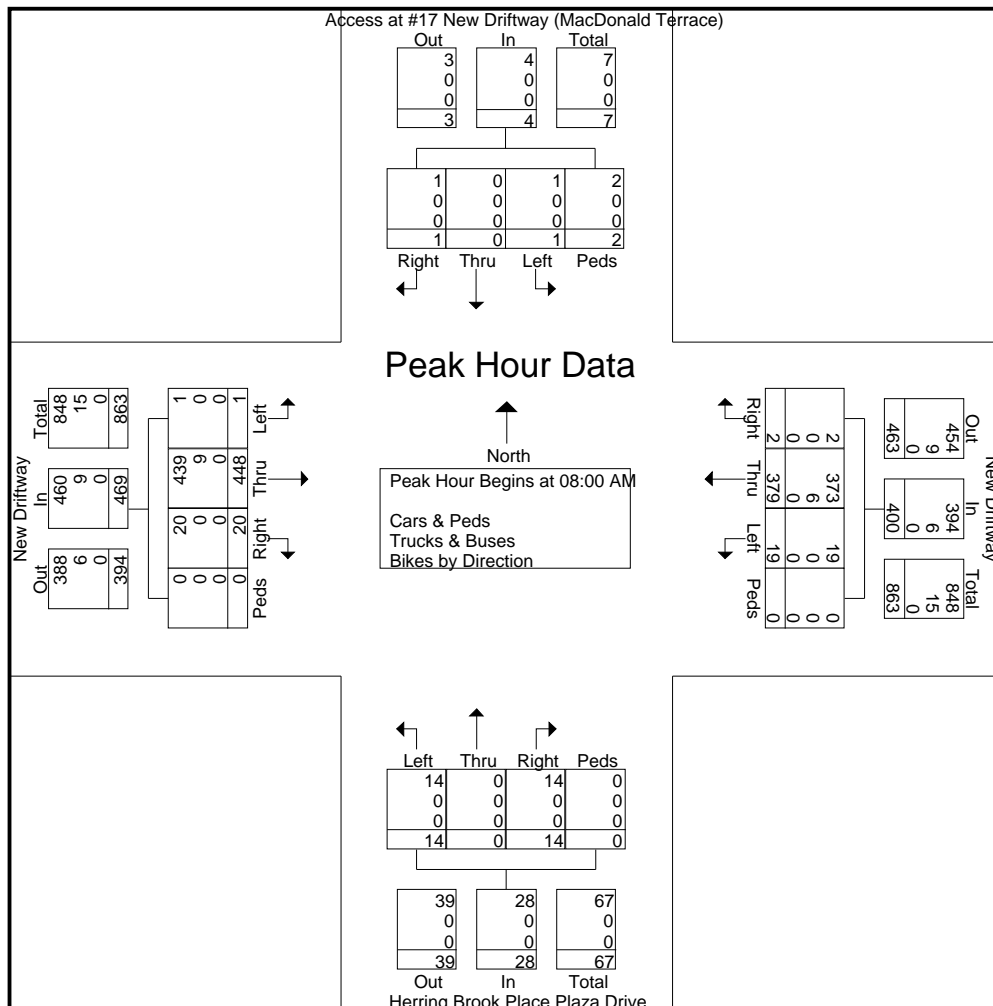
Mario Perone, mperone1@verizon.net

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Start Time	Access at #17 New Driftway (MacDonald Terrace) From North					New Driftway From East					Herring Brook Place Plaza Drive From South					New Driftway 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	0	0	0	0	0	<b>108</b>	4	0	<b>112</b>	3	0	1	0	4	5	<b>117</b>	0	0	<b>122</b>	<b>238</b>
08:15 AM	1	0	1	0	2	0	87	4	0	91	4	0	4	0	8	0	110	1	0	111	212
08:30 AM	0	0	0	2	2	0	89	6	0	95	2	0	3	0	5	7	110	0	0	117	219
08:45 AM	0	0	0	0	0	2	95	5	0	102	5	0	6	0	11	8	111	0	0	119	232
Total Volume	1	0	1	2	4	2	379	19	0	400	14	0	14	0	28	20	448	1	0	469	901
% App. Total	.25	0	.25	.50		.05	94.8	4.8	0		.35	0	.35	0		.43	95.5	.02	0		
PHF	.250	.000	.250	.250	.500	.250	.877	.792	.000	.893	.700	.000	.583	.000	.636	.625	.957	.250	.000	.961	.946
Cars & Peds	1	0	1	2	4	2	373	19	0	394	14	0	14	0	28	20	439	1	0	460	886
% Cars & Peds	100	0	100	100	100	100	98.4	100	0	98.5	100	0	100	0	100	100	98.0	100	0	98.1	98.3
Trucks & Buses	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	9	0	0	9	15
% Trucks & Buses	0	0	0	0	0	0	1.6	0	0	1.5	0	0	0	0	0	0	2.0	0	0	1.9	1.7
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N/S: #17 Parcel Drive/Plaza Drive  
 E/W: New Driftway  
 City, State: Scituate, MA  
 Client: McM/S. Tagar

File Name : 05519AA  
 Site Code : Y-22086  
 Start Date : 2/17/2022  
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	3	0	3	4	3	98	3	4	4	0	6	0	6	100	3	0	237
04:15 PM	2	0	3	2	3	109	8	0	5	0	12	0	16	99	5	0	264
04:30 PM	3	0	3	0	4	117	6	0	9	0	10	0	8	106	1	0	267
04:45 PM	4	0	1	1	2	99	5	0	7	0	10	0	10	96	6	0	241
<b>Total</b>	<b>12</b>	<b>0</b>	<b>10</b>	<b>7</b>	<b>12</b>	<b>423</b>	<b>22</b>	<b>4</b>	<b>25</b>	<b>0</b>	<b>38</b>	<b>0</b>	<b>40</b>	<b>401</b>	<b>15</b>	<b>0</b>	<b>1009</b>
05:00 PM	6	0	2	0	11	86	5	0	6	0	7	0	2	86	10	0	221
05:15 PM	6	0	6	0	5	90	9	0	7	1	7	0	17	94	8	0	250
05:30 PM	4	0	1	0	5	87	4	0	14	1	26	0	11	72	12	0	237
05:45 PM	13	0	1	0	11	59	3	0	2	0	2	0	4	91	15	0	201
<b>Total</b>	<b>29</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>32</b>	<b>322</b>	<b>21</b>	<b>0</b>	<b>29</b>	<b>2</b>	<b>42</b>	<b>0</b>	<b>34</b>	<b>343</b>	<b>45</b>	<b>0</b>	<b>909</b>
<b>Grand Total</b>	<b>41</b>	<b>0</b>	<b>20</b>	<b>7</b>	<b>44</b>	<b>745</b>	<b>43</b>	<b>4</b>	<b>54</b>	<b>2</b>	<b>80</b>	<b>0</b>	<b>74</b>	<b>744</b>	<b>60</b>	<b>0</b>	<b>1918</b>
Apprch %	60.3	0	29.4	10.3	5.3	89.1	5.1	0.5	39.7	1.5	58.8	0	8.4	84.7	6.8	0	
Total %	2.1	0	1	0.4	2.3	38.8	2.2	0.2	2.8	0.1	4.2	0	3.9	38.8	3.1	0	
Cars & Peds	41	0	20	7	44	740	43	4	54	2	80	0	74	742	60	0	1911
% Cars & Peds	100	0	100	100	100	99.3	100	100	100	100	100	0	100	99.7	100	0	99.6
Trucks & Buses																	
% Trucks & Buses	0	0	0	0	0	0.7	0	0	0	0	0	0	0	0.3	0	0	0.4
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North					New Driftway From East					Herring Brook Place Plaza Drive From South					New Driftway 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	3	0	3	4	10	3	98	3	4	108	4	0	6	0	10	6	100	3	0	109	237
04:15 PM	2	0	3	2	7	3	109	8	0	120	5	0	12	0	17	16	99	5	0	120	264
04:30 PM	3	0	3	0	6	4	117	6	0	127	9	0	10	0	19	8	106	1	0	115	267
04:45 PM	4	0	1	1	6	2	99	5	0	106	7	0	10	0	17	10	96	6	0	112	241
<b>Total Volume</b>	<b>12</b>	<b>0</b>	<b>10</b>	<b>7</b>	<b>29</b>	<b>12</b>	<b>423</b>	<b>22</b>	<b>4</b>	<b>461</b>	<b>25</b>	<b>0</b>	<b>38</b>	<b>0</b>	<b>63</b>	<b>40</b>	<b>401</b>	<b>15</b>	<b>0</b>	<b>456</b>	<b>1009</b>
% App. Total	41.4	0	34.5	24.1		2.6	91.8	4.8	0.9		39.7	0	60.3	0		8.8	87.9	3.3	0		
<b>PHF</b>	<b>.750</b>	<b>.000</b>	<b>.833</b>	<b>.438</b>	<b>.725</b>	<b>.750</b>	<b>.904</b>	<b>.688</b>	<b>.250</b>	<b>.907</b>	<b>.694</b>	<b>.000</b>	<b>.792</b>	<b>.000</b>	<b>.829</b>	<b>.625</b>	<b>.946</b>	<b>.625</b>	<b>.000</b>	<b>.950</b>	<b>.945</b>
Cars & Peds	12	0	10	7	29	12	419	22	4	457	25	0	38	0	63	40	400	15	0	455	1004
% Cars & Peds	100	0	100	100	100	100	99.1	100	100	99.1	100	0	100	0	100	100	99.8	100	0	99.8	99.5
Trucks & Buses	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
% Trucks & Buses	0	0	0	0	0	0	0.9	0	0	0.9	0	0	0	0	0	0	0.2	0	0	0.2	0.5
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N/S: #17 Parcel Drive/Plaza Drive  
 E/W: New Driftway  
 City, State: Scituate, MA  
 Client: McM/S. Tagar

File Name : 05519AA  
 Site Code : Y-22086  
 Start Date : 2/17/2022  
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	3	0	3	4	3	98	3	4	4	0	6	0	6	100	3	0	237
04:15 PM	2	0	3	2	3	108	8	0	5	0	12	0	16	99	5	0	263
04:30 PM	3	0	3	0	4	116	6	0	9	0	10	0	8	105	1	0	265
04:45 PM	4	0	1	1	2	97	5	0	7	0	10	0	10	96	6	0	239
Total	12	0	10	7	12	419	22	4	25	0	38	0	40	400	15	0	1004
05:00 PM	6	0	2	0	11	85	5	0	6	0	7	0	2	86	10	0	220
05:15 PM	6	0	6	0	5	90	9	0	7	1	7	0	17	93	8	0	249
05:30 PM	4	0	1	0	5	87	4	0	14	1	26	0	11	72	12	0	237
05:45 PM	13	0	1	0	11	59	3	0	2	0	2	0	4	91	15	0	201
Total	29	0	10	0	32	321	21	0	29	2	42	0	34	342	45	0	907
Grand Total	41	0	20	7	44	740	43	4	54	2	80	0	74	742	60	0	1911
Apprch %	60.3	0	29.4	10.3	5.3	89	5.2	0.5	39.7	1.5	58.8	0	8.4	84.7	6.8	0	
Total %	2.1	0	1	0.4	2.3	38.7	2.3	0.2	2.8	0.1	4.2	0	3.9	38.8	3.1	0	

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total				
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds					
04:00 PM	3	0	<b>3</b>	<b>4</b>	<b>10</b>	3	98	3	<b>4</b>	108	4	0	6	0	10	6	100	3	0	109	237
04:15 PM	2	0	3	2	7	3	108	<b>8</b>	0	119	5	0	<b>12</b>	0	17	<b>16</b>	99	5	0	<b>120</b>	263
04:30 PM	3	0	3	0	6	<b>4</b>	<b>116</b>	6	0	<b>126</b>	<b>9</b>	0	10	0	<b>19</b>	8	<b>105</b>	1	0	114	<b>265</b>
04:45 PM	<b>4</b>	0	1	1	6	2	97	5	0	104	7	0	10	0	17	10	96	<b>6</b>	0	112	239
Total Volume	12	0	10	7	29	12	419	22	4	457	25	0	38	0	63	40	400	15	0	455	1004
% App. Total	41.4	0	34.5	24.1		2.6	91.7	4.8	0.9		39.7	0	60.3	0		8.8	87.9	3.3	0		
PHF	.750	.000	.833	.438	.725	.750	.903	.688	.250	.907	.694	.000	.792	.000	.829	.625	.952	.625	.000	.948	.947

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

**Transportation Data Corporation**  
 Mario Perone, mperone1@verizon.net  
 tel (781) 587-0086 cell (781) 439-4999

N/S: #17 Parcel Drive/Plaza Drive  
 E/W: New Driftway  
 City, State: Scituate, MA  
 Client: McM/S. Tagar

File Name : 05519AA  
 Site Code : Y-22086  
 Start Date : 2/17/2022  
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
04:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>5</b>
05:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
05:30 PM	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
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>7</b>
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	71.4	0	0	0	0	0	0	0	28.6	0	0	

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
04:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<b>Total Volume</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>6</b>
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
<b>PHF</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.625</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.250</b>	<b>.000</b>	<b>.000</b>	<b>.750</b>

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

# Transportation Data Corporation

Mario Perone, mperone1@verizon.net  
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N/S: #17 Parcel Drive/Plaza Drive  
E/W: New Driftway  
City, State: Scituate, MA  
Client: McM/S. Tagar

File Name : 05519AA  
Site Code : Y-22086  
Start Date : 2/17/2022  
Page No : 1

### Groups Printed- Bikes by Direction

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	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
05:15 PM	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
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Grand Total</b>	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 %																	

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North				New Driftway From East				Herring Brook Place Plaza Drive From South				New Driftway From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Volume</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% App. Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>PHF</b>	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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

# Transportation Data Corporation

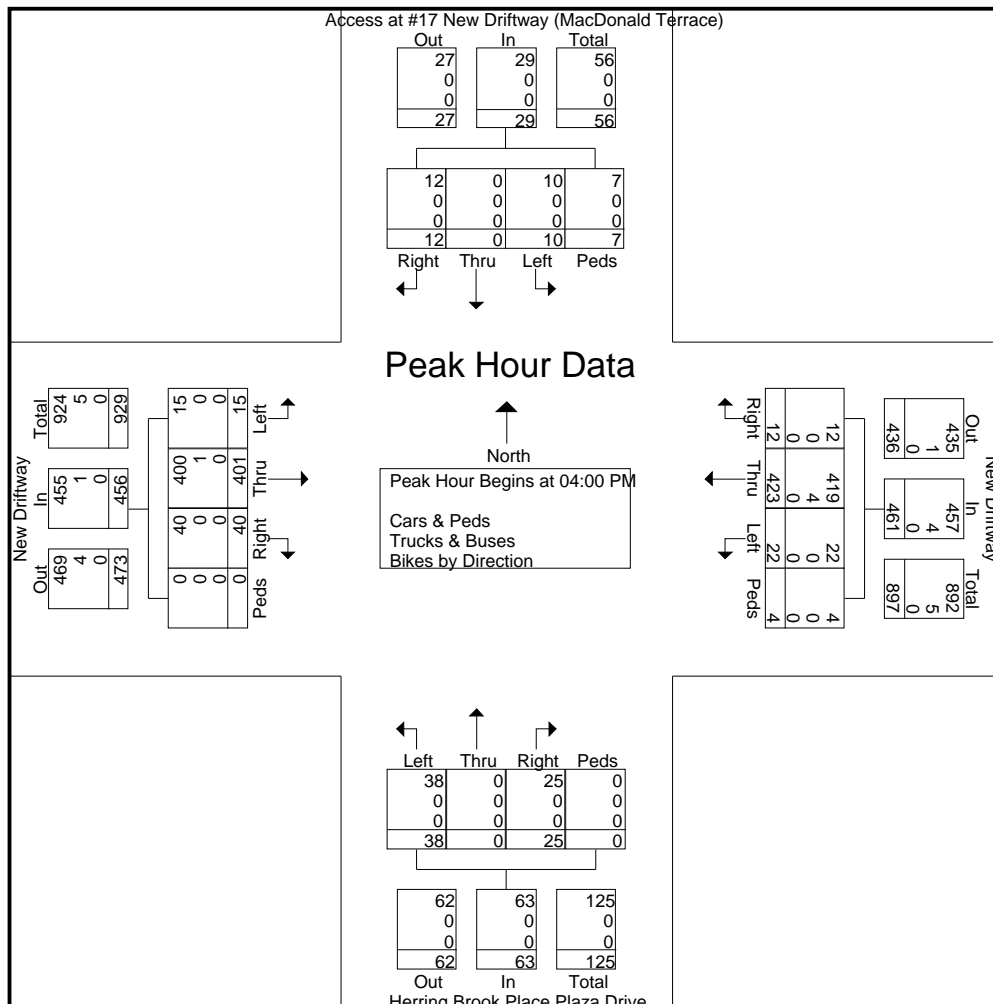
Mario Perone, [mperone1@verizon.net](mailto:mperone1@verizon.net)

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N/S: #17 Parcel Drive/Plaza Drive  
 E/W: New Driftway  
 City, State: Scituate, MA  
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File Name : 05519AA  
 Site Code : Y-22086  
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 Page No : 1

Start Time	Access at #17 New Driftway (MacDonald Terrace) From North					New Driftway From East					Herring Brook Place Plaza Drive From South					New Driftway 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	3	0	3	4	10	3	98	3	4	108	4	0	6	0	10	6	100	3	0	109	237
04:15 PM	2	0	3	2	7	3	109	8	0	120	5	0	12	0	17	16	99	5	0	120	264
04:30 PM	3	0	3	0	6	4	117	6	0	127	9	0	10	0	19	8	106	1	0	115	267
04:45 PM	4	0	1	1	6	2	99	5	0	106	7	0	10	0	17	10	96	6	0	112	241
Total Volume	12	0	10	7	29	12	423	22	4	461	25	0	38	0	63	40	401	15	0	456	1009
% App. Total	41.4	0	34.5	24.1		2.6	91.8	4.8	0.9		39.7	0	60.3	0		8.8	87.9	3.3	0		
PHF	.750	.000	.833	.438	.725	.750	.904	.688	.250	.907	.694	.000	.792	.000	.829	.625	.946	.625	.000	.950	.945
Cars & Peds	12	0	10	7	29	12	419	22	4	457	25	0	38	0	63	40	400	15	0	455	1004
% Cars & Peds	100	0	100	100	100	100	99.1	100	100	99.1	100	0	100	0	100	100	99.8	100	0	99.8	99.5
Trucks & Buses	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
% Trucks & Buses	0	0	0	0	0	0	0.9	0	0	0.9	0	0	0	0	0	0	0.2	0	0	0.2	0.5
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**Transportation Data Corporation**

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tel (781) 587-0086 cell (781) 439-4999

New Driftway just west of  
#17/#28 New Driftway Drives  
City, State: Scituate, MA  
Client: McM/S. Tagar

05519Aclass  
Site Code: Y-22086

**Eastbound**

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/17/22	0	6	2	0	0	0	0	0	0	0	0	0	0	8
01:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
03:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
04:00	0	10	3	1	2	0	0	0	0	0	0	0	0	16
05:00	1	37	14	0	3	1	0	0	0	0	0	0	0	56
06:00	2	131	55	0	17	2	0	1	2	0	0	0	0	210
07:00	3	196	92	2	<b>27</b>	<b>3</b>	0	1	1	0	0	0	0	325
08:00	2	<b>311</b>	<b>107</b>	<b>5</b>	22	1	0	<b>3</b>	1	0	0	0	0	<b>452</b>
09:00	4	239	74	3	23	0	<b>1</b>	2	0	0	0	0	0	346
10:00	1	222	67	1	21	3	1	0	<b>3</b>	0	0	0	0	319
11:00	<b>6</b>	288	73	1	16	3	0	2	2	0	0	0	0	391
12 PM	2	307	<b>90</b>	0	<b>18</b>	2	0	1	<b>2</b>	0	0	0	0	422
13:00	1	289	70	<b>4</b>	15	<b>3</b>	0	<b>2</b>	2	0	0	0	0	386
14:00	<b>5</b>	293	70	1	12	3	0	1	1	0	0	0	0	386
15:00	3	<b>373</b>	82	0	12	2	0	0	0	0	0	0	0	<b>472</b>
16:00	2	350	87	1	9	2	0	0	0	0	0	0	0	451
17:00	4	328	70	1	6	2	0	0	0	0	0	0	0	411
18:00	1	256	74	1	5	1	0	0	0	0	0	0	0	338
19:00	2	139	32	1	4	1	0	0	0	0	0	0	0	179
20:00	0	91	21	0	2	0	0	0	0	0	0	0	0	114
21:00	0	55	13	0	2	0	0	0	0	0	0	0	0	70
22:00	0	51	14	0	0	0	0	0	0	0	0	0	0	65
23:00	0	17	3	0	1	1	0	0	0	0	0	0	0	22
Day Total	39	4002	1116	22	219	30	2	13	14	0	0	0	0	5457
Percent	0.7%	73.3%	20.5%	0.4%	4.0%	0.5%	0.0%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	08:00	08:00	08:00	07:00	07:00	09:00	08:00	10:00					08:00
Vol.	6	311	107	5	27	3	1	3	3					452
PM Peak	14:00	15:00	12:00	13:00	12:00	13:00		13:00	12:00					15:00
Vol.	5	373	90	4	18	3		2	2					472
Grand Total	39	4002	1116	22	219	30	2	13	14	0	0	0	0	5457
Percent	0.7%	73.3%	20.5%	0.4%	4.0%	0.5%	0.0%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	

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New Driftway just west of  
#17/#28 New Driftway Drives  
City, State: Scituate, MA  
Client: McM/S. Tagar  
Westbound

05519Aclass  
Site Code: Y-22086

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/17/22	0	5	1	0	0	0	0	0	0	0	0	0	0	6
01:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
04:00	0	11	6	0	6	0	0	0	1	0	0	0	0	24
05:00	2	20	21	1	13	2	0	0	0	0	0	0	0	59
06:00	1	93	49	0	24	0	0	0	0	0	0	0	0	167
07:00	2	216	64	4	<b>52</b>	2	0	0	2	0	0	0	0	342
08:00	3	<b>237</b>	<b>89</b>	4	39	3	0	<b>1</b>	1	0	0	0	0	<b>377</b>
09:00	3	200	83	0	29	3	0	0	<b>3</b>	0	0	0	0	321
10:00	1	225	68	4	27	2	0	0	0	0	0	0	0	327
11:00	<b>5</b>	195	62	<b>7</b>	37	<b>5</b>	0	1	1	0	0	0	0	313
12 PM	1	235	74	3	32	<b>4</b>	0	<b>5</b>	1	0	0	0	0	355
13:00	1	260	94	<b>5</b>	39	4	0	1	0	0	0	0	0	404
14:00	<b>6</b>	265	98	3	35	4	0	1	<b>2</b>	0	0	0	0	414
15:00	2	285	91	0	36	1	0	0	0	0	0	0	0	415
16:00	1	<b>307</b>	<b>106</b>	1	<b>43</b>	0	0	0	0	0	0	0	0	<b>458</b>
17:00	1	259	82	0	31	0	0	1	0	0	0	0	0	374
18:00	2	164	63	1	13	1	0	0	0	0	0	0	0	244
19:00	0	114	31	0	10	1	0	0	0	0	0	0	0	156
20:00	0	98	32	0	9	1	0	0	0	0	0	0	0	140
21:00	0	49	11	0	5	0	0	0	0	0	0	0	0	65
22:00	0	20	12	0	1	0	0	0	0	0	0	0	0	33
23:00	0	16	2	0	0	0	0	0	0	0	0	0	0	18
Day Total	31	3281	1142	33	482	33	0	10	11	0	0	0	0	5023
Percent	0.6%	65.3%	22.7%	0.7%	9.6%	0.7%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	08:00	08:00	11:00	07:00	11:00		08:00	09:00					08:00
Vol.	5	237	89	7	52	5		1	3					377
PM Peak	14:00	16:00	16:00	13:00	16:00	12:00		12:00	14:00					16:00
Vol.	6	307	106	5	43	4		5	2					458
Grand Total	31	3281	1142	33	482	33	0	10	11	0	0	0	0	5023
Percent	0.6%	65.3%	22.7%	0.7%	9.6%	0.7%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	

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New Driftway just west of  
#17/#28 New Driftway Drives  
City, State: Scituate, MA  
Client: McM/S. Tagar

05519Aspeed  
Site Code: Y-22086

Eastbound																	
Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71		85th	95th	
	15	20	25	30	35	40	45	50	55	60	65	70	75	Total	Percent	Percent	
02/17/22	0	0	0	1	4	3	0	0	0	0	0	0	0	8	38	39	
01:00	0	0	0	4	3	1	0	0	0	0	0	0	0	8	34	37	
02:00	0	0	0	0	4	0	0	0	0	0	0	0	0	4	34	34	
03:00	0	1	0	1	1	2	1	0	0	0	0	0	0	6	40	43	
04:00	0	0	2	3	4	5	2	0	0	0	0	0	0	16	39	42	
05:00	1	0	1	10	28	16	0	0	0	0	0	0	0	56	37	39	
06:00	7	0	5	46	108	37	7	0	0	0	0	0	0	210	36	39	
07:00	7	0	2	65	160	79	11	1	0	0	0	0	0	325	37	39	
08:00	15	0	2	99	219	106	10	1	0	0	0	0	0	452	37	39	
09:00	10	1	13	67	180	65	7	3	0	0	0	0	0	346	36	39	
10:00	7	0	18	63	157	67	6	0	0	1	0	0	0	319	36	39	
11:00	8	1	15	93	181	80	13	0	0	0	0	0	0	391	37	39	
12 PM	22	1	14	86	208	76	14	1	0	0	0	0	0	422	36	39	
13:00	16	7	6	57	207	88	5	0	0	0	0	0	0	386	36	39	
14:00	14	2	12	59	191	90	17	0	1	0	0	0	0	386	37	39	
15:00	17	0	10	66	240	109	29	1	0	0	0	0	0	472	38	41	
16:00	19	1	7	78	235	96	15	0	0	0	0	0	0	451	37	39	
17:00	12	1	36	136	166	58	2	0	0	0	0	0	0	411	34	38	
18:00	10	0	20	102	145	54	7	0	0	0	0	0	0	338	35	39	
19:00	6	1	3	32	78	51	8	0	0	0	0	0	0	179	38	39	
20:00	1	0	1	29	53	26	4	0	0	0	0	0	0	114	37	39	
21:00	0	0	0	13	36	16	5	0	0	0	0	0	0	70	38	41	
22:00	0	0	1	7	31	24	1	1	0	0	0	0	0	65	38	39	
23:00	0	1	2	1	10	7	1	0	0	0	0	0	0	22	38	39	
<b>Total</b>	<b>172</b>	<b>17</b>	<b>170</b>	<b>1118</b>	<b>2649</b>	<b>1156</b>	<b>165</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5457</b>			
Percent	3.2%	0.3%	3.1%	20.5%	48.5%	21.2%	3.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%				
AM Peak	08:00	03:00	10:00	08:00	08:00	08:00	11:00	09:00		10:00				08:00			
Vol.	15	1	18	99	219	106	13	3		1				452			
PM Peak	12:00	13:00	17:00	17:00	15:00	15:00	15:00	12:00	14:00					15:00			
Vol.	22	7	36	136	240	109	29	1	1					472			
<b>Grand Total</b>	<b>172</b>	<b>17</b>	<b>170</b>	<b>1118</b>	<b>2649</b>	<b>1156</b>	<b>165</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5457</b>			
Percent	3.2%	0.3%	3.1%	20.5%	48.5%	21.2%	3.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%				

15th Percentile : 27 MPH  
50th Percentile : 32 MPH  
85th Percentile : 37 MPH  
95th Percentile : 39 MPH

Stats            10 MPH Pace Speed : 31-40 MPH  
  
Number of Vehicles > 30 MPH : 3980  
Percent of Vehicles > 30 MPH : 72.9%  
Mean Speed(Average) : 32 MPH



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City, State: Scituate, MA  
Client: McM/S. Tagar

05519Aspeed  
Site Code: Y-22086

Westbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	Total	85th Percent	95th Percent
02/17/22	0	0	0	2	3	1	0	0	0	0	0	0	0	6	35	38
01:00	0	0	0	0	1	2	0	0	0	0	0	0	0	3	38	39
02:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2	33	34
03:00	0	0	1	1	1	1	2	0	0	0	0	0	0	6	42	44
04:00	0	0	0	2	7	9	4	2	0	0	0	0	0	24	42	46
05:00	2	0	3	11	12	22	8	0	1	0	0	0	0	59	40	43
06:00	1	0	0	32	75	44	15	0	0	0	0	0	0	167	38	42
07:00	23	6	13	83	145	64	8	0	0	0	0	0	0	342	36	39
08:00	<b>28</b>	<b>10</b>	<b>26</b>	<b>108</b>	<b>147</b>	53	5	0	0	0	0	0	0	<b>377</b>	35	38
09:00	8	0	14	70	145	<b>70</b>	13	1	0	0	0	0	0	321	37	39
10:00	9	2	15	99	136	60	5	1	0	0	0	0	0	327	36	39
11:00	6	1	15	81	137	60	12	1	0	0	0	0	0	313	37	39
12 PM	11	3	30	94	134	74	9	0	0	0	0	0	0	355	37	39
13:00	15	6	24	122	154	76	6	1	0	0	0	0	0	404	36	39
14:00	21	20	35	<b>124</b>	148	50	<b>15</b>	1	0	0	0	0	0	414	35	39
15:00	14	7	25	85	<b>195</b>	<b>84</b>	5	0	0	0	0	0	0	415	36	39
16:00	<b>45</b>	<b>23</b>	43	109	176	51	10	1	0	0	0	0	0	<b>458</b>	34	38
17:00	21	14	<b>47</b>	119	132	40	1	0	0	0	0	0	0	374	34	37
18:00	8	0	8	80	100	39	7	<b>2</b>	0	0	0	0	0	244	36	39
19:00	2	0	7	41	64	36	6	0	0	0	0	0	0	156	37	39
20:00	1	0	10	33	67	28	1	0	0	0	0	0	0	140	36	38
21:00	0	0	2	9	27	24	3	0	0	0	0	0	0	65	38	39
22:00	0	0	0	8	16	8	0	1	0	0	0	0	0	33	37	39
23:00	0	0	1	2	9	5	0	1	0	0	0	0	0	18	38	45
<b>Total</b>	215	92	319	1316	2032	901	135	12	1	0	0	0	0	5023		
Percent	4.3%	1.8%	6.4%	26.2%	40.5%	17.9%	2.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	08:00	09:00	06:00	04:00	05:00					08:00		
Vol.	28	10	26	108	147	70	15	2	1					377		
PM Peak	16:00	16:00	17:00	14:00	15:00	15:00	14:00	18:00						16:00		
Vol.	45	23	47	124	195	84	15	2						458		
<b>Grand Total</b>	215	92	319	1316	2032	901	135	12	1	0	0	0	0	5023		
Percent	4.3%	1.8%	6.4%	26.2%	40.5%	17.9%	2.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 25 MPH  
50th Percentile : 31 MPH  
85th Percentile : 36 MPH  
95th Percentile : 39 MPH

Stats            10 MPH Pace Speed : 26-35 MPH  
  
Number of Vehicles > 30 MPH : 3081  
Percent of Vehicles > 30 MPH : 61.3%  
Mean Speed(Average) : 31 MPH



# Transportation Data Corporation

New Driftway just west of  
 #17/#28 New Driftway Drives  
 City, State: Scituate, MA  
 Client: McM/S. Tagar

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 tel (781) 587-0086 cell (781) 439-4999

05519Avolume  
 Site Code: Y-22086

Start Time	17-Feb-22 Thu	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	96			4	88				
12:15		2	100			1	95				
12:30		1	103			0	98				
12:45		1	123	8	422	1	74	6	355	14	777
01:00		3	101			2	83				
01:15		2	96			1	116				
01:30		2	96			0	102				
01:45		1	93	8	386	0	103	3	404	11	790
02:00		0	104			1	121				
02:15		1	81			1	109				
02:30		2	88			0	85				
02:45		1	113	4	386	0	99	2	414	6	800
03:00		0	116			2	110				
03:15		2	129			1	94				
03:30		0	109			0	102				
03:45		4	118	6	472	3	109	6	415	12	887
04:00		2	107			6	97				
04:15		4	119			1	122				
04:30		3	118			6	125				
04:45		7	107	16	451	11	114	24	458	40	909
05:00		9	95			9	100				
05:15		10	117			8	96				
05:30		13	91			25	110				
05:45		24	108	56	411	17	68	59	374	115	785
06:00		29	83			36	65				
06:15		38	114			33	68				
06:30		50	74			47	69				
06:45		93	67	210	338	51	42	167	244	377	582
07:00		69	53			81	36				
07:15		68	49			75	42				
07:30		87	32			95	44				
07:45		101	45	325	179	91	34	342	156	667	335
08:00		117	32			103	43				
08:15		106	29			91	30				
08:30		112	23			92	33				
08:45		117	30	452	114	91	34	377	140	829	254
09:00		87	21			87	25				
09:15		98	29			82	29				
09:30		78	10			89	6				
09:45		83	10	346	70	63	5	321	65	667	135
10:00		81	17			85	9				
10:15		79	17			87	9				
10:30		80	16			76	7				
10:45		79	15	319	65	79	8	327	33	646	98
11:00		82	7			80	7				
11:15		106	5			83	4				
11:30		104	4			72	0				
11:45		99	6	391	22	78	7	313	18	704	40
Total		2141	3316			1947	3076			4088	6392
Combined Total		5457				5023				10480	
Percentage	0.0%										
Total Percent		2141	3316			1947	3076			4088	6392
		39.2%	60.8%			38.8%	61.2%			39.0%	61.0%
ADT	ADT 10,480	AADT 10,480									

**APPENDIX B**  
Seasonal Adjustment Data



## SEASONAL ADJUSTMENT DATA

Mixed-Use Development

Scituate, MA

MassDOT Continuous Count Station

ID	Town	Roadway	Year	AADT	February ADT	% Above AADT
7318	Hingham	Route 3	2016	94,809	85,503	-9.8%
			2017	95,547	87,307	-8.6%
		<b>Average</b>		<b>95,178</b>	<b>86,405</b>	<b>-9.2%</b>

Div. Factor 0.908



**APPENDIX C**  
Traffic Projection Model





**TRAFFIC PROJECTION MODEL**

**Weekday Morning Peak Hour  
Mixed-Use Development  
Scituate, MA**

Intersection	Dir.	Turn	2022 Counted Volumes	COVID Adjustment	2022 Existing Volumes	Background Growth 7 yrs (at 1% per year)	247 Driftway Project Trips	48-52 New Driftway Project Trips	2029 No Build Volumes	Residential Trips PERCENT ENTER	Residential New Trips ENTER	Residential Trips PERCENT EXIT	Residential New Trips EXIT	Commercial Trips PERCENT ENTER	Commercial New Trips ENTER	Commercial Trips PERCENT EXIT	Commercial New Trips EXIT	Project New Trips TOTAL	2029 Build Volumes
New Driftway at	EB	L	1	0	1	0			1	75%	5		0	50%	3		0	8	9
Site Driveway/ Herring Brook		T	448	57	505	36	66	34	641		0		0		0		0	0	641
		R	20	3	23	0			23		0		0		0		0	0	23
Place Driveway	WB	L	19	2	21	0			21		0		0		0		0	0	21
		T	379	49	428	31	52	33	544		0		0		0		0	0	544
		R	2	0	2	0			2	25%	2		0	50%	2		0	4	6
	NB	L	14	2	16	0			16		0		0		0		0	0	16
		T	0	0	0	0			0		0		0		0		0	0	0
		R	14	2	16	0			16		0		0		0		0	0	16
	SB	L	1	0	1	0			1		0	25%	5		0	50%	0	5	6
		T	0	0	0	0			0		0		0		0		0	0	0
		R	1	0	1	0			1		0	75%	17		0	50%	1	18	19

Peak Hour: 8:00 AM - 9:00 AM

### TRAFFIC PROJECTION MODEL

Weekday Afternoon Peak Hour  
Mixed-Use Development  
Scituate, MA

Intersection	Dir.	Turn	2022 Counted Volumes	COVID Adjustment	2022 Existing Volumes	Background Growth 7 yrs (at 1% per year)	247 Driftway Project Trips	48-52 New Driftway Project Trips	2029 No Build Volumes	Residential Trips PERCENT ENTER	Residential New Trips ENTER	Residential Trips PERCENT EXIT	Residential New Trips EXIT	Commercial Trips PERCENT ENTER	Commercial New Trips ENTER	Commercial Trips PERCENT EXIT	Commercial New Trips EXIT	Project New Trips TOTAL	2029 Build Volumes
New Driftway at	EB	L	15	3	18	0			18	75%	14		0	50%	2		0	16	34
Site Driveway/		T	401	87	488	35	41	32	596		0		0		0		0	0	596
Herring Brook		R	40	9	49	0			49		0		0		0		0	0	49
Place Driveway	WB	L	22	5	27	0			27		0		0		0		0	0	27
		T	423	91	514	37	40	30	621		0		0		0		0	0	621
	NB	R	12	3	15	0			15	25%	4		0	50%	1		0	5	20
		L	38	8	46	0			46		0		0		0		0	0	46
		T	0	0	0	0			0		0		0		0		0	0	0
	SB	R	25	5	30	0			30		0		0		0		0	0	30
		L	10	2	12	0			12		0	25%	3		0	50%	2	5	17
		T	0	0	0	0			0		0		0		0		0	0	0
		R	12	3	15	0			15		0	75%	8		0	50%	3	11	26

Peak Hour: 4:00 PM - 5:00 PM

**APPENDIX D**  
Crash Summary



## CRASH SUMMARY

### Mixed-Use Development

### Scituate, MA

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New Driftway at Site Driveway/ Herring Brook Plaza Driveway	
<b>Year</b>	
2015	0
2016	1
2017	0
2018	0
2019	0
<b>Type</b>	
Angle	0
Rear-end	0
Sideswipe	0
Head-on	0
Pedestrian	1
<b>Severity</b>	
Property Damage	1
Personal Injury	0
Fatality	0
<b>Weather</b>	
Clear	1
Cloudy	0
Rain	0
Snow	0
<b>Road Surface</b>	
Dry	1
Wet	0
Ice	0
Snow	0
<b>Time</b>	
7:00 AM to 9:00 AM	0
9:00 AM to 4:00 PM	1
4:00 PM to 6:00 PM	0
6:00 PM to 7:00 AM	0
<b>Total</b>	<b>1</b>
Crash Rate	0.04
State Average	0.57
District 5 Average	0.57

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Source: MassDOT



**APPENDIX E**  
Journey-to-Work Data





## JOURNEY-TO-WORK DATA

Mixed-Use Development  
Scituate, MA

#	Location of Work of Scituate Residents	Number of Workers	Percent	Assigned Route(s)
1	Scituate	1,923	31.1%	New Driftway to East    New Driftway to West
2	Boston	1,727	27.9%	New Driftway to West
3	Hingham	681	11.0%	New Driftway to West
4	Quincy	360	5.8%	New Driftway to West
5	Cohasset	314	5.1%	New Driftway to West
6	Braintree	280	4.5%	New Driftway to West
7	Weymouth	248	4.0%	New Driftway to West
8	Hanover	235	3.8%	New Driftway to West
9	Norwell	209	3.4%	New Driftway to West
10	Cambridge	202	3.3%	New Driftway to West
<b>Total</b>		<b>6,179</b>	<b>100.0%</b>	

Trip Distribution	% Of Total Workers	Trips Assigned
New Driftway to East	24.9%	25%
New Driftway to West	75.1%	75%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>



**APPENDIX F**  
Highway Capacity Manual Methodologies



## CAPACITY/LEVEL-OF-SERVICE ANALYSES METHODOLOGY

The detailed capacity/level-of-service analysis contained in this traffic impact study was performed in accordance with the standard techniques contained in the *Highway Capacity Manual*.<sup>(1)</sup> By definition, capacity represents “the maximum rate of flow that can reasonably be expected to pass a point on a uniform section of a lane or roadway under prevailing roadway, traffic, and control conditions.” The level of functioning of an intersection or a uniform section of a lane or roadway can be expressed in terms of levels of service. Level of service (LOS) is defined as “a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers”. Such measures include “speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.”

At unsignalized intersections, a methodology for evaluating the relative functioning of intersections controlled by stop or yield signs has been developed, and is based on several assumptions, including:

- Major street flows are not affected by the minor (stop-sign controlled) street movements.
- Left turns from the major street to the minor street are influenced only by opposing major street through flow.
- Minor street left turns are impeded by all major street traffic plus opposing minor street traffic.
- Minor street through traffic is impeded by all major street traffic.
- Minor street right turns are impeded only by the major street traffic coming from the left.

The concept of stop-controlled or yield-controlled intersection analysis is based on the estimate of average total delay on minor streets. The methodology of analysis relies on three elements: the size and distribution of gaps in the major traffic stream, the usefulness of these gaps to the minor stream drivers, and the relative priority of the various traffic streams at the intersection. The results of the analysis provide an estimate of average total delay for the various critical movements at the unsignalized intersections. Correlation between average total delay and the respective levels of service are provided for unsignalized intersections as follows:

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(1) *Transportation Research Board, Highway Capacity Manual, 6<sup>th</sup> Edition, published by the Transportation Research Board, Washington, DC, 2016.*

*Unsignalized Intersections*

Level of Service	Control Delay Per Vehicle (seconds)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	> 50

At signalized intersections, an additional element must be considered: time allocation. Level of service is based on the average control delay per vehicle for various movements within the intersection. Volume/capacity relationships also affect the operations of signalized intersections. Thus, both volume/capacity and delay must be considered to evaluate the overall operation of a signalized intersection. Correlation between average delay per vehicle and the respective levels of service are provided for signalized intersections as follows:

*Signalized Intersections*

Level of Service	Control Delay Per Vehicle (seconds)
A	$\leq 10$
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	> 80

**APPENDIX G**  
Delay Study Data





## DELAY STUDY DATA

### Mixed-Use Development Scituate, MA

Time	Queued Vehicles				Vehicle	Time	Queued Vehicles				Vehicle
	+0 sec	+15 sec	+30 sec	+45 sec	Volume		+0 sec	+15 sec	+30 sec	+45 sec	Volume
4:00 PM	0	0	1	0	2	4:30 PM	2	2	0	0	3
4:01 PM	0	0	2	1	4	4:31 PM	0	1	0	0	3
4:02 PM	1	2	2	0	1	4:32 PM	1	1	2	4	5
4:03 PM	0	2	0	0	2	4:33 PM	2	3	1	1	4
4:04 PM	0	1	0	0	1	4:34 PM	0	0	0	0	0
4:05 PM	0	0	0	0	3	4:35 PM	1	1	0	0	3
4:06 PM	1	0	0	1	1	4:36 PM	0	0	0	0	1
4:07 PM	0	0	0	0	0	4:37 PM	1	1	0	0	1
4:08 PM	0	0	0	0	1	4:38 PM	0	0	0	1	2
4:09 PM	1	0	0	0	1	4:39 PM	0	0	0	0	0
4:10 PM	0	0	2	0	2	4:40 PM	0	0	0	0	0
4:11 PM	0	0	0	0	0	4:41 PM	0	0	0	0	1
4:12 PM	0	0	0	0	0	4:42 PM	1	0	0	0	0
4:13 PM	0	0	0	0	1	4:43 PM	0	0	0	0	0
4:14 PM	0	0	1	0	1	4:44 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1	4:45 PM	0	0	0	0	0
4:16 PM	0	0	0	0	0	4:46 PM	0	0	0	0	1
4:17 PM	0	0	0	0	0	4:47 PM	0	1	0	0	1
4:18 PM	0	0	1	2	2	4:48 PM	0	0	0	0	1
4:19 PM	1	1	2	0	2	4:49 PM	1	0	0	1	1
4:20 PM	1	0	0	1	2	4:50 PM	0	0	0	0	0
4:21 PM	0	0	0	0	0	4:51 PM	0	0	0	2	2
4:22 PM	0	0	0	0	2	4:52 PM	2	0	0	0	1
4:23 PM	2	2	0	0	2	4:53 PM	0	0	0	1	2
4:24 PM	0	0	0	0	0	4:54 PM	0	0	0	0	0
4:25 PM	0	0	0	0	1	4:55 PM	0	0	1	0	2
4:26 PM	0	0	0	0	1	4:56 PM	1	0	0	0	0
4:27 PM	0	0	0	1	2	4:57 PM	0	0	0	0	0
4:28 PM	1	0	0	0	1	4:58 PM	0	0	0	0	0
4:29 PM	0	0	0	0	2	4:59 PM	0	0	0	0	0

Total Stopped Vehicles	70
Total Delay (s)	1,050
Total Vehicle Volume	72
<b>Average Delay (s)</b>	<b>14.6</b>



**APPENDIX H**  
2022 Existing Capacity/Level-of-Service Analysis



Scituate Mixed-Use Development  
 1: Herring Brook Driveway/Site Driveway & New Driftway

Weekday Morning Peak Hour  
 2022 Existing

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕		↕		↕	
Traffic Vol, veh/h	1	505	23	21	428	2	16	0	16	1	0	1
Future Vol, veh/h	1	505	23	21	428	2	16	0	16	1	0	1
Conflicting Peds, #/hr	2	0	0	0	0	2	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	-	-	-	130	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	89	89	89	64	64	64	25	25	25
Heavy Vehicles, %	0	2	0	0	2	0	0	2	0	0	2	0
Mvmt Flow	1	526	24	24	481	2	25	0	25	4	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	485	0	0	550	0	0	1072	-	538	1085	1084	484
Stage 1	-	-	-	-	-	-	540	-	-	532	532	-
Stage 2	-	-	-	-	-	-	532	-	-	553	552	-
Critical Hdwy	4.1	-	-	4.1	-	-	5	-	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	-	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	-	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	-	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	1088	-	-	1030	-	-	374	0	655	369	343	690
Stage 1	-	-	-	-	-	-	530	0	-	535	526	-
Stage 2	-	-	-	-	-	-	535	0	-	521	515	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1086	-	-	1030	-	-	365	-	655	348	334	689
Mov Cap-2 Maneuver	-	-	-	-	-	-	365	-	-	348	334	-
Stage 1	-	-	-	-	-	-	529	-	-	533	513	-
Stage 2	-	-	-	-	-	-	520	-	-	501	514	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.4			13.2			12.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	365	655	1086	-	-	1030	-	-	462
HCM Lane V/C Ratio	0.068	0.038	0.001	-	-	0.023	-	-	0.017
HCM Control Delay (s)	15.6	10.7	8.3	0	-	8.6	-	-	12.9
HCM Lane LOS	C	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0	-	-	0.1	-	-	0.1

Scituate Mixed-Use Development  
 1: Herring Brook Driveway/Site Driveway & New Driftway

Weekday Afternoon Peak Hour  
 2022 Existing

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕		↕		↕	
Traffic Vol, veh/h	18	488	49	27	514	15	46	0	30	12	0	15
Future Vol, veh/h	18	488	49	27	514	15	46	0	30	12	0	15
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	4	4	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	130	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	90	90	90	83	83	83	92	92	92
Heavy Vehicles, %	0	1	0	0	1	0	0	2	0	0	2	0
Mvmt Flow	19	514	52	30	571	17	55	0	36	13	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	595	0	0	566	0	0	1226	-	544	1247	1251	587
Stage 1	-	-	-	-	-	-	578	-	-	647	647	-
Stage 2	-	-	-	-	-	-	648	-	-	600	604	-
Critical Hdwy	4.1	-	-	4.1	-	-	5	-	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	-	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	-	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	-	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	991	-	-	1016	-	-	321	0	651	314	293	624
Stage 1	-	-	-	-	-	-	505	0	-	463	467	-
Stage 2	-	-	-	-	-	-	462	0	-	491	488	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	984	-	-	1016	-	-	299	-	649	281	274	620
Mov Cap-2 Maneuver	-	-	-	-	-	-	299	-	-	281	274	-
Stage 1	-	-	-	-	-	-	491	-	-	447	450	-
Stage 2	-	-	-	-	-	-	437	-	-	449	474	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.4			16.3			14.6		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	649	984	-	-	1016	-	-	404
HCM Lane V/C Ratio	0.185	0.056	0.019	-	-	0.03	-	-	0.073
HCM Control Delay (s)	19.8	10.9	8.7	0	-	8.7	-	-	14.6
HCM Lane LOS	C	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.2	0.1	-	-	0.1	-	-	0.2

**APPENDIX I**  
2029 No Build Capacity/Level-of-Service Analysis





Scituate Mixed-Use Development  
 1: Herring Brook Driveway/Site Driveway & New Driftway

Weekday Morning Peak Hour  
 2029 No Build

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕		↕		↕	
Traffic Vol, veh/h	1	641	23	21	544	2	16	0	16	1	0	1
Future Vol, veh/h	1	641	23	21	544	2	16	0	16	1	0	1
Conflicting Peds, #/hr	2	0	0	0	0	2	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	-	-	-	130	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	89	89	89	64	64	64	25	25	25
Heavy Vehicles, %	0	2	0	0	2	0	0	2	0	0	2	0
Mvmt Flow	1	668	24	24	611	2	25	0	25	4	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	615	0	0	692	0	0	1344	-	680	1357	1356	614
Stage 1	-	-	-	-	-	-	682	-	-	662	662	-
Stage 2	-	-	-	-	-	-	662	-	-	695	694	-
Critical Hdwy	4.1	-	-	4.1	-	-	5	-	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	-	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	-	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	-	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	974	-	-	912	-	-	285	0	570	281	264	608
Stage 1	-	-	-	-	-	-	443	0	-	454	459	-
Stage 2	-	-	-	-	-	-	454	0	-	436	444	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	972	-	-	912	-	-	277	-	570	262	256	607
Mov Cap-2 Maneuver	-	-	-	-	-	-	277	-	-	262	256	-
Stage 1	-	-	-	-	-	-	442	-	-	452	446	-
Stage 2	-	-	-	-	-	-	439	-	-	416	443	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.3			15.5			15.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	277	570	972	-	-	912	-	-	366
HCM Lane V/C Ratio	0.09	0.044	0.001	-	-	0.026	-	-	0.022
HCM Control Delay (s)	19.3	11.6	8.7	0	-	9.1	-	-	15.1
HCM Lane LOS	C	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.1	0	-	-	0.1	-	-	0.1

Scituate Mixed-Use Development  
 1: Herring Brook Driveway/Site Driveway & New Driftway

Weekday Afternoon Peak Hour  
 2029 No Build

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕		↕		↕	
Traffic Vol, veh/h	18	596	49	27	621	15	46	0	30	12	0	15
Future Vol, veh/h	18	596	49	27	621	15	46	0	30	12	0	15
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	4	4	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	130	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	90	90	90	83	83	83	92	92	92
Heavy Vehicles, %	0	1	0	0	1	0	0	2	0	0	2	0
Mvmt Flow	19	627	52	30	690	17	55	0	36	13	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	714	0	0	679	0	0	1458	-	657	1479	1483	706
Stage 1	-	-	-	-	-	-	691	-	-	766	766	-
Stage 2	-	-	-	-	-	-	767	-	-	713	717	-
Critical Hdwy	4.1	-	-	4.1	-	-	5	-	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	-	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	-	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	-	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	895	-	-	923	-	-	254	0	583	249	234	556
Stage 1	-	-	-	-	-	-	438	0	-	398	412	-
Stage 2	-	-	-	-	-	-	398	0	-	426	434	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	889	-	-	923	-	-	234	-	581	219	217	552
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	-	-	219	217	-
Stage 1	-	-	-	-	-	-	423	-	-	382	396	-
Stage 2	-	-	-	-	-	-	374	-	-	384	419	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.4			19.8			17		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	234	581	889	-	-	923	-	-	329
HCM Lane V/C Ratio	0.237	0.062	0.021	-	-	0.033	-	-	0.089
HCM Control Delay (s)	25.1	11.6	9.1	0	-	9	-	-	17
HCM Lane LOS	D	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.2	0.1	-	-	0.1	-	-	0.3

**APPENDIX J**  
2029 Build Capacity/Level-of-Service Analysis



Scituate Mixed-Use Development  
 1: Herring Brook Driveway/Site Driveway & New Driftway

Weekday Morning Peak Hour  
 2029 Build

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕		↕	↕		↕
Traffic Vol, veh/h	9	641	23	21	544	6	16	0	16	6	0	19
Future Vol, veh/h	9	641	23	21	544	6	16	0	16	6	0	19
Conflicting Peds, #/hr	2	0	0	0	0	2	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	-	-	-	130	-	-	0	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	89	89	89	64	64	64	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2	0	2	0	2	2	2
Mvmt Flow	9	668	24	24	611	7	25	0	25	7	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	620	0	0	692	0	0	1371	-	680	1376	-	617
Stage 1	-	-	-	-	-	-	698	-	-	665	-	-
Stage 2	-	-	-	-	-	-	673	-	-	711	-	-
Critical Hdwy	4.12	-	-	4.1	-	-	5	-	5	5	-	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	-	-	6.12	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	-	-	6.12	-	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	-	3.3	3.518	-	3.318
Pot Cap-1 Maneuver	960	-	-	912	-	-	277	0	570	275	0	604
Stage 1	-	-	-	-	-	-	434	0	-	449	0	-
Stage 2	-	-	-	-	-	-	448	0	-	424	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	958	-	-	912	-	-	259	-	570	254	-	603
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	-	-	254	-	-
Stage 1	-	-	-	-	-	-	427	-	-	441	-	-
Stage 2	-	-	-	-	-	-	421	-	-	399	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			16			13.2		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	259	570	958	-	-	912	-	-	254	603
HCM Lane V/C Ratio	0.097	0.044	0.01	-	-	0.026	-	-	0.026	0.034
HCM Control Delay (s)	20.4	11.6	8.8	0	-	9.1	-	-	19.5	11.2
HCM Lane LOS	C	B	A	A	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	0.1	0	-	-	0.1	-	-	0.1	0.1

Scituate Mixed-Use Development  
 1: Herring Brook Driveway/Site Driveway & New Driftway

Weekday Afternoon Peak Hour  
 2029 Build

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕		↕	↕		↕
Traffic Vol, veh/h	34	596	49	27	621	20	46	0	30	17	0	26
Future Vol, veh/h	34	596	49	27	621	20	46	0	30	17	0	26
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	4	4	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	130	-	-	0	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	90	90	90	83	83	83	92	92	92
Heavy Vehicles, %	2	1	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	36	627	52	30	690	22	55	0	36	18	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	719	0	0	679	0	0	1500	-	657	1515	-	708
Stage 1	-	-	-	-	-	-	725	-	-	768	-	-
Stage 2	-	-	-	-	-	-	775	-	-	747	-	-
Critical Hdwy	4.12	-	-	4.1	-	-	5	-	5	5	-	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	-	-	6.12	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	-	-	6.12	-	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	-	3.3	3.518	-	3.318
Pot Cap-1 Maneuver	882	-	-	923	-	-	243	0	583	239	0	553
Stage 1	-	-	-	-	-	-	420	0	-	394	0	-
Stage 2	-	-	-	-	-	-	394	0	-	405	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	876	-	-	923	-	-	213	-	581	205	-	549
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	-	-	205	-	-
Stage 1	-	-	-	-	-	-	392	-	-	365	-	-
Stage 2	-	-	-	-	-	-	362	-	-	353	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.4			21.3			16.8		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	213	581	876	-	-	923	-	-	205	549
HCM Lane V/C Ratio	0.26	0.062	0.041	-	-	0.033	-	-	0.09	0.051
HCM Control Delay (s)	27.7	11.6	9.3	0	-	9	-	-	24.3	11.9
HCM Lane LOS	D	B	A	A	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1	0.2	0.1	-	-	0.1	-	-	0.3	0.2

**APPENDIX K**  
Capacity/Level-of-Service Analysis Summary





## CAPACITY ANALYSIS SUMMARY

**Weekday Morning Peak Hour  
Mixed-Use Development  
Scituate, MA**

Intersection	Movement	2022 Existing			2029 No Build			2029 Build		
		LOS <sup>1</sup>	Delay <sup>2</sup>	V/C <sup>3</sup>	LOS	Delay	V/C	LOS	Delay	V/C
New Driftway	EB LTR	A	0.0	0.00	A	0.0	0.00	A	0.1	0.01
at Site Driveway/	WB L	A	8.6	0.02	A	9.1	0.03	A	9.1	0.03
Herring Brook Place Driveway	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	NB L	C	15.6	0.07	C	19.3	0.09	C	20.4	0.10
	R	B	10.7	0.04	B	11.6	0.04	B	11.6	0.04
	<i>Approach</i>	<i>B</i>	<i>13.2</i>	<i>0.07</i>	<i>C</i>	<i>15.5</i>	<i>0.09</i>	<i>C</i>	<i>16.0</i>	<i>0.10</i>
	SB LR/L	B	12.9	0.02	C	15.1	0.02	C	19.5	0.03
	R	n/a	n/a	n/a	n/a	n/a	n/a	B	11.2	0.03

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume to capacity ratio

n/a Not applicable

## QUEUE SUMMARY

Weekday Morning Peak Hour

Mixed-Use Development

Scituate, MA

Intersection	Movement	95th Percentile Queue (ft)		
		2022 Existing	2029 No Build	2029 Build
New Driftway	EB LTR	0	0	0
at Site Driveway/	WB L	3	3	3
Herring Brook Place Driveway	TR	0	0	0
	NB L	5	8	8
	R	3	3	3
	SB LR/L	3	3	3
	R	n/a	n/a	3

## CAPACITY ANALYSIS SUMMARY

**Weekday Afternoon Peak Hour  
Mixed-Use Development  
Scituate, MA**

Intersection	Movement	2022 Existing			2029 No Build			2029 Build		
		LOS <sup>1</sup>	Delay <sup>2</sup>	V/C <sup>3</sup>	LOS	Delay	V/C	LOS	Delay	V/C
New Driftway	EB LTR	A	0.3	0.02	A	0.2	0.02	A	0.5	0.04
at Site Driveway/	WB L	A	8.7	0.03	A	9.0	0.03	A	9.0	0.03
Herring Brook Place Driveway	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	NB L	C	19.8	0.185	D	25.1	0.24	D	27.7	0.26
	R	B	10.9	0.06	B	11.6	0.06	B	11.6	0.06
	<i>Approach</i>	C	16.3	0.19	C	19.8	0.24	C	21.3	0.26
	SB LR/L	B	14.6	0.07	C	17.0	0.09	C	24.3	0.09
	R	n/a	n/a	n/a	n/a	n/a	n/a	B	11.9	0.05

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume to capacity ratio

n/a Not applicable

## QUEUE SUMMARY

Weekday Afternoon Peak Hour

Mixed-Use Development

Scituate, MA

Intersection	Movement	95th Percentile Queue (ft)		
		2022 Existing	2029 No Build	2029 Build
New Driftway	EB LTR	3	3	3
at Site Driveway/	WB L	3	3	3
Herring Brook Place Driveway	TR	0	0	0
	NB L	18	23	25
	R	5	5	5
	SB LR/L	5	8	8
	R	n/a	n/a	5