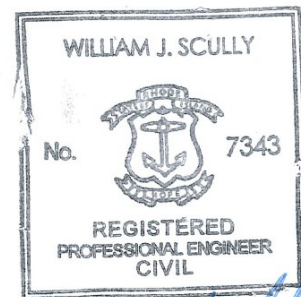


# 100 WAMPANOAG TRAIL EAST PROVIDENCE, RHODE ISLAND

## Traffic Impact Study

PREPARED FOR  
TOUCHDOWN REALTY GROUP.

PREPARED BY  
KIMLEY-HORN AND ASSOCIATES, INC.



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**Kimley»»Horn**

## EXECUTIVE SUMMARY

### PURPOSE OF REPORT AND STUDY OBJECTIVES

This report presents the results of the traffic impact and access study for the redevelopment of a former nursing home to a proposed multifamily residential development located in the City of East Providence with approximately 26 attached dwelling units (DU) in a single building. This report describes the project area's transportation system, existing traffic volumes, estimation of Future No-Build and Future Build traffic volumes, and analysis of estimated impacts. The Future Build year for this project is 2032. The methodology is consistent with Rhode Island Department of Transportation (RIDOT) traffic analysis guidelines. Based on the study results, the redevelopment is estimated to result in 176 total daily site-generated trips with 10 and 13 trips occurring during the AM and PM peak hours, respectively.

### SITE LOCATION AND STUDY AREA

The proposed residential redevelopment is located along the north side of Wampanoag Trail (Route 114) in the City of East Providence. This proposed development will include 26 dwelling units within one two-story building. The existing facility is a vacated nursing home that housed approximately 58 beds. The site is served by two driveways connected to Wampanoag Trail. The eastern drive is a one-way entering driveway located on the east side of the site and runs in front of the building. Angle parking is provided off this drive. The existing western site drive is a two-way drive that also provides a connection to the rear of the building where most of the current parking exists. This drive allows for all movements.

The proposed project is anticipated to maintain the two existing driveways including the one way entering-only eastern drive. Internally, the eastern drive connection to the west drive will be slightly modified to improve control and travel speed through the site. In total, there are 35 parking spaces proposed with the majority of these (25) located in the rear of the building and 10 spaces in the front.

The site location is shown in **Figure 1** and the study area included the intersection of Wampanoag Trail (Route 114) & Buckthorne Avenue located opposite and slightly offset from the western Site Driveway.

### PRINCIPAL FINDINGS AND CONCLUSIONS

The analysis of traffic with respect to the development of a 26-dwelling unit multifamily housing project was completed following standard practice. The key findings of this traffic impact and access plan study are as follows:

- It is estimated that the redevelopment project will generate 176 vehicle trips over the course of the 24 hour weekday with 10 vehicle trips generated in the AM peak hour and 13 vehicle trips during the PM peak hour.
- The exiting and entering movements from the Western Site Driveway and Eastern Site Driveway operate with minimal or short delays.
- The project will result in minimal changes in delays at the intersections of Buckthorne Avenue/Western Site Driveway at Wampanoag Trail (Route 114) and Eastern Site Driveway at Wampanoag Trail (Route 114) that will not be noticeable to the average motorist.
- A trip generation comparison between the former nursing home and the residential project was completed and showed that there will be minimal difference between the two uses.

## PROPOSED MITIGATION

While the project itself is not creating any new anticipated operational deficiencies and will result in similar traffic generation as the former use, the importance of creating safe and efficient access for the project is essential to maintain a safe multimodal traveling network for non-site related traffic. The following mitigation measures have been identified below and are intended to provide safe site access:

- Post transit schedules and rider information in the management office of the redevelopment.
- The applicant will coordinate with RIPTA to request that the existing bus “flag” stops in front of the site be converted from flag stops to official timepoint stops.
- Install STOP control on the western site drive with markings and potentially a STOP sign.
- Maintain one way entering control on the site’s eastern driveway.
- Modify the internal western drive to form a ‘T’ with the eastern drive to improve vehicle guidance and on-site traffic flow.
- Install signage on the western in both vehicle directions to encourage slow movement and awareness of vehicle movement to and from the rear of the site.

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## INTRODUCTION

This report has been prepared by Kimley-Horn and Associates, Inc. to document the potential traffic impacts associated with the development of 26 apartment dwelling units on the north side of Wampanoag Trail in the City of East Providence. This report describes the abutting transportation system, existing traffic volumes, a review of crash history, the estimate of site generated trips, the calculation of Future No-Build and Future Build traffic volumes, and analysis of any estimated impacts. The purpose of the study was to assess the development's impact on the roadway network, site access, and circulation. The existing building is a vacated nursing home that housed approximately 58 beds. The site is currently serviced by two driveways with the eastern drive a one-way entry only that runs in front of the building. The western drive is a full access-egress drive that runs from Wampanoag Trail (Route 114) to the rear of the building. Parking is currently provided both in the front and back of the site. **Figure 1** illustrates the location of the proposed development and study intersections.

## EXISTING CONDITIONS

### ROADWAY NETWORKS

Evaluation of the traffic impacts associated with the proposed residential development in the surrounding roadway network in the City of East Providence requires a thorough understanding of the existing roadway system in the vicinity of the site. The immediate project area is largely residential in nature. The existing conditions observed in the study area include an inventory of the roadways, speed limits, intersection geometry, and traffic control devices. The study included the two site drives and the intersection of Wampanoag Trail (Route 114) & Buckthorne Avenue. For orientation purposes, Buckthorne Avenue is northbound/southbound and Wampanoag Trail (Route 114) is eastbound/westbound.

**Buckthorne Avenue** is a north-south, two-lane undivided roadway without a posted speed limit noted during field inventories. It is classified by Rhode Island Department of Transportation (RIDOT) as a local road and is under the jurisdiction of the City of East Providence.

**Wampanoag Trail (Route 114)** is an east-west, two-lane undivided roadway with a posted speed limit of 30 miles per hour (MPH). It is classified by RIDOT as an Urban Minor Arterial and is under the jurisdiction of RIDOT. In the vicinity of the project, the pavement width is approximately 40 feet between curbs and provides for 12 foot wide travel lanes and 8 foot wide shoulders.

### DESCRIPTION OF STUDY INTERSECTIONS

**Wampanoag Trail (Route 114) & Buckthorne Avenue/Western Site Driveway** is a four-legged unsignalized intersection. The southbound approach provided by the Western Site Driveway permits left-turn, through, and right-turn movements via one (1) shared left-turn/through/right-turn lane. The northbound approach provided by Buckthorne Avenue permits left-turn, through, and right-turn movements via one (1) shared left-turn/through/right-turn lane. The north-south centerlines are offset by approximately 65 feet. The eastbound and westbound approaches provided by Wampanoag Trail permits left-turn, through, and right-turn movements via one (1) shared left-turn/through/right-turn lane.

**Wampanoag Trail (Route 114) & Eastern Site Driveway** is a three-legged unsignalized intersection. The Eastern Site Driveway is a one-way entry that accepts westbound right and eastbound left turning movements from Wampanoag Trail (Route 114). The westbound approach provided by Wampanoag Trail (Route 114) permits left-turn and through movements via one (1) shared left-turn/through lane. The

eastbound approach provided by Wampanoag Trail (Route 114) permits through and right-turn movements via one (1) shared through/right-turn lane.

The study intersections with the intersection geometry and traffic controls are provided graphically as well as the proposed site driveway along Wampanoag Trail in **Figure 2**.





Figure 1  
Site Location  
100 Wampanoag Trail  
East Providence, RI

## PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

Bicycle facilities are not defined on either side along Wampanoag Trail or Buckthorne Avenue within the project vicinity, however, with wide shoulders, bicyclists do have some room to travel and somewhat separated from moving vehicles. Sidewalk facilities are provided on both sides along Wampanoag Trail and Buckthorne Avenue, with moderate pavement distresses including cracks, spalls, and vegetation visible but are passable. A crosswalk is provided on the east side of the site, providing a connection to Sweetbriar Avenue across Wampanoag Trail.

Public transportation service for East Providence is provided by Rhode Island Public Transit Authority (RIPTA). The project vicinity is served by Bus Route 32 which connects the site to RIPTA's main bus hub Kennedy Plaza in Providence and to the Seekonk Square Mall across the Massachusetts border. Figure 2 depicts the transit routes and major stops for Bus Route 32 shown in the thick blue line. Bus Route 32 (Seekonk Square Mall – Kennedy Plaza) runs along Wampanoag Trail with flag stops at the Western Site Driveway and directly across the street. Service is provided during the weekday, Monday to Friday, from 5:46 am to 7:15 pm. The headways are typically 60 minutes throughout the day.



Figure 2: RIPTA Bus Route 32



**Figure 3: Sidewalk in front of Site (Photo Taken on 1/16/2025)**

## TRAFFIC DATA COLLECTION

Existing traffic volumes were based upon new turning movement counts (TMCs) collected on Thursday, January 9, 2025, at Buckthorne Avenue/Western Site Driveway at Wampanoag Trail (Route 114) as part of this analysis during the AM peak period (7:00 AM – 9:00 AM) and PM peak period (4:00 PM – 6:00 PM). The AM peak hour is from 7:30 AM to 8:30 AM and the PM peak hour is from 4:30 PM to 5:30 PM.

Based on the collected TMC data, approximately 2.0% of the total vehicles (passenger vehicles and heavy vehicles) in the eastbound direction on Wampanoag Trail (Route 114), were heavy vehicles during both the AM peak hour and PM peak hour. Approximately 5.0% of the total vehicles (passenger vehicles and heavy vehicles) in the westbound direction on Wampanoag Trail (Route 114) were heavy vehicles during the AM peak hour and 1.0% of the total vehicles (passenger vehicles and heavy vehicles) in the westbound direction were heavy vehicles during the PM peak hour.

In addition to the TMCs at Buckthorne Avenue/Western Site Driveway at Wampanoag Trail (Route 114), an automatic traffic recorder (ATR) was conducted for a 48-hour period, Wednesday, January 8, 2025, to Thursday, January 9, 2025, on Wampanoag Trail (Route 114) west of Buckthorne Avenue. A summary of the traffic volume data is shown in **Table 1**.

The observed average weekday volume on Wampanoag Trail (Route 114) west of Buckthorne Avenue is 8,856 vehicles per day (VPD). The data indicates that peak hour flows represent approximately 8% and 10% of the weekday 24-hour volume during the AM and PM peak hours, respectively. Observed 85<sup>th</sup>

percentile speeds in both directions along Wampanoag Trail, west of Buckthorne Avenue, is 36 MPH in the eastbound, and 37 MPH in the westbound that are higher than the posted speed limit of 30 MPH.

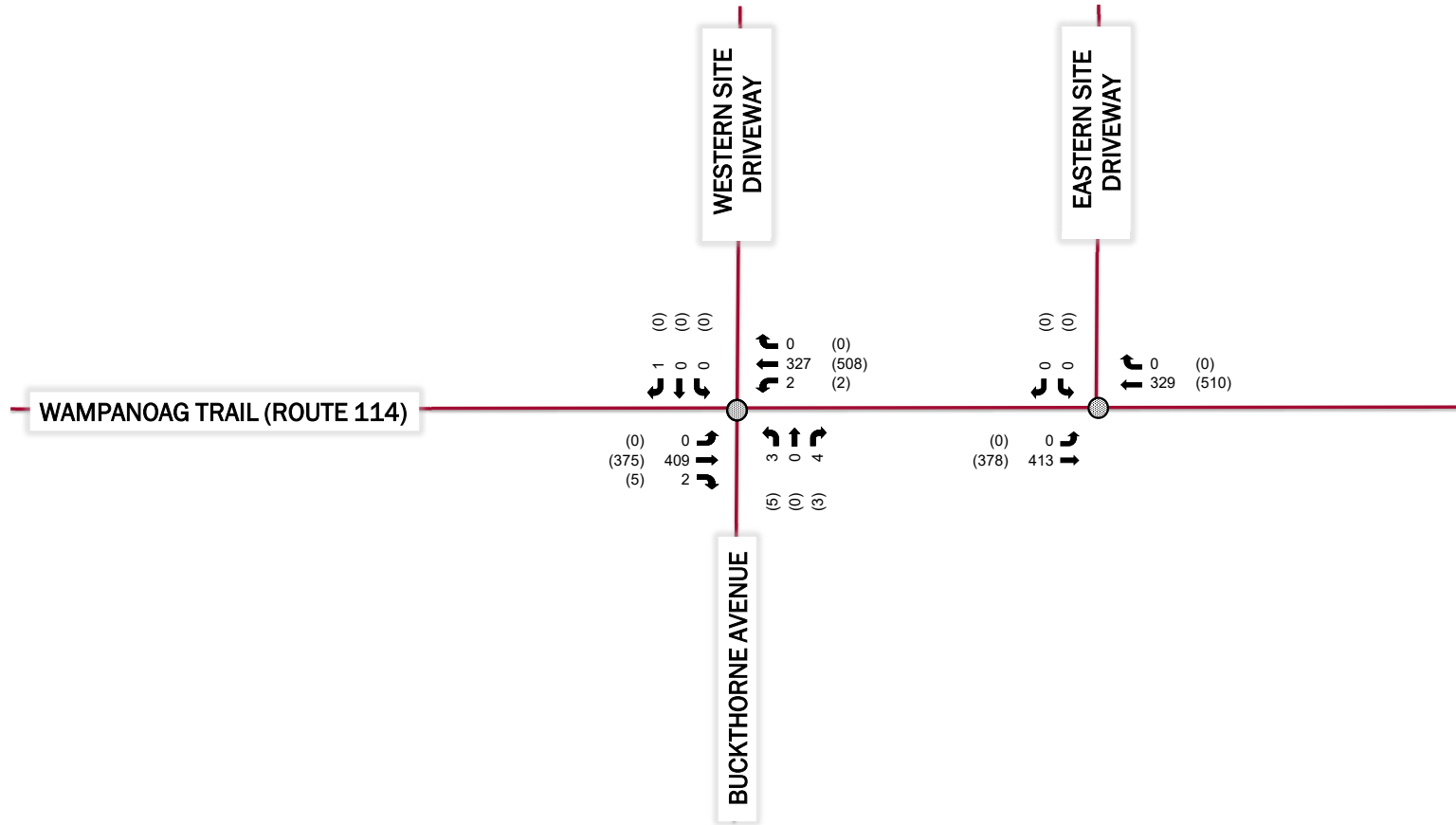
Table 1. Summary of Traffic Volume Data at Wampanoag Trail (Route 114), west of Buckthorne Avenue										
Posted Speed Limit (MPH)	85 <sup>th</sup> Percentile Speed (MPH)	Average Weekday Volume	Weekday AM Peak Hour				Weekday PM Peak Hour			
			Time	Veh. Vol.	Truck Volume	Dir. Dist.	Time	Veh. Vol.	Truck Volume	Dir. Dist.
30	36 EB / 37 WB	8,856	7:30–8:30	743	EB / WB	55% EB / 45% WB	4:30–5:30	862	4 EB / 8 WB	40% EB / 60% WB

Based on regional seasonal adjustment factors reviewed, the January traffic volumes of the study network would be considered below average and consequently, a seasonal adjustment factor of 1.01 was applied to the existing traffic volumes. **Figure 4** presents the existing turning movement volumes at the study intersection during the AM and PM peak hours. As also illustrated in Figure 4, Buckthorne Avenue is a very low volume residential street in the project area.

The traffic data are included in **Appendix A**.



- Legend**
- Study Roadway
  - XX AM Peak Hour Traffic
  - (XX) PM Peak Hour Traffic



**Figure 4**  
**2025 Existing Conditions Volumes**  
**100 Wampanoag Trail TIA**  
**East Providence, RI**

## CRASH HISTORY

Crash data from 2021-2024 was obtained via an Access to Public Records Act request to East Providence Police Department. From the obtained data, one (1) rear-end crash occurred in the vicinity of the project site at Wampanoag Trail & Sweetbriar Avenue, immediately south of the Eastern Site Driveway. The crash occurred in 2024 and resulted in property damage with no reported injuries or fatalities. No pedestrians or bicyclists were involved.

## FUTURE NO-BUILD CONDITIONS

Future No-Build traffic conditions are defined as expected traffic conditions on the roadway network in the year 2032 without the construction of the residential development. Future No-Build traffic volumes used in the analysis are the sum of the existing traffic, vicinity development traffic, and additional traffic generated by the overall growth in the study area. At the time of this study, a review of the City's website indicated that there are no planned developments identified in the immediate project area that would potentially affect local traffic and need to be specifically accounted for in the analysis networks. .

### BACKGROUND TRAFFIC GROWTH

Traffic growth on the transportation network was determined based upon (a) reviewing the population census data from the year 2010 and 2020 for the City and neighboring municipalities, and (b) reviewing the City's Comprehensive Plan for 2024-2034.

The historic growth rate analysis based on population census data is less than one percent (0.4%) over the 10 years.

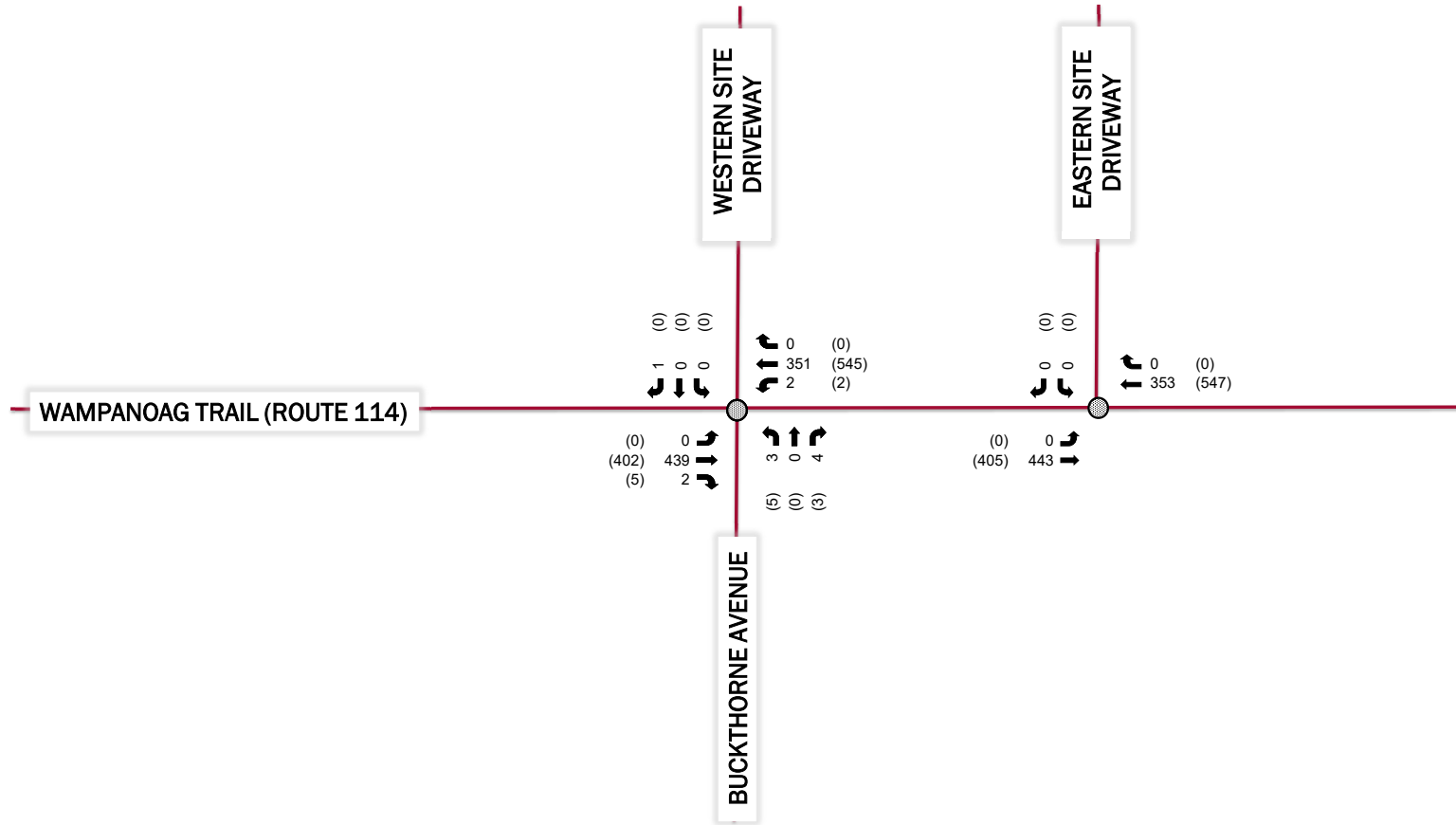
To provide a conservative analysis, an annual growth of one percent (1.0%) was applied annually to the existing (2025) traffic volumes for future (2032) No-Build Conditions. The growth calculations are contained in **Appendix B**.

Refer to Figure 5 for the Future 2032 peak hour No-Build traffic volumes.



**Legend**

- Study Roadway
- XX AM Peak Hour Traffic
- (XX) PM Peak Hour Traffic



**Figure 5**  
**2032 No Build Conditions**  
**100 Wampanoag Trail TIA**  
**East Providence, RI**



## PROJECT TRAFFIC

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the development and the distribution and assignment of that traffic over the study roadway network.

### TRIP GENERATION

Trip generation calculations for the proposed residential development were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11<sup>th</sup> Edition. The trip generation for the proposed residential development were determined using ITE Land Use Code (LUC) 220 (Low-Rise Multifamily Housing). Project trips were estimated for the weekday AM and PM peak hours. The forecasts are described below while detailed trip generation information is included in **Appendix C**. As shown in **Table 2**, the proposed development is expected to generate 10 net new vehicle trips (2 entering and 8 exiting) during the AM peak hour and 13 net new vehicle trips (8 entering and 5 exiting) during the PM peak hour.

Table 2. Trip Generation					
AM Peak Hour (PM Peak Hour)					
Future Land Use (ITE Code)	Scale	Daily	Net External Trips	Entering Trips	Exiting Trips
Multifamily Housing (Low-Rise) (220)	26 dwelling units	176	10 (13)	2 (8)	8 (5)
<b>Net New Vehicle Trips</b>		<b>176</b>	<b>10 (13)</b>	<b>2 (8)</b>	<b>8 (5)</b>

**Table 3** compares the ITE trip generation results of the proposed land use to the results of the previous LUC (620 – Nursing Home). The proposed land use will result in 2 net new vehicle trips during the AM peak hour. The comparison shows very similar traffic characteristic in terms of total trip generation.

Table 3. Comparison of Previous and Future Trip Generation					
AM Peak Hour (PM Peak Hour)					
Previous Land Use (ITE Code)	Scale	Daily	Net External Trips	Entering Trips	Exiting Trips
Nursing Home (620)	58 beds	177	8 (8)	6 (3)	2 (5)
<b>Net Difference from Previous Nursing Home Use to Proposed Residential Use</b>		<b>-2</b>	<b>+2 (0)</b>	<b>-4 (+5)</b>	<b>+6 (0)</b>

## TRIP DISTRIBUTION AND ASSIGNMENT

The anticipated distribution of project traffic was forecast for the trips expected to be generated by the development. The distribution was estimated for all vehicles that may access the site. For the development's general traffic, the trip distribution estimate was based on the collected ATR data and identifying employers from the City's 2024-2034 Comprehensive Plan.

The trip distribution along the roadway network is forecast to be the following during the AM peak hour.

- 45% to/from the east (Wampanoag Trail)
- 55% to/from the west (Wampanoag Trail)

The trip distribution along the roadway network is forecast to be the following during the PM peak hour.

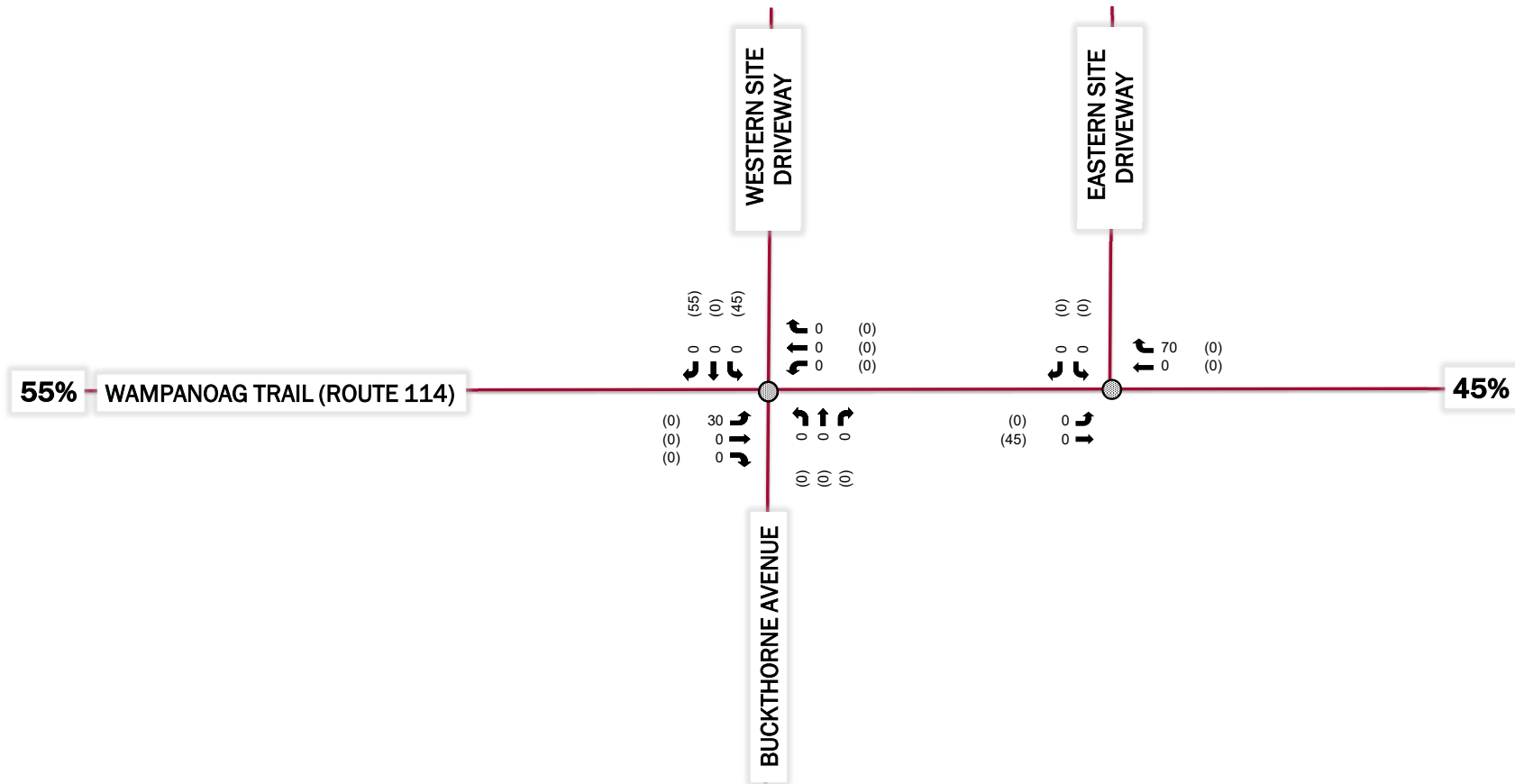
- 60% to/from the east (Wampanoag Trail)
- 40% to/from the west (Wampanoag Trail)

**Figure 6 and Figure 7** presents the trip distribution for the 2032 Build Conditions. Trip assignments for the weekday AM and PM peak hour for the 2032 Build Conditions is shown in **Figure 8**.



**Legend**

- Study Roadway
- XX IN% Distribution
- (XX) OUT% Distribution

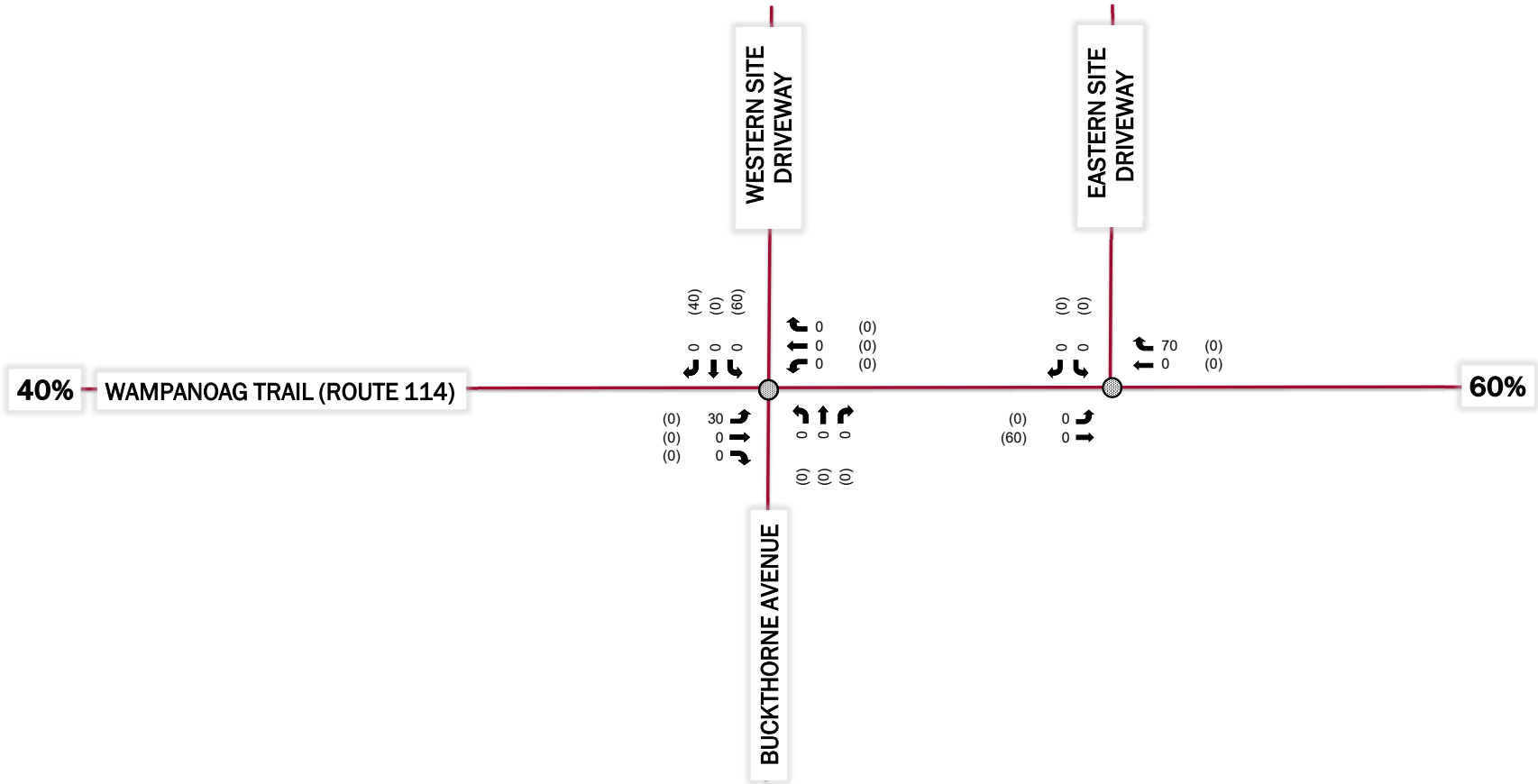


**Figure 6**  
**AM Trip Distribution**  
**100 Wampanoag Trail TIA**  
**East Providence, RI**



**Legend**

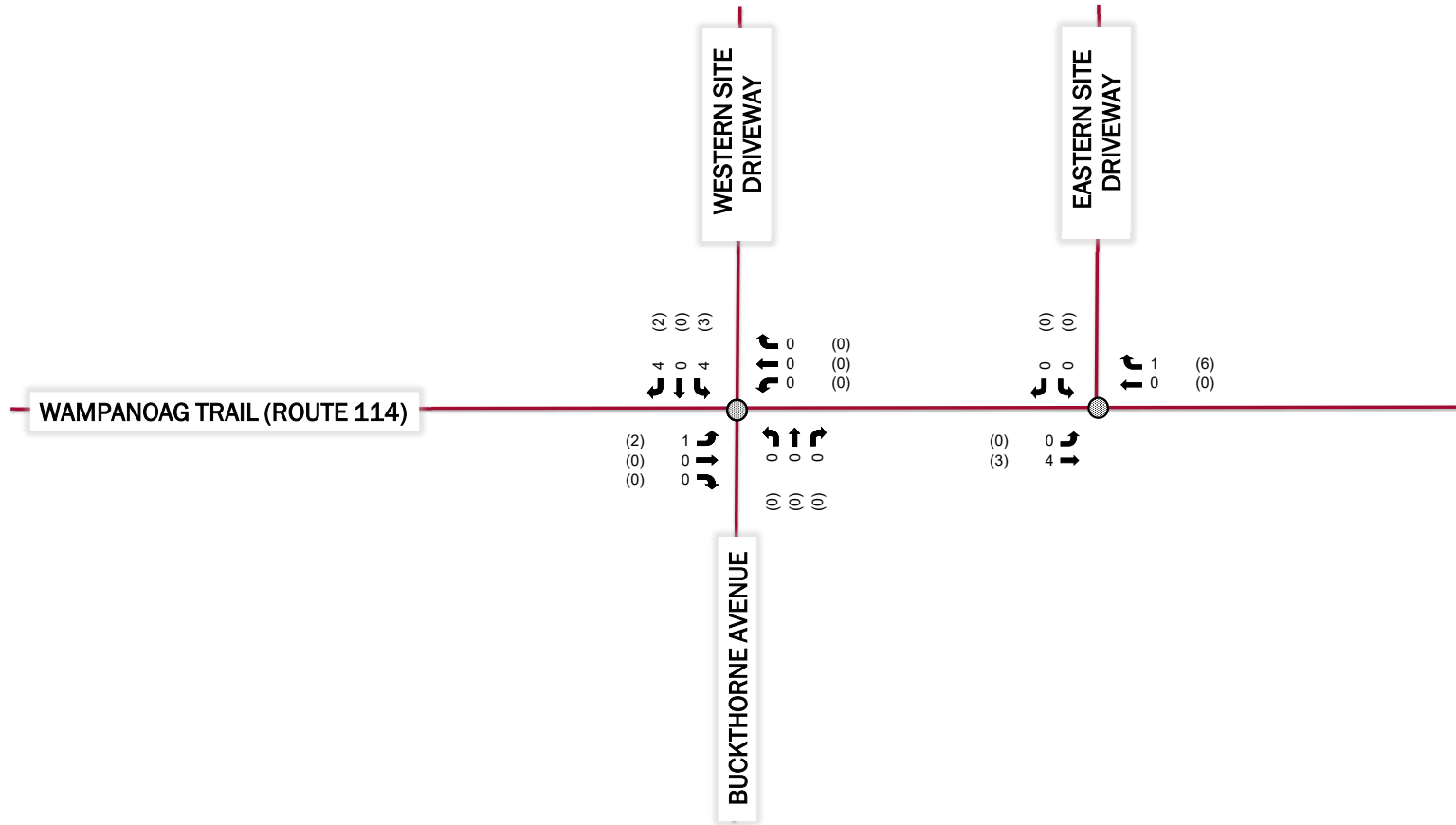
- Study Roadway
- XX AM Peak Hour Traffic
- (XX) PM Peak Hour Traffic



**Figure 7**  
**PM Trip Distribution**  
**100 Wampanoag Trail TIA**  
**East Providence, RI**



- Legend**
- Study Roadway
  - XX AM Peak Hour Traffic
  - (XX) PM Peak Hour Traffic



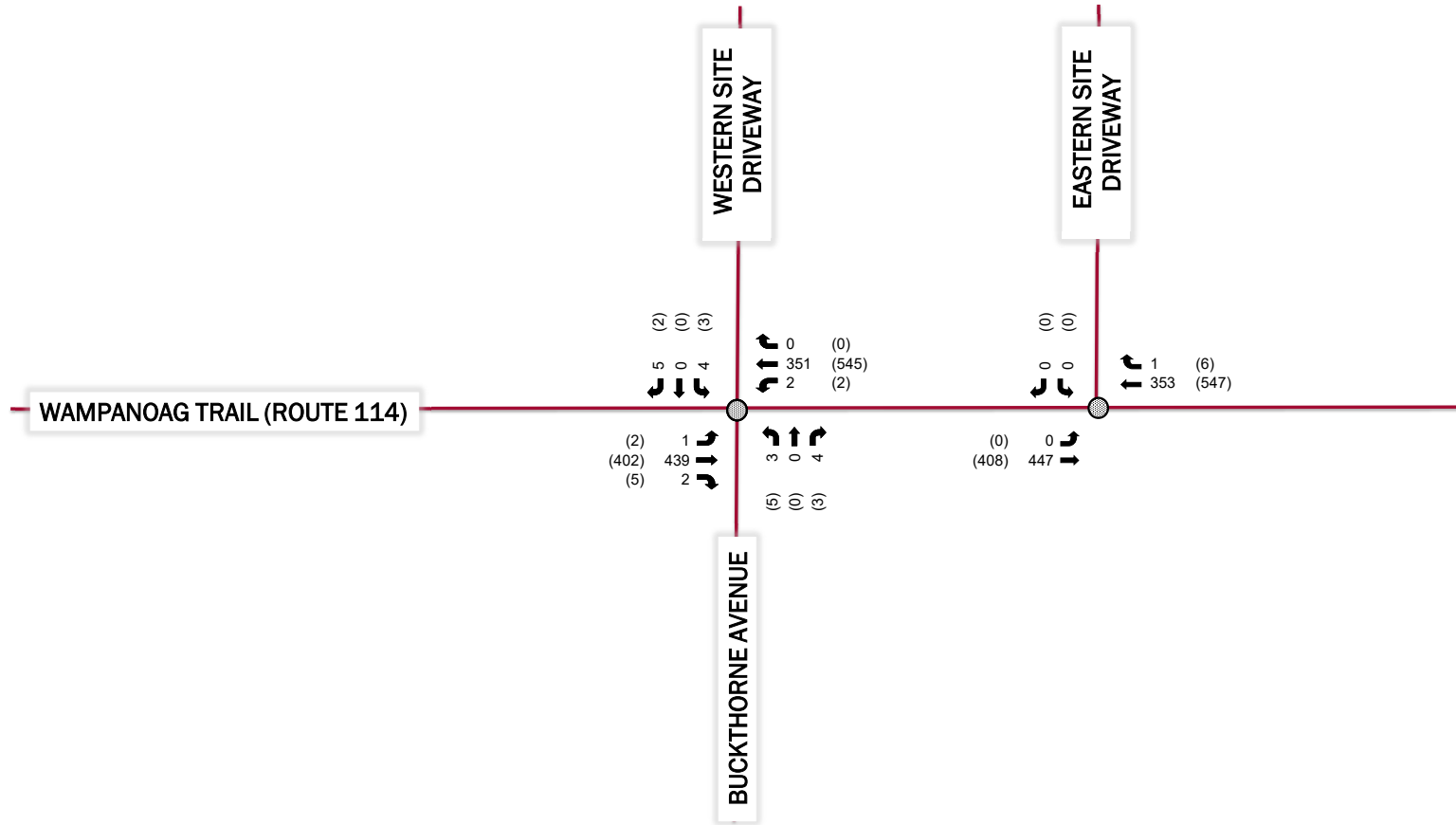
**Figure 8**  
**2032 Trip Assignment**  
**100 Wampanoag Trail TIA**  
**East Providence, RI**

## FUTURE BUILD CONDITIONS

Future Build Conditions are defined as the expected traffic conditions in the year 2032 after the development of the project. The total traffic volumes considered in the analysis for this project are the sum of the background traffic volumes and the expected project traffic volumes. **Figure 9** presents the future turning movement volumes at the study intersections during the weekday AM and PM peak hours for 2032. Network development worksheets for the study intersections are included in **Appendix D**.



- Legend**
- Study Roadway
  - XX AM Peak Hour Traffic
  - (XX) PM Peak Hour Traffic



**Figure 9**  
**2032 Build Conditions**  
**100 Wampanoag Trail TIA**  
**East Providence, RI**

# ANALYSIS

## INTERSECTION CAPACITY ANALYSIS

### Methodology

Intersection capacity analyses were performed for Existing, 2032 Future No-Build, and 2032 Future Build traffic volumes for the study area intersections. The analyses were performed using the Synchro Software Package (Version 12), which utilizes methodologies contained in the *Highway Capacity Manual (7<sup>th</sup> Edition)* for signalized and unsignalized intersections. According to the *HCM 7<sup>th</sup> Edition*, capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a fixed time duration. The grading condition is described by Level of Service (LOS) to indicate the operating characteristics of a road segment or intersection. LOS is defined as a qualitative measure that describes operational conditions and motorist perceptions within a traffic stream and relates to the level of delay experienced. The *HCM 7<sup>th</sup> Edition* defines six levels of service, LOS A through LOS F, with A being the best and F being the worst. Typically, a LOS “D” or better at signalized and unsignalized intersections is preferred, although lower levels are tolerated during peak travel hours. The ranges of delay for each level of service are shown in **Table 4**.

Level of Service (LOS)	Delay per Vehicle (seconds per vehicle)	
	Signalized Intersections	Unsignalized Intersections
<b>A</b>	≤ 10	≤ 10
<b>B</b>	10 -20	10 -15
<b>C</b>	20 – 35	15 – 25
<b>D</b>	35 – 55	25 – 35
<b>E</b>	55 – 80	35 – 50
<b>F</b>	≥ 80	≥ 50

### Intersection Capacity Analysis Summary

A summary of the intersection capacity analysis for the weekday AM and PM peak hours for the Existing Conditions, 2032 Future No-Build Conditions, and 2032 Future Conditions can be found in **Table 5** and **Table 6**, respectively. The intersection analysis worksheets are contained in **Appendix E**.

Listed below are the key findings of the intersection capacity analysis for the Future Conditions.

- The exiting and entering movements from both Site Driveways operate with minimal or short delays.
- The project will result in minimal changes in delays (less than 5.0 vehicles per second) at the intersection of Buckthorne Avenue/Western Site Driveway and Wampanoag Trail (Route 114) that will not be noticeable to the average motorist.



**Table 5. AM Peak Hour Intersection Capacity Analysis**

Intersection	Traffic Control	Movement	Existing Conditions		No-Build (2032)		Build (2032)	
			LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)	LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)	LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)
Buckthorne Avenue/Western Site Driveway at Wampanoag Trail (Route 114)	Two-Way Stop Control	EBL	A (0.0)	0	A (0.0)	0	A (8.1)	0
		EBT	A (0.0)	-	A (0.0)	-	A (0.0)	-
		WBL	A (8.2)	0	A (8.3)	0	A (8.3)	0
		WBT	A (0.0)	-	A (0.0)	-	A (0.0)	-
		NB	B (13.7)	25	B (14.5)	25	B (14.4)	25
		SB	B (10.3)	0	B (10.5)	0	B (14.1)	25
Eastern Site Driveway at Wampanoag Trail (Route 114)		EB	(1)				A (0.0)	-
		WB					A (0.0)	-

Note: (1) Approach does not exist

**Table 6. PM Peak Hour Intersection Capacity Analysis**

Intersection	Traffic Control	Movement	Existing Conditions		No-Build (2030)		Build (2030)	
			LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)	LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)	LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)
Buckthorne Avenue/Western Site Driveway at Wampanoag Trail (Route 114)	Two-Way Stop Control	EBL	A (0.0)	0	A (0.0)	0	A (8.7)	0
		EBT	A (0.0)	-	A (0.0)	-	A (0.0)	-
		WBL	A (8.1)	0	A (8.2)	0	A (8.2)	0
		WBT	A (0.0)	-	A (0.0)	-	A (0.0)	-
		NB	C (18.2)	25	C (18.4)	25	C (18.5)	25
		SB	A (0.0)	0	A (0.0)	0	C (18.6)	25

**Table 6. PM Peak Hour Intersection Capacity Analysis**

Intersection	Traffic Control	Movement	Existing Conditions		No-Build (2030)		Build (2030)	
			LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)	LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)	LOS (Delay)	95 <sup>th</sup> % Queue Lengths (feet)
Eastern Site Driveway at Wampanoag Trail (Route 114)		EB	(1)				A (0.0)	-
		WB					A (0.0)	-

Note: (1) Approach does not exist

### Existing Conditions

The Existing Conditions analysis was based on the existing traffic volumes, lane uses, and traffic controls at the study area intersections. A peak hour factor (PHF) was calculated by approach and the heavy vehicle percentages were calculated for each movement based on existing TMC data.

At Buckthorne Avenue/Western Site Driveway and Wampanoag Trail (Route 114), the eastbound and westbound approaches operate at LOS A. The westbound left-turn movement experiences a delay of 8.2 vehicles per second while the westbound through and eastbound movements experience no delays. The northbound and southbound approaches operate at LOS B with delays of 13.7 and 10.3 vehicles per second, respectively.

During the PM peak hour, the eastbound and westbound approaches operate at LOS A. The westbound left-turn movement experiences a delay of 8.1 vehicles per second while the westbound through, eastbound, and southbound movements experience no delays. The northbound approach operates at LOS C with delays of 18.2 vehicles per second.

### 2032 No-Build Conditions

The 2032 No-Build Conditions analysis was based on the 2032 No-Build traffic volumes with the existing lane geometry, traffic controls, and heavy vehicle percentages. The PHF were updated to 0.92 for urban areas for the overall intersection based on the *MassDOT Highway Division Traffic and Safety Engineering 25% Design Submission Guidelines*.

At Buckthorne Avenue/Western Site Driveway and Wampanoag Trail (Route 114), the eastbound and westbound approaches operate at LOS A. The westbound left-turn movement experiences a delay of 8.3 vehicles per second while the westbound through and eastbound movements experience no delays. The northbound and southbound approaches operate at LOS B with delays of 14.5 and 10.5 vehicles per second, respectively.

During the PM peak hour, the eastbound and westbound approaches operate at LOS A. The westbound left-turn movement experiences a delay of 8.2 vehicles per second while the westbound through, eastbound, and southbound movements experience no delays. The northbound approach operates at LOS C with a delay of 18.4 vehicles per second.

## 2032 Build Conditions

The 2032 Build Conditions analysis was based on the Build traffic volumes with the Future No-Build lane geometry, traffic controls, and heavy vehicle percentages at the study area intersections. The PHFs were the same as those used in the 2032 No-Build analysis.

At Buckthorne Avenue/Western Site Driveway and Wampanoag Trail (Route 114), the eastbound and westbound approaches operate at LOS A. The westbound left-turn movement experiences a delay of 8.3 vehicles per second while the eastbound left-turn movement experiences a delay of 8.1 vehicles per second. The westbound through and eastbound through movements experience no delays. The northbound and southbound approaches operate at LOS B with delays of 14.4 and 14.1 vehicles per second, respectively.

During the PM peak hour, the eastbound and westbound approaches operate at LOS A. The westbound left-turn movement experiences a delay of 8.1 vehicles per second while the eastbound left-turn movement experiences a delay of 8.7 vehicles per second. The northbound and southbound approaches operate at LOS C with delays of 18.5 and 18.6 vehicles per second, respectively.

## CONCLUSIONS AND PROPOSED MITIGATION

The analysis of traffic with respect to the development of a 26-dwelling unit multifamily housing building was completed following standard practice. The key findings of this traffic impact and access plan study are as follows:

- The exiting and entering movements from the Western Site Driveway and Eastern Site Driveway operate with minimal or short delays.
- The project will result in minimal changes in delays at the intersections of Buckthorne Avenue/Western Site Driveway at Wampanoag Trail (Route 114) and Eastern Site Driveway at Wampanoag Trail (Route 114) that will not be noticeable to the average motorist.
- There will be minimal difference between the proposed land use and the previous land use of the site.

In conclusion, the proposed development will have minimal impact on the operating conditions of the surrounding roadways.

## PROPOSED MITIGATION

While the project itself is not creating any new anticipated operational deficiencies, the following mitigation measures have been identified below and are intended to provide safe site access:

- Post transit schedules and rider information in the management office of the redevelopment.
- The applicant will coordinate with RIPTA to request that the existing bus “flag” stops in front of the site be converted from flag stops to official timepoint stops.
- Install STOP control on the western site drive with markings and potentially a STOP sign.
- Maintain one way entering control on the site’s eastern driveway.
- Modify the internal western drive to form a ‘T’ with the eastern drive to improve vehicle guidance and on-site traffic flow.
- Install signage on the western in both vehicle directions to encourage slow movement and awareness of vehicle movement to and from the rear of the site.

# APPENDIX

# APPENDIX A

## Traffic Data









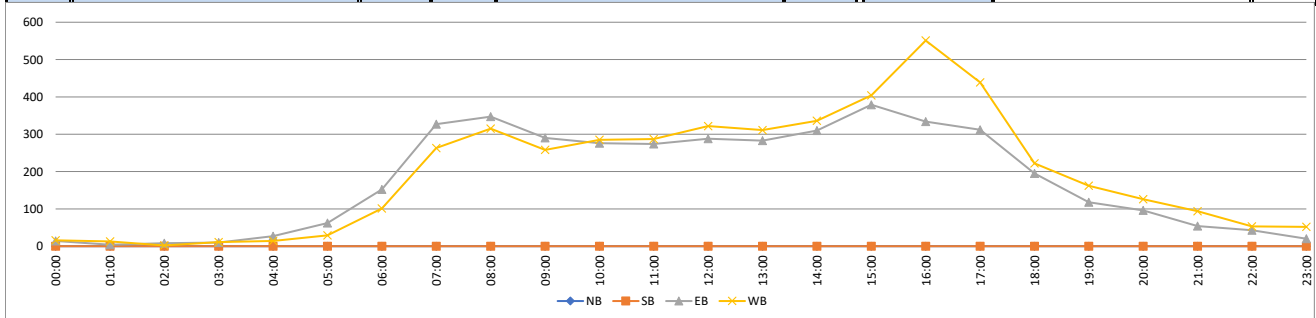
### VOLUME

### SR 114/Wampanoag Trl W/O Buckthorne Ave

Day: Wednesday  
Date: 1/8/2025

City: East Providence  
Project #: RI25\_590002\_001

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS						
						0	0	4,223	4,666	8,889							
15-Minutes Interval											Hourly Intervals						
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00			6	7	13	12:00			64	94	158	00:00 01:00			14	16	30
0:15			3	3	6	12:15			80	77	157	01:00 02:00			4	13	17
0:30			2	4	6	12:30			79	85	164	02:00 03:00			8	2	10
0:45			3	2	5	12:45			65	66	131	03:00 04:00			10	11	21
1:00			2	1	3	13:00			71	79	150	04:00 05:00			27	14	41
1:15			0	7	7	13:15			71	77	148	05:00 06:00			62	29	91
1:30			2	3	5	13:30			71	78	149	06:00 07:00			152	101	253
1:45			0	2	2	13:45			70	77	147	07:00 08:00			327	263	590
2:00			1	0	1	14:00			75	86	161	08:00 09:00			347	315	662
2:15			2	0	2	14:15			80	69	149	09:00 10:00			290	258	548
2:30			3	1	4	14:30			68	97	165	10:00 11:00			276	285	561
2:45			2	1	3	14:45			87	84	171	11:00 12:00			274	287	561
3:00			3	5	8	15:00			81	107	188	12:00 13:00			288	322	610
3:15			3	2	5	15:15			115	95	210	13:00 14:00			283	311	594
3:30			2	4	6	15:30			103	98	201	14:00 15:00			310	336	646
3:45			2	0	2	15:45			80	104	184	15:00 16:00			379	404	783
4:00			4	2	6	16:00			79	126	205	16:00 17:00			334	551	885
4:15			6	6	12	16:15			99	107	206	17:00 18:00			312	439	751
4:30			7	4	11	16:30			76	158	234	18:00 19:00			195	222	417
4:45			10	2	12	16:45			80	160	240	19:00 20:00			118	162	280
5:00			15	4	19	17:00			81	141	222	20:00 21:00			96	126	222
5:15			8	5	13	17:15			86	114	200	21:00 22:00			54	94	148
5:30			13	5	18	17:30			78	108	186	22:00 23:00			43	53	96
5:45			26	15	41	17:45			67	76	143	23:00 00:00			20	52	72
6:00			21	19	40	18:00			52	64	116	STATISTICS					
6:15			30	19	49	18:15			53	64	117						
6:30			44	24	68	18:30			40	52	92	Peak Period	00:00	to	12:00		
6:45			57	39	96	18:45			50	42	92	Volume			1791	1594	3385
7:00			71	39	110	19:00			28	50	78	Peak Hour			7:45	8:00	8:00
7:15			83	69	152	19:15			29	33	62	Peak Volume			358	315	662
7:30			73	83	156	19:30			32	39	71	Peak Hour Factor			0.895	0.885	0.930
7:45			100	72	172	19:45			29	40	69	Peak Period	12:00	to	00:00		
8:00			85	82	167	20:00			26	42	68	Volume			2432	3072	5504
8:15			95	64	159	20:15			16	35	51	Peak Hour			14:45	16:30	16:15
8:30			78	80	158	20:30			27	29	56	Peak Volume			386	573	902
8:45			89	89	178	20:45			27	20	47	Peak Hour Factor			0.839	0.895	0.940
9:00			68	64	132	21:00			16	31	47	Peak Period	07:00	to	09:00		
9:15			73	74	147	21:15			12	27	39	Volume			674	578	1252
9:30			73	68	141	21:30			16	18	34	Peak Hour			7:45	8:00	8:00
9:45			76	52	128	21:45			10	18	28	Peak Volume			358	315	662
10:00			68	71	139	22:00			14	16	30	Peak Hour Factor			0.895	0.885	0.930
10:15			72	69	141	22:15			13	15	28	Peak Period	16:00	to	18:00		
10:30			64	61	125	22:30			11	10	21	Volume			646	990	1636
10:45			72	84	156	22:45			5	12	17	Peak Hour			16:15	16:30	16:15
11:00			65	86	151	23:00			12	24	36	Peak Volume			336	573	902
11:15			76	67	143	23:15			5	10	15	Peak Hour Factor			0.848	0.895	0.940
11:30			68	72	140	23:30			2	10	12						
11:45			65	62	127	23:45			1	8	9						
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>1791</b>	<b>1594</b>	<b>3385</b>	<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>2432</b>	<b>3072</b>	<b>5504</b>						
<b>SPLIT %</b>	<b>0%</b>	<b>0%</b>	<b>53%</b>	<b>47%</b>	<b>38%</b>	<b>SPLIT %</b>	<b>0%</b>	<b>0%</b>	<b>44%</b>	<b>56%</b>	<b>62%</b>						









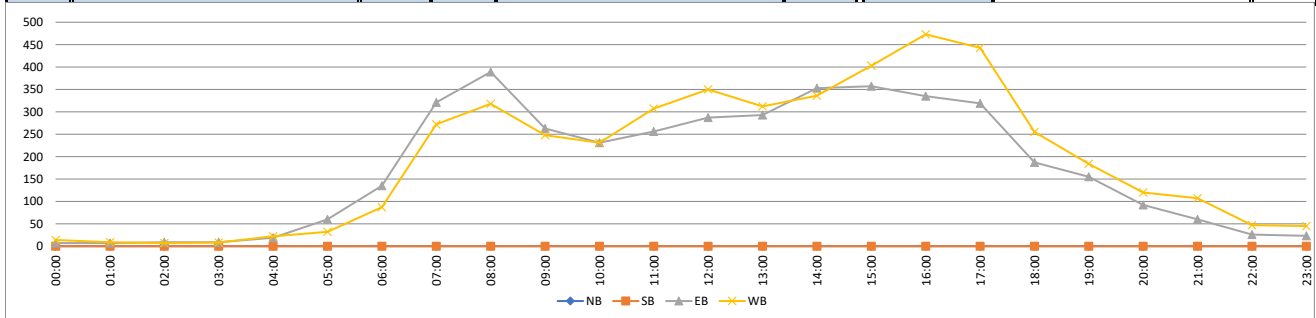
# VOLUME

## SR 114/Wampanoag Trl W/O Buckthorne Ave

Day: Thursday  
Date: 1/9/2025

City: East Providence  
Project #: RI25\_590002\_001

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS						
						0	0	4,193	4,630	8,823							
15-Minutes Interval											Hourly Intervals						
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00			1	3	4	12:00			65	111	176	00:00 01:00			7	14	21
0:15			4	4	8	12:15			72	75	147	01:00 02:00			7	9	16
0:30			2	5	7	12:30			76	78	154	02:00 03:00			9	7	16
0:45			0	2	2	12:45			74	86	160	03:00 04:00			9	8	17
1:00			1	3	4	13:00			69	76	145	04:00 05:00			19	22	41
1:15			1	4	5	13:15			66	67	133	05:00 06:00			60	32	92
1:30			2	1	3	13:30			71	81	152	06:00 07:00			135	87	222
1:45			3	1	4	13:45			87	88	175	07:00 08:00			321	272	593
2:00			2	1	3	14:00			79	83	162	08:00 09:00			389	318	707
2:15			1	2	3	14:15			79	76	155	09:00 10:00			263	248	511
2:30			4	2	6	14:30			102	87	189	10:00 11:00			231	231	462
2:45			2	2	4	14:45			93	90	183	11:00 12:00			256	307	563
3:00			3	2	5	15:00			75	123	198	12:00 13:00			287	350	637
3:15			2	2	4	15:15			98	81	179	13:00 14:00			293	312	605
3:30			1	2	3	15:30			89	106	195	14:00 15:00			353	336	689
3:45			3	2	5	15:45			95	93	188	15:00 16:00			357	403	760
4:00			3	0	3	16:00			61	121	182	16:00 17:00			335	473	808
4:15			4	12	16	16:15			77	95	172	17:00 18:00			319	443	762
4:30			2	7	9	16:30			99	143	242	18:00 19:00			187	255	442
4:45			10	3	13	16:45			98	114	212	19:00 20:00			155	184	339
5:00			11	7	18	17:00			94	143	237	20:00 21:00			92	120	212
5:15			7	4	11	17:15			85	103	188	21:00 22:00			60	107	167
5:30			24	6	30	17:30			75	122	197	22:00 23:00			26	47	73
5:45			18	15	33	17:45			65	75	140	23:00 00:00			23	45	68
6:00			7	13	20	18:00			59	79	138	STATISTICS					
6:15			19	13	32	18:15			55	68	123						
6:30			55	25	80	18:30			41	61	102	Peak Period	00:00	to	12:00		
6:45			54	36	90	18:45			32	47	79	Volume			1706	1555	3261
7:00			51	46	97	19:00			57	56	113	Peak Hour			7:30	7:30	7:30
7:15			71	53	124	19:15			32	46	78	Peak Volume			407	325	732
7:30			96	83	179	19:30			37	40	77	Peak Hour Factor			0.951	0.903	0.948
7:45			103	90	193	19:45			29	42	71	Peak Period	12:00	to	00:00		
8:00			107	79	186	20:00			28	30	58	Volume			2487	3075	5562
8:15			101	73	174	20:15			24	39	63	Peak Hour			16:30	16:30	16:30
8:30			90	76	166	20:30			23	25	48	Peak Volume			376	503	879
8:45			91	90	181	20:45			17	26	43	Peak Hour Factor			0.949	0.879	0.908
9:00			57	76	133	21:00			18	31	49	Peak Period	07:00	to	09:00		
9:15			71	69	140	21:15			16	30	46	Volume			710	590	1300
9:30			70	58	128	21:30			16	18	34	Peak Hour			7:30	7:30	7:30
9:45			65	45	110	21:45			10	28	38	Peak Volume			407	325	732
10:00			51	47	98	22:00			7	13	20	Peak Hour Factor			0.951	0.903	0.948
10:15			47	39	86	22:15			6	9	15	Peak Period	16:00	to	18:00		
10:30			75	78	153	22:30			8	15	23	Volume			654	916	1570
10:45			58	67	125	22:45			5	10	15	Peak Hour			16:30	16:30	16:30
11:00			53	73	126	23:00			5	17	22	Peak Volume			376	503	879
11:15			66	77	143	23:15			9	9	18	Peak Hour Factor			0.949	0.879	0.908
11:30			57	83	140	23:30			5	12	17						
11:45			80	74	154	23:45			4	7	11						
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>1706</b>	<b>1555</b>	<b>3261</b>	<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>2487</b>	<b>3075</b>	<b>5562</b>						
<b>SPLIT %</b>	<b>0%</b>	<b>0%</b>	<b>52%</b>	<b>48%</b>	<b>37%</b>	<b>SPLIT %</b>	<b>0%</b>	<b>0%</b>	<b>45%</b>	<b>55%</b>	<b>63%</b>						



# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy & SR 114/Wampanoag Trl  
**City:** East Providence  
**Control:** 1-Way Stop(NB)

**Project ID:** 25-590001-001  
**Date:** 1/9/2025

### Data - Total

NS/EW Streets:	Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy				Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy				SR 114/Wampanoag Trl				SR 114/Wampanoag Trl					
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	2	0	0	0	0	0	0	0	0	51	0	0	0	0	46	0	0	101
7:15 AM	0	0	2	0	0	0	0	0	0	70	1	0	0	0	53	0	0	126
7:30 AM	2	0	3	0	0	0	0	0	0	96	0	0	0	0	83	0	0	184
7:45 AM	0	0	1	0	0	0	0	0	0	102	1	0	0	0	90	0	0	194
8:00 AM	0	0	0	0	0	0	1	0	0	107	0	0	0	2	78	0	0	188
8:15 AM	1	0	0	0	0	0	0	0	0	100	1	0	0	0	73	0	0	175
8:30 AM	0	0	1	0	0	0	0	0	0	88	2	0	0	0	76	0	0	167
8:45 AM	0	0	1	0	0	0	0	0	0	90	1	0	0	0	90	0	0	182
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	33.33%	0.00%	66.67%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	99.15%	0.85%	0.00%	0.34%	99.66%	0.00%	0.00%	1317	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL	
<b>PEAK HR VOL :</b>	3	0	4	0	0	0	1	0	0	405	2	0	2	324	0	0	741	
<b>PEAK HR FACTOR :</b>	0.375	0.000	0.333	0.000	0.000	0.000	0.250	0.000	0.000	0.946	0.500	0.000	0.250	0.900	0.000	0.000	0.955	
			0.350				0.250				0.951				0.906			
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
4:00 PM	0	1	0	0	0	0	0	0	0	61	0	0	1	121	0	0	184	
4:15 PM	1	0	0	0	0	0	0	0	0	75	2	0	1	95	0	0	174	
4:30 PM	1	0	1	0	0	0	0	0	0	98	1	0	0	143	0	0	244	
4:45 PM	1	0	1	0	0	0	0	0	0	97	1	0	1	114	0	0	215	
5:00 PM	1	0	0	0	0	0	0	0	0	94	0	0	1	143	0	0	239	
5:15 PM	2	0	1	0	0	0	0	0	0	82	3	0	0	103	0	0	191	
5:30 PM	2	0	0	0	0	0	0	0	0	74	1	0	2	122	0	0	201	
5:45 PM	0	0	0	0	0	0	0	0	0	64	1	0	2	75	0	0	142	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	66.67%	0.00%	33.33%	0.00%	0	0	0	0	0.00%	98.62%	1.38%	0.00%	0.87%	99.13%	0.00%	0.00%	1590	
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL	
<b>PEAK HR VOL :</b>	5	0	3	0	0	0	0	0	0	371	5	0	2	503	0	0	889	
<b>PEAK HR FACTOR :</b>	0.625	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.946	0.417	0.000	0.500	0.879	0.000	0.000	0.911	
			0.667								0.949				0.877			

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy & SR 114/Wampanoag Trl  
**City:** East Providence  
**Control:** 1-Way Stop(NB)

**Project ID:** 25-590001-001  
**Date:** 1/9/2025

### Data - Cars

NS/EW Streets:	Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy				Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy				SR 114/Wampanoag Trl				SR 114/Wampanoag Trl					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	96
7:15 AM	2	0	2	0	0	0	0	0	0	49	0	0	0	43	0	0	0	120
7:30 AM	0	0	2	0	0	0	0	0	0	66	1	0	0	51	0	0	0	120
7:45 AM	2	0	3	0	0	0	0	0	0	92	0	0	0	78	0	0	0	175
8:00 AM	0	0	1	0	0	0	0	0	0	101	1	0	0	86	0	0	0	189
8:00 AM	0	0	0	0	0	0	1	0	0	104	0	0	2	75	0	0	0	182
8:15 AM	1	0	0	0	0	0	0	0	0	99	1	0	0	70	0	0	0	171
8:30 AM	0	0	1	0	0	0	0	0	0	86	1	0	0	72	0	0	0	160
8:45 AM	0	0	1	0	0	0	0	0	0	87	1	0	0	84	0	0	0	173
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	33.33%	0.00%	66.67%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	99.27%	0.73%	0.00%	0.36%	99.64%	0.00%	0.00%	1266	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL	
<b>PEAK HR VOL :</b>	3	0	4	0	0	0	1	0	0	396	2	0	2	309	0	0	0	717
<b>PEAK HR FACTOR :</b>	0.375	0.000	0.333	0.000	0.000	0.000	0.250	0.000	0.000	0.952	0.500	0.000	0.250	0.898	0.000	0.000	0.000	0.948
	0.350				0.250				0.957				0.904					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
4:00 PM	0	1	0	0	0	0	0	0	0	59	0	0	1	118	0	0	0	179
4:15 PM	1	0	0	0	0	0	0	0	0	74	2	0	1	94	0	0	0	172
4:30 PM	0	0	1	0	0	0	0	0	0	97	1	0	0	141	0	0	0	240
4:45 PM	1	0	1	0	0	0	0	0	0	93	1	0	1	113	0	0	0	210
5:00 PM	1	0	0	0	0	0	0	0	0	94	0	0	1	141	0	0	0	237
5:15 PM	2	0	1	0	0	0	0	0	0	78	3	0	0	102	0	0	0	186
5:30 PM	2	0	0	0	0	0	0	0	0	74	1	0	2	120	0	0	0	199
5:45 PM	0	0	0	0	0	0	0	0	0	64	1	0	1	74	0	0	0	140
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	63.64%	0.00%	36.36%	0.00%	0	0	0	0	0.00%	98.60%	1.40%	0.00%	0.77%	99.23%	0.00%	0.00%	1563	
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL	
<b>PEAK HR VOL :</b>	4	0	3	0	0	0	0	0	0	362	5	0	2	497	0	0	0	873
<b>PEAK HR FACTOR :</b>	0.500	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.933	0.417	0.000	0.500	0.881	0.000	0.000	0.000	0.909
	0.583								0.936				0.879					

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy & SR 114/Wampanoag Trl  
**City:** East Providence  
**Control:** 1-Way Stop(NB)

**Project ID:** 25-590001-001  
**Date:** 1/9/2025

### Data - HT

NS/EW Streets:	Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy				Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy				SR 114/Wampanoag Trl				SR 114/Wampanoag Trl				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5
7:15 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6
7:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	0	9
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	5
8:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	2	1	0	0	4	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	6	0	0	9
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0.00%	95.24%	4.76%	0.00%	0.00%	100.00%	0.00%	0.00%	51
<b>PEAK HR :</b>	07:30 AM - 08:30 AM				0				0				0				<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	9	0	0	0	15	0	0	24
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.000	0.750	0.000	0.000	0.667
										0.563				0.750			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	1	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
4:30 PM	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	1	0	0	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	7.14%	92.86%	0.00%	0.00%	27
<b>PEAK HR :</b>	04:30 PM - 05:30 PM				0				0				0				<b>TOTAL</b>
<b>PEAK HR VOL :</b>	1	0	0	0	0	0	0	0	0	9	0	0	0	6	0	0	16
<b>PEAK HR FACTOR :</b>	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.000	0.750	0.000	0.000	0.800
										0.563				0.750			



# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy & SR 114/Wampanoag Trl  
**City:** East Providence  
**Control:** 1-Way Stop(NB)

**Project ID:** 25-590001-001  
**Date:** 1/9/2025

### Data - Bikes

NS/EW Streets:	Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy				Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy				SR 114/Wampanoag Trl				SR 114/Wampanoag Trl				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

National Data & Surveying Services  
**Intersection Turning Movement Count**

**Location:** Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bl  
**Project ID:** 25-590001-001  
**City:** East Providence **Date:** 1/9/2025

**Data - Pedestrians (Crosswalks)**

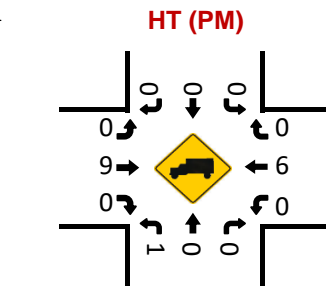
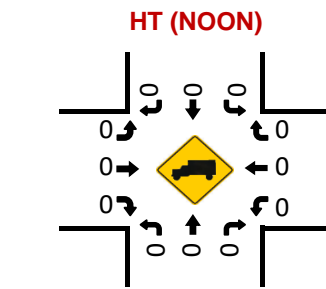
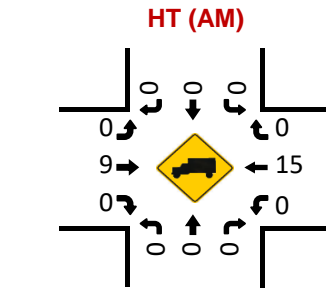
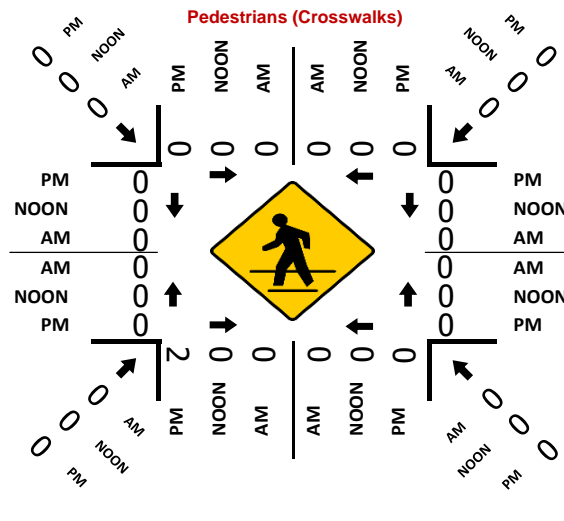
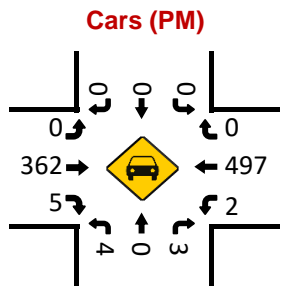
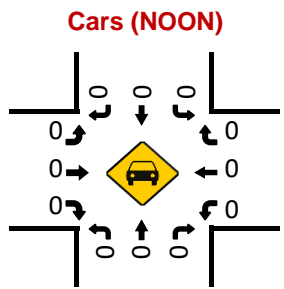
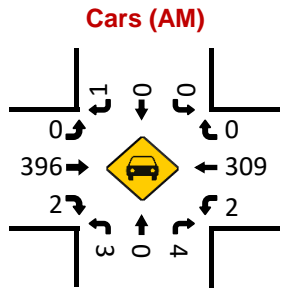
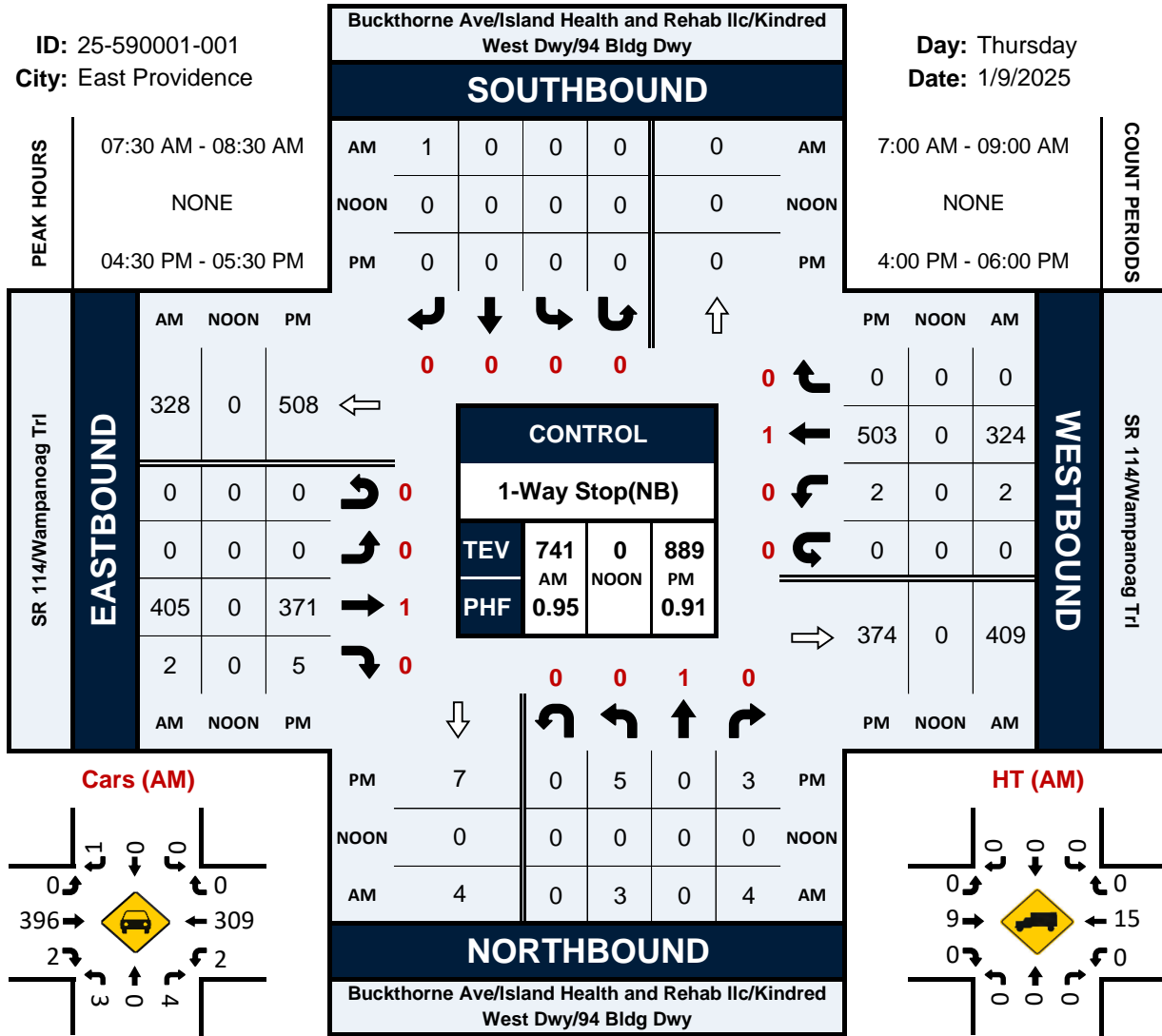
NS/EW Streets:	Buckthorne Ave/Island Health and Rehab	Buckthorne Ave/Island Health and Rehab	SR 114/Wampanoag Trl	SR 114/Wampanoag Trl	TOTAL				
	NORTH LEG		SOUTH LEG			EAST LEG		WEST LEG	
AM	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0
<b>PEAK HR :</b>	<b>07:30 AM - 08:30 AM</b>								TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>									

NS/EW Streets:	Buckthorne Ave/Island Health and Rehab	Buckthorne Ave/Island Health and Rehab	SR 114/Wampanoag Trl	SR 114/Wampanoag Trl	TOTAL				
	NORTH LEG		SOUTH LEG			EAST LEG		WEST LEG	
PM	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	2	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
<b>APPROACH %'s :</b>	0	0	2	0	0	0	0	0	2
<b>PEAK HR :</b>	<b>04:30 PM - 05:30 PM</b>		100.00%	0.00%					TOTAL
<b>PEAK HR VOL :</b>	0	0	2	0	0	0	0	0	2
<b>PEAK HR FACTOR :</b>			0.250	0.250					0.250

### Peak Hour Turning Movement Count

ID: 25-590001-001  
City: East Providence

Day: Thursday  
Date: 1/9/2025



Project ID: 25-590001-001

Location: Buckthorne Ave/Island Health and Rehab Ilc/Kindred West Dwy/94 Bldg Dwy & SR 114/Wampanoag Trl  
 City: East Providence

Day: Thursday  
 Date: 1/9/2025

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Island Health and Rehab Ilc/Kindred West D Northbound						Island Health and Rehab Ilc/Kindred West D Southbound						SR 114/Wampanoag Trl Eastbound						SR 114/Wampanoag Trl Westbound						Int. Total	
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total		
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	51	0	0	0	0	51	0	46	0	0	0	46	101
7:15 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	70	1	0	0	0	71	0	53	0	0	0	53	126
7:30 AM	2	0	3	0	0	5	0	0	0	0	0	0	0	96	0	0	0	0	96	0	83	0	0	0	83	184
7:45 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	102	1	0	0	0	103	0	90	0	0	0	90	194
Total	4	0	8	0	0	12	0	0	0	0	0	0	0	319	2	0	0	0	321	0	272	0	0	0	272	605
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	107	0	0	0	0	107	2	78	0	0	0	80	188
8:15 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	100	1	0	0	0	101	0	73	0	0	0	73	175
8:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	88	2	0	0	0	90	0	76	0	0	0	76	167
8:45 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	90	1	0	0	0	91	0	90	0	0	0	90	182
Total	1	0	2	0	0	3	0	0	1	0	0	1	0	385	4	0	0	0	389	2	317	0	0	0	319	712
***BREAK***																										
4:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	61	0	0	0	0	61	1	121	0	0	0	122	184
4:15 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	75	2	0	0	0	77	1	95	0	0	0	96	174
4:30 PM	1	0	1	0	0	2	0	0	0	0	0	0	0	98	1	0	0	0	99	0	143	0	0	0	143	244
4:45 PM	1	0	1	0	0	2	0	0	0	0	0	0	0	97	1	0	0	0	98	1	114	0	0	0	115	215
Total	3	0	3	0	0	6	0	0	0	0	0	0	0	331	4	0	0	0	335	3	473	0	0	0	476	817
5:00 PM	1	0	0	0	2	1	0	0	0	0	0	0	0	94	0	0	0	0	94	1	143	0	0	0	144	239
5:15 PM	2	0	1	0	0	3	0	0	0	0	0	0	0	82	3	0	0	0	85	0	103	0	0	0	103	191
5:30 PM	2	0	0	0	0	2	0	0	0	0	0	0	0	74	1	0	0	0	75	2	122	0	0	0	124	201
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	64	1	0	0	0	65	2	75	0	0	0	77	142
Total	5	0	1	0	2	6	0	0	0	0	0	0	0	314	5	0	0	0	319	5	443	0	0	0	448	773
Grand Total	13	0	14	0	2	27	0	0	1	0	0	1	0	1349	15	0	0	0	1364	10	1505	0	0	0	1515	2907
Apprch %	48.1	0.0	51.9	0.0	7.4		0.0	0.0	100.0	0.0	0.0		0.0	98.9	1.1	0.0	0.0			0.7	99.3	0.0	0.0	0.0		
Total %	0.4	0.0	0.5	0.0	0.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.4	0.5	0.0	0.0	0.0	46.9	0.3	51.8	0.0	0.0	0.0	52.1	
Cars, PU, Vans	12	0	14	0		26	0	0	1	0		1	0	1317	14	0		1331		9	1462	0	0		1471	2829
% Cars, PU, Vans	92.3	0.0	100.0	0.0		96.3	0.0	0.0	100.0	0.0		100.0	0.0	97.6	93.3	0.0		97.6		90.0	97.1	0.0	0.0		97.1	97.3
Heavy trucks	1	0	0	0		1	0	0	0	0		0	0	32	1	0		33		1	43	0	0		44	78
%Heavy trucks	7.7	0.0	0.0	0.0		3.7	0.0	0.0	0.0	0.0		0.0	0.0	2.4	6.7	0.0		2.4		10.0	2.9	0.0	0.0		2.9	2.7

Project ID: 25-590001-001

Location: Buckthorne Ave/Island Health and Rehab Ilc/Kindred

City: East Providence

**PEAK HOURS**

Day: Thursday

Date: 1/9/2025

**AM**

Start Time	Island Health and Rehab Ilc/Kindred Westbound					Island Health and Rehab Ilc/Kindred Westbound Southbound					SR 114/Wampanoag Trl Eastbound					SR 114/Wampanoag Trl Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	2	0	3	0	5	0	0	0	0	0	0	96	0	0	96	0	83	0	0	83	184
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	102	1	0	103	0	90	0	0	90	194
8:00 AM	0	0	0	0	0	0	0	1	0	1	0	107	0	0	107	2	78	0	0	80	188
8:15 AM	1	0	0	0	1	0	0	0	0	0	0	100	1	0	101	0	73	0	0	73	175
Total Volume	3	0	4	0	7	0	0	1	0	1	0	405	2	0	407	2	324	0	0	326	741
% App. Total	42.9	0.0	57.1	0.0	100	0.0	0.0	100.0	0.0	100	0.0	99.5	0.5	0.0	100	0.6	99.4	0.0	0.0	100	
PHF	0.350					0.250					0.951					0.906					0.955
Cars, PU, Vans	3	0	4	0	7	0	0	1	0	1	0	396	2	0	398	2	309	0	0	311	717
% Cars, PU, Vans	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	97.8	100.0	0.0	97.8	100.0	95.4	0.0	0.0	95.4	96.8
Heavy trucks	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	15	0	0	15	24
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0	4.6	0.0	0.0	4.6	3.2

**PM**

Start Time	Island Health and Rehab Ilc/Kindred Westbound					Island Health and Rehab Ilc/Kindred Westbound Southbound					SR 114/Wampanoag Trl Eastbound					SR 114/Wampanoag Trl Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	1	0	1	0	2	0	0	0	0	0	0	98	1	0	99	0	143	0	0	143	244
4:45 PM	1	0	1	0	2	0	0	0	0	0	0	97	1	0	98	1	114	0	0	115	215
5:00 PM	1	0	0	0	1	0	0	0	0	0	0	94	0	0	94	1	143	0	0	144	239
5:15 PM	2	0	1	0	3	0	0	0	0	0	0	82	3	0	85	0	103	0	0	103	191
Total Volume	5	0	3	0	8	0	0	0	0	0	0	371	5	0	376	2	503	0	0	505	889
% App. Total	62.5	0.0	37.5	0.0	100	0.0	0.0	0.0	0.0	0	0.0	98.7	1.3	0.0	100	0.4	99.6	0.0	0.0	100	
PHF	0.667										0.949					0.877					0.911
Cars, PU, Vans	4	0	3	0	7	0	0	0	0	0	0	362	5	0	367	2	497	0	0	499	873
% Cars, PU, Vans	80.0	0.0	100.0	0.0	87.5	0.0	0.0	0.0	0.0	0.0	0.0	97.6	100.0	0.0	97.6	100.0	98.8	0.0	0.0	98.8	98.2
Heavy trucks	1	0	0	0	1	0	0	0	0	0	0	9	0	0	9	0	6	0	0	6	16
%Heavy trucks	20.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	2.4	0.0	1.2	0.0	0.0	1.2	1.8

# APPENDIX B

## Growth Rate Calculations



**Project Name:**  
**Project Number:**

277 Providence Street WoodSt	Data Source:		U.S. Census Bureau
112766000	Local District:		3
Municipality	2010	2020	Average Annual Growth
Barrington	16,310	17,153	0.5%
Providence	178,042	190,934	0.7%
East Providence	47,037	47,139	0.0%
<b>Average Annual Growth Rate</b>			<b>0.4%</b>

Current Year	<b>2025</b>
Project Year	<b>2032</b>
Synchro Growth Factor	<b>1.03</b>
Growth Years	7

# Appendix C

## Trip Generation



Project Name:  
Project Number:

100 Wampanoag Trail East Providence  
112778000

Peak Period 1:  
Peak Period 2:

AM  
PM

9

Trip Generation										
Land Use	Amount	Units	ITE Code	Daily One-Way Trips	AM Peak Hour One-Way Trips			PM Peak Hour One-Way Trips		
					IN	OUT	TOTAL	IN	OUT	TOTAL
Multifamily Housing (Low-Rise) - Not Close to Rail Transit	26	Dwelling Units	220	175	2	8	10	8	5	13
<b>Total Trips:</b>				<b>175</b>	<b>2</b>	<b>8</b>	<b>10</b>	<b>8</b>	<b>5</b>	<b>13</b>
<i>Trip generation based on ITE's Trip Generation Manual, 11th Edition. Pass-by trips based on ITE's Trip Generation Handbook, 3rd Edition.</i>										

# Appendix D

## Volume Development





# Appendix E

## Capacity Analysis

# 2025 Existing AM Peak

Lanes, Volumes, Timings

100 Wampanoag Trail

1: Buckthorne Avenue/Western Site Driveway & Wampanoag Trail (Route 114) Existing AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	409	2	2	327	0	3	0	4	0	0	1
Future Volume (vph)	0	409	2	2	327	0	3	0	4	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	16	12
Satd. Flow (prot)	0	1861	0	0	1810	0	0	1893	0	0	1863	0
Flt Permitted								0.978				
Satd. Flow (perm)	0	1861	0	0	1810	0	0	1893	0	0	1863	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		204			284			233			210	
Travel Time (s)		4.6			6.5			6.4			4.8	
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.35	0.35	0.35	0.25	0.25	0.25
Heavy Vehicles (%)	0%	2%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	433	0	0	361	0	0	20	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	0.85	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.6%
Analysis Period (min)	15
	ICU Level of Service A

**Intersection**

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	409	2	2	327	0	3	0	4	0	0	1
Future Vol, veh/h	0	409	2	2	327	0	3	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	91	91	91	35	35	35	25	25	25
Heavy Vehicles, %	0	2	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	0	431	2	2	359	0	9	0	11	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	359	0	0	433	0	0	795	795	432	794	796	359
Stage 1	-	-	-	-	-	-	432	432	-	364	364	-
Stage 2	-	-	-	-	-	-	364	364	-	431	433	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1210	-	-	1138	-	-	308	322	628	308	322	690
Stage 1	-	-	-	-	-	-	606	586	-	659	628	-
Stage 2	-	-	-	-	-	-	659	628	-	607	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1210	-	-	1138	-	-	305	322	628	302	321	690
Mov Cap-2 Maneuver	-	-	-	-	-	-	305	322	-	302	321	-
Stage 1	-	-	-	-	-	-	606	586	-	658	626	-
Stage 2	-	-	-	-	-	-	654	626	-	596	585	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0.05			13.73			10.25		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	432	1210	-	-	11	-	-	690
HCM Lane V/C Ratio	0.046	-	-	-	0.002	-	-	0.006
HCM Control Delay (s/veh)	13.7	0	-	-	8.2	0	-	10.3
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Lanes, Volumes, Timings  
 2: Wampanoag Trail (Route 114) & Eastern Site Driveway

100 Wampanoag Trail  
 Existing AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<b>4</b>	<b>1</b>			
Traffic Volume (vph)	0	413	329	0	0	0
Future Volume (vph)	0	413	329	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1810	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1810	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		284	97		211	
Travel Time (s)		6.5	2.2		4.8	
Peak Hour Factor	0.95	0.95	0.91	0.91	0.25	0.25
Heavy Vehicles (%)	0%	2%	5%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	435	362	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.1% ICU Level of Service A
Analysis Period (min)	15



# 2025 Existing PM Peak



Lanes, Volumes, Timings

100 Wampanoag Trail

1: Buckthorne Avenue/Western Site Driveway & Wampanoag Trail (Route 114) Existing PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	375	5	2	508	0	5	0	3	0	0	0
Future Volume (vph)	0	375	5	2	508	0	5	0	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	16	12
Satd. Flow (prot)	0	1859	0	0	1881	0	0	1709	0	0	2153	0
Flt Permitted								0.969				
Satd. Flow (perm)	0	1859	0	0	1881	0	0	1709	0	0	2153	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		204			284			233			210	
Travel Time (s)		4.6			6.5			6.4			4.8	
Peak Hour Factor	0.95	0.95	0.95	0.88	0.88	0.88	0.67	0.67	0.67	0.25	0.25	0.25
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	20%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	400	0	0	579	0	0	11	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	0.85	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	38.3%
Analysis Period (min)	15
	ICU Level of Service A

**Intersection**

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	375	5	2	508	0	5	0	3	0	0	0
Future Vol, veh/h	0	375	5	2	508	0	5	0	3	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	67	67	67	25	25	25
Heavy Vehicles, %	0	2	0	0	1	0	20	0	0	0	0	0
Mvmt Flow	0	395	5	2	577	0	7	0	4	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	577	0	0	400
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.1	-	-	4.1
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.2	-	-	2.2
Pot Cap-1 Maneuver	1006	-	-	1170
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1006	-	-	1170
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.03	18.23	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	284	1006	-	-	7	-	-	-
HCM Lane V/C Ratio	0.042	-	-	-	0.002	-	-	-
HCM Control Delay (s/veh)	18.2	0	-	-	8.1	0	-	0
HCM Lane LOS	C	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Lanes, Volumes, Timings  
 2: Wampanoag Trail (Route 114) & Eastern Site Driveway

100 Wampanoag Trail  
 Existing PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1			
Traffic Volume (vph)	0	378	510	0	0	0
Future Volume (vph)	0	378	510	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1881	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1881	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		284	97		211	
Travel Time (s)		6.5	2.2		4.8	
Peak Hour Factor	0.95	0.95	0.88	0.88	0.25	0.25
Heavy Vehicles (%)	2%	2%	1%	1%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	398	580	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.2%			ICU Level of Service A		
Analysis Period (min)	15					

# 2032 No-Build AM Peak

Lanes, Volumes, Timings

100 Wampanoag Trail

1: Buckthorne Avenue/Western Site Driveway & Wampanoag Trail (Route 114) No Build AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	439	2	2	351	0	3	0	4	0	0	1
Future Volume (vph)	0	439	2	2	351	0	3	0	4	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	16	12
Satd. Flow (prot)	0	1861	0	0	1863	0	0	1856	0	0	1826	0
Flt Permitted								0.978				
Satd. Flow (perm)	0	1861	0	0	1863	0	0	1856	0	0	1826	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		204			284			233			210	
Travel Time (s)		4.6			6.5			6.4			4.8	
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.35	0.35	0.35	0.25	0.25	0.25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	464	0	0	388	0	0	20	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	0.85	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.2%
ICU Level of Service	A
Analysis Period (min)	15

**Intersection**

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	439	2	2	351	0	3	0	4	0	0	1
Future Vol, veh/h	0	439	2	2	351	0	3	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	91	91	91	35	35	35	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	462	2	2	386	0	9	0	11	0	0	4

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	386	0	0	464
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1173	-	-	1097
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1173	-	-	1097
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.05	14.49	10.47
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	399	1173	-	-	10	-	-	662
HCM Lane V/C Ratio	0.05	-	-	-	0.002	-	-	0.006
HCM Control Delay (s/veh)	14.5	0	-	-	8.3	0	-	10.5
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Lanes, Volumes, Timings  
 2: Wampanoag Trail (Route 114) & Eastern Site Driveway

100 Wampanoag Trail  
 No Build AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	353	443	0	0	0
Future Volume (vph)	0	353	443	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1863	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		284	97		211	
Travel Time (s)		6.5	2.2		4.8	
Peak Hour Factor	0.95	0.95	0.91	0.91	0.25	0.25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	372	487	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.6%
Analysis Period (min)	15
	ICU Level of Service A



# 2032 No-Build PM Peak



Lanes, Volumes, Timings

100 Wampanoag Trail

1: Buckthorne Avenue/Western Site Driveway & Wampanoag Trail (Route 114) No Build PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	402	5	2	545	0	5	0	3	0	0	0
Future Volume (vph)	0	402	5	2	545	0	5	0	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	16	12
Satd. Flow (prot)	0	1859	0	0	1863	0	0	1886	0	0	2111	0
Flt Permitted								0.970				
Satd. Flow (perm)	0	1859	0	0	1863	0	0	1886	0	0	2111	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		204			284			233			210	
Travel Time (s)		4.6			6.5			6.4			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	442	0	0	594	0	0	8	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	0.85	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	40.3%
ICU Level of Service	A
Analysis Period (min)	15

**Intersection**

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	402	5	2	545	0	5	0	3	0	0	0
Future Vol, veh/h	0	402	5	2	545	0	5	0	3	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	437	5	2	592	0	5	0	3	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	592	0	0	442
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	983	-	-	1118
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	983	-	-	1118
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.03	18.37	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	278	983	-	-	7	-	-	-
HCM Lane V/C Ratio	0.031	-	-	-	0.002	-	-	-
HCM Control Delay (s/veh)	18.4	0	-	-	8.2	0	-	0
HCM Lane LOS	C	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Lanes, Volumes, Timings  
 2: Wampanoag Trail (Route 114) & Eastern Site Driveway

100 Wampanoag Trail  
 No Build PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<b>4</b>	<b>1</b>			
Traffic Volume (vph)	0	405	547	0	0	0
Future Volume (vph)	0	405	547	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1863	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		284	97		211	
Travel Time (s)		6.5	2.2		4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	440	595	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.1% ICU Level of Service A
Analysis Period (min)	15

# 2032 Build AM Peak

Lanes, Volumes, Timings

100 Wampanoag Trail

1: Buckthorne Avenue/Western Site Driveway & Wampanoag Trail (Route 114) Build AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	439	2	2	351	0	3	0	4	4	0	5
Future Volume (vph)	1	439	2	2	351	0	3	0	4	4	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	16	12
Satd. Flow (prot)	0	1861	0	0	1863	0	0	1852	0	0	1910	0
Flt Permitted								0.979			0.978	
Satd. Flow (perm)	0	1861	0	0	1863	0	0	1852	0	0	1910	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		204			284			233			210	
Travel Time (s)		4.6			6.5			6.4			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	480	0	0	384	0	0	7	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	0.85	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.9%
ICU Level of Service	A
Analysis Period (min)	15

**Intersection**

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	1	439	2	2	351	0	3	0	4	4	0	5
Future Vol, veh/h	1	439	2	2	351	0	3	0	4	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	477	2	2	382	0	3	0	4	4	0	5

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	382	0	0	479	0	0	866	866	478	865	867	382
Stage 1	-	-	-	-	-	-	480	480	-	386	386	-
Stage 2	-	-	-	-	-	-	386	386	-	479	482	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1177	-	-	1083	-	-	273	291	587	274	291	666
Stage 1	-	-	-	-	-	-	567	554	-	637	610	-
Stage 2	-	-	-	-	-	-	637	610	-	567	554	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1177	-	-	1083	-	-	270	290	587	271	290	666
Mov Cap-2 Maneuver	-	-	-	-	-	-	270	290	-	271	290	-
Stage 1	-	-	-	-	-	-	566	553	-	636	609	-
Stage 2	-	-	-	-	-	-	631	609	-	562	553	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	0.02		0.05		14.4		14.13	
HCM LOS					B		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	391	4	-	-	10	-	-	404
HCM Lane V/C Ratio	0.019	0.001	-	-	0.002	-	-	0.024
HCM Control Delay (s/veh)	14.4	8.1	0	-	8.3	0	-	14.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings  
 2: Wampanoag Trail (Route 114) & Eastern Site Driveway

100 Wampanoag Trail  
 Build AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1			
Traffic Volume (vph)	0	447	353	1	0	0
Future Volume (vph)	0	447	353	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1863	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		284	97		211	
Travel Time (s)		6.5	2.2		4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	486	385	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.9%
Analysis Period (min)	15
	ICU Level of Service A



# 2032 Build PM Peak



Lanes, Volumes, Timings

100 Wampanoag Trail

1: Buckthorne Avenue/Western Site Driveway & Wampanoag Trail (Route 114) Build PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Volume (vph)	2	402	5	2	545	0	5	0	3	3	0	2
Future Volume (vph)	2	402	5	2	545	0	5	0	3	3	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	16	12
Satd. Flow (prot)	0	1859	0	0	1863	0	0	1886	0	0	1939	0
Flt Permitted								0.970			0.971	
Satd. Flow (perm)	0	1859	0	0	1863	0	0	1886	0	0	1939	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		204			284			233			210	
Travel Time (s)		4.6			6.5			6.4			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	444	0	0	594	0	0	8	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	0.85	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	40.1%
Analysis Period (min)	15
	ICU Level of Service A

**Intersection**

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	2	402	5	2	545	0	5	0	3	3	0	2
Future Vol, veh/h	2	402	5	2	545	0	5	0	3	3	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	437	5	2	592	0	5	0	3	3	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	592	0	0	442	0	0	1041	1041	440	1038	1043	592
Stage 1	-	-	-	-	-	-	444	444	-	597	597	-
Stage 2	-	-	-	-	-	-	597	597	-	441	447	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	983	-	-	1118	-	-	208	230	617	209	229	506
Stage 1	-	-	-	-	-	-	593	575	-	490	492	-
Stage 2	-	-	-	-	-	-	490	492	-	595	574	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	983	-	-	1118	-	-	206	229	617	207	228	506
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	229	-	207	228	-
Stage 1	-	-	-	-	-	-	591	573	-	488	490	-
Stage 2	-	-	-	-	-	-	486	490	-	590	572	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.04			0.03			18.54			18.57		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	275	9	-	-	7	-	-	271
HCM Lane V/C Ratio	0.032	0.002	-	-	0.002	-	-	0.02
HCM Control Delay (s/veh)	18.5	8.7	0	-	8.2	0	-	18.6
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings  
 2: Wampanoag Trail (Route 114) & Eastern Site Driveway

100 Wampanoag Trail  
 Build PM Peak Hour



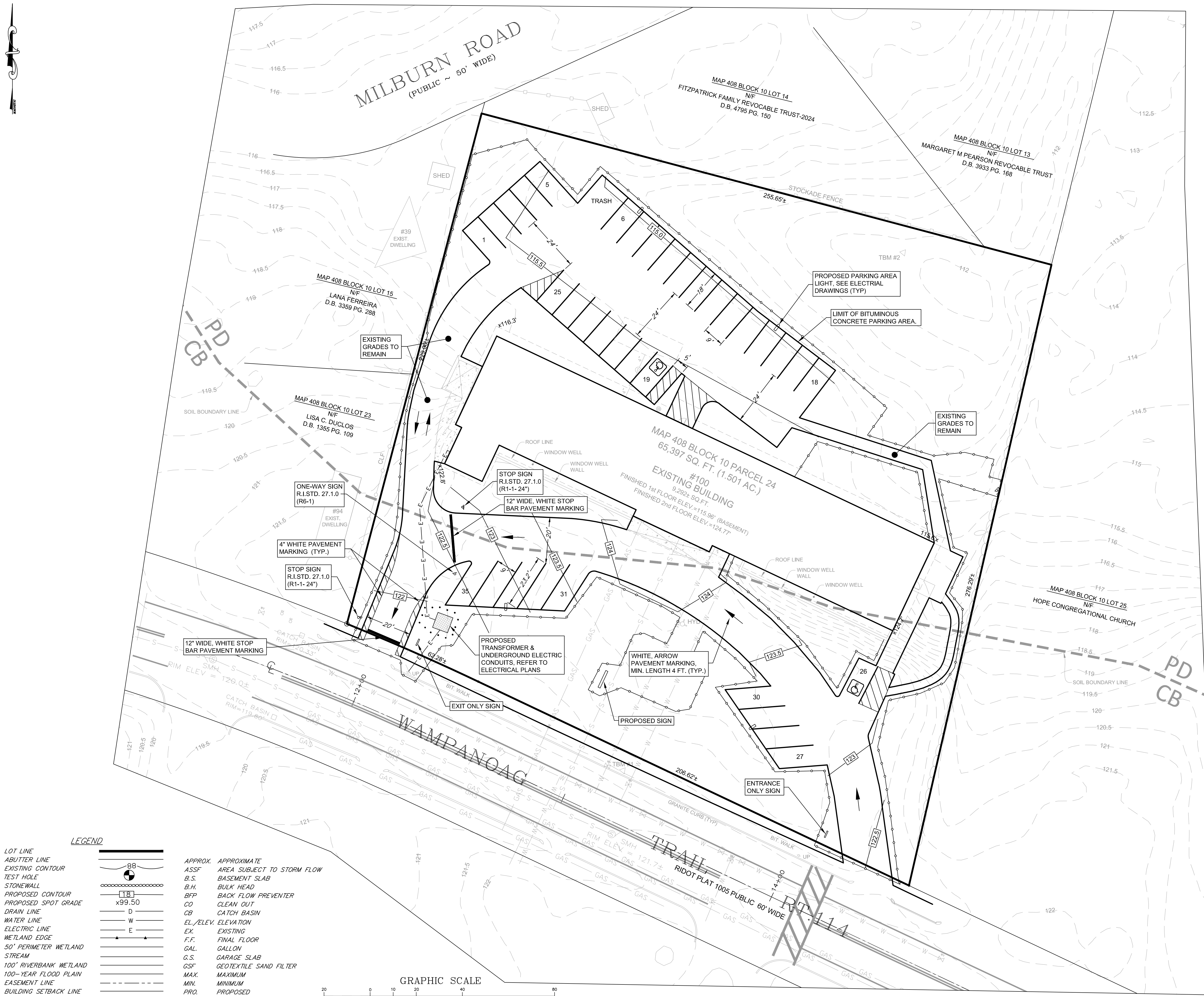
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<b>4</b>	<b>1</b>			
Traffic Volume (vph)	0	408	547	6	0	0
Future Volume (vph)	0	408	547	6	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1859	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1859	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		284	97		211	
Travel Time (s)		6.5	2.2		4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	443	602	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.5%
Analysis Period (min)	15
	ICU Level of Service A

# Appendix F

## Site Plan





**SUBJECT PARCEL:**  
 A.P. 408 BLOCK 10 PARCEL 24  
 BK 6709 PG 23  
 AREA = 65,397 S.F. (1.501 AC.)

**ZONE:** R-3

DIMENSIONAL REQUIREMENTS:	REQUIRED	PROVIDED
LOT AREA (MIN.)	40,000 SQ. FT.	65,397 SQ. FT.
LOT WIDTH	75 FEET	281± FEET
LOT DEPTH	100 FEET	250± FEET
FRONT YARD	25 FEET	79'-1"
SIDE YARD	20 FEET	15'-4"
REAR YARD	30 FEET	91'-8"
BLDG. LOT COVERAGE (MAX.)	25%	16.1%
IMPERVIOUS COVERAGE (MAX.)	45%	48.5% (EXISTING)
IMPERVIOUS COVERAGE (MAX.)	45%	45.8% (PROPOSED)
BUILDING HEIGHT (MAX.)	35 FEET	<35 FEET
BUILDING STORIES (MAX.)	2 STORY	2 STORY

- NOTES:**
- THIS IS NOT A SURVEY BOUNDARY PLAN, REFER TO SURVEY PREPARED BY STATE LINE LAND SURVEYING IN THIS PLAN SET.
  - THE PARCEL IS SITUATED IN ZONE X PER FEMAP MAP NUMBER 44007C0336H, EFFECTIVE 9/18/2013.
  - THE SUBJECT PARCEL IS SITUATED IN SOIL CATEGORY 'CB' CANTON URBAN AND 'PD' PAXTON URBAN. BOTH SOILS TYPICALLY HAVE SEASONAL HIGH GROUNDWATER TABLES 6 FEET AND GREATER AND DEPTH TO BEDROCK 5 FEET AND GREATER AS INDICATED IN THE SOIL SURVEY OF RHODE ISLAND.
  - THERE ARE NO WETLANDS WITHIN 200 FEET OF SUBJECT PARCEL. REFER TO LETTER DATED OCTOBER 3, 2024 PREPARED BY AVIZINIS ENVIRONMENTAL SERVICES, INC.
  - TEMPORARY BENCHMARKS:  
 TBM#1 NAIL SET AT BASE OF POLE 9012 ELEV. 122.42'  
 TBM#2 NAIL SET AT BASE OF LARGE EVERGREEN TREE ELEV. 114.29'
  - ALL UTILITY LOCATIONS ARE APPROXIMATE BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CONTACT DIGSAFE PRIOR TO CONSTRUCTION AND SHALL LOCATE UTILITIES PRIOR TO CONSTRUCTION.
  - ELEVATIONS ARE BASED ON NAVD 88 AND TAKEN FROM NOAA LIDAR 2022 SERIES.

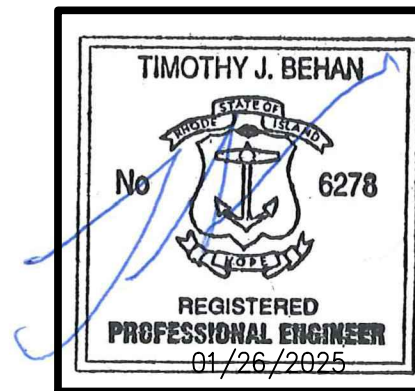
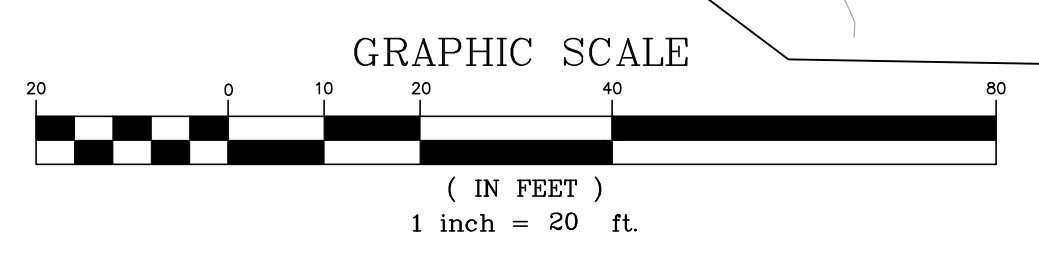
**OWNER/APPLICANT**  
 TOUCHDOWN REALTY GROUP, LLC  
 167 N QUIDNESSSETT ROAD  
 NORTH KINGSTOWN, RI 02852

**CONTACT:**  
 TOM & KELLY CLAYTON  
 PHONE: 703-597-1611  
 EMAIL: CONTACT@TOUCHDOWNREALTYGROUP.COM

**LEGEND**

LOT LINE	---
ABUTTER LINE	---
EXISTING CONTOUR	~ ~ ~
TEST HOLE	⊙
STONEWALL	⊓
PROPOSED CONTOUR	⊓
PROPOSED SPOT GRADE	x99.50
DRAIN LINE	D
WATER LINE	W
ELECTRIC LINE	E
WETLAND EDGE	—
50' PERIMETER WETLAND STREAM	—
100' RIVERBANK WETLAND	—
100-YEAR FLOOD PLAIN	—
EASEMENT LINE	---
BUILDING SETBACK LINE	---
COMPOST FILTER SOCK & LIMIT OF DISTURBANCE	---
RETAINING WALL	---

APPROX.	APPROXIMATE
ASSF	AREA SUBJECT TO STORM FLOW
B.S.	BASEMENT SLAB
B.H.	BULK HEAD
BFP	BACK FLOW PREVENTER
CO	CLEAN OUT
CB	CATCH BASIN
EL./ELEV.	ELEVATION
EX.	EXISTING
F.F.	FINAL FLOOR
GAL.	GALLON
G.S.	GARAGE SLAB
GSF	GEOTEXTILE SAND FILTER
MAX.	MAXIMUM
MIN.	MINIMUM
PRO.	PROPOSED
T.O.F.	TOP OF FOUNDATION
W.O.	WALKOUT



**REVISIONS**

No.	DATE	DRWN	CHKD

**PERMIT AGENCY REVIEW PLAN**  
 FOR  
 "100 WAMPANOAG TRAIL"  
 ON  
 MAP 408, BLOCK 10 PARCEL 24  
 WAMPANOAG TRAIL  
 EAST PROVIDENCE, RHODE ISLAND  
**PROPOSED PLAN**

SCALE: AS SHOWN	SHEET NO: 2 OF 6
DRAWN BY: TJB	DESIGN BY: TJB
DATE: JANUARY 26, 2025	CHECKED BY: TJB
PROJECT NO: 24092.00	