
TRAFFIC IMPACT STUDY:

For The Proposed:

Wendy's Fast-Food Restaurant & Starbucks Coffee Shop

Located At:

5 Arlington Street (Route 113)
Dracut, Massachusetts 01826

Prepared For:

Twin Coast Properties, LLC.

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Project Number: 22203701

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TABLE OF CONTENTS

INTRODUCTION	2
PROJECT DESCRIPTION.....	2
STUDY AREA	2
AREA ROADWAY NETWORK.....	2
EXISTING TRAFFIC.....	3
NO BUILD TRAFFIC	4
PROPOSED REDEVELOPMENT.....	4
CAPACITY ANALYSIS.....	6
INTERNAL CIRCULATION.....	9
SAFETY ANALYSIS.....	9
ALTERNATIVE TRANSPORTATION	10
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	11

LIST OF APPENDICES

APPENDIX A:

FIGURES

Site Location Map (Figure 1)
2024 Existing Traffic Volumes (Figure 2)
2024 Existing Bicycle Volumes (Figure 2b)
2024 Existing Pedestrian Volumes (Figure 2c)
Trip Distribution (Figure 3)
Pass-By Distribution (Figure 3b)
Trip Assignment (Figure 4)
Pass-By Trips (Figure 5)
2031 No-Build Traffic Volumes (Figure 6)
2031 Build Traffic Volumes (Figure 7)
Intersection Sight Distance (ISD-1)
Stopping Sight Distance (SSD-1)
Site Layout Plan (Sheet 2.11)

APPENDIX B:

TRAFFIC ANALYSIS DATA

Peak Hour Trip Generation Summary
Daily Trip Generation Summary
ITE Trip Generation Rate Sheets
ITE Pass-By Rate Sheets
MassDOT Weekday Seasonal Factors
Accident Analysis Summary 2019-2022
MassDOT Crash Rate Worksheets 2019-2022
Accident Analysis Summary 2022-2025
MassDOT Crash Rate Worksheets 2022-2025

APPENDIX C:

CAPACITY ANALYSIS WORKSHEETS

Study Area Capacity Analysis Summary
2024 Existing Traffic Condition
2031 No Build Traffic Condition
2031 Build Traffic Condition

APPENDIX D:

RAW TRAFFIC DATA

Turning Movement Count Data

PROJECT KEY FACTS SUMMARY SHEET

This summary sheet is provided as a reference to the various key pieces of information used throughout this report for the proposed project. This sheet is intended to be used as a guide for the reader although the full methodologies used in the analysis are included in the text of this report.

APPLICANT: Twin Coast Properties, LLC

PROJECT SITE SIZE: 5 Arlington Street & 1327 Bridge Street, ±1.65 acres

PROJECT SIZE & TYPE: Commercial redevelopment of two abutting properties into a 2,410± square-foot coffee shop with a drive-through and a 2,245± square-foot Wendy's fast-food restaurant with a drive-through.

ESTIMATED YEAR OF COMPLETION: 2031

BACKGROUND TRAFFIC GROWTH: 1.0 percent per year

PEAK HOURS ANALYZED: Weekday AM Peak Hour, Weekday PM Peak Hour, Saturday Midday Peak Hour

TRAFFIC DATA COLLECTION PERIOD: October 2024 & November 2024

STUDY AREA INTERSECTIONS:

Arlington Street/Pleasant Street (Route 113) at Bridge Street (Route 38)

Aiken Avenue at Bridge Street (Route 38)

Arlington Street (Route 113) at Site Driveway Enter-Only

Arlington Street (Route 113) at Site Driveway Exit-Only

ANTICIPATED NET NEW NETWORK TRIP GENERATION:

Weekday AM Peak Hour – 51 Trips (26 entering, 25 exiting)

Weekday PM Peak Hour – 24 Trips (12 entering, 12 exiting)

Saturday Midday Peak Hour – 52 Trips (26 entering, 26 exiting)

CAPACITY ANALYSIS:

Methodology – HCM 2000

Software - Trafficware Synchro, Version 11

POSTED SPEED LIMIT:

Bridge Street: 30mph

Aiken Avenue: No posted speed limit (Assumed 25mph)

Pleasant Street (Route 113): 25mph / 35mph

Arlington Street (Route 113): 25mph

ACCIDENT ANALYSIS YEARS: January 2019 through December 2024

EXECUTIVE SUMMARY

Solli Engineering prepared this Traffic Impact Study to identify the potential impacts of the proposed redevelopment to be located at 5 Arlington Street (Route 113) & 1327 Bridge Street (Route 38) in Dracut, Massachusetts. The following summarizes our investigation of the proposed traffic on the area roadway network.

The proposed project site consists of two abutting parcels totaling 1.65± acres of developed land located within the R-3 Residential District with the property of 5 Arlington being part of the Dracut Center Neighborhood Overlay District of the Town of Dracut, Massachusetts. The properties are currently improved, with a Wendy's fast-food restaurant at 5 Arlington Street and an abandoned residential dwelling at 1327 Bridge Street. The property is a corner parcel bound by Arlington Street (Route 113) to the north, commercial property located in the Dracut Center Neighborhood Overlay District to the east, residential property to the south, and Bridge Street (Route 38) to the west. The subject parcels are proposed to be redeveloped with a 2,410± square-foot coffee shop with a drive-through and a 2,245± square-foot Wendy's fast-food restaurant with a drive-through. Four (4) key intersections along the area roadway network including the proposed site driveway, were analyzed to evaluate the potential impacts of the proposed redevelopment and identify any improvements which may be necessary to mitigate the traffic associated with the proposed redevelopment.

It is the professional opinion of Solli Engineering that the proposed redevelopment can be accommodated on the roadway network and will not have an adverse impact on the traffic operating conditions in the study area.

INTRODUCTION

Solli Engineering has prepared this study to provide an evaluation of the potential traffic impacts associated with the proposed redevelopment located at 5 Arlington Street (Route 113) & 1327 Bridge Street (Route 38) in Dracut, Massachusetts. The evaluation has been completed in accordance with the Town of Dracut requirements as well as standard traffic engineering methodology. The investigation indicated that the proposed redevelopment will not have an adverse impact on the traffic operations of the area roadway network.

PROJECT DESCRIPTION

The “Project Site” (Site), located at the corner of Arlington Street (Route 113) and Bridge Street (Route 38), consists of two abutting parcels totaling 1.65± acres of developed land located within the R-3 Residential District with the property of 5 Arlington being part of the Dracut Center Neighborhood Overlay District of the Town of Dracut, Massachusetts. The site is bound by Arlington Street (Route 113) to the north, commercial property located in the Dracut Center Neighborhood Overlay District to the east, residential property to the south, and Bridge Street (Route 38) to the west. The properties are currently improved, with a Wendy’s fast-food restaurant at 5 Arlington Street and an abandoned residential dwelling at 1327 Bridge Street. For more information regarding the existing site location and site access refer to Appendix A, Figure 1 - Site Location.

Based on the Site Layout Plan, Sheet 2.11, the project proposes the construction of a 2,410± square-foot coffee shop with a drive-through and a 2,245± square-foot Wendy’s fast-food restaurant with a drive-through.

STUDY AREA

The following study area intersections were analyzed for this study:

1. Arlington Street/Pleasant Street (Route 113) at Bridge Street (Route 38)
2. Aiken Avenue at Bridge Street (Route 38)
3. Arlington Street (Route 113) at Site Driveway Enter-Only
4. Arlington Street (Route 113) at Site Driveway Exit-Only

AREA ROADWAY NETWORK

Existing Roadway Conditions

This section identifies the study area and roadway descriptions.

Arlington Street (Route 113) is an east-west roadway located north of the site with a posted speed limit of 25 miles per hour throughout the review area and an 85th percentile speed of 34 miles per hour eastbound and 33 miles per hour westbound. The portion of Arlington Street (Route 113) under review is classified as a minor arterial by the Massachusetts Department of Transportation and is under the jurisdiction of the Town of Dracut. Arlington Street (Route 113) is a 24-foot-wide, two-lane bi-directional roadway that widens to 40 feet to accommodate an exclusive left turn lane at its intersection with Bridge Street (Route 38). Arlington Street (Route 113) provides access to residential and commercial uses along the corridor. The roadway is relatively flat throughout the section and at the assessed intersection. There is a sidewalk with no setback along the property’s frontage. Route 113 is named Arlington Street to the east of Bridge Street (Route 38) and is named Pleasant Street to the west.

Bridge Street (Route 38) is a north-south roadway located west of the proposed site with a posted speed limit of 30 miles per hour and an 85th percentile speed of 31 miles per hour northbound and southbound. The portion of Bridge Street (Route 38) under review is classified as a principal arterial by the Massachusetts Department of Transportation and is under the jurisdiction of the Town of Dracut. Bridge Street (Route 38) is a 26-foot-wide, two-lane bi-directional roadway that widens to 40 feet to accommodate an exclusive left turn lane at its intersection with Arlington Street (Route 113). Bridge Street (Route 38) provides access to residential and commercial uses along the corridor. The roadway is relatively flat throughout the section and at the assessed intersection. There is a sidewalk with no setback along the property's frontage.

Aiken Avenue is an east-west roadway located west of the proposed site with no posted speed limit. Aiken Avenue is a two-lane bi-directional roadway approximately 30 feet in pavement width which intersects with Bridge Street (Route 38) directly across from the project site.

Existing Intersection Conditions

Arlington Street/Pleasant Street (Route 113) at Bridge Street is a signalized intersection with four approaches. The Pleasant Street (Route 113) eastbound approach consists of an exclusive left-turn lane and a shared through/right-turn lane. The Arlington Street (Route 113) westbound approach consists of an exclusive left-turn lane and a shared through/right-turn lane. The Bridge Street (Route 38) northbound approach consists of an exclusive left-turn lane and a shared through/right-turn lane. The Bridge Street (Route 38) southbound approach consists of an exclusive left-turn lane and a shared through/right-turn lane.

Aiken Avenue at Bridge Street (Route 38) is an unsignalized intersection with three approaches. The Aiken Avenue eastbound approach is stop-controlled and consists of a shared left-turn/right-turn lane. The Bridge Street (Route 38) northbound approach consists of a shared left-turn/through lane. However, the two lanes from the intersection of Arlington Street/Pleasant Street (Route 113) and Bridge Street (Route 38) extend through the intersection of Aiken Avenue at Bridge Street (Route 38).

Arlington Street (Route 113) at Site Driveway Enter is an unsignalized intersection with two approaches. The Site Driveway entrance is a one-way drive that can be accessed from the eastbound and westbound approaches of Arlington Street (Route 113). Both approaches consist of a singular through lane. However, the left turn on Arlington Street at the intersection of Bridge Street extends past the Site Driveway.

Arlington Street (Route 113) at Site Driveway Exit is an unsignalized intersection with three approaches. The eastbound approach on Arlington Street (Route 113) consists of a singular through lane. However, the left turn on Arlington Street at the intersection of Bridge Street extends past the Site Driveway. The westbound approach on Arlington Street (Route 113) consists of a singular through lane. The northbound Site Driveway Exit approach consists of an exclusive left-turn lane and an exclusive right-turn lane.

EXISTING TRAFFIC

The peak hours selected for analysis are the weekday commuter AM, weekday commuter PM, and Saturday (SAT) midday peak periods. The combination of site traffic and adjacent through traffic produces the greatest demand during these time periods.

Turning movement counts were collected in October 2024 and November 2024 at the study area intersections during the weekday AM, weekday PM, and Saturday midday peak hours by National Data & Surveying Services (NDS). The 2024 existing traffic volume data for the weekday AM, weekday PM, and Saturday midday peak hours are illustrated in Figure 2, included in Appendix A of this study. Multimodal trips, including pedestrian and bicycle trips, were also collected by NDS at the study area intersections. Minimal bicycle and pedestrian movements were observed during the study. Based on the proposed use, location, and facilities in the area, the proposed development is not anticipated to generate a significant

number of bicycle and pedestrian trips. The 2024 existing bicycle volumes and the 2024 existing pedestrian volumes collected during the peak hours are illustrated in Figure 2b and Figure 2c, included in Appendix A of this study. A copy of the raw turning movement data is included in Appendix D of this study.

The Massachusetts Highway Department publishes yearly statewide traffic collection weekday seasonal adjustment factors for each month by roadway classification type. According to the chart published in 2023, the seasonal adjustment factor for an urban minor arterial roadway is 0.88 in October and 0.91 in November; therefore a seasonal adjustment factor was not applied, resulting in a conservative analysis. The 2023 MassDOT weekday seasonal adjustment factors chart is included in Appendix B of this study.

NO BUILD TRAFFIC

Background traffic growth is estimated to account for the traffic increase as a result of regional population and economic growth in the study area, in addition to anticipated traffic generated by other proposed developments recently permitted and/or under construction. The Northern Middlesex Council of Governments (NMCOG) was contacted to determine the appropriate growth rates to project traffic to the plan year. NMCOG published a Regional Traffic Volume Report in 2021 that includes growth rates from 2010 to 2021 for several communities in the region, including Dracut. According to the published data, traffic volumes increased by 12 percent over the ten-year study period, representing an average growth rate of approximately 1% per year. Based on the study data published by NMCOG, the 2024 existing traffic volumes illustrated in Figure 2 were grown 1.0 percent per year to establish the 2031 traffic volumes. The 2031 no-build traffic volumes are illustrated in Figure 6.

The Town of Dracut was contacted to identify any ongoing or proposed projects within the study area that may impact the analysis. No projects were identified within the study area which may result in an impact on the existing traffic conditions.

PROPOSED REDEVELOPMENT

The subject parcel is proposed to be redeveloped with a 2,410± square-foot coffee shop with a drive-through and a 2,245± square-foot Wendy's fast-food restaurant with a drive-through. The redevelopment will also include parking, stormwater management measures, utility infrastructure, and landscaping improvements. The site is proposed to be accessed via the existing stop-controlled, exit-only driveway on Arlington Street (Route 113), which will be widened to accommodate vehicles entering and exiting the site. The existing enter-only driveway on Arlington Street (Route 113) will be closed off. Painted traffic arrows, stop bars, crosswalks, and traffic signage are proposed throughout the site to improve traffic flow and vehicular safety. Additional details of the proposed site configuration are depicted on the Site Layout Plan, Sheet 2.11, included in Appendix A of this study.

Intersection sight distance (ISD) at the existing site driveway was reviewed and evaluated per guidance provided in the 2018 edition of the AASHTO Policy on Geometric Design of Highways and Streets. A design speed of 35 miles per hour was selected based on the 85th percentile speed of 34 miles per hour along Arlington Street (Route 113). Based on a design speed of 35 miles per hour, a minimum ISD of 335 feet looking left is required for passenger vehicles turning right onto Arlington Street from the Site Driveway, and a minimum ISD of 390 feet looking right is required for passenger vehicles turning left onto Arlington Street from the Site Driveway. The Town of Dracut Zoning By-Laws require a minimum of 400 feet of sight visibility in both directions at exits to parking areas that have 20 or more parking spaces. The intersection sight distance looking left and right from the proposed unsignalized driveway on Arlington Street (Route 113) is more than the minimum required sight distance of 400 feet. No obstructions to sight distance exist on the property frontage. For more information regarding the intersection sight distance, refer to the Intersection Sight Distance Figure, Sheet ISD-1, included in Appendix A of this study.

Stopping sight distance (SSD) along the roadways adjacent to the Site was reviewed and evaluated per guidance provided in the 2018 edition of the AASHTO Policy on Geometric Design of Highways and Streets. A design speed of 35 miles per hour was selected based on the 85th percentile speed of 34 miles per hour along Arlington Street (Route 113). Based on a design speed of 35 miles per hour for vehicles traveling along Arlington Street (Route 113) a minimum SSD of 246 feet is required for passenger vehicles traveling towards the Site Driveway in the eastbound and westbound direction. All required stopping sight distances are met and exceeded, and no obstructions to sight distance exist. For more information regarding the stopping sight distance, refer to the Stopping Sight Distance Figure, Sheet SSD-1, included in Appendix A of this study.

The anticipated number of trips that will be generated by the proposed development was estimated using data from the ITE Trip Generation Handbook, 11th Edition. The trip generation was calculated for the weekday AM, weekday PM, and Saturday midday peak hours based on the Coffee Shop with Drive-Through Window (LUC 937) land use, as these are the peak periods with the greatest potential to impact the adjacent roadway network. A “pass-by” credit was applied to the proposed trip generation. Pass-by trips are associated with vehicles that are already on the adjacent roadway network and will patronize the development and continue along their route. The ITE Trip Generation Handbook provides guidelines for pass-by/diverted trip rates based on empirical data. ITE does not have a pass-by rate for LUC 937 Coffee Shop with Drive-Through Window however, it does have a pass-by rate for LUC 938 Coffee Shop with Drive-Through Window and No Indoor Seating. The average pass-by/diverted trip rate for LUC 938 is 90% during the weekday AM peak hour and 98% during the weekday PM peak hour. A seventy-five percent (75%) pass-by credit was applied to the trips generated by the LUC 937, Coffee Shop with Drive-Through Window to provide a conservative analysis. The ITE pass-by rate sheets are provided in Appendix B of this study. The 2024 existing traffic volume counts collected by NDS include trips to the existing 3,150± square-foot Wendy’s Fast-Food Restaurant. Therefore, an ITE Trip Generation credit for the proposed 2,245± square-foot Wendy’s Fast-Food Restaurant was not applied to this assessment. Although the proposed Wendy’s is approximately 905± square feet smaller than the existing Wendy’s, existing trips to and from the site were not reduced.

The proposed development is expected to generate 51 (26 entering, 25 exiting) net new trips during the weekday AM peak hour, 24 (12 entering, 12 exiting) net new trips during the weekday PM peak hour, and 52 (26 entering, 26 exiting) net new trips during the Saturday midday peak. The ITE trip generation rate sheets and detailed trip generation worksheet are provided in Appendix B of this study. Table 1 below summarizes the anticipated trips to be generated by the proposed development during the weekday AM, weekday PM, and Saturday midday peak hours.

TABLE 1 TRIP GENERATION SUMMARY									
LAND USE	AM PEAK HOUR			PM PEAK HOUR			SAT PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
Coffee Shop w/ Drive-Through Window (LUC 937) 2,410± SF	106	101	107	47	47	94	106	106	212
Total New Trips	106	101	107	47	47	94	106	106	212
<i>75% Pass-By</i>	<i>80</i>	<i>76</i>	<i>156</i>	<i>35</i>	<i>35</i>	<i>70</i>	<i>80</i>	<i>80</i>	<i>160</i>
Net New Trips	26	25	51	12	12	24	26	26	52

The anticipated distribution of new traffic entering and exiting the site was developed based on area populations, existing new traffic patterns, and the layout of the adjacent roadway network. The following distributions were applied to the new site-generated trips:

- 30% to/from the east via Arlington Street (Route 113)
- 25% to/from the west via Arlington Street (Route 113)
- 20% to/from the north via Bridge Street (Route 38)
- 20% to/from the south via Bridge Street (Route 38)
- 5% to/from the southwest via Aiken Avenue

The anticipated percent distribution of the new site-generated trips is illustrated in Figure 3. The new site-generated trips were assigned to the intersections based on the anticipated percent distributions illustrated in Figure 3 and the resulting trip assignment is illustrated in Figure 4.

The site-generated pass-by trips were assigned to the site driveway intersection based on the anticipated pass-by distributions illustrated in Figure 3b and the resulting pass-by trips are illustrated in Figure 5. The trip assignment volumes illustrated in Figure 4 were combined with the pass-by trips illustrated in Figure 5 and the 2031 no-build traffic volumes illustrated in Figure 6. The resulting 2031 build traffic volumes are illustrated in Figure 7, located in Appendix A of this study.

CAPACITY ANALYSIS

To determine the impacts of the increase in traffic volumes on the operating conditions of the study area intersections, the network was analyzed using the Synchro 11 capacity analysis software for the conditions during the weekday AM, weekday PM, and Saturday midday peak hours, as these are the periods which have the greatest potential for impact by the proposed development.

The results of the Synchro analysis describe the traffic impact in terms of Level of Service (LOS). LOS describes the operational condition of the signalized intersection in terms of delay (in seconds per vehicle) and is expressed on a scale of A through F with LOS A being the best and LOS F being the worst. LOS A reflects intersection operations with little to no vehicle delay (less than 10 seconds per vehicle) and LOS F reflects intersection conditions that are over capacity and experience long delays (more than 80 seconds per vehicle at signalized intersections and more than 50 seconds of delay per vehicle at unsignalized intersections). At unsignalized intersections, only the delay on the stop-controlled approach is reported.

To determine if the proposed redevelopment will result in an impact on traffic conditions, the existing roadway network was first analyzed to determine the operating conditions of each study area intersection during the 2024 existing conditions. The no-build conditions were analyzed to determine the operating conditions that would exist in 2031 without the proposed redevelopment but with the background growth rate applied. The 2031 build condition was then analyzed to determine the operating conditions that would exist if the proposed redevelopment were constructed in addition to the background growth rate applied. The results of the no-build conditions analysis were compared to the build condition to determine any significant changes to the operating conditions of the area roadway network. Table 2 below summarizes the results of the analysis for the 2024 existing, 2031 no-build, and 2031 build scenarios. Capacity analysis tables summarizing 2024 existing, 2031 no-build, and 2031 build analysis data for the weekday AM, weekday PM, and midday Saturday peak hours are provided in Appendix C of this study. Copies of the Synchro analysis reports are provided in Appendix C of this study.

It shall be noted that during field observations, the signal at Pleasant Street/Arlington Street (Route 113) and Bridge Street was observed to be running on free operation for all peak hours.

TABLE 2
PEAK HOUR LEVEL OF SERVICE SUMMARY
LOS (DELAY)
AM / PM / SAT

INTERSECTION	2024 Existing	2031 No-Build	2031 Build
Pleasant Street/Arlington Street (Route 113) and Bridge Street (Route 38)	C(23.1) / D(35.6) / C(29.2)	C(23.4) / D(44.3) / D(35.3)	C(23.8) / D(45.1) / D(36.6)
Pleasant Street – Eastbound	C(24.5) / C(27.8) / C(30.1)	C(24.8) / C(32.6) / D(35.6)	C(25.5) / C(33.2) / D(37.3)
Arlington Street – Westbound	B(14.5) / B(16.1) / B(14.3)	B(13.9) / B(18.9) / B(14.7)	B(14.2) / B(19.5) / B(15.1)
Bridge Street – Northbound	C(30.0) / E(66.4) / D(42.9)	C(29.0) / F(87.9) / E(57.3)	C(29.7) / F(90.2) / E(59.9)
Bridge Street – Southbound	C(28.3) / D(36.1) / C(32.8)	C(29.5) / D(42.4) / D(36.1)	C(29.6) / D(42.7) / D(36.9)
Aiken Avenue and Bridge Street (Route 38)*	-	-	-
Aiken Avenue – Eastbound	B(12.4) / D(33.7) / C(24.7)	B(12.8) / E(41.2) / D(28.3)	B(13.0) / E(42.7) / D(29.3)
Arlington Street (Route 113) and Site Driveway Exit* ¹	-	-	-
Site Driveway – Northbound	C(25.0) / E(42.7) / C(22.5)	D(25.4) / F(51.1) / C(21.9)	D(28.3) / F(106.3) / E(44.8)

*Unsignalized Intersection, LOS reported for stop-controlled movement. Approaches on arterials are free-flowing

¹Site Driveway Exit becomes Enter/Exit in Build Condition

The capacity analysis evaluated four (4) existing intersections in the 2024 existing and 2031 no-build conditions and evaluated three (3) intersections in the 2031 build condition, including two (2) of the existing intersections and one (1) modified intersection at the site driveway. Level of service information is not available for the existing enter-only site driveway because both approaches are free-flowing. The site driveway is proposed to be closed off. The existing exit-only site driveway is proposed to be widened to accommodate entering and exiting traffic.

Under the 2031 no-build condition, the signalized intersection of Pleasant Street/Arlington Street (Route 113) and Bridge Street (Route 38) will operate at an overall LOS C during the weekday AM peak hour with 23.4 seconds of delay, an overall LOS D during the weekday PM peak hour with 44.3 seconds of delay, and an overall LOS D during the midday Saturday peak hour with 35.3 seconds of delay. Under the 2031 build condition, the signalized intersection of Pleasant Street/Arlington Street (Route 113) and Bridge Street (Route 38) will maintain an overall LOS C with 23.8 seconds of delay during the weekday AM peak hour, an overall LOS D with 45.1 seconds of delay during the weekday PM peak hour, and an overall LOS D with 36.6 seconds of delay during the midday Saturday peak hour.

Under the 2031 build condition, the majority of intersection movements at the three intersections will maintain no-build operating conditions with a few exceptions. At the intersection of Arlington Street (Route 113) and the Site Driveway, the Site Driveway northbound left-turn lane is anticipated to change from a LOS D with 28.8 seconds of delay to a LOS E with 47.4 seconds of delay during the weekday AM peak hour when comparing the no-build and build conditions. The Site Driveway northbound left-turn lane is anticipated to change from a LOS E with 35.6 seconds of delay to a LOS F with 86.8 seconds of delay during the midday Saturday peak hour when comparing the no-build and build conditions. The Site Driveway overall northbound approach is anticipated to change from a LOS C with 21.9 seconds of delay to a LOS E with 44.8 seconds of delay during the midday Saturday peak hour when comparing the no-build and build conditions.

Under the 2031 build condition, a few approaches are anticipated to operate at a Level of Service of E or F. At the signalized intersection of Arlington Street (Route 113) and Bridge Street (Route 38) the Bridge Street northbound approach is expected to operate at a LOS F during the weekday PM peak hour and a LOS E during the midday Saturday peak hour under both the 2031 no-build and 2031 build conditions. At the intersection of Arlington Street (Route 113) and the Site Driveway, the Site Driveway northbound approach is expected to operate at a LOS F during the weekday PM peak hour under the 2031 no-build and 2031 build conditions. The Site Driveway northbound approach is expected to operate at a LOS F during the midday Saturday peak hour under the 2031 build condition.

Under the 2031 build condition traffic turning left out of the stop-controlled Site Driveway on Arlington Street (Route 113) is expected to experience significant delays, while traffic turning right is expected to experience minor delays. The longest queue exiting the Site Driveway is expected to occur during the weekday PM peak hour and is expected to reach 124 feet (approx.. 5 cars) in the left-turn lane and 11 feet in the right-turn lane. Vehicles are anticipated to join the exit queue from the parking lot and the end of both drive-through lanes. The proposed coffee-shop drive-through exit is the closest to the Site Driveway exit with a distance of approximately 170 feet. Therefore, the queue to exit the site will not back up into the drive-through.

The traffic impact analysis and resulting queue lengths did not divert exiting trips from the left-turn lane to the right-turn lane although it is anticipated that a portion of exiting vehicles will make a right-turn out of the driveway to avoid the left-turn lane queue. The surrounding roadway network to the east of the project site provides alternative routes for vehicles to return to Bridge Street (Route 38) to the northwest and southwest of the project site.

The traffic impact analysis indicates that the anticipated increase in traffic volume associated with the proposed development can be accommodated without adverse impact on the operating conditions of the adjacent roadway network. Copies of the Level of Service Capacity analysis tables and Synchro analysis reports are provided in Appendix C of this study.

INTERNAL CIRCULATION

The project proposes to widen the existing exit-only driveway to 36 feet wide to accommodate two-way traffic. The proposed driveway will consist of one 16-foot-wide lane to enter the site and two 10-foot-wide lanes to exit the site. Following local approvals for the project, the driveway will be designed and permitted with MassDOT.

Painted traffic arrows, stop bars, crosswalks, and traffic signage are proposed throughout the site to improve traffic flow and vehicular safety. Additional details of the proposed site configuration are depicted on the Site Layout Plan, Sheet 2.11, included in Appendix A of this study.

SAFETY ANALYSIS

A crash data review was conducted using available accident data from January 2019 through December 2021 from the Massachusetts Department of Transportation Crash Data Portal (MassDOT CDP). MassDOT states on the Crash Data Portal website that crash data for accidents occurring after 2021 are not to be considered up-to-date or complete. Therefore, the most recent three years of completed crash data, from 2019 through 2021, was analyzed. A total of twenty (20) crashes were identified in the area of study during the 2019 through 2021 three-year study period. Five (5) crashes resulted in injury, fourteen (14) crashes resulted in property damage only, and the injury severity of one (1) crash was not reported.

At the signalized intersection of Arlington/Pleasant Street (Route 113) & Bridge Street (Route 38) there was a total of eighteen (18) crashes, consisting of one (1) rear-end crash, three (3) head-on crashes, eight (8) angle crashes, three (3) same-direction sideswipe crashes, one (1) rear to side crash, one (1) single-vehicle crash, and one (1) crash with no reported accident type. At the unsignalized intersection of Aiken Avenue & Bridge Street (Route 38), there were two (2) crashes reported, consisting of one (1) rear-end crash and one (1) angle crash. MassDOT Crash Rate Worksheets were completed for the intersection of Arlington/Pleasant Street (Route 113) & Bridge Street (Route 38) and the intersection of Aiken Avenue & Bridge Street (Route 38). Both intersections were found to have a motor vehicle crash rate below MassDOT district averages.

Additional crash data from the MassDOT Crash Data Portal (MassDOT CDP) was reviewed in the study area from January 2022 through December 2024. Crash data from this period is subject to change and should not be considered complete, according to a statement on the MassDOT Crash Data Portal website. A total of thirty-six (36) crashes were identified in the area of study from 2022 through 2024. Six (6) crashes resulted in injury and thirty (30) crashes resulted in property damage only.

The MassDOT Crash Data Portal provides a map of the location of each crash based on the reported intersection or street address. Three crash locations were identified in the study area, including the unsignalized intersection of Aiken Avenue at Bridge Street (Route 38), the signalized intersection of Arlington/Pleasant Street (Route 113) at Bridge Street (Route 38), and Arlington Street (Route 113) at 5 Arlington Street (Existing Site Driveways). Crash data places four (4) crashes at the unsignalized intersection of Aiken Avenue and Bridge Street (Route 38), consisting of three (3) angle crashes and one (1) opposite-direction sideswipe crash. Crash data places twenty-two (22) crashes at the signalized intersection of Arlington/Pleasant Street (Route 113) and Bridge Street (Route 38), consisting of four (4) head-on crashes, eight (8) rear-end crashes, seven (7) angle crashes, two (2) same-direction sideswipe crashes, and one (1) opposite-direction sideswipe crash. Crash data places Ten (10) crashes at 5 Arlington Street consisting of one (1) head-on crash, five (5) rear-end crashes, and four (4) angle crashes. The proximity of 5 Arlington Street to the Bridge Street intersection complicates the process of attributing crashes to a specific location or intersection. Crashes on Arlington Street adjacent to 5 Arlington Street may have been caused by traffic from the Bridge Street signalized intersection, and crashes attributed to the Bridge Street signalized intersection may have been impacted by the existing Site Driveways at 5 Arlington

Street. To avoid underrepresenting the number of crashes at the signalized intersection of Arlington/Pleasant Street and Bridge Street, all crashes attributed to 5 Arlington Street were added to the signalized intersection when calculating the crash rate. MassDOT Crash Rate Worksheets were completed for the study area intersections for the years 2022 through 2024. The unsignalized intersection of Aiken Avenue and Bridge Street has a crash rate of 0.25, lower than the District 4 average rate of 0.57 at unsignalized intersections. When including crashes attributed to 5 Arlington Street, the signalized intersection of Arlington/Pleasant Street and Bridge Street has a crash rate of 1.13. This is higher than the District 4 average rate of 0.73 at signalized intersections.

The accidents at Arlington Street/Pleasant Street (Route 113) & Bridge Street (Route 38) are characteristic of signalized intersections, where a significant portion of incidents involve rear-end, collisions resulting from the frequent acceleration and deceleration necessary during signal change intervals. Additionally, the instances of side-swipe collisions can be linked to vehicles changing lanes as they approach intersections, often to avoid turning vehicles. Among the angle collisions at these intersections, many were due to drivers failing to yield the right-of-way. The existing site driveways are proposed to be modified to improve traffic flow and safety. The existing enter-only driveway to the northwest of the site is proposed to be closed off and the existing exit-only driveway to the northeast of the site is proposed to be modified to allow for two-way traffic. The proposed driveway modifications will increase the distance between the signalized intersection and the closest site driveway, reducing conflicts and confusion.

Overall, the safety assessment showed that there are no additional accident patterns or geometric deficiencies identified that would warrant further mitigation. Based on the review of the accident data, the main cause of the accidents was operator error. Summaries of the accident data and copies of the MassDOT Crash Rate Worksheets for 2019 through 2021 and 2022 through 2024 are provided in Appendix B of this study.

ALTERNATIVE TRANSPORTATION

Alternate forms of transportation were also evaluated as part of this study. The Route 10 Dracut/Tyngsboro bus line operates throughout the review area under the authority of the Lowell Regional Transit Authority. The closest bus stop location is located within the review area at the Arlington Street and Bridge Street stop, approximately 150 feet east of the intersection.

Existing infrastructure accommodates pedestrian movements in the study area. Crosswalks are provided across all the approaches at the intersection of Arlington Street/Pleasant Street (Route 113) & Bridge Street (Route 38), with ramps that appear to be ADA-compliant. Pedestrian indications are provided at all crossings. There is an existing sidewalk located along the south side of Pleasant Street (Route 113). There are existing sidewalks located along both sides of Arlington Street (Route 113) however, the sidewalk on the south side ends just outside the review area. There are existing sidewalks located along the west side of the segment of Bridge Street (Route 38) located south of where Bridge Street intersects Pleasant Street/Arlington Street (Route 113) and along both sides of the section of Bridge Street (Route 38) located north of this intersection.

There are no bicycle lanes provided in the study area or in the extended roadway network. The roadway shoulders are not wide enough to accommodate bicycles.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A traffic impact analysis of the study area intersections indicates that the proposed redevelopment can be accommodated without adverse impact on the operating conditions of the study area roadway network; however, there will be an increase in delay for exiting vehicles at the site driveway. The proposed project includes the redevelopment of a 1.65 acre, two-parcel site with an existing 3,150± square-foot Wendy's fast-food restaurant with a drive-through window and residential building. The existing structures are proposed to be demolished and a 2,245± square-foot Wendy's fast-food restaurant with a drive-through window and a 2,410± square-foot coffee shop with a drive-through window is proposed to be constructed on the site. The proposed redevelopment also includes closing off the existing enter-only driveway on Arlington Street (Route 113) and widening the existing stop-controlled, exit-only driveway on Arlington Street (Route 113) to accommodate an entry lane and two exit lanes.

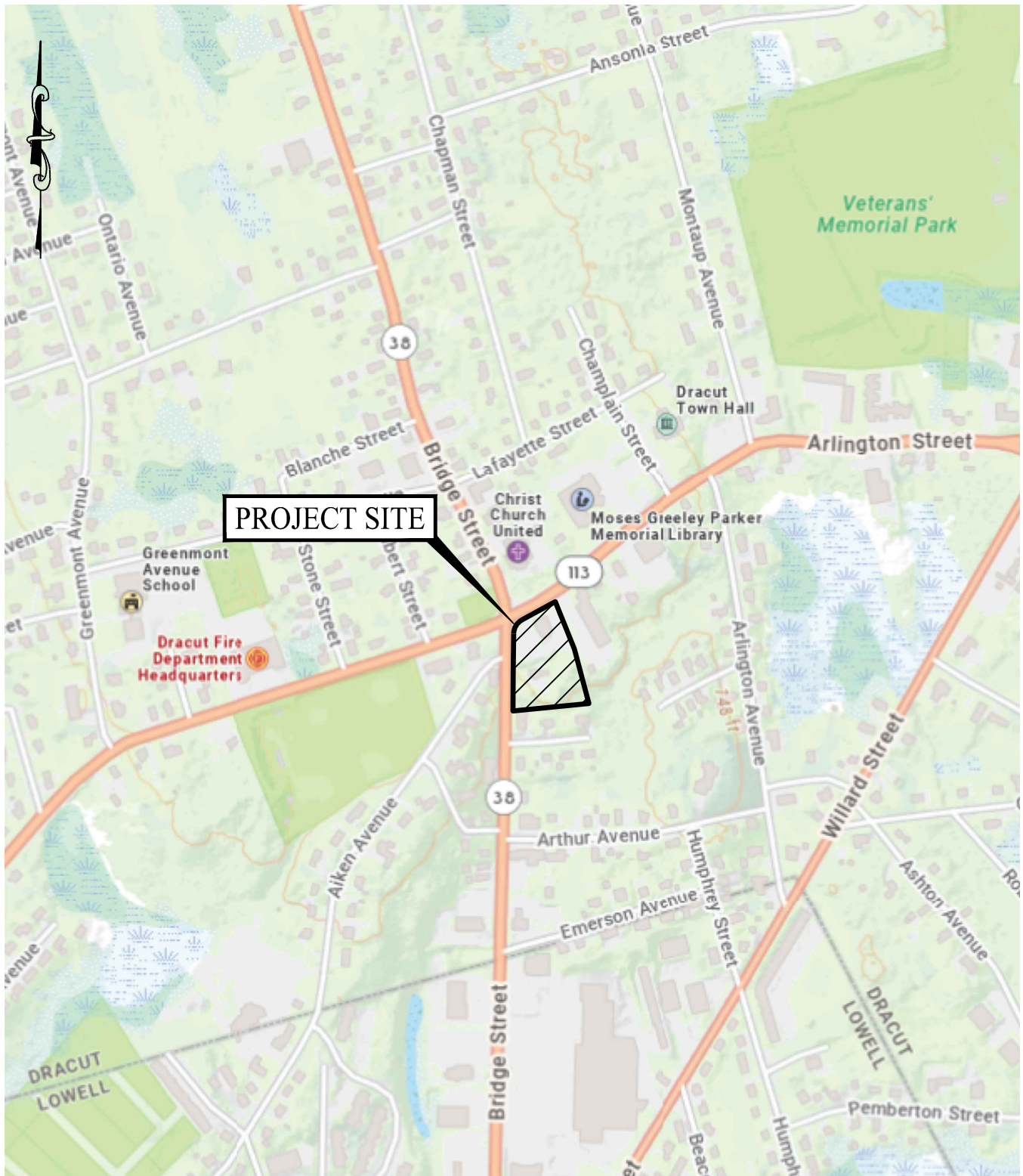
Based on the analysis, a total of 51 net new trips (26 enter, 25 exit) are generated during the weekday AM peak hour, 24 net new trips (12 enter, 12 exit) are generated during the weekday PM peak hour, and 52 net new trips (26 enter, 26 exit) are generated during the midday Saturday peak hour. Under the build condition in the year 2031, the proposed site driveway is expected to operate at a level of service D with 28.3 seconds of delay during the weekday AM peak hour, at a level of service F with 106.3 seconds of delay during the weekday PM peak hour, and at a level of service E during the midday Saturday peak hour.

It is the professional opinion of Solli Engineering that the traffic anticipated to be generated by the proposed redevelopment can be accommodated by the surrounding roadway network. The study area intersections are expected to maintain similar operating conditions when compared to the no-build conditions.

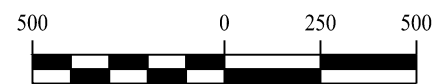


Appendix A

Figures



NOTE: BASE MAP INFORMATION TAKEN FROM
[MAPS.MASSGIS.DIGITAL.MASS.GOV/MASSMAPPER](https://maps.massgis.digital.mass.gov/massmapper)



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SITE LOCATION MAP
 5 ARLINGTON STREET &
 1327 BRIDGE STREET
 DRACUT, MASSACHUSETTS

Project #:	22203701
Plan Date:	06/06/23
Scale:	1" = 500'
Figure:	1



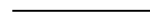
LEGEND



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION



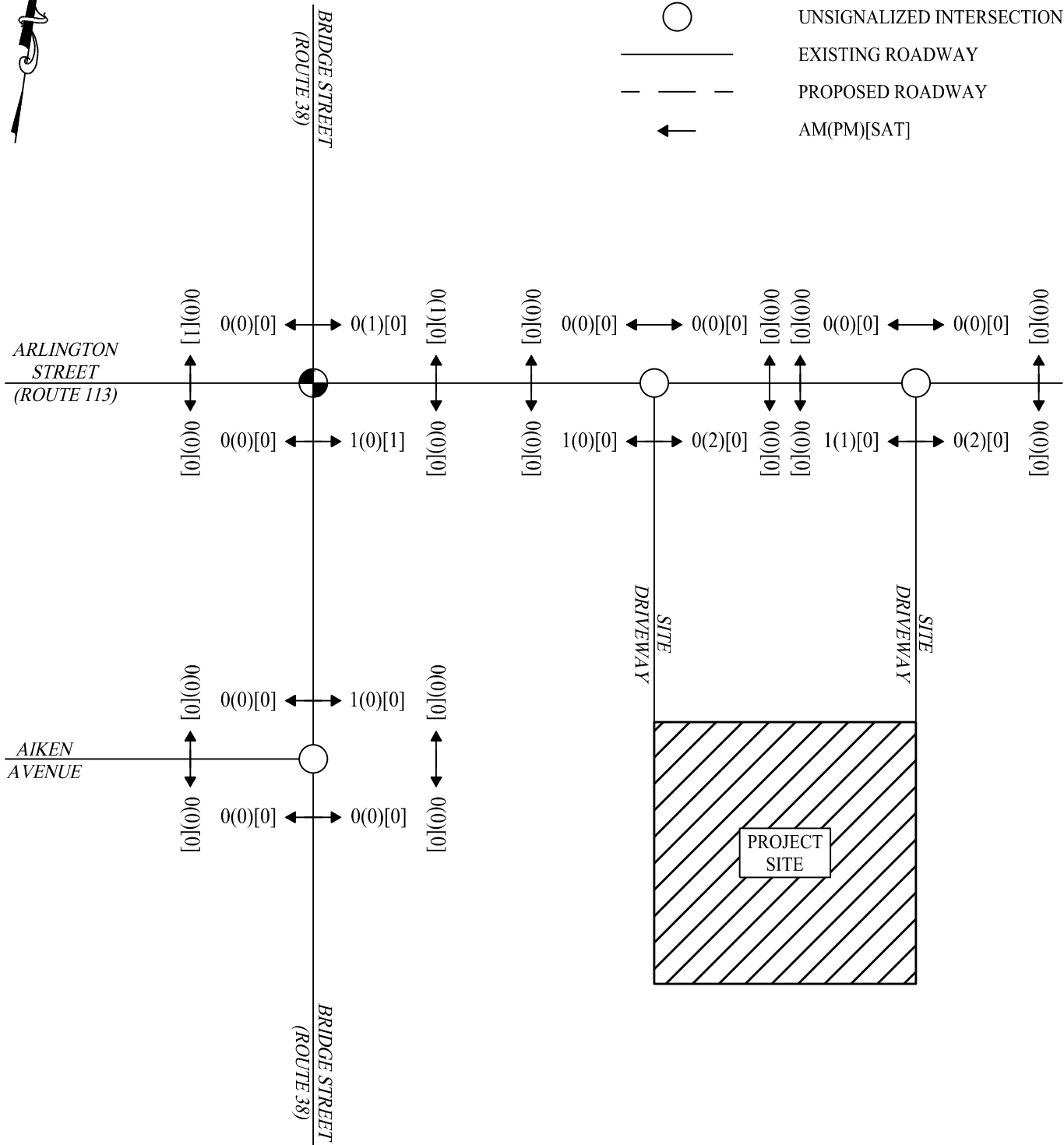
EXISTING ROADWAY



PROPOSED ROADWAY



AM(PM)[SAT]



NOTE: 2024 EXISTING PEDESTRIAN VOLUMES
COLLECTED BY NATIONAL DATA & SURVEYING
SERVICES IN OCTOBER AND NOVEMBER 2024.



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2024 EXISTING PEDESTRIAN VOLUMES

BRIDGE STREET LANDING
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Project #: 22203701

Plan Date: 11/27/24

Scale: NTS

Figure: 2c

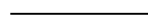
LEGEND



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION



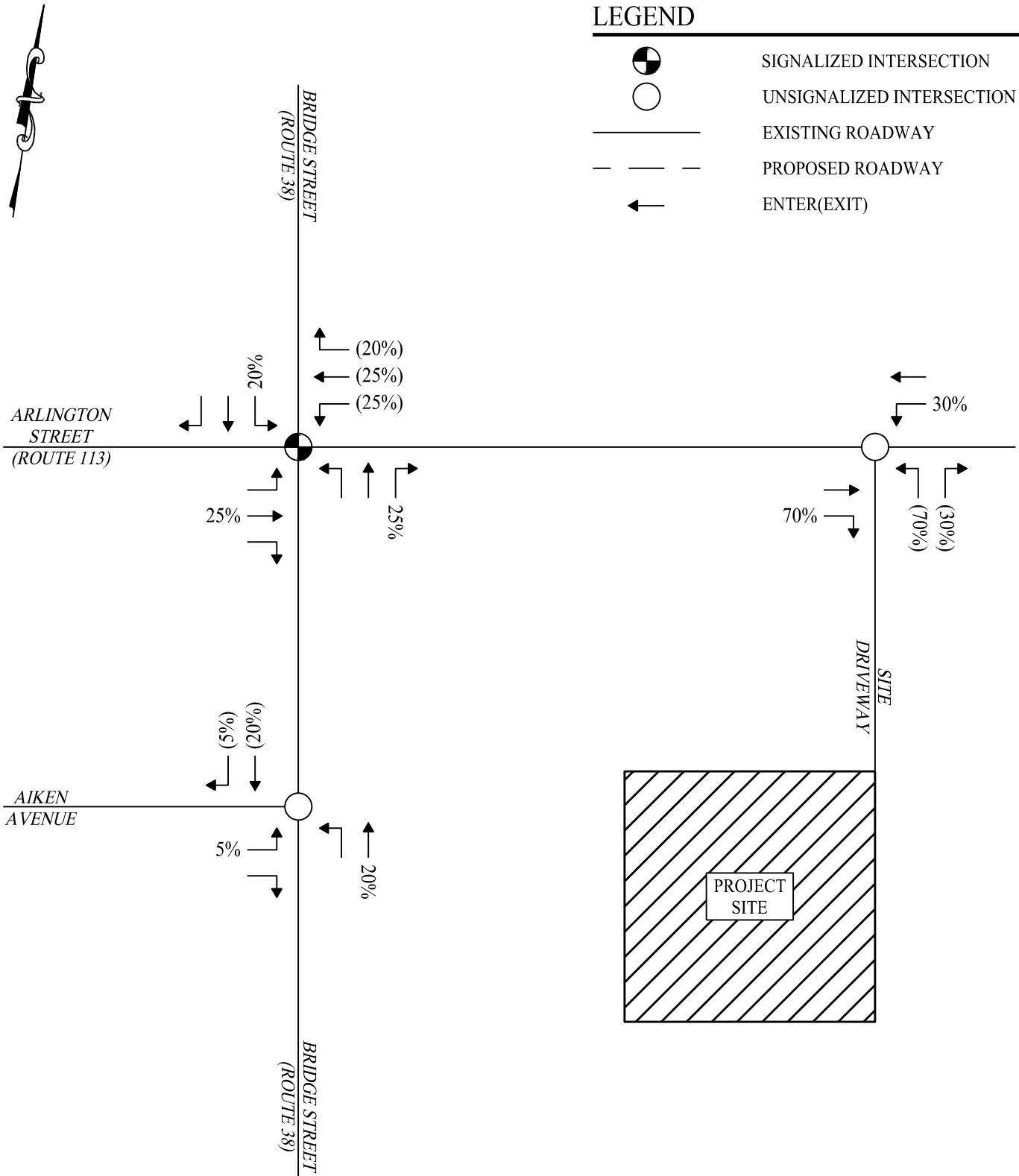
EXISTING ROADWAY



PROPOSED ROADWAY



ENTER(EXIT)



NOTE: TRIP DISTRIBUTION BASED ON EXISTING TRAFFIC ON ADJACENT ROADS.



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TRIP DISTRIBUTION

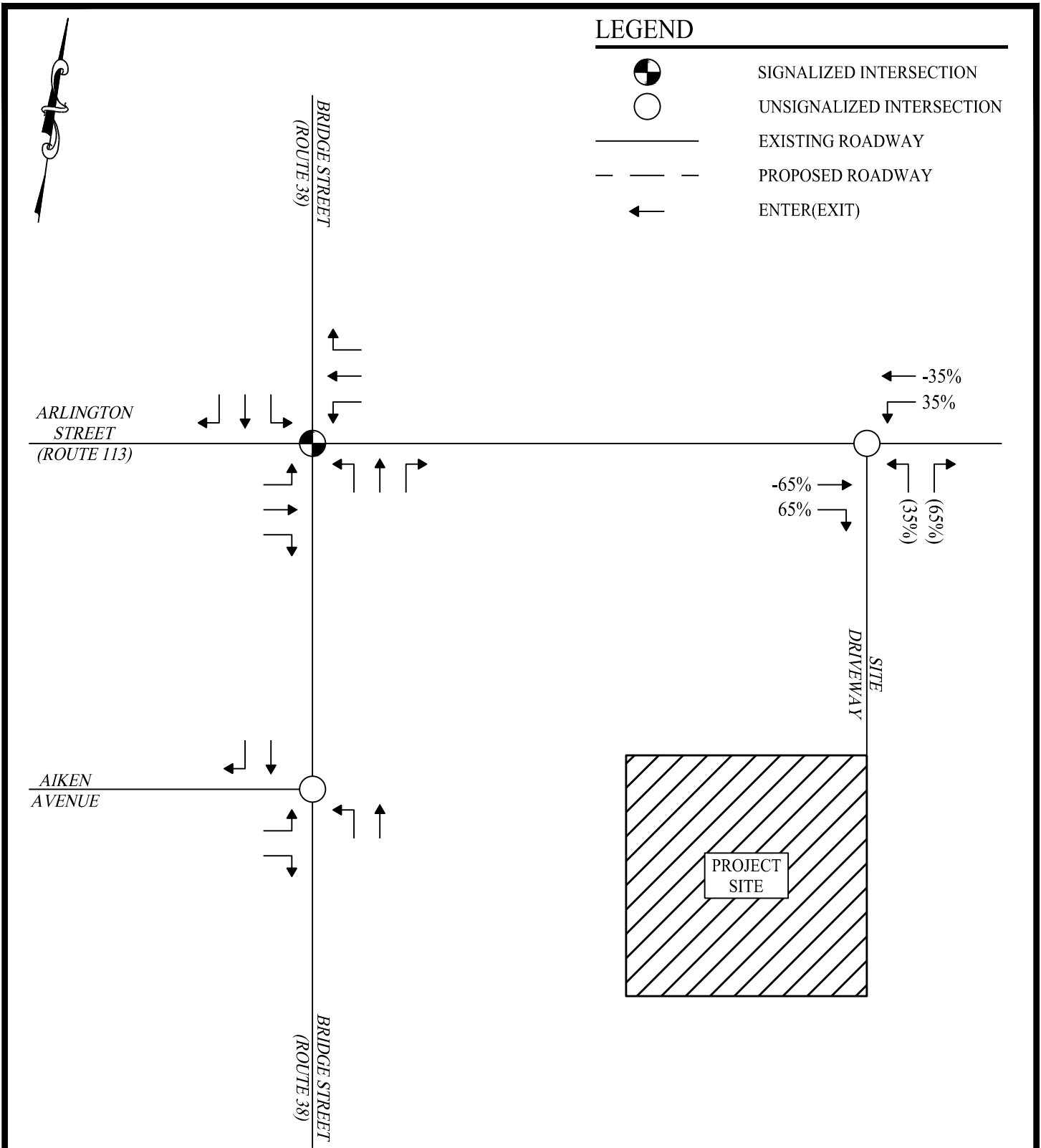
BRIDGE STREET LANDING
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Project #: 22203701

Plan Date: 11/27/24

Scale: NTS

Figure: 3



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PASS-BY DISTRIBUTION

BRIDGE STREET LANDING
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Project #: 22203701

Plan Date: 03/18/25

Scale: NTS

Figure: 3B

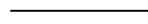
LEGEND



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION



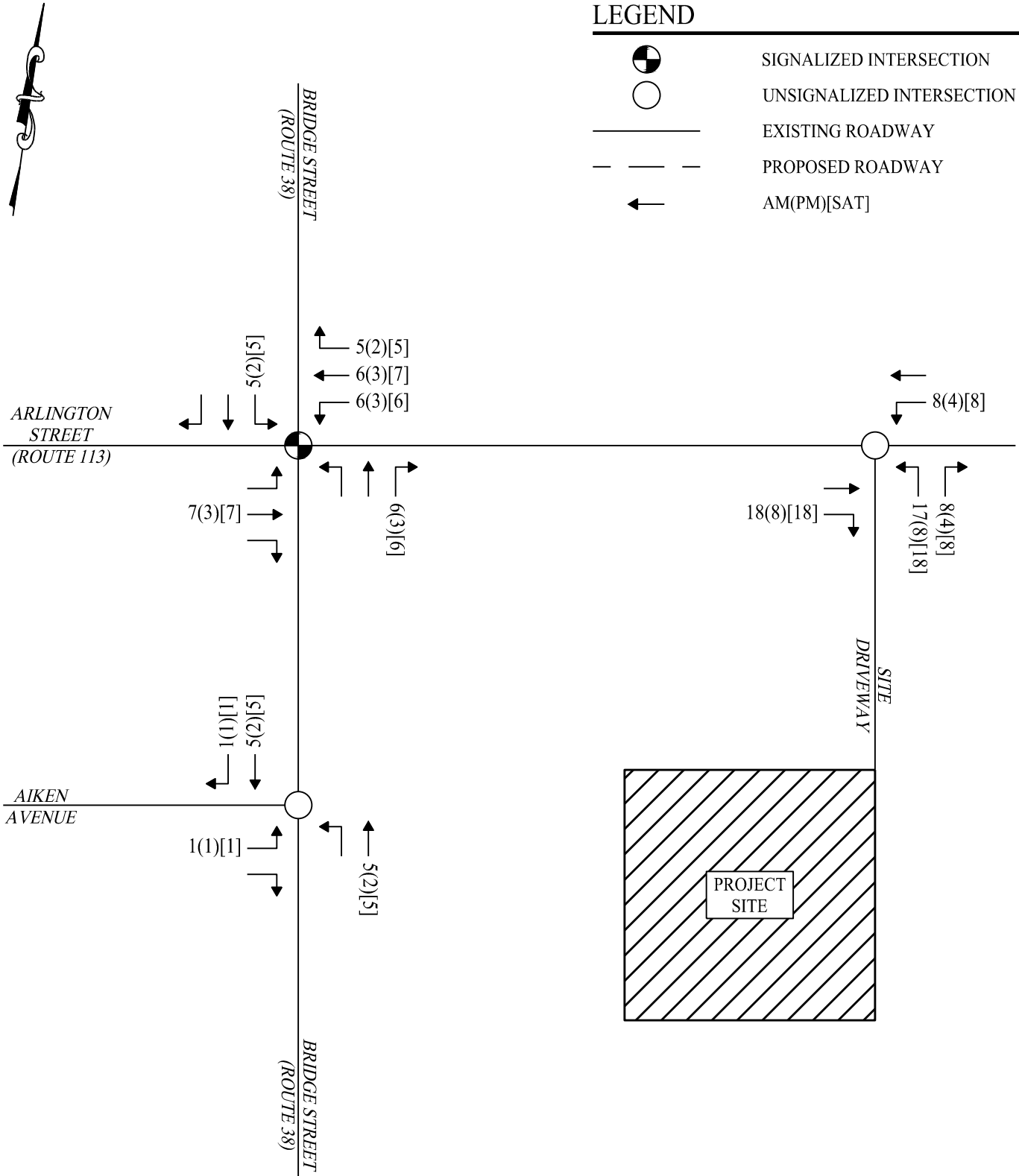
EXISTING ROADWAY



PROPOSED ROADWAY



AM(PM)[SAT]



NOTE: TRIP ASSIGNMENTS BASED ON TRIP DISTRIBUTIONS ILLUSTRATED IN FIGURE 3.



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TRIP ASSIGNMENT

BRIDGE STREET LANDING
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Project #: 22203701

Plan Date: 11/27/24

Scale: NTS

Figure: 4

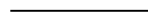
LEGEND



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION



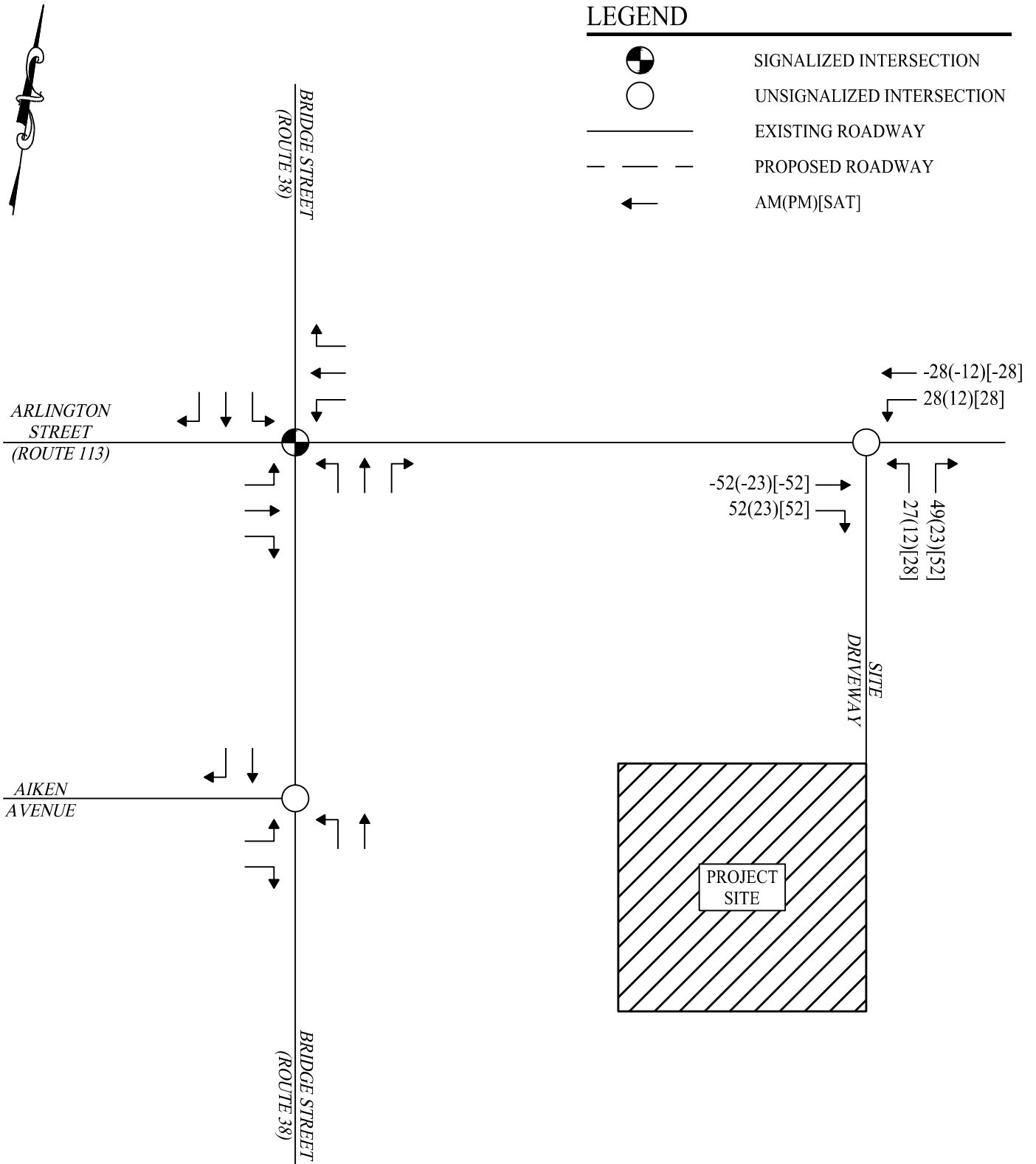
EXISTING ROADWAY



PROPOSED ROADWAY



AM(PM)[SAT]



NOTE: PASS-BY TRIPS BASED ON PASS-BY DISTRIBUTIONS ILLUSTRATED IN FIGURE 3B.



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PASS-BY VOLUMES

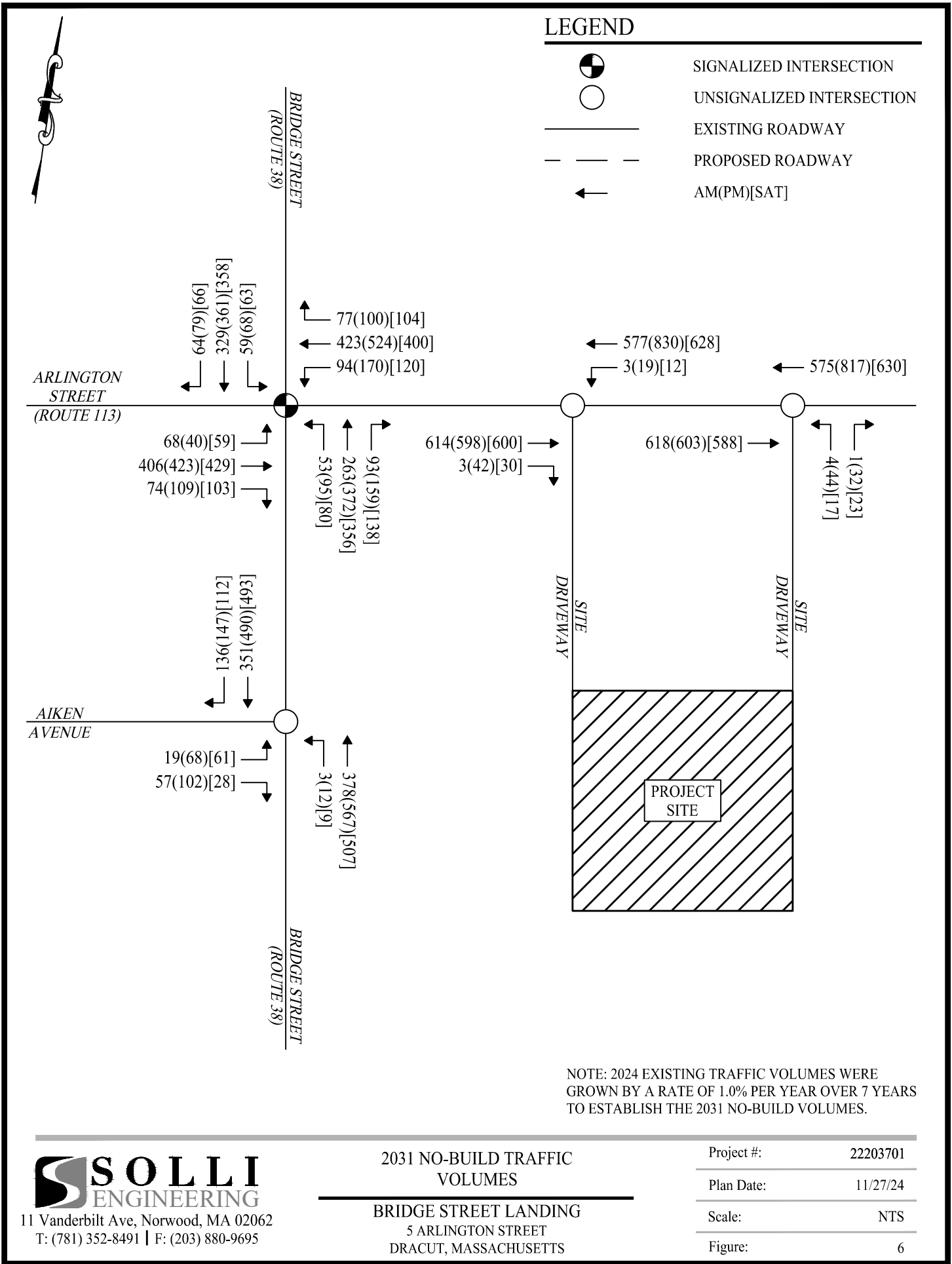
BRIDGE STREET LANDING
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Project #: 22203701

Plan Date: 03/18/25

Scale: NTS

Figure: 5



LEGEND

-  SIGNALIZED INTERSECTION
-  UNSIGNALIZED INTERSECTION
-  EXISTING ROADWAY
-  PROPOSED ROADWAY
-  AM(PM)[SAT]

NOTE: 2024 EXISTING TRAFFIC VOLUMES WERE GROWN BY A RATE OF 1.0% PER YEAR OVER 7 YEARS TO ESTABLISH THE 2031 NO-BUILD VOLUMES.



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2031 NO-BUILD TRAFFIC VOLUMES

BRIDGE STREET LANDING
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Project #:	22203701
Plan Date:	11/27/24
Scale:	NTS
Figure:	6

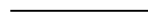
LEGEND



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION



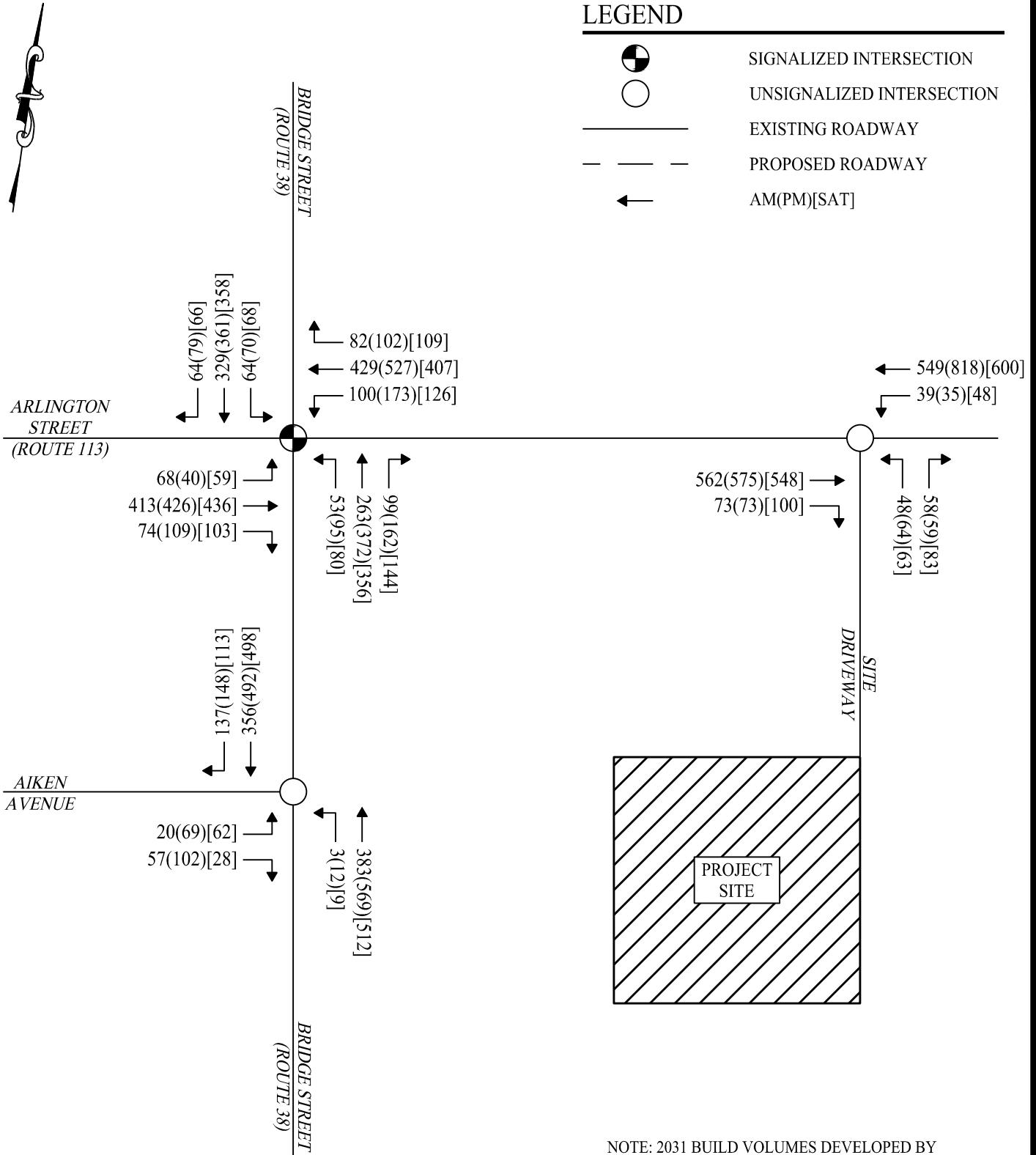
EXISTING ROADWAY



PROPOSED ROADWAY



AM(PM)[SAT]



NOTE: 2031 BUILD VOLUMES DEVELOPED BY COMBINING TRIP ASSIGNMENT VOLUMES ILLUSTRATED IN FIGURE 4, PASS-BY VOLUMES ILLUSTRATED IN FIGURE 5, AND 2031 NO-BUILD VOLUMES ILLUSTRATED IN FIGURE 6.



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2031 BUILD TRAFFIC VOLUMES

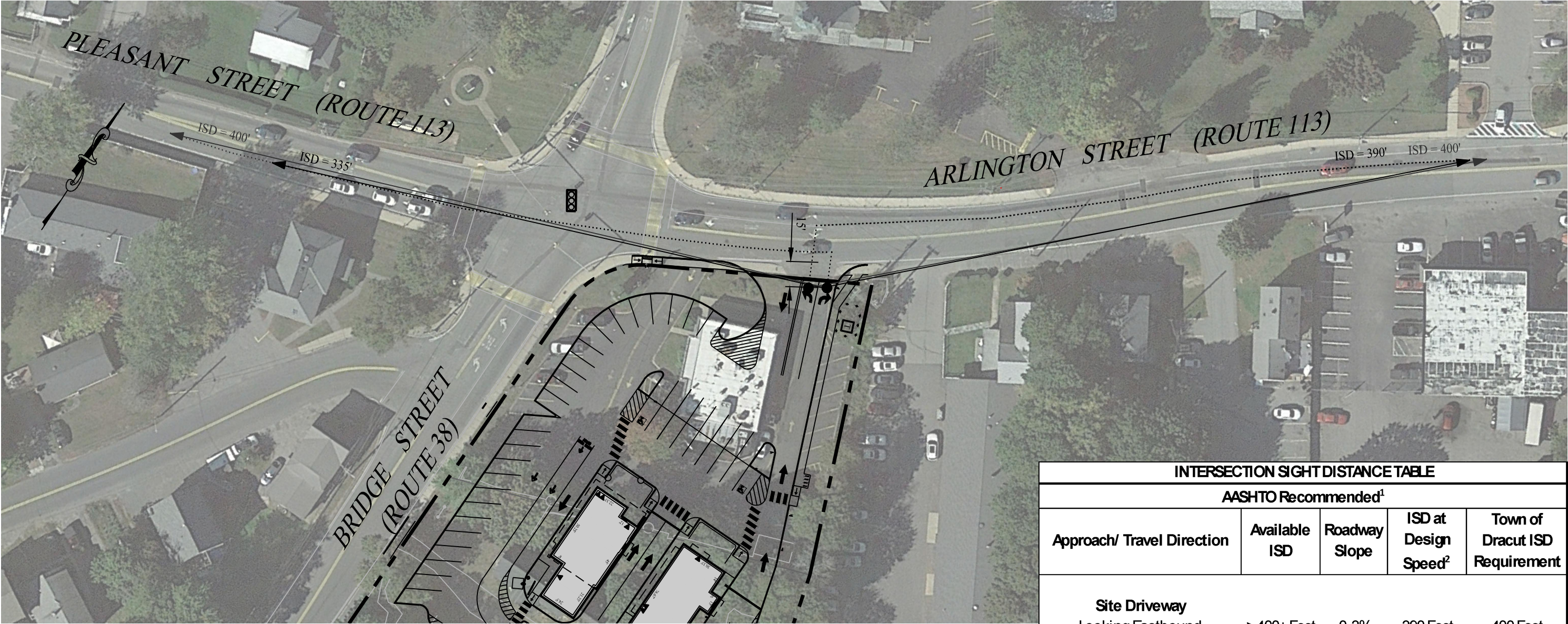
BRIDGE STREET LANDING
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Project #: 22203701

Plan Date: 03/18/25

Scale: NTS

Figure: 7



INTERSECTION SIGHT DISTANCE TABLE				
AASHTO Recommended ¹				
Approach/ Travel Direction	Available ISD	Roadway Slope	ISD at Design Speed ²	Town of Dracut ISD Requirement
Site Driveway				
Looking Eastbound	> 400+ Feet	0-3%	390 Feet	400 Feet
Looking Westbound	> 400+ Feet	0-3%	335 Feet	400 Feet

- NOTES:
- 1. INTERSECTION SIGHT DISTANCE MEASURED 15 FEET FROM THE SHOULDER LINE.
 - 2. THE INTERSECTION SIGHT DISTANCES DISPLAYED REPRESENT THE AASHTO RECOMMENDATIONS, BASED ON A DESIGN SPEED OF 35 MPH (85TH PERCENTILE SPEED OF 34 MPH), AND THE TOWN OF DRACUT RECOMMENDATION OF 400 FEET OF SIGHT DISTANCE.
 - 3. INTERSECTION SIGHT DISTANCE LOOKING LEFT EXTENDS THROUGH THE INTERSECTION OF ARLINGTON STREET (ROUTE 113) AND BRIDGE STREET (ROUTE 38). IT IS ANTICIPATED THAT TURNING VEHICLES WILL BE TRAVELING LESS THAN 30 MPH AND ADEQUATE SIGHT DISTANCE WILL BE PROVIDED TO THE INTERSECTION.
 - 4. NO PLANTINGS, SNOW STORAGE, OR OTHER FEATURES EXCEED A HEIGHT OF 2' ABOVE GRADE WITHIN SIGHT AREAS.
 - 5. FIGURE SHOWS REQUIRED INTERSECTION SIGHT DISTANCE; ACTUAL INTERSECTION SIGHT DISTANCE EXCEEDS REQUIRED AMOUNT.

¹Recommended sight distance based on AASHTO, A Policy on Geometric Design of Highways and Streets. Based on driver height of eye of 3.5 feet to object height of 2.0 feet.

²Design Speed: 35 mph



Rev. #:	Date	Description



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Drawn By:	RHF
Checked By:	KMS
Project #:	22203701
Plan Date:	11/27/24
Scale:	1" = 60'

Project:

BRIDGE STREET LANDING

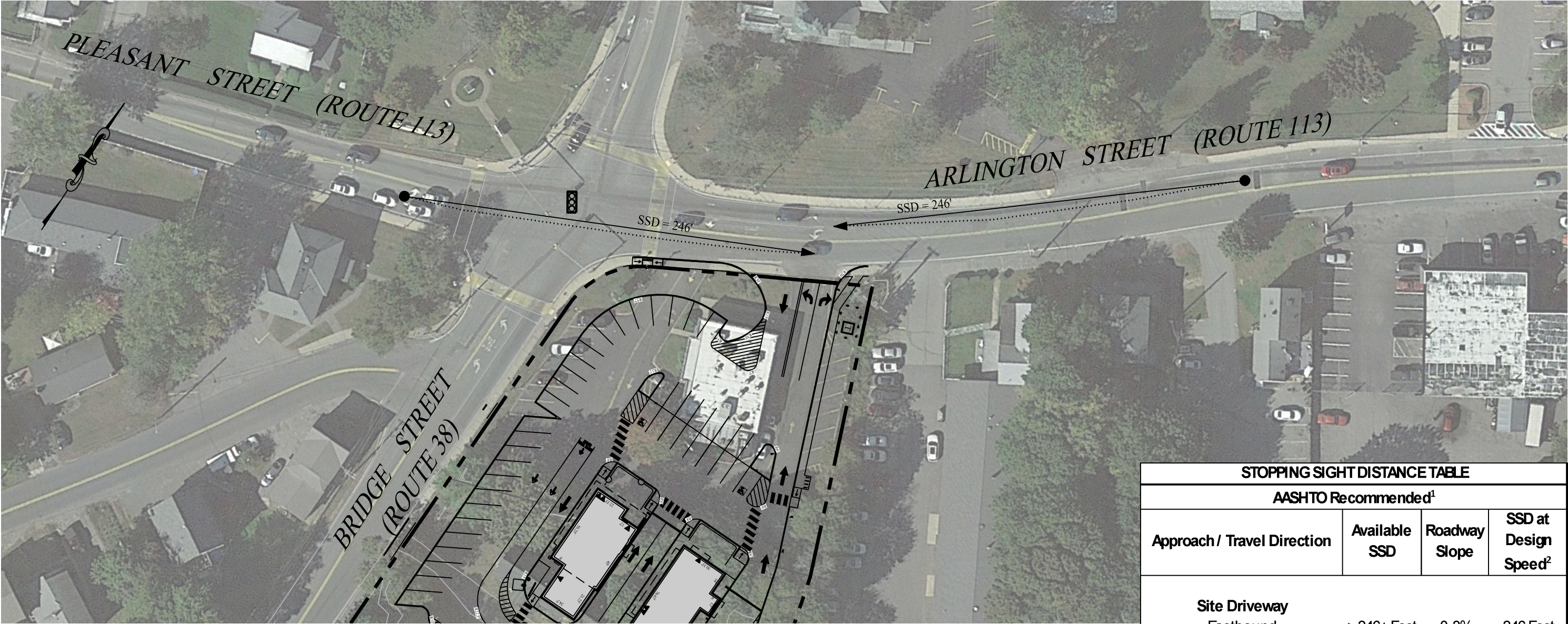
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Sheet Title:

INTERSECTION SIGHT
DISTANCE

SHEET #:

ISD-1



- NOTES:
1. STOPPING SIGHT DISTANCE BASED ON A DESIGN SPEED OF 35 MPH (85TH PERCENTILE SPEED OF 34 MPH).
 2. STOPPING SIGHT DISTANCE BASED ON A MAXIMUM GRADE OF 3%.
 3. NO PLANTINGS, SNOW STORAGE, OR OTHER FEATURES EXCEED A HEIGHT OF 2' ABOVE GRADE WITHIN SIGHT AREAS.
 4. FIGURE SHOWS REQUIRED STOPPING SIGHT DISTANCE; ACTUAL STOPPING SIGHT DISTANCE EXCEEDS REQUIRED AMOUNT.

STOPPING SIGHT DISTANCE TABLE			
AASHTO Recommended ¹			
Approach / Travel Direction	Available SSD	Roadway Slope	SSD at Design Speed ²
Site Driveway			
Eastbound	> 246+ Feet	0-3%	246 Feet
Westbound	> 246+ Feet	0-3%	246 Feet

¹Recommended sight distance based on AASHTO, A Policy on Geometric Design of Highways and Streets. Based on driver height of eye of 3.5 feet to object height of 2.0 feet.

²Design Speed: 35 mph



Rev. #:	Date	Description



SOLLI
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Checked By:	KMS
Project #:	22203701
Plan Date:	11/27/24
Scale:	1" = 60'

Project:

BRIDGE STREET LANDING

5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Sheet Title:

STOPPING SIGHT
DISTANCE

SHEET #:

SSD-1

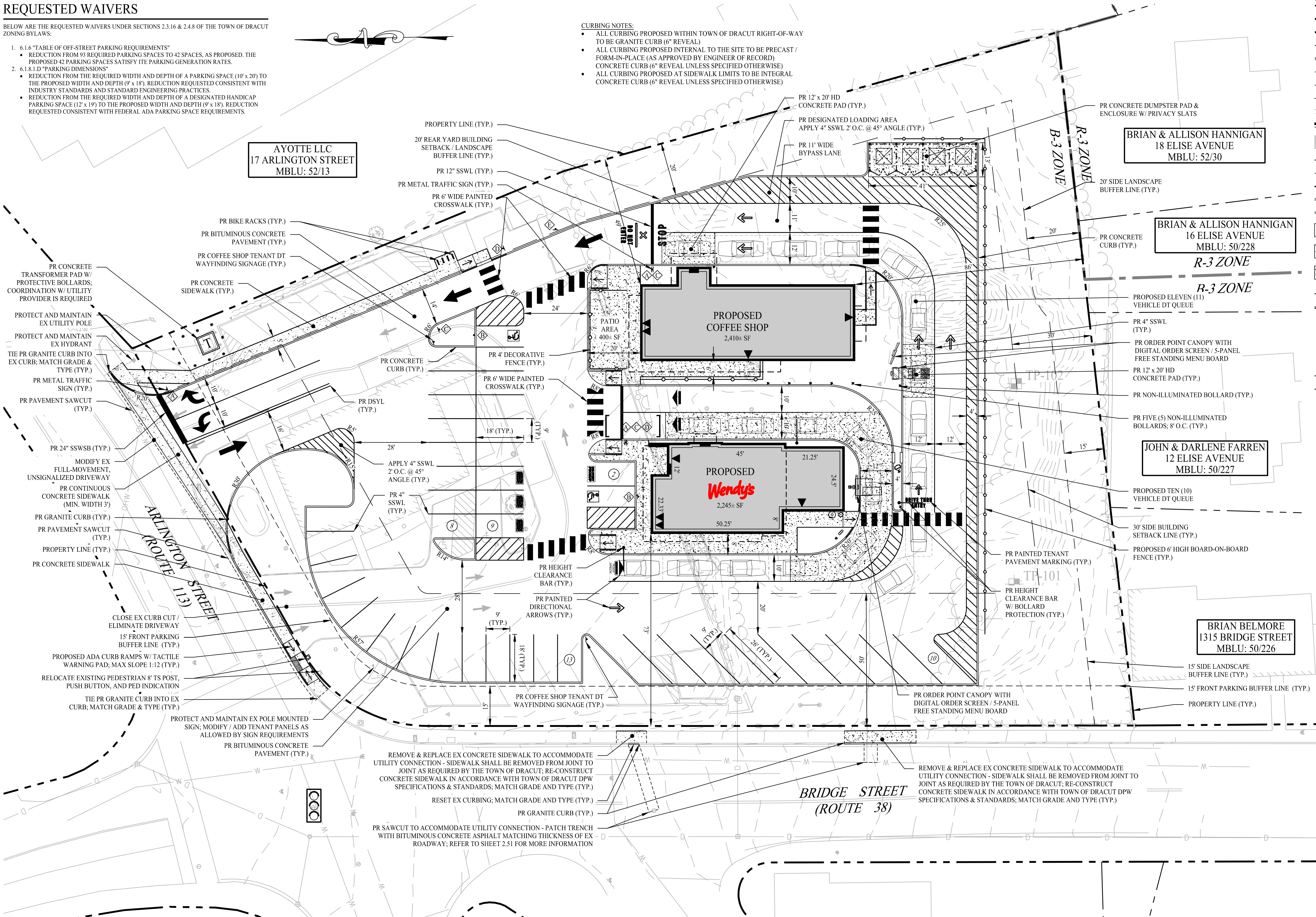
REQUESTED WAIVERS

BELOW ARE THE REQUESTED WAIVERS UNDER SECTIONS 2.3.16 & 2.4.8 OF THE TOWN OF DRACUT ZONING BYLAWS:

- 6.1.6 "TABLE OF OFF-STREET PARKING REQUIREMENTS"
 - REDUCTION FROM 93 REQUIRED PARKING SPACES TO 42 SPACES, AS PROPOSED. THE PROPOSED 42 PARKING SPACES SATISFY ITE PARKING GENERATION RATES.
- 6.1.8.1.D "PARKING DIMENSIONS"
 - REDUCTION FROM THE REQUIRED WIDTH AND DEPTH OF A PARKING SPACE (10' x 20') TO THE PROPOSED WIDTH AND DEPTH (9' x 18'). REDUCTION REQUESTED CONSISTENT WITH INDUSTRY STANDARDS AND STANDARD ENGINEERING PRACTICES.
 - REDUCTION FROM THE REQUIRED WIDTH AND DEPTH OF A DESIGNATED HANDICAP PARKING SPACE (12' x 19') TO THE PROPOSED WIDTH AND DEPTH (9' x 18'). REDUCTION REQUESTED CONSISTENT WITH FEDERAL ADA PARKING SPACE REQUIREMENTS.

CURBING NOTES:

- ALL CURBING PROPOSED WITHIN TOWN OF DRACUT RIGHT-OF-WAY TO BE GRANITE CURB (6" REVEAL)
- ALL CURBING PROPOSED INTERNAL TO THE SITE TO BE PRECAST / FORM-IN-PLACE (AS APPROVED BY ENGINEER OF RECORD)
- CONCRETE CURB (6" REVEAL UNLESS SPECIFIED OTHERWISE)
- ALL CURBING PROPOSED AT SIDEWALK LIMITS TO BE INTEGRAL CONCRETE CURB (6" REVEAL UNLESS SPECIFIED OTHERWISE)

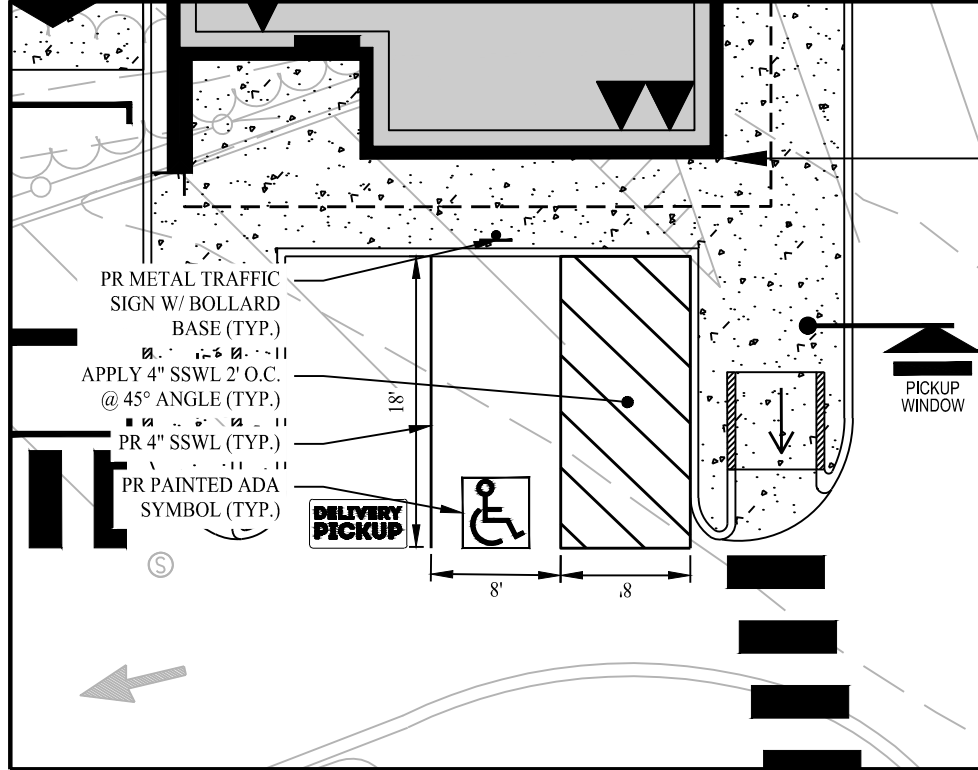


PARKING SUMMARY

EXISTING CONDITIONS						
EXISTING DEVELOPMENT	GFA	TOWN REQUIREMENT	TOWN REQ.	ITE REQUIREMENT ⁽¹⁾	ITE REQ.	SOLLI PARKING STUDY ⁽²⁾
WENDY'S	3,150± SF	1 SPACE PER 50 SF OF GFA	63	9.18 SPACES PER 1,000 SF OF GFA	29	16
TOTAL			63		29	16
PROPOSED CONDITIONS						
PROPOSED DEVELOPMENT	GFA	TOWN REQUIREMENT	TOWN REQ.	ITE REQUIREMENT ⁽¹⁾	ITE REQ.	SOLLI REC. REQ. ⁽⁴⁾
WENDY'S	2,245± SF /	1 SPACE PER 50 SF OF GFA	45	12.19 SPACES PER 1,000 SF OF GFA	27	16
COFFEE SHOP	2,410± SF /	1 SPACE PER 50 SF OF GFA	48	10.75 SPACES PER 1,000 SF OF GFA	26	26
TOTAL			93		53	42

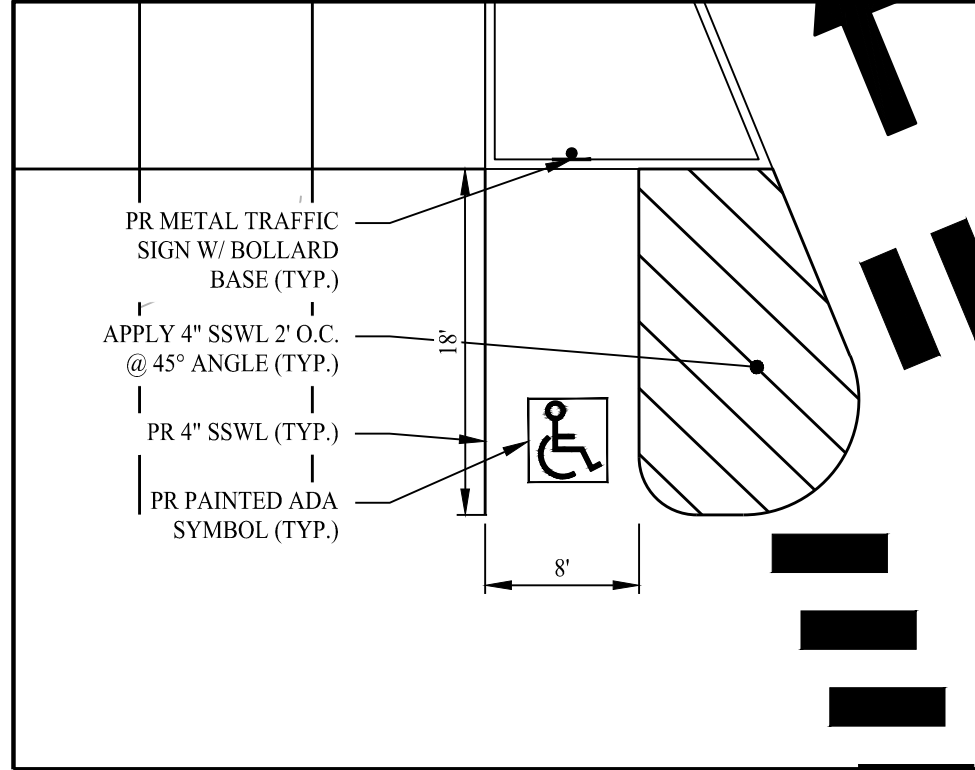
NOTES:

- PROPOSED PARKING RATES WERE TAKEN FROM THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PARKING GENERATION MANUAL, 6TH EDITION, UTILIZING THE 85TH PERCENTILE INDUSTRY RATE PER 1,000 SF OF GFA WHILE ALSO CONSIDERING SAMPLE SIZE / STANDARD DEVIATION.
- THE DEVELOPMENT PROPOSES EIGHT (8) BICYCLE PARKING SPACES IN ADDITION TO THE FORTY-TWO (42) VEHICLE PARKING SPACES.
- PARKING STUDY CONDUCTED BY SOLLI ENGINEERING IN JANUARY 2024.
- THE COFFEE SHOP WILL REQUIRE APPROXIMATELY 26 SPACES; BASES ON THE WENDY'S 16 SPACE MAXIMUM DEMAND, THE TOTAL OF 42-SPACES SHALL BE SUFFICIENT.



ADA PARKING ENLARGEMENT

SCALE: 1" = 10'



ZONING COMPLIANCE TABLE

UNDERLYING ZONE: BUSINESS (B-3) ZONING DISTRICT OVERLAY ZONE: DRACUT TOWN CENTER NEIGHBORHOOD OVERLAY DISTRICT			
ZONING REQUIREMENT (B-3)	REQUIREMENT	EXISTING CONDITIONS	PROPOSED CONDITIONS
MINIMUM PARCEL AREA	30,000 SF	70,508± SF	70,508± SF
MINIMUM FRONTAGE	150 FT	313.7± FT ⁽¹⁾	313.7± FT ⁽¹⁾
MINIMUM LOT WIDTH	20 FT	> 20 FT	> 20 FT
MINIMUM FRONT YARD BUILDING SETBACK	50 FT	21.6± FT	72.58± FT
MINIMUM SIDE YARD BUILDING SETBACK	30 FT	96.8± FT	86.42± FT
MINIMUM REAR YARD BUILDING SETBACK	20 FT	48.7± FT	45.05± FT
MAXIMUM BUILDING HEIGHT	3 STORIES / 40 FT	< 40 FT	< 40 FT

NOTES:

- A LOT HAVING FRONTAGE ON TWO OR MORE STREETS SHALL HAVE TWO OR MORE FRONT YARDS, EACH OF WHICH SHALL COMPLY WITH THE REQUIREMENTS OF THE FRONT YARD PROVISIONS. FOR THE PURPOSES OF MINIMUM FRONTAGE, ONLY ONE FRONT YARD MAY BE USED.

LEGEND

	PROPERTY LINE
	RIGHT-OF-WAY LINE
	ADJOINING LOT LINE
	ZONE LINE
	BUILDING SETBACK
	LANDSCAPE BUFFER
	FRONT PARKING BUFFER
	EXISTING (EX) BUILDING LIMITS
	PROPOSED (PR) BUILDING LIMITS
	PR BUILDING HATCH
	BUILDING OVERHANG LINE / CANOPY
	SAWCUT PAVEMENT LINE
	EDGE OF PAVEMENT
	GRANITE CURB
	CONCRETE CURB
	STANDARD DUTY BITUMINOUS CONCRETE PAVEMENT
	HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT
	CONCRETE SIDEWALK / PAVEMENT
	SIDEWALK LIMITS
	PAVEMENT STRIPING - YELLOW
	PAVEMENT ARROW MARKINGS
	PARKING SPACE COUNT
	WOOD / DECORATIVE FENCE
	CHAIN LINK FENCE W/ PRIVACY SLATS
	VEHICLE
	TRAFFIC SIGN
	TRAFFIC SIGN DESIGNATION
	TRAFFIC SIGNAL
	MASS - PAVEMENT STRIPING - WHITE STANDARD AND ADA PARKING SPACES
	ADA ACCESSIBLE RAMP
	CONCRETE BOLLARD
	BIKE RACK

SIGN LEGEND

SIZES (IN) 30"x30"	SIZES (IN) 12"x18"
MUTCD # R1-1	MUTCD # R7-8
SUPPORTS 1	SUPPORTS 1
SIZES (IN) 30"x30"	SIZES (IN) 24"x12"
MUTCD # R5-1	MUTCD # W11-2
SUPPORTS 1	SUPPORTS 1
SIZES (IN) 24"x30"	
MUTCD # R6-2L	
SUPPORTS 1	

GENERAL NOTES

- THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
- ALL SITE WORK TO BE COMPLETED IN ACCORDANCE WITH ALL PERMITS, APPEALS, AND CONDITIONS OF APPROVALS ISSUED BY THE TOWN OF DRACUT FOR THIS PROJECT.
- EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN DATED JANUARY 26, 2023, SCALE: 1"=15', PREPARED BY NORTHEAST SURVEY CONSULTANTS.
- THE HORIZONTAL DATUM IS NAD83 MASS. MANLAND, THE VERTICAL DATUM IS NAVD83 AND BOTH ARE BASED ON RTK GPS OBSERVATION TAKEN ON SITE BY NORTHEAST SURVEY CONSULTANTS.
- TOPOGRAPHIC CONDITIONS OUTSIDE OF THE PROJECT SITE WERE DOWNLOADED AND INTERPOLATED OFF THE LIDAR DATABASE FROM THE NOAA DATA ACCESS VIEWER.
- THE PROJECT SITE CONSISTS OF ONE (1) PARCEL WITH A TOTAL LAND AREA OF APPROXIMATELY 1.62 ACRES LOCATED WITHIN THE BUSINESS 3 (B-3) ZONING DISTRICT OF THE TOWN OF DRACUT, MA. THE SITE ALSO IS WITHIN THE DRACUT TOWN CENTER NEIGHBORHOOD OVERLAY DISTRICT. RETAIL AND RESTAURANTS ARE PERMITTED AS OF RIGHT WITHIN SAID ZONING DISTRICT. FAST-FOOD USES REQUIRE SPECIAL PERMIT APPROVAL.

SITE PLAN NOTES

- PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE THE COMMENCEMENT OF WORK AT "811" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES.
- SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER OF RECORD IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY AND SECURITY OF THE SITE DURING ALL PHASES OF CONSTRUCTION. THE ARCHITECT AND ENGINEER OF RECORD HAVE NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK. JOB SITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
- THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL LOCAL AND STATE PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE, AND PROVIDE TRAFFIC CONTROLS NECESSARY FOR THIS PROJECT.
- CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING AND SIDEWALKS ADJACENT TO THE BUILDING.
- TRAFFIC CONTROL SIGNAGE SHALL CONFORM TO THE STATE DOT STANDARD DETAIL SHEETS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. SIGNS SHALL BE INSTALLED PLUMB WITH THE EDGE OF THE SIGN 2" OFF THE FACE OF THE CURB, AND WITH 7' VERTICAL CLEARANCE UNLESS OTHERWISE DETAILED OR NOTED.
- PAVEMENT MARKING KEY:
 - 4" SSWL, 4" SINGLE SOLID WHITE LINE
 - 4" DSYL, 4" DOUBLE SOLID YELLOW LINE
 - 12" SSWSB, 12" SINGLE SOLID WHITE STOP BAR
 - 24" SSWSB, 24" SINGLE SOLID WHITE STOP BAR
- PARKING SPACES SHALL BE STRIPED WITH 4" SSWL; HATCHED AREA SHALL BE STRIPED WITH 4" SSWL AT A 45° ANGLE, 2" ON CENTER. HATCHING, SYMBOLS, AND STRIPING FOR HANDICAPPED SPACES SHALL BE PAINTED BLUE, AND WHITE OTHER MARKINGS SHALL BE PAINTED WHITE OR AS NOTED.
- THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURB, SIDEWALK, LANDSCAPED AREAS, OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE ENGINEER OF RECORD. DURING CONSTRUCTION, THE CONTRACTOR IS TO HAVE THE SITE MAINTAINED FREE OF ALL TRASH, LITTER, DEBRIS, AND OVERGROWN VEGETATION.
- THE OWNER SHALL BE RESPONSIBLE TO HAVE THE SITE MAINTAINED FREE OF ALL TRASH, LITTER, DEBRIS AND OVERGROWN VEGETATION.
- PAVEMENT MARKINGS SHALL BE BY APPLIED TYPE IN ACCORDANCE WITH MASSACHUSETTS DOT SPECIFICATIONS, UNLESS WHERE EPOXY RESIN PAVEMENT MARKINGS ARE INDICATED.
- ACCORDING TO GEOGRAPHICAL INFORMATION SYSTEM (GIS) MAPPING PRODUCED BY THE STATE'S GIS SYSTEM "MASSMAPPER", NO PORTION OF THE SITE CONTAINS STATE MAPPED WETLANDS OR LIES WITHIN 100 FEET OF ANY STATE MAPPED WETLANDS ON ADJOINING PROPERTIES OR IS WITHIN A WETLAND PROTECTION AREA.
- ACCORDING TO FLOOD MAP NUMBER 250170041E, DATED 06/04/2010, PRODUCED BY FEMA, THE SITE LIES WITHIN AN AREA OF MINIMAL FLOOD HAZARD, ZONE "X", ALSO KNOWN AS AREAS OUTSIDE OF THE 500 YEAR FLOOD PLAIN.

1 03/27/25 PEER REVIEW RTC

Rev. #: Date Description

Graphic Scale: 20 0 20 40

SOLLI ENGINEERING

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Drawn By: PDS

Checked By: CJB

Approved By: KMS

Project #: 22205701

Plan Date: 12/18/24

Scale: 1" = 20'

Project:

BRIDGE STREET LANDING
5 ARLINGTON STREET
DRACUT, MASSACHUSETTS

Sheet Title:

Sheet #:

SITE LAYOUT PLAN

2.11

DATE:

THE ENDORSEMENT ABOVE IS NOT A DETERMINATION BY THE PLANNING BOARD AS TO COMPLIANCE WITH THE ZONING BYLAWS.



Appendix B

Traffic Analysis Data

Peak Hour Trip Generation Summary Proposed Redevelopment, 5 Arlington Street, Dracut, MA											
	Variable	LUC	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Coffee/Donut Shop w/ Drive-Through Window	2.41	937	106	101	207	47	47	94	106	106	212
Total New Trips			106	101	207	47	47	94	106	106	212
<i>Pass-By</i>	75%		80	76	156	35	35	70	80	80	160
Net New Network Trips			26	25	51	12	12	24	26	26	52

Source: ITE Trip Generation, 11th Edition

Note: Pass-By Rates do not currently exist for LUC 937. LUC 938 - Coffee Shop w/ Drive-Thru Window & No Indoor Seating has a Pass-By Rate of 90% for the weekday AM peak hour and 98% for the weekday PM peak hour.

Land Use	Time		Entering	Exiting
	Period	Avg Rate		
LUC 937 - Coffee/Donut Shop w/ Drive Through Window	AM	85.88	51%	49%
	PM	38.99	50%	50%
	SAT	87.91	50%	50%

Daily Trip Generation Summary Proposed Redevelopment, 5 Arlington Street, Dracut, MA								
	Variable	LUC	Weekday			Saturday		
			Enter	Exit	Total	Enter	Exit	Total
Coffee/Donut Shop w/ Drive-Through Window	2.41	937	643	643	1286	-	-	-
Total New Trips			643	643	1286	-	-	-
<i>Pass-By</i>	75%		482	482	964	-	-	-
Net New Network Trips			161	161	322	-	-	-

Source: ITE Trip Generation, 11th Edition

Note: Data does not currently exist for LUC 937 Saturday daily trip generation.

Note: Pass-By Rates do not currently exist for LUC 937. LUC 938 - Coffee Shop w/ Drive-Thru Window & No Indoor Seating has a Pass-By Rate of 90% for the weekday AM peak hour and 98% for the weekday PM peak hour.

Land Use	Time		Avg Rate	Entering	Exiting
	Period				
LUC 937 - Coffee/Donut Shop	Week	533.57	50%	50%	
w/ Drive Through Window	SAT	-	-	-	

Land Use: 937

Coffee/Donut Shop with Drive-Through Window

Description

This land use includes any coffee and donut restaurant that has a drive-through window as well as a walk-in entrance area at which a patron can purchase and consume items. The restaurant sells freshly brewed coffee (along with coffee-related accessories) and a variety of food/drink products such as donuts, bagels, breads, muffins, cakes, sandwiches, wraps, salads, and other hot and cold beverages. The restaurant marketing and sales may emphasize coffee beverages over food (or vice versa).

A coffee/donut shop typically holds long store hours (more than 15 hours) with an early morning opening. Limited indoor seating is generally provided for patrons, but table service is not provided.

Coffee/donut shop without drive-through window (Land Use 936) and coffee/donut shop with drive-through window and no indoor seating (Land Use 938) are related uses.

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in California, Colorado, Connecticut, Illinois, Massachusetts, Minnesota, Nevada, New Hampshire, New Jersey, New York, Ontario (CAN), Pennsylvania, Quebec (CAN), Tennessee, Vermont, Washington, and Wisconsin.

Specialized Land Use Data

One study was conducted during the pandemic in 2020. Twelve sites were counted in Illinois and Missouri during the AM and PM adjacent street peak hours. The data have not been incorporated within the overall ITE trip generation database and are not reflected in the data plots for this land use. Consideration for their inclusion will be given for the 12th Edition of *Trip Generation Manual* after additional post-pandemic data are collected. Overall, the pandemic counts yielded an AM adjacent street peak weighted average rate of 84 vehicle trips per 1,000 square feet GFA, roughly equivalent to the pre-pandemic average. The PM adjacent street peak rate was 56 (roughly 40 percent higher than the pre-pandemic value). The higher PM peak rate for these coffee/donut shops conforms with anecdotal observations that with the temporary or permanent closures of many restaurants during the pandemic, the drive-through restaurants that were open did a brisk business even during their off-peak periods.

Source Numbers

594, 599, 615, 617, 618, 621, 622, 635, 639, 712, 714, 725, 726, 728, 853, 854, 892, 903, 928, 959, 979, 982, 1004, 1042, 1044

Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 6

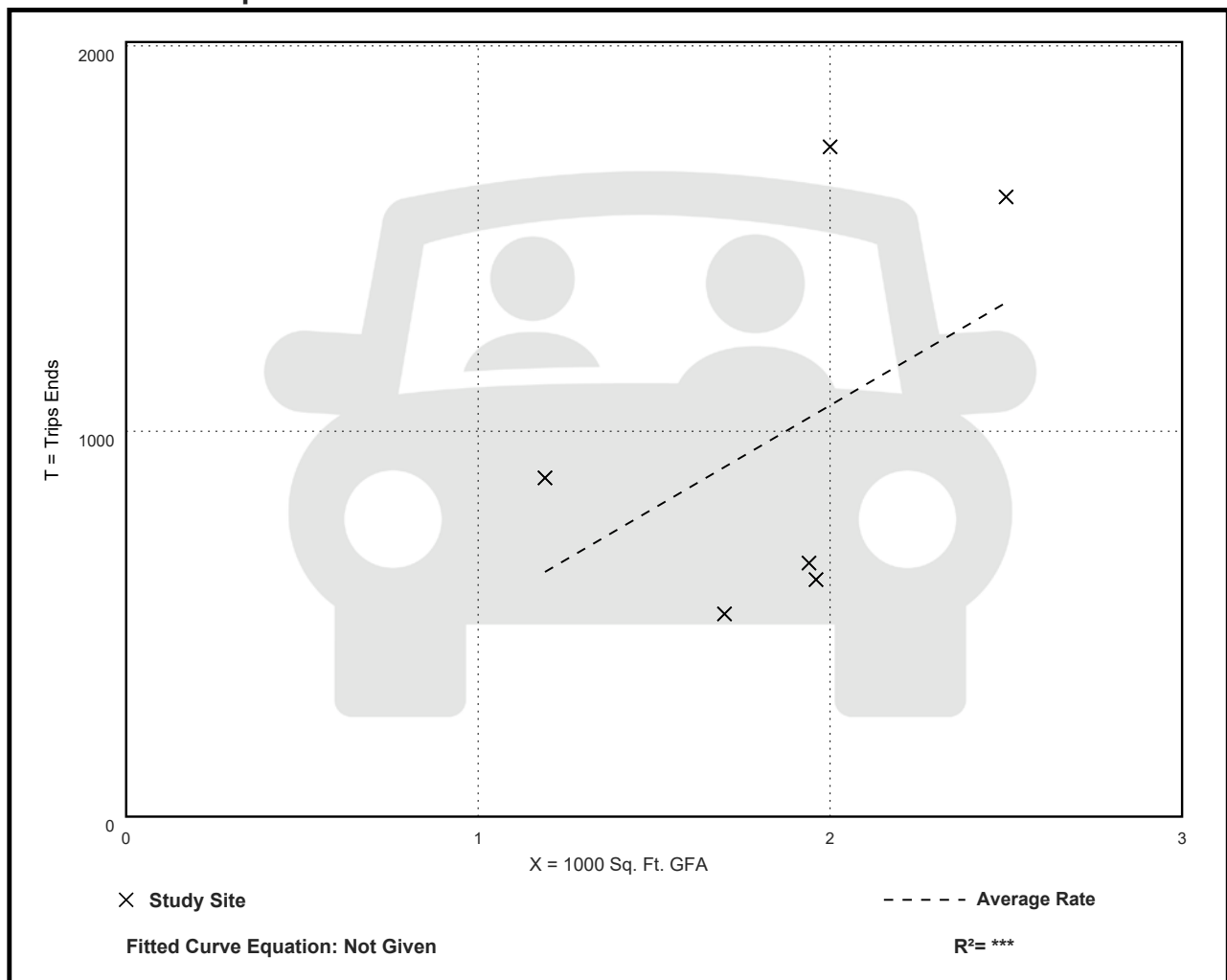
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
533.57	309.41 - 869.00	243.65

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 78

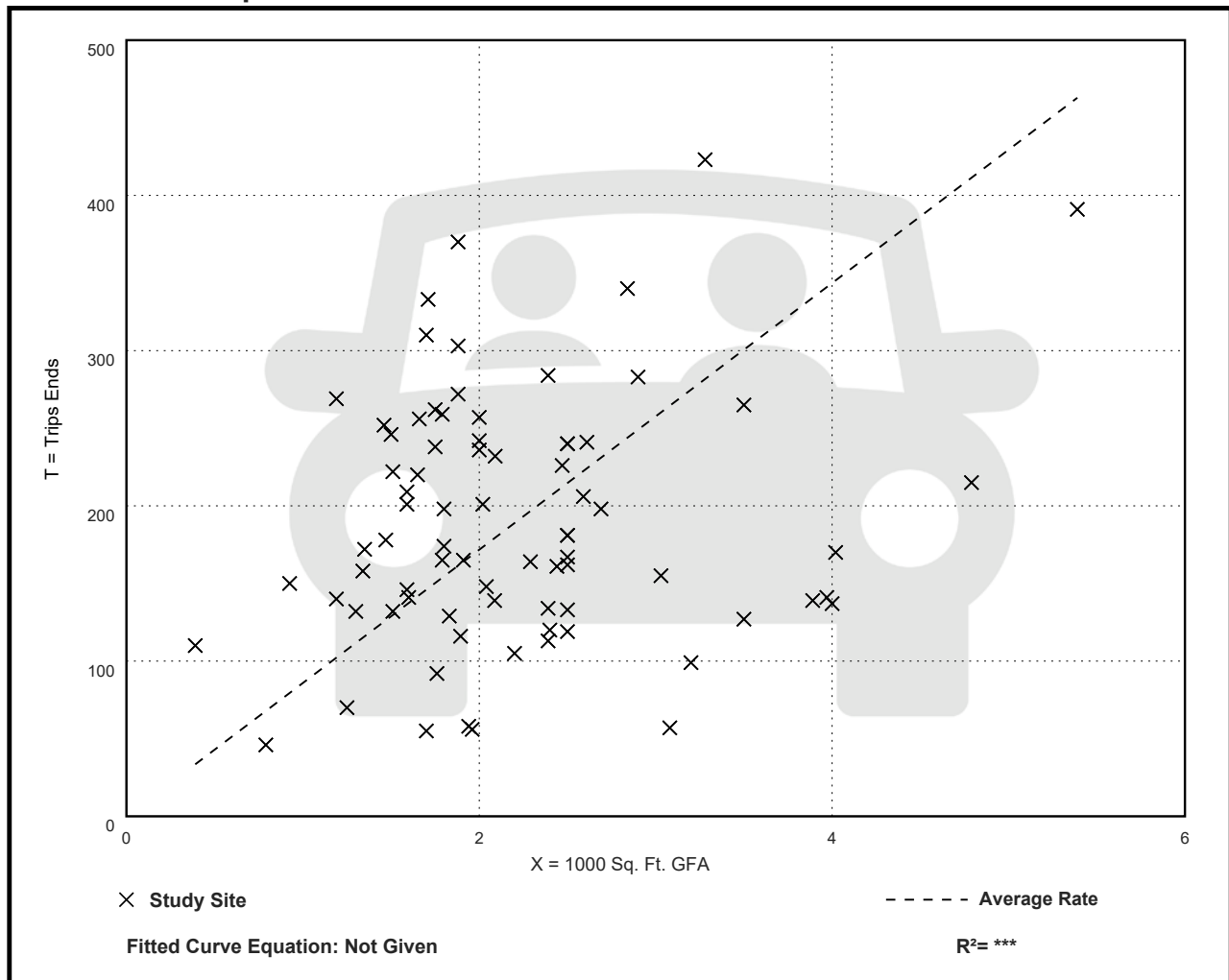
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
85.88	18.51 - 282.05	44.92

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 36

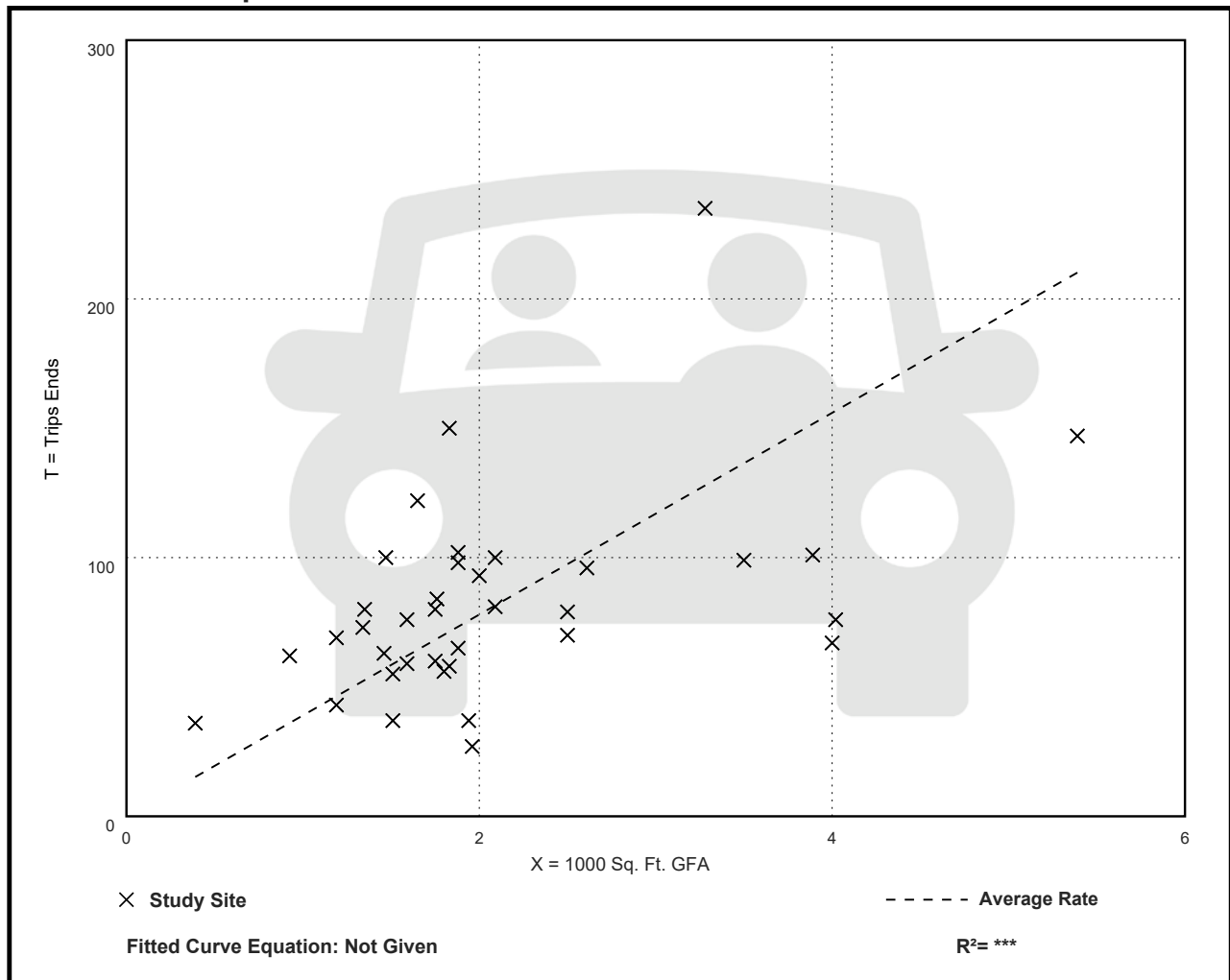
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
38.99	13.78 - 92.31	17.79

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 9

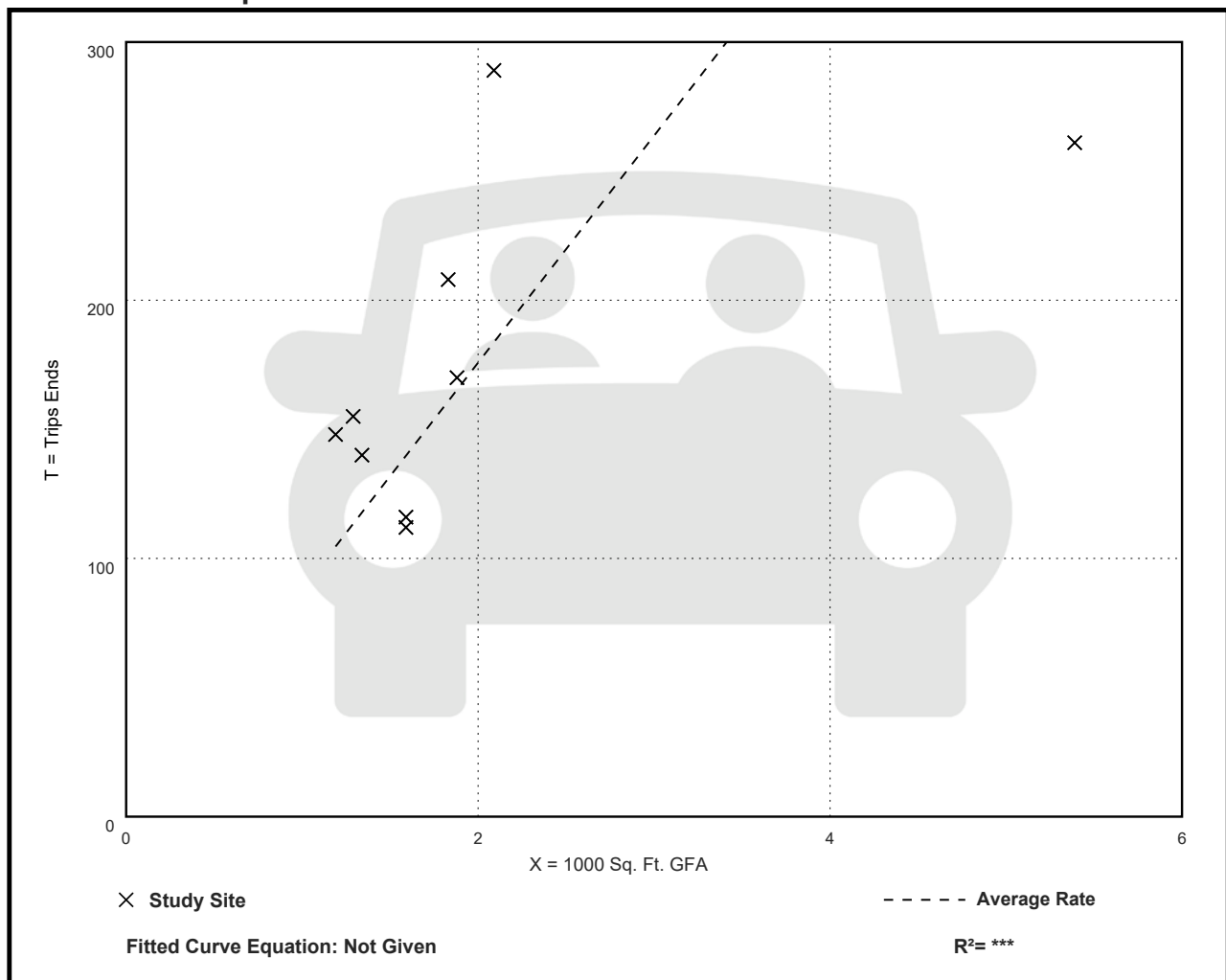
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
87.91	48.42 - 138.28	34.34

Data Plot and Equation



[illegible]

[illegible]

[illegible]

Massachusetts Highway Department
Statewide Traffic Data Collection
2023 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.23	1.14	1.11	1.06	1.01	0.96	0.93	0.91	1.00	0.97	1.04	1.08	0.77
R3	1.11	1.07	1.02	0.95	0.90	0.89	0.87	0.87	0.92	0.89	0.95	0.99	0.98
R4-R7	1.19	1.16	1.10	1.00	0.92	0.91	0.87	0.88	0.93	0.93	1.01	1.06	0.98
U1-Boston	1.07	1.05	1.00	0.95	0.93	0.92	0.92	0.92	0.94	0.93	0.96	0.99	0.94
U1-Essex	1.14	1.11	1.06	1.00	0.95	0.91	0.87	0.87	0.94	0.95	1.00	1.03	0.96
U1-Southeast	1.12	1.09	1.04	0.96	0.91	0.87	0.84	0.86	0.92	0.94	0.98	1.03	0.96
U1-West	1.05	1.02	0.98	0.96	0.94	0.93	0.94	0.94	0.95	0.92	0.96	0.98	0.81
U1-Worcester	1.06	1.04	0.97	0.93	0.92	0.90	0.92	0.92	0.93	0.92	0.94	0.97	0.88
U3	1.05	1.02	0.96	0.92	0.89	0.89	0.91	0.92	0.91	0.90	0.94	0.96	0.98
U4-U7	1.02	1.00	0.94	0.89	0.86	0.88	0.91	0.92	0.89	0.88	0.91	0.91	0.99
UR2	1.05	1.01	0.97	0.92	0.90	0.90	0.91	0.91	0.91	0.90	0.94	0.97	0.98
Rec - East	1.17	1.16	1.09	1.04	0.92	0.84	0.76	0.80	0.93	1.00	1.03	1.06	0.98
Rec - West	1.46	1.38	1.32	1.06	0.94	0.79	0.59	0.69	0.97	0.99	1.18	1.28	0.98

Round off:

0-999 = 10

>1000 = 100

U = Urban

R = Rural

1 - Interstate

2 - Freeway and Expressway

3 - Other Principal Arterial

4 - Minor Arterial

5 - Major Collector

6 - Minor Collector

7 - Local Road and Street

UR2 Group - Combination of Urban Freeways and Expressways and Rural Freeways and Expressways.

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations 1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1113,1114,1116,2196,2197 and 2198.

STUDY AREA ACCIDENT SUMMARY PROPOSED REDEVELOPMENT - 5 ARLINGTON STREET (ROUTE 113), DRACUT, MA 2019 THROUGH 2021				
ACCIDENT TYPE AND SEVERITY	Arlington Street (Route 113) at Existing Site Driveways (5 Arlington Street)	Arlington Street (Route 113) at Bridge Street (Route 38)	Aiken Avenue & Bridge Street (Route 38)	TOTALS
Accident Type:				
Head-On	0	3	0	3
Rear-End	0	1	1	2
Angle	0	8	1	9
Sideswipe - Same Direction	0	3	0	3
Sideswipe - Opposite Direction	0	0	0	0
Rear to Side	0	1	0	1
Single Vehicle Crash	0	1	0	1
Not Reported	0	1	0	1
Accident Severity:				
Fatality	0	0	0	0
Injury Any Type	0	4	1	5
Property Damage Only	0	13	1	14
Not Reported	0	1	0	1
Road Surface Condition:				
Dry	0	11	0	11
Wet	0	5	1	6
Snow	0	0	0	0
Not Reported	0	2	1	3
TOTAL NUMBER OF ACCIDENTS	0	18	2	20

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Dracut (2019-2022) COUNT DATE : Oct-24

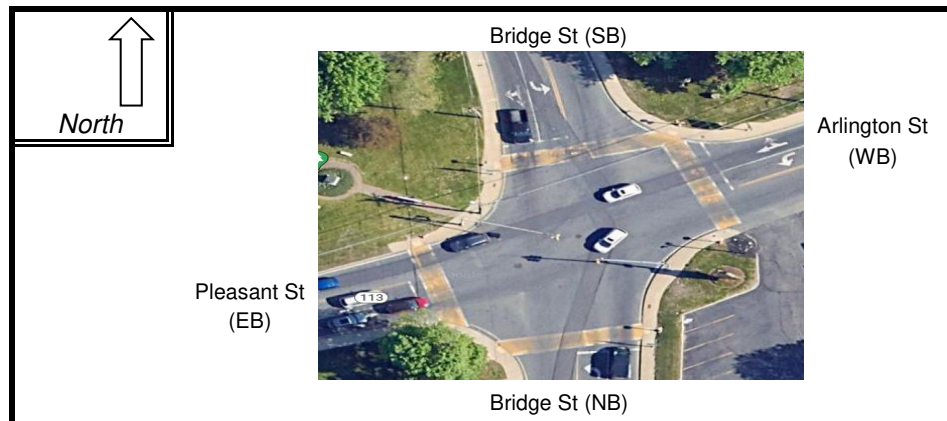
DISTRICT : 4 UNSIGNALIZED : ☐ SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Bridge Street (Route 38) (NB & SB)

MINOR STREET(S) : Arlington Street/Pleasant Street (Route 113) (EB & WB)

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	534	741	584	474		2,333

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

25,922

TOTAL # OF CRASHES :

20

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

6.67

CRASH RATE CALCULATION :

0.70

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

Comments : Crash Rate is below the 0.73 district average at signalized intersections.

Project Title & Date : Bridge Street Landing Redevelopment, March 2025

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Dracut (2019-2022) COUNT DATE : Dec-23

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Arlington Street (Route 113) (EB & WB)

MINOR STREET(S) : Site Driveway East - Exit Only (NB)

Site Driveway West - Enter Only

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :		WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :		452	779	868		2,099

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

23,322

TOTAL # OF CRASHES :

0

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

0.00

CRASH RATE CALCULATION :

0.00

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

Comments : Crash Rate is below the 0.57 District Average at unsignalized intersections.

Project Title & Date: Bridge Street Landing Redevelopment, March 2025

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Dracut (2019-2022) COUNT DATE : Oct-24

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Bridge Street (Route 38) (NB & SB)

MINOR STREET(S) : Aiken Avenue (WB)

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :		EB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :		158	540	594		1,292

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

14,356

TOTAL # OF CRASHES :

2

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

0.67

CRASH RATE CALCULATION :

0.13

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

Comments : Crash Rate is below the 0.57 district average at unsignalized intersections.

Project Title & Date: Bridge Street Landing Redevelopment, March 2025

STUDY AREA ACCIDENT SUMMARY PROPOSED REDEVELOPMENT - 5 ARLINGTON STREET (ROUTE 113), DRACUT, MA 2022 THROUGH 2024				
ACCIDENT TYPE AND SEVERITY	Arlington Street (Route 113) at Existing Site Driveways (5 Arlington Street)	Arlington Street (Route 113) at Bridge Street (Route 38)	Aiken Avenue at Bridge Street (Route 38)	TOTALS
Accident Type:				
Head-On	1	4	0	5
Rear-End	5	8	0	13
Angle	4	7	3	14
Sideswipe - Same Direction	0	2	0	2
Sideswipe - Opposite Direction	0	1	1	2
Rear to Side	0	0	0	0
Single Vehicle Crash	0	0	0	0
Not Reported	0	0	0	0
Accident Severity:				
Fatality	0	0	0	0
Injury Any Type	0	4	2	6
Property Damage Only	10	18	2	30
Not Reported	0	0	0	0
Road Surface Condition:				
Dry	7	19	3	29
Wet	3	2	1	6
Snow	0	1	0	1
Not Reported	0	0	0	0
TOTAL NUMBER OF ACCIDENTS	10	22	4	36

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Dracut (2022 - 2025) COUNT DATE : Oct-24

DISTRICT : 4 UNSIGNALIZED : ☐ SIGNALIZED : ☒

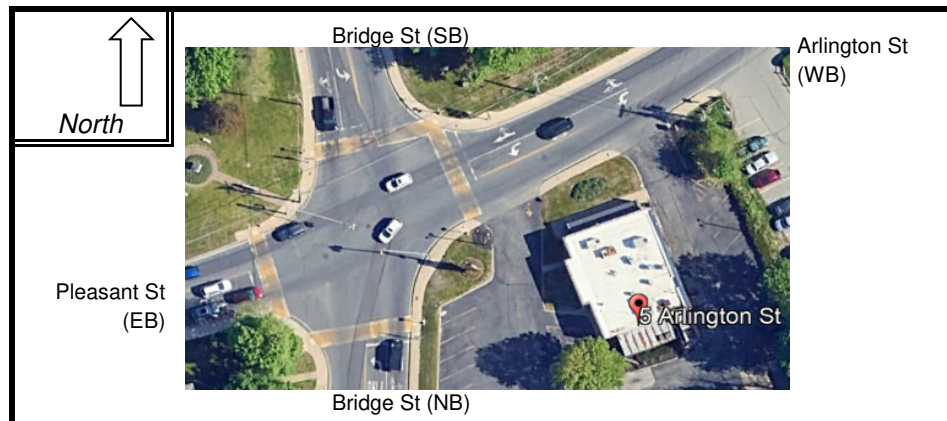
~ INTERSECTION DATA ~

MAJOR STREET : Bridge Street (Route 38) (NB & SB)

MINOR STREET(S) : Arlington Street/Pleasant Street (Route 113) (EB & WB)

(Includes crashes at and/or adjacent to 5 Arlington Street)

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	534	741	584	474		2,333

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

25,922

TOTAL # OF CRASHES* :

32

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

10.67

*Includes crashes at and/or adjacent to 5 Arlington Street

CRASH RATE CALCULATION :

1.13

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

Comments : Crash Rate is above the 0.73 district average for signalized intersections.

Project Title & Date: Bridge Street Landing Redevelopment, March 2025

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Dracut (2022 - 2025) COUNT DATE : Oct-24

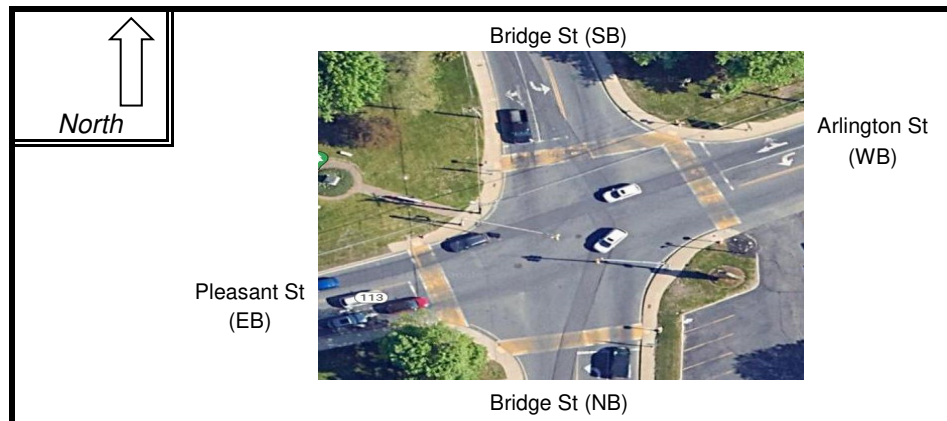
DISTRICT : 4 UNSIGNALIZED : ☐ SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Bridge Street (Route 38) (NB & SB)

MINOR STREET(S) : Arlington Street/Pleasant Street (Route 113) (EB & WB)

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	534	741	584	474		2,333

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

25,922

TOTAL # OF CRASHES :

22

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

7.33

CRASH RATE CALCULATION :

0.78

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

Comments : Crash Rate is above the 0.73 district average at signalized intersections.

Project Title & Date : Bridge Street Landing Redevelopment, March 2025

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Dracut (2022 - 2025) COUNT DATE : Dec-23

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Arlington Street (Route 113) (EB & WB)

MINOR STREET(S) : Site Driveway East - Exit Only (NB)

Site Driveway West - Enter Only

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :		WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :		452	779	868		2,099

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

23,322

TOTAL # OF CRASHES :

10

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

3.33

CRASH RATE CALCULATION :

0.39

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

Comments : Crash Rate is below the 0.57 District Average at unsignalized intersections.

Project Title & Date: Bridge Street Landing Redevelopment, March 2025

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Dracut (2022 - 2025) COUNT DATE : Oct-24

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Bridge Street (Route 38) (NB & SB)

MINOR STREET(S) : Aiken Avenue (WB)

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :		EB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :		158	540	594		1,292

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

14,356

TOTAL # OF CRASHES :

4

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

1.33

CRASH RATE CALCULATION :

0.25

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

Comments : Crash Rate is below the 0.57 district average at unsignalized intersections.

Project Title & Date: Bridge Street Landing Redevelopment, March 2025



Appendix C

Capacity Analysis Worksheets

Weekday AM Peak Hour Capacity Analysis Summary Proposed Redevelopment - 5 Arlington Street, Dracut, MA													
Lane Use	2024 Existing				2031 No-Build				2031 Build				
	LOS/Delay(s)	V/C Ratio	Queue (ft)		LOS/Delay(s)	V/C Ratio	Queue (ft)		LOS/Delay(s)	V/C Ratio	Queue (ft)		
			50th	95th			50th	95th			50th	95th	
Arlington Street/Pleasant Street (Route 113) & Bridge Street (Route 38)													
Pleasant Street (Route 113)													
EB-LEFT	B/15.8	0.29	20	68	B/15.7	0.26	19	72	B/15.8	0.27	19	72	
EB-THRU/RIGHT	C/25.8	0.79	177	462	C/26.1	0.79	174	499	C/26.8	0.81	178	508	
Overall EB Approach	C/24.5				C/24.8				C/25.5				
Arlington Street (Route 113)													
WB-LEFT	B/12.9	0.43	20	62	B/12.9	0.40	18	67	B/13.3	0.43	19	71	
WB-THRU/RIGHT	B/14.8	0.67	145	339	B/14.0	0.62	128	377	B/14.3	0.63	132	401	
Overall WB Approach	B/14.5				B/13.9				B/14.2				
Bridge Street (Route 38)													
NB-LEFT	C/22.0	0.37	17	63	C/22.5	0.41	18	75	C/22.5	0.41	18	75	
NB-THRU/RIGHT	C/31.1	0.78	126	337	C/30.0	0.76	126	366	C/30.8	0.77	129	375	
Overall NB Approach	C/30.0				C/29.0				C/29.7				
SB-LEFT	C/22.7	0.40	17	69	C/22.5	0.41	18	#77	C/23.4	0.46	20	#87	
SB-THRU/RIGHT	C/29.1	0.74	122	347	C/30.6	0.77	133	382	C/30.6	0.77	133	382	
Overall SB Approach	C/28.3				C/29.5				C/29.6				
Overall Intersection	C/23.1				C/23.4				C/23.8				
Aiken Avenue & Bridge Street (Route 38)													
Aiken Avenue													
EB-LEFT/RIGHT	B/12.4	0.15	-	13	B/12.8	0.15	-	13	B/13.0	0.16	-	14	
Overall EB Approach	B/12.4				B/12.8				B/13.0				
Bridge Street (Route 38)													
NB-LEFT/THRU**	A/0.1	0.00	-	0	A/0.1	0.00	-	0	A/0.1	0.00	-	0	
Overall NB Approach	0.1				0.1				0.1				
SB-THRU/RIGHT**	0.0	0.28	-	0	0.0	0.30	-	0	0.0	0.31	-	0	
Overall SB Approach	0.0				0.0				0.0				
Overall Intersection													
Arlington Street (Route 113) & Site Driveway Enter													
Arlington Street (Route 113)													
EB-THRU/RIGHT**	0.0	0.35	-	0	0.0	0.38	-	0	-	-	-	-	
Overall EB Approach	0.0				0.0				-	-	-	-	
WB-LEFT**	A/0.2	0.00	-	0	A/0.2	0.00	-	0	-	-	-	-	
WB-THRU**	0.0	0.26	-	0	0.0	0.25	-	0	-	-	-	-	
Overall WB Approach	0.1				0.1				-	-	-	-	
Overall Intersection													
Arlington Street (Route 113) & Site Driveway Exit*													
Arlington Street (Route 113)													
EB-THRU/RIGHT**	0.0	0.36	-	0	0.0	0.38	-	0	0.0	0.39	-	0	
Overall EB Approach	0.0				0.0				0.0				
WB-LEFT/THRU**	0.0	0.39	-	0	0.0	0.37	-	0	A/1.2	0.05	-	4	
Overall WB Approach	0.0				0.0				1.2				
NB-LEFT	D/29.5	0.04	-	3	D/28.8	0.03	-	2	E/47.4	0.38	-	41	
NB-RIGHT	B/11.5	0.00	-	0	B/11.9	0.00	-	0	B/12.6	0.12	-	10	
Overall NB Approach	C/25.0				D/25.4				D/28.3				
Overall Intersection													

m = Volume for 95th percentile queue is metered by upstream signal
 # = 95th percentile queue exceeds capacity, queue may be longer
 ~ = Volume exceeds capacity, queue may be infinite
 * - Site driveway exit becomes enter/exit in build condition
 ** = Movement is free flowing

Weekday PM Peak Hour Capacity Analysis Summary Proposed Redevelopment - 5 Arlington Street, Dracut, MA													
Lane Use		2024 Existing				2031 No-Build				2031 Build			
		LOS/Delay(s)	V/C Ratio	Queue (ft)		LOS/Delay(s)	V/C Ratio	Queue (ft)		LOS/Delay(s)	V/C Ratio	Queue (ft)	
				50th	95th			50th	95th			50th	95th
Arlington Street/Pleasant Street (Route 113) & Bridge Street (Route 38)													
Pleasant Street (Route 113)													
	EB-LEFT	B/16.2	0.28	16	65	B/16.7	0.21	11	47	B/16.7	0.21	11	47
	EB-THRU/RIGHT	C/28.7	0.78	169	488	C/33.8	0.87	189	536	C/34.4	0.87	191	539
	Overall EB Approach	C/27.8				C/32.6				C/33.2			
Arlington Street (Route 113)													
	WB-LEFT	B/17.2	0.50	24	97	C/25.0	0.74	34	#169	C/26.7	0.76	34	#175
	WB-THRU/RIGHT	B/15.8	0.70	168	536	B/17.2	0.73	169	540	B/17.5	0.73	172	550
	Overall WB Approach	B/16.1				B/18.9				B/19.5			
Bridge Street (Route 38)													
	NB-LEFT	E/75.3	0.72	33	#148	F/93.7	0.94	38	#166	F/93.7	0.94	38	#166
	NB-THRU/RIGHT	E/64.8	0.89	173	497	F/86.9	1.07	215	601	F/89.6	1.08	217	605
	Overall NB Approach	E/66.4				F/87.9				F/90.2			
	SB-LEFT	D/35.2	0.62	22	#109	D/40.5	0.69	25	#122	D/42.9	0.71	26	#124
	SB-THRU/RIGHT	D/36.3	0.75	143	406	D/42.6	0.90	170	485	D/42.6	0.90	170	485
	Overall SB Approach	D/36.1				D/42.4				D/42.7			
Overall Intersection		D/35.6				D/44.3				D/45.1			
Aiken Avenue & Bridge Street (Route 38)													
Aiken Avenue													
	EB-LEFT/RIGHT	D/33.7	0.59	-	87	E/41.2	0.67	-	110	E/42.7	0.68	-	114
	Overall EB Approach	D/33.7				E/41.2				E/42.7			
Bridge Street (Route 38)													
	NB-LEFT/THRU**	A/0.4	0.01	-	1	A/0.4	0.02	-	1	A/0.4	0.02	-	1
	Overall NB Approach	0.4				0.4				0.4			
	SB-THRU/RIGHT**	0.0	0.41	-	0	0.0	0.41	-	0	0.0	0.41	-	0
	Overall SB Approach	0.0				0.0				0.0			
Overall Intersection													
Arlington Street (Route 113) & Site Driveway Enter													
Arlington Street (Route 113)													
	EB-THRU/RIGHT**	0.0	0.39	-	0	0.0	0.41	-	0	-	-	-	-
	Overall EB Approach	0.0				0.0				-	-	-	-
	WB-LEFT**	A/0.8	0.02	-	2	A/0.8	0.02	-	2	-	-	-	-
	WB-THRU**	0.0	0.32	-	0	0.0	0.34	-	0	-	-	-	-
	Overall WB Approach	0.3				0.3							
Overall Intersection													
Arlington Street (Route 113) & Site Driveway Exit*													
Arlington Street (Route 113)													
	EB-THRU/RIGHT**	0.0	0.38	-	0	0.0	0.39	-	0	0.0	0.41	-	0
	Overall EB Approach	0.0				0.0				0.0			
	WB-LEFT/THRU**	0.0	0.48	-	0	0.0	0.51	-	0	A/1.2	0.04	-	3
	Overall WB Approach	0.0				0.0				1.2			
	NB-LEFT	F/65.2	0.49	-	56	F/79.4	0.52	-	57	F/191.7	0.96	-	124
	NB-RIGHT	B/12.5	0.08	-	6	B/12.4	0.07	-	5	B/12.9	0.12	-	11
	Overall NB Approach	E/42.7				F/51.1				F/106.3			
Overall Intersection													

m = Volume for 95th percentile queue is metered by upstream signal
 # = 95th percentile queue exceeds capacity, queue may be longer
 ~ = Volume exceeds capacity, queue may be infinite
 * - Site driveway exit becomes enter/exit in build condition
 ** = Movement is free flowing

Midday SAT Peak Hour Capacity Analysis Summary Proposed Redevelopment - 5 Arlington Street, Dracut, MA													
Lane Use	2024 Existing				2031 No-Build				2031 Build				
	LOS/Delay(s)	V/C Ratio	Queue (ft)		LOS/Delay(s)	V/C Ratio	Queue (ft)		LOS/Delay(s)	V/C Ratio	Queue (ft)		
			50th	95th			50th	95th			50th	95th	
Arlington Street/Pleasant Street (Route 113) & Bridge Street (Route 38)													
Pleasant Street (Route 113)													
EB-LEFT	B/16.5	0.20	15	59	B/16.6	0.22	16	62	B/16.7	0.23	16	63	
EB-THRU/RIGHT	C/31.6	0.85	184	521	D/37.7	0.90	201	563	D/39.5	0.91	205	573	
Overall EB Approach	C/30.1				D/35.6				D/37.3				
Arlington Street (Route 113)													
WB-LEFT	B/15.0	0.51	23	85	B/16.7	0.56	23	99	B/17.7	0.59	25	#109	
WB-THRU/RIGHT	B/14.2	0.60	125	340	B/14.2	0.60	125	368	B/14.5	0.62	130	380	
Overall WB Approach	B/14.3				B/14.7				B/15.1				
Bridge Street (Route 38)													
NB-LEFT	D/37.2	0.68	27	#127	D/54.2	0.79	30	#140	D/54.2	0.79	30	#140	
NB-THRU/RIGHT	D/43.8	0.90	172	493	E/57.7	0.97	190	540	E/60.8	0.99	192	546	
Overall NB Approach	D/42.9				E/57.3				E/59.9				
SB-LEFT	C/33.3	0.62	27	#108	D/35.1	0.64	23	#112	D/41.2	0.70	25	#122	
SB-THRU/RIGHT	C/32.7	0.81	172	431	D/36.2	0.85	161	458	D/36.2	0.85	161	458	
Overall SB Approach	C/32.8				D/36.1				D/36.9				
Overall Intersection	C/29.2				D/35.3				D/36.6				
Aiken Avenue & Bridge Street (Route 38)													
Aiken Avenue													
EB-LEFT/RIGHT	C/24.7	0.36	-	40	D/28.3	0.39	-	43	D/29.3	0.40	-	45	
Overall EB Approach	C/24.7				D/28.3				D/29.3				
Bridge Street (Route 38)													
NB-LEFT/THRU**	A/0.2	0.01	-	1	A/0.3	0.01	-	1	A/0.3	0.01	-	1	
Overall NB Approach	0.2				0.3				0.3				
SB-THRU/RIGHT**	0.0	0.35	-	0	0.0	0.38	-	0	0.0	0.38	-	0	
Overall SB Approach	0.0				0.0				0.0				
Overall Intersection													
Arlington Street (Route 113) & Site Driveway Enter													
Arlington Street (Route 113)													
EB-THRU/RIGHT**	0.0	0.39	-	0	0.0	0.40	-	0	-	-	-	-	
Overall EB Approach	0.0				0.0				-	-	-	-	
WB-LEFT**	A/0.6	0.01	-	1	A/0.7	0.02	-	1	-	-	-	-	
WB-THRU**	0.0	0.27	-	0	0.0	0.27	-	0	-	-	-	-	
Overall WB Approach	0.2				0.2								
Overall Intersection													
Arlington Street (Route 113) & Site Driveway Exit*													
Arlington Street (Route 113)													
EB-THRU/RIGHT**	0.0	0.38	-	0	0.0	0.38	-	0	0.0	0.41	-	0	
Overall EB Approach	0.0				0.0				0.0				
WB-LEFT/THRU**	0.0	0.40	-	0	0.0	0.40	-	0	A/1.6	0.06	-	5	
Overall WB Approach	0.0				0.0				1.6				
NB-LEFT	E/35.9	0.17	-	14	E/35.6	0.13	-	11	F/86.8	0.64	-	81	
NB-RIGHT	B/12.3	0.06	-	5	B/12.0	0.05	-	4	B/13.0	0.17	-	15	
Overall NB Approach	C/22.5				C/21.9				E/44.8				
Overall Intersection													

m = Volume for 95th percentile queue is metered by upstream signal
 # = 95th percentile queue exceeds capacity, queue may be longer
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 * - Site driveway exit becomes enter/exit in build condition
 ** = Movement is free flowing

Lanes, Volumes, Timings

2024 Existing AM

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

12/03/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	379	69	88	395	72	49	245	87	55	307	60
Future Volume (vph)	63	379	69	88	395	72	49	245	87	55	307	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.977			0.977			0.961			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1770	0	1752	1749	0	1829	1792	0	1776	1829	0
Flt Permitted	0.390			0.197			0.303			0.279		
Satd. Flow (perm)	686	1770	0	363	1749	0	583	1792	0	522	1829	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					13			19			11	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			73			150			317	
Travel Time (s)		15.8			2.0			2.9			6.2	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.85	0.85	0.85	0.79	0.79	0.79	0.86	0.86	0.86	0.99	0.99	0.99
Heavy Vehicles (%)	8%	3%	13%	3%	6%	7%	2%	5%	6%	5%	5%	3%
Adj. Flow (vph)	74	446	81	111	500	91	57	285	101	56	310	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	527	0	111	591	0	57	386	0	56	371	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.9	25.9		33.5	33.5		18.5	18.5		18.5	18.5	
Actuated g/C Ratio	0.39	0.39		0.51	0.51		0.28	0.28		0.28	0.28	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effct Green (s)	
Actuated g/C Ratio	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.27	0.76		0.38	0.66		0.35	0.74		0.38	0.71	
Control Delay	22.0	30.0		15.2	18.6		29.4	33.3		31.7	32.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.0	30.0		15.2	18.6		29.4	33.3		31.7	32.0	
LOS	C	C		B	B		C	C		C	C	
Approach Delay		29.0			18.1			32.8			31.9	
Approach LOS		C			B			C			C	
Queue Length 50th (ft)	20	177		20	145		17	126		17	122	
Queue Length 95th (ft)	68	#462		62	339		63	#337		#69	#347	
Internal Link Dist (ft)		498			1			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	270	696		294	969		183	577		164	583	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.27	0.76		0.38	0.61		0.31	0.67		0.34	0.64	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 65.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 26.8

Intersection LOS: C

Intersection Capacity Utilization 75.0%

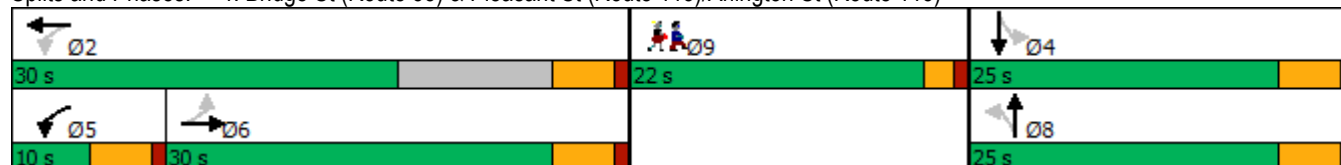
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2024 Existing AM

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

12/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	379	69	88	395	72	49	245	87	55	307	60
Future Volume (vph)	63	379	69	88	395	72	49	245	87	55	307	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	1770		1752	1749		1829	1792		1776	1829	
Flt Permitted	0.39	1.00		0.20	1.00		0.30	1.00		0.28	1.00	
Satd. Flow (perm)	686	1770		364	1749		583	1792		522	1829	
Peak-hour factor, PHF	0.85	0.85	0.85	0.79	0.79	0.79	0.86	0.86	0.86	0.99	0.99	0.99
Adj. Flow (vph)	74	446	81	111	500	91	57	285	101	56	310	61
RTOR Reduction (vph)	0	0	0	0	6	0	0	14	0	0	8	0
Lane Group Flow (vph)	74	527	0	111	585	0	57	372	0	56	363	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	8%	3%	13%	3%	6%	7%	2%	5%	6%	5%	5%	3%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.9	25.9		34.7	34.7		18.5	18.5		18.5	18.5	
Effective Green, g (s)	25.9	25.9		34.7	34.7		18.5	18.5		18.5	18.5	
Actuated g/C Ratio	0.37	0.37		0.50	0.50		0.27	0.27		0.27	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	257	663		259	878		156	479		139	489	
v/s Ratio Prot		c0.30		0.02	c0.33			c0.21			0.20	
v/s Ratio Perm	0.11			0.19			0.10			0.11		
v/c Ratio	0.29	0.79		0.43	0.67		0.37	0.78		0.40	0.74	
Uniform Delay, d1	15.1	19.2		11.8	12.9		20.5	23.4		20.8	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	6.5		1.1	1.9		1.5	7.7		1.9	6.0	
Delay (s)	15.8	25.8		12.9	14.8		22.0	31.1		22.7	29.1	
Level of Service	B	C		B	B		C	C		C	C	
Approach Delay (s)		24.5			14.5			30.0			28.3	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			69.1			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			75.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2024 Existing AM
12/03/2024

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	353	327	127	18	53
Future Volume (Veh/h)	3	353	327	127	18	53
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	3	406	344	134	21	62
Pedestrians			1			
Lane Width (ft)			13.0			
Walking Speed (ft/s)			3.5			
Percent Blockage			0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)			150			
pX, platoon unblocked	0.80				0.80	0.80
vC, conflicting volume	478				824	411
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226				657	142
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	91
cM capacity (veh/h)	1086				346	726
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	409	478	83			
Volume Left	3	0	21			
Volume Right	0	134	62			
cSH	1086	1700	568			
Volume to Capacity	0.00	0.28	0.15			
Queue Length 95th (ft)	0	0	13			
Control Delay (s)	0.1	0.0	12.4			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	12.4			
Approach LOS			B			
Intersection Summary						
Average Delay		1.1				
Intersection Capacity Utilization		35.9%	ICU Level of Service	A		
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

9: Arlington St (Route 113)

2024 Existing AM
12/03/2024

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰		
Traffic Volume (veh/h)	573	3	3	538	0	0
Future Volume (Veh/h)	573	3	3	538	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.80	0.80	0.92	0.92
Hourly flow rate (vph)	597	3	4	672	0	0
Pedestrians					1	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	73					
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			601		944	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			257		731	255
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			954		260	543
Direction, Lane #	EB 1	WB 1	WB 2			
Volume Total	600	228	448			
Volume Left	0	4	0			
Volume Right	3	0	0			
cSH	1700	954	1700			
Volume to Capacity	0.35	0.00	0.26			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.2	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		33.7%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2024 Existing AM
12/03/2024

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↱	↰
Traffic Volume (veh/h)	576	0	0	536	4	1
Future Volume (Veh/h)	576	0	0	536	4	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.80	0.80	0.63	0.63
Hourly flow rate (vph)	606	0	0	670	6	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	146					
pX, platoon unblocked			0.74		0.74	0.74
vC, conflicting volume			606		1276	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			290		1197	290
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			948		153	557
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	606	670	6	2		
Volume Left	0	0	6	0		
Volume Right	0	0	0	2		
cSH	1700	1700	153	557		
Volume to Capacity	0.36	0.39	0.04	0.00		
Queue Length 95th (ft)	0	0	3	0		
Control Delay (s)	0.0	0.0	29.5	11.5		
Lane LOS			D	B		
Approach Delay (s)	0.0	0.0	25.0			
Approach LOS			C			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			40.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

2024 Existing PM

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

12/03/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	395	102	159	489	93	89	347	148	63	337	74
Future Volume (vph)	37	395	102	159	489	93	89	347	148	63	337	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00			0.99		1.00		
Frt		0.969			0.976			0.955			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1805	0	1805	1830	0	1847	1825	0	1829	1851	0
Flt Permitted	0.364			0.182			0.200			0.197		
Satd. Flow (perm)	671	1805	0	346	1830	0	389	1825	0	379	1851	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					13			23			12	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			73			150			317	
Travel Time (s)		15.8			2.0			2.9			6.2	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.93	0.93	0.93	0.91	0.91	0.91
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	1%	2%	2%	2%	3%	4%
Adj. Flow (vph)	39	411	106	169	520	99	96	373	159	69	370	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	517	0	169	619	0	96	532	0	69	451	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.3	25.3		35.5	35.5		20.3	20.3		20.3	20.3	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effect Green (s)	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.36	0.36		0.51	0.51		0.29	0.29		0.29	0.29	
v/c Ratio	0.16	0.78		0.60	0.66		0.85	0.97		0.63	0.82	
Control Delay	20.0	32.1		23.4	18.6		83.1	58.5		53.1	38.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.0	32.1		23.4	18.6		83.1	58.5		53.1	38.7	
LOS	C	C		C	B		F	E		D	D	
Approach Delay		31.2			19.7			62.2			40.6	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	10	171		31	152		35	194		23	157	
Queue Length 95th (ft)	43	#488		#138	#484		#156	#549		#112	#450	
Internal Link Dist (ft)		498			1			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	245	659		283	941		113	549		110	548	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.16	0.78		0.60	0.66		0.85	0.97		0.63	0.82	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 69.4

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 37.3

Intersection LOS: D

Intersection Capacity Utilization 88.7%

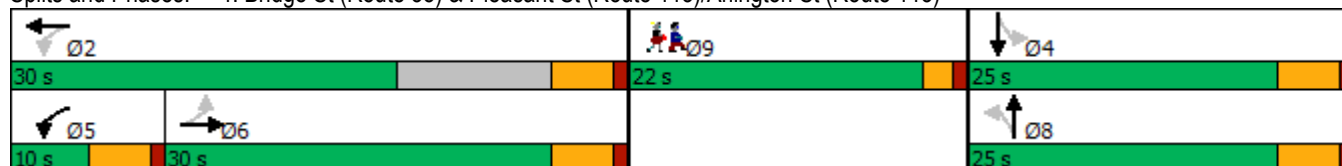
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2024 Existing PM

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

12/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	395	102	159	489	93	89	347	148	63	337	74
Future Volume (vph)	37	395	102	159	489	93	89	347	148	63	337	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1751	1805		1805	1830		1847	1826		1828	1852	
Flt Permitted	0.36	1.00		0.18	1.00		0.20	1.00		0.20	1.00	
Satd. Flow (perm)	670	1805		346	1830		389	1826		379	1852	
Peak-hour factor, PHF	0.96	0.96	0.96	0.94	0.94	0.94	0.93	0.93	0.93	0.91	0.91	0.91
Adj. Flow (vph)	39	411	106	169	520	99	96	373	159	69	370	81
RTOR Reduction (vph)	0	0	0	0	7	0	0	16	0	0	9	0
Lane Group Flow (vph)	39	517	0	169	612	0	96	516	0	69	442	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	1%	2%	2%	2%	3%	4%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Effective Green, g (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.35	0.35		0.49	0.49		0.28	0.28		0.28	0.28	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	638		274	904		109	516		107	523	
v/s Ratio Prot		c0.29		0.04	c0.33			c0.28			0.24	
v/s Ratio Perm	0.06			0.26			0.25			0.18		
v/c Ratio	0.16	0.81		0.62	0.68		0.88	1.00		0.64	0.85	
Uniform Delay, d1	15.9	21.0		13.1	13.8		24.6	25.7		22.6	24.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	7.7		4.1	2.0		50.7	39.1		12.6	12.0	
Delay (s)	16.2	28.7		17.2	15.8		75.3	64.8		35.2	36.3	
Level of Service	B	C		B	B		E	E		D	D	
Approach Delay (s)		27.8			16.1			66.4			36.1	
Approach LOS		C			B			E			D	
Intersection Summary												
HCM 2000 Control Delay			35.6			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			71.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			88.7%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2024 Existing PM
12/03/2024

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	11	529	457	137	63	95
Future Volume (Veh/h)	11	529	457	137	63	95
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.85	0.85	0.92	0.92
Hourly flow rate (vph)	12	563	538	161	68	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			150			
pX, platoon unblocked	0.73				0.73	0.73
vC, conflicting volume	699				1206	618
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	400				1096	290
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				60	81
cM capacity (veh/h)	852				170	549
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	575	699	171			
Volume Left	12	0	68			
Volume Right	0	161	103			
cSH	852	1700	291			
Volume to Capacity	0.01	0.41	0.59			
Queue Length 95th (ft)	1	0	87			
Control Delay (s)	0.4	0.0	33.7			
Lane LOS	A		D			
Approach Delay (s)	0.4	0.0	33.7			
Approach LOS			D			
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			52.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

9: Arlington St (Route 113)

2024 Existing PM
12/03/2024

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱↱		
Traffic Volume (veh/h)	558	39	18	774	0	0
Future Volume (Veh/h)	558	39	18	774	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	613	43	19	815	0	0
Pedestrians					2	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)	73					
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			658		1082	636
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			338		923	308
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	100
cM capacity (veh/h)			893		193	503
Direction, Lane #	EB 1	WB 1	WB 2			
Volume Total	656	291	543			
Volume Left	0	19	0			
Volume Right	43	0	0			
cSH	1700	893	1700			
Volume to Capacity	0.39	0.02	0.32			
Queue Length 95th (ft)	0	2	0			
Control Delay (s)	0.0	0.8	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.3				
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			37.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2024 Existing PM
12/03/2024

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	562	0	0	762	41	30
Future Volume (Veh/h)	562	0	0	762	41	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.94	0.94	0.74	0.74
Hourly flow rate (vph)	639	0	0	811	55	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	146					
pX, platoon unblocked			0.75		0.75	0.75
vC, conflicting volume			639		1450	639
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			348		1433	348
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		51	92
cM capacity (veh/h)			913		112	523
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	639	811	55	41		
Volume Left	0	0	55	0		
Volume Right	0	0	0	41		
cSH	1700	1700	112	523		
Volume to Capacity	0.38	0.48	0.49	0.08		
Queue Length 95th (ft)	0	0	56	6		
Control Delay (s)	0.0	0.0	65.2	12.5		
Lane LOS			F	B		
Approach Delay (s)	0.0	0.0	42.7			
Approach LOS			E			
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			50.1%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	400	96	112	373	97	75	332	129	59	334	62
Future Volume (vph)	55	400	96	112	373	97	75	332	129	59	334	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00			1.00				1.00	
Frt		0.971			0.969			0.958			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1816	0	1805	1812	0	1847	1857	0	1811	1894	0
Flt Permitted	0.446			0.155			0.216			0.197		
Satd. Flow (perm)	831	1816	0	294	1812	0	420	1857	0	376	1894	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					18			21			10	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			73			150			317	
Travel Time (s)		15.8			2.0			2.9			6.2	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.94	0.94	0.94	0.90	0.90	0.90
Heavy Vehicles (%)	2%	1%	2%	0%	1%	4%	1%	1%	2%	3%	1%	0%
Adj. Flow (vph)	60	440	105	130	434	113	80	353	137	66	371	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	545	0	130	547	0	80	490	0	66	440	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.3	25.3		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.36	0.36		0.51	0.51		0.29	0.29		0.29	0.29	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effct Green (s)	
Actuated g/C Ratio	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.20	0.82		0.50	0.59		0.66	0.88		0.61	0.79	
Control Delay	20.0	34.4		19.7	16.4		53.2	43.6		51.3	36.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.0	34.4		19.7	16.4		53.2	43.6		51.3	36.0	
LOS	B	C		B	B		D	D		D	D	
Approach Delay		33.0			17.0			44.9			38.0	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	15	184		23	125		27	172		22	151	
Queue Length 95th (ft)	59	#521		#85	340		#127	#493		#108	#431	
Internal Link Dist (ft)		498			1			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	303	663		260	935		122	557		109	560	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.82		0.50	0.59		0.66	0.88		0.61	0.79	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 69.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 32.4

Intersection LOS: C

Intersection Capacity Utilization 80.9%

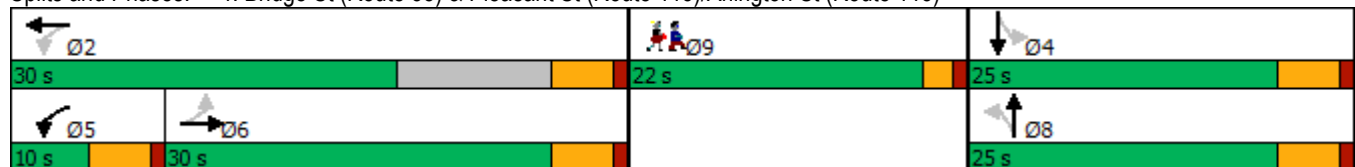
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2024 Existing SAT

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

12/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	400	96	112	373	97	75	332	129	59	334	62
Future Volume (vph)	55	400	96	112	373	97	75	332	129	59	334	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1816		1805	1812		1845	1857		1811	1895	
Flt Permitted	0.45	1.00		0.16	1.00		0.22	1.00		0.20	1.00	
Satd. Flow (perm)	831	1816		295	1812		419	1857		376	1895	
Peak-hour factor, PHF	0.91	0.91	0.91	0.86	0.86	0.86	0.94	0.94	0.94	0.90	0.90	0.90
Adj. Flow (vph)	60	440	105	130	434	113	80	353	137	66	371	69
RTOR Reduction (vph)	0	0	0	0	9	0	0	15	0	0	7	0
Lane Group Flow (vph)	60	545	0	130	538	0	80	475	0	66	433	0
Confl. Peds. (#/hr)			1	1			1					1
Heavy Vehicles (%)	2%	1%	2%	0%	1%	4%	1%	1%	2%	3%	1%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Effective Green, g (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.35	0.35		0.49	0.49		0.28	0.28		0.28	0.28	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	293	642		253	895		118	525		106	535	
v/s Ratio Prot		c0.30		0.04	c0.30			c0.26			0.23	
v/s Ratio Perm	0.07			0.22			0.19			0.18		
v/c Ratio	0.20	0.85		0.51	0.60		0.68	0.90		0.62	0.81	
Uniform Delay, d1	16.2	21.4		13.2	13.1		22.8	24.8		22.4	23.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	10.2		1.8	1.1		14.4	19.0		10.9	8.8	
Delay (s)	16.5	31.6		15.0	14.2		37.2	43.8		33.3	32.7	
Level of Service	B	C		B	B		D	D		C	C	
Approach Delay (s)		30.1			14.3			42.9			32.8	
Approach LOS		C			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			29.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			71.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			80.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2024 Existing SAT
12/03/2024

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	8	473	460	104	57	26
Future Volume (Veh/h)	8	473	460	104	57	26
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.94	0.94	0.80	0.80
Hourly flow rate (vph)	8	493	489	111	71	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			150			
pX, platoon unblocked	0.76				0.76	0.76
vC, conflicting volume	600				1054	544
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	308				909	235
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				69	95
cM capacity (veh/h)	954				229	611
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	501	600	103			
Volume Left	8	0	71			
Volume Right	0	111	32			
cSH	954	1700	284			
Volume to Capacity	0.01	0.35	0.36			
Queue Length 95th (ft)	1	0	40			
Control Delay (s)	0.2	0.0	24.7			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	24.7			
Approach LOS			C			
Intersection Summary						
Average Delay		2.2				
Intersection Capacity Utilization		42.7%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

9: Arlington St (Route 113)

2024 Existing SAT
12/03/2024

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				 		
Traffic Volume (veh/h)	560	28	11	586	0	0
Future Volume (Veh/h)	560	28	11	586	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	636	32	13	681	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	73					
pX, platoon unblocked			0.71		0.71	0.71
vC, conflicting volume			668		1018	652
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			323		819	300
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			882		221	496
Direction, Lane #	EB 1	WB 1	WB 2			
Volume Total	668	240	454			
Volume Left	0	13	0			
Volume Right	32	0	0			
cSH	1700	882	1700			
Volume to Capacity	0.39	0.01	0.27			
Queue Length 95th (ft)	0	1	0			
Control Delay (s)	0.0	0.6	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.2				
Approach LOS						
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		34.5%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2024 Existing SAT
12/03/2024

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	548	0	0	588	16	21
Future Volume (Veh/h)	548	0	0	588	16	21
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.87	0.87	0.71	0.71
Hourly flow rate (vph)	645	0	0	676	23	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	146					
pX, platoon unblocked			0.73		0.73	0.73
vC, conflicting volume			645		1321	645
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			324		1254	324
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		83	94
cM capacity (veh/h)			907		139	525
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	645	676	23	30		
Volume Left	0	0	23	0		
Volume Right	0	0	0	30		
cSH	1700	1700	139	525		
Volume to Capacity	0.38	0.40	0.17	0.06		
Queue Length 95th (ft)	0	0	14	5		
Control Delay (s)	0.0	0.0	35.9	12.3		
Lane LOS			E	B		
Approach Delay (s)	0.0	0.0	22.5			
Approach LOS			C			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			40.9%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	406	74	94	423	77	53	263	93	59	329	64
Future Volume (vph)	68	406	74	94	423	77	53	263	93	59	329	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.977			0.977			0.961			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1770	0	1752	1749	0	1829	1792	0	1776	1829	0
Flt Permitted	0.437			0.198			0.271			0.286		
Satd. Flow (perm)	769	1770	0	365	1749	0	522	1792	0	535	1829	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					13			19			11	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			73			150			317	
Travel Time (s)		15.8			2.0			2.9			6.2	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99	0.99
Heavy Vehicles (%)	8%	3%	13%	3%	6%	7%	2%	5%	6%	5%	5%	3%
Adj. Flow (vph)	74	441	80	102	460	84	58	286	101	60	332	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	521	0	102	544	0	58	387	0	60	397	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.8	25.8		33.5	33.5		19.1	19.1		19.1	19.1	
Actuated g/C Ratio	0.39	0.39		0.51	0.51		0.29	0.29		0.29	0.29	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effct Green (s)	
Actuated g/C Ratio	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.25	0.76		0.35	0.61		0.39	0.73		0.39	0.74	
Control Delay	21.1	30.0		14.6	17.3		31.8	32.6		31.8	33.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.1	30.0		14.6	17.3		31.8	32.6		31.8	33.6	
LOS	C	C		B	B		C	C		C	C	
Approach Delay		28.9			16.9			32.5			33.3	
Approach LOS		C			B			C			C	
Queue Length 50th (ft)	19	174		18	128		18	126		18	133	
Queue Length 95th (ft)	72	#499		67	#377		#75	#366		#77	#382	
Internal Link Dist (ft)		498			1			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	299	689		292	960		162	571		166	578	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.76		0.35	0.57		0.36	0.68		0.36	0.69	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 66.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 27.0

Intersection LOS: C

Intersection Capacity Utilization 78.1%

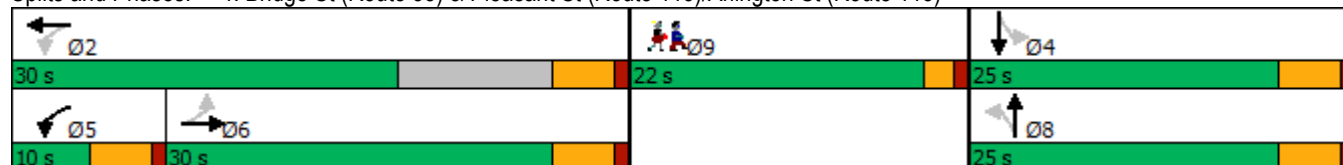
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2031 No-Build AM

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

12/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	406	74	94	423	77	53	263	93	59	329	64
Future Volume (vph)	68	406	74	94	423	77	53	263	93	59	329	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	1770		1752	1748		1829	1792		1776	1830	
Flt Permitted	0.44	1.00		0.20	1.00		0.27	1.00		0.29	1.00	
Satd. Flow (perm)	768	1770		365	1748		522	1792		536	1830	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	74	441	80	102	460	84	58	286	101	60	332	65
RTOR Reduction (vph)	0	0	0	0	7	0	0	14	0	0	8	0
Lane Group Flow (vph)	74	521	0	102	537	0	58	373	0	60	389	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	8%	3%	13%	3%	6%	7%	2%	5%	6%	5%	5%	3%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.8	25.8		34.6	34.6		19.1	19.1		19.1	19.1	
Effective Green, g (s)	25.8	25.8		34.6	34.6		19.1	19.1		19.1	19.1	
Actuated g/C Ratio	0.37	0.37		0.50	0.50		0.27	0.27		0.27	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	656		257	868		143	491		147	502	
v/s Ratio Prot		c0.29		0.02	c0.31			0.21			c0.21	
v/s Ratio Perm	0.10			0.18			0.11			0.11		
v/c Ratio	0.26	0.79		0.40	0.62		0.41	0.76		0.41	0.77	
Uniform Delay, d1	15.3	19.5		11.9	12.7		20.6	23.1		20.6	23.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	6.6		1.0	1.3		1.9	6.8		1.8	7.3	
Delay (s)	15.7	26.1		12.9	14.0		22.5	30.0		22.5	30.6	
Level of Service	B	C		B	B		C	C		C	C	
Approach Delay (s)		24.8			13.9			29.0			29.5	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			69.6			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			78.1%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2031 No-Build AM

12/03/2024

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	378	351	136	19	57
Future Volume (Veh/h)	3	378	351	136	19	57
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	3	411	369	143	21	62
Pedestrians			1			
Lane Width (ft)			13.0			
Walking Speed (ft/s)			3.5			
Percent Blockage			0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)			150			
pX, platoon unblocked	0.79				0.79	0.79
vC, conflicting volume	512				858	440
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	241				683	150
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	91
cM capacity (veh/h)	1050				327	703
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	414	512	83			
Volume Left	3	0	21			
Volume Right	0	143	62			
cSH	1050	1700	545			
Volume to Capacity	0.00	0.30	0.15			
Queue Length 95th (ft)	0	0	13			
Control Delay (s)	0.1	0.0	12.8			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	12.8			
Approach LOS			B			
Intersection Summary						
Average Delay		1.1				
Intersection Capacity Utilization		38.0%	ICU Level of Service	A		
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

9: Arlington St (Route 113)

2031 No-Build AM
12/03/2024

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱↱		
Traffic Volume (veh/h)	614	3	3	577	0	0
Future Volume (Veh/h)	614	3	3	577	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	640	3	3	627	0	0
Pedestrians					1	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	73					
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			644		962	642
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			317		757	315
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			908		251	497
Direction, Lane #	EB 1	WB 1	WB 2			
Volume Total	643	212	418			
Volume Left	0	3	0			
Volume Right	3	0	0			
cSH	1700	908	1700			
Volume to Capacity	0.38	0.00	0.25			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.2	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			35.8%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2031 No-Build AM

12/03/2024

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	618	0	0	575	4	1
Future Volume (Veh/h)	618	0	0	575	4	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	644	0	0	625	4	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)	146					
pX, platoon unblocked			0.74		0.74	0.74
vC, conflicting volume			644		1269	644
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			340		1187	340
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			908		155	522
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	644	625	4	1		
Volume Left	0	0	4	0		
Volume Right	0	0	0	1		
cSH	1700	1700	155	522		
Volume to Capacity	0.38	0.37	0.03	0.00		
Queue Length 95th (ft)	0	0	2	0		
Control Delay (s)	0.0	0.0	28.8	11.9		
Lane LOS			D	B		
Approach Delay (s)	0.0	0.0	25.4			
Approach LOS			D			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			42.5%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	423	109	170	524	100	95	372	159	68	361	79
Future Volume (vph)	40	423	109	170	524	100	95	372	159	68	361	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00			0.99		1.00		
Frt		0.969			0.976			0.955			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1805	0	1805	1830	0	1847	1825	0	1829	1851	0
Flt Permitted	0.314			0.146			0.197			0.197		
Satd. Flow (perm)	579	1805	0	277	1830	0	383	1825	0	379	1851	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					13			23			12	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			73			150			317	
Travel Time (s)		15.8			2.0			2.9			6.2	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	1%	2%	2%	2%	3%	4%
Adj. Flow (vph)	42	441	114	181	557	106	102	400	171	74	392	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	555	0	181	663	0	102	571	0	74	478	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.3	25.3		35.5	35.5		20.3	20.3		20.3	20.3	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effect Green (s)	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.36	0.36		0.51	0.51		0.29	0.29		0.29	0.29	
v/c Ratio	0.20	0.84		0.72	0.70		0.92	1.04		0.67	0.87	
Control Delay	21.2	36.0		31.8	20.2		97.9	76.2		57.7	43.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.2	36.0		31.8	20.2		97.9	76.2		57.7	43.3	
LOS	C	D		C	C		F	E		E	D	
Approach Delay		35.0			22.7			79.5			45.2	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	11	189		34	169		38	215		25	170	
Queue Length 95th (ft)	47	#536		#169	#540		#166	#601		#122	#485	
Internal Link Dist (ft)		498			1			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	211	659		253	941		111	549		110	548	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.84		0.72	0.70		0.92	1.04		0.67	0.87	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 69.4

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 44.4

Intersection LOS: D

Intersection Capacity Utilization 93.0%

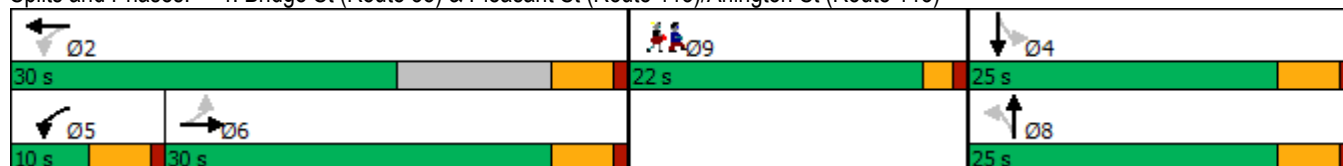
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2031 No-Build PM

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

12/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	423	109	170	524	100	95	372	159	68	361	79
Future Volume (vph)	40	423	109	170	524	100	95	372	159	68	361	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1805		1805	1830		1847	1826		1828	1851	
Flt Permitted	0.31	1.00		0.15	1.00		0.20	1.00		0.20	1.00	
Satd. Flow (perm)	579	1805		277	1830		383	1826		379	1851	
Peak-hour factor, PHF	0.96	0.96	0.96	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	42	441	114	181	557	106	102	400	171	74	392	86
RTOR Reduction (vph)	0	0	0	0	7	0	0	16	0	0	9	0
Lane Group Flow (vph)	42	555	0	181	656	0	102	555	0	74	469	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	1%	2%	2%	2%	3%	4%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Effective Green, g (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.35	0.35		0.49	0.49		0.28	0.28		0.28	0.28	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	204	638		245	904		108	516		107	523	
v/s Ratio Prot		c0.31		0.05	c0.36			c0.30			0.25	
v/s Ratio Perm	0.07			0.31			0.27			0.20		
v/c Ratio	0.21	0.87		0.74	0.73		0.94	1.07		0.69	0.90	
Uniform Delay, d1	16.2	21.7		14.0	14.3		25.2	25.8		23.0	24.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	12.1		11.1	2.9		68.5	61.2		17.5	17.9	
Delay (s)	16.7	33.8		25.0	17.2		93.7	86.9		40.5	42.6	
Level of Service	B	C		C	B		F	F		D	D	
Approach Delay (s)		32.6			18.9			87.9			42.4	
Approach LOS		C			B			F			D	
Intersection Summary												
HCM 2000 Control Delay			44.3			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			71.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			93.0%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2031 No-Build PM
12/03/2024

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	12	567	490	147	68	102
Future Volume (Veh/h)	12	567	490	147	68	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	603	533	160	74	111
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			150			
pX, platoon unblocked	0.70				0.70	0.70
vC, conflicting volume	693				1242	613
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	355				1134	242
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				52	80
cM capacity (veh/h)	856				156	565
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	616	693	185			
Volume Left	13	0	74			
Volume Right	0	160	111			
cSH	856	1700	275			
Volume to Capacity	0.02	0.41	0.67			
Queue Length 95th (ft)	1	0	110			
Control Delay (s)	0.4	0.0	41.2			
Lane LOS	A		E			
Approach Delay (s)	0.4	0.0	41.2			
Approach LOS			E			
Intersection Summary						
Average Delay			5.3			
Intersection Capacity Utilization			56.2%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

9: Arlington St (Route 113)

2031 No-Build PM

12/03/2024

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰↰		
Traffic Volume (veh/h)	598	42	19	830	0	0
Future Volume (Veh/h)	598	42	19	830	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	650	46	20	874	0	0
Pedestrians					2	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	73					
pX, platoon unblocked			0.69		0.69	0.69
vC, conflicting volume			698		1152	675
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			345		999	312
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	100
cM capacity (veh/h)			851		165	479
Direction, Lane #	EB 1	WB 1	WB 2			
Volume Total	696	311	583			
Volume Left	0	20	0			
Volume Right	46	0	0			
cSH	1700	851	1700			
Volume to Capacity	0.41	0.02	0.34			
Queue Length 95th (ft)	0	2	0			
Control Delay (s)	0.0	0.8	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.3				
Approach LOS						
Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		39.9%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2031 No-Build PM

12/03/2024

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	↗
Traffic Volume (veh/h)	603	0	0	817	44	32
Future Volume (Veh/h)	603	0	0	817	44	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	655	0	0	869	48	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	146					
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			655		1524	655
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			321		1533	321
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		48	93
cM capacity (veh/h)			896		93	519
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	655	869	48	35		
Volume Left	0	0	48	0		
Volume Right	0	0	0	35		
cSH	1700	1700	93	519		
Volume to Capacity	0.39	0.51	0.52	0.07		
Queue Length 95th (ft)	0	0	57	5		
Control Delay (s)	0.0	0.0	79.4	12.4		
Lane LOS			F	B		
Approach Delay (s)	0.0	0.0	51.1			
Approach LOS			F			
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			53.0%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	429	103	120	400	104	80	356	138	63	358	66
Future Volume (vph)	59	429	103	120	400	104	80	356	138	63	358	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00			1.00				1.00	
Frt		0.971			0.969			0.958			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1815	0	1805	1812	0	1847	1857	0	1811	1896	0
Flt Permitted	0.445			0.132			0.197			0.197		
Satd. Flow (perm)	829	1815	0	251	1812	0	383	1857	0	376	1896	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					18			21			10	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			73			150			317	
Travel Time (s)		15.8			2.0			2.9			6.2	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	2%	1%	2%	0%	1%	4%	1%	1%	2%	3%	1%	0%
Adj. Flow (vph)	64	466	112	130	435	113	85	379	147	68	389	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	578	0	130	548	0	85	526	0	68	461	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.3	25.3		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.36	0.36		0.51	0.51		0.29	0.29		0.29	0.29	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effct Green (s)	
Actuated g/C Ratio	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.21	0.87		0.54	0.59		0.77	0.94		0.62	0.82	
Control Delay	20.2	38.7		22.1	16.4		69.2	53.4		53.0	38.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.2	38.7		22.1	16.4		69.2	53.4		53.0	38.5	
LOS	C	D		C	B		E	D		D	D	
Approach Delay		36.9			17.5			55.6			40.4	
Approach LOS		D			B			E			D	
Queue Length 50th (ft)	16	201		23	125		30	190		23	161	
Queue Length 95th (ft)	62	#563		#99	368		#140	#540		#112	#458	
Internal Link Dist (ft)		498			1			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	302	663		241	935		111	557		109	561	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.87		0.54	0.59		0.77	0.94		0.62	0.82	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 69.4

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 36.9

Intersection LOS: D

Intersection Capacity Utilization 85.1%

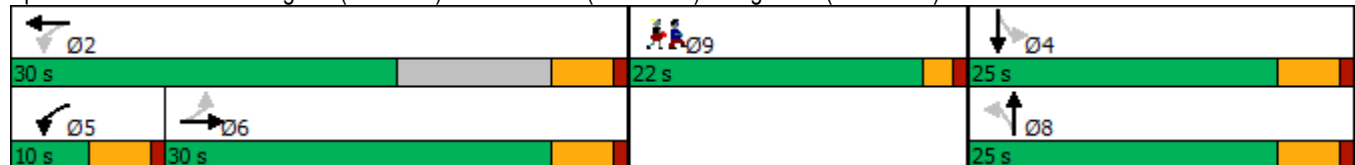
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2031 No-Build SAT

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

12/03/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	429	103	120	400	104	80	356	138	63	358	66
Future Volume (vph)	59	429	103	120	400	104	80	356	138	63	358	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1815		1805	1812		1846	1857		1811	1895	
Flt Permitted	0.45	1.00		0.13	1.00		0.20	1.00		0.20	1.00	
Satd. Flow (perm)	829	1815		250	1812		383	1857		376	1895	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	64	466	112	130	435	113	85	379	147	68	389	72
RTOR Reduction (vph)	0	0	0	0	9	0	0	15	0	0	7	0
Lane Group Flow (vph)	64	578	0	130	539	0	85	511	0	68	454	0
Confl. Peds. (#/hr)			1	1			1					1
Heavy Vehicles (%)	2%	1%	2%	0%	1%	4%	1%	1%	2%	3%	1%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Effective Green, g (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.35	0.35		0.49	0.49		0.28	0.28		0.28	0.28	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	293	642		234	895		108	525		106	535	
v/s Ratio Prot		c0.32		0.04	c0.30			c0.28			0.24	
v/s Ratio Perm	0.08			0.24			0.22			0.18		
v/c Ratio	0.22	0.90		0.56	0.60		0.79	0.97		0.64	0.85	
Uniform Delay, d1	16.2	22.0		13.8	13.1		23.8	25.5		22.6	24.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	15.7		2.8	1.1		30.5	32.3		12.5	11.9	
Delay (s)	16.6	37.7		16.7	14.2		54.2	57.7		35.1	36.2	
Level of Service	B	D		B	B		D	E		D	D	
Approach Delay (s)		35.6			14.7			57.3			36.1	
Approach LOS		D			B			E			D	
Intersection Summary												
HCM 2000 Control Delay			35.3			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			71.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			85.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2031 No-Build SAT

12/03/2024

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	9	507	493	112	61	28
Future Volume (Veh/h)	9	507	493	112	61	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	9	528	524	119	66	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			150			
pX, platoon unblocked	0.74				0.74	0.74
vC, conflicting volume	643				1130	584
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	343				1000	262
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				67	95
cM capacity (veh/h)	909				198	579
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	537	643	96			
Volume Left	9	0	66			
Volume Right	0	119	30			
cSH	909	1700	249			
Volume to Capacity	0.01	0.38	0.39			
Queue Length 95th (ft)	1	0	43			
Control Delay (s)	0.3	0.0	28.3			
Lane LOS	A		D			
Approach Delay (s)	0.3	0.0	28.3			
Approach LOS			D			
Intersection Summary						
Average Delay		2.2				
Intersection Capacity Utilization		45.6%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

9: Arlington St (Route 113)

2031 No-Build SAT

12/03/2024

									
Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations				 					
Traffic Volume (veh/h)	600	30	12	628	0	0			
Future Volume (Veh/h)	600	30	12	628	0	0			
Sign Control	Free			Free	Stop				
Grade	0%			0%	0%				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Hourly flow rate (vph)	652	33	13	683	0	0			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type	None		None						
Median storage veh)									
Upstream signal (ft)	73								
pX, platoon unblocked			0.68		0.68	0.68			
vC, conflicting volume			685		1036	668			
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol			303		818	279			
tC, single (s)			4.1		6.8	6.9			
tC, 2 stage (s)									
tF (s)			2.2		3.5	3.3			
p0 queue free %			98		100	100			
cM capacity (veh/h)			864		213	493			
Direction, Lane #	EB 1	WB 1	WB 2						
Volume Total	685	241	455						
Volume Left	0	13	0						
Volume Right	33	0	0						
cSH	1700	864	1700						
Volume to Capacity	0.40	0.02	0.27						
Queue Length 95th (ft)	0	1	0						
Control Delay (s)	0.0	0.7	0.0						
Lane LOS		A							
Approach Delay (s)	0.0	0.2							
Approach LOS									
Intersection Summary									
Average Delay		0.1							
Intersection Capacity Utilization		36.7%		ICU Level of Service	A				
Analysis Period (min)		15							

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2031 No-Build SAT

12/03/2024

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑			↑	↘	↗		
Traffic Volume (veh/h)	588	0	0	630	17	23		
Future Volume (Veh/h)	588	0	0	630	17	23		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	639	0	0	685	18	25		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			None				
Median storage veh)								
Upstream signal (ft)	146							
pX, platoon unblocked			0.70		0.70	0.70		
vC, conflicting volume			639		1324	639		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			276		1250	276		
tC, single (s)			4.1		6.4	6.2		
tC, 2 stage (s)								
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		87	95		
cM capacity (veh/h)			913		136	540		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2				
Volume Total	639	685	18	25				
Volume Left	0	0	18	0				
Volume Right	0	0	0	25				
cSH	1700	1700	136	540				
Volume to Capacity	0.38	0.40	0.13	0.05				
Queue Length 95th (ft)	0	0	11	4				
Control Delay (s)	0.0	0.0	35.6	12.0				
Lane LOS			E	B				
Approach Delay (s)	0.0	0.0	21.9					
Approach LOS			C					
Intersection Summary								
Average Delay			0.7					
Intersection Capacity Utilization			43.2%	ICU Level of Service	A			
Analysis Period (min)			15					

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	413	74	100	429	82	53	263	99	64	329	64
Future Volume (vph)	68	413	74	100	429	82	53	263	99	64	329	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.977			0.976			0.959			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1770	0	1752	1747	0	1829	1789	0	1776	1829	0
Flt Permitted	0.424			0.191			0.271			0.276		
Satd. Flow (perm)	746	1770	0	352	1747	0	522	1789	0	516	1829	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					13			20			11	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			146			150			317	
Travel Time (s)		15.8			4.0			2.9			6.2	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99	0.99
Heavy Vehicles (%)	8%	3%	13%	3%	6%	7%	2%	5%	6%	5%	5%	3%
Adj. Flow (vph)	74	449	80	109	466	89	58	286	108	65	332	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	529	0	109	555	0	58	394	0	65	397	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.8	25.8		33.5	33.5		19.1	19.1		19.1	19.1	
Actuated g/C Ratio	0.39	0.39		0.51	0.51		0.29	0.29		0.29	0.29	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effct Green (s)	
Actuated g/C Ratio	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.26	0.77		0.38	0.62		0.39	0.74		0.44	0.74	
Control Delay	21.3	30.6		15.3	17.7		31.8	33.2		34.6	33.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.3	30.6		15.3	17.7		31.8	33.2		34.6	33.6	
LOS	C	C		B	B		C	C		C	C	
Approach Delay		29.5			17.3			33.0			33.7	
Approach LOS		C			B			C			C	
Queue Length 50th (ft)	19	178		19	132		18	129		20	133	
Queue Length 95th (ft)	72	#508		71	#401		#75	#375		#87	#382	
Internal Link Dist (ft)		498			66			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	290	689		287	959		162	571		160	578	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.26	0.77		0.38	0.58		0.36	0.69		0.41	0.69	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 66.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 27.4

Intersection LOS: C

Intersection Capacity Utilization 78.8%

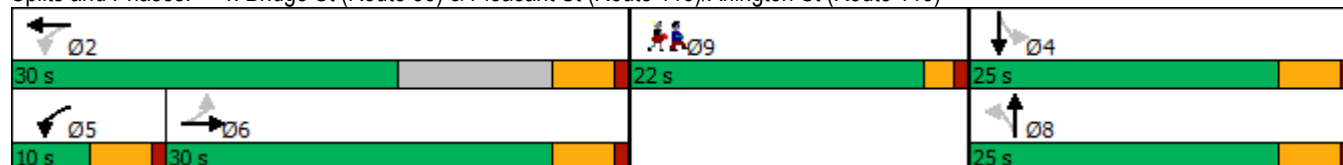
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2031 Build AM

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

03/14/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	413	74	100	429	82	53	263	99	64	329	64
Future Volume (vph)	68	413	74	100	429	82	53	263	99	64	329	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	1771		1752	1747		1829	1788		1776	1830	
Flt Permitted	0.42	1.00		0.19	1.00		0.27	1.00		0.28	1.00	
Satd. Flow (perm)	747	1771		352	1747		522	1788		516	1830	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	74	449	80	109	466	89	58	286	108	65	332	65
RTOR Reduction (vph)	0	0	0	0	7	0	0	15	0	0	8	0
Lane Group Flow (vph)	74	529	0	109	548	0	58	379	0	65	389	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	8%	3%	13%	3%	6%	7%	2%	5%	6%	5%	5%	3%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.8	25.8		34.6	34.6		19.1	19.1		19.1	19.1	
Effective Green, g (s)	25.8	25.8		34.6	34.6		19.1	19.1		19.1	19.1	
Actuated g/C Ratio	0.37	0.37		0.50	0.50		0.27	0.27		0.27	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	276	656		251	868		143	490		141	502	
v/s Ratio Prot		c0.30		0.02	c0.31			0.21			c0.21	
v/s Ratio Perm	0.10			0.19			0.11			0.13		
v/c Ratio	0.27	0.81		0.43	0.63		0.41	0.77		0.46	0.77	
Uniform Delay, d1	15.3	19.7		12.1	12.8		20.6	23.3		21.0	23.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	7.2		1.2	1.5		1.9	7.5		2.4	7.3	
Delay (s)	15.8	26.8		13.3	14.3		22.5	30.8		23.4	30.6	
Level of Service	B	C		B	B		C	C		C	C	
Approach Delay (s)		25.5			14.2			29.7			29.6	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			69.6			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			78.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2031 Build AM
03/18/2025



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	383	356	137	20	57
Future Volume (Veh/h)	3	383	356	137	20	57
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	3	416	375	144	22	62
Pedestrians			1			
Lane Width (ft)			13.0			
Walking Speed (ft/s)			3.5			
Percent Blockage			0			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			150			
pX, platoon unblocked	0.78				0.78	0.78
vC, conflicting volume	519				870	447
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246				695	154
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				93	91
cM capacity (veh/h)	1042				321	698
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	419	519	84			
Volume Left	3	0	22			
Volume Right	0	144	62			
cSH	1042	1700	533			
Volume to Capacity	0.00	0.31	0.16			
Queue Length 95th (ft)	0	0	14			
Control Delay (s)	0.1	0.0	13.0			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	13.0			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			38.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2031 Build AM

03/18/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↱	↱
Traffic Volume (veh/h)	562	73	39	549	48	58
Future Volume (Veh/h)	562	73	39	549	48	58
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	592	77	42	597	52	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)	146					
pX, platoon unblocked			0.73		0.73	0.73
vC, conflicting volume			669		1312	630
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			359		1241	306
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		62	88
cM capacity (veh/h)			882		135	538
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	669	639	52	63		
Volume Left	0	42	52	0		
Volume Right	77	0	0	63		
cSH	1700	882	135	538		
Volume to Capacity	0.39	0.05	0.38	0.12		
Queue Length 95th (ft)	0	4	41	10		
Control Delay (s)	0.0	1.2	47.4	12.6		
Lane LOS		A	E	B		
Approach Delay (s)	0.0	1.2	28.3			
Approach LOS			D			
Intersection Summary						
Average Delay		2.8				
Intersection Capacity Utilization			71.0%	ICU Level of Service		C
Analysis Period (min)		15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	426	109	173	527	102	95	372	162	70	361	79
Future Volume (vph)	40	426	109	173	527	102	95	372	162	70	361	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00			0.99		1.00		
Frt		0.969			0.976			0.955			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1805	0	1805	1830	0	1847	1825	0	1829	1851	0
Flt Permitted	0.306			0.143			0.197			0.197		
Satd. Flow (perm)	564	1805	0	272	1830	0	383	1825	0	379	1851	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					13			23			12	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			146			150			317	
Travel Time (s)		15.8			4.0			2.9			6.2	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	1%	2%	2%	2%	3%	4%
Adj. Flow (vph)	42	444	114	184	561	109	102	400	174	76	392	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	558	0	184	670	0	102	574	0	76	478	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.3	25.3		35.5	35.5		20.3	20.3		20.3	20.3	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effect Green (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.36	0.36		0.51	0.51		0.29	0.29		0.29	0.29	
v/c Ratio	0.20	0.85		0.73	0.71		0.92	1.05		0.69	0.87	
Control Delay	21.4	36.4		33.3	20.4		97.9	77.7		59.7	43.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.4	36.4		33.3	20.4		97.9	77.7		59.7	43.3	
LOS	C	D		C	C		F	E		E	D	
Approach Delay		35.4			23.2			80.8			45.5	
Approach LOS		D			C			F			D	
Queue Length 50th (ft)	11	191		34	172		38	217		26	170	
Queue Length 95th (ft)	47	#539		#175	#550		#166	#605		#124	#485	
Internal Link Dist (ft)		498			66			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	205	659		251	941		111	549		110	548	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.85		0.73	0.71		0.92	1.05		0.69	0.87	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 69.4

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 45.0

Intersection LOS: D

Intersection Capacity Utilization 93.4%

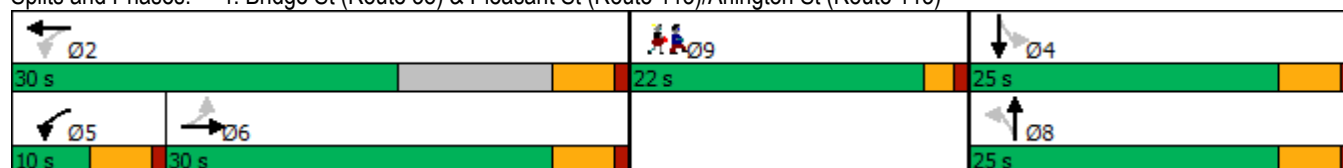
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2031 Build PM

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

03/14/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	426	109	173	527	102	95	372	162	70	361	79
Future Volume (vph)	40	426	109	173	527	102	95	372	162	70	361	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1806		1805	1829		1847	1824		1828	1851	
Flt Permitted	0.31	1.00		0.14	1.00		0.20	1.00		0.20	1.00	
Satd. Flow (perm)	565	1806		272	1829		383	1824		379	1851	
Peak-hour factor, PHF	0.96	0.96	0.96	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	42	444	114	184	561	109	102	400	174	76	392	86
RTOR Reduction (vph)	0	0	0	0	7	0	0	16	0	0	9	0
Lane Group Flow (vph)	42	558	0	184	663	0	102	558	0	76	469	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	1%	2%	2%	2%	3%	4%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Effective Green, g (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.35	0.35		0.49	0.49		0.28	0.28		0.28	0.28	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	199	638		243	904		108	515		107	523	
v/s Ratio Prot		c0.31		0.05	c0.36			c0.31			0.25	
v/s Ratio Perm	0.07			0.32			0.27			0.20		
v/c Ratio	0.21	0.87		0.76	0.73		0.94	1.08		0.71	0.90	
Uniform Delay, d1	16.2	21.7		14.1	14.4		25.2	25.8		23.1	24.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	12.7		12.6	3.1		68.5	63.8		19.8	17.9	
Delay (s)	16.7	34.4		26.7	17.5		93.7	89.6		42.9	42.6	
Level of Service	B	C		C	B		F	F		D	D	
Approach Delay (s)		33.2			19.5			90.2			42.7	
Approach LOS		C			B			F			D	
Intersection Summary												
HCM 2000 Control Delay			45.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			71.8			Sum of lost time (s)				18.0		
Intersection Capacity Utilization			93.4%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2031 Build PM
03/18/2025

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	12	569	492	148	69	102
Future Volume (Veh/h)	12	569	492	148	69	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	605	535	161	75	111
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			150			
pX, platoon unblocked	0.70				0.70	0.70
vC, conflicting volume	696				1246	616
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	358				1140	243
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				51	80
cM capacity (veh/h)	853				154	563
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	618	696	186			
Volume Left	13	0	75			
Volume Right	0	161	111			
cSH	853	1700	272			
Volume to Capacity	0.02	0.41	0.68			
Queue Length 95th (ft)	1	0	114			
Control Delay (s)	0.4	0.0	42.7			
Lane LOS	A		E			
Approach Delay (s)	0.4	0.0	42.7			
Approach LOS			E			
Intersection Summary						
Average Delay			5.5			
Intersection Capacity Utilization			56.3%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2031 Build PM

03/18/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	575	73	35	818	64	59
Future Volume (Veh/h)	575	73	35	818	64	59
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	625	79	37	870	70	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)	146					
pX, platoon unblocked			0.70		0.70	0.70
vC, conflicting volume			704		1608	664
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			361		1655	305
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		4	88
cM capacity (veh/h)			845		73	517
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	704	907	70	64		
Volume Left	0	37	70	0		
Volume Right	79	0	0	64		
cSH	1700	845	73	517		
Volume to Capacity	0.41	0.04	0.96	0.12		
Queue Length 95th (ft)	0	3	124	11		
Control Delay (s)	0.0	1.2	191.7	12.9		
Lane LOS		A	F	B		
Approach Delay (s)	0.0	1.2	106.3			
Approach LOS			F			
Intersection Summary						
Average Delay			8.8			
Intersection Capacity Utilization			81.7%	ICU Level of Service	D	
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	436	103	126	407	109	80	356	144	68	358	66
Future Volume (vph)	59	436	103	126	407	109	80	356	144	68	358	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	13	13	13
Storage Length (ft)	75		0	50		0	0		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00			1.00				1.00	
Frt		0.971			0.968			0.957			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1816	0	1805	1810	0	1847	1855	0	1811	1896	0
Flt Permitted	0.431			0.132			0.197			0.197		
Satd. Flow (perm)	803	1816	0	251	1810	0	383	1855	0	376	1896	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					18			22			10	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		578			146			150			317	
Travel Time (s)		15.8			4.0			2.9			6.2	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	2%	1%	2%	0%	1%	4%	1%	1%	2%	3%	1%	0%
Adj. Flow (vph)	64	474	112	137	442	118	85	379	153	74	389	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	586	0	137	560	0	85	532	0	74	461	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Detector Phase	6	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	9.0	9.0		5.0	9.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	14.0		10.0	14.0		12.0	12.0		12.0	12.0	
Total Split (s)	30.0	30.0		10.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	34.5%	34.5%		11.5%	34.5%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	25.0	25.0		5.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.3	25.3		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.36	0.36		0.51	0.51		0.29	0.29		0.29	0.29	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	25%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	2
Act Effct Green (s)	
Actuated g/C Ratio	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.22	0.88		0.57	0.60		0.77	0.96		0.68	0.82	
Control Delay	20.4	40.0		23.5	16.8		69.2	55.2		58.6	38.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.4	40.0		23.5	16.8		69.2	55.2		58.6	38.5	
LOS	C	D		C	B		E	E		E	D	
Approach Delay		38.1			18.1			57.1			41.3	
Approach LOS		D			B			E			D	
Queue Length 50th (ft)	16	205		25	130		30	192		25	161	
Queue Length 95th (ft)	63	#573		#109	380		#140	#546		#122	#458	
Internal Link Dist (ft)		498			66			70			237	
Turn Bay Length (ft)	75			50						75		
Base Capacity (vph)	292	663		241	933		111	557		109	561	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.22	0.88		0.57	0.60		0.77	0.96		0.68	0.82	

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 69.4

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 37.9

Intersection LOS: D

Intersection Capacity Utilization 86.2%

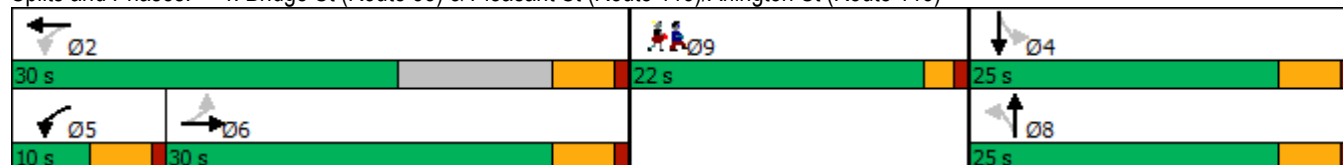
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)



Lane Group	Ø9
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2031 Build SAT

4: Bridge St (Route 38) & Pleasant St (Route 113)/Arlington St (Route 113)

03/14/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	436	103	126	407	109	80	356	144	68	358	66
Future Volume (vph)	59	436	103	126	407	109	80	356	144	68	358	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	13	13	13	13	13	13
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1816		1805	1810		1846	1855		1811	1895	
Flt Permitted	0.43	1.00		0.13	1.00		0.20	1.00		0.20	1.00	
Satd. Flow (perm)	803	1816		250	1810		383	1855		376	1895	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	64	474	112	137	442	118	85	379	153	74	389	72
RTOR Reduction (vph)	0	0	0	0	9	0	0	16	0	0	7	0
Lane Group Flow (vph)	64	586	0	137	551	0	85	516	0	74	454	0
Confl. Peds. (#/hr)			1	1			1					1
Heavy Vehicles (%)	2%	1%	2%	0%	1%	4%	1%	1%	2%	3%	1%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Effective Green, g (s)	25.4	25.4		35.5	35.5		20.3	20.3		20.3	20.3	
Actuated g/C Ratio	0.35	0.35		0.49	0.49		0.28	0.28		0.28	0.28	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	642		234	894		108	524		106	535	
v/s Ratio Prot		c0.32		0.04	c0.30			c0.28			0.24	
v/s Ratio Perm	0.08			0.25			0.22			0.20		
v/c Ratio	0.23	0.91		0.59	0.62		0.79	0.99		0.70	0.85	
Uniform Delay, d1	16.3	22.1		14.0	13.2		23.8	25.6		23.0	24.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	17.4		3.7	1.3		30.5	35.2		18.2	11.9	
Delay (s)	16.7	39.5		17.7	14.5		54.2	60.8		41.2	36.2	
Level of Service	B	D		B	B		D	E		D	D	
Approach Delay (s)		37.3			15.1			59.9			36.9	
Approach LOS		D			B			E			D	
Intersection Summary												
HCM 2000 Control Delay			36.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			71.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			86.2%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Aiken Ave & Bridge St (Route 38)

2031 Build SAT
03/18/2025

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	9	512	498	113	62	28
Future Volume (Veh/h)	9	512	498	113	62	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	9	533	530	120	67	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			150			
pX, platoon unblocked	0.74				0.74	0.74
vC, conflicting volume	650				1141	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	348				1013	267
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				65	95
cM capacity (veh/h)	902				193	573
Direction, Lane #	NB 1	SB 1	NE 1			
Volume Total	542	650	97			
Volume Left	9	0	67			
Volume Right	0	120	30			
cSH	902	1700	243			
Volume to Capacity	0.01	0.38	0.40			
Queue Length 95th (ft)	1	0	45			
Control Delay (s)	0.3	0.0	29.3			
Lane LOS	A		D			
Approach Delay (s)	0.3	0.0	29.3			
Approach LOS			D			
Intersection Summary						
Average Delay		2.3				
Intersection Capacity Utilization		46.0%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

11: Site Driveway & Arlington St (Route 113)

2031 Build SAT

03/18/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	548	100	48	600	63	83
Future Volume (Veh/h)	548	100	48	600	63	83
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	596	109	52	652	68	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)	146					
pX, platoon unblocked			0.68		0.68	0.68
vC, conflicting volume			705		1406	650
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			337		1363	257
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		36	83
cM capacity (veh/h)			843		105	538
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	705	704	68	90		
Volume Left	0	52	68	0		
Volume Right	109	0	0	90		
cSH	1700	843	105	538		
Volume to Capacity	0.41	0.06	0.64	0.17		
Queue Length 95th (ft)	0	5	81	15		
Control Delay (s)	0.0	1.6	86.8	13.0		
Lane LOS		A	F	B		
Approach Delay (s)	0.0	1.6	44.8			
Approach LOS			E			
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			81.3%	ICU Level of Service		D
Analysis Period (min)			15			



Appendix D

Raw Turning Movement Count Data

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut
Control: Signalized

Project ID: 24-430172-001
Date: 10/31/2024

Data - Total

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Arlington St/Pleasant St/SR 113				Arlington St/Pleasant St/SR 113				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	0.5 ET	0.5 ER	0 EU	1 WL	0.5 WT	0.5 WR	0 WU	
7:00 AM	13	45	18	0	9	68	21	0	11	82	17	0	23	108	11	0	426
7:15 AM	8	49	21	0	15	77	14	0	7	107	7	0	29	107	15	0	456
7:30 AM	16	50	27	0	19	65	9	0	8	97	18	0	23	92	14	0	438
7:45 AM	25	59	22	0	11	62	11	0	8	115	16	0	19	78	12	0	438
8:00 AM	12	48	20	0	16	75	15	0	11	101	18	0	18	101	13	0	448
8:15 AM	6	79	26	0	14	76	15	0	14	112	25	0	24	126	26	0	543
8:30 AM	20	53	20	0	15	75	14	0	15	82	14	0	28	90	13	0	439
8:45 AM	11	65	21	0	10	81	16	0	23	84	12	0	18	78	20	0	439
TOTAL VOLUMES :	NL 111	NT 448	NR 175	NU 0	SL 109	ST 579	SR 115	SU 0	EL 97	ET 780	ER 127	EU 0	WL 182	WT 780	WR 124	WU 0	TOTAL 3627
APPROACH %'s :	15.12%	61.04%	23.84%	0.00%	13.57%	72.10%	14.32%	0.00%	9.66%	77.69%	12.65%	0.00%	16.76%	71.82%	11.42%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	49	245	87	0	55	307	60	0	63	379	69	0	88	395	72	0	1869
PEAK HR FACTOR :	0.613	0.775	0.837	0.000	0.859	0.948	0.938	0.000	0.685	0.846	0.690	0.000	0.786	0.784	0.692	0.000	0.860
	0.858				0.986				0.846				0.788				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	0.5 ET	0.5 ER	0 EU	1 WL	0.5 WT	0.5 WR	0 WU	
4:00 PM	24	79	32	0	12	78	19	0	12	98	22	0	42	139	30	0	587
4:15 PM	26	89	31	0	15	70	22	0	5	106	23	0	33	128	27	0	575
4:30 PM	18	86	33	0	18	80	9	0	6	100	21	0	36	116	18	0	541
4:45 PM	23	95	39	0	13	92	25	0	15	90	34	0	44	121	32	0	623
5:00 PM	22	77	45	0	17	95	18	0	11	99	24	0	46	124	16	0	594
5:15 PM	32	71	39	0	15	76	17	0	7	99	15	0	31	148	20	0	570
5:30 PM	21	54	30	0	9	64	20	0	13	94	16	0	39	130	20	0	510
5:45 PM	14	56	25	0	19	56	21	0	9	109	10	0	27	103	13	0	462
TOTAL VOLUMES :	NL 180	NT 607	NR 274	NU 0	SL 118	ST 611	SR 151	SU 0	EL 78	ET 795	ER 165	EU 0	WL 298	WT 1009	WR 176	WU 0	TOTAL 4462
APPROACH %'s :	16.97%	57.21%	25.82%	0.00%	13.41%	69.43%	17.16%	0.00%	7.51%	76.59%	15.90%	0.00%	20.09%	68.04%	11.87%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	89	347	148	0	63	337	74	0	37	395	102	0	159	489	93	0	2333
PEAK HR FACTOR :	0.856	0.913	0.822	0.000	0.875	0.887	0.740	0.000	0.617	0.932	0.750	0.000	0.864	0.955	0.727	0.000	0.936
	0.930				0.912				0.960				0.940				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut
Control: Signalized

Project ID: 24-430172-001
Date: 10/31/2024

Data - Cars

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Arlington St/Pleasant St/SR 113				Arlington St/Pleasant St/SR 113					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	7:00 AM	11	40	17	0	6	60	17	0	9	80	15	0	21	104	11	0	391
	7:15 AM	7	45	20	0	13	75	14	0	7	105	5	0	27	101	14	0	433
	7:30 AM	12	47	25	0	17	61	9	0	7	89	17	0	23	85	12	0	404
	7:45 AM	25	57	21	0	11	60	10	0	6	112	16	0	19	74	12	0	423
	8:00 AM	12	47	18	0	16	71	14	0	8	96	16	0	18	95	10	0	421
	8:15 AM	5	76	25	0	14	74	15	0	14	108	21	0	24	119	24	0	519
	8:30 AM	20	49	19	0	12	71	14	0	15	80	12	0	27	82	13	0	414
8:45 AM	11	60	20	0	10	76	15	0	21	83	11	0	16	74	20	0	417	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	14.95%	61.10%	23.95%	0.00%	13.11%	72.58%	14.30%	0.00%	9.13%	79.01%	11.86%	0.00%	17.07%	71.61%	11.32%	0.00%	3422	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL	
PEAK HR VOL :	48	232	82	0	52	292	58	0	58	367	60	0	85	370	67	0	1771	
PEAK HR FACTOR :	0.600	0.763	0.820	0.000	0.813	0.961	0.967	0.000	0.690	0.850	0.714	0.000	0.787	0.777	0.698	0.000	0.853	
	0.854				0.976				0.848				0.781					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	4:00 PM	24	74	31	0	12	19	19	0	11	93	22	0	42	137	30	0	572
	4:15 PM	25	89	31	0	5	68	20	0	5	105	23	0	33	128	27	0	569
	4:30 PM	18	84	33	0	18	78	8	0	5	98	21	0	36	116	17	0	532
	4:45 PM	23	93	38	0	12	88	25	0	15	88	33	0	44	120	32	0	611
	5:00 PM	22	75	43	0	17	92	18	0	11	98	23	0	46	120	16	0	581
	5:15 PM	30	71	39	0	15	74	17	0	6	98	15	0	31	146	20	0	562
	5:30 PM	21	52	30	0	8	64	20	0	13	92	16	0	38	129	20	0	503
5:45 PM	14	54	25	0	19	54	21	0	9	108	10	0	27	102	13	0	456	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	17.7%	59.92	27.0	0	13.50%	69.27%	17.23%	0.00%	7.37%	78.80	16.01%	0.00%	20.20%	67.89%	11.90%	0.00%	4386	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL	
PEAK HR VOL :	88	341	145	0	62	326	71	0	36	389	100	0	159	484	92	0	2293	
PEAK HR FACTOR :	0.880	0.917	0.843	0.000	0.861	0.886	0.710	0.000	0.600	0.926	0.758	0.000	0.864	0.945	0.719	0.000	0.938	
	0.932				0.904				0.965				0.938					

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut
Control: Signalized

Project ID: 24-430172-001
Date: 10/31/2024

Data - HT

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Arlington St/Pleasant St/SR 113				Arlington St/Pleasant St/SR 113					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	2	5	1	0	3	8	4	0	2	2	2	0	2	4	0	0		
	7:00 AM																	
	7:15 AM	1	4	1	0	2	2	0	0	0	2	2	0	2	6	1		0
	7:30 AM	4	3	2	0	2	4	0	0	1	8	1	0	0	7	2		0
	7:45 AM	0	2	1	0	0	2	1	0	2	3	0	0	0	4	0		0
	8:00 AM	0	1	2	0	0	4	1	0	3	5	2	0	0	6	3		0
	8:15 AM	1	3	1	0	0	2	0	0	0	4	4	0	0	7	2		0
8:30 AM	0	4	1	0	3	4	0	0	0	2	2	0	1	8	0	0		
8:45 AM	0	5	1	0	0	5	1	0	2	1	1	0	2	4	0	0		
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	8	27	10	0	10	31	7	0	10	27	14	0	7	46	8	0	205	
	17.78%	60.00%	22.22%	0.00%	20.83%	64.58%	14.58%	0.00%	19.61%	52.94%	27.45%	0.00%	11.48%	75.41%	13.11%	0.00%		
PEAK HR :	08:00 AM - 09:00 AM																TOTAL	
PEAK HR VOL :	1	13	5	0	3	15	2	0	5	12	9	0	3	25	5	0	98	
PEAK HR FACTOR :	0.250	0.650	0.625	0.000	0.250	0.750	0.500	0.000	0.417	0.600	0.563	0.000	0.375	0.781	0.417	0.000	0.907	
	0.792				0.714				0.650				0.917					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	0	5	1	0	0	1	0	0	1	5	0	0	0	2	0	0		
	4:00 PM																	
	4:15 PM	1	0	0	0	0	2	0	0	1	0	0	0	0	0	0		
	4:30 PM	0	2	0	0	0	2	1	0	0	2	0	0	0	1	0		
	4:45 PM	0	2	1	0	1	4	0	0	0	2	1	0	0	1	0		
	5:00 PM	0	2	2	0	0	3	0	0	0	1	1	0	0	4	0		0
	5:15 PM	2	0	0	0	0	2	0	0	1	1	0	0	0	2	0		0
5:30 PM	0	2	0	0	1	0	0	0	0	2	0	0	1	1	0	0		
5:45 PM	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0	0		
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	13	65	18	0	2	16	3	0	3	15	2	0	1	11	1	0	76	
	3.64%	68.18%	18.18%	0.00%	9.52%	76.19%	14.29%	0.00%	15.00%	75.00%	10.00%	0.00%	7.69%	84.62%	7.69%	0.00%		
PEAK HR :	04:15 PM - 05:15 PM																TOTAL	
PEAK HR VOL :	1	6	3	0	1	11	3	0	1	6	2	0	0	5	1	0	40	
PEAK HR FACTOR :	0.250	0.750	0.375	0.000	0.250	0.688	0.375	0.000	0.250	0.750	0.500	0.000	0.000	0.313	0.250	0.000	0.769	
	0.625				0.750				0.750				0.375					

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut

Project ID: 24-430172-001
Date: 10/31/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Bridge St/SR 38		Bridge St/SR 38		Arlington St/Pleasant St/SR 113		Arlington St/Pleasant St/SR 113		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	2	0	0	0	0	0	0	2
7:15 AM	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	1	0	0	1
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	1	0	0	0	0	0	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	3	1	0	0	1	0	0	5
	0.00%	100.00%	100.00%	0.00%	0.00%	100.00%			
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	1	0	0	0	0	0	1
PEAK HR FACTOR :			0.250						0.250
				0.250					

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	1	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	1	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	1	0	0	0	2	2	0	1	6
	100.00%	0.00%			50.00%	50.00%	0.00%	100.00%	
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	1	0	0	0	1	0	0	0	2
PEAK HR FACTOR :	0.250				0.250				0.250
		0.250				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut
Control: Signalized

Project ID: 24-430172-001
Date: 11/2/2024

Data - Total

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Arlington St/Pleasant St/SR 113				Arlington St/Pleasant St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	0.5 ET	0.5 ER	0 EU	1 WL	0.5 WT	0.5 WR	0 WU	
11:00 AM	14	81	36	0	9	88	13	0	13	102	25	0	28	93	26	0	528
11:15 AM	21	77	28	0	27	84	12	0	12	112	27	0	32	94	23	0	549
11:30 AM	21	89	33	0	13	95	19	0	18	104	21	0	21	75	21	0	530
11:45 AM	19	85	32	0	10	67	18	0	12	82	23	0	31	111	27	0	517
12:00 PM	17	79	34	0	14	81	17	0	17	83	29	0	26	108	18	0	523
12:15 PM	14	81	26	0	19	74	18	0	14	106	26	0	24	102	30	0	534
12:30 PM	22	80	27	0	11	92	12	0	27	100	21	0	26	100	18	0	536
12:45 PM	27	80	21	0	9	69	13	0	14	94	31	0	23	95	28	0	504
TOTAL VOLUMES :	NL 155	NT 652	NR 237	NU 0	SL 112	ST 650	SR 122	SU 0	EL 127	ET 783	ER 203	EU 0	WL 211	WT 778	WR 191	WU 0	TOTAL 4221
APPROACH %'s :	14.85%	62.45%	22.70%	0.00%	12.67%	73.53%	13.80%	0.00%	11.41%	70.35%	18.24%	0.00%	17.88%	65.93%	16.19%	0.00%	
PEAK HR :	11:00 AM - 12:00 PM																TOTAL
PEAK HR VOL :	75	332	129	0	59	334	62	0	55	400	96	0	112	373	97	0	2124
PEAK HR FACTOR :	0.893	0.933	0.896	0.000	0.546	0.879	0.816	0.000	0.764	0.893	0.889	0.000	0.875	0.840	0.898	0.000	0.967
		0.937				0.896				0.912				0.861			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut
Control: Signalized

Project ID: 24-430172-001
Date: 11/2/2024

Data - Cars

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Arlington St/Pleasant St/SR 113				Arlington St/Pleasant St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	0.5 ET	0.5 ER	0 EU	1 WL	0.5 WT	0.5 WR	0 WU	
11:00 AM	14	81	36	0	9	87	13	0	13	100	25	0	28	90	24	0	520
11:15 AM	21	76	26	0	25	81	12	0	12	111	25	0	32	93	23	0	537
11:30 AM	20	89	33	0	13	94	19	0	18	104	21	0	21	75	21	0	528
11:45 AM	19	83	31	0	10	67	18	0	11	81	23	0	31	111	25	0	510
12:00 PM	17	79	34	0	14	79	17	0	17	83	29	0	26	106	17	0	518
12:15 PM	14	81	24	0	18	74	18	0	14	104	26	0	24	101	30	0	528
12:30 PM	22	79	26	0	10	90	12	0	27	100	21	0	26	100	18	0	531
12:45 PM	27	79	21	0	8	68	13	0	14	92	31	0	22	94	26	0	495
TOTAL VOLUMES :	NL 154	NT 647	NR 231	NU 0	SL 107	ST 640	SR 122	SU 0	EL 126	ET 775	ER 201	EU 0	WL 210	WT 770	WR 184	WU 0	TOTAL 4167
APPROACH %'s :	14.92%	62.69%	22.38%	0.00%	12.31%	73.65%	14.04%	0.00%	11.43%	70.33%	18.24%	0.00%	18.04%	66.15%	15.81%	0.00%	
PEAK HR :	11:00 AM - 12:00 PM																TOTAL
PEAK HR VOL :	74	329	126	0	57	329	62	0	54	396	94	0	112	369	93	0	2095
PEAK HR FACTOR :	0.881	0.924	0.875	0.000	0.570	0.875	0.816	0.000	0.750	0.892	0.940	0.000	0.875	0.831	0.930	0.000	0.975
	0.931				0.889				0.919				0.859				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut
Control: Signalized

Project ID: 24-430172-001
Date: 11/2/2024

Data - HT

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Arlington St/Pleasant St/SR 113				Arlington St/Pleasant St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	0.5 NT	0.5 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	0.5 ET	0.5 ER	0 EU	1 WL	0.5 WT	0.5 WR	0 WU	
11:00 AM	0	0	0	0	0	1	0	0	0	2	0	0	0	3	2	0	8
11:15 AM	0	1	2	0	2	3	0	0	0	1	2	0	0	1	0	0	12
11:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
11:45 AM	0	2	1	0	0	0	0	0	1	1	0	0	0	0	2	0	7
12:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	2	1	0	5
12:15 PM	0	0	2	0	1	0	0	0	0	2	0	0	0	1	0	0	6
12:30 PM	0	1	1	0	1	2	0	0	0	0	0	0	0	0	0	0	5
12:45 PM	0	1	0	0	1	1	0	0	0	2	0	0	1	1	2	0	9
TOTAL VOLUMES :	NL 1	NT 5	NR 6	NU 0	SL 5	ST 10	SR 0	SU 0	EL 1	ET 8	ER 2	EU 0	WL 1	WT 8	WR 7	WU 0	TOTAL 54
APPROACH %'s :	8.33%	41.67%	50.00%	0.00%	33.33%	66.67%	0.00%	0.00%	9.09%	72.73%	18.18%	0.00%	6.25%	50.00%	43.75%	0.00%	
PEAK HR :	11:00 AM - 12:00 PM																TOTAL
PEAK HR VOL :	1	3	3	0	2	5	0	0	1	4	2	0	0	4	4	0	29
PEAK HR FACTOR :	0.250	0.375	0.375	0.000	0.250	0.417	0.000	0.000	0.250	0.500	0.250	0.000	0.000	0.333	0.500	0.000	0.604
	0.583				0.350				0.583				0.400				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut
Control: Signalized

Project ID: 24-430172-001
Date: 11/2/2024

Data - Bikes

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Arlington St/Pleasant St/SR 113				Arlington St/Pleasant St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	1	1	0	0	3	1	0	1	0	0	0	0	0	0	0	7
	0.00%	50.00%	50.00%	0.00%	0.00%	75.00%	25.00%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	11:00 AM - 12:00 PM																TOTAL
PEAK HR VOL :	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
			0.250								0.250						

National Data & Surveying Services

Intersection Turning Movement Count

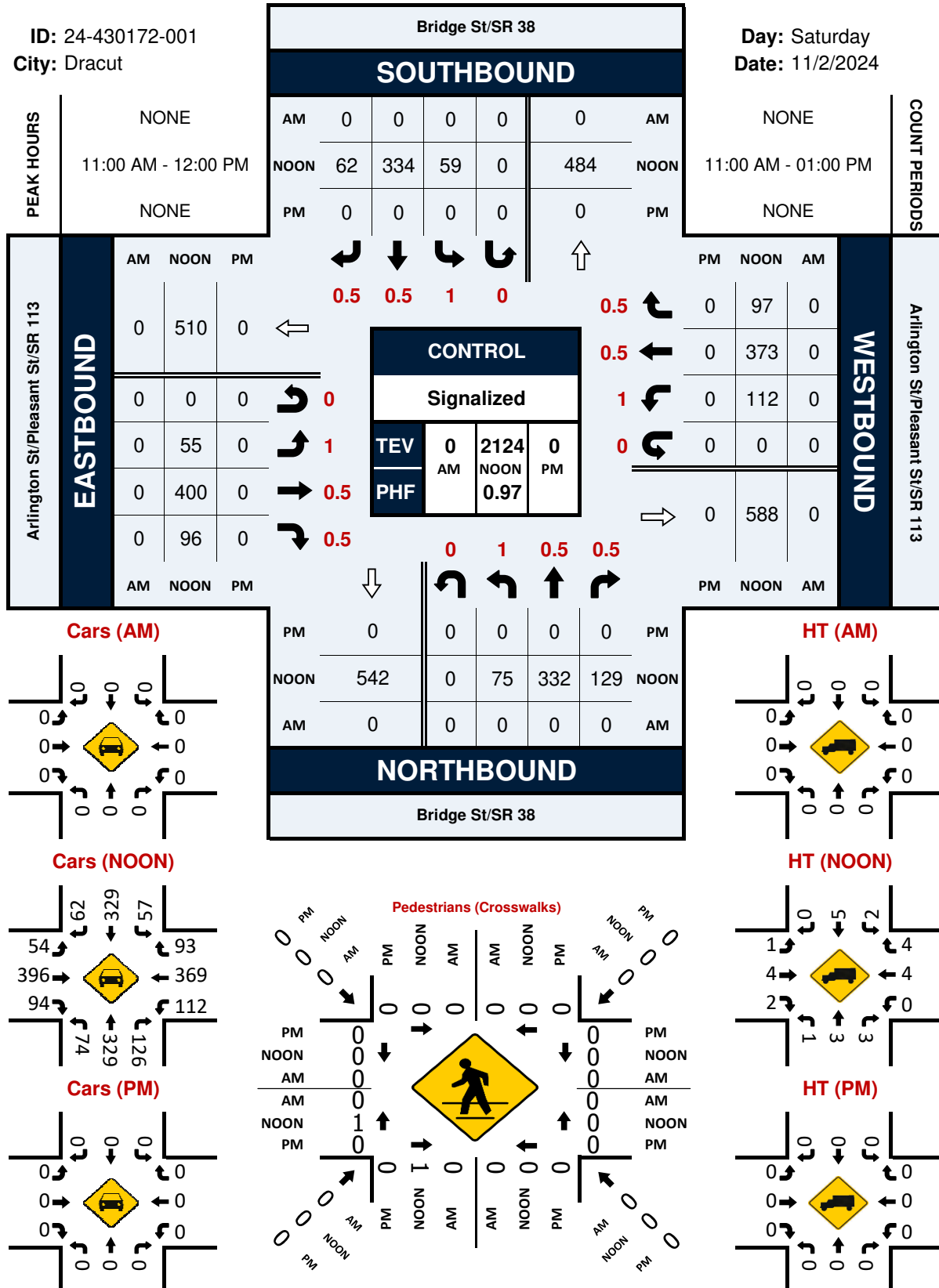
Location: Bridge St/SR 38 & Arlington St/Pleasant St/SR 113
City: Dracut

Project ID: 24-430172-001
Date: 11/2/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Bridge St/SR 38		Bridge St/SR 38		Arlington St/Pleasant St/SR 113		Arlington St/Pleasant St/SR 113		
NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
11:00 AM	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	1	0	1
11:45 AM	0	0	1	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	1	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0
12:30 PM	1	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	1	0	1	0	0	1	1	0	4
	100.00%	0.00%	100.00%	0.00%	0.00%	100.00%	100.00%	0.00%	
PEAK HR :	11:00 AM - 12:00 PM								TOTAL
PEAK HR VOL :	0	0	1	0	0	0	1	0	2
PEAK HR FACTOR :			0.250	0.250			0.250	0.250	0.500

Day: Saturday
Date: 11/2/2024



National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Aiken Ave
City: Dracut
Control: 1-Way Stop(EB)

Project ID: 24-430172-002
Date: 10/31/2024

Data - Total

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Aiken Ave				Aiken Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	2	69	0	0	0	67	40	0	5	0	14	0	0	0	0	0	197
7:15 AM	1	72	0	0	0	66	42	0	4	0	15	0	0	0	0	0	200
7:30 AM	0	84	0	0	0	72	36	0	6	0	11	0	0	0	0	0	209
7:45 AM	1	98	0	0	0	74	26	0	8	0	17	0	0	0	0	0	217
8:00 AM	0	73	0	0	0	84	25	0	4	0	17	0	0	0	0	0	203
8:15 AM	2	100	0	0	0	80	39	0	6	0	13	0	0	0	0	0	240
8:30 AM	0	86	0	0	0	84	30	0	5	0	14	0	0	0	0	0	219
8:45 AM	1	94	0	0	0	79	33	0	3	0	9	0	0	0	0	0	219
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	7	676	0	0	0	606	271	0	41	0	103	0	0	0	0	0	1704
	1.02%	98.98%	0.00%	0.00%	0.00%	69.10%	30.90%	0.00%	28.47%	0.00%	71.53%	0.00%	0	0	0	0	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	3	353	0	0	0	327	127	0	18	0	53	0	0	0	0	0	881
PEAK HR FACTOR :	0.375	0.883	0.000	0.000	0.000	0.973	0.814	0.000	0.750	0.000	0.779	0.000	0.000	0.000	0.000	0.000	0.918
		0.873					0.954				0.845						
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	3	122	0	0	0	94	39	0	14	0	16	0	0	0	0	0	288
4:15 PM	4	132	0	0	0	96	31	0	17	0	20	0	0	0	0	0	300
4:30 PM	1	123	0	0	0	100	34	0	13	0	22	0	0	0	0	0	293
4:45 PM	3	141	0	0	0	135	40	0	18	0	25	0	0	0	0	0	362
5:00 PM	3	133	0	0	0	126	32	0	15	0	28	0	0	0	0	0	337
5:15 PM	4	127	0	0	0	100	21	0	12	0	21	0	0	0	0	0	285
5:30 PM	1	94	0	0	0	73	39	0	15	0	28	0	0	0	0	0	250
5:45 PM	2	88	0	0	0	71	23	0	12	0	20	0	0	0	0	0	216
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	21	960	0	0	0	795	259	0	116	0	180	0	0	0	0	0	2331
	2.14%	97.86%	0.00%	0.00%	0.00%	75.43%	24.57%	0.00%	39.19%	0.00%	60.81%	0.00%	0	0	0	0	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	11	529	0	0	0	457	137	0	63	0	95	0	0	0	0	0	1292
PEAK HR FACTOR :	0.688	0.938	0.000	0.000	0.000	0.846	0.856	0.000	0.875	0.000	0.848	0.000	0.000	0.000	0.000	0.000	0.892
		0.938					0.849				0.919						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Aiken Ave
City: Dracut
Control: 1-Way Stop(EB)

Project ID: 24-430172-002
Date: 10/31/2024

Data - Cars

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Aiken Ave				Aiken Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	2	61	0	0	0	56	38	0	5	0	14	0	0	0	0	0	176
7:15 AM	1	67	0	0	0	63	40	0	3	0	15	0	0	0	0	0	189
7:30 AM	0	75	0	0	0	68	35	0	6	0	11	0	0	0	0	0	195
7:45 AM	1	96	0	0	0	73	26	0	7	0	10	0	0	0	0	0	213
8:00 AM	0	71	0	0	0	79	25	0	4	0	17	0	0	0	0	0	196
8:15 AM	2	96	0	0	0	74	39	0	6	0	13	0	0	0	0	0	230
8:30 AM	0	82	0	0	0	79	27	0	5	0	14	0	0	0	0	0	207
8:45 AM	1	88	0	0	0	73	31	0	3	0	8	0	0	0	0	0	204
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	7	636	0	0	0	565	261	0	39	0	102	0	0	0	0	0	1610
	1.09%	98.91%	0.00%	0.00%	0.00%	68.40%	31.60%	0.00%	27.66%	0.00%	72.34%	0.00%	0	0	0	0	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	3	337	0	0	0	305	122	0	18	0	52	0	0	0	0	0	837
PEAK HR FACTOR :	0.375	0.878	0.000	0.000	0.000	0.965	0.782	0.000	0.750	0.000	0.765	0.000	0.000	0.000	0.000	0.000	0.910
		0.867				0.945				0.833							
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	3	116	0	0	0	93	39	0	14	0	16	0	0	0	0	0	281
4:15 PM	4	132	0	0	0	95	30	0	17	0	20	0	0	0	0	0	298
4:30 PM	1	121	0	0	0	97	34	0	13	0	22	0	0	0	0	0	288
4:45 PM	3	138	0	0	0	132	39	0	18	0	25	0	0	0	0	0	355
5:00 PM	3	129	0	0	0	125	30	0	14	0	28	0	0	0	0	0	329
5:15 PM	4	126	0	0	0	100	21	0	11	0	21	0	0	0	0	0	283
5:30 PM	1	92	0	0	0	73	38	0	15	0	28	0	0	0	0	0	247
5:45 PM	1	86	0	0	0	70	23	0	12	0	20	0	0	0	0	0	212
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	20	940	0	0	0	785	254	0	114	0	180	0	0	0	0	0	2293
	2.08%	97.92%	0.00%	0.00%	0.00%	75.55%	24.45%	0.00%	38.78%	0.00%	61.22%	0.00%	0	0	0	0	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	11	520	0	0	0	449	133	0	62	0	95	0	0	0	0	0	1270
PEAK HR FACTOR :	0.688	0.942	0.000	0.000	0.000	0.850	0.853	0.000	0.861	0.000	0.848	0.000	0.000	0.000	0.000	0.000	0.894
		0.941				0.851				0.913							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Aiken Ave
City: Dracut
Control: 1-Way Stop(EB)

Project ID: 24-430172-002
Date: 10/31/2024

Data - HT

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Aiken Ave				Aiken Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	0	8	0	0	0	11	2	0	0	0	0	0	0	0	0	0	21
7:15 AM	0	5	0	0	0	3	2	0	1	0	0	0	0	0	0	0	11
7:30 AM	0	9	0	0	0	4	1	0	0	0	0	0	0	0	0	0	14
7:45 AM	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0	4
8:00 AM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7
8:15 AM	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	10
8:30 AM	0	4	0	0	0	5	3	0	0	0	0	0	0	0	0	0	12
8:45 AM	0	6	0	0	0	6	2	0	0	0	1	0	0	0	0	0	15
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	40	0	0	0	41	10	0	2	0	1	0	0	0	0	0	94
	0.00%	100.00%	0.00%	0.00%	0.00%	80.39%	19.61%	0.00%	66.67%	0.00%	33.33%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	16	0	0	0	22	5	0	0	0	1	0	0	0	0	0	44
PEAK HR FACTOR :	0.000	0.667	0.000	0.000	0.000	0.917	0.417	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.733
		0.667				0.844				0.250							
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5
4:45 PM	0	3	0	0	0	3	1	0	0	0	0	0	0	0	0	0	7
5:00 PM	0	4	0	0	0	1	2	0	1	0	0	0	0	0	0	0	8
5:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
5:30 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
5:45 PM	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	1	20	0	0	0	10	5	0	2	0	0	0	0	0	0	0	38
	4.76%	95.24%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	9	0	0	0	8	4	0	1	0	0	0	0	0	0	0	22
PEAK HR FACTOR :	0.000	0.563	0.000	0.000	0.000	0.667	0.500	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.688
		0.563				0.750				0.250							

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Aiken Ave
City: Dracut
Control: 1-Way Stop(EB)

Project ID: 24-430172-002
Date: 10/31/2024

Data - Bikes

[illegible]

National Data & Surveying Services

Location: Bridge St/SR 38 & Aiken Ave
City: Dracut

Project ID: 24-430172-002
Date: 10/31/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Bridge St/SR 38		Bridge St/SR 38		Aiken Ave		Aiken Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
	7:00 AM	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0
	7:30 AM	2	0	0	0	0	0	0	2
	7:45 AM	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0
	8:45 AM	1	0	0	0	0	0	0	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	3	0	0	0	0	0	0	0	3
	100.00%	0.00%							
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.250	0.250							0.250

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
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	0	0	0	0	0	0	0
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
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 0	WB 0	NB 0	SB 0	NB 0	SB 0	TOTAL 0
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Aiken Ave
City: Dracut
Control: 1-Way Stop(EB)

Project ID: 24-430172-002
Date: 11/16/2024

Data - Total

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Aiken Ave				Aiken Ave				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
11:00 AM	3	109	0	0	0	98	22	0	14	0	6	0	0	0	0	0	252
11:15 AM	2	105	0	0	0	111	30	0	13	0	9	0	0	0	0	0	270
11:30 AM	4	127	0	0	0	106	21	0	11	0	9	0	0	0	0	0	278
11:45 AM	2	110	0	0	0	109	29	0	20	0	11	0	0	0	0	0	281
12:00 PM	3	120	0	0	0	124	26	0	17	0	8	0	0	0	0	0	298
12:15 PM	2	116	0	0	0	104	26	0	14	0	7	0	0	0	0	0	269
12:30 PM	0	125	0	0	0	110	33	0	8	0	3	0	0	0	0	0	279
12:45 PM	3	112	0	0	0	122	19	0	18	0	8	0	0	0	0	0	282
TOTAL VOLUMES : APPROACH %'s :	NL 19 2.01%	NT 924 97.99%	NR 0 0.00%	NU 0 0.00%	SL 0 0.00%	ST 884 81.10%	SR 206 18.90%	SU 0 0.00%	EL 115 65.34%	ET 0 0.00%	ER 61 34.66%	EU 0 0.00%	WL 0	WT 0	WR 0	WU 0	TOTAL 2209
	12:00 PM - 01:00 PM																
PEAK HR VOL :	8	473	0	0	0	460	104	0	57	0	26	0	0	0	0	0	1128
PEAK HR FACTOR :	0.667	0.946	0.000	0.000	0.000	0.927	0.788	0.000	0.792	0.000	0.813	0.000	0.000	0.000	0.000	0.000	0.946
		0.962				0.940					0.798						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Aiken Ave
City: Dracut
Control: 1-Way Stop(EB)

Project ID: 24-430172-002
Date: 11/16/2024

Data - Cars

NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Aiken Ave				Aiken Ave					
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU		
11:00 AM	3	106	0	0	0	97	22	0	12	0	6	0	0	0	0	0	246	
11:15 AM	2	100	0	0	0	109	30	0	13	0	9	0	0	0	0	0	263	
11:30 AM	4	127	0	0	0	103	19	0	11	0	9	0	0	0	0	0	273	
11:45 AM	2	105	0	0	0	108	29	0	20	0	11	0	0	0	0	0	275	
12:00 PM	3	120	0	0	0	121	24	0	17	0	8	0	0	0	0	0	293	
12:15 PM	2	115	0	0	0	103	26	0	14	0	7	0	0	0	0	0	267	
12:30 PM	0	119	0	0	0	107	32	0	8	0	3	0	0	0	0	0	269	
12:45 PM	3	109	0	0	0	120	19	0	17	0	8	0	0	0	0	0	276	
TOTAL VOLUMES : APPROACH %'s :	NL 19	NT 901	NR 0	NU 0	SL 0	ST 868	SR 201	SU 0	EL 112	ET 0	ER 61	EU 0	WL 0	WT 0	WR 0	WU 0	TOTAL 2162	
	2.07%	97.93%	0.00%	0.00%	0.00%	81.20%	18.80%	0.00%	64.74%	0.00%	35.26%	0.00%						
PEAK HR :	12:00 PM - 01:00 PM																	TOTAL 1105 0.943
PEAK HR VOL :	8	463	0	0	0	451	101	0	56	0	26	0	0	0	0	0		
PEAK HR FACTOR :	0.667	0.965	0.000	0.000	0.000	0.932	0.789	0.000	0.824	0.000	0.813	0.000	0.000	0.000	0.000	0.000		
		0.957				0.952					0.820							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bridge St/SR 38 & Aiken Ave
City: Dracut
Control: 1-Way Stop(EB)

Project ID: 24-430172-002
Date: 11/16/2024

Data - HT

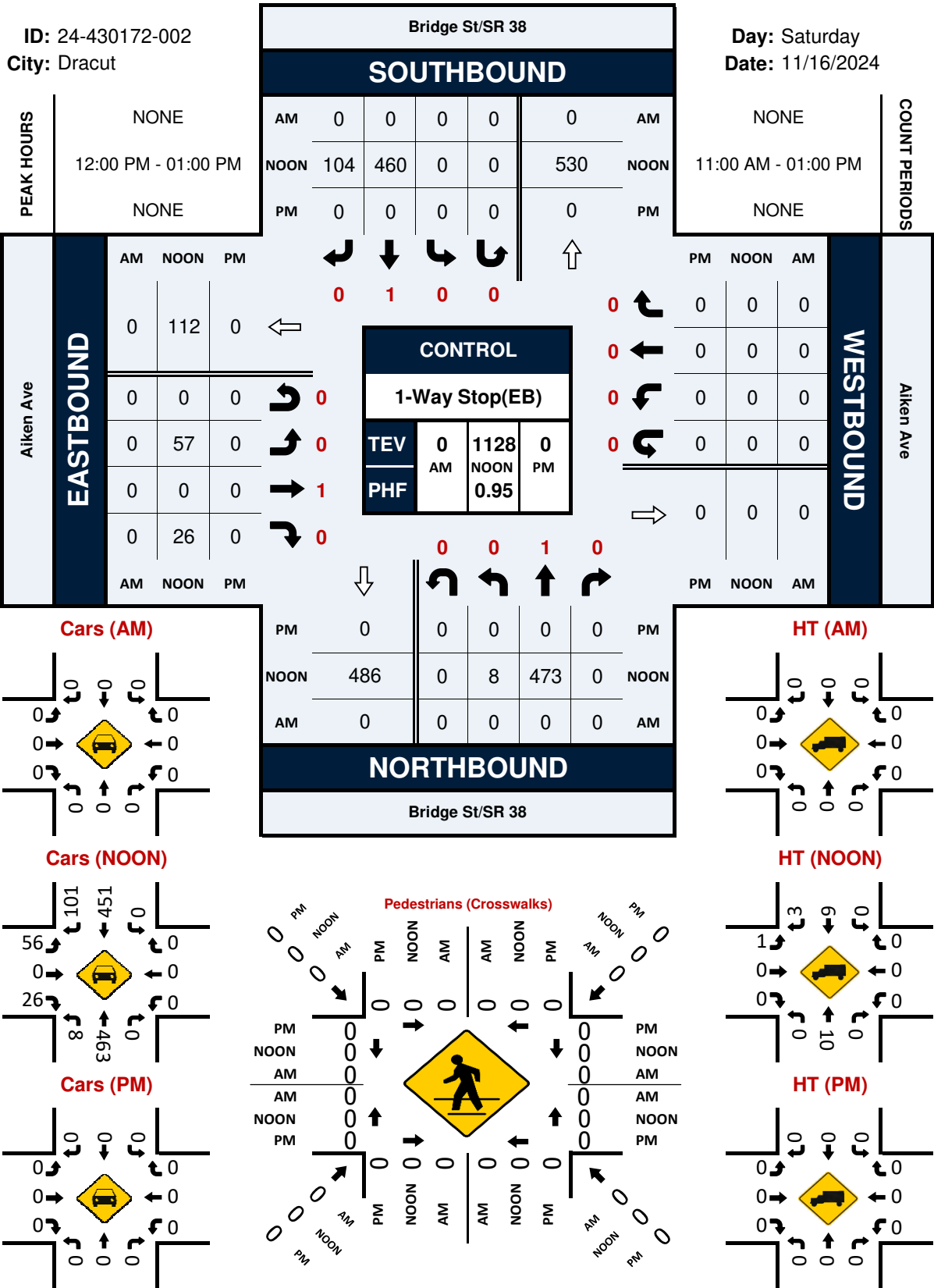
NS/EW Streets:	Bridge St/SR 38				Bridge St/SR 38				Aiken Ave				Aiken Ave				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
11:00 AM	0	3	0	0	0	1	0	0	2	0	0	0	0	0	0	0	6
11:15 AM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
11:30 AM	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5
11:45 AM	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	6
12:00 PM	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5
12:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	6	0	0	0	3	1	0	0	0	0	0	0	0	0	0	10
12:45 PM	0	3	0	0	0	2	0	0	1	0	0	0	0	0	0	0	6
TOTAL VOLUMES :	0	23	0	0	0	16	5	0	3	0	0	0	0	0	0	0	47
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	76.19%	23.81%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	0	10	0	0	0	9	3	0	1	0	0	0	0	0	0	0	23
PEAK HR FACTOR :	0.000	0.417	0.000	0.000	0.000	0.750	0.375	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.575
		0.417				0.600				0.250							

Bridge St/SR 38 & Aiken Ave

Peak Hour Turning Movement Count

ID: 24-430172-002
City: Dracut

Day: Saturday
Date: 11/16/2024



National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's West Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-003
Date: 10/31/2024

Data - Total

NS/EW Streets:	Wendy's West Dwy				Wendy's West Dwy				Arlington St/SR 113				Arlington St/SR 113				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	107	2	0	0	132	0	0	241
7:15 AM	0	0	0	0	0	0	0	0	0	145	0	0	0	132	0	0	277
7:30 AM	0	0	0	0	0	0	0	0	0	144	1	0	0	135	0	0	281
7:45 AM	0	0	0	0	0	0	0	0	0	144	1	0	0	105	0	0	250
8:00 AM	0	0	0	0	0	0	0	0	0	136	0	0	1	130	0	0	267
8:15 AM	0	0	0	0	0	0	0	0	0	149	1	0	1	168	0	0	319
8:30 AM	0	0	0	0	0	0	0	0	0	117	0	0	1	133	0	0	251
8:45 AM	0	0	0	0	0	0	0	0	0	114	1	0	2	115	0	0	232
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1056	6	0	6	1050	0	0	2118
PEAK HR :	07:30 AM - 08:30 AM				0	0	0	0	0	0.00%	99.44%	0.56%	0.00%	0.57%	99.43%	0.00%	0.00%
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	573	3	0	3	538	0	0	1117
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.961	0.750	0.000	0.750	0.801	0.000	0.000	0.875
										0.960				0.800			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	132	11	0	3	213	0	0	359
4:15 PM	0	0	0	0	0	0	0	0	0	146	10	0	4	187	0	0	347
4:30 PM	0	0	0	0	0	0	0	0	0	139	9	0	5	168	0	0	321
4:45 PM	0	0	0	0	0	0	0	0	0	131	12	0	1	199	0	0	343
5:00 PM	0	0	0	0	0	0	0	0	0	160	4	0	6	185	0	0	355
5:15 PM	0	0	0	0	0	0	0	0	0	140	14	0	5	204	0	0	363
5:30 PM	0	0	0	0	0	0	0	0	0	127	9	0	6	186	0	0	328
5:45 PM	0	0	0	0	0	0	0	0	0	145	12	0	3	143	0	0	303
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1120	81	0	33	1485	0	0	2719
PEAK HR :	04:45 PM - 05:45 PM				0	0	0	0	0	0.00%	93.26%	6.74%	0.00%	2.17%	97.83%	0.00%	0.00%
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	558	39	0	18	774	0	0	1389
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.872	0.696	0.000	0.750	0.949	0.000	0.000	0.957
										0.910				0.947			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's West Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-003
Date: 10/31/2024

Data - Cars

NS/EW Streets:	Wendy's West Dwy				Wendy's West Dwy				Arlington St/SR 113				Arlington St/SR 113				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	101	2	0	0	125	0	0	228
7:15 AM	0	0	0	0	0	0	0	0	0	140	0	0	0	124	0	0	264
7:30 AM	0	0	0	0	0	0	0	0	0	132	1	0	1	126	0	0	260
7:45 AM	0	0	0	0	0	0	0	0	0	140	1	0	0	101	0	0	242
8:00 AM	0	0	0	0	0	0	0	0	0	129	0	0	1	121	0	0	251
8:15 AM	0	0	0	0	0	0	0	0	0	144	1	0	1	159	0	0	305
8:30 AM	0	0	0	0	0	0	0	0	0	111	0	0	1	124	0	0	236
8:45 AM	0	0	0	0	0	0	0	0	0	110	1	0	1	109	0	0	221
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1007	6	0	5	989	0	0	2007
									0.00%	99.41%	0.59%	0.00%	0.50%	99.50%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM				0	0	0	0	0	545	3	0	3	507	0	0	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0.946	0.750	0.000	0.750	0.797	0.000	0.000	1058
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.945				0.797			0.867

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	125	11	0	3	211	0	0	350
4:15 PM	0	0	0	0	0	0	0	0	0	145	10	0	4	187	0	0	346
4:30 PM	0	0	0	0	0	0	0	0	0	137	9	0	5	167	0	0	318
4:45 PM	0	0	0	0	0	0	0	0	0	127	12	0	1	198	0	0	338
5:00 PM	0	0	0	0	0	0	0	0	0	157	4	0	6	181	0	0	348
5:15 PM	0	0	0	0	0	0	0	0	0	139	14	0	5	202	0	0	360
5:30 PM	0	0	0	0	0	0	0	0	0	124	9	0	6	184	0	0	323
5:45 PM	0	0	0	0	0	0	0	0	0	144	12	0	3	142	0	0	301
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1098	81	0	33	1472	0	0	2684
									0.00%	93.13%	6.87%	0.00%	2.19%	97.81%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM				0	0	0	0	0	547	39	0	18	765	0	0	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0.871	0.696	0.000	0.750	0.947	0.000	0.000	1369
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.910			0.750	0.947	0.000	0.000	0.951
														0.946			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's West Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-003
Date: 10/31/2024

Data - HT

NS/EW Streets:	Wendy's West Dwy				Wendy's West Dwy				Arlington St/SR 113				Arlington St/SR 113				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	7	0	0	13
7:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	8	0	0	13
7:30 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	9	0	0	21
7:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8
8:00 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	9	0	0	16
8:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	9	0	0	14
8:30 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	9	0	0	15
8:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	1	6	0	0	11
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	49	0	0	1	61	0	0	111
									0.00%	100.00%	0.00%	0.00%	1.61%	98.39%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM				0	0	0	0	0	28	0	0	0	31	0	0	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0.583	0.000	0.000	0	0.861	0.000	0.000	59
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.000	0.861	0.000	0.000	0.702

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	2	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
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	3	0	0	0	4	0	0	7
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	22	0	0	0	13	0	0	35
									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM				0	0	0	0	0	11	0	0	0	9	0	0	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0.688	0.000	0.000	0	0.563	0.000	0.000	20
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.688	0.000	0.000	0.000	0.563	0.000	0.000	0.714

Intersection Turning Movement Count

City: Dracut
Control: No Control

Project ID: 24-430172-003

Date: 10/31/2024

Data - Bikes

NS/EW Streets:		Wendy's West Dwy				Wendy's West Dwy				Arlington St/SR 113				Arlington St/SR 113				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0		0
	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	0	0	0	0	0	0		0
	7:15 AM	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
	7:45 AM	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
	8:15 AM	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		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL VOLUMES : APPROACH %'s :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 0	WL 0	WT 0	WR 0	WU 0	TOTAL 0	
PEAK HR :		07:30 AM - 08:30 AM																TOTAL 0
PEAK HR VOL :		0				0				0				0				
PEAK HR FACTOR :		0.000				0.000				0.000				0.000				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0		0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	4:15 PM	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
	4:45 PM	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
	5:15 PM	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		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL VOLUMES : APPROACH %'s :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 0	WL 0	WT 0	WR 0	WU 0	TOTAL 0	
PEAK HR :		04:45 PM - 05:45 PM																TOTAL 0
PEAK HR VOL :		0				0				0				0				
PEAK HR FACTOR :		0.000				0.000				0.000				0.000				

NS/EW Streets:		Wendy's West Dwy				Wendy's West Dwy				Arlington St/SR 113				Arlington St/SR 113				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0		0
	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	0	0	0	0	0	0		0
	7:15 AM	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
	7:45 AM	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
	8:15 AM	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		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL VOLUMES : APPROACH %'s :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 0	WL 0	WT 0	WR 0	WU 0	TOTAL 0	
PEAK HR :				07:30 AM - 08:30 AM												TOTAL 0		
PEAK HR VOL :				0 0 0 0				0 0 0 0				0 0 0 0				TOTAL 0		
PEAK HR FACTOR :				0.000 0.000 0.000 0.000				0.000 0.000 0.000 0.000				0.000 0.000 0.000 0.000						

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0		0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	4:15 PM	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
	4:45 PM	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
	5:15 PM	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		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL VOLUMES : APPROACH %'s :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 0	WL 0	WT 0	WR 0	WU 0	TOTAL 0	
PEAK HR :				04:45 PM - 05:45 PM												TOTAL 0		
PEAK HR VOL :				0 0 0 0				0 0 0 0				0 0 0 0				TOTAL 0		
PEAK HR FACTOR :				0.000 0.000 0.000 0.000				0.000 0.000 0.000 0.000				0.000 0.000 0.000 0.000						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's West Dwy & Arlington St/SR 113
City: Dracut

Project ID: 24-430172-003
Date: 10/31/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Wendy's West Dwy		Wendy's West Dwy		Arlington St/SR 113		Arlington St/SR 113		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
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	1	0	0	0	0	1
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	1	0	0	0	0	0	1
8:45 AM	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	1	2	0	0	0	0	3
			33.33%	66.67%					
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	1	0	0	0	0	1
PEAK HR FACTOR :				0.250					0.250
			0.250						

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
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	1	0	0	0	0	0	1
5:00 PM	0	0	1	0	0	0	0	0	1
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
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	2	0	0	0	0	0	2
			100.00%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	0	2
PEAK HR FACTOR :			0.500						0.500
			0.500						

Wendy's West Dwy & Arlington St/SR 113

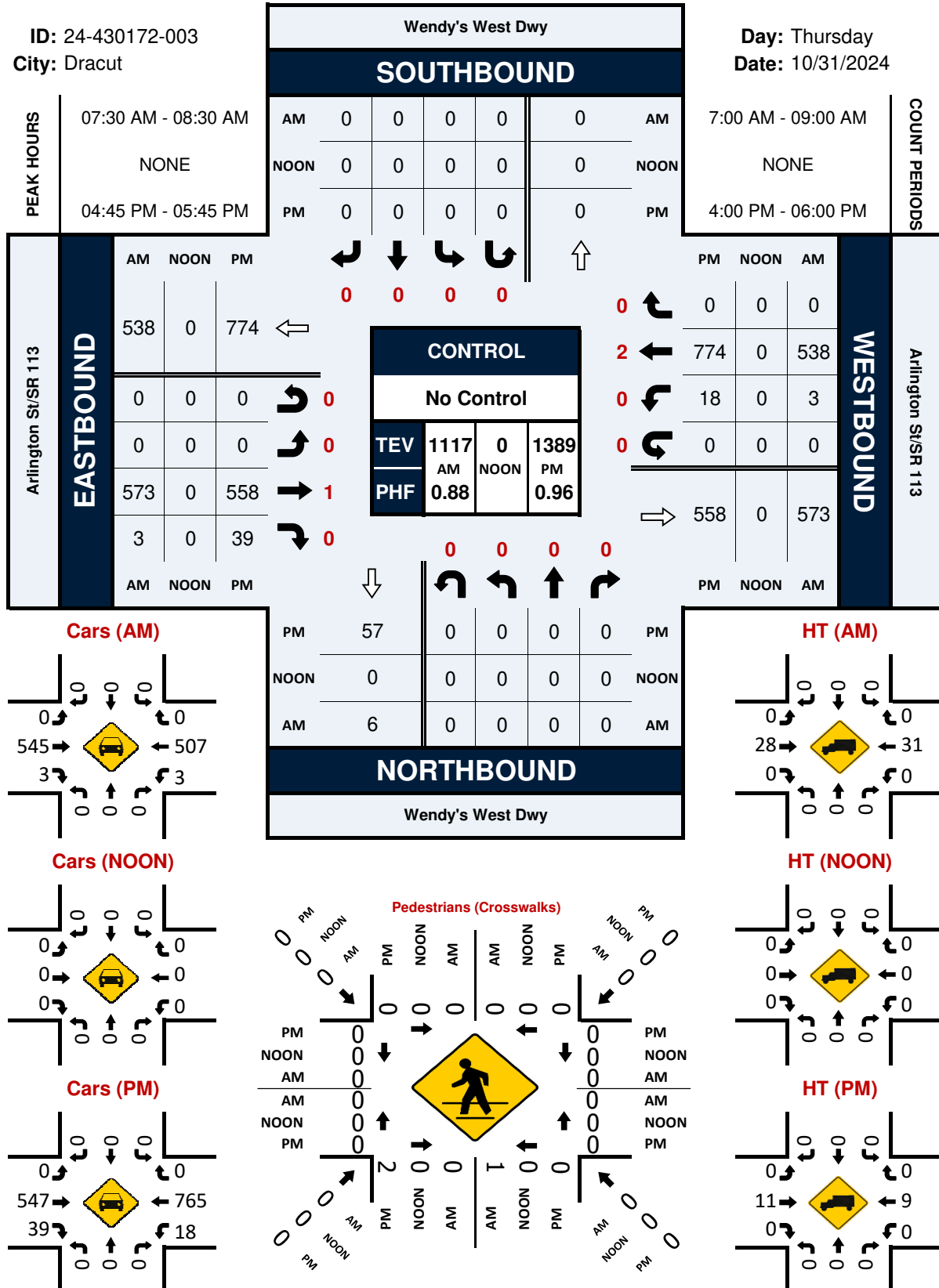
Peak Hour Turning Movement Count

ID: 24-430172-003

City: Dracut

Day: Thursday

Date: 10/31/2024



National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's West Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-003
Date: 11/2/2024

Data - Total

NS/EW Streets:	Wendy's West Dwy				Wendy's West Dwy				Arlington St/SR 113				Arlington St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
11:00 AM	0	0	0	0	0	0	0	0	0	137	10	0	2	146	0	0	295
11:15 AM	0	0	0	0	0	0	0	0	0	161	6	0	3	149	0	0	319
11:30 AM	0	0	0	0	0	0	0	0	0	144	6	0	4	120	0	0	274
11:45 AM	0	0	0	0	0	0	0	0	0	118	6	0	2	171	0	0	297
12:00 PM	0	0	0	0	0	0	0	0	0	124	6	0	4	151	0	0	285
12:15 PM	0	0	0	0	0	0	0	0	0	137	15	0	5	152	0	0	309
12:30 PM	0	0	0	0	0	0	0	0	0	131	7	0	1	147	0	0	286
12:45 PM	0	0	0	0	0	0	0	0	0	115	7	0	6	145	0	0	273
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 1067	ER 63	EU 0	WL 27	WT 1181	WR 0	WU 0	TOTAL 2338
APPROACH %'s :	11:00 AM - 12:00 PM								0.00% 94.42% 5.58% 0.00%				2.24% 97.76% 0.00% 0.00%				
PEAK HR :																	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	560	28	0	11	586	0	0	1185
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.870	0.700	0.000	0.688	0.857	0.000	0.000	0.929
									0.880				0.863				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's West Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-003
Date: 11/2/2024

Data - Cars

NS/EW Streets:	Wendy's West Dwy				Wendy's West Dwy				Arlington St/SR 113				Arlington St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
11:00 AM	0	0	0	0	0	0	0	0	0	135	10	0	2	141	0	0	288
11:15 AM	0	0	0	0	0	0	0	0	0	156	6	0	3	148	0	0	313
11:30 AM	0	0	0	0	0	0	0	0	0	144	6	0	4	120	0	0	274
11:45 AM	0	0	0	0	0	0	0	0	0	116	6	0	2	169	0	0	293
12:00 PM	0	0	0	0	0	0	0	0	0	124	6	0	4	148	0	0	282
12:15 PM	0	0	0	0	0	0	0	0	0	133	14	0	5	151	0	0	303
12:30 PM	0	0	0	0	0	0	0	0	0	129	7	0	1	147	0	0	284
12:45 PM	0	0	0	0	0	0	0	0	0	112	7	0	6	141	0	0	266
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 1049	ER 62	EU 0	WL 27	WT 1165	WR 0	WU 0	TOTAL 2303
APPROACH %'s :	11:00 AM - 12:00 PM								0.00% 94.42% 5.58% 0.00%				2.27% 97.73% 0.00% 0.00%				
PEAK HR :																	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	551	28	0	11	578	0	0	1168
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.883	0.700	0.000	0.688	0.855	0.000	0.000	0.933
									0.894				0.861				

National Data & Surveying Services

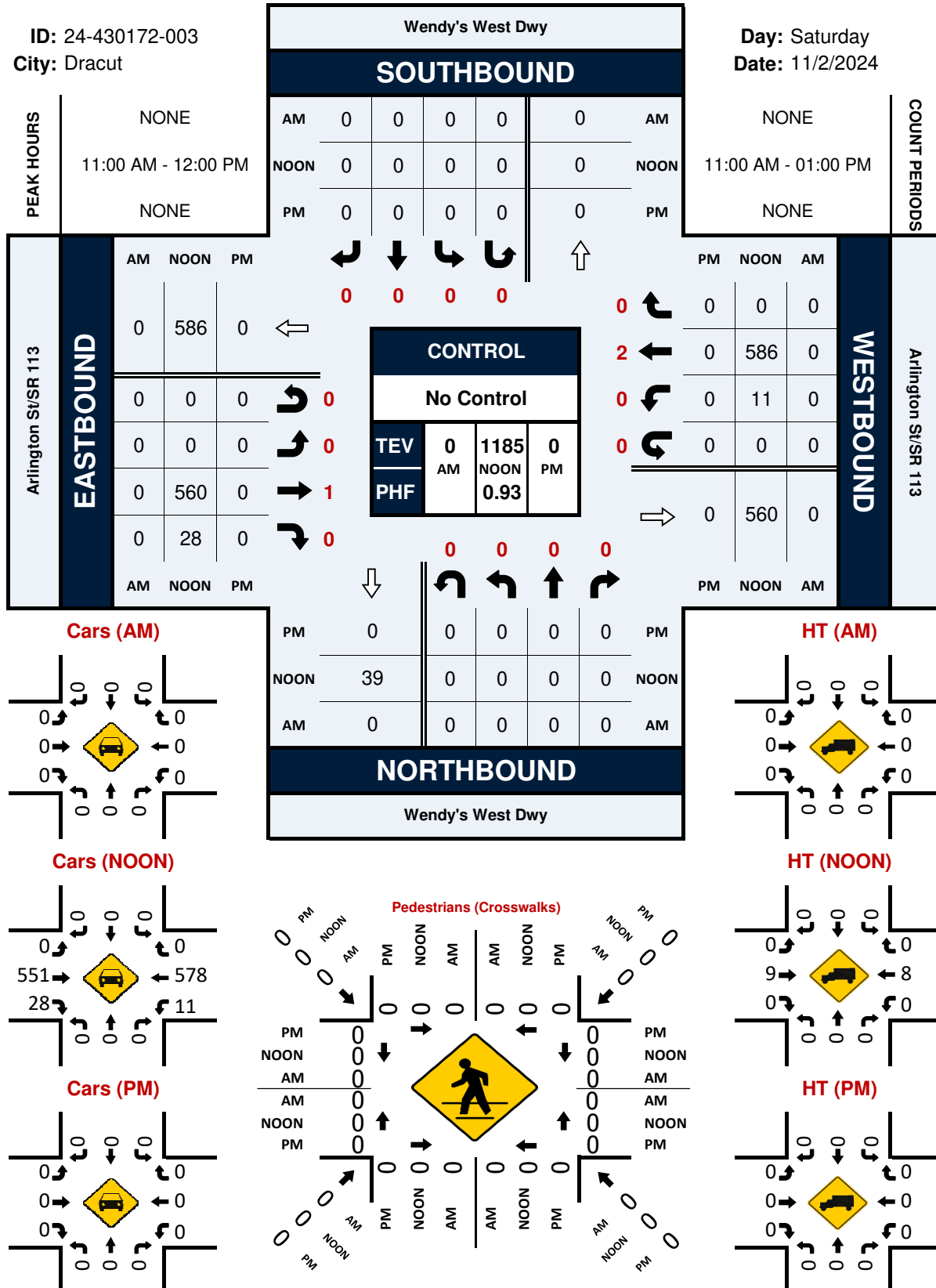
Intersection Turning Movement Count

Location: Wendy's West Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-003
Date: 11/2/2024

Data - HT

NS/EW Streets:	Wendy's West Dwy				Wendy's West Dwy				Arlington St/SR 113				Arlington St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
11:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0	7
11:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	6
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
12:15 PM	0	0	0	0	0	0	0	0	0	4	1	0	0	1	0	0	6
12:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	7
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	18	1	0	0	16	0	0	35
APPROACH %'s :									0.00%	94.74%	5.26%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	11:00 AM - 12:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	9	0	0	0	8	0	0	17
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.450	0.000	0.000	0.000	0.400	0.000	0.000	0.607



National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's East Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-004
Date: 10/31/2024

Data - Total

NS/EW Streets:	Wendy's East Dwy				Wendy's East Dwy				Arlington St/SR 113				Arlington St/SR 113				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	108	0	0	0	140	0	0	248
7:15 AM	0	0	0	0	0	0	0	0	0	142	0	0	0	146	0	0	288
7:30 AM	2	0	0	0	0	0	0	0	0	143	0	0	0	127	0	0	272
7:45 AM	1	0	0	0	0	0	0	0	0	146	0	0	0	108	0	0	255
8:00 AM	0	0	1	0	0	0	0	0	0	136	0	0	0	133	0	0	270
8:15 AM	1	0	0	0	0	0	0	0	0	151	0	0	0	168	0	0	320
8:30 AM	2	0	0	0	0	0	0	0	0	118	0	0	0	130	0	0	250
8:45 AM	0	0	1	0	0	0	0	0	0	114	0	0	0	122	0	0	237
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	6	0	2	0	0	0	0	0	0	1058	0	0	0	1074	0	0	2140
PEAK HR :	07:30 AM - 08:30 AM								0.00% 100.00% 0.00% 0.00%				0.00% 100.00% 0.00% 0.00%				TOTAL
PEAK HR VOL :	4	0	1	0	0	0	0	0	0	576	0	0	0	536	0	0	1117
PEAK HR FACTOR :	0.500	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.954	0.000	0.000	0.000	0.798	0.000	0.000	0.873
			0.625							0.954				0.798			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	9	0	1	0	0	0	0	0	0	132	0	0	0	202	0	0	344
4:15 PM	9	0	2	0	0	0	0	0	0	145	0	0	0	183	0	0	339
4:30 PM	6	0	2	0	0	0	0	0	0	139	0	0	0	168	0	0	315
4:45 PM	10	0	6	0	0	0	0	0	0	131	0	0	0	197	0	0	344
5:00 PM	9	0	5	0	0	0	0	0	0	160	0	0	0	182	0	0	356
5:15 PM	11	0	6	0	0	0	0	0	0	141	0	0	0	202	0	0	360
5:30 PM	11	0	13	0	0	0	0	0	0	130	0	0	0	181	0	0	335
5:45 PM	5	0	6	0	0	0	0	0	0	145	0	0	0	143	0	0	299
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	70	0	41	0	0	0	0	0	0	1123	0	0	0	1458	0	0	2692
PEAK HR :	04:45 PM - 05:45 PM								0.00% 100.00% 0.00% 0.00%				0.00% 100.00% 0.00% 0.00%				TOTAL
PEAK HR VOL :	41	0	30	0	0	0	0	0	0	562	0	0	0	762	0	0	1395
PEAK HR FACTOR :	0.932	0.000	0.577	0.000	0.000	0.000	0.000	0.000	0.000	0.878	0.000	0.000	0.000	0.943	0.000	0.000	0.969
			0.740							0.878				0.943			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's East Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-004
Date: 10/31/2024

Data - HT

NS/EW Streets:	Wendy's East Dwy				Wendy's East Dwy				Arlington St/SR 113				Arlington St/SR 113					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0 NL	2 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU		
7:00 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	8	0	0	14	
7:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	8	0	0	13	
7:30 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	6	0	0	18	
7:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8	
8:00 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	9	0	0	17	
8:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	8	0	0	13	
8:30 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	8	0	0	15	
8:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	7	0	0	11	
TOTAL VOLUMES : APPROACH %'s :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 51 0.00%	ER 0 100.00%	EU 0 0.00%	WL 0 0.00%	WT 58 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 109	
PEAK HR :	07:30 AM - 08:30 AM				0	0	0	0	0	29 0.604	0 0.000	0 0.000	0	0	27 0.750	0 0.000	0 0.000	TOTAL 56 0.778
PEAK HR VOL :	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	29 0.604	0 0.000	0 0.000	0	0	27 0.750	0 0.000	0 0.000	
PEAK HR FACTOR :										0.604				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	2	0	0	8
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
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	3	0	0	0	4	0	0	7
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
TOTAL VOLUMES : APPROACH %'s :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 21 100.00%	ER 0 0.00%	EU 0 0.00%	WL 0 0.00%	WT 13 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 34
PEAK HR :	04:45 PM - 05:45 PM				0	0	0	0	0	11 0.688	0 0.000	0 0.000	0	9 0.563	0 0.000	0 0.000	TOTAL 20 0.714
PEAK HR VOL :	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	11 0.688	0 0.000	0 0.000	0	9 0.563	0 0.000	0 0.000	0.714
PEAK HR FACTOR :										0.688				0.563			

Location: Wendy's East Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-004
Date: 10/31/2024

Data - Bikes

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

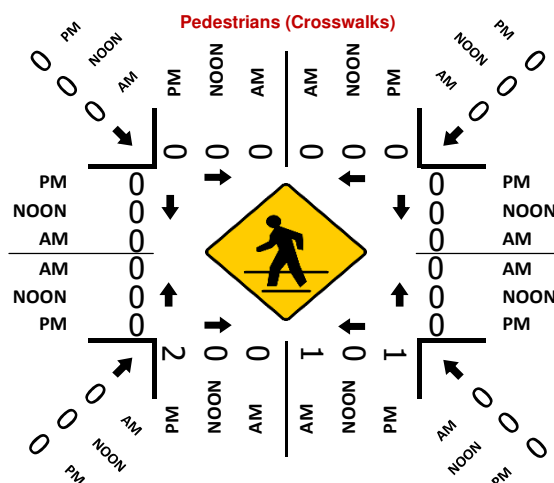
Location: Wendy's East Dwy & Arlington St/SR 113
City: Dracut

Project ID: 24-430172-004
Date: 10/31/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Wendy's East Dwy		Wendy's East Dwy		Arlington St/SR 113		Arlington St/SR 113		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
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	1	0	0	0	0	1
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	1	1	0	0	1	0	3
8:45 AM	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	1	3	0	0	1	0	5
			25.00%	75.00%			100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	1	0	0	0	0	1
PEAK HR FACTOR :				0.250					0.250
			0.250						

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
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	1	0	0	0	0	0	1
5:00 PM	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	2	1	0	0	0	0	3
			66.67%	33.33%					
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	2	1	0	0	0	0	3
PEAK HR FACTOR :			0.500	0.250					0.750
			0.750						



National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's East Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-004
Date: 11/2/2024

Data - Total

NS/EW Streets:	Wendy's East Dwy				Wendy's East Dwy				Arlington St/SR 113				Arlington St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
11:00 AM	4	0	2	0	0	0	0	0	0	136	0	0	0	142	0	0	284
11:15 AM	3	0	10	0	0	0	0	0	0	162	0	0	0	149	0	0	324
11:30 AM	3	0	2	0	0	0	0	0	0	144	0	0	1	121	0	0	271
11:45 AM	4	0	5	0	0	0	0	0	0	118	0	0	2	169	0	0	298
12:00 PM	6	0	4	0	0	0	0	0	0	124	0	0	1	149	0	0	284
12:15 PM	6	0	3	0	0	0	0	0	0	137	0	0	2	151	0	0	299
12:30 PM	6	0	9	0	0	0	0	0	0	130	1	0	2	142	0	0	290
12:45 PM	8	0	7	0	0	0	0	0	0	115	0	0	1	143	0	0	274
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	40	0	42	0	0	0	0	0	0	1066	1	0	9	1166	0	0	2324
	48.78%	0.00%	51.22%	0.00%					0.00%	99.91%	0.09%	0.00%	0.77%	99.23%	0.00%	0.00%	
PEAK HR :	11:15 AM - 12:15 PM																TOTAL
PEAK HR VOL :	16	0	21	0	0	0	0	0	0	548	0	0	4	588	0	0	1177
PEAK HR FACTOR :	0.667	0.000	0.525	0.000	0.000	0.000	0.000	0.000	0.000	0.846	0.000	0.000	0.500	0.870	0.000	0.000	0.908
			0.712							0.846				0.865			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's East Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-004
Date: 11/2/2024

Data - Cars

NS/EW Streets:	Wendy's East Dwy				Wendy's East Dwy				Arlington St/SR 113				Arlington St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
11:00 AM	4	0	2	0	0	0	0	0	0	134	0	0	0	137	0	0	277
11:15 AM	3	0	10	0	0	0	0	0	0	157	0	0	0	148	0	0	318
11:30 AM	3	0	2	0	0	0	0	0	0	144	0	0	1	121	0	0	271
11:45 AM	4	0	5	0	0	0	0	0	0	116	0	0	2	167	0	0	294
12:00 PM	6	0	4	0	0	0	0	0	0	124	0	0	1	146	0	0	281
12:15 PM	6	0	3	0	0	0	0	0	0	133	0	0	2	150	0	0	294
12:30 PM	6	0	9	0	0	0	0	0	0	128	1	0	2	142	0	0	288
12:45 PM	7	0	7	0	0	0	0	0	0	112	0	0	1	140	0	0	267
TOTAL VOLUMES :	NL 39	NT 0	NR 42	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 1048	ER 1	EU 0	WL 9	WT 1151	WR 0	WU 0	TOTAL 2290
APPROACH %'s :	48.15%	0.00%	51.85%	0.00%					0.00%	99.90%	0.10%	0.00%	0.78%	99.22%	0.00%	0.00%	
PEAK HR :	11:15 AM - 12:15 PM																TOTAL
PEAK HR VOL :	16	0	21	0	0	0	0	0	0	541	0	0	4	582	0	0	1164
PEAK HR FACTOR :	0.667	0.000	0.525	0.000	0.000	0.000	0.000	0.000	0.000	0.861	0.000	0.000	0.500	0.871	0.000	0.000	0.915
			0.712							0.861				0.867			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's East Dwy & Arlington St/SR 113
City: Dracut
Control: No Control

Project ID: 24-430172-004
Date: 11/2/2024

Data - HT

NS/EW Streets:	Wendy's East Dwy				Wendy's East Dwy				Arlington St/SR 113				Arlington St/SR 113				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
11:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0	7
11:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	6
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
12:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5
12:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
12:45 PM	1	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	7
TOTAL VOLUMES :	NL 1	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 18	ER 0	EU 0	WL 0	WT 15	WR 0	WU 0	TOTAL 34
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%					0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	11:15 AM - 12:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	7	0	0	0	6	0	0	13
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.350	0.000	0.000	0.000	0.500	0.000	0.000	0.542
										0.350				0.500			

Project ID: 24-430172-004
Date: 11/2/2024

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wendy's East Dwy & Arlington St/SR 113
City: Dracut

Project ID: 24-430172-004
Date: 11/2/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Wendy's East Dwy		Wendy's East Dwy		Arlington St/SR 113		Arlington St/SR 113	
NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
11:00 AM	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	11:15 AM - 12:15 PM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

Wendy's East Dwy & Arlington St/SR 113

Peak Hour Turning Movement Count

ID: 24-430172-004
City: Dracut

Day: Saturday
Date: 11/2/2024

