Institutional Master Plan 2021-2031
Boston Medical Center

May 3, 2021

SUBMITTED TO:
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Submitted pursuant to Article 80D of the Boston Zoning Code

SUBMITTED BY:
Boston Medical Center Corporation
One Boston Medical Center Place
Boston, MA 02118

PREPARED BY:
Stantec
226 Causeway Street, 6th Floor
Boston, MA 02114
617.654.6057

IN ASSOCIATION WITH:
Tsoi-Kobus Design
VHB
DLA Piper

Institutional Master Plan 2021-2031
Boston Medical Center

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APPENDIX A

BOSTON UNIVERSITY MEDICAL CENTER INSTITUTIONAL MASTER PLAN BACKGROUND / HISTORY

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BOSTON UNIVERSITY MEDICAL CENTER INSTITUTIONAL MASTER PLAN BACKGROUND / HISTORY

A.1 2000 Boston University Medical Center IMP History and Background

Boston Medical Center (BMC) originally filed a joint Institutional Master Plan with Boston University. The first filing in 2000 was the original Boston University Medical Center Institutional Master Plan (BUMC IMP) approved by the Boston Redevelopment Authority (BRA) on May 18, 2000 and the Boston Zoning Commission on June 28, 2000, effective July 13, 2000. Boston University Medical Center was listed as comprised of Boston Medical Center (BMC) and Boston University Medical Campus (BU Medical Campus) which includes three of Boston University's health science schools – the School of Medicine, Goldman School of Dental Medicine, and the School of Public Health. The Proponents were Boston Medical Center Corporation (BMC) and the Trustees of Boston University (BU).

Only one new BMC construction project, the Medical Services Center, was contemplated as part of the 2000 BUMC IMP. The BMC Medical Services Center included a five-story, 92,010 square foot outpatient care center to be located northeast of the BMC Menino Pavilion and related circulation, parking, and landscaping improvements. The circulation system included a two-way interior road connecting to both Harrison Avenue and Albany Street. The then existing 176 parking spaces on the site were reconfigured to accommodate 111 spaces. A new 32,000 square foot landscaped courtyard was proposed off Harrison Avenue and East Concord Street between BMC buildings BCD and FGH. The project also included the demolition of BMC's Thorndike, Administration and Sears Buildings, and the renovation of BMC's buildings BCD and FGH. While the building demolition activities occurred and BMC buildings BCD and FGH have been preserved, BMC's proposed Medical Services Center building was never constructed. However, the 2003 Second Amendment, as described below, substituted the BMC Medical Services Center with the BMC Moakley Building.

BMC and BU jointly renewed the original 2000 BUMC IMP. The BUMC IMP Renewal was approved by the BRA on June 22, 2010 and the Boston Zoning Commission on August 4, 2010.

Three new construction projects were contemplated by BMC as part of the 2010 BUMC IMP Renewal.

- 48,000 s.f. Energy Facility
- 160,000 s.f. Administration/Clinical Building
- 405,000 s.f. New Inpatient Building

A discussion of IMP Amendments, Notices of Project Change, and Notices of Exemption follows, while **Table A-1** summarizes the history of the BUMC Campus IMP to date.

A.1.1 Boston University Medical Center IMP Amendments

On May 14, 2001, BMC proposed its first amendment to the BUMC IMP; the rehabilitation of the Surgical Building, an administrative building, located at 85 East Concord Street. This building is an existing eight-story, 66,952 square foot building including an adjoining one-story entry building. BMC proposed to rehabilitate the building for office uses and replace the entry building with a new one-story lobby. The amendment was approved by the BRA on July 17, 2001 and the renovation was completed in September 2003.

On July 31, 2003, BMC submitted a Notice of Project Change ("NPC") to the BRA. The NPC considered the replacement of the approved BMC Medical Services Center in the 2000 IMP with the proposed BMC Moakley Building as an Institutional project; modifications and additions to the existing BMC Ambulatory Care Center; and inclusion of circulation and parking changes associated with the Moakley Building. The 133,217 square foot BMC Moakley Building at 830 Harrison Avenue has a program of consolidated cancer related care, a patient-centered ambulatory surgery center, a center for digestive disorders, and a new otolaryngology clinic. The NPC also represented a biannual update to the BUMC IMP. The NPC was approved by the BRA on October 7, 2003 and the building was completed in the Fall of 2006.

On December 1, 2004, BMC submitted its second BUMC IMP amendment for several minor modifications, which considered the reuse of basement, office, and administrative space in BMC's BCD and FGH buildings and BU's 761 Harrison Avenue building, and to remove from the BUMC IMP list of buildings, the Mallory building which is no longer leased to BMC. The second amendment to the IMP was approved by the BRA on January 26, 2006.

On April 30, 2007, a third IMP Amendment was filed for the new 245,000 s.f. BMC Shapiro Ambulatory Care Center (SACC) at 725 Albany Street. The new facility allowed for the relocation of BMC's clinical services in the DOB to appropriately sized new space consistent with Department of Public Health requirements and BMC clinical standards. This solution also allowed BMC to further its goal to consolidate clinical departments by shifting some outpatient services from its Dowling, Yawkey and other locations on campus to the proposed SACC. The SACC's design did not result in significant new outpatient space on campus, rather it created more efficient use of outpatient space resulting in higher throughput of patients. The third amendment was approved by the BRA in December 2007.

On June 8, 2009, BMC and BU submitted an Institutional Master Plan Notification Form for the Renewal and Amendment of the BUMC IMP (IMPNF for Renewal and Amendment), which IMPNF for Renewal and Amendment described the minor expansion of the BMC Menino Pavilion by the construction of a single-story slab-on-grade addition of approximately 845 square feet on the southwest end of the BMC Menino Pavilion (the ED Project). Notice of receipt by the BRA of the IMPNF for Renewal and Amendment was published in the Boston Herald on June 9, 2009 initiating a comment period that ended on July 9, 2009. On July 16, 2009, the BRA approved the IMPNF for Renewal and Amendment for a two-year renewal of the BUMC IMP and approval of the ED Project.

On August 14, 2009, BU filed an IMPNF for Amendment of the IMP in connection with the incorporation in the IMP of the Albany Fellows Site, which is an approximately 1.7-acre site lying between Albany Street and Fellows Street, and the construction on a portion of the Albany Fellows Site of a proposed project

known as the Graduate Student Housing Project for Boston University Medical School. The Albany Fellows Site consists of three parcels: Parcel 1, which fronts on Fellows Street and contains approximately 15,324 square feet of land area; Parcel 2A, which fronts on Albany Street and contains approximately 38,920 square feet of land area; and Parcel 2B, which is bounded by Parcel 2A, former Pike Street, Fellows Street and Parcel 1 and contains approximately 20,766 square feet of land area. Notice of receipt by the BRA of the Amendment IMPNF was published in the Boston Herald on August 14, 2009 initiating a comment period that ended on September 25, 2009. On January 12, 2010, the BRA approved the IMP Amendment for inclusion of the Albany Fellows Site and Graduate Student Housing Project, and on February 10, 2010, the Boston Zoning Commission approved the same.

For purposes of ensuring that the approved (January 2010) Albany Fellows Site and the Graduate Student Housing Project were included in the renewal IMP, the 2010 BUMC IMP incorporated the site and project in the filing.

In June 2013, BMC filed an IMP for Amendment of the 2010 IMP to add and make revisions to the New Inpatient Building in two phases, with immediate construction of the New Inpatient Building Phase 1, which includes the infill and addition to Menino Pavilion of approximately 82,300 square feet and new construction of a 7,800 square feet Patient Transport and Materials Handling Bridge to replace the yellow utility tube that crossed Albany Street. A new addition was also proposed to the Moakley Building of approximately 27,800 square feet to enable the relocation of outpatient clinical services from the Menino Pavilion to enable the New Inpatient Building Phase 1 construction. This amendment enabled BMC to consolidate its clinical core to the west and close Newton Pavilion.

In August, 2017, BU filed an IMP for Amendment to add the renovation and expansion of the Henry M. Goldman School of Dental Medicine as a Proposed Institutional Project. The project involves a new addition of up to 50,000 square feet and renovation of up to 65,000 square feet of existing building space for clinical, office, instructional and student collaboration spaces.

A.1.2 Notices of Exemption

On October 2, 2006, BMC submitted an Institutional Master Plan Notification Form to the BRA proposing an addition of approximately 10,000 square feet to the Newton Pavilion inpatient care building located on East Newton Street. The existing Newton Pavilion is eight floors and has an elevator penthouse. The Newton Pavilion was originally built in 1986, at which time all inpatient care floors below the eighth floor were built with three pods per floor. The existing eighth floor has two pods. The IMPNF proposed filling in the last pod of the eighth floor in order to provide approximately 12 beds of additional care. On November 7, 2006, the BRA issued a Notice of Exemption for the Newton Pavilion eighth floor addition exempting it from Article 80 Institutional Master Plan Review because it was not affecting a gross floor area of more than 20,000 square feet and was not a phase of another Institutional project.

On February 23, 2007, BMC submitted a Request for a Notice of Exemption to the BRA proposing an addition of approximately 17,500 square feet to the Menino Pavilion located on Albany Street. BMC determined that the need for a third MRI and 11 additional Emergency Department beds to ease overcrowding of existing patient flows could not be accommodated within existing space and therefore requested approval for the addition to the Menino Pavilion. On April 5, 2007, the BRA issued a Notice of Exemption for the Menino Pavilion addition exempting it from Article 80 Institutional Master Plan Review

because it was not affecting a gross floor area of more than 20,000 square feet and was not a phase of another Institutional project.

Table A-1 Summary of Institutional Master Plan Submissions and Amendments

Date	Action	Subject
May 18 2000	IMP BRA Board Approval	Original joint BMC and BU BUMC IMP and including proposed five-story, 92,010 s.f. BMC Medical Services Center (outpatient care) and related circulation, parking, and landscaping.
July 14 2001	IMP Amendment BRA Board Approval	Rehabilitation of the BMC Surgical Building for administration uses. Involved an existing eight-story, 66,952 square foot building including an adjoining one-story entry building. Amendment included replacement of the adjoining building with one-story lobby.
October 7 2003	NPC BRA Board Approval	Replacement of the BMC Medical Services Center with the BMC Moakley Building (133,217 s.f. – cancer care, ambulatory care, digestive disorder center, and otolaryngology clinic), modifications to existing Ambulatory Care Center and circulation/parking changes associated with Moakley.
January 26 2006	IMP Amendment BRA Board Approval	BMC and BU amendment for minor modifications including reuse of basement, office, and administrative space in BMC's BCD and FGH buildings and BU's 761 Harrison Avenue, and removed from the BUMC Campus IMP list of buildings, the Mallory building which is no longer leased to BMC.
November 2006	Notice of Exemption Granted	BMC exemption for expansion of the Newton Pavilion to create 10,000 s.f. with 12 new inpatient beds.
April 5 2007	Notice of Exemption Granted	BMC exemption for addition of 17,500 s.f. to the Menino Pavilion for MRI and ER beds.
December 2007	IMP Amendment BRA Board Approval	BMC demolition of existing building and construction of the new 245,000 s.f. Shapiro Ambulatory Care Center at 725 Albany Street to create more efficient use of existing outpatient space shifted from other campus locations.

July 16 2009	IMP Renewal and Amendment BRA Board Approval	BMC and BU renewal of the 2000 BUMC IMP for a 2-year term and minor expansion of the BMC Menino Pavilion by construction of a single-story slab on grade addition of 845 s.f. to the ED.
January 12 2010	IMP Amendment BRA Board Approval	BU amendment to IMP to include the approximately 1.7 acre site lying between Albany Street and Fellows Street (the "Albany Fellows Site") in the Boston University Medical Center IMP and the construction on a portion of the Albany Fellows Site of a proposed project known as the Graduate Student Housing Project for Boston University Medical School consisting of a nine story building of approximately 84,033 square feet with approximately 12,000 square feet of on-site landscaped open space, which building will provide 104 two bedroom units to house up to 208 graduate students of the BU Medical Campus and will also contain approximately 5,000 square feet of ground floor retail space.
June 22 2010	IMP Renewal BRA Board Approval	BMC and BU renewal of the 2010 IMP to include 3 proposed IMP Projects for BMC. The construction of a 48,000 square foot Energy Facility, the construction of a 160,000 square foot Administration/Clinical Building and demolition of an existing building and the construction of a 405,000 square foot new Inpatient Facility. Removal of leased space at the Finland and Kakas Building. Inclusion of leased space at the Crosstown Site, clarification of the Ownership of the Gambro Building and a change in use for the Doctor's Office Building from Outpatient to Administration.

December 2013	IMP Amendment BRA Board Approval	BMC amendment to add and make revisions to the New Inpatient Building in two phases, with immediate construction of the New Inpatient Building Phase 1, which includes the infill and addition to Menino Pavilion of approximately 82,300 square feet and new construction of a 7,800 square feet Patient Transport and Materials Handing Bridge to replace the yellow utility tube that crossed Albany Street. A new addition was also proposed to the Moakley Building of approximately 27,800 square feet to enable the relocation of outpatient clinical services from the Menino Pavilion to enable the New Inpatient Building Phase 1 construction. This amendment enabled BMC to consolidate its clinical core to the west and close Newton Pavilion.
August 2017	IMP Update and IMP Amendment BRA Board Approval	BMC 2-year IMP update and BU amendment to add the renovation and expansion of the Henry M. Goldman School of Dental Medicine as a Proposed Institutional Project. The project involves a new addition of up to 50,000 square feet and renovation of up to 65,000 square feet of existing building space for clinical, office, instructional and student collaboration spaces.

A.2 2021 to 2031 New Boston Medical Center IMP

The original approved 2000 BUMC IMP and 2010 BUMC IMP Renewal and associated IMP Amendments, were joint submissions with the BMC and BU. Following the approval of the 2017 IMP Amendment, BMC and BU evaluated options for moving forward and determined that developing separate IMP's better serve each institutions' unique needs and individual missions. While separate IMP's will be created for BMC campus and the BU Medical Campus, both institutions will remain partners, in some instances, regarding area planning and will continue to share in Transportation Demand Management and Parking.

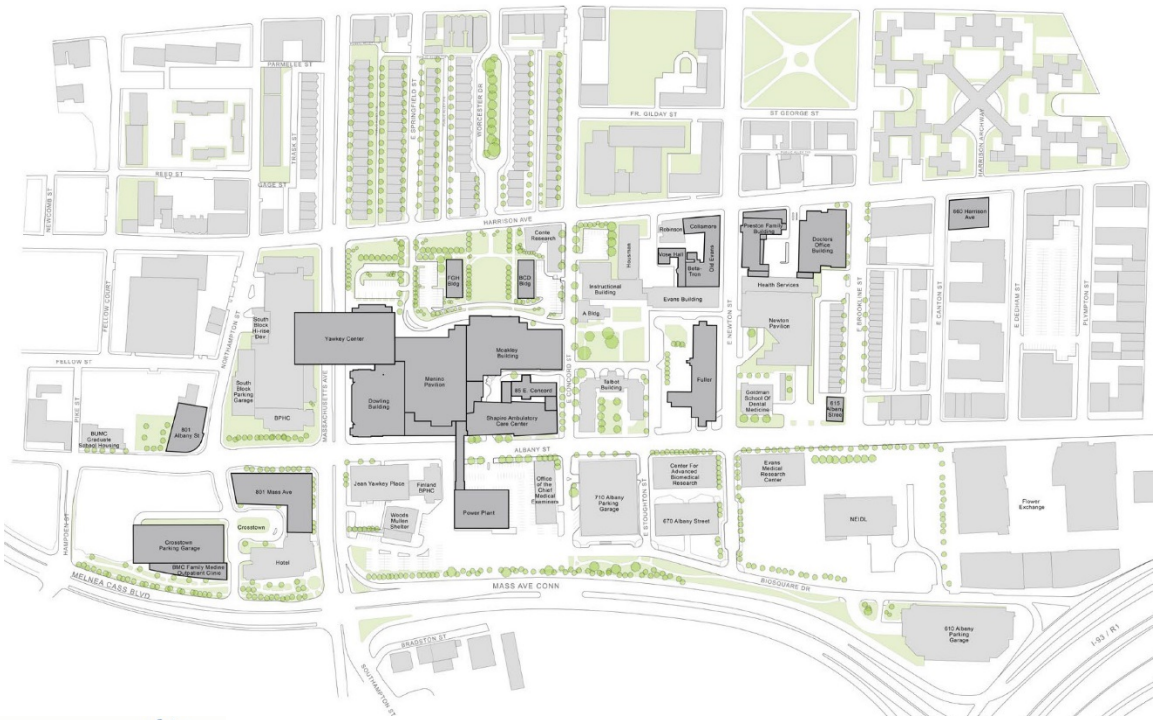
BMC is seeking zoning approval under Article 80D for Site, Use, Massing and Height for the newly proposed projects in addition to those approved under the 2010 IMP. Projects subject to Article 80B Large Project Review will be submitted in the future as programs are more clearly defined. At that time, detailed design and impact review will be able to take place with the City, Task Force, and neighbors to establish appropriate mitigation measures.

As BMC looks forward to a new decade, it will continue the measured approach to campus growth. Table A-2 below shows a comparison of the change in square footage from 2010 IMP and the new 2021-2031 IMP.

Table A-2 Comparison of BMC Square Footage Changes

		Changes			
			2010 IMP	2013 IMP AMENDMENT	2021 IMP
Facility	**Year Built**	**Principal Uses**	**Building SF**	**Building SF**	**Building SF**
Newton Pavilion	1986	Inpatient/Administration/Research/Instruction	257,019	257,019	0
Yawkey Ambulatory Care	1972	Inpatient/Outpatient	218,477	218,477	221,977
BCD	1864	Administration	28,174	28,174	28,174
Betatron	NA	Administration	5,912	5,912	5,912
Dowling	1937	Administration/Outpatient	157,376	157,376	157,376
Doctors Office Building	1969	Administration/Outpatient	91,783	91,783	91,783
Preston	1967	Outpatient	65,967	65,967	65,967
FGH	1864	Administration	29,435	29,435	29,435
Health Services	1973	Inpatient Support/Outpatient	73,651	73,651	0
Carl J. & Ruth Shapiro Ambulatory Care Center	2011	Outpatient	245,000	245,000	245,000
Menino Pavilion	1994	Inpatient	337,340	337,340	337,340
Power Plant	1972	Mechanical/Admin/Support	64,064	64,064	64,064
Northampton Square (formerly South Block)	1970	Public Health	20,070	0	0
85 East Concord Street	1928	Administration	66,952	66,952	66,952
125 East Concord Street, Solomon Carter Fuller	1975	Administration	11,000	11,000	11,000
Vose Hall	1898	Administration	22,695	22,695	22,695
Old Evans	1942	Administration	60,070	60,070	60,070
Collamore	1936	Administration	41,970	41,970	41,970
Gambro (660 Harrison)	1990	Administration/Outpatient	35,000	35,000	17,288
Helipad	NA	Helipad	NA	NA	NA
560 Harrison Avenue	NA	Administration	0	19,000	0
Perkin Elmer	NA	Administration	36,524	0	0
Perkin Elmer (North - 575 Albany Street)	NA	Administration	0	12,000	0
Perkin Elmer (South - 575 Albany Street)	NA	Administration	0	44,000	0
Perkin Elmer (123 E. Dedham Street)	NA	Administration	0	9,258	0
Perkin Elmer (100 E. Canton Street)	NA	Administration	0	64,203	0
Crosstown, 801 Massachusetts Avenue	2006	Administration	12,197	12,197	136,771
Moakley Building	2006	Outpatient	133,217	133,217	161,017
615 Albany Street (50% own with BU)	1865	Administration/Research /Instruction	19,710	19,710	19,710
801 Albany Street	1989	Administration	0	0	41,198
New Inpatient Building Phase I	2018	Inpatient	0	0	105,494
Patient Transport Bridge (w/elevator & stair tower)	2018	Support	0	0	7,800
7-11 Melnea Cass, Family Medicine	2006	Outpatient	0	0	7,300
		Total Owned / Leased S.F.	**2,033,603**	**2,125,470**	**1,946,293**
		Total New Project S.F.	**613,000**	**698,400**	**770,700**
		Total Demolition or Removal of S.F.	**0**	**-64,064**	**-359,118**
		Total Approved IMP Square Feet	**2,646,603**	**2,759,806**	**2,357,875**
		Potential Acquire/Lease of Northampton	**0**	**0**	**75,000**
		TOTAL CHANGE	**2,646,603**	**2,759,806**	**2,432,875**

APPENDIX B
PRESERVATION PLAN



BOSTON MEDICAL CENTER PRESERVATION PLAN

AUGUST 23, 2016,
UPDATED NOVEMBER 20, 2019 FOR IMPNF
UPDATED MAY 3, 2021 FOR INCORPORATION INTO 2021-2031 IMP

SUBMITTED TO:
South End Landmarks District Commission
Boston City Hall, Room 709
Boston, MA 02201

SUBMITTED BY:
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One Boston Medical Center Place
Boston, MA 02118

PREPARED BY:
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1.0 INTRODUCTION

1.1 Background

Boston Medical Center (BMC) completed an extensive Institutional Master Planning (IMP) process from 2007 to 2010. The goal of that IMP process was to create a balanced approach to its ability to meet ever-changing clinical care requirements with the physical parameters necessary to support them and its commitment to historic preservation. According to a Certificate of Design approval with the South End Landmarks District Commission (SELDC) dated September 17, 2007, the 2007 to 2010 IMP processes initially included collaboration with a subcommittee of the SELDC to discuss current and planned uses of major buildings and historic resources on the medical campus. This was a commitment BMC made under the approvals for the demolition of the former Maternity Building at 91 East Concord Street and the construction of the Shapiro Ambulatory Care Center. A facility condition assessment was completed in 2007 by Tsoi/Kobus & Associates (now Tsoi-Kobus Design) and was submitted to the SELDC. The assessment evaluated the use and physical conditions of the major buildings on the medical campus and, in part, established a framework for the 2010 IMP approved by the BRA, now the BPDA. In addition, BMC worked with a preservation consultant, Tremont Preservation Services, to complete a survey of the historic resources (buildings 50 years and older) on the medical campus. This was included in the 2010 IMP.

BMC has submitted a 2021-2031 IMP, and with its submission, the 2016 Preservation Plan has been updated and incorporated into the 2021-2031 IMP. This update to the 2016 Preservation plan is completed by preservation consultant, Building Conservation Associates, Inc., as part of the new BMC 2021-2031 IMP.

One of the projects approved in the 2010 IMP, as amended in 2013 and approved by the BPDA, was the New Inpatient Building on the site of the Dowling Tower. The New Inpatient Building is planned to be constructed in two phases; Phase 1 was completed in 2018. The New Inpatient Building Phase 1 was approved by the SELDC in 2014, which involved the demolition of the three-story Dowling Connector and construction of the new four-story addition to the Menino Pavilion. As part of the 2014 SELDC approval, BMC committed to developing a Preservation Plan of its campus to be reviewed and approved by the SELDC.

Phase 2 of the New Inpatient Building was approved in 2010 IMP and subsequent amendments thereto and is included in the 2021-2031 IMP. The possible reuse, renovation or replacement of the Dowling Tower was included in the 2016 Preservation Plan and alternative building locations for a new inpatient building were reviewed with the SELDC at the September 5, 2017 Commission meeting. See Section 7.0 for an in-depth evaluation of the alternatives and the final letter to SELDC and approved Option A location of the New Inpatient Building Phase 2.

An updated facility condition assessment was completed in 2015 by Tsoi/Kobus & Associates, now Tosi-Kobus Design. Both in the 2007 and 2015 assessments, the Dowling Tower, among others, was identified as being in fair to poor condition and requiring significant infrastructure investment. Through these assessments, it has been determined that the Dowling Tower cannot be restored to

its original 1937 design nor can it be reused to deliver the best possible patient care that meets current healthcare standards. A detailed discussion of the potential for reuse of the Dowling Tower for medical, clinical and inpatient rooms is included in Section 7.0.

The 2015 facility condition assessment also identified Vose Hall, including the attached Betatron building, as being in fair to poor condition with significant infrastructure improvements required to make the building a viable modern office and administrative building. As part of the 2021-2031 IMP, the new 10 Stoughton Street building is proposed to replace the Vose Hall. A detailed discussion of the potential for reuse of Vose Hall has been added to this Preservation Plan which is included in Section 8.0.

1.2 Purpose and Scope of Preservation Plan

The BMC Preservation Plan completed in 2016 was created to serve as a supplement to the 2010 Institutional Master Plan Renewal, amended in 2013, approved by the BPDA (then the BRA). The ongoing purpose of the Preservation Plan is to identify historic resources, which include buildings owned by BMC 50 years of age or older, to research the historical significance and to determine to what extent each resource retains its architectural integrity. The Preservation Plan provides recommendations and guidelines to incorporate preservation planning into the master planning process for BMC buildings and properties and identify potential challenges to preservation in the near term and long term. The BMC 2016 Preservation Plan has been updated for inclusion in the 2021-2031 Institutional Master Plan and will be updated concurrently with future IMPs.

1.3 Boston Medical Center Mission and Objectives

BMC was incorporated as a Massachusetts charitable corporation July 1, 1996 with the merger of Boston City Hospital and the Boston University Medical Center Hospital, referred to as University Hospital. Boston Medical Center (BMC) is a private, not-for-profit, 514-licensed-bed, urban academic medical center located in Boston's Historic South End, which emphasizes community-based, accessible care and the mission to provide consistently accessible health services to all in need of care regardless of status and ability to pay. The primary teaching affiliate for Boston University School of Medicine, BMC is the largest safety net hospital and busiest trauma and emergency services center in New England. BMC provides a full spectrum of pediatric and adult care services from primary to family medicine to advance specialty care.

The mission of BMC is "to provide consistently excellent and accessible health services to all in need of care regardless of status or ability to pay" – exceptional care, without exception.

Following the approval of the 2010 IMP, the healthcare environment continued to dramatically change. In 2018, BMC became a Boston Accountable Care Organization (BACO). To implement and succeed in this new coordinated care model, which has created a higher demand for BMC's services while the patient population has increased, BMC must focus on addressing evolving healthcare program needs which require strategic space modifications to:

- Accommodate the increase in outpatient and inpatient volume.
- Redesign healthcare models to integrate medical, behavioral, and social needs of its patients.

- Right size and modernize clinical space to meet current building code and clinical standards.
- Leverage the highest and best use of building resources, owned and leased.

1.4 Methodology

Research was compiled for buildings BCD and FGH while they were undergoing rehabilitation (2006 – 2008). These two buildings are part of Gridley J. F. Bryant's original 1864 design for Boston City Hospital. Documentation was also submitted to Boston Landmarks Commission for the former Maternity Building at 91 East Concord Street in compliance with the Massachusetts Historical Commission Memorandum of Agreement (2007) for construction of the Shapiro Ambulatory Care Center at 725 Albany Street. A survey of Boston City Hospital (1988) conducted for the Central Artery/Third Harbor Tunnel Project is contained in the Draft Environmental Impact Report (DEIR) dated August 1988. The Boston City Hospital survey in the DEIR was consulted for this report. In 2008, an initial survey of historic resources at BMC provided a description and statement of significance for buildings over 50 years old (included in the 2010 IMP).

The 2016 Preservation Plan identified eight historic buildings owned by BMC built prior to 1966 and one building constructed in 1967, which has also been included in this plan. Two additional buildings, built prior 1972, have been included in the 2021-2031 IMP Preservation Plan Update. The buildings owned by BMC built before 1972 are shown on Figure 3.1 and listed in Table 3.1 in Section 3.0 and the designated historic districts and potential historic districts are indicated in Section 2.0 and shown on the map in Figure 2.2 and listed in Table 2.1. A history of BMC is included in Section 3.2

2.0 BOSTON MEDICAL CENTER CAMPUS CONTEXT

2.1 Introduction

Boston Medical Center (BMC) is located on the site of the former Boston City Hospital (BCH). Built in 1864, BCH experienced expansive growth through the 19th century on the site bounded by East Concord Street, Harrison Avenue, Massachusetts Avenue and Albany Street. Due to the expansion, East Springfield Street was terminated at Harrison Avenue prior to 1897 in order to capture the area of the street for BCH. To the north of East Concord Street, other medical institutions began to appear such as, the Massachusetts Homeopathic Hospital, which expanded with the construction of the Massachusetts Memorial Hospitals, and the Boston University School of Medicine, which in 1962 merged with other BU Medical programs to form Boston University Medical Center Hospital.

Harrison Avenue forms the eastern boundary of the South End Landmark District, a local landmark district designated by the Boston Landmarks Commission and of the South End Historic District, which is listed in the National Register of Historic Places. Harrison Avenue also functions as the western boundary of the South End Harrison/Albany Protection Area. The South End Landmark District is one of the largest urban Victorian neighborhoods in the country. Comprised of residential, commercial and institutional buildings, parks and green spaces, the district encompasses over 300 acres. The boundaries of the Landmark and the National Register Districts differ somewhat on the southeast and southwest borders.

The South End Harrison/Albany Protection Area designated by the Boston Landmarks Commission is irregular in plan; it extends southeast from Harrison Avenue to the Massachusetts Avenue Connector and north from Northampton Street to the Mass Turnpike connector. All of the Boston Medical Center campus is included within the SE Harrison/Albany Protection Area. Many of the BMC buildings are connected and are located on the block bounded by East Concord Street, Harrison Avenue, Massachusetts Avenue and Albany Street. Additional buildings are located at the corner of East Newton Street and Harrison Avenue and at the corner of East Brookline Street and Albany Street. The Power Plant is located across Albany Street from the core buildings. The Yawkey Ambulatory Care Center (1972), the Menino Pavilion (1994), the Moakley Building (2006), and the Shapiro Ambulatory Care Center (SACC, 2014) comprise the core of Boston Medical Center.

The BMC campus is at the southern end of the Protection Area. To the north of BMC in the Protection Area is the Boston University Medical Center Hospital. Other buildings in the protection area include some open areas, parking garages, research buildings and residential buildings. Some of the buildings are relatively new and most are less than 50 years old.

See Figures 2.1 and 2.2 and Table 2.1.

Figure 2.1 Boston Medical Center Campus Map

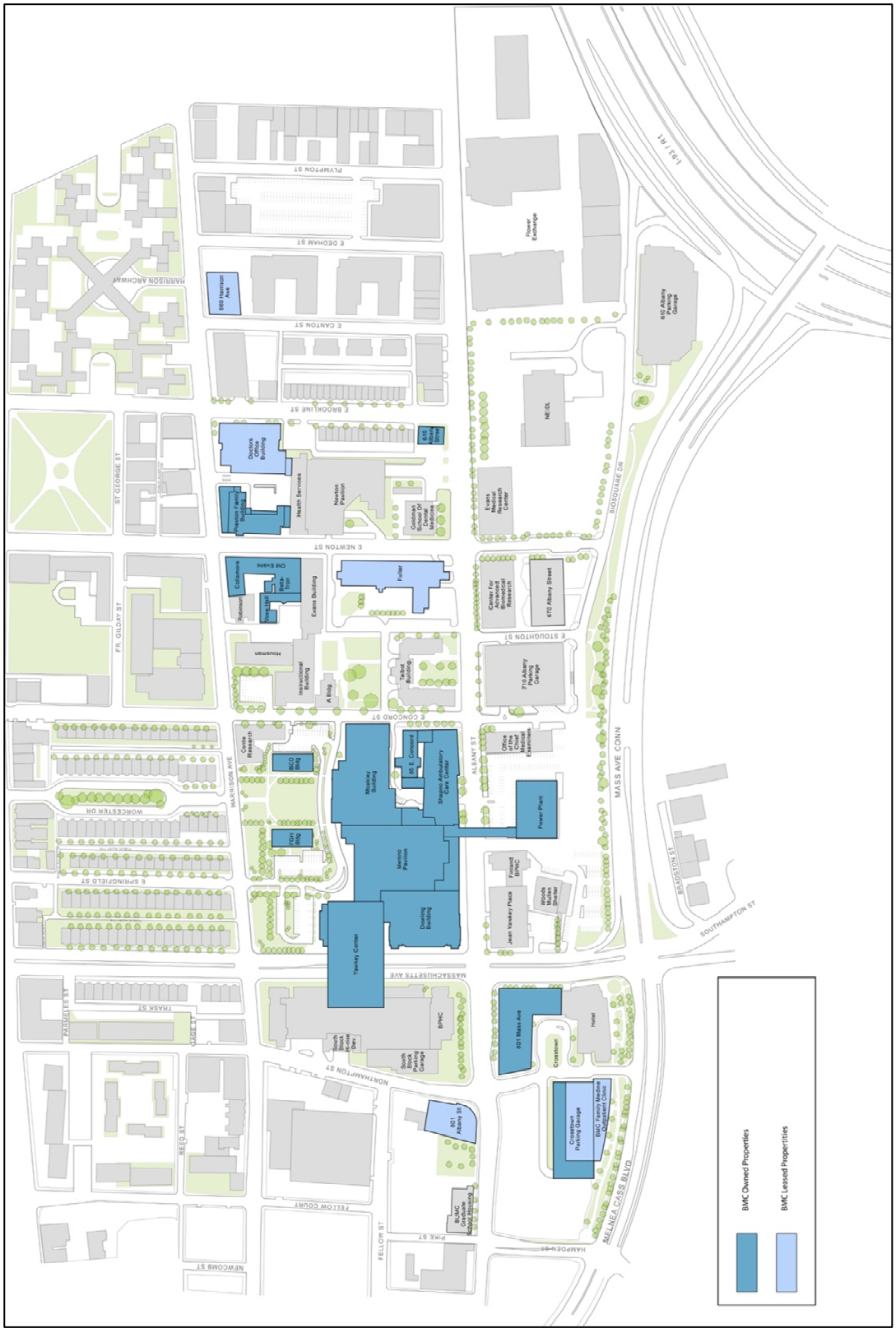

Figure 2.2 Historic Districts and Potential Districts

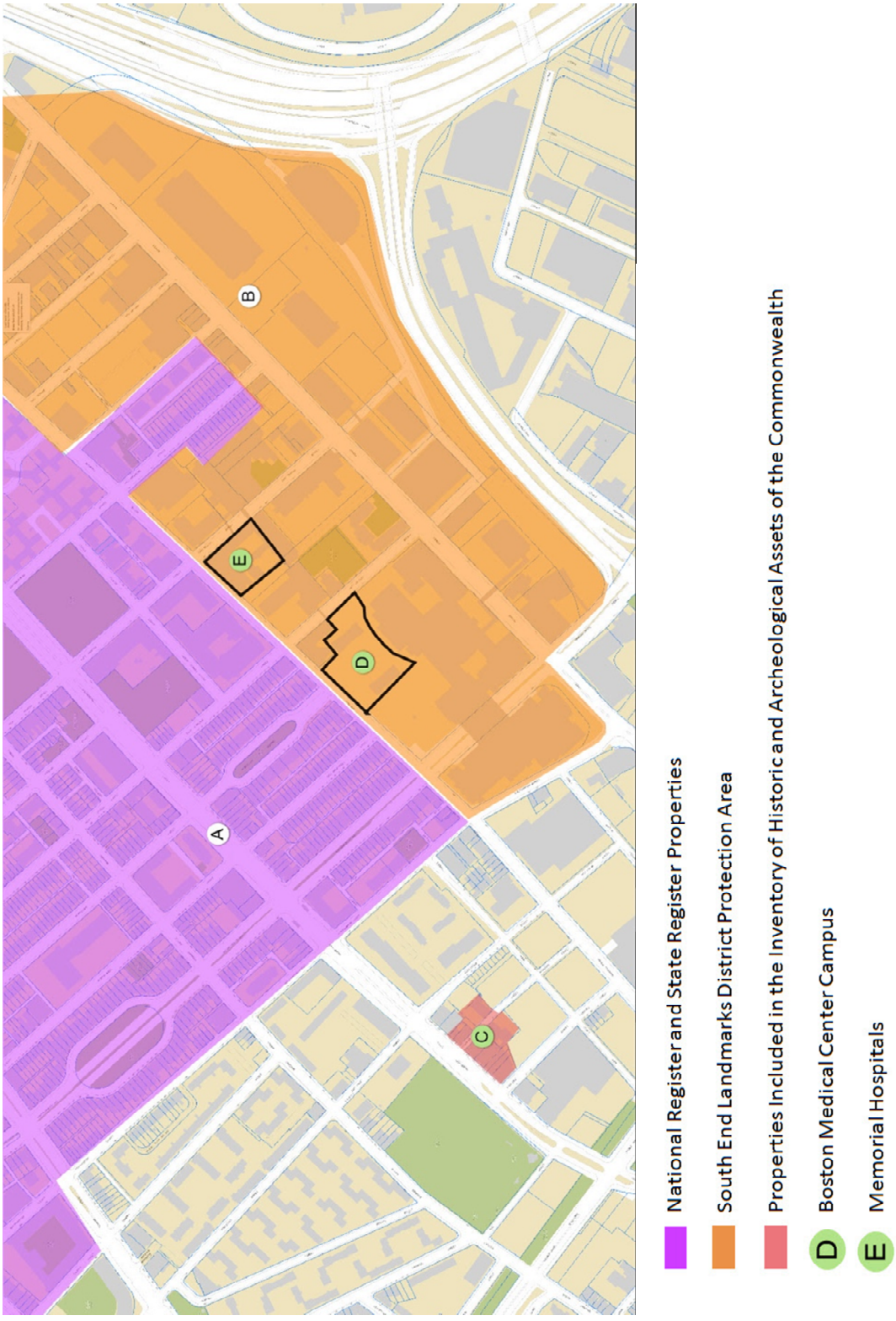

Table 2.1 Historic Districts and Potential Districts

Identified on Figure 2.1	Building/District Name	Address	Date	Designation
	EXISTING AND POTENTIAL DISTRICTS			
A	South End Landmark District	Roughly bounded by Penn Central RR, Camden St., Harrison Ave., and East Berkeley & Tremont streets		NRDIS; LDIS
B	South End Harrison/Albany Protection Area	Roughly bounded by Harrison Ave. Frontage Road, Albany Street, Washington Street & Northampton Street		LPA
C	Ascension-Caproni Historic District	Roughly bounded by Washington, Thorndike, Newcomb streets		INV – Proposed & Accepted by MHC
D	Boston City Hospital	Harrison Avenue		NRDOE 4/18/1990, LPA
E	Memorial Hospitals	Harrison Avenue & East Newton Street		LPA, NR Eligible

NRDIS – National Register District
NRDOE – Determined Eligible for National Register Listing
LDIS – Local Historic District
LPA – Local Protection Area
INV – Inventory Form or included in Historic Resources Survey

Boston Medical Center-Owned Buildings

BMC is located on what is referred to in previous regulatory filings as the Boston University Medical Center campus. The Boston University Medical Center campus, in addition to BMC, is comprised of the Boston University Medical Campus (BU Medical Campus) which includes three of BU's health science schools - the School of Medicine, the Henry M. Goldman School of Dental Medicine and the School of Public Health. BMC and BU are, and operate as independent entities which have separate ownership and control over specific buildings located on the Boston University Medical Center campus. Buildings under the ownership and control of BU are not the subject of this Preservation Plan.

In addition, BMC recently sold some of its properties. The properties sold include Newton Pavilion, Doctors Office Building, H-Building, Gambro, and the former Perkin Elmer buildings. See Section 3.1 and Figure 3.1 for BMC owned buildings.

3.0 HISTORIC AND ARCHAELOGICAL RESOURCES

3.1 Introduction

Boston Medical Center (BMC) is located within the South End Harrison/Albany Protection Area, which was established to maintain an architecturally compatible boundary adjacent to the southeast border of the South End National Register and the South End Landmark districts. This section of the Preservation Plan contains inventory forms and information on buildings owned and controlled by BMC that were built before 1972.

The present Boston Medical Center (BMC) was formed in 1996 as a result of the merger of Boston City Hospital and Boston University Medical Center Hospital, referred to as University Hospital. Boston University Medical Center Hospital was the former Massachusetts Memorial Hospitals.

As a result of the merger, BMC now owns some buildings that were originally part of Boston City Hospital and some buildings that were originally part of Boston University Medical Center Hospital, with the majority of the other buildings owned by Boston University (BU).

For clarification purposes this section separates the historic buildings owned by BMC on the medical campus into two groups: those buildings built as part of Boston City Hospital, and those buildings which operated as part of the Massachusetts Memorial Hospitals. This distinction is as follows:

Boston City Hospital

- BDC Building
- FGH Building
- Dowling Tower
- Surgical Building
- Yawkey Ambulatory Care Center
- Power Plant

Massachusetts Memorial Hospitals

- Anna White Vose Hall
- Helen Collamore Memorial
- Old Robert D. Evans Memorial
- Preston Family Building

One building, the Smith American Organ Company (Naval Blood Research Center), is currently owned by BMC and discussed in this section but was not built as one of the original hospital buildings. A survey of several of the original Boston City Hospital buildings is available in the Draft Environmental Impact Report for the Central Artery/Third Harbor Tunnel Project and was consulted for this survey. Potential impacts of proposed projects on the historic buildings are discussed in Section 5.0 of this report. See Figures 3.1 and 3.2 and Tables 3.1 and 3.2.

Figure 3.1 Boston Medical Center Owned Buildings Built Before 1972

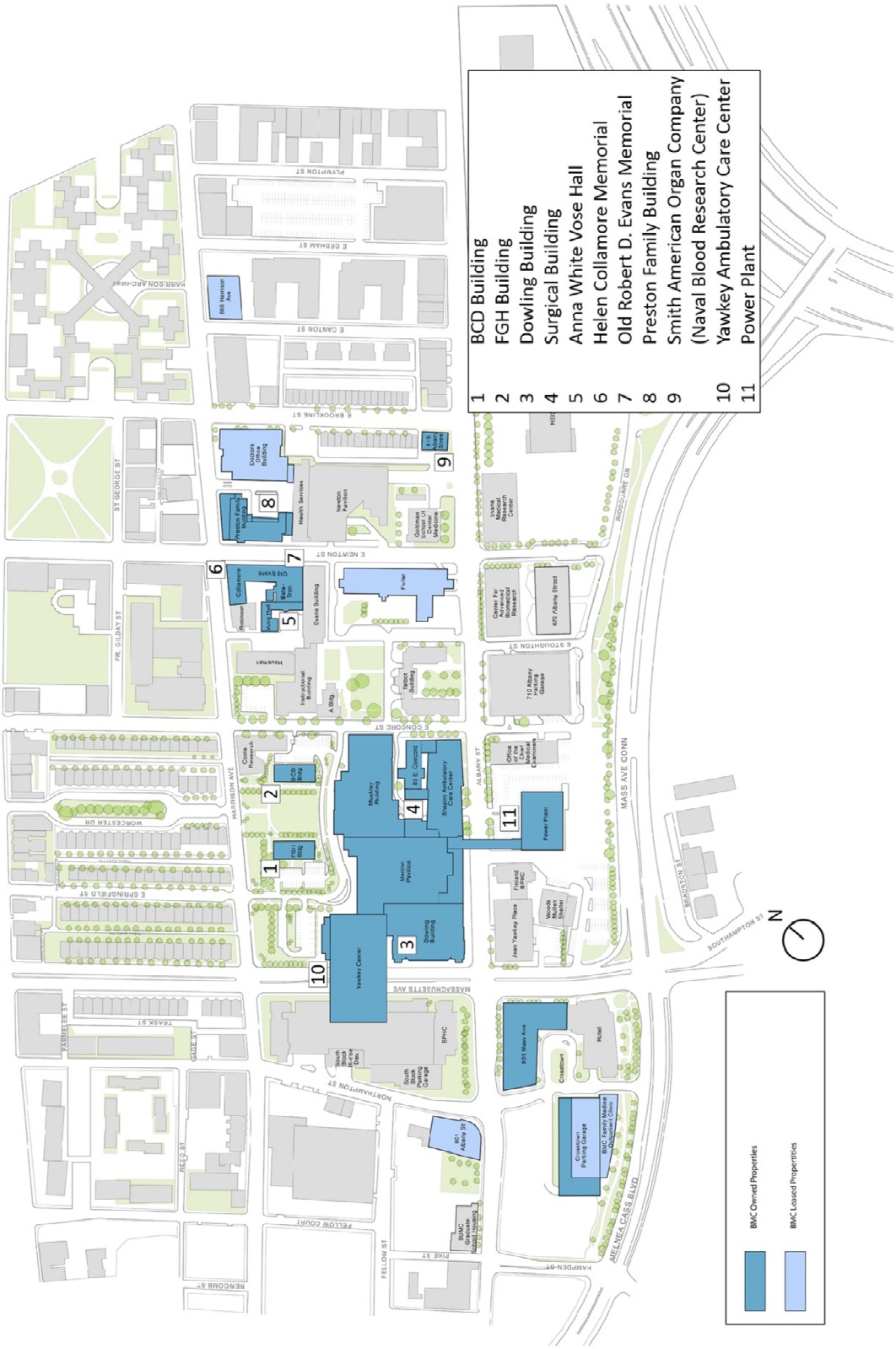

Table 3.1 Buildings Owned by Boston Medical Center Built Before 1972

Building No.*	Name	Address	Date	Designation	Survey Reference
1	BCD Building – Surgical Pavilion	800 Harrison Avenue	1864	NRDOE – 4/18/1990	BOS.1479, BOS.AE
2	FGH Building – Medical Pavilion	820 Harrison Avenue	1864	NRDOE – 4/18/1990, LPA	BOS.1479, BOS.AE
3	Dowling Tower	771 Albany Street	1937	LPA	
4	Surgical Building	85 East Concord Street	1928	LPA	
5	Anna White Vose Hall	88 East Newton Street	1898	LPA	
6	Helen Collamore Memorial	746 Harrison Avenue	1936	LPA	
7	Old Robert D. Evans Memorial	East Newton Street	1942	LPA	
8	Preston Family Building	732 Harrison Avenue	1967	LPA	
9	Smith American Organ Company (Naval Blood Research Center)	615 Albany Street	R 1865	LPA	BOS.1457
10	Yawkey Ambulatory Care Center	850 Harrison Avenue	1972	LPA	
11	Power Plant	750 Albany Street	1972	LPA	

**The building numbers and letters are used here only for the purpose of identification on the maps and associated materials. They are not historical numbers assigned to the buildings.*

3.2 History of Boston City Hospital

The original Boston City Hospital (BCH) three-building complex was the result of a decade-long campaign of planning.[1] Since 1849, when a cholera epidemic struck Boston, there were efforts aimed at establishing a free hospital, not for indigents but for those who were classified as "the worthy poor."[2] When the Boston City Hospital opened in 1864, it combined a sense of "civic responsibility" with a socially progressive and elegant architectural design. Gridley J. F. Bryant (1816-1899), one of Boston's most prominent architects won the competition to design BCH.

[1] The name first proposed for the institution was the "Free City Hospital." This name was dropped to discourage people who were not sick from seeking help. Later the term "City Hospital" was used, until in 1893 it became "Boston City Hospital."

[2] Committee of the Hospital Staff. *A History of the Boston City Hospital from its Foundation Until 1904*. (Boston: 1906): 1.

Members of BCH's medical community were also influential in planning the new hospital. Together physicians and architects implemented a collaborative design that was "humanitarian in spirit" and modern in its approach to medical care.

The decision to locate BCH in the South End was the most economical solution for the City Council, since the city already owned the land, formerly the site of the Agricultural Fair Grounds. In 1858 the City of Boston was authorized to establish a City Hospital, and the Committee on the City Hospital was given a budget not to exceed $100,000.[3] In 1859 the City Council set aside the lot on Albany Street for the purpose of building the hospital.

Bryant's building of the Boston City Hospital (1861-64) was acknowledged as a major civic accomplishment.[4] On completion, BCH occupied 6.7 acres and was assessed at $73,000. The domed central Administrative Building, which was also the location of the operating theatre, was flanked by pavilions on either side and connected by ¼-circle open colonnades. At this time, the pavilion plan, which contained separate wards for medical and surgical patients, was considered the latest reform for a modern hospital. A significant feature was the open ward with no central corridor. It allowed ample cross-ventilation within the ward area, keeping the air fresh and not stagnant.

This plan stood from June 1, 1864, when the hospital was opened, remaining substantially unchanged for the next decade. In 1875, the first major expansion of BCH occurred when five new buildings were added. Since that time, BHC continued to grow through expansion, acquisition and construction, including closing the southern end of Springfield Street and extending the main campus to Massachusetts Avenue (prior to 1897).

The architect, Gridley J. F. Bryant, began his practice in 1838. He was responsible for a number of prominent institutional buildings throughout New England including the innovative plan for the Charles Street Jail on which he worked in collaboration with a social reformer Louis Dwight in 1848.

BCH's original design was the result of the cooperation between a skilled architect, Gridley J. F. Bryant, and the medical community associated with the founding of a new "free" hospital. In the second half of the nineteenth century, BCH set out to serve the needs of the working class including the burgeoning immigrant population of Boston. From its inception to the present, Boston City Hospital and Boston Medical Center are evidence of the progressive social values and civic responsibility shown by members of Boston's community.

Building Survey

1 and 2. Buildings BCD (1864) [1] and FGH [2]

a. Significance

Buildings BCD and FGH were built as the Medical and Surgical wards, two of the three original buildings from Gridley Bryant's original pavilion plan for Boston City Hospital. The three original

[3] Members of the Committee were Thomas C. Amory, Jr., Elisha T. Wilson, Prescott Barker, Sumner Crosby, George W. Sprague.
[4] Reed, *"To Exist for Centuries:" Gridley Bryant and the Boston City Hospital,* 73.

buildings consisted of two ward buildings framing a tall Administration Building set back with open colonnaded connectors. The first Administration Building was demolished in 1934 following construction of a new administration building sitting at Harrison Avenue. The two ward buildings sit parallel to each other set back from Harrison Avenue on the interior of the block bounded by Harrison Avenue, East Concord Street, Albany Street and Massachusetts Avenue. The wards were originally named ABCD and EFGH, however, it was soon discovered that because the lowest floor in each building was partially below grade, it created an environment that was unhygienic. Ward floors A and E were therefore decommissioned.

b. BCD & FGH Description

Bold and classic examples of the Second Empire Style, the two buildings are 2 1/2-story red brick structures sitting on a raised granite base with mansard roofs. Rectangular in plan with the long elevations running north-south, the stories above the basement are actually I-shaped in plan with the central seven bays recessed. Originally, the two buildings were identical, three bays wide by nine bays long. The south end of Building FGH was demolished in 1928, leaving eight bays (in length) of the original building. The ninth bay was reconstructed in 2007 on the original footprint. The buildings sit on a rubble foundation with a dressed granite block basement story. The red brick walls rise to a bold metal modillion cornice, which is surmounted by a bellcast slate mansard. At BCD only, four paneled red brick chimneys are centered in the roof, two at either end of the narrow section of the building. The center of the roof rises in a gable monitor. A row of regularly spaced ventilators pops up along the ridge of the monitor. Two additional ventilators rise from the north end of the roof; one is centered over a large ventilation duct near the NW corner, the second is near the N edge of the roof.

Windows set in regularly spaced bays are a major feature of the buildings. Basement window openings have segmental arches cleanly punched in the granite and brick walls. The tall, flat-arched masonry openings at the first and second stories provide an imposing scale to the building and are detailed with elaborate window caps. The first story windows have architrave cornices set above a recessed flush frieze and supported on shallow scroll brackets. The second story windows have paneled hood molds with a molded cap and simpler shoulders. The center bays at the north elevation and at the second story of the south elevation have round-arched window openings trimmed by a molded hood mold. At the roof, segmental arched dormers project out from the mansard.

The granite base is simply detailed with a shallow watertable at the lower course and a projecting beltcourse marks the top of the granite base. Other contrasting stone detail includes typical dressed window sills, projecting sills supported on tab brackets at the second story of the end pavilions, and a deep molded sill course rims the building at the second story. A focal point of the north elevation, an arched molded surround set on paneled pilasters on low pedestals frames the center window at the first story. Suggesting a ceremonial opening, this bay on each building has its original wooden balustraded balcony reinstalled. The wooden balconies were replaced by elaborate cast iron balconies on openwork scrolls that appear in an 1895 photo.

Aluminum replacement windows designed to match the originals have fixed 6/6 sash. The tall windows at the first and second stories originally held two sets of sash (an interior set and an

exterior set) and all of the windows had a set of interior shutters. Basement and attic windows are 3/3 with a segmental arched upper sash. The windows in the returns of the end pavilions are 4/4 at the first and second stories and 2/2 at the attic story.

c. BCD Exterior Alterations

Changes have occurred over time and have been partially reversed by a ca. 2000 exterior rehabilitation and a full rehabilitation completed in 2006. The 2006 rehabilitation was conducted in compliance with the *Secretary of the Interior's Standards for Rehabilitation* and the two buildings, BCD and FGH, were listed in the National Register of Historic Places. The circulation from BCD and FGH to the original Administration Building and to the later Medical and Surgical Buildings was formerly at the first floor by means of an open colonnade on a granite base connected to the center bay at the south elevation. The colonnade was later altered to a three-story connector and BCD had been connected at the east elevation to a later addition. That addition and the three-story connector have since been removed and the north end of BCD restored to its original form. A large opening at the basement level, south elevation of BCD would have provided access to the enclosed lower level of the colonnade. The opening presently serves as the main entrance. Historic views of the building also show a stone balustrade along the east and west elevations at the first story set at the edge of the granite base and which is not extant.

d. FGH Exterior Alterations

Originally a matching partner to BCD, FGH has experienced different alterations. As mentioned, the south end pavilion of FGH (three bays wide by one bay deep) was removed in 1928 in order to construct a new Medical Building, which was linked by a narrow connector to the south elevation of FGH. Also at that time (according to the Draft EIR Survey) the gable-roofed monitor was removed, the stone balustrades at the east and west elevations were replaced with iron railings, and a one-story brick entry porch was built on the west elevation. A one-story brick and concrete tunnel enclosure may have been part of the 1928 work. Presumably the existing iron fire escape on the west elevation was installed and the chimneys were removed at that time as well. The fire escape and railings on the east elevation appeared to have been a later addition.

An extensive remodeling in 1963 included the removal of the windows, the installation of single 6-light sash, the infill of the top of the first and second story window openings with a stucco panel, infill at the bottom of the first story windows and a remodeling of the interior. Other later accretions, including a stucco elevator tower on the south elevation, may have been part of the 1963 renovation. Several window openings had been infilled completely. The windows were replaced with smaller sashes.

During a rehabilitation in 2007, the added accretions were removed, including the elevator tower, the fire escapes the entrance vestibule and the window infill. Aluminum replacement windows were installed to match those at Building BCD and a rectangular enclosure with no roof will conceal the mechanical equipment on the roof and suggest the former rooftop monitor. The south bay of FGH was rebuilt with a brick façade and cast stone detail. The new roof is slate. One altered dormer on the west elevation was reconstructed to its original dimensions and one original wooden dormer window has been retained and reinstalled at the north elevation of the fifth floor.

3. Dowling Tower (1937) [3]

a. Significance

Refer to Sec. 7.2.2 for the significance statement for the Dowling Tower.

b. Description

The Dowling Tower anchors the corner of Albany Street and Massachusetts Avenue covering the former site of the Pathological Building. Irregular in plan and built up of a series of stepped blocks, Dowling is built of red brick with limestone ornament and sits on a stone first story. The building sits slightly back from the sidewalk along Massachusetts Avenue and Albany Street facing west across Massachusetts Avenue. The stone first story occupies the full footprint of the building. The red brick upper stories form a U in plan. The main block rises nine stories and has a 6-bay projecting central pavilion, which rises to 10 stories. The north and south ends of the main block step down to 7 stories and the north and south wings step down again to 6 stories and project west from the main block. At the west end of each wing, a metal panel one-bay addition may enclose a fire stair. Columns of tightly spaced windows separated by narrow brick and metal mullions emphasize the verticality. The window openings have flat arches and cast stone sills. Stone ornament is concentrated at the base and at the top stories of the central pavilion and the end pavilions. Vertical stone ornament in a stylized pattern is set into the wall above the 10th story windows. Two windows have a projecting sill with a carved stone head with wings in high relief. Stone ornament at the north and south wings includes vertical elements at the corners with stylized detail and horizontal panels at the cornice with carved scrolls and horizontal bands. The stone first story fills the lot between the north and south wings. Clean, punched window openings are symmetrically spaced along Massachusetts Avenue. Large stone scrolls sit at the corners of the main block atop the first story framing blocks carved with shields. Other stone detail found at the north and south elevations include carved panels above the seventh story, window surrounds, round panels and a carved surround at a central oculus window.

Fenestration varies throughout the building, including single punched openings, windows bays spaced in groups of 2 and oversized windows at the upper stories. At the end pavilions and the central pavilion of the main block, metal spandrel panels between each story have vertical stylized ornament. Spandrel panels on the ends of the wings appear to have been replaced with flush panels. Typical aluminum replacement windows are 1/1 double-hung with a transom. Some original windows appear to be double hung and others appear to be jalousie windows. Many openings have been filled with louvers, air conditioners, infill panels and brick.

Red brick one- and three-story ells extend from the rear of the main block. A stone frieze with rounded moldings and carved stylized panels at the sills enrich the brick walls.

4. Surgical Building (1926-28) [4]

a. Significance

Plans for the Surgical Building were prepared in 1926 by Ritchie, Parsons and Taylor. The contract was awarded to Joseph Kugo in February 1927 and it was opened to patients

in October 1928. The basement contained the indoor branch of the Department of Physical Therapeutics with facilities for baths, muscle training, massage, etc. The first floor was equipped as an accident ward with two special rooms for patients entering the hospital in surgical shock. Four of the upper floors contained rooms for female patients while three were set aside for males. The Surgical Building replaced the two-story Surgical Ward, W,X of 1895.

b. Description

The Surgical Building is a large, eight-story, brick clad structure rising from a basement platform defined by iron rails to a flat roof. Like its contemporaries from the late 1920s, it incorporates elements of the Neo-Federal and Beaux Arts styles in an institutional composition, it is rectangular in plan with a central cross piece rising above the rest of the building. The corners of the main block and the cross piece are defined by brick quoins. The basement and first story are faced with limestone and set off by a simple beltcourse. Projecting limestone cornices encircle the building above the third and seventh stories and swags and rondels are dispersed above the eighth story. Fenestration is symmetrical, and above the first story most windows are headed by splayed limestone lintels; some windows aligned at the second and eighth stories are set in round arched frames. The northeast elevation facing East Concord Street is defined by a quatrastyle screen of modified Corinthian pilasters, paired at the corners; the pilasters rise from the rusticated first story to the third story cornice. At the opposite end, decorative iron porches topped by slender urns stretch out from the crosspiece.

10. Yawkey Ambulatory Care Center (1972) [10]

a. Significance

In the first half of the 20th century, BCH was known as a leading medical facility not only in Massachusetts but in the country. However, by the mid-1960s, its position had significantly diminished. It was during this time that the City of Boston embarked on a broad program to modernize and improve the medical complex to reestablish "the Hospital's prominence as the center of high-quality medical care."[5] Planning for BHC's future began in 1967 with the creation of a long-range development plan "aimed at achieving a hospital reflecting the most advanced 'state of the art' in health care facilities." [6]

A Preliminary Planning Analysis, prepared in June 1968 by Lester, Gorsline, and Associates, International, was commissioned by the Public Facilities Department (PFD), who were acting on behalf of the city. This report outlined 103 recommendations covering all aspects of the Hospital's operations. In November 1968, the Hugh Stubbins/ Rex Allen Partnership was formed in order to fine-tune these recommendations, and in 1969 they develop a master plan that would not only usher BHC into a modern era but also address the desires of the community which would shift BHC from a research-based facility to a more family-centered community hospital.[7]

[5] Hugh Stubbins / Rex Allen Partnership. Boston City Hospital, Master Plan. 1969. 7
[6] Ibid.
[7] Cobb, Carl. Boston Globe (1960-1988). Mar 2, 1973. ProQuest Historical Newspapers: The Boston Globe. 3

An essential component of this plan was to replace the "dingy outpatient facilities where patients were herded like cattle through clinics" with a "modern ambulatory care center cast in concrete, steel, and glass."[8] In the 1960s and 1970s, Boston became a center for architects focusing on concrete modernism. This resulted in the city becoming a "laboratory of experimentation" for examining "[concrete's] structural and sculptural qualities in reshaping the public realm and symbolizing a progressive civic vision through monumentality and robust architectural expression."[9]

The collaboration of Hugh Stubbins and Rex Allen combined the talents of two premier designers. Hugh Stubbins was known for his large-scale structures that became recognizable landmarks such as Harvard University's Francis A. Countway Library of Medicine (1965), Boston's Federal Reserve Bank (1977), and Manhattan's Citicorp Center (1977). Rex Allen was an acclaimed architect specializing in hospital and healthcare facilities during the mid to late 20th century– his work aimed to create a more patient-friendly environment. He designed more than 100 health care facilities, and authored "The Hospital Planning Handbook," a comprehensive guide to hospital designs, which has become an influential text for health care architects."[10] Not only did the Hugh Stubbins / Rex Allen Partnership develop the 1969 Master Plan for the hospital, but this partnership also designed the new outpatient building.

When completed in 1973, the building, known as BCH's Ambulatory Care Center, became a symbol of a modern hospital facility catering to a changing focus from inpatient to outpatient care in the city.[11] The new center provided a "400 percent increase in space devoted to the care of clinic patients", along with contemporary programmatic features such as modern treatment rooms, a daycare center with an outdoor play area for children, and commercial space for a beauty parlor, bank, and other consumer-focus facilities.[12] At the October 27, 1971 groundbreaking ceremony, David Nelson, the chairman of BHC's board of trustees declared, "Today we breaking ground for the most modern facility of its kind in the city. We are determined that when it opens Boston City Hospital will have the finest program of ambulatory care in the city to go with it… [and that building the new outpatient center should be seen as a] renaissance that will return Boston City Hospital to a place of greatness."[13]

The new ambulatory care center incorporated features meant to cater to the comforts of patients and staff such as air conditioning and a communications system that interconnected all of the departments. There was also a spacious, wood-trimmed reception area on the ground floor connected to the emergency ward that served walk-in patients, directed patients to their primary care physician-nurse team, and dispensed prescriptions. Contemporary signage, such as special color-coded wall graphics, helped to guide patients to their destinations.[14]

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[8] McLaughlin, Loretta. Boston Globe (1960-1988). Jun 13, 1976. ProQuest Historical Newspapers: The Boston Globe. 2
[9] Pasnik, Mark, et al. Heroic: Concrete Architecture and the New Boston. Monacelli Press, 2015. 15.
[10] Rubenstein, Steve. "Service Set for Architect Rex Whitaker Allen." SFGate, San Francisco Chronicle, 17 May 2008, www.sfgate.com/bayarea/article/Service-set-for-architect-Rex-Whitaker-Allen-3283991.php.
[11] McLaughlin. 2.
[12] Cobb, Carl. BCH breaks ground for a $22 million out-patient building. Boston Globe; Oct 28, 1971; ProQuest Historical Newspapers: The Boston Globe pg. 46
[13] Ibid.
[14] McLaughlin. 2.

The creation of the ambulatory center was a critical step in the evolution of BCH and by extension BMC. Not only did design of the building involve two influential 20th century architects, Rex Allen and Hugh Stubbins, but this building also represents a hospital in an era of change - change in a health care focus from inpatient to outpatient care; incorporating new and changing design philosophies of patient and consumer comfort in design; and using modern materials, concrete and glass, to express a changing progressive vision of the hospital, the city, and patients.

b. Description

The Yawkey Ambulatory Care Center [YACC] is a five-story modernist concrete building spanning 20 feet above Massachusetts Ave, between Harrison Avenue and Albany Street. The building partially sits on the site of former Vose House, which was demolished between 1969 and 1971. Primarily horizontal in form, the YACC acts as a bridge, connecting the Main Block of the campus with the South Block. Similar to other modernist structures, the overall form of the building is comprised of simple geometric shapes— two rectangular prisms stacked on top of each other. The building is clad with precast concrete panels, with horizontal bands of glass to ease the heavy appearance of the concrete. These ribbon windows stretch the full length of the east and west elevations and are located on all five levels of the building. Level Five steps back from the plane of Levels Two through Four and houses the mechanical systems. The top portion of this level does not contain any windows. Despite the lack of fenestrations in this area, the spirit of the using simple geometric forms continues here with four large circular vents. These vents help to break apart the wall of solid concrete panels. The void at the base of the building allows for vehicles to past underneath the structure on Massachusetts Avenue. In this area, the structure above is supported by nine piers, clad in the same concrete panels as the rest of the building. In 2015 and 2018, the original 1972 windows were replaced on Level Five, and partially on Level Four. 13 original windows still exist near the northwest corner of Level Four. In 2016, a co-generation system and air handler were installed on the roof of the building, and metal horizontal slat screens were installed to block views of the mechanical system from the ground.

11. Power Plant (1972) [11]

a. Significance

Like the Yawkey Ambulatory Care Center, the Power Station was part of a critical step in the evolution of BMC. The Power Station (also known as the BCH Mechanical Plant) was initially developed as part of the Hugh Stubbins/ Rex Allen Partnership's 1969 Boston City Hospital master plan to replace the original dilapidated power plant for the hospital. The master plan report states that "the existing physical plant which has been developed over the last 100 years is in obsolete and deteriorating condition, with the exception of the Mallory Building and its Annex. The existing power plant and the utility distribution system are inadequate and fragmented and cannot support any new facilities".[15] To create the new modern hospital complex, desired by the hospital board, the city, and the surrounding community, BCH had to construct a new power plant to operate new facilities such as the ambulatory care center. The new service building was constructed in the same location as the original power plant/boiler facility in the

[15] Hugh Stubbins / Rex Allen Partnership. Boston City Hospital, Master Plan. 1969. 11.

East Block of the medical campus (bounded by Albany Street to the west, Massachusetts Avenue to the south, East Concord Street to the north and the Inner Belt Expressway to the east). According to the master plan, the construction of specific "portions of the new plant [had to] be built early to provide a cooling system for the Outpatient Building"[16] The mechanical plant was to be "equipped with the mechanical, electrical, and telephone equipment for the existing facilities and [the new outpatient building]."[17]

The Power Station was designed by Hugh Stubbins/Rex Allen Partnership and utilized modern materials such as glass, concrete, and pre-formed metal panel siding. The building was listed as a finalist for the Harleston Parker Medal in 1983;[18] an annual award given by the Boston Society of Architects that recognizes "the most beautiful piece of architecture, building, monument or structure within the City or Metropolitan Parks District limits."[19] Keeping with the tradition of being a key component in the service of the hospital, a rooftop farm was installed on the roof of Level Two in 2017.

Accessible from Level Three, the Rooftop Farm (which also contains two beehives) supports not only BMC's cafeterias and inpatient population, but also the Food Pantry and The Teaching Kitchen; and reduces BMC's carbon footprint by increasing green space, adding carbon-breathing plants, and reducing the building's energy use. The Power Station's Rooftop Farm was the first hospital-based rooftop farm in Massachusetts and is part of BMC's efforts to become the first carbon-neutral hospital in the state. The eco-friendly efforts at the Power Station, in conjunction with the hospital's overall sustainability plan, resulted in BMC being awarded as one of the 50 greenest hospitals in America by Becker's Hospital Review. In 2017 BMC was also the recipient of three prestigious awards from Practice Greenhealth: The Top 25 Environmental Excellence Award (the highest honor Practice Greenhealth bestows on hospitals), the Greening the OR Recognition Award, and the Circle of Excellence Award (in the energy category). [20]

b. Description

The BMC Power Station is a six-story glass and vertical metal panel modernist building. The 1972 building is located on Albany Street between East Concord Street and Massachusetts Avenue. The building sits on the site of the former BCH Power Plant/Boiler facility. The form of the building is comprised of simple geometric volumes such as rectangular and triangular prisms. Like other modernist structures, the exterior of the Power Station contains little ornamentation, but uses modern building materials and details such as glass curtain walls, ribbon windows, aluminum metal cladding, steel trusses, and a simple color palette to provide the embellishment.

The receiving dock is located on the first floor of the northeast elevation, which faces Albany Street. This area was renovated in 2017 when the stair tower and elevated pedestrian walkway were constructed to provide a connection above Albany Street from the Power Station to the

[16] Ibid. 15.
[17] Ibid. 166.
[18] Campbell, Robert. Architecture Robert Campbell; Hancock Tower Wins Harleston Parker Medal Boston Globe. Boston, Mass. [Boston, Mass]06 Dec 1983: 1.
[19] "Harleston Parker Medal." Boston Society of Architects, 24 Oct. 2019, www.architects.org/2019-design-awards/harleston-parker-medal.
[20] "Boston Medical Center Grows First Hospital-Based Rooftop Farm in Massachusetts." Boston Medical Center, 13 July 2017, www.bmc.org/news/press-releases/2017/07/13/boston-medical-center-grows-first-hospital-based-rooftop-farm.

Shapiro Center. The stair tower, which is attached to the building, is also clad with vertical metal panels. These sheets are slightly wider than the 1970s panels but have the same finish. Above the receiving dock (Level Two), is a ribbon window that wraps around the north and west corners of the building and continues into the side elevations. Level Three and Four contain the triangular prism-shaped glass curtain wall. A second glass curtain wall is located on the southeast elevation of the building, stretching from Level Two through Four. Above the curtain walls on both elevations are large orange louver exhaust vents (four on each elevation). The Rooftop Farm located on Level Three, facing Albany Street, contains 7,000 square feet of growing space and green features to reduce the hospital's carbon footprint. As of 2019, the Power Station still housed chillers and electrical generators for the hospital.

3.3 Massachusetts Memorial Hospitals

The Massachusetts Memorial Hospitals was originally founded as the Massachusetts Homeopathic Hospital in 1855. The name was changed to Massachusetts Memorial Hospitals in 1929 in recognition of the fact the hospital was formed by a group of memorial buildings. The group of buildings included the Talbot Building, Vose Hall, Robinson Memorial, Evans Memorial and Collamore Memorial. Boston University eventually took over the Memorial Hospitals. In 1962, the Massachusetts Memorial Hospitals and Boston University School of Medicine, Boston University School of Public Health and the University's Goldman School of Graduate Dentistry were combined as the Boston University Medical Center Hospital. The Boston University Medical Center Hospital was a private non-profit hospital independent of Boston University. In 1965 the name of Massachusetts Memorial Hospitals was changed to University Hospital to reflect the important commitment of the Hospital to medical education and research, as well as to patient care.

The former Memorial Buildings currently owned by BMC include: Vose Hall, Old Evans Memorial, Collamore Memorial and Preston Family Building.

5. Anna White Vose Hall (1898) [5]

a. Significance

In 1896 as a result of a bequest from Mrs. White Vose, it was possible for the Trustees to begin building a permanent Nurses Home which would bear her name. Land was granted for this purpose by the City of Boston, on the easterly side of Stoughton Street adjoining the Medical Dispensary. Construction began in 1897, and the building was finished in 1898 at a cost of $100,000. Vose Hall was designed to accommodate 100 nurses.

In the years leading up to building a permanent Nurses Home, the nurses' Training School had continued to grow and expand. There was a feeling on the part of the Trustees that the hospital needed a permanent, well-equipped Home for Nurses. Once Vose Hall was built, the Training School was extended to three years. Applicants increased year by year, and the curriculum was extended.

In 1900, Miss Fanny Farmer of the Boston Cooking School helped to develop a formal dietary service for the Hospital, as well as a course in dietetics and cookery for nurses in the Training School.

b. Description

Vose Hall is set toward the interior of the block bounded by East Concord, Albany and East Newton streets and Harrison Avenue. The building is shaped like an L with a serif at the end with a one-bay return. It sits south of the Robinson Bldg. and west of the Old Evans Building. The one-story Betatron, constructed in 1968, is attached to the east elevation and the top of the L attaches to the (new) Evans Building. Built of red brick with stone detail, the building rises four stories to deep overhanging eaves supported on scroll brackets. The westernmost section of the building is the most elaborate. The remaining long shaft of the L retains some of the features of the west section but is detailed as a secondary elevation. The windows are set in punched openings that change at each story. Stone detail includes a simple projecting beltcourse above the first story, a frieze (with the building name carved in the stone) and a molded cornice above the 3rd story, window sills and pilaster capitals. The cornice continues on the south elevation with a simpler plain brick frieze and single stone cap. The shaft of the L has stepped rows of projecting brick, but no molded stone cornice. The first story beltcourse continues on the rest of the building.

Two-story brick pilasters delineate the bays at the second and third stories. The pilasters are set in from the building corners creating a notched detail contributing to the vertical emphasis. Narrow paneled pilasters separate the bays at the fourth story. The basement windows have brick segmental arches, windows at the second story are framed by round brick arches with keystones, the second story has segmental arches, the third and fourth stories have flat arches. The window height diminishes as you rise up the building. Typical windows have 6/6 double-hung sashes, except the first story which has tracery at the top of the round arched sashes.

Cast iron balconies at the first story windows match the railing on the open brick porch along the south elevation, where the main entrance is located within a segmental arch. A bowed cast iron fire balcony projects at the third story, south elevation.

6. Collamore Memorial (1936) [6]

a. Significance

In 1915, the Trustees learned of the death of Helen Collamore, a valued colleague who had been a Trustee for thirty-eight years. She had a profound knowledge of the affairs of the hospital. Helen Collamore's will left funds in memory of her family for the construction of a building for the Hospital. The building was to bear her name as well as free beds at the Collamore Ward. She also made the Hospital one of her residuary legatees. The building was not built for many years, but in 1936 the Hospital was in need of space. Built to relieve this shortage, the Collamore Building when it opened contained wards, private rooms, operating rooms, an X-Ray Laboratory and various other laboratories. Its wards and outpatient services were used in connection with the clinical instruction of the students at the Boston University School of Medicine.

b. Description

Located at the South West corner of the intersection of Harrison Avenue and East Newton Street, Collamore is a red brick, 7- story building, L-shaped in plan and ornamented with cast stone belt courses delineating the zones of classical architecture: base, shaft and capital. The Robinson

Building is attached to the west end of the north wing and the Old Evans Building connects to the south end of the east wing. Collamore sits on a high basement with a granite sill; windows are framed by flat, splayed brick arches and concrete sills; and the walls rise to a flat roof with a brick parapet. The belt courses include a heavy watertable above the basement story, a molded sill course at the second story windows, a shallow lintelcourse above the fifth story and a molded cornice above the sixth story. The first story windows have contrasting cast stone keystones. On the Harrison Avenue (north) elevation, shallow pilasters articulate the asymmetrical 8-bay façade. The third bay, over the round-arched main entrance, is double width. Framed by a cast stone paneled surround with a bold scroll keystone, the main entrance doors have been replaced with a flush metal double door and panel system. The original wooden, multi-light fanlight remains in place above the doors. The windows typically have been replaced with a variety of double-hung, hopper, or fixed windows and louvers. Some openings have been entirely filled and many openings have been widened. An original first story window remains intact with its 12/12 double hung sash and 8-light transom. The corner bays and the first story windows are filled with brick on both the north and east elevations.

The six-bay East Newton Street (east) elevation is also asymmetrical and has two copper oriels at the 3rd story. The beltcourses continue around to this elevation, but there are no pilasters. Window openings are typically single or double width. Extremely narrow openings alternate with single windows at the first story and are stacked above one oriel at the 4th and 5th stories. The second- and 3rd-story openings are blocked down with blank metal panels. Window openings at stories 4 – 6 have been partially infilled with brick and replacement windows installed. Collamore turns the corner well, connecting the more ornate Robinson building to the west with the simpler Old Evans Building connected to the south end of the east wing.

7. Old Evans (1942) [7]

a. Significance

The first Evans Memorial building dates from 1912. In 1910, Mrs. Maria Antoinette Evans gave the Hospital funds for a building in memory of her husband, to be called the Robert Dawson Evans Memorial for Clinical Research and Preventive Medicine. The building was constructed on East Concord Street on land transferred to the Hospital by Boston University. However, the distinction was in name only, since the Evans Memorial was connected to the Boston University School of Medicine from the beginning by a narrow connector.

Under the direction of Chester Keefer, M.D., the Evans Memorial Department of Clinical Research expanded, and a second Evans building was opened in 1942. The Old Evans Building (1942) was built with funds from the will of Maria Antoinette Evans. The bequest was given in memory of her husband Robert Dawson Evans for clinical research, preventative medicine, and for the study and treatment of neuroses. Evans Memorial was among the earliest of such centers. It set three goals: public education, clinical research, and research training. In 1942, most of the members of the permanent staff were also on the Faculty of the BU School of Medicine. It is currently called the Old Evans Building to distinguish it from the "New Evans Building," an 11-story Doctors' Office Building, which opened in 1971.

Robert Dawson Evans was a manufacturer and financier, born in St. John, New Brunswick in 1843. His family moved to Boston soon after his birth. Evans served in the Civil War with the 13th Massachusetts volunteers and rose to the level of Captain. Robert Dawson Evans saw the potential in the manufacture of rubber. From 1870 to 1898, he was identified with the development of various rubber companies in Massachusetts. In 1892 he became the President of the United States Rubber Company, at that time the largest industrial corporation in America. He invested in copper and for several years served as President of the United States Mining Company. He later organized and became President and principal owner of a gold-dredging enterprise in California. Robert Dawson Evans died in 1909 after being thrown from a horse.

Evans was a connoisseur of fine art and his painting collection is displayed in the famed Robert Dawson Wing of the Boston Museum of Fine Arts. Only two years after the completion of the first phase of architect Guy Lowell's colonnaded design, Mrs. Robert Dawson Evans donated funds to cover the entire cost of building the next section of the Museum's master plan, a wing along the Fenway to house painting galleries. Through Mrs. Evan's gift of more than $1 million, the new wing enlarged the Museum by 40% providing extensive gallery spaces and an auditorium. The Evans Wing opened in 1915.

Over time, Mrs. Dawson Evans added large sums of money to the endowment of the Hospital, and during her lifetime took great interest in its activities. The donor was determined to find an institution where the investigation of the cause, prevention and treatment of disease might be carried out. Her endowments enabled Evans to attract the most qualified and able scientists and practitioners. Dr. Frank C. Richardson, a personal friend and physician to the Evans family, was appointed the first Medical Director of Evans Memorial by the Trustees. Dr. Allen Winter Rowe succeeded Dr. Richardson as Evans' Director. Dr. Rowe, a renowned scientist, published forty-seven papers, and under his leadership the Evans flourished and expanded. The Evans endowment proved to be one of the most enduring for the hospital and the School of Medicine.

b. Description

The Old Evans Building is red brick, eight stories tall, rectangular in plan and sits at the sidewalk along East Newton Street. It is connected to Collamore at the west end of the north wing and to the (new) Evans Building to the south. The one-story Betatron is attached to the west elevation between Old Evans and Vose Hall. Designed with minimal ornament, it reflects its 1940 construction date, 5 years after Collamore. The red brick walls sit on a granite foundation and rise to a simple frieze and cast stone coping at the parapet. Thirteen bays in length, the East Newton Street façade is symmetrical with a 3-bay central pavilion. The central main entrance, in the Art Moderne style, consists of a two-story granite frontispiece with a double door set deep in an opening with splayed sides and top. Paired pilasters with stylized capitals frame the openings of the three-bay granite entry. Windows are located at the second story of the entrance and flank the main door. The floor of the entry consists of colorful pink, gray and green terrazzo set in a geometric pattern with the street number (65) at the center.

The first story is rusticated with exaggerated rowlock detail above each flat-arched opening. A granite sillcourse runs across the façade at the 2nd story windows; otherwise, window openings typically have flat brick arches and concrete sills. The brick walls are unrelieved from the second

story to the 7th story, above which there is a denticulated brick beltcourse. Corbelling topped by molded brick courses terminate the façade. Some of the flat-arched window openings have been partially or entirely filled with HVAC louvers or partially blocked down with panels. Most of the windows have been replaced with double-hung or hopper sashes. Some existing steel windows appear to be original. The windows have a central 3-light section with vertical muntins and a single horizontal top and bottom light.

8. Preston Family Building (1967) [8]

a. Significance

The Preston Family Building was named for Jerome Preston Sr., an investment banker and the founding chairman of Boston University Medical Center Hospital. It was also named for his son Jerome Preston Jr., an attorney at the Boston firm of Foley, Hoag & Eliot, who served on the hospital's board after it had been renamed The University Hospital. Known for his community service and philanthropy, Preston Jr., was instrumental in establishing Foley, Hoag's pro bono services for the poor. Previously called Building F, the Preston Family Building was renamed in 1983 to honor the Preston's contribution to the hospital, which also included contributions to the hospital from the Iva and Jerome Preston Trust. Having previously served as an intermediate care facility, Preston was used in 1991 for inpatient, outpatient, diagnostics and administration departments. Currently it houses the Center for Endocrinology, Diabetes, Nutrition and Weight Management and Cardiovascular Center Outpatient Clinic among others.

The 1991 Master Plan for Boston University Medical Center attributed the building to architect Louis G. Ost Jr. Ost was listed as an architect in Memphis, TN in 1956 and 1960. He graduated in 1950 from Southwestern College, also in Memphis (the name was changed in 1984 to Rhodes College). It is unknown what architecture school Ost attended. It is assumed that this is the same architect referred to in the 1991 master plan. Louis G. Ost Jr. died in December 1971.

3.4 Former Non-Hospital Building Currently Owned by Boston Medical Center

9. Smith American Organ Company (R 1865) [9]

a. Significance

The Smith American Organ Company building appears on the 1874 atlas and by 1887, the Sanborn map identifies the occupant as Smith Organ & Piano Cos. Case Factory. Functions inside the building included sawing & planing at the 1st floor, bench work at floors 2 – 5, and filling at the 6th (it is not clear what filling meant). In 1897, although the Organ Company continued to operate next door, #615 was a Laboratory for Drs. F.E. & J.A. Greene, no doubt a spin-off from the hospitals. Subsequently, Dr. Earl S. Sloan Inc., producing *Sloan's Liniment,* is the primary tenant in 1908, 1912 and 1917. In 1922, the tenant is listed as Marks Bros. Co. Toy Manufacturers, with Louise F. Pfeiffer shown as the owner. She remains the owner through 1928 and 1938, but the Toy Manufactory does not appear in those years, and no other tenant is identified. The building now has a painted sign on the east elevation for the Naval Blood Research Laboratory and is presently vacant.

b. Description

The Smith Organ Building is a four-story red brick building set on a raised basement and surmounted by a flat-sided mansard roof. Located at the corner of the intersection of Albany and East Brookline streets, it is rectangular in plan, 6 bays wide by 8 bays long. A utilitarian structure, its restrained ornament includes segmental brick window arches, stone sills and a narrow brick dentil course at the eaves. Square plates for tied rods are visible between the windows at each story on the Albany Street elevation. The main entrance is deeply recessed under a segmental brick-arched opening and is approached by stairs within the opening. The mansard roof is sheathed in asphalt shingle and the dormers are recessed into the roof plane. Windows and doors have been replaced. Windows are 1/1.

3.5 National Register and Boston Landmark Evaluations

Of the eleven historic properties identified in the enclosed survey, six were constructed by Boston City Hospital, four functioned as part of the Memorial Hospitals and one served as the home of the Smith American Organ Co. as early as 1874.

Boston City Hospital

Buildings BCD and FGH were rehabilitated in from 2006 - 2008 in accordance with the *Secretary of the Interior's Standards for Rehabilitation*. They face each other across an open lawn and pedestrian walks between the buildings which were reconstructed based on prints of the original 1864 three-building composition. A metal picket fence has been installed at the sidewalk along Harrison Avenue to suggest an original iron fence at this location. As the remaining examples of Gridley Bryant's innovative pavilion plan, the two buildings were determined eligible for listing in the National Register prior to the rehabilitation and remain eligible in their current appropriate setting.

The 1988 architectural survey of Boston City Hospital observed that the 19th century was the major period of significance and that,

> Extant 20th century buildings at Boston City Hospital do not contribute to its historical/architectural significance. If fact, many have played a detrimental role by adversely impacting the 19th-century structures (B, C, D and F, G, H and Sears) through inappropriate scale and massing.[21]

Other remaining historic buildings on the original site of Boston City Hospital are the Outpatient Building (aka Conte Research Building; 1904 & ca. 1923), the Surgical Building (1928) and the Dowling Tower (1937). The Conte Building (not owned by BMC) is located at the corner of East Concord Street and Harrison Avenue adjacent to Building BCD. It is assumed that the L-shaped plan of Conte was influenced by the need to leave BCD operational. Since it was not part of Bryant's original plan, and due to its much later date, this building may not be eligible for National Register Listing with BCD and FGH.

[21] Central Artery/Third Harbor Tunnel DEIR, 1988. p. 6-31

The Surgical and Dowling Towers are physically and visually separated from the other Boston City Hospital Buildings and in isolation have lost the context in which they were constructed. Changes to the Dowling Tower have also impaired its architectural integrity. It is unlikely either building is eligible for individual National Register Listing.

The Yawkey Ambulatory Care Center and the Power Plant were constructed in 1972 as an outcome of the 1969 Master Plan prepared by Hugh Stubbins/Rex Allen Partnership. While not deemed to be significant in the 1988 architectural survey, they will surpass the 50-year period within the IMP timeframe and will be evaluated as part of the IMP and Preservation Plan update to determine their significance.

Structures and Landscape

The landscape bounded by the sidewalk at Harrison Avenue, BCD Building, the driveway in front of the Menino Pavilion and the Moakley Building, and the FGH Building has been reconstructed to suggest its historic appearance. While it is not an exact reproduction, the existing landscape was designed to recreate an appropriate historic setting along Harrison Avenue around BCD and FGH and it should be maintained.

The red brick wall on the south side of East Concord Street east of the Conte Research Building is a reconstruction of an earlier wall that had been located here. The existing wall, piers and gates should be retained. The wall was reconstructed at the time of the rehabilitation of Building BCD to replicate a remnant of an earlier brick wall which lined the south side of East Concord Street. It also screens views of the adjacent parking lot.

The Memorial Buildings

The group of Memorial Buildings constructed between 1898 and 1947 are connected in an irregular plan, which forms a central courtyard. Each building was built and named to honor one person and to contribute to the work of the Massachusetts Homeopathic Hospital, the Massachusetts Memorial Hospitals and later to the Boston University Medical Center Hospital. The Preston Family Building (1967), located across East Newton Street from the earlier group, was acquired by University Hospital and continued that tradition of private contributions to support the hospital's growth, encourage research and teaching, improve patient care and enable the hospital to bring innovation to healthcare.

The Massachusetts Memorial Hospitals were constructed for a variety of hospital departments and have functioned as part of the surrounding medical institutions since they were built.[22] Representing a variety of hospital functions and designed over a period of 70 years, the buildings are each an example of the areas that Boston University Medical Center Hospital and its predecessors needed to expand its facilities. They are a core of buildings significant to the functioning of the hospital and together are eligible for listing in the National Register of Historic Places under criterion C at the local level.

[22] One exception is the Preston Family Building, which was reportedly built in 1967 as a hotel and was acquired prior to 1983 by University Hospital.

Smith Organ Company / Naval Blood Research Building

The Smith Organ Building, at the intersection of Albany and E. Brookline Streets, abuts the edge of the South End Landmark District. A finger of the South End district projects into the South End Harrison/Albany Protection Area along E. Brookline Street due to long blocks of row houses typical of the South End district on both sides of E. Brookline Street. The Smith Organ Building is potentially eligible for inclusion in the South End District due to its construction date (1865) and because it has a straight-sided mansard roof. It is not individually eligible for National Register Listing due to physical alterations and it is not close to Boston Medical Center or the Memorial Buildings.

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4.0 REGULATORY REVIEWS AND STATUS

4.1 Reviews Previously Completed

For projects approved under the 2010 IMP as amended in 2013 and approved by the BPDA, BMC has obtained the following approvals:

- June 2010 Institutional Master Plan approved by BPDA and Boston Zoning Commission for New Inpatient Building, New Energy Facility, and New Administration/Clinical Building.
- June 2010 Large Project Review Approval by the BPDA for the New Energy Facility.
- May 2010 Notice of Project Change Approval by Massachusetts Environmental Protection Agency for New Energy Facility.
- December 2013 Institutional Master Plan Amendment approved by BPDA and Boston Zoning Commission for New Inpatient Building Phase 1, Patient Transport Bridge, Moakley Cancer Care Addition, and modifications to the New Energy Facility.
- December 2013 Large Project Review Approval by BPDA for New Inpatient Building Phase 1, Patient Transport Bridge, and Moakley Cancer Care Addition.
- April 2014 Determination of Need approved by Massachusetts Department of Public Health for the new construction and renovations associated with the approved IMP projects.
- December 2014 SELDC Certificate of Design Approval for demolition of 3 Story Dowling Connector Building and new four-story addition to the Menino Building including a pedestrian bridge across Albany Street.
- March 2015 Notice of Project Change Approval by Massachusetts Environmental Protection Agency for New Inpatient Building Phase 1, Patient Transport Bridge, and Moakley Cancer Care Addition.
- March 2015 Massachusetts Historical Commission Approval for New Inpatient Building Phase 1, Patient Transport Bridge, and Moakley Cancer Care Addition.

BMC has submitted the 2021-2031 IMP to govern the next 10-years. As part of the 2021-2031 IMP, there will be new reviews and approvals as projects move forward.

4.2 Review Agencies and Summary of Historical Reviews

Federal and state laws protecting historic and archeological resources are typically triggered when a proposed project is to be undertaken, funded, licensed or permitted by a state or federal agency. Depending upon whether it is a state or federal agency and the nature of the impact, the extent of the regulatory process will vary. In order to comply with the regulations, the project proponent is directed to begin the review process early in the planning phase of the project. This will help to avoid delays and unexpected costs once the project has begun. Some of the laws that are most likely to apply to projects undertaken at Boston Medical Center are discussed in this section. See Table 4.1.

Federal Laws

Federal projects and private projects funded, licensed, permitted or assisted by a federal agency are subject to the provisions of federal laws and regulations that have been promulgated to preserve and protect historic and archeological resources that are listed or are eligible for listing in the National Register of Historic Places.

Section 106

Section 106 of the National Historic Preservation Act of 1966, as amended and regulations implementing Section 106 (36 CFR 800) require federal agencies to identify properties located within the area of the project's potential environmental impact that are included in or eligible for inclusion in the National Register. The federal agency is directed to take into account the effect of the project on National Register listed or eligible properties and as part of the Section 106 process, the federal agency must consult with the State Historic Preservation Officer (in MA, it is the Executive Director of the Massachusetts Historical Commission) to identify properties eligible for or listed in the National Register that are likely to be affected by the project and to evaluate the nature of the effects on such properties. In consultation with the federal agency involved, the SHPO will assist in considering alternative to avoid or mitigate adverse effects of the project on cultural resources.

In addition to the consultation with the SHPO, Sec. 106 calls for participation in the Sec. 106 review process by local governments, interested parties and the public. Such parties should be provided an opportunity to offer their views on impacts to cultural resources that could potentially result from the project. The South End Landmarks District Commission, representing the certified local government, shall be consulted by the federal agency during Sec. 106 review. The federal agency also must allow the Advisory Council on Historic Preservation an opportunity to comment and participate in cases where the State Historic Preservation Office (SHPO) and the federal agency do not concur.

National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA) mandates that federal agencies use all practicable means and measures to preserve historic, cultural and natural aspects of our national heritage. Impacts to historic resources are specifically mentioned as part of that review. As part of the required consultation, federal, state and local agencies may be asked to comment. A Draft and Final Environmental Impact Report may be required for compliance with NEPA.

State Laws

Chapter 254

Compliance with laws and regulations protecting historic and archeological properties listed in the State Register of Historic Places is required for projects undertaken, funded, licensed, permitted or approved by a state body (M.G.L. c. 9 ss. 26 – 27C as amended by ST 1988, c. 254). The Massachusetts Historical Commission (MHC) must be given an opportunity to review and comment on proposed projects to be undertaken, funded, licensed or permitted by state

agencies. MHC will determine whether or not the project will affect the State Register listed properties and will consult with the project proponent and the state body to discuss measures to avoid or mitigate adverse impacts.

A permit must be obtained from the State Archeologist before conducting any field investigation of sensitive archeological sites.

Massachusetts Environmental Policy Act (MEPA)

The Massachusetts Environmental Policy Act (MEPA) (M.G.L. c. 30 ss. 61 – 62H) and its regulations (301 CMR 11.00, apply to projects where a state agency is the project proponent or where a state agency provides financing or permits to the project. MEPA requires review of such projects to identify impacts and determine all feasible alternatives to minimize damage to the environment. The review of environmental impacts under MEPA must include a discussion of impacts and mitigation measures for significant historic and archeological properties. It also requires that all feasible means and measures be used to avoid or minimize damage to the environment. The completion of an EIR may be required by MEPA. The MEPA process, administered by the Executive Office of Environmental Affairs, also provides for review and comment by the MHC regarding impacts to significant cultural resources.

Local Preservation Laws

Boston Landmarks Commission/South End Landmark District Commission

Boston is a Certified Local Government as defined in Sec 101 (d) (1) of the National Historic Preservation Act of 1966, as amended. As part of its role, the Boston Landmarks Commission (BLC) recommends properties for nomination to the National Register of Historic Places and reviews and comments on all NR nominations for properties in the City of Boston. As a CLG, BLC also participates as an interested party during Sec 106 and Chap 254 reviews.

The South End Landmark District Commission is responsible for design review for all properties in the South End Harrison/Albany Protection Area and also in the adjacent South End Landmark District. In compliance with the design review criteria included in appendix 8.4, private and public projects must be submitted for review to the SELD Commission.

Table 4.1 Boston Medical Center Potential Regulatory Reviews - Future

HISTORIC PRESERVATION - RELATED REVIEWS AND AGENCIES

	Trigger	Review Agencies	First Submissions	Review Period
Local				
Article 85: Review by BLC*	Demolition of some or all of a building that is more than 50 years old. All properties in the South End Harrison/Albany Protection Area are reviewed by the South End Landmark District Commission	SELDC or BLC	Article 85 Application	If determined by BLC Staff to be significant, hearing before the Commission; file application at least 2 weeks prior to next BLC hearing
State				
M.G.L., Chap 9, Section 26 – 27C (aka Chap. 254)	Use of state funds or permits or involvement by a state agency (such as tenant)	MHC; (consultation with BLC required, also consultation with state agency involved and interested parties)	Project Notification Form (PNF)	30 days upon first complete submission
MEPA	Demolition of Property listed in the State Register of Historic Places or in the MHC Inventory of the Historic and Archeological Assets of the Commonwealth	MHC; MEPA; BLC if building is more than 50 years old	PNF or ENF (consultation with MHC required)	PNF - 30 days for first submission; ENF - 45 days for first submission
Federal				
Section 106	Use of federal funds or permits, or involvement by a federal agency	federal agency involved; MHC; interested parties; Advisory Council on Historic Preservation	PNF Case Study if required	PNF - 30 days for first submission
NEPA	Major federal action	MHC - Coordinate with MEPA; NEPA	PNF; ENF; EIR	

BLC Boston Landmarks Commission
MHC Massachusetts Historical Commission
NEPA National Environmental Protection Agency
PNF Project Notification Form
EIR Environmental Impact Report
SELDC South End Landmark District Commission
MEPA Massachusetts Environmental Protection Agency
ENF Environmental Notification Form

*Project design and planning reviews with the BPDA (then the BRA) are required for certain projects under Article 80 of the Boston Zoning Code. Article 80 also requires preparation and review of Institutional Master Plans (IMP) for hospitals and other institutions with more than 150,000 gross sq. ft. of property. BMC is subject to the Article 80 IMP review and is up to date with IMP review in compliance with Article 80.
http://www.bostonredevelopmentauthority.org/projects/development-review/what-is-article-80

5.0 PRESERVATION PLANNING

5.1 Current Plans and Proposed Undertakings

Boston Medical completed the following projects that were approved as part of the 2010 IMP as amended in 2013 and approved by the BPDA, and as approved by other regulatory agencies outlined above in Section 4.1:

- Moakley Cancer Center Addition
- New Inpatient Building Phase I
- New Patient Transport Bridge
- Yawkey Phase I Renovations
- Yawkey 5th Floor Window and Frame Replacements
- Yawkey Roof CoGen and MEP Equipment Enclosure
- Yawkey 1st Floor Santander Bank Exterior Storefront
- Power Plant Loading Dock Enclosure

BMC is planning five new projects and two approved projects during the term of the 2021-2031 IMP. They include the following:

IMP Element	Approximate Size in Square Feet	Use
New IMP Projects		
Yawkey 6th Floor Addition	15,500	Inpatient beds
Menino & Yawkey Lobby Addition	6,100	Lobby, Circulation, Patient Waiting, Coffee Shop, Gift Shop, Cafeteria
Menino 9th Floor Addition	37,000	Inpatient Beds
Collamore/Old Evans Renovation & Adaptive Reuse	102,000	Mixed-Use and Supportive Housing
10 Stoughton Street	170,000	Research, below grade Parking
Approve IMP Projects Included in the 2021-2031 IMP		
New Administration / Clinical Building (approved in 2010 IMP as amended in 2013)	219,000	Administration, clinical, loading/service, materials handling/support
New Inpatient Building Phase 2 (approved in 2010 IMP as amended in 2013)	323,000	Inpatient beds, Imaging, Surgery, Administration, Support

BMC, as of right, has ongoing work to maintain and upgrade its buildings and campus to better serve the community. This includes interior alterations, reconfigurations and relocations, small additions, ongoing campus and building maintenance activities which include replacing aging

infrastructure, upgrading and replacing finishes in all facilities, replacing and repairing building facades and envelopes and ongoing general operational improvements, maintaining campus open spaces.

5.2 Potential Challenges to Preservation

As New England's largest safety-net hospital and the largest and busiest provider of trauma and emergency services in the region, Boston Medical Center must continue to ensure that it can consistently provide accessible health services to all, including vulnerable populations. The facilities within which it operates are critical to achieving their mission.

Boston Medical Center owns buildings dating from 1864 to 2018 on its South End campus. Eleven buildings were identified in the enclosed survey (see Section 3) that were constructed prior to 1972. Of those, six were constructed by Boston City Hospital, four were part of the Memorial Hospitals and one served as the home of the Smith American Organ Co. as early as 1874. Later, the Smith Organ Co. building was acquired by the hospital.

BMC has rehabilitated the Surgical Building (2001) and Buildings BCD and FGH (2006 and 2008) for use as administration and office space. While office uses seem to be more likely adaptable to the older buildings, adaptive reuse can still be a challenge. For example, a full steel structure was inserted at great cost within Building BCD in order to add some floor area and to comply with seismic code.

Among the potential upcoming projects is the development of the site of the Dowling Tower. The project was included in the 2010 IMP and subsequent amendments thereto. A more detailed discussion and evaluation of the Dowling Tower is included in Section 7.0. Another potential upcoming project is the demolition of Vose Hall, including the attached Betatron building. A more detailed discussion and evaluation of Vose Hall is included in Section 8.0.

However, with these challenges, BMC plans for the adaptive reuse and rehabilitation of the existing Collamore / Old Evans buildings. These two interconnected buildings will be changed from administration use to housing use. Minimal exterior renovations will take place as part of the project but these renovations are intended to comply with MHC and SELDC historic rehabilitation standards.

The Naval Blood building will be evaluated during the term of the IMP for possible housing uses.

Functional Obsolescence

Because hospital-related building codes and specifications for medical, clinical, research and lab spaces have changed substantially in the past century and have very specific requirements, it is unlikely that the historic hospital buildings can serve those uses. Lack of flexibility in the structure, undersized structure, bay spacing and floor to floor heights make current hospital uses within the historic buildings infeasible. Older systems such as HVAC and elevators are obsolete, and code-compliant upgrades for hospital uses can't be accommodated within the historic buildings. The need for connections between buildings and departments in the core hospital area is another restriction that limits the use of the historic buildings for hospital purposes.

Programmatic Needs

Preservation goals must be combined with BMC's mission, its need to serve a growing population, and to adapt to changing technologies and methods of serving their patients. Detailed discussions of the evaluation of the Dowling Tower and Vose Hall for hospital uses is included in Sections 7.0 and 8.0 and address specific issues related to retrofitting these buildings for potential hospital uses. Buildings constructed between 1972 and 2018 in BMC's core hospital area have been planned and designed to provide cost effective, safe and efficient hospital facilities. The planning for continued improvement to departmental adjacencies and building organization has been part of the Institutional Master Plan process that has been approved by the BPDA (then the BRA).

As a result of dramatic changes in the healthcare environment, BMC has been experiencing occupancy rates of inpatient beds and outpatient services that are stressing its current system. In addition, BMC's coordinated care model and priorities and actions to ensure health equity for its patient population demand space modifications and new program space to support it. These program needs are expected during the term of the IMP. Looking into the future, and beyond the term of the IMP, BMC acknowledges that additional and different program needs will be warranted as buildings age, leases expire, healthcare trends evolve, and objectives of the coordinated care model are realized.

The smaller buildings already are deficient for the purpose of hospital requirements. As BMC continues to relocate departments to the newer buildings west of East Concord Street, the buildings north of East Concord Street will have less utility for BMC. BMC has therefore planned to begin to vacate the Memorial Hospital Buildings during the term of the 2021-2031 IMP. However, BMC's plan involve the adaptive reuse and rehabilitative of the Collamore/Old Evans buildings for reuse as housing.

Maintenance of the historic buildings owned by BMC is discussed below in Section 5.3 No. 3 Preserve and Maintain Historic Resources.

5.3 Recommendations

1. A Balanced Approach to BMC's Mission, Historic Preservation Best Practices and Regulatory Reviews

Boston Medical Center (BMC) is submitting this updated preservation plan in compliance with its commitment to the South End Landmark District Commission (SELDC). BMC will continue consultations and filings with the SELDC and staff and will comply with all required filings in compliance with Boston's Article 80 and Article 85 of the zoning code, the state Chap. 254 and MEPA and federal Sec. 106 and NEPA laws and regulations.

As mentioned in the Introduction, BMC completed an extensive Institutional Master Planning (IMP) process from 2007 to 2010. An objective set forth in BMC's IMP was to create a balanced approach for BMC to meet ever-changing clinical care requirements through physical spaces necessary to support them while maintaining its commitment to historic preservation. The 2007 to 2010 IMP process initially included collaboration with a subcommittee of the SELDC to discuss

current and planned uses of major buildings and historic resources on the medical campus. A portion of the historic buildings survey was included in the 2010 IMP. This preservation plan is being updated and incorporated into the 2021-2031 IMP.

2. Internal Preservation Advisory Committee and Director of Design and Construction

In order to better integrate preservation into the planning process for Boston Medical Center, BMC has established an internal advisory committee to deal with preservation-related issues on the campus. The committee meets regularly, as needed, and is comprised of the Director of Design and Construction, the Preservation Consultant, and the IMP Consultant.

This internal advisory committee functions as a subcommittee to the Design and Construction Department. The committee has an advisory capacity and does not have decision-making authority. They make recommendations to the Design and Construction Department on planning and design issues that impact historic resources and especially on the renovation of existing buildings over 45 years old and landscapes near the existing historic buildings. The committee ensures that historic building surveys are conducted to incorporate BMC-owned buildings into preservation planning as they become 50 years or older. Buildings that are not yet surveyed, are included in the historic building survey.

The Internal Preservation Advisory Committee are familiar with the design guidelines and the boundaries for the South End Harrison/Albany Protection Area. They should consult with the SELDC staff at the Boston Landmarks Commission to get assistance in understanding how the review process operates in the district. Members of the Internal Preservation Advisory Committee can be assigned to subcommittees. For example, one or two members of the committee can be involved in designer selection for work on historic buildings. Certain members can assist with the selection of mortar color, replacement slate, planting materials and similar details of the construction. In some instances, members of the maintenance and construction crew have been trained to consult the committee prior to beginning work on features that would come under the committee's review.

The historic campus buildings should be given a rating of 1 to 4 based on the significance of the structure, the integrity of the historic fabric and would reflect the scope of review for any proposed work on that structure. Buildings BCD and FGH would receive rating 1, indicating the greatest effort should be made to comply with the *Secretary of the Interior's Standards for Rehabilitation*. The interiors were entirely gutted; a mezzanine was added in BCD and a floor has been added in FGH, so no interior review will be needed. All buildings in the South End Harrison/Albany Protection Area should at least receive a rating of 4, which would indicate that any significant changes must comply with the "Standards and Criteria for the South End Harrison/Albany Protection Area" as determined by the SELDC

Changes to the Memorial Buildings also should follow the *Secretary of the Interior's Standards for Rehabilitation* when possible. The most common alteration that has already occurred to these buildings has been the replacement of windows and doors and the infill of masonry openings. Unsympathetic alterations should be reversed when new work is being considered.

3. Preserve and Maintain Historic Resources

Adaptive Use

The Internal Preservation Advisory Committee should be involved in future updates of the BMC Institutional Master Plan. Because the building codes and specifications for medical, clinical, research and lab spaces in the hospital have changed substantially in the past century and have very specific requirements, it seems unlikely that the historic hospital buildings can serve those uses. Ongoing planning should identify uses that can more easily operate within historic buildings and that don't need to be directly connected to the core hospital areas. Offices are often suitable for such spaces and where possible, they should be located in the historic buildings. Buildings BCD and FGH were successfully adapted to new office and conference room space and were very well received by the new occupants. Opportunities should be identified as early as possible where a compatible use can be found for each of the historic buildings. In the 2021-0231 IMP, BMC is anticipating undertaking an innovative housing program for its patients and adaptively reusing the Collamore / Old Evans buildings. The Naval Blood building will be evaluated during the term of the IMP for possible housing uses.

Maintenance

The exterior of the historic buildings and the landscapes at Boston Medical Center are generally in fair to excellent condition and appear to be maintained on a regular schedule. One key to the preservation of historic building materials is to identify problems before they can cause deterioration. All of the historic buildings should be part of a regular inspection and maintenance schedule, which currently appears to be in place, that would investigate existing conditions and provide for maintenance as needed.

This section addresses issues that are typically considered part of regular maintenance on the exterior of the building. To assist with project planning BMC will consult the Standards and Criteria, South End Harrison/Albany Protection Area, revised July 2013. The staff person for the South End Harrison/Albany Protection Area at the Boston Landmarks Commission will also be consulted with as needed to provide direction in preparing for project review.

The *Secretary of the Interior's Standards for Rehabilitation* (Sec. 8.3) provides general guidance for rehabilitation of historic buildings and the *Illustrated Guidelines for Rehabilitating Historic Buildings* https://www.nps.gov/tps/standards/rehabilitation/rehab/entrance01.htm is an excellent resource that discusses work listed by feature and provides examples of work that does and work that does not meet the *Standards.*

Masonry

Significant features of the masonry should be conserved and repaired. For example, the buildings that date prior to 1966 have red brick walls with contrasting stone ornamental detail. In buildings such as BCD, FGH, Vose, Collamore and Old Evans, there are details including belt courses, rustication, pilasters, sign bands and round-arched and segmental-arched openings that are important elements of their style. The Surgical Building on East Concord Street has a bold window surround with a swan's neck pediment, urns, pilasters and rondels, all of which are

carved stone and should be retained.

In several locations, original window and door openings have been filled with masonry. Window openings in Collamore have been infilled with brick that is not compatible with the original masonry. Collamore also has copper oriels on the East Newton Street elevation which should be retained and repaired.

The Yawkey Building, built in 1972, will reach the 50-year mark in 2022. It is constructed predominantly of concrete panels. These materials require a different set of repair materials and methods than 19th century traditional masonry materials.

Mortar

There are many good examples of repointing of historic buildings with colored mortar at BMC, however many of the buildings are built of stone and brick masonry and in some instances, the buildings should also be analyzed separately from the original building to ensure that the repointing mortar is compatible. Important details of the pointing should be replicated.

Masonry Cleaning

Abrasive cleaning of historic masonry, especially exterior brick, limestone, sandstone, brownstone, any ornamental carved stone, and concrete surfaces is not recommended. It can damage the masonry so that original craftsmanship and texture are destroyed, and the integrity of the masonry can be impaired.

Cleaning of historic masonry should use the gentlest means possible. The use of certain chemical cleaners is typically not permitted in the City of Boston. The City of Boston Environment Department should be consulted. The use of cold water or warm water through direct application or in a soaking method may be effective. A series of cleaning tests should be conducted on an inconspicuous location to determine the weakest concentration of cleaner necessary to clean the building. When cleaning historic masonry, the water pressure should not exceed 600 p.s.i. and the nozzle should be fitted with a wide fan tip.

The use of waterproof and water-repellent coatings is not recommended for historic masonry.

Identifying Sources of Moisture

Detecting sources of moisture and preventing infiltration contributes to the longevity of historic buildings. Regular repair and cleaning of roof gutters and minor leaks in roofs will help to avoid significant water infiltration that can cause damage to and staining of masonry walls and building interiors. The down spouts should be inspected to make sure that there are no leaks along the wall and that water is being directed away from the building at the base. Another source is the drainage from window air conditioning units which can stain the masonry and eroded the mortar directly below the units. The ventilation of buildings is important in order to avoid the buildup of moisture in the walls or in the roof structure that can accelerate deterioration of the building.

Snow buildup against historic buildings can cause problems such as rising damp that in turn can

accelerate mortar deterioration and spalling of brick or stone. A draining area should be left between impervious paved surfaces and the wall of a masonry building in order to allow for water drainage. The use of salt on icy roads and walks adjacent to a building can also contribute to the deterioration of the masonry. The salt and drainage from the roads and walks should be directed away from the buildings.

Paint Colors

Appropriate paint colors should be selected that are compatible with the building's architectural style and period. Historic paint colors can be uncovered by taking paint samples from selected locations and viewing them under a microscope or by carefully sanding an area to uncover each of the accumulated layers of paint. Historic windows and doors are features that are typically painted on a regular basis and their color contributes to the appearance of the structure. Paint samples from less exposed areas such as joints can often provide information on historic paint colors. Historically appropriate colors can also be selected using style and paint color books such as Century of Color, Exterior Decoration for American Buildings - *1820/1920* by Roger Moss, 1981, that provide information on appropriate colors by age and style of building.

Masonry should not be painted if it was not painted historically.

Windows

An important feature of an historic window is the number of panes in each sash. If aluminum replacement windows are selected, it is recommended that the sash have true divided lights or exterior muntins that are integral to the frame and a muntin grid between the glass. The muntins should also have an appropriate profile that reproduces the appearance of the exterior glazing bead. Windows with only muntin grids between the glass are not recommended. The profile of the exterior window trim (brick mold) should be reproduced as closely as possible.

Existing replacement windows at Collamore and Old Evans are standard size with panels or masonry filling the remainder of the original opening. Glass block, louvers and other infill are also visible at street level. The Collamore windows on the Harrison Ave. elevation are varied and many openings are filled with brick, which obscures the regular bays and fenestration that defines this façade. The original Old Evans windows are unusual and the unsympathetic replacement windows detract from the consistency and the original texture and fenestration. When the windows are to be replaced, new replacement windows should fit the original opening and should closely match the original windows. In original openings where glass is not suitable, an alternative solution can be designed using frosted glass with a gypsum board wall on the interior.

Roofs

Significant roof materials such as the slate roof sheathing, copper flashing and gutters on Buildings BCD and FGH should be retained or replaced in kind. The slate roofs are 10 years old and should last for several decades. The bell-cast mansard roof form and the segmental-arched dormers on BCD and FGH are character-defining features, which should be retained.

BCD and Vose Hall have original brick chimneys that are important features of the buildings and can be seen against the sky. The chimneys should be retained and repaired as needed rather than removing the chimney in whole or in part. They can often be reused for flues or ventilation ducts.

The bold copper cornice at BCD and FGH should be retained or replaced to match the existing because they are such significant features of the buildings.

Doors

Many of the original doors to the historic buildings have been replaced. The most significant doors are typically the front entry doors, and it is often the case that the original doors deteriorate over time due to the heavy use they experience on a medical campus. In other cases, new doors are preferred to improve energy efficiency. The metal frame, glass panel doors installed in many of the historic buildings are not appropriate to the original design. Options that retain the original doors should be considered. The original doors can be fixed open and a contemporary metal frame and glass panel system can be installed inside of the original doors. The new system would not be visible when the original doors are closed. As existing incompatible doors need to be replaced, new doors that are more compatible with the historic architecture or re-installing historic doors should be considered.

In instances where original doors are not going to be used, the opening, surround and doors should be retained. The doors can be fixed closed and the wall covered on the interior if necessary. It is preferable not to fill the opening with masonry or alter the opening to a window.

The granite entrance pavilion at Old Evans is the building's most interesting feature. A second story connector that extends across East Newton Street cuts through the granite and interrupts the architectural detail. If the connector is ever removed, the granite should be restored.

HVAC Equipment

The installation of mechanical and HVAC equipment should be carefully designed to minimize the visual impact to the historic structure. Roof-mounted chillers should be set back from the facades of the buildings which have flat roofs and should not be installed on the roof of a building where it will be prominent on a significant elevation. Where possible, ventilation ducts, grills and chases can be installed sensitively in window or door openings on secondary elevations, in existing chimneys and in new additions rather than protruding from a primary elevation of a historic roof or façade.

Equipment mounted on the ground and screened by plantings may be preferable in some instances. Creating new penetrations through masonry walls should be avoided.

Landscaping

A typical problem is the need to remove climbing vines from historic masonry buildings. In addition, planting should be located away from historic buildings and existing plantings that have grown over time and are now too close to the building should be removed or moved. The

buildup of moisture in the masonry will accelerate deterioration.

The new landscape between Buildings BCD and FGH has recreated the sense of the original setting based on historic photographs. Some of the early photographs show views of the landscape and plantings. There are limited outdoor spaces for landscape and vehicular access must be accommodated for the hospital. The BCD – FGH open lawn with trees and walks should be retained and maintained as a relief from the dense development through much of the BMC campus.

The pruning and maintenance of landscaping, especially trees, vines and shrubs that are adjacent to historic structures are critical to minimizing deterioration of exterior masonry. Currently, this is not a problem for the historic buildings at BMC. Over the long term, plantings and vines growing on or against the building can contribute to the buildup of moisture that will deteriorate mortar and masonry. Replacement of existing planting should be carefully planned to be appropriate to the setting within the historic district.

4. Recommendations for Further Documentation

As BMC's Core Campus continues to develop, a program to document existing buildings as they achieve 50 years of age will be implemented. Additionally, existing and future buildings and additions will also be considered for documentation and evaluation of significance. This will serve to ensure that existing newer buildings and future buildings will continue to be evaluated for their historical significance and a historical record of evolution of the campus will be maintained as BMC grows and continues to contribute to the history of providing quality healthcare to the neediest individuals and to the built environment of the South End and medical campus area.

Historic documents such as original drawings, specifications, written correspondence, historic maps, and photographs should be retained in a safe archive. There are historic images displayed at the first floor of Building FGH and historic photographs in the Menino Building in the lobby and on the upper floors. The remaining documents, mainly drawings, are kept in the files at the Design and Construction Department.

Document Conservation and Indexing

It is recommended that all of the information relating to the historic structures be scanned in order to make the information easily accessible. Some of the drawings are blueprints, which are difficult to conserve, so these should be given priority for scanning. Originals should be filed in a climate-controlled environment using archival filing materials. Drawings on linen or mylar, although they are more durable, will also deteriorate over time with extensive use and should be filed using acid free files.

Additional Documentation

In addition to the documents available at Boston Medical Center, there are other possible sources of documentation that should be consulted for additional information. For buildings constructed between 1889 and 1981, it is likely that a set of drawings may be found in the collections of the Massachusetts State Archives. The collection consists of documents filed with

the Massachusetts Department of Public Health during that period and some documents include specifications.

For drawings dating between 1889 and 1981 contact:

The Massachusetts State Archives
220 Morrissey Boulevard
Boston, MA 02125
(617)727-2816

The Boston Public Library has an extensive collection of drawings that came from City of Boston Inspectional Services Department. The collection is held in the Fine Arts Department of the Boston Public Library. It is not a complete archive and many drawings have been lost over time. Notations on the building permits will provide information on the location of the drawings if they are held at BPL.

Boston Public Library, Main Branch
Fine Arts Department
McKim Building, 3rd Floor
(617)859-2275

5. Develop New Construction and Infrastructure Sensitive to Historic Resources

BMC will consult its Internal Preservation Advisory Committee during the preliminary phases of planning and design for new construction and infrastructure as well as substantial rehabilitation to ensure that the project is compatible with the historic buildings, districts and setting. During the early planning phases, BMC will also meet with the South End Landmark District Commission. The current medical core of BMC is densely spaced, and buildings are connected in order to improve efficiency and functionality among departments. Future new construction will be at the edges of the core or elsewhere. New construction should not encroach on the historic buildings and should be compatible with the massing and materials of the historic buildings.

The most sensitive historic areas include those along Harrison Avenue and in the vicinity of BCD and FGH. The Memorial Hospitals are also a significant historic grouping which has no setbacks from the sidewalk and occupies most of the site.

Review on the BMC campus by the South End Landmark District Commission will include demolition, land coverage, height, landscape and topography. Additional features such as materials, massing and fenestration should be considered in proximity to the historic buildings mentioned above. All work visible from the exterior of BCD and FGH should comply with the *Secretary of the Interior's Standards for Rehabilitation.*

6. Preservation of Historic Artifacts

BMC has salvaged and reinstalled an exterior metal spandrel panel from the former Maternity Building (demolished). The panel, with its bas relief figure of an infant, was installed in the new maternity ward with an interpretive exhibit designed to tell the story of the Maternity Building and

the maternity services provided at Boston City Hospital.

The preservation and display of historic artifacts from the historic buildings can help to tell the history of Boston City Hospital and of its many health care achievements, its personnel and its patients. Interpretation of the historic artifacts or materials and display of historic images is also recommended to illustrate the developmental history of the campus and the evolution of its various departments.

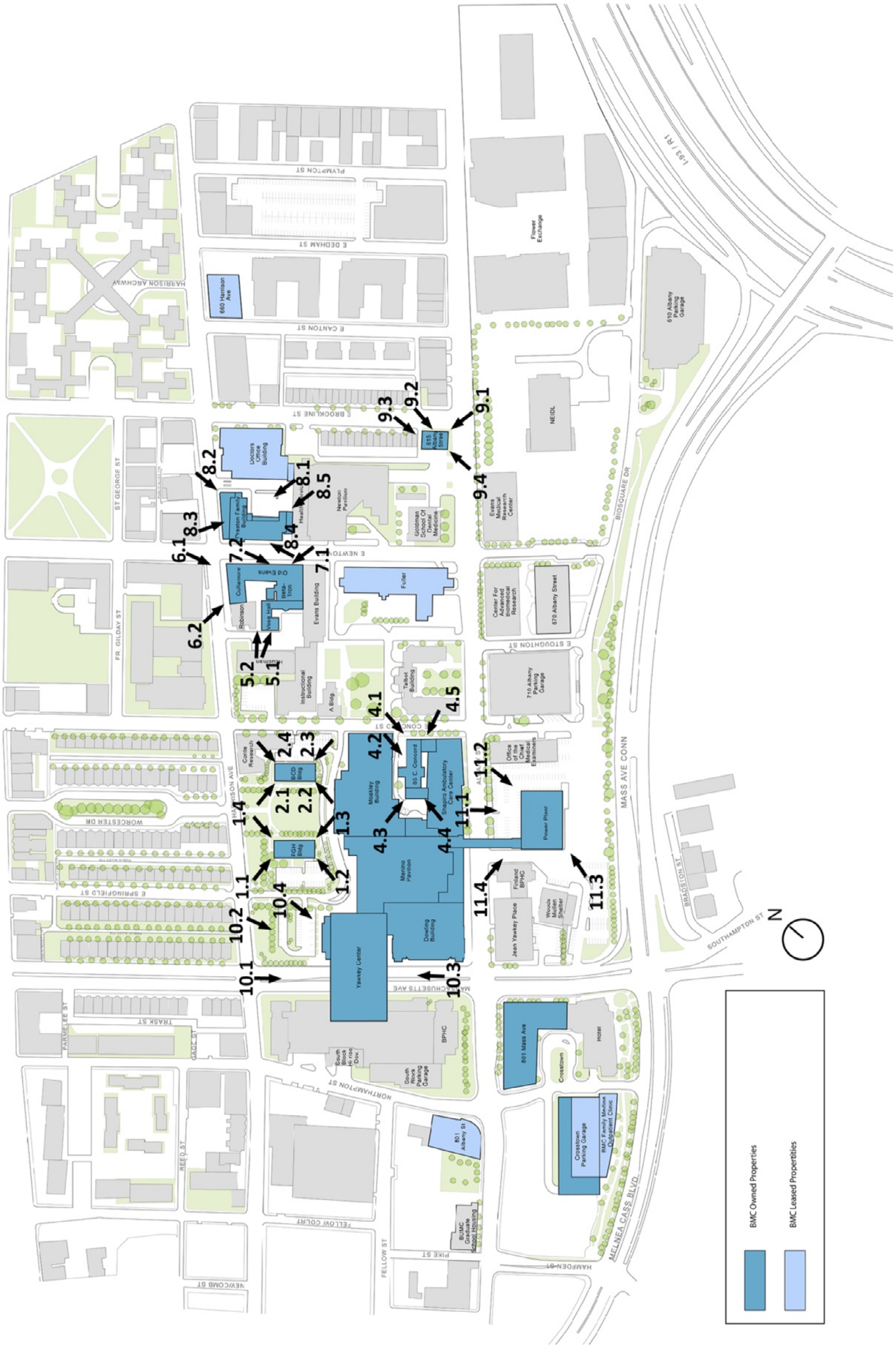
7. Future Updates to the Preservation Plan

Boston Medical Center (BMC) has been in a long-term consultation and review process with the South End Landmark District Commission (SELDC). BMC is committed to informing SELDC early in the planning phase for any exterior projects or demolition within the South End Harrison/Albany Protection Area.

BMC will update their preservation plan on a five-year schedule or will incorporate the preservation plan in updates of the IMP, whichever comes first. This updated Preservation Plan is incorporated into the 2021-2031 IMP. All updates will include BMC-owned buildings and completion of an MHC Form B - Building inventory form for BMC-owned buildings, additions and structures that have reached an age of 50 years. For this update, the Yawkey Ambulatory Care Building and the Power Plant will reach the 50-year mark and will have a Form B submitted for review. A copy of the preservation plan updates will be submitted to the SELDC.

6.0 PHOTOGRAPHS

Figure 6.1 Boston Medical Center Photo Key Plan



10.1 Yawkey Ambulatory Care Center

10.2 Yawkey Ambulatory Care Center

10.3 Yawkey Ambulatory Care Center

10.4 Yawkey Ambulatory Care Center

11.1 Power Plant


11.2 Power Plant

11.3 Power Plant

11.4 Power Plant

7.0 DOWLING TOWER REUSE STUDY

7.1 Introduction

Boston Medical Center (BMC) completed an extensive Institutional Master Planning (IMP) Process from 2007 to 2010. The IMP process was in part a result of a facility condition assessment completed in 2007 which evaluated the physical conditions of the major buildings on the campus. The purpose of this assessment was to prioritize capital investments and determine the highest and best use for the buildings for the short and long term. The assessment concluded that certain buildings contain major deficiencies and require major improvements to function acceptably as clinical, medical education, or administrative space. The Dowling Tower was included in the assessment and was identified as requiring significant infrastructure investment.

The Dowling Tower's primary function as an inpatient building was downgraded to administrative office space in 1994. It was phased out of use as an inpatient building because of its numerous physical and infrastructure deficiencies. The facility condition assessment was updated in 2015 which resulted in the same conclusion; it has become increasingly challenging to adapt the Dowling Tower to meet the needs of a modern medical center. BMC must provide modern medical facilities that satisfy current codes and provide maximum efficiencies and flexibility for long term sustainability.

The approved 2010 IMP, as amended in 2013 and approved by the BPDA, and the approved 2013 Draft Project Impact Report included the Dowling Tower site as vital to the growth of BMC's inpatient, emergency and trauma care needs. A new inpatient building, constructed in two phases, was approved to replace the Dowling Tower. Phase 1 has been constructed and replaced the three-story connector portion of Dowling. In this context, the remaining Dowling Tower has been evaluated for potential rehabilitation and reuse taking into account its potential historical significance as well as BMC's specific requirements for hospital and clinical functions driven by today's code and clinical space standards. Alternative building locations for a new inpatient building were reviewed with the SELDC at the September 5, 2017 Commission meeting. Enclosed is a copy of the final letter to SELDC and approved Option A location of the new inpatient building.

The 2021-2031 IMP includes the New Inpatient Phase 2 building to replace the existing Dowling Tower, as previously approved in the 2010 IMP and 2013 Amendment.

7.2 History

Built in 1937, the Dr. John J. Dowling Surgical Building replaced the Pathological Building, which occupied this site between ca. 1902 and 1936. The building was named after Dr. John J. Dowling, who served in the military during WWI. Soon after the United States entered the war in 1917, Dowling, Superintendent of Boston City Hospital, was appointed commanding officer of a Base Hospital. In 1918, Major Dowling was appointed as the Director of his Unit, which was sent to locations in France. Upon his return, Dowling continued working at Boston City Hospital until at least 1930.

The Dowling Tower has housed several departments within Boston City Hospital, including clinical, surgical and educational departments. Among these was the Fifth Surgical Service, established in 1865 and originally located in the eastern wing of the original Boston City Hospital campus in Building BCD and later expanded into the Thorndike and Sears Buildings (formerly on East Concord Street, now demolished). Most likely to allow for additional expansion and for upgrading the facilities, the Fifth Surgical Service was assigned to the Dowling Tower in 1937 occupying the fourth floor and a portion of the fifth floor. The Fifth Surgical Service occupancy reached a high of 105 beds in 1949. Maintaining its long-term connections with Harvard Medical School, the Fifth Surgical Service developed a single-unit Intensive Care Division. Among its clinical activities, the Service operated the Surgical Out-Patient Department.

Dowling also housed the Cheever Amphitheater. Named after David W. Cheever, the first Harvard Professor of Surgery at Boston City Hospital; the amphitheater was previously located in one of the earlier Surgical Buildings. In 1937, at the time of its opening, the name of the Cheever Amphitheater was assigned to a new amphitheater in the Dowling Tower.

Dowling has been adapted over time to new uses. In 1951, a one-story infill building was inserted within the courtyard created by the main block and the north and south wings of the Dowling Tower. Built at a cost of $500,000, it was named the Shortell Fracture Unit for Dr. Joseph Shortell, Chief of the Sixth Surgical Service at Boston City Hospital. The Urology Service at Boston City Hospital moved to the Dowling Tower in July 1961. The male quarters were transferred to the 5th floor, south wing of Dowling, while female patients were assigned to Dowling 2 North. At this time, surgery was also performed on the 7th floor of Dowling. Trauma surgery, the Emergency Entrance and the Boston EMS have all been located in this building.

Most recently, the Dowling Tower has contained the department of radiation on the first floor, operating rooms at the second floor and administrative offices at the upper floors.

7.3 Physical Description

The Dowling Tower sits at the north corner at the intersection of Albany Street and Massachusetts Avenue near the southeast corner of the Boston Medical Center campus. Irregular in plan and built up of a series of stepped blocks, Dowling has red brick walls, limestone trim and sits on a granite first story. The building is set slightly back from the sidewalk along Massachusetts Avenue and Albany Street facing southwest across Massachusetts Avenue. The granite first story, known as the Shortell Building, an infill building, together with the original Dowling U shaped footprint now creates the full footprint of the building at the ground level. The red brick upper stories form a U in plan. The main block raises nine stories and has a 6-bay projecting central pavilion, which rises to 10 stories. The north and south ends of the main block step down to 7 stories and the north and south wings step down again to 6 stories and project west from the main block. At the west end of each wing, a metal panel one-bay addition encloses a fire stair.

Fenestration varies throughout the building, including single punched openings, window bays spaced in groups of 2 and oversized windows at the upper stories. At the end pavilions and the central pavilion of the main block, metal spandrel panels between each story have vertical stylized ornament. Spandrel panels on the ends of the wings appear to have been replaced with

flush panels. Typical aluminum replacement windows are 1/1 double-hung with a transom. Some original windows appear to be double hung and others appear to be jalousie windows. Many openings have been filled with louvers, air conditioners, infill panels and brick.

Columns of tightly spaced windows separated by narrow brick and metal mullions emphasize the verticality. The window openings have flat arches and cast stone sills. Stone ornament is concentrated at the base and at the top stories of the central pavilion and the end pavilions. Vertical stone ornament in a stylized pattern is set into the wall above the 10th story windows. Two windows have a projecting sill with a carved stone head with wings in high relief. Stone ornament at the north and south wings includes vertical elements at the corners with stylized detail and horizontal panels at the cornice with carved scrolls and horizontal bands. Faced in stone, the one-story Shortell Building (1951) fills the lot between the north and south wings. Clean, punched window openings are symmetrically spaced along Massachusetts Avenue. Large stone scrolls sit at the corners of the main block atop the first story framing blocks carved with shields. Other stone detail found at the north and south elevations include carved panels above the seventh story, window surrounds, round panels and a carved surround at a central oculus window.

7.4 Changes to the Original Building

As building codes, technologies and uses changed over time, alterations to the Dowling Tower have been made to keep the building up to code. Originally built for inpatient use, what once were surgical and clinical spaces and patient rooms on the upper floors, have been converted to administrative office uses. The Dowling Tower has primarily been functioned as administrative use since 1994.

Among the exterior changes are the addition of the metal-clad fire stairs built at the south end of each of the two wings, the installation of window air-conditioning units in many of the window openings and a tall one-story fence has been installed on the roof of the Shortell Building (the one-story infill between the north and south wings added in 1951), in order to conceal HVAC equipment. Windows have been replaced throughout the building and the metal spandrel panels on the west end of the north and south wings have been replaced with flat metal panels. In order to preserve the building's historic character, the remaining historic exterior features of the building would be retained, but these incremental changes are considered unsympathetic to the original architecture and therefore are not identified for preservation. The interior finishes of the building have been altered over time, they are outdated and would be removed for any modern use.

See Figures 7.1 through 7.6.

Recently, a red brick one- and three-story ell, which extended from the rear (north) of the main block has been replaced with a new four-story masonry building (2015). This new replacement building is Phase 1 of the new inpatient building approved as part of the 2010 IMP and was also included in BMC's 2013 IMP Project Notification Form.

7.5 Current Setting

The Dowling Tower is set near the sidewalk at Massachusetts Avenue and Albany Streets. It is located within the clinical core of BMC's campus, surrounded by modern medical facilities

including the five-story Yawkey Ambulatory Care Center to the west and the eight-story Menino Pavilion to the north. The Menino Pavilion houses the Trauma Center and Emergency Department and the Radiology Department. A new four-story masonry building was constructed in 2015 between the Dowling Tower and Menino Pavilion providing vital connections between these core clinical buildings. This four-story building is the new phase 1 inpatient building that houses the expanded Trauma Center and Emergency Department, the expanded Radiology Department, and consolidated interventional procedure space and inpatient beds from the Menino Pavilion. In order to achieve the necessary continuity in the delivery of critical patient care, the clinical programs in the Dowling Tower location would be connected directly to these adjacent buildings.

7.6 Building Reuse Study

7.6.1 Alternative Uses

Reuse of the Dowling Tower was evaluated during the BMC Master Planning process for other BMC programmatic needs including administrative and outpatient clinic uses. BMC's planning objectives outlined in the 2010 IMP and 2013 IMP include establishing ideal adjacencies between complementary uses. This involves shifting administrative functions away from the clinical core and locating clinical programs in proximity to core medical services and operational support functions. These planning objectives discounted the Dowling for administrative use and outpatient clinic use. Given its proximity to the existing and newly expanded Trauma Center and Emergency Department and Radiology Department, the Med Flight helipad, and critical care functions in the Menino Pavilion, the Dowling Tower site was determined to be the ideal location for new inpatient use.

7.6.2 Inpatient Use

The new inpatient program is proposed in two phases. The combined program for phase 1 and phase 2 calls for a capacity of 336 beds, 20,300 square feet for operating rooms and support areas and 20,300 square feet for radiology, support and Emergency Room space. Phase 1 of the new inpatient building was constructed in 2015.

The Dowling Tower's superstructure, including floor to floor heights, U-shaped floor plan, the size of the floor plates, the structural bay spacing and the structure itself, as well as building services and infrastructure, including mechanical, electrical, plumbing, and conveying systems, were evaluated for the potential to reuse the building for the new inpatient program. Primary considerations were given to areas that would impact code requirements and patient safety.

In determining the feasibility of re-using the Dowling Tower for modern day clinical use, the following evaluation criteria were used as presented in the comparative on the next page. See Table 7.1.

Table 7.1 Inpatient Use Evaluation Criteria

Criteria	Modern Healthcare Facility	Existing Dowling Building	Meets Criteria	Notes
Shell Limitations				
Floor Plate Size	22,000 SF - 28,000 SF	9,000 SF - 15,000 SF	N	
Floor Plate Width	100'-0"	46'-8'	N	
# of Beds/Floor (Nursing unit size)	24	6 to 8	N	1
Structural Limitations				
Floor-to-Floor Heights	14'-6"	11'-8"	N	
Standard Grid Dimensions	Yes	No	N	
Bay Spacing	30' x 30'	15' x 15'	N	
Floor Alignment	No ramping	Ramping required	N	
Floor Loading (Diagnostic/Treatment)	100 to 150 lbs/SF	40 to 50 lbs/SF	N	2,7
Floor Loading (Inpatient Rooms)	50 to 100 lbs/SF	40 to 50 lbs/SF	N	2,7
Isolated Concrete Slabs	Will Accommodate	Does Not Accommodate	N	8
Vibration Requirements	4,000 Micro-Inch/Sec	30,000 Micro-Inch/Sec	N	3,4,7
System Limitations				
Elevators	4 Passanger; 4 Service	4 Passanger	N	5
Space per Floor for MEP/Tel-Data	10% - 14%	5%	N	6
Penthouse/Roof Space for AHU's	Accommodate Excess Space for Expansion	Does Not Accommodate	N	

1. Bed # is industry standard (about 1,000 sf/bed).
2. The actual lbs/sf of the existing Dowling is unknown. Number is based on typical building and construction type of its era.
3. Numbers refer to rms vibration velocity between frequencies of 8 to 80 Hz. Micro-inch/sec is typical requirement for modern imaging equipment.
4. Existing Dowling number is based on typical construction of its era.
5. Calculation based on 1 passenger elevator per 40,000 sf and need for 4 service elevators (2 dedicated for clean/dirty).
6. Calculation based on floor area take offs of existing Dowling and new facility.
7. 100 to 150 lbs/sf is required to support current day MRI and other imaging equipment requirements.

7.6.2.1 Floor to Floor Heights

Medical facilities must provide adequate space, either above ceilings or below floors, to house distribution networks for mechanical systems (ventilation air, med gasses, etc.) and for medical equipment. To achieve this, certain floor-to-floor heights are needed for specific programs to function and also meet minimum ceiling heights to meet Department of Public Health (DPH) regulations. Floor to floor heights between 15' and 16' are industry standard for spaces with large floor-mounted or ceiling-hung medical equipment, such as imaging and operating room suites, to allow for a 9'-6" DPH minimum floor to ceiling height for imaging, and a 10' DPH minimum floor to ceiling height for an operating room. Slightly lower ceilings, between 13'-6" and 15', are industry standard for most patient bed floors and clinical spaces to allow for an 8'-6" DPH minimum floor to ceiling height. These heights serve contemporary demands for infrastructure and equipment and provide additional programmatic flexibility for inevitable future changes.

The existing Dowling floor to floor height is 12' at the lower level and 11'-8" at the upper levels. After accounting for the existing structure and allowing room for the ventilation and mechanical ducts that are required, the maximum floor to ceiling height that is achievable is 7'. The 7' floor to

ceiling height is well below the DPH minimum required floor to ceiling heights as noted above. (See Figures 7.7 through 7.9).

It is not economically reasonable nor is it physically feasible to change the structure to increase the available floor to ceiling heights.

7.6.2.2 Floor Plate Size & Configuration

According to current healthcare standards, the optimum floor plate is 25,000 – 30,000 square feet with a minimum floor width of 100 feet. The upper floors at Dowling consist of three connected narrow wings forming a "U" in plan; each floor has a floor area between 10,000 square feet to 14,000 square feet. Although the first level, programmed for radiology, has a rectangular floor plate of 30,000 square feet which could meet the current standard, existing structural elements and infrastructure shafts preclude realizing the full program need (see Figures 7.10 through 7.12).

7.6.2.3 Bed Unit Efficiency

At their current size, Levels 3 – 9 in the Dowling Tower would have a total capacity of 48 beds (See Figure 7.12), far short of the 336 beds needed. Adding support space (patient, mechanical and IT Infrastructure) and right sizing rooms in the existing building consumes a majority of the floor area, leaving minimal space for the beds themselves.

Typical bed units are grouped by an efficient number of beds (usually 4 beds for every 1 nurse) for most effective nurse staffing and shortest traffic flow, usually from 24 to 36 beds. Staffing floors below this bed count leads to staff over/under utilization and increased operational cost.

A diagrammatic test fit of the existing Dowling Tower (level 4) determined that each floor could support a bed-unit composed of 8 beds, which would be extremely ineffective to operate and would not be sufficient for the overall patient volumes seen today (See Figure 7.12). In reality, due to travel distances, these floors would actually function as two independent bed-units of 4 beds each. These unit sizes would be extremely undersized for a modern bed floor unit and would result in a tremendous amount of time lost due to the number of vertical transfers being made in order to serve these units. Additionally, as the levels decrease in size as you move up the building (levels 6, 7, 8, & 9 are about 10,000 SF each) they would only house close to 6 units per level. These numbers are not only very low, but they would create inefficiency caused by redundancy and staff underutilization in order to meet patient needs.

7.6.2.4 Imaging and Surgical Floors

At levels 1 and 2, where surgery and imaging expansion are planned, the size and irregularity of the floor plate make it completely impractical to locate the full program need here (see Figure 7.10). Much larger and wider spaces are needed to support the room types associated with these programs and the existing floor plate is not able to accommodate the program.

7.6.2.5 U-Shaped Floor Plan/Floor Width

The width of a building directly affects the efficiency of floor layouts, as well as travel distances and the number of beds per floor. As mentioned previously, modern inpatient facilities of this type are usually around 100 feet wide. This width accommodates a typical "race-track" configuration with patient beds at the perimeter and shared spaces in the center of the floor. This layout type has become the standard over the single corridor due to its ability to increase efficiency in staff expenditure, since fewer staff members can cover more square footage with fewer steps (See Figure 7.12).

At roughly 46-48 feet, the current Dowling floor plate width is very narrow and would only support one corridor (8' wide standard min.) and one row of bed units (22' wide standard). After adding nurse stations, aligning with existing structural elements, and adding the required support spaces (decentralized nurse stations, infrastructure, localized med stations, etc.) the total number of beds per floor is greatly diminished. (See Figure 7.12).

The increased acuity level of today's typical inpatient population, as well as increasing efforts to reduce accidents and the risk of falls, has resulted in an imperative for nurses to have improved visibility and auditory connection with the patient rooms. Irregular floor layouts detract from this connection between provider and patient. Instead of one decentralized nursing unit for each end of the building, two additional sub-stations would have to be provided at each of the end "wings". The location of these added stations, coupled with the 90 degree turns in the floor layout, would result in the lack of visualization between the providers themselves (from substation to substation) and create additional concerns when considering staff teaming within a unit. The outcome is ineffective space utilization on each of the floor levels, leading to operational, cost overruns, and patient care issues.

Additionally, the existing single corridor can create material and patient flow issues as opposed to the race-track organization employed in modern inpatient facilities today. The racetrack not only provides more overall space for support functions, but it also designates circulation for back-of-house activities to occur. The existing double-loaded corridor of the Dowling Tower would force all public and private actions to occur within the same limited space, creating potential conflicts and cross contamination issues.

7.6.2.6 Structural Bay Spacing and Structure

Structural bay spacing has a large impact on the use of an existing facility for modern healthcare practices. Small grid spacing is unsuitable for the dimensional requirements needed for patient bed rooms, imaging rooms and operating rooms. Based on standard practices, a consistent bay spacing of 30 feet by 30 feet is typically required to support these spaces. The existing Dowling Tower contains a column grid spacing of roughly 15 feet x 15 feet, which is very undersized for the types of typical hospital spaces seen today. This column spacing is very tight and cannot be modified to accommodate larger spaces such as those required for operating rooms.

The irregular layout of the existing column grid poses layout difficulties as well. Columns are arranged in two rows down the center of the floor, supporting a double loaded corridor. In this case, there is a 15' bay on one side and an 18' bay on the other (see typical plan Figure 7.12).

After placing a 22' wide bed module, a row of columns still remains down the center of the corridor. As rooms and corridors are adjusted to align with the existing grid location, the plan becomes increasingly compromised. In order to align with the existing structure and maintain the mandatory 8-foot minimum corridor width, the bed count on each floor is extremely diminished. The outcome is an unbalanced ratio of support space to beds on each floor. Typical academic medical center nursing units for higher acuity levels have roughly a ratio of 66% inpatient beds, 20% support space, 11% staff facilities, and 3% public. The Dowling Tower would yield ratios closer to 38% inpatient beds, 43% support space, 13% staff facilities, and 6% public. Ultimately, this results in too much support space and too few beds on each floor to be economically feasible to operate.

Moreover, the existing internal columns happen to be offset from each other along the center of the floor plan, which impose additional planning constraints. Instead of being able to utilize flexible modular spaces, typical in most modern hospitals, each area would end up being slightly different than the adjacent space. This would make renovations or additional future changes very challenging to execute.

7.6.2.7 Location of Existing Shafts and Structure

The existing shafts and penetrations for stairs, elevators and mechanical systems occupy a large percentage of space on each floor. (See Figures 7.10 through 7.12) With today's increased infrastructure demand, additional floor space must be allotted for shaft space, tel-data closets, and various other MEP systems networks. Dowling was not constructed with an HVAC system and the current retrofitted system is inadequate and does not service the entire building. The existing shafts interfere with a floor layout and corridors that could accommodate the U-shaped floor plans; the increased floor area to be consumed for MEP systems will further reduce efficiency and inhibit functional floor layouts.

Even if there was enough floor area in the existing building, new shaft construction would be problematic due to the floor composition. The existing structural assembly consists of steel columns with cast-in-place concrete beams and slabs. The floors appear to be made up of one-way concrete joists spanning between concrete beams, with the slab cast integrally with the joists. In order to provide additional shaft space, steel beams would be required below the existing concrete joists to frame these new openings. This would not be practical due to the low floor to floor heights and the amount of MEP elements needed above the ceiling for a contemporary healthcare building.

7.6.2.8 Operational Requirements

- Circulation Patterns - Larger floor plates provide ample space to utilize efficient and safe circulation patterns. These "safe" circulation patterns support infection control goals by allowing for the separation of public and private, clean and soiled traffic.

- Support Space Requirements - The U-shaped floor plan with narrow wings increases the amount of support space that must be provided per patient, thus making the floors extremely inefficient. Smaller floor sizes do not support modern healthcare practice

requirements for more decentralized and localized support space, which aim at reducing large travel distances.

- Vertical Travel Distances - Smaller floors create operational inefficiency due to increased floor transfers.

- Material Distribution - Larger floors provide area for much-needed support spaces to house decentralized materials and medications, as well as decentralized nursing stations.

- Space Utilization - Larger floor plates provide more overall space to operate in and the flexibility for departments to fluctuate as needed with inevitable changes in patient population, acuity and census.

- Floor Alignment - Modern healthcare design limits floor transitions as much as possible within floor plates. These transitions break up spaces and are inefficient due to the valuable space used to provide ramps and stairs. None of the existing Dowling Tower floors align with the adjacent buildings. In order for Dowling to connect to its neighbors as required in the program plan, floor transitions will be required at every level.

7.6.2.9 Floor Loading and Vibration Criteria

Another significant hurdle to utilizing the Dowling Tower as a modern healthcare facility would be the structural support requirements posed by medical imaging and inpatient equipment. The existing structure was not designed for the high loads, around 100 to 150 lbs/SF, required to support current day MRI and other imaging equipment.

In addition, vibration requirements of imaging equipment are typically very stringent and significant additional supports/reinforcement of the existing structure would likely be required to meet these requirements. This type of equipment often has additional shielding requirements, slabs would likely need to be recessed to allow for shielding which would require portions of the existing slab to be removed and re-built to support the heavy shielding plates. The low floor-to-floor heights leave no room for these added requirements to be executed.

7.6.2.10 Considerations for Adding New MEP Systems

- Conveying Systems - Vertical transportation within a healthcare facility also has a large impact on operational efficiency. While the existing Dowling Tower would be able to meet ADA standards, there would be an issue with serving the program specific needs seen in a modern inpatient building.

  Industry standards recommend that one passenger elevator should be provided for every 40,000 square feet of building area. This equates to a total of four passenger elevators to satisfy this demand. In addition, at least three other elevators would be needed to service the floors and to move patients to and from imaging and surgery functions below and for distribution of materials, food and services. Ideally, there would be "one" clean and one "dirty" cab for the distribution of materials, food and services, and one for the patients. The existing Dowling Tower currently only has four passenger elevators. Because Dowling has

limited floor area on each level, there is a lack of space to add three new elevators. In order to service the entire building, additional outboard elevators would have to be constructed outside of the original footprint and shell.

- Mechanical/Electrical/Plumbing - Currently the systems within the existing Dowling Tower would not be sufficient to support contemporary healthcare functions. New HVAC, steam, domestic hot & cold water, chilled water, normal power and emergency power systems would all need to be upgraded substantially. The biggest challenge in converting the existing Dowling Tower to a modern facility is the overall lack of space required to support all of these systems. Lack of space for electrical unit substations with proper egress, for rated electrical closets on each floor, for rooftop air handling units, for new domestic water supplies, for the installation of medical gases and vacuum infrastructure, and for air distribution systems. Typically, 10% to 14% of an average floor plate is reserved for MEP and tel-data services. Currently, the existing building has about 5% per floor. Locating all these elements within the minimal footprint and low floor-to-floors is not feasible without losing significant program area or having to make structural changes.

  Shaft space appears to be the biggest concern when assessing the existing facility. If the existing shaft locations are to be maintained, they impose tremendous constraints on the floor layout with regard to planning. Excess space to route new duct risers (as well as plumbing, electrical, tel-data, and med gasses) does not exist, resulting in the need for a large amount of new shaft space to be provided. This lack of shaft space provides further challenges associated with isolation room exhaust duct routing and ensuring that the exhaust air is discharged at the code required minimum distance from the outside air intakes. As mentioned previously, the lack of overall floor area and the logistics of creating these spaces are not feasible within the existing structure.

  To serve high systems demands within the Dowling Tower, a majority of the new mechanical infrastructure would need to be run outside the existing footprint. There is no available space within in existing basements of adjacent buildings because they are fully occupied with program. This would force ducts, risers, pipes, and conduit to be located along the exterior of the building façade. However, this is not feasible because there is no available interior (non-public facing) façade.

7.7 Conclusion

Originally designed as an inpatient building in 1937, the Dowling Tower's primary function was downgraded to administrative office space in 1994 as a result of its many physical and infrastructure deficiencies. The Dowling Tower is not able to handle current patient volumes and it lacks the flexibility for future growth in patient volumes and new medical equipment requirements. Higher patient acuity also requires larger private rooms to control infection that the Dowling Tower is unable to accommodate. Overall, renovating the existing structure would not provide adequate space to support state-of-the-art healthcare programs, would not provide the number of patient beds to satisfy current volumes, and would fall short of code requirements and patient safety standards. As a result, this facility would diminish BMC's ability to operate efficiently and would hinder its ability to provide the best possible patient care.

Consistent with BMC's planning objectives, administrative functions must shift away from its clinical core and clinical programs must be located in proximity to core medical services and operational support functions. The proximity to existing Trauma and Emergency, the Med Flight helipad, and critical care functions in the Menino Pavilion make the Dowling Tower site the ideal location for the new inpatient building (See Figures 7.13 and 7.14 that show the future connections of the newly constructed phase 1 and future phase 2 inpatient buildings). For these reasons, the Dowling Tower cannot be restored to its original 1937 design nor can it be reused to deliver the best possible patient care that meets current healthcare standards. As previously approved in the 2010 IMP as amended in 2013, the Dowling Tower will be replaced with the new Phase 2 Inpatient Building.

Figure 7.1 Existing Dowling Building

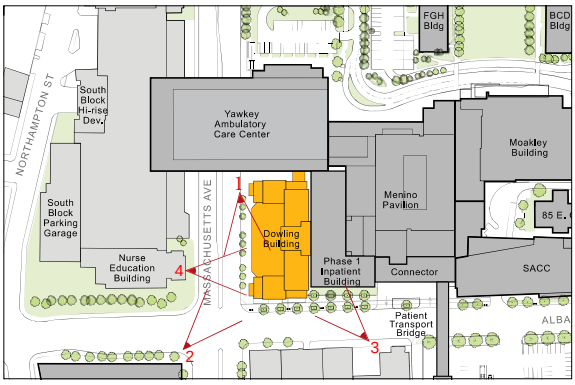
EXISTING CONDITIONS PHOTOGRAPHY

1. At grade along Massachusetts Avenue looking Southeast.

2. Massachusetts Avenue and Albany Street looking North.

3. Albany street looking West towards Dowling Building.

4. Massachusetts Avenue looking East.



EXISTING CONDITIONS PHOTOGRAPHY

1. At grade along Massachusetts Avenue looking Northeast.

2. At grade along Massachusetts Avenue looking Northeast.

3. View from 9th floor of Shapiro building looking Southwest

4. View from Yawkey level 5 looking Southeast

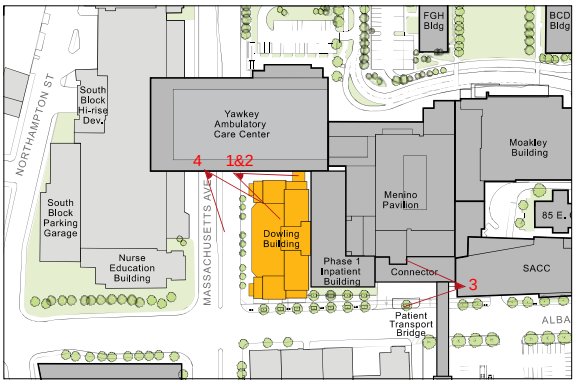


Figure 7.3 Existing Dowling Building

EXISTING CONDITIONS PHOTOGRAPHY

1. At grade along Massachusetts Avenue looking North.

2. Massachusetts Avenue and Albany Street looking North.

3. Massachusetts Avenue looking North.

4. Albany Street looking North

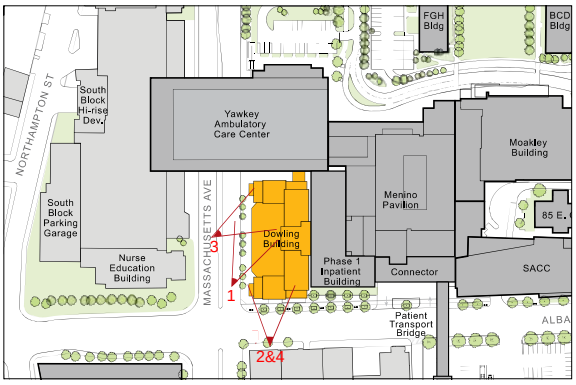


Figure 7.4 Existing Dowling Building

EXISTING CONDITIONS PHOTOGRAPHY

New modern stair enclosure added to end of each wing to comply with code

HVAC at capacity, needs to run outside building

Replaced spandrel panels at the end of each wing

Air handling units in all windows

Modern signage added for wayfinding

Shortell building infill between wings
(Basement currently not in use)

Albany Street looking North at Dowling Building

HVAC at capacity, needs to run outside building

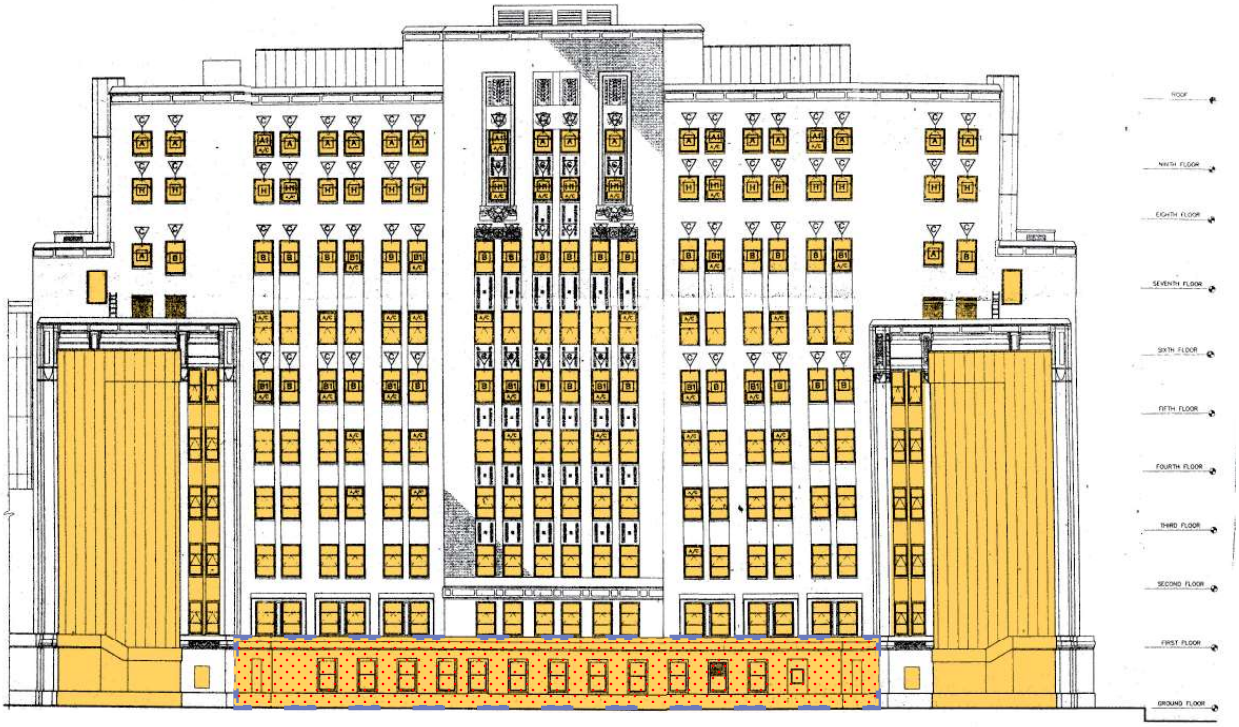
Shortell building infill provides very inhospitable pedestrian experience.

Massachusetts Avenue looking East

Albany Street looking West at new IP Building

Figure 7.5 Dowling Building Modified Building Elements

MODIFIED BUILDING ELEMENTS



SOUTH ELEVATION

1951 Addition

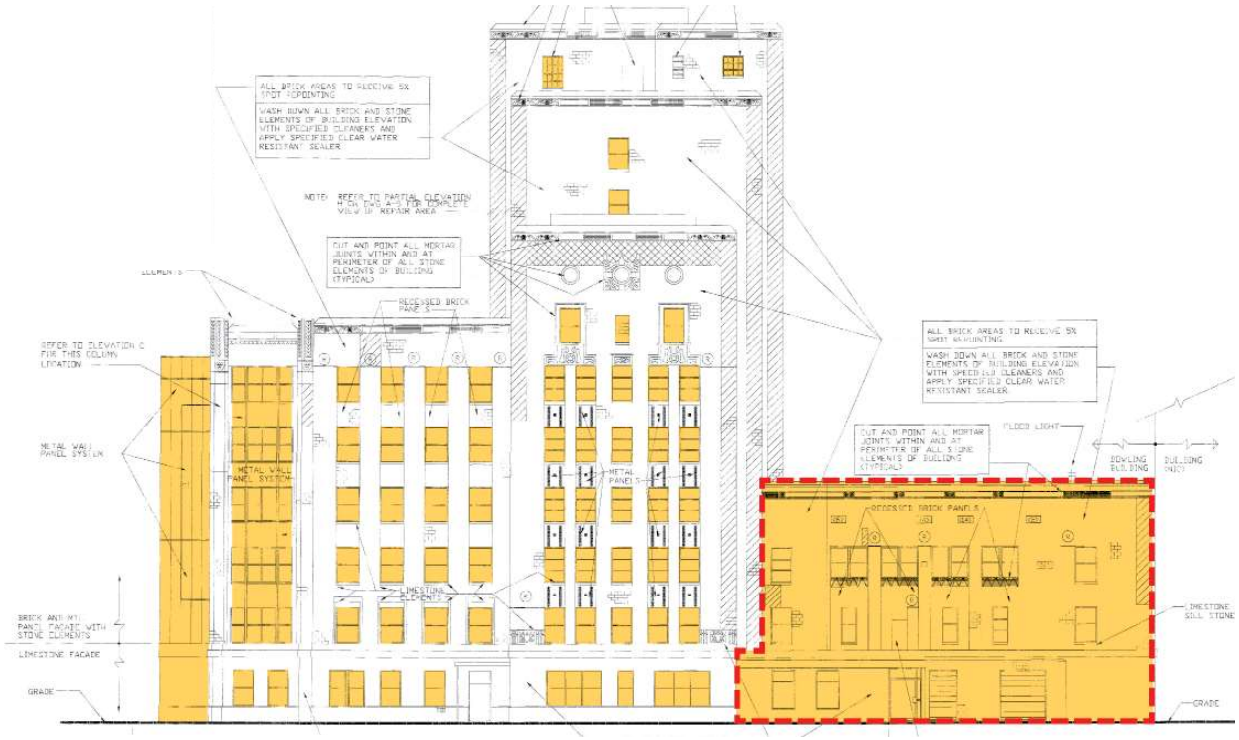
NORTH ELEVATION

Indicates area of modification

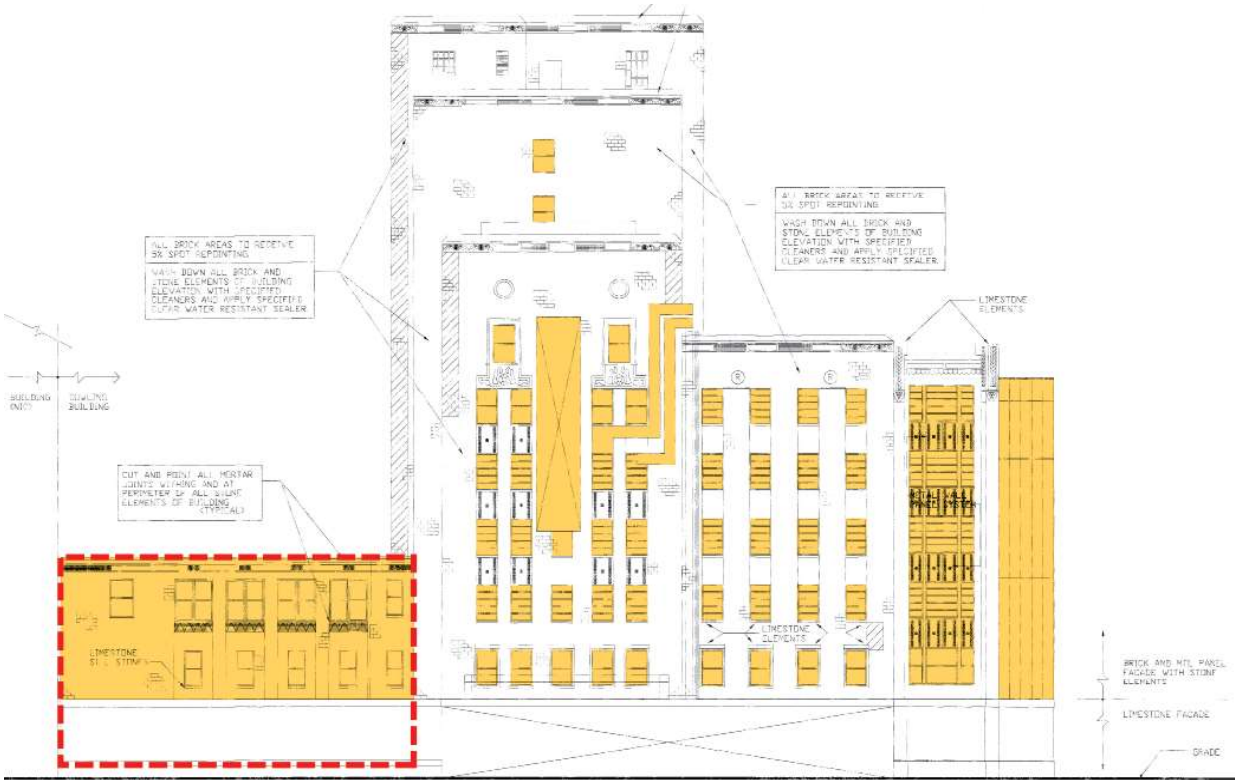
Area demolished as part of Phase 1 Inpatient Building

Figure 7.6 Dowling Building Modified Building Elements

MODIFIED BUILDING ELEMENTS



EAST ELEVATION



WEST ELEVATION

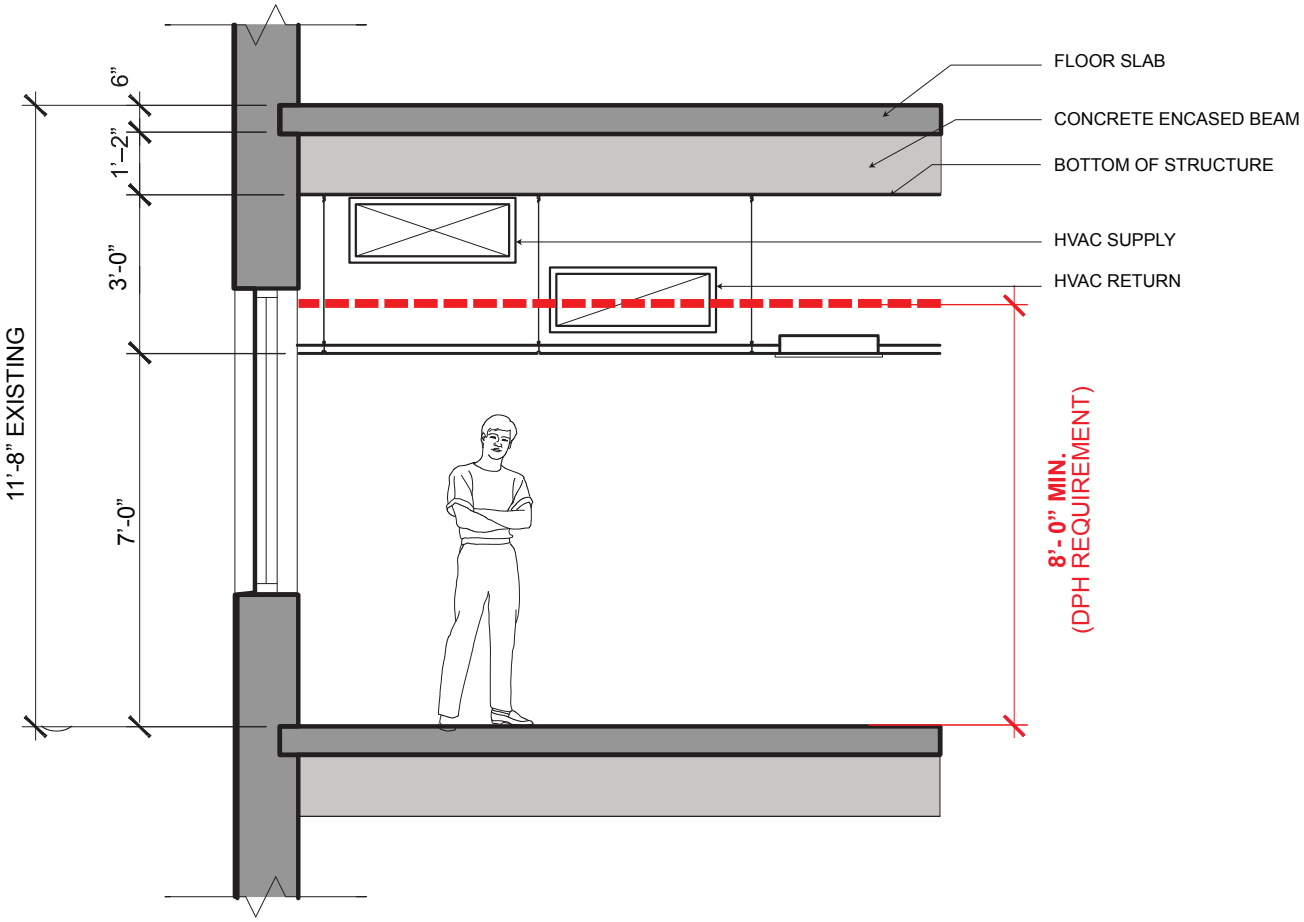
Indicates area of modification

Area demolished as part of Phase 1 Inpatient Building

Figure 7.7

EXISTING DOWLING BUILDING — TYP. FLOOR SECTION

TYPICAL UPPER FLOOR LEVEL
INPATIENT BEDS



INPATIENT FLOOR

	PROPOSED	INDUSTRY STD.	DEPT. OF PUBLIC HEALTH REQUIREMENTS	Notes
Floor to Floor	11'-8" (Existing)	14' - 15'	n/a	
Ceiling Height	7'-0"	9'-0"	8'-0"	1,3
Interstitial Space	3'-0"	3' - 4'	n/a	

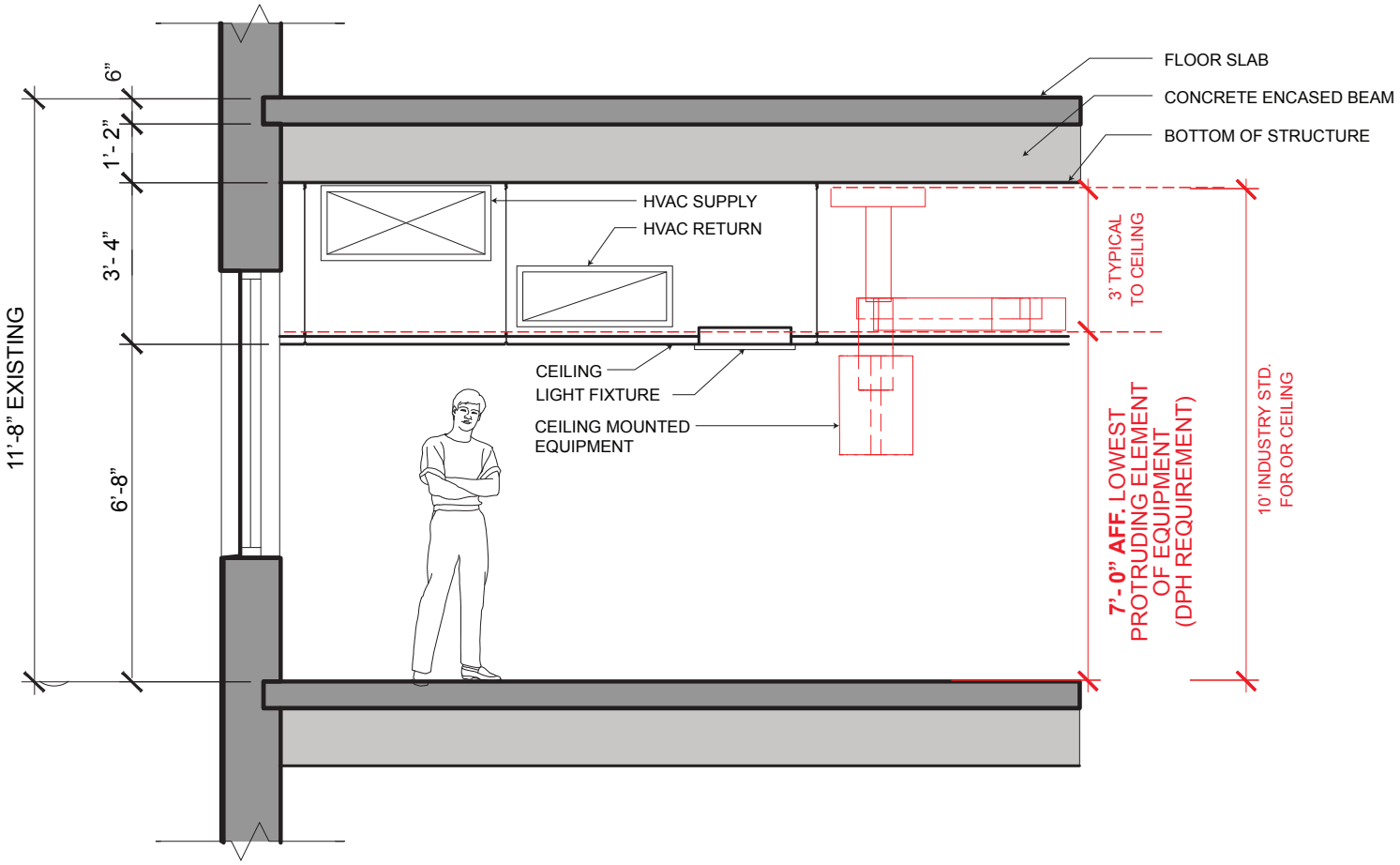
Notes:

1. Proposed ceiling height is result of typical MEP requirements for Inpatient Space
2. Industry Std. are based on typical equipment clearance requirements
3. DPH Information based on 105 CMR 151.320*

Figure 7.8

EXISTING DOWLING BUILDING — TYP. FLOOR SECTION

LEVEL 1
OPERATING ROOM EXPANSION



OR FLOOR

	PROPOSED	INDUSTRY STD.	LIFE SAFETY/DEPT. OF PUBLIC HEALTH	Notes
Floor to Floor	11'-8" (Existing)	15' - 16'	n/a	
Ceiling Height	6'-8"	10'-0"	7'-0" to lowest protruding element of equipment	1,3
Interstitial Space	3'-4"	3' - 4'	n/a	

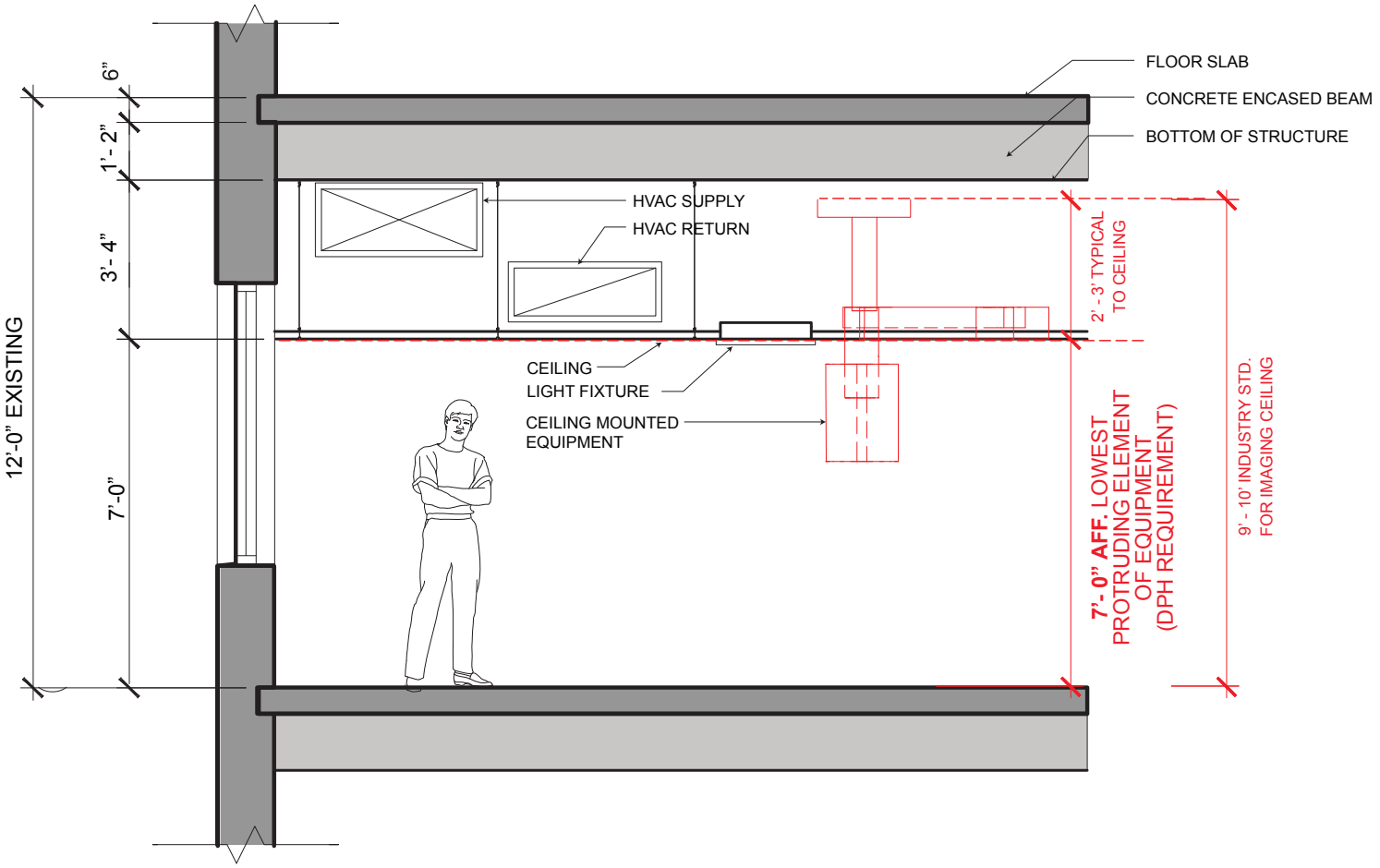
Notes:

1. Proposed ceiling height is result of typical MEP requirements for Inpatient Space
2. Industry Std. are based on typical equipment clearance requirements
3. DPH Information based on DPH Complience Checklist IP14: Surgical Services

Figure 7.9

EXISTING DOWLING BUILDING — TYP. FLOOR SECTION

LEVEL G
RADIOLOGY EXPANSION



IMAGING FLOOR

	PROPOSED	INDUSTRY STD.	LIFE SAFETY/DEPT. OF PUBLIC HEALTH	Notes
Floor to Floor	12'-0" (Existing)	15' - 16'	n/a	
Ceiling Height	7'-0"	9' - 10'	7'-0" to lowest protruding element of equipment	1,3
Interstitial Space	3'-4"	3' - 4'	n/a	

Notes:

1. Proposed ceiling height is result of typical MEP requirements for Inpatient Space
2. Industry Std. are based on typical equipment clearance requirements
3. DPH Information based on DPH Complience Checklist IP4: Critical Care Nursing Units

Figure 7.10

DOWLING TEST-FIT (Ground) | Proposed Imaging Program

ROOM TYPE	PROPOSED PROGRAM	DOWLING RETROFIT	NON-COMPLIANT PROGRAM SPACES
FLUOROSCOPY	2	2	0
RADIOLOGY	3	0	3
GAMMA CAM	2	0	2
CT SCAN/SPECTRAL CT	4	4	0
PET CT	1	1	0
ULTRASOUND	4	3	1
MRI	2	0	2

Analysis Notes:

1. Non-compliant spaces: Spaces that do not fit within the existing building foot print or are obstructed by existing building elements.
2. Existing building infrastructure creates layout conflicts.
3. Existing column layout does not work with planning configuration.
4. Not enough elevators to serve new population.

LEGEND

- PUBLIC CIRCULATION
- RESTRICTED ACCESS
- PROGRAMMED MAJOR SPACE
- PROGRAMMED SUPPORT SPACE
- OR CLEAN CORRIDOR
- EXISTING BLDG INFRASTRUCTURE (STAIRS/ELEVATORS/STRUCTURE/SHAFTS)

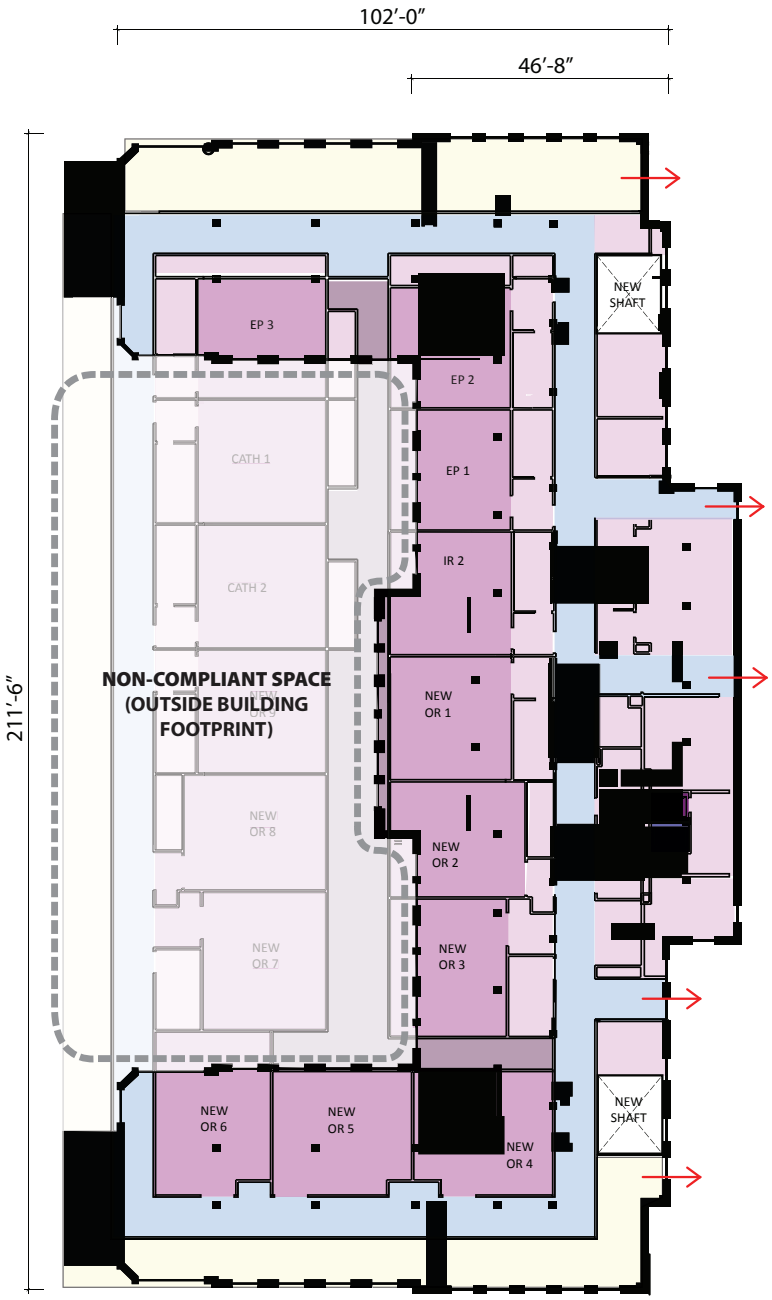
Figure 7.11

DOWLING TEST-FIT (Level 1) | Proposed OR Program

ROOM TYPE	PROPOSED PROGRAM	DOWLING RETROFIT	NON-COMPLIANT PROGRAM SPACES
OPERATING ROOM	9	0	9
EP LAB	3	0	3
INTERVENTIONAL RADIOLOGY	2	0	2
CATH LAB	2	0	2

Analysis Notes:

1. Non-compliant spaces: Spaces that do not fit within the existing building foot print or are obstructed by existing building elements.
2. Existing building infrastructure creates layout conflicts.
3. Existing column layout does not work with planning configuration.
4. Not enough elevators to serve new population.



LEGEND

- PUBLIC CIRCULATION
- RESTRICTED ACCESS
- PROGRAMMED MAJOR SPACE
- PROGRAMMED SUPPORT SPACE
- OR CLEAN CORRIDOR
- EXISTING BLDG INFRASTRUCTURE (STAIRS/ELEVATORS/STRUCTURE/SHAFTS)

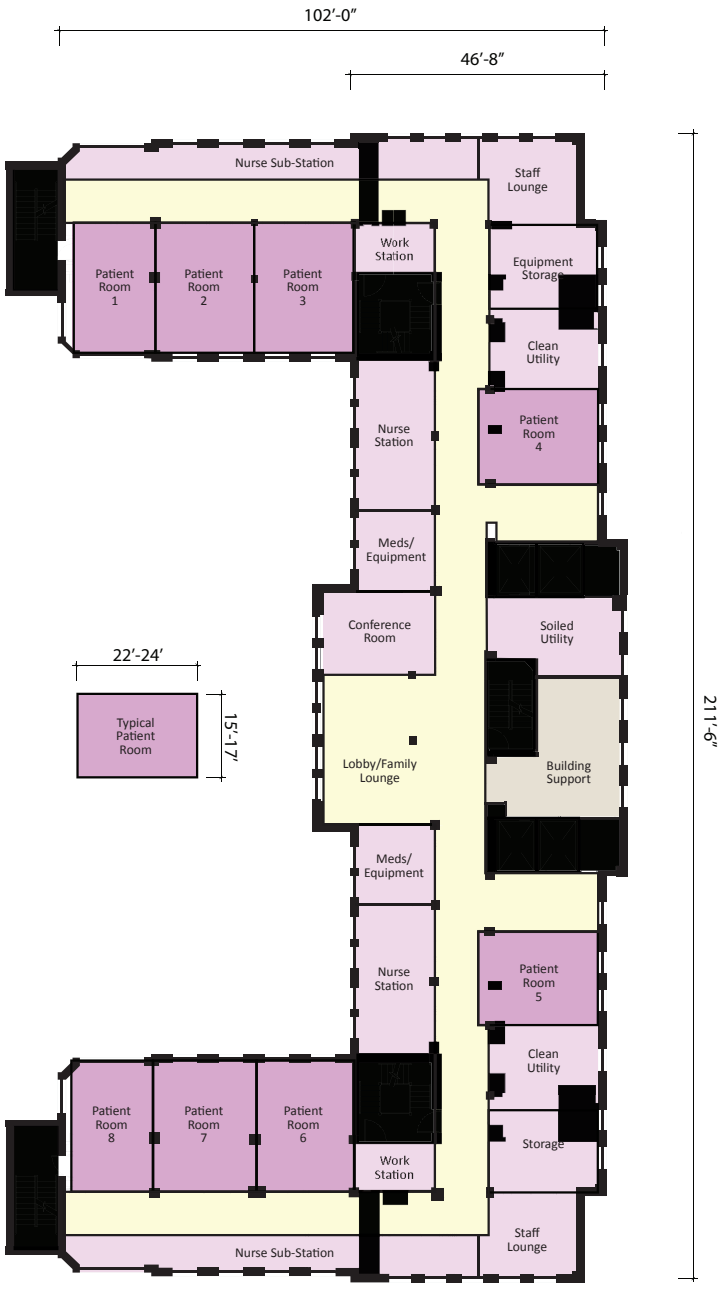
Figure 7.12

DOWLING TEST-FIT (Level 4) | Proposed Typical Inpatient Floor

ROOM TYPE	PROPOSED PROGRAM	DOWLING RETROFIT	NON-COMPLIANT PROGRAM SPACES
PATIENT ROOMS/FLOOR	28	8	20

Analysis Notes:

1. Non-compliant spaces: Spaces that do not fit within the existing building foot print or are obstructed by existing building elements.
2. Patient rooms are oversized in order to align with structure, creating inefficiencies.
3. Visual site lines are impeded between nurse station and sub-station, due to U-shape floor plan.
4. Existing structure limits the number of beds provided. Result is ratio of too much support space, to not enough beds.
5. Existing building infrastructure creates layout conflicts.
6. Single loaded corridor allows for no public/private separation.
7. Not enough elevators to serve new population.



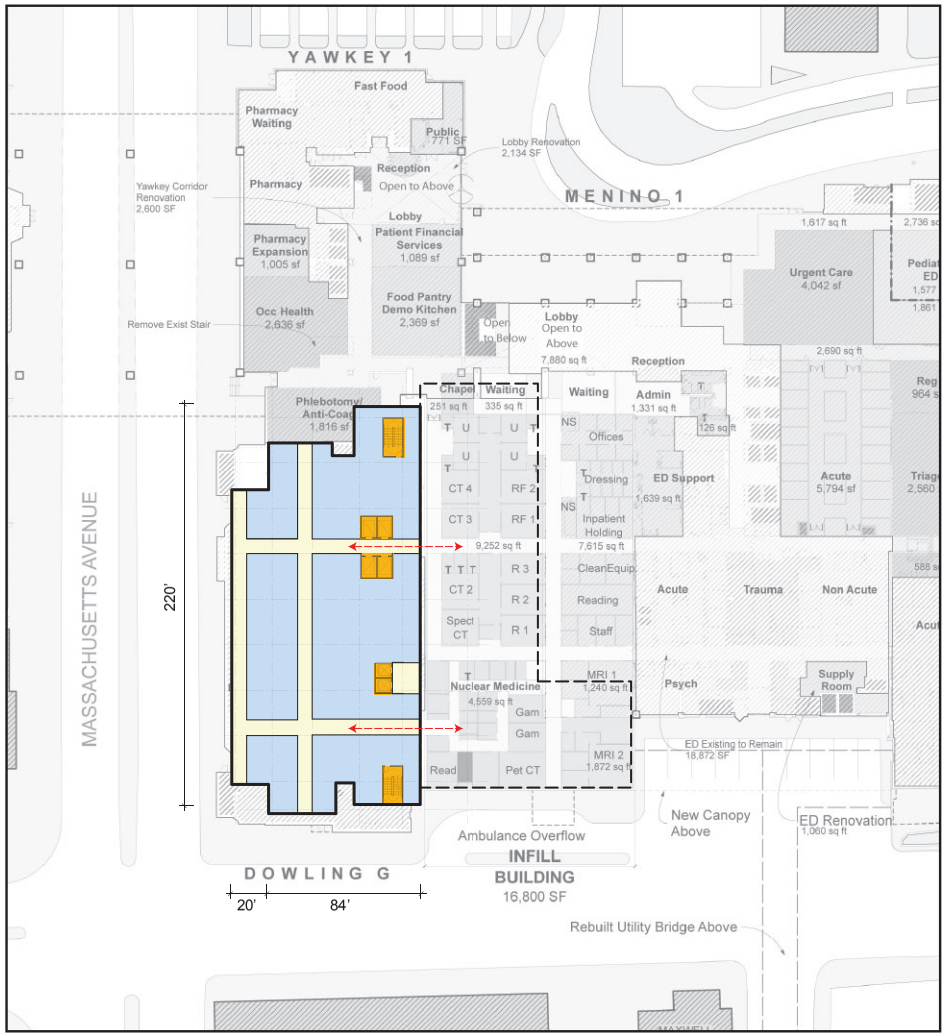
LEGEND

- PUBLIC CIRCULATION
- RESTRICTED ACCESS
- PROGRAMMED MAJOR SPACE
- PROGRAMMED SUPPORT SPACE
- OR CLEAN CORRIDOR
- EXISTING BLDG INFRASTRUCTURE (STAIRS/ELEVATORS/STRUCTURE/SHAFTS)

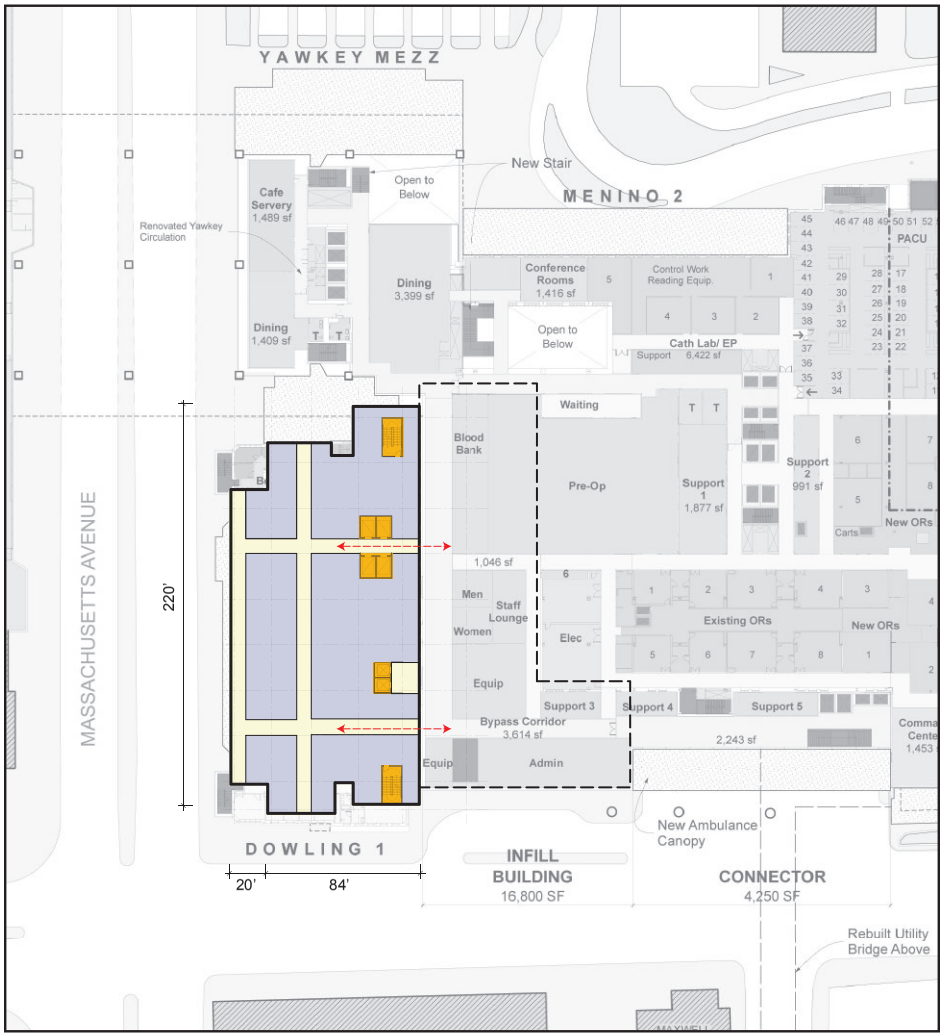
Figure 7.13

New Inpatient Building - Phase 1 + Phase 2 Connected

February 22, 2013



Level 1 - 20,300 sf
Radiology / ER Expansion

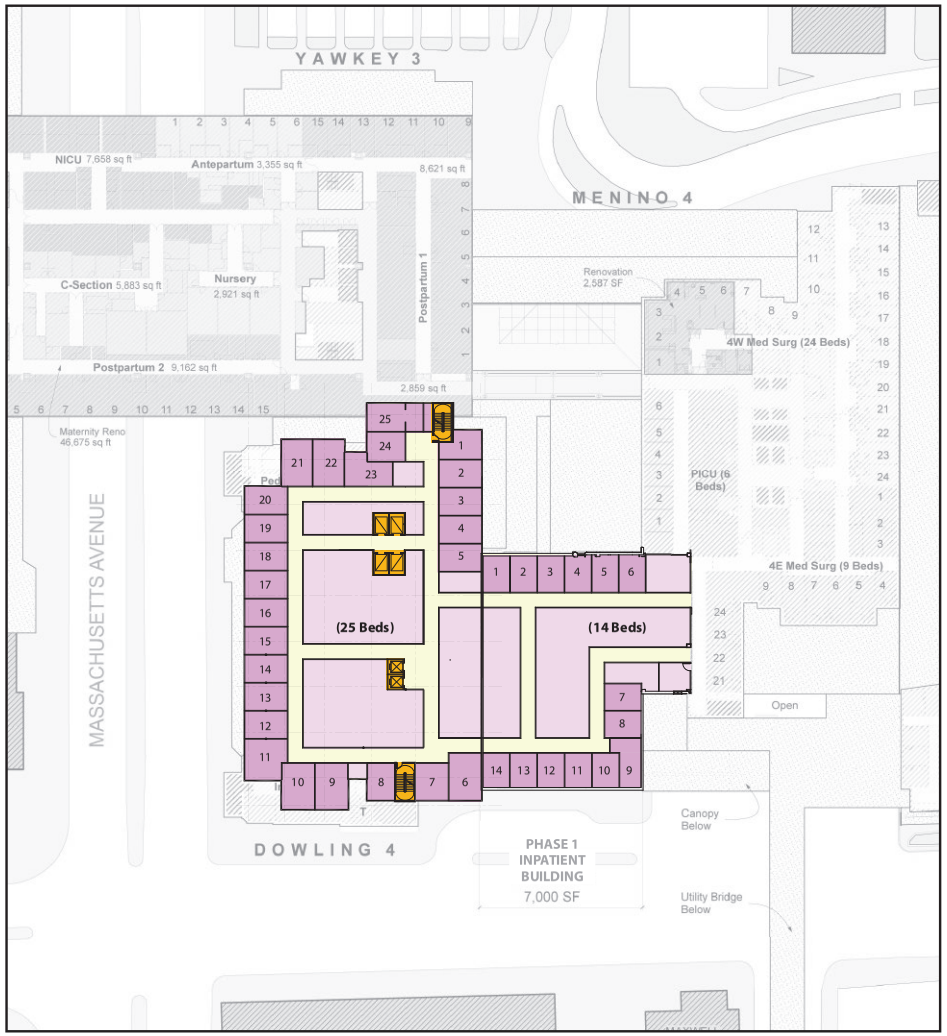


Level 2 - 20,300 sf
Surgery Expansion

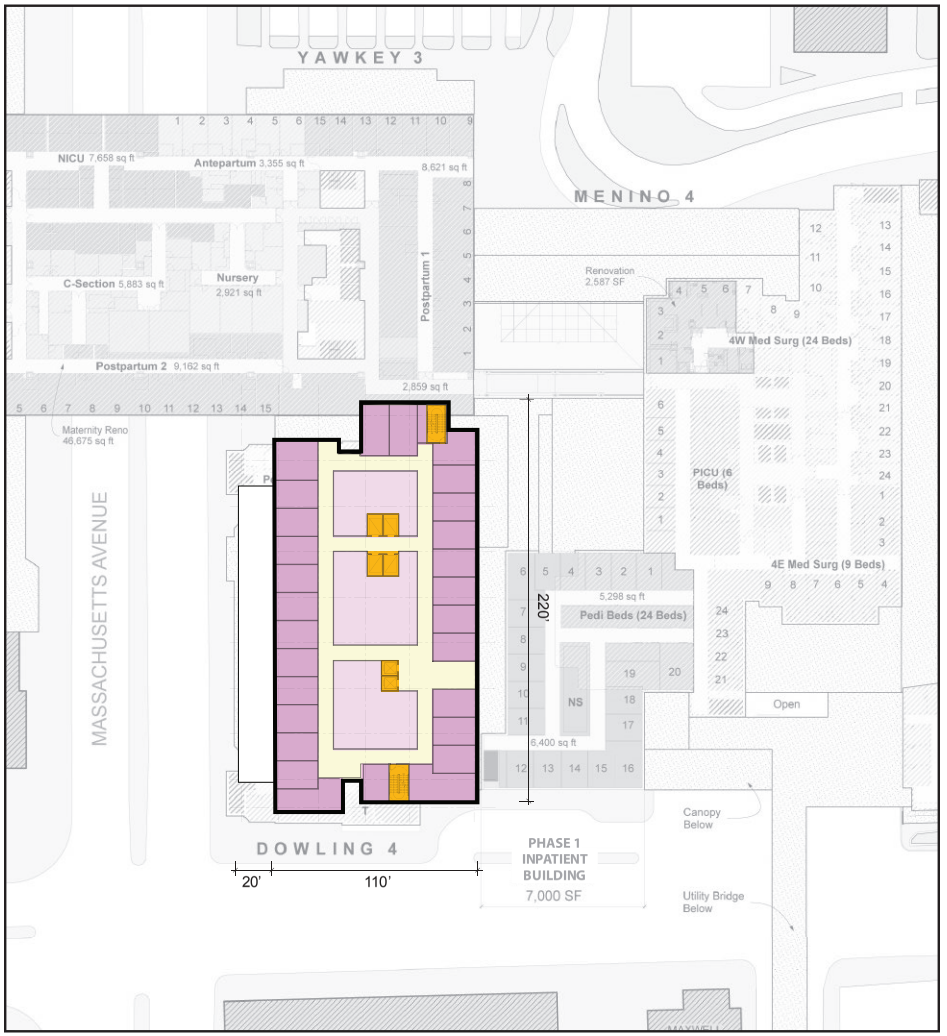
Figure 7.14

New Inpatient Building - Phase 1 + Phase 2 Connected

February 22, 2013



Level 3 & 4 (Phase 1&2 connected) - 26,000 sf
Phase 1 - 14 Beds
Phase 2 - 25 Beds



Levels 5 - 10 (Typical Inpatient Floor) - 23,000 sf
28 Beds/Floor
336 Total Beds (12 Levels @ 28 Beds)

8.0 ANNA WHITE VOSE HALL BUILDING REUSE STUDY

8.1 Introduction

Boston Medical Center (BMC) completed an extensive Institutional Master Planning (IMP) Process from 2007 to 2010. The IMP process was in part a result of a facility condition assessment completed in 2007 which evaluated the physical conditions of the major buildings on the campus. The purpose of this assessment was to prioritize capital investments and determine the highest and best use for the buildings for the short and long term. The assessment concluded that certain buildings contain major deficiencies and require major improvements to function acceptably as clinical, medical education, or administrative space. Anna White Vose Hall (Vose Hall) was included in the assessment and was identified as requiring significant infrastructure investment.

Vose Hall's primary function was as administration and office use. It is currently being vacated due to its numerous physical and infrastructure deficiencies. The facility condition assessment was updated in 2015 which resulted in the same conclusion. It is challenging to adapt Vose Hall to meet all applicable codes for a modern administrative office building. The building does not contain an elevator, narrow corridors make future accessibility difficult to achieve, and low floor to floor heights make it difficult to incorporate upgrades to the required mechanical, electrical and plumbing systems.

8.2 History

In 1896 as a result of a bequest from Mrs. White Vose, it was possible for the Trustees to begin building a permanent Nurses Home which would bear her name. Land was granted for this purpose by the City of Boston, on the easterly side of Stoughton Street adjoining the Medical Dispensary. Construction began in 1897, and the building was finished in 1898 at a cost of $100,000. Vose Hall was designed to accommodate 100 nurses.

In the years leading up to building a permanent Nurses Home, the nurses' Training School had continued to grow and expand. There was a feeling on the part of the Trustees that the hospital needed a permanent, well-equipped Home for Nurses. Once Vose Hall was built, the Training School was extended to three years. Applicants increased year by year, and the curriculum was extended.

In 1900, Miss Fanny Farmer of the Boston Cooking School helped to develop a formal dietary service for the Hospital, as well as a course in dietetics and cookery for nurses in the Training School.

The building had been adapted over time to house offices. The corridors are narrow and there is no elevator in the building, making the upper floors inaccessible. Most recently, the building contained administrative offices. The offices were being relocated to other buildings in 2019, leaving the building vacant in 2020.

8.3 Physical Description

Built of red brick with stone detail, the building rises four stories to deep overhanging eaves supported on scroll brackets. The westernmost section of the building is the most elaborate. The remaining long shaft of the L retains some of the features of the west section but is detailed as a secondary elevation. The windows are set in punched openings that change at each story. Stone detail includes a simple projecting beltcourse above the first story, a frieze (with the building name carved in the stone) and a molded cornice above the 3rd story, window sills and pilaster capitals. The cornice continues on the south elevation with a simpler plain brick frieze and single stone cap. The shaft of the L has stepped rows of projecting brick, but no molded stone cornice. The first story beltcourse continues on the rest of the building.

Two-story brick pilasters delineate the bays at the second and third stories. The pilasters are set in from the building corners creating a notched detail contributing to the vertical emphasis. Narrow paneled pilasters separate the bays at the fourth story. The basement windows have brick segmental arches, windows at the second story are framed by round brick arches with keystones, the second story has segmental arches, the third and fourth stories have flat arches. The window height diminishes as you rise up the building. Typical windows have 6/6 double-hung sashes, except the first story which has tracery at the top of the round arched sashes.

Cast iron balconies at the first story windows match the railing on the open brick porch along the south elevation, where the main entrance is located within a segmental arch. A bowed cast iron fire balcony projects at the third story, south elevation.

See Figures 8.1 to 8.3 Existing Photography.

8.4 Changes to the Original Building

As building codes, technologies and uses changed over time, alterations to Vose Hall have been made to keep the building up to code. Originally built to house nurses, the building was converted to administrative office uses.

The major change was the addition of the Betatron in 1968. The condition of the existing facades is fair to poor with open mortar joints, missing brick, deteriorated wood windows and trim, and deteriorated cast iron elements. Changes to the interior have been extensive to convert the dorm style rooms to offices and to fit modern systems into the building, unsuccessfully.

8.5 Current Setting

Vose Hall is set toward the interior of the block bounded by East Concord, Albany and East Newton streets and Harrison Avenue. The building is shaped like an L with a serif at the end with a one-bay return. It sits south of the Robinson Bldg. and west of the Old Evans Building. The one-story Betatron, constructed in 1968, is attached to the east elevation and the top of the L attaches to the (new) Evans Building. Vose Hall is not visible from the public way and is located behind a secured gate.

8.6 Preliminary Building Reuse Study

Reuse of Vose Hall and the attached Betatron building was evaluated for administration use. Vose Hall was built as a nurse's home, which is a 5-story wood framed structure, and the attached Betatron building was constructed for its original use as a linear accelerator vault. The Vose Hall superstructure, including floor to floor heights, L-shaped floor plan, the size of the floor plates, the structural bay spacing and the structure itself, as well as building services and infrastructure, including mechanical, electrical, plumbing, and conveying systems, were evaluated for the potential to reuse the building for a modern office program. Primary considerations were given to areas that would impact code requirements and remaining area to accommodate mode administrative office program.

In determining the feasibility of re-using the Vose Hall, including the 1-story Betatron addition, for modern administrative office use, the following evaluation criteria was used.

- **Current building(s)**
  - 22,695 sf (Vose), 5,912 sf (Betatron)
  - 5 floors (Vose), 1 story (Betatron)
  - Typical bay dimensions: 13' x 17' (Vose)
  - Average typical floor area: 4,500 sf (Vose)
  - Typical floor to floor height: 10'-6" (Vose)
  - Steam heating (Vose)
  - No air conditioning or ventilation system (Vose)
  - AC window units or manual operated windows (Vose)
  - No fire protection system

- **Administrative Office Program Evaluation Criteria Recommendations**
  - 10,000 sf floor plate minimum
  - Rectangular floor shape is ideal for optimized layout
  - 12'-0' minimum floor to floor height
  - 8'-0" minimum ceiling height, 8'-6" preferred
  - 10'-0" wide x 12'-0" private office minimum
  - 5'-0" minimum corridor width
  - Structural grid should accommodate 10'-0" planning module for offices
  - Repetitive structural grid dimensions are preferred
  - Floor loading for general office use: 50 pounds/square foot
  - Floor loading for corridors: 80 pounds/square foot
  - 1 passenger elevator
  - 2 egress stairs
  - Space for MEP, tele/data, IT: minimum 10%

- **Program Need and Use**
  - Intended use is Administrative Office program for BMC
  - Need 110,000 sf of new program space
  - Less than 30% of intended / needed program will fit into current footprint with all the required upgrades
  - Need floor space for new core elements: 1 passenger elevator, toilet rooms, janitor closet, egress stairs

- Need floor space for electric room, tele/data closet, mechanical shafts

- **Floor to floor heights**
  - Average existing floor to floor height is 10'-6"
  - Inadequate floor height to accommodate mechanical system, lighting, fire protection
  - Minimum ceiling height is 8'-0"
  - Ideal ceiling height is 8'-6"
  - Recommended minimum floor to floor height is 12'-0"

- **Floor plate size & configurations**
  - Current floor plate shape is L shaped with different width at each leg
  - Ideal floor plate shape for office layout is a rectangular shape
  - Recommend floor plate size of 11,000 sf

- **Office layouts**
  - Corridor width too narrow
  - Recommended corridor width of 5'-0"
  - Recommended typical private office size: 10' x 12'

- **Structural Bay spacing**
  - Current bay dimensions are inconsistent, not on a planning module for private offices or systems furniture

- **Structure**
  - Existing wood framed structure
  - Fire rating issues
  - Seismic code requirements – non-compliant

- **Floor loading**
  - Unknown existing floor loading
  - Vibration concerns

- **Existing shafts**
  - No mechanical shafts exist in the building

- **Adding new MEP systems**
  - Insufficient floor to floor height to add new MEP/FP systems
  - Insufficient roof loading for rooftop mechanical equipment

- **Codes**
  - Building – non-compliant
  - Energy – non-compliant
  - Accessibility – non-compliant

- **Architecture**
  - All new window replacement required
  - Brick masonry needs repointing / replacement
  - Original masonry detail has been removed

- Potential asbestos abatement required
- No visibility from street or campus
- Building envelope would need to be significantly altered to meet energy code

8.7 Conclusion

Originally designed as nurse's home in 1898, the Vose Hall's use over the past several years has been administrative office space. Given the number of infrastructure deficiencies, BMC has relocated offices out of the Vose Hall, including the attached Betatron building. The heating and ventilation systems are poor or non-existent, corridors are narrow, the wood frame structure does not meet current building codes, and the small bay space limits the number of required offices that can be accommodated. The Vose Hall and attached Betatron building, are not able to handle modern office space, code and technology requirements. Overall, renovating the existing structure would not provide adequate space to support administrative and computer data and analytics programs, once all the required code and infrastructure upgrades were implemented. As a result, less than 30% of the required administrative office program would be accommodated within the existing building footprint.

Since the Vose Hall was evaluate for administration use, BMC has determined a greater need for research and is proposing 10 Stoughton Street requiring the demolition of the Vose Hall. Considering the Vose Hall would not be suitable for administrative use, it would not be suitable for research use since programmatic space for research requires even larger minimum floorplates and high minimum floor to floor heights, as well as sophisticated mechanical systems to support the labs.

Figure 8.1 Existing Conditions Photography – Vose Hall

1. Southwest elevation of Vose Hall

2. Portion of northwest elevation.

3.Original cast iron balcony with some deterioration.

4. Brackets/supports for balcony.

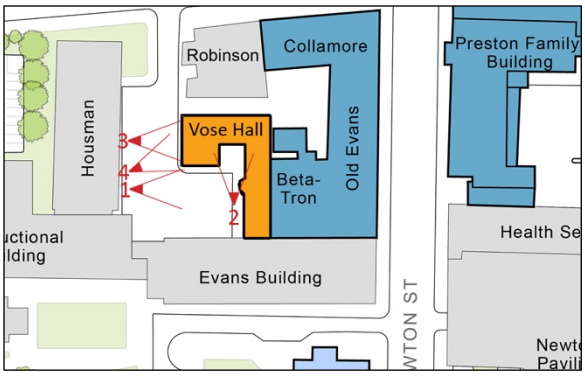


Figure 8.2 Existing Conditions Photography – Vose Hall

1. Area of missing and displaced brick under cast iron railing. Area also shows deteriorated and open joints.

2. Limestone inscription band is in good condition despite heavy soiling. Copper cornice above is missing components and has open seams.

3. Area of missing brick and deteriorated mortar joints.

4. Several bricks at the north corner are chipped or have spalls. Area also has numerous open and deteriorated mortar joints.

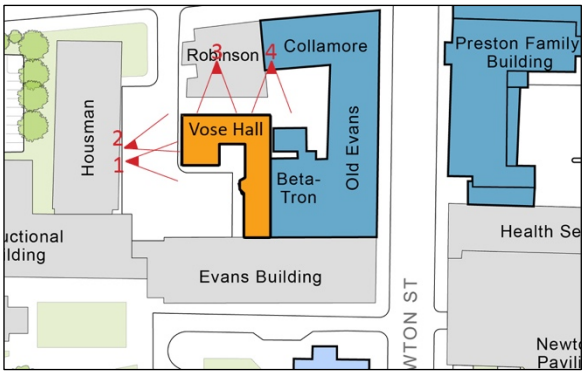


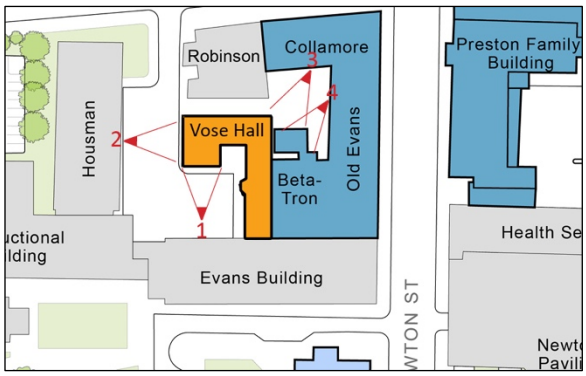
Figure 8.3 Existing Conditions Photography – Vose Hall

1. Cast iron railing is in poor condition and the brick pier has significant mortar loss and rust jacking.

2. Deteriorating paint and wood board over basement windows, along with soiling on limestone and granite and vegetation growing on brick wall.

3. Back of Vose Hall (northeast elevation) with elevated walkway to the Robinson Building (on right).

4. One-story Betatron attached to the northeast elevation of Vose Hall.



9.0 ATTACHMENTS

Attachment 9.1

DOWLING BUILDING SUMMARY

Built
1937

Principal Use
Administration/ Office

Floors
B+9

SF
144,895

Status
Approved for demolition under 2010 IMP

Site of future clinical and inpatient service expansion

Architectural

Fair/Poor condition

- Building is 78 years old (1978)
- High visibility
- Very small and narrow floor plates are inefficient
- No access from city streets - enter through Yawkey or Menino
- Irregular floor plan
- Poor arrival sequence
- Poor pedestrian experience
- Minor street parking
- Very small and restrictive structural grid
- Low floor-to-floor
- In general, exterior envelope is in good condition
- Windows have been replaced in past 10 years
- Roof appears to be new
- Steel columns and beams with concrete joists - limited shaft expansion capabilities
- No expansion potential
- Some asbestos - need verification

Systems

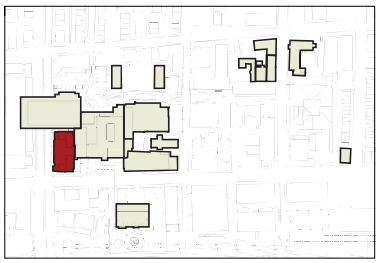
Fair/Poor condition

- Lack of a designated transformer or electrical service
- Reduced service feeder from Yawkey building
- Switch board damaged from fire
- Lack of critical branch emergency system
- Life safety emergency system at capacity
- Emergency power from Yawkey building no spare capacity available.
- Branch circuit distribution insufficient for clinical use.
- Limited capacity HW and CHW risers added in 2013
- 4-pipe FCUs serving floors 7-9
- Lack of AHUs for ventilation. Operable windows currently utilized.
- Lack of shaft space for new risers and system upgrades
- Lack of ATC control on floors ground thru 6.
- Ground floor AHUs 1A and 1B beyond their useful life and should be replaced.

Structural

Poor condition

- Low floor-to-floor
- Tight column grid spacing
- Irregular column spacing



PHYSICAL CONDITION DETAIL — DOWLING BUILDING

Infrastructure Analysis	Category	Data	Comments
History and Site Context			
Age (years)		1937 (79)	
GSF		157,376 GSF	
Bldg. Construction	Type		Steel Frame with Brick Cladding
No. of Stories		10	High Rise
Historical Designation		No	
Structure/Expandability			
Structural System		Steel Frame	Steel Columns & Beams; Concrete Joists
Vertical Expansion Capacity		No	
Bay Spacing	East/West	18'	Columns at central cooridoor, 1 bay on each side
	North/South	16'	
Floor Plate Average			
	Level 8,9	9,000 sf	small floor plate
	Level 6,7	10,000 sf	small floor plate
	Level 1,2,3,4,5	15,000 sf	small floor plate
	Level G,B	30,000 sf	
	Limiting Dimension	40' to 48' wide	narrow floor plates
Floor to Floor Heights			
	Ninth	12'-0"	Appears to have some interstitial spaces
	Eigth	10'-0"	Appears to have some interstitial spaces
	Seventh	13'-11.5"	
	Sixth	11'-8"	Low Floor to Floor
	Fifth	11'-8"	
	Fourth	11'-8"	
	Third	11'-8"	
	Second	11'-8"	
	First	11'-8"	
	Ground	12'-0"	
General Construction			
Building Skin Analysis	Punched Windows	3 to 4	Wndws have been replaced in past 5 years - Operable exterior windows
	Brick	3 to 4	Some exterior corners rebuilt
Roof Analysis	Type	EPDM with Ballast	Appears new
	Condition	4	
Finishes, Typical	Partitions	Plaster/GWB	
	Flooring	Carpet/VCT/Wood	Condition: 3
	Ceilings	GWB/Plaster/ACT	Condition: 3

PHYSICAL CONDITION DETAIL — DOWLING BUILDING

Infrastructure Analysis	Category	Data	Comments
	Doors	HM	
	Frames	HM	
Finish Condition	Public Areas	Fair	
	OP Clinical	Fair	
Vertical Transportation	Elevators		
	Quantity	3	
	Condition	2	Old relay control technology needs replacement
Pneumatic Tube		No	
ADA		Yes	Through Yawkey/Menino
Hazardous Materials		Asbestos, VAT	Verify
Life Safety			
Fire Walls/Shafts			
Sprinklers		Fully Sprinklered	
Smoke detection System		Yes	
Fire Alarm System		Yes	
CMS/JCAHO Analysis		N/A	
Building Egress		5 Egress Stairs	
Function & Space Utilization			
Parking Relationship		Fair	On Street or Albany Street Garage
Dept. Assessment			
	Level 9	Admin Offices	
	Level 8	Admin Offices	
	Level 7	Admin Offices	
	Level 6	Admin Offices	
	Level 5	Admin Offices	
	Level 4	Admin Offices	
	Level 3	Admin Offices	
	Level 2	Admin Offices	
	Level 1	Auditorium	
	Ground	Office	
Present Use		Office/Admin	
Proposed Use		Inpatient Facility	Previously Approved by SEHLC

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING GRADING FORM - DOWLING BUILDING

Category	Data	Condition	Comment
GENERAL			
Age (years)	1937 (79)	1	
Typical Bay Dimen.	16' x 18'	1	Does not meet min. requirements for Inpatient Use
Ave. Typical Floor Area	10,000 sf	1	Does not meet min. requirements for Inpatient Use
Typ. Floor Plate Width	40' to 48'	1	Does not meet min. requirements for Inpatient Use
Avg. Fl. To Fl. Height	11'-8"	1	Does not meet min. requirements for Inpatient Use
Total Area (GSF)	157,376 GSF		
Bldg. Type by Code	?		
Occupancy	B		
Historical Designation	No		
No. of Stories	10		
PHYSICAL			
Roof		4	
Exterior Skin		3	
Life Safety		2	At Capacity
Finishes		3	
PTS	No		
Hazardous Mat'l		2	Some asbestos/VAT-Verify
ADA		3	
Vertical Transporation		2	
Overall Deficiency Rank		2	
FUNCTIONAL			
Present Use	Office	2	Some Ambulatory Care
Potential Use	Inpatient	1	
SITE			
Arrival Experience		1	Through Yawkey or Manino
Visibility		5	
Identity/Image		2	
Future Expansion Potential		1	
Parking		2	Albany Street Garage
Landscaping		1	Minimal on Albany Street

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING INFRASTRUCTURE GRADING - DOWLING BUILDING

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	mixed	1	none	needs new AHU's
Air Distribution Systems	minimal	1	none	needs new destitution
Cooling Systems	2013	2	minimal	Risers upsized to support office space in 2013.
Heating Systems	2013	2	minimal	Risers upsized to support office space in 2013.
Boiler Plant	CUP	CUP	CUP	from Central Utility Plant
Chillers	CUP	CUP	CUP	from Central Utility Plant
Pumping System	CUP	CUP	CUP	from Central Utility Plant
Cooling Towers	CUP	CUP	CUP	from Central Utility Plant
Piping Distribution	2013	3	none	Risers upsized to support office space in 2013.
Exhaust Systems	minimal	2		needs new vetilation sysrem
Automatic Temperature Controls	2013	2	none	No ATC's for levels G thru 6
Fuel Oil Tanks	n/a	n/a	n/a	
ELECTRICAL				
Normal System	Mixed	2	no	Equipment needs upgrade to accommodate new mechanical systems, no critical branch distribution.
Transformers	2010	2	no	Service sized for current use, will need upgrade for Clinical / Inpatient use
13.8kv feeders	1970	3	minimal	15 kV feeders to Yawkey substation from CUP.
Highrise Substations	2000	1	no	Substation damaged by fire, supplied by Yawkey building via a reduced feeder.
Secondary distribution	mixed	2	minimal	Equipment needs upgrade to accommodate new mechanical equipment or clinical occupancy.
Generators	2013	2	minimal	Emergency system from Yawkey building sized for existing loads. New Genorator needed for Clinical / Inpatient use
Emergency Distribution	2005	3	minimal	Life safety seperated, no critical branch power distribution existing.
Automatic transfer switches	2013	2	minimal	More capactity needed for Clinical / Inpatient use
PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	N/A	N/A	N/A
Domestic Water Systems	2013	4	has spare capacity	Domstic HW heat exchanger replaced in 2013.
Sanitary Drainage	1970s	2	minimal	approaching the end of its useful life.
Special Drainage	N/A	N/A	N/A	
Natural Gas System	N/A	N/A	N/A	
Purified Water System	N/A	N/A	N/A	
Fire Protection/Sprinkler	2013	5		Added to Yawkey fire pump in 2013.
Plumbing fixtures		3	N/A	

OVERALL CONDITION		2

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable
CUP	Central Utility Plant

Attachment 9.2

STANDARDS AND CRITERIA
SOUTH END HARRISON/ALBANY PROTECTION AREA
Revised July 2013

General Standards

As provided in Section 4, St. 1975, C.772, as amended, the only items subject to design review in the Protection Area Are:

Demolition;
Land Coverage:
Height of Structures:
Landscape; and
Topography.

The goals of the Protection Area are to protect views of the proposed adjacent Landmark District, to ensure that new development of major alterations adjacent to the District is architecturally compatible in massing, setback and height and to protect light and air circulation within the District.

Specific Standards and Criteria

1. Demolition: In general, demolition of structures in the Protection Area may be allowed subject to prior approval by the Commission.

2. Land Coverage: Setbacks may not exceed ten (10) feet from the back of the sidewalk line unless otherwise approved by the Commission except that a setback of greater than ten (10) feet may be allowed of the setback is consistent with adjacent setbacks or if the site is adequately landscaped.

3. Height of Structures: Please see maps for Protection Area Sub-districts: http://www.cityofboston.gov/images_documents/Article%2064%20Maps_tcm3-39595.pdf.
For additional information on allowable heights, please see Article 64, South End Neighborhood District: http://www.bostonredevelopmentauthority.org/pdf/ZoningCode/Article64.pdf.

4. Topography No major changes in topography are allowed within the Protection Area,

5. Landscape In general, landscape changes within the Protection Area must not obstruct views of the elements of the adjacent Landmark District from any public ways in the Protection Area.

If surface parking adjacent to streets is proposed, then a visual barrier of landscaping is encouraged.

SIGNIFICANCE

In this portion of the study the historical significance of the complex is evaluated in terms of its medical, social, and architecural history, and with regard to its urban design.

Introduction

Evaluation has been undertaken by examining four areas of potential significance: medical history, social history, architecture and urban design. Additionally, the integrity of the complex has been evaluated by comparing it to other Boston hospitals. This process has led to the conclusion that the 19th century is the major period of significance for the hospital. Thus the following text concentrates on events of the 19th century.

Extant 20th century buildings at Boston City Hospital do not contribute to its historical/architectural significance. In fact, many have played a detrimental role by adversely impacting the 19th century structures (B,C,D and F,G,H and Sears) through inappropriate scale and massing. Specifically these buildings include:

- Administration
- House Officer's Building
- Kitchen/Cafeteria
- Medical
- Maternity (OB/GYN)
- Peabody
- Pediatric
- Surgical
- Thorndike
- X-ray Annex
- Warehouse

The remaining 19th century buildings may be significant, and may merit Boston Landmark or National Register designation. This issue is addressed in the following chapters.

SIGNIFICANCE

Medical History: The Nineteenth Century Context

The 19th century was characterized by important discoveries that led to great advances in the diagnosis and treatment of diseases, and in the development of advanced surgical techniques. While some of these discoveries, such as the development of the stethoscope to detect chest disorders, occurred in the early part of the century, the major advances occurred at mid-century and after. In the 1840's, German physicians made discoveries that led to general abandonment of the traditional humoral theory which postulated that disease was seated in the bodily fluids, and depended upon such practices as bleeding to effect cures. Their work culminated in pathologist Rudolph Virchow's (1821-1902) doctrine that the cell is the seat of disease, a theory which remains a cornerstone of modern medicine. Frenchman Louis Pasteur (1822-95) and German Robert Koch (1843-1910), working separately, are generally given equal credit for developing the ensuing "germ theory" of disease. Called by some the greatest single advance in medical history, this theory recognized that disease did not develop spontaneously, but was carried by air-borne micro-organisms. It led, within a few decades, to discovery of the causes of contagious diseases such as leprosy, plague, diptheria and tuberculosis.

Another major advance of the period was the introduction of general anesthetics such as ether (1842), nitrous oxide (1844) and chloroform (1847), and of cocaine as a local anesthetic (1800). Anesthesia removed a major barrier to surgery, but the problems of infection leading to complications such as gangrene and septicemia remained until British surgeon Joseph Lister (1827-1912) applied the germ theory to surgery and formulated new theories regarding sepsis (a bacterial invasion of the body) and antisepsis (destruction of sepsis producing organisms). His demonstration of the effectiveness of carbolic acid as an antiseptic agent to prevent infections in wounds in 1868 removed another major obstacle to surgical progress, leading to a great increase in numbers of operations performed.

Later turn-of-the-century events leading to major medical breakthroughs included Wilhelm Konrad Roentgen's accidental discovery of the X-ray in 1895, and the recognition that immunization could control pathogenic diseases such as diptheria, tetanus and typhoid, in the first decade of the 20th century. Immunization eventually led to great changes in hospital design practice which had previously relied on isolated Pavilion wards to prevent the spread of infectious disease.

Initial Staff Organization and Members

From the beginning, BCH was closely associated with the area's established medical institutions--Massachusetts General Hospital (MGH) and Harvard Medical School (HMS)--and its practices reflected contemporary standards, but were generally not inovative themselves. When BCH opened on June 1, 1864, its staff consisted of a mix of experienced older advisors, and younger working residents, much as today's hospitals do. At the top was the Board of Consultation made up of six older doctors who acted as senior advisors. Most were associated with Massachusetts General Hospital, and many had been trained by Dr. John G. Warren, the surgeon who had performed the first ground breaking operation in the Ether Dome. They were Augustus Addison Gould (1805-66), President of the Massachusetts Medical Society and physician at MGH; Edward Reynolds (1793-1881), student of Warren, distinguished opthalmic surgeon and co-founder of the Eye and Ear Infirmary; Solomon David Townsend (1793-1869), senior surgeon at MGH and Warren's successor; Winslow Lewis (1799-1875), surgeon at MGH, student of Warren and City Physician in 1861; John Jeffries (1796-1876) co-founder of the Eye and Ear Infirmary; and Silas Durkee (1799-1878), a specialist in veneral diseases.

Serving beneath these men were six Visiting Surgeons. These somewhat younger men provided direct supervision to the hospital residents both on the ward and in the operating theater. All twelve were graduates of the

Harvard Medical School. The Visiting Physicians included John Phillips Reynolds (1825-1909), son of Edward Reynolds and specialist in obstetrics; John George Blake (1837-1918), a specialist in obstetrics, founder of the hospital's gynecological service in 1892 and unrivalled clinical teacher, Fitch Edward Oliver (1819-1892), editor of the Boston Medical and Surgical Journal; William Wallace Morland (1818-1876), secretary of the Massachsuetts Medical Society and later medical director of the New England Mutual Lfe Insurance Company; John Nelson Borland (1828-1890), a general practitioner in the City; and Jabez Baxter Upham (1820-1902), another general practitioner.

The Visiting Surgeons included David W. Cheever (1831-1915), a surgeon and editor of Boston City Hospital Reports as well as the Boston Medical and Surgical Journal; Algernon Coolidge (1830-1912), a surgeon; Duncan McBeane Thaxter (1828-1873), a general practitioner from South Boston; Charles Dudley Homans (1826-1886), a surgeon and president of the Massachusetts Medical Society in 1881-86; Charles Edward Buckingham (1821-1877), a specialist in obstetrics and gynecology, founder of the Boylston Medical School of 1847, and former practitioner at the Cholera Hospital of 1849; and Charles Harrison Stedman (1805-1866) a specialist in pathology and former superintendant of the U.S. Marine Hospital and of the Boston Lunatic Hospital. Henry Willard Williams (1821-1895), considered one of the leading opthamologists in the United States and co-founder of the American Opthalmological Society (1864) as well as the Boston Eye and Ear Infirmary, was also a visiting surgeon and was largely responsible for the hospital's early interest in treatment of diseases of the eye.

The doctors most directly responsible for patient care were the Resident Staff or House Officers. It had initially been planned that these men be graduated physicians, but due to the exigencies of the Civil War, second and third year medical students at the Harvard Medical School were selected instead. Michael Freebern Gavin (1844-1915) and David Francis Lincoln (1841-1916) were chosen to be resident graduate surgeons; John Dole (1838-1873) and Clarence John Blake (1843-1919)were chosen as resident graduate physicians; and Edward Greeley Loring (1837-1888) was

the resident graduate in opthamology. Loring and Blake went on to achieve national reputations in opthamology and otology, respectively.

These original staff members and their 19th century successors are described by hospital historian Dr. John T. Byrne as good and dedicated doctors whose hospital rounds and private practices "tended to leave little time for original investigation or independent clinical discoveries." However, he went on to praise their knowledge of current medical practice, gained through medical school training, European study and reading of current journals. He said, "They quickly recognized the value of the clinical thermometer in 1869, first found a useful sedative the same year in chloral, witnessed the beginning of bacteriology with Koch, antisepsis with Lister, appendicitis with Fitz (1886), antitoxin for diptheria (1890), roentgenology in 1895 and the recording of blood pressure in 1903....Although no outstanding advances could be credited to these sound practitioners, one feels that they kept pace with the times, adopting promptly the discoveries of others and were recognized as leaders of American medicine, so much so that the Association of American Physicians could be formed (in 1885 with BCH staff) as primary organizers." He also cited the effect of Lister's discoveries on surgical practice at Boston City Hospital; sepsis was controlled, greatly increasing the number of operations performed and eventually lead to the construction of the Surgical Building with its larger and more conveniently located operating theater in 1875-77. Toward the end of the century in 1896, the X-ray Department was established just one year after Roentgen's discovery.

Development of Special Departments

When BCH opened in 1864, it consisted of one Pavilion Ward to treat medical cases and one to treat surgical cases, with an Administration Building housing opthalmic patients and a surgical amphitheater. Outpatients were handled in the tiny Porter's Lodge. Within a year, the Foul Ward had been added to contain contagious diseases such as small pox and a small autopsy room was provided for clinical research. All of

the buildings were isolated and freestanding in accordance with current medical practice to halt the spread of the disease. Medical students were welcome from the beginning and a special course of lectures was provided.

During its first decade, the hospital expanded markedly in numbers of patients and in the structure required to treat them. Pathology was established as the first new department with construction of the autopsy room in 1865. It did not come into its own however until the end of the century. The second separation into specialties occurred in the out-patient department in 1868 when a Dermatology Division was established by Howard Franklin Damon (1833-1884). The year after he joined the BCH staff in 1868, he published a major work on dermatology called Atlas of Skin Disease." The second specialty was established in 1869, also in the outpatient department. John Orne Green (1841-1922) an aural surgeon at the Eye and Ear Infirmary and at MGH, was chosen to develop this discipline. The division for diseases of women, also in the outpatient department, was established in 1874 with William Elbridge Boardman (1844-1921) in charge. Boardman had spent the two previous years in Europe studying gynecology and was considered one of the most learned men in Boston on the subject; in 1876 he became a co-founder of the American Gynecological Service. Gynecology did not become firmly established at the hospital however until the 1890's under the leadership of John George Blake, one of the original visiting physicians. The Division of Neurology was established in the outpatient department, headed by Samuel Gilbert Webber (1838-1926) who had initiated a similar department at the Boston Dispensary in 1868. Webber was initially referred to as the "electrician" as was his counterpart at MGH. Later in 1876 the last outpatient Department Division was established. This was the division for diseases of the throat headed by Ernest Watson Cushing (1847-1916) who had recently returned from study of that subject in Vienna. Surgical procedures for throat diseases were developed under the second division head, Thomas Amony DeBlois (1848-1921) who made laryngology one of the strongest departments in the hospital by century's end.

Boston City Hospital continued to expand during the first half of the 20th century to a peak of about 2000 beds in the 1950's. Much of this growth was due to the efforts of Mayor Curley who took a special interest in the hospital during his several terms in office, committing both City and WPA funds to its expansion. The present Pediatric Building of 1930-33 was originally known as the Mary E. Curley Pavilion in honor of his wife. While the hospital was expanding

hysically during the depression years, it was also developing world famous departments of medicine, surgery, infectious disease and pathology.

Federal health insurance legislation passed in the 1960's, combined with new City administrations less interested in maintaining a hospital for the poor, led to a gradual reduction in beds to today's level of about 450 beds. The hospital's diminished role can also be seen in a larger context of general public withdrawl from health care systems established in the 19th and 20th centuries. Other comparable examples ate the State Hospitals established to treat mental illness and the County Hospitals established primarily to treat tuberculosis.

Finally, in 1974, the hospital's teaching service, which initially had faculty and house staff from Harvard University, and more recently from Tufts and Boston University, was considered under the aegis of Boston University.

SIGNIFICANCE

Social History: The Nineteenth Century Context

Concern for the disadvantaged, including the poor, the sick and the mentally disturbed, has been recognized as a responsibility of the public sector in Massachusetts since its early 17th century settlement period. The Colonial period response to the needs of the disadvantaged citizens was profoundly different from the Post-Industrial response however. Until the time of the Revolution, there was little attempt to differentiate between various types of misfortune, and all were encompassed under the general heading of poverty; misfortune was accepted as part of the natural order, and there was little attempt to eradicate its causes; specialized institutions were not considered, but rather, the problem was dealt with on a personal and local community level. Social historians such as David J. Rothman have identified many causes for the shift in attitude during the early years of the new Republic. These included a sharp jump in the rate of immigration, great improvements in transportation networks and rapid industrialization, coupled with the rise of Enlightenment philosophy which emphasized the power of human reason and the basic improvability of mankind. All of these physical and philosophical changes tended to disrupt the homogeneity, parochialism, and religious determinism of the established social order which provided for local support of the poor, supplemented by limited state remuneration for those without legal residence in any town or city.

Massachusetts was on the forefront of the 19th century movement to establish public and private institutions to care for and improve the condition of various classes of dependent citizens. As early as the mid 18th century, the state established a pauper hospital/almshouse at Rainsford Island that was subsequently taken over by the City. This was followed by the City's establishment of a pauper hospital on Deer Island in the early 19th century. In addition, several private or quasi-private institutions were being established, such as the Boston Female Asylum for Orphans (1800), The Boston Dispensary (1801), Massachusetts General Hospital (1811) and The McLean Asylum (1818). A major state study on the subject of pauperism in the 1820's led to the opening of the first state insane asylum at Worcester in 1832 and to the construction of three state almshouses at Bridgewater, Tewksbury and Monson in 1851. No statewide provision was made for those in need of medical or surgical attention however.

The Origins of Boston City Hospital

Discussions concerning the need for a City Hospital in Boston began as early as 1849, and, in the opinion of hospital historian Dr. John J. Byrne, they sprang from three sources. One was the successful example set by a temporary hospital established by the city in 1849 to combat a severe cholera epidemic. Located in a large existing building on Fort Hill, the hospital was in operation from June 29 - November 15; it treated 262 patients, 166 of whom died. The second impetus was a long-standing sense of concern and pity for the City's sick poor whose numbers were rapidly increasing due to immigration. Finally, Byrne cites a sense of pride in the progress of both public and private entities in establishing innovative charitable institutions for the care of dependent citizens.

The establishment of a city hospital was given a major boost in 1851 when Elisha Goodnow bequeathed $26,000 to the City for the purpose of constructing a hospital for the poor in either South Boston or the new South End (during the 19th century, charitable institutions have generally migrated from South Boston to the South End to the Fenway or outlying towns as each became more densely developed.) Nevertheless, it was not until March 22, 1858 that the City authorized the establishment of a City Hospital through Chapter 113 of the Acts of 1858 which stated:

"Section 1. The City of Boston is hereby authorized to erect, establish and maintain a Hospital for the reception of persons who by misfortune or poverty may require relief during temporary sickness.

Section 2. The City Council of said city shall have power to make such ordinances, rules and regulations as they may deem expedient for the appointment of trustees and all other necessary officers, agents and servants, for managing the said Hospital.

Section 3. Said Hospital shall not be erected or located within three hundred feet of any schoolhouse or church now built. (The impetus for this clause came from previous citizen objections to locating the Lying-in Hospital of 1832 in the residential South End.)

Section 4. This act shall take effect from and after its passage."

During 1860-61, a Joint Standing Committee on the Free City Hospital was established to define the purpose of the institution, to select a site and to develop architectural plans.

The Social Purpose of Boston City Hospital

The social purpose of Boston City Hospital was defined in several major papers published in 1860-61. One was the report of the Standing Committee itself, presented to the City Council on June 6, 1861. The others were authored by physicians who were consulted by the Committee and included: "Outlines of a Plan for a Free City Hospital" (1860) by Dr. Henry G. Clark, City Physician and surgeon at Massachusetts General Hospital; and "City Hospitals" (1861) by Dr. John Green, Fellow of the Massachusetts Medical Society. After examination of Boston's existing hospitals--Massachusetts General Hospital, Rainford Island Hospital and Deer Island Hospital--all concluded that there was still a large population within the City whose medical needs were not being met. This is despite Mass General's attempts to convince Committee members that it was meeting the City's medical needs, and through expansion, would continue to do so. However, Committee members found that Massachusetts General Hospital made it a rule to admit neither cases of contagious or epidemic disease nor chronic or incurable cases, and was too overcrowded in any event to serve the needs of the entire City. The hospitals at Rainsford and Deer Island, known as the Quarantine and Marine Hospitals, accepted such cases but had come to serve the large numbers of European immigrants arriving at Boston Harbor almost exclusively. Furthermore, they were inaccessible in winter, for as the Joint Committee stated, "...humanity shudders at the removal, in winter, of unfortunate victims of disease clinging to existence by but a thread, across six miles of ice-filled or storm tossed waters...Physicians in charge of these hospitals speak feelingly of the numbers who are brought to them, for whom proper accommodations should be provided within the City limits."

Thus, the population for which a new hospital was most needed was defined by Dr. Clark as:

"1. Those sick of measles, variola, scarlatina and CONSUMPTION, and who are not paupers.

2. Lying-in cases in the same class, and for those poor persons also who are not able to reach any of the more distant public institutions.

3. The industrious poor, who support themselves while in health, when attacked by acute diseases, or who are affected with chronic diseases capable of relief by temporary nursing and medical treatment; for all those, in short, who cannot be accommodated at the Massachusetts Hospital, and who when sick find their means diminished while their expenses are increased.

4. A variety of diseases which come under the notice of the police, such as convulsions, temporary delirium and various accidents.

5. The treatment of the sick, during any epedemic, such as cholera, when immediate attention and ample accommodations are indispensible, not only for the sick but for the comfort and security of the whole community."

In less specific terms, the Joint Committee members described the hospital's potential population as , "Numbers of the poor in miserable dwellings, domestics in out-of-the-way attics, strangers at hotels, (who) are suffering from the want of proper care, who should find, within the walls of some hospital adapted to their condition and wants, comfortable and well-ventilated apartments for their restoration." They also cited the temporary needs of soldiers injured in the Civil War then beginning.

SIGNIFICANCE

ARCHITECTURE

Introduction

This section examines the potential architectural significance of the hospital. It concentrates primarily on the original design by prominent Boston architect, Gridley J.F. Bryant. The remaining components of his design--B,C,D, the Surgical Pavilion Ward, F,G,H, the Medical Pavilion Ward--along with Sears, the old Surgical Building, are the extant buildings evaluated as architecturally significant.

SIGNIFICANCE

Selection of the Architect

The Joint Standing Committee on the Free City Hospital was appointed to determine the need for a city hospital, to locate an appropriate site, to select an architect, and to finalize plans. Their report, which includes Gridley Bryant's expanation of his design, was presented to the City Council on June 6, 1861, and remains the best source on these issues.

The report states that the Committee advertised for the plans in February, 1861, offering a first place prize of $300. Fourteen designs were submitted "of various degrees of merit, essentially differing in arrangement, and embracing a wide scope for selection." The architects cited as submitting designs were Gridley J. F. Bryant (1816-1899) of Boston; a Mr. Ropes who was probably George Ropes, a Boston native who moved to the mid-west in 1875; Elbridge Boyden (1819-1896) of Worcester; a Mr. Rand, possibly James H. Rand, architect of the 1856 Lowell Jail; a Mr. Fehmer, probably Carl Fehmer (b. 1835), a Boston native educated in Germany; a Mr. Richards, possibly James Richards (died c. 1902) who had restored the Vermont State Capitol in 1859; and the firm of Woodcock and Meecham. The Committee lavishly praised the "thought, intelligence, and professional skill" exhibited by all of the designs, and confessed their difficulty in making a choice.

Seemingly unable to completely make up their minds, the committee finally decided to split the prize and awarded first place with $200 to Bryant, and second place with $100 to Ropes. A special honorarium of $50 was awarded to Boyden. As explanation of their choice, the committee stated: "The plan of Bryant seemed not only best adapted for a general hospital and the treatment of every variety of disease, from the isolation of its several pavilions, but to combine an imposing appearance with great economy in construction. It has the especial recommendation of being susceptible of gradual and indefinite extension, admitting of a commencement involving little outlay, yet complete as far as it goes." Expandibility and economy seem to have been major factors in Bryant's selection, as the onset of the Civil War meant that fewer city funds would be available.

Rope's plan is mentioned only briefly with its internal arrangement cited as its chief merit. Boyden's plan is described in more detail, possibly because he collaborated with Dr. John Green of the Massachusetts Medical Society and author of "City Hospitals" (1861) which examined European models, described ideal qualities that city hospitals should possess, and used Boyden's plans as illustration.

The Committee seemed much taken by the beauty of Boyden's elevation drawing, but felt that the estimated cost was far beyond their reach. Boyden's French Renaissance style design featured a large main building constructed on the Kirkbride plan popular for insane asylums, with eight pavilion wards symmetrically arranged around a rear courtyard.

The ultimate selection of Gridley James Fox Bryant as architect for the Boston City Hospital is not surprising since he was already well known for his commercial and civic commissions. Born on August 29, 1816, Bryant was the son of an engineer and builder noted for his design of the Granite Railway in Quincy. Bryant seems to have been influenced by his father's vocation, for he decided to become an architect at an early age, and is especially noted for his works in the "Granite Style." He trained with Alexander Parris, one of Boston's most respected early 19th century architects, and maintained his own practice in Boston from 183[illegible] until 1894, five years before he died at his retirement home in Scituate. During his career, Bryant at times collaborated with Arthur Gilman (1821-1882), and from 1868-1875 he was associated with L.P. Rogers. When Bryant was awarded the Hospital Commission in 1861, he was already well-established as one of the most important architects of his time, both in Boston and in many other parts of the country. The previous year he had been selected, with Arthur Gilman, to design the Boston City Hall, and earlier he had received national recognition for his design of the Suffolk County (Charles Street) Jail (1848-51). Bryant was also acclaimed for his many downtown commercial structures, 152 of which were sadly lost in the Great Fire of 1872. Survivors, however, include two prototypical examples of the granite style - the Mercantile Wharf of 1857 and the State Street Block of 1858. His medical and surgical pavilions at Boston City Hospital remain as excellent examples of his work executed in brick. Other extant brick buildings designed by Bryant include Ballou Hall at Tufts University (1853), Hawthorne Hall at Bates College (1856) and Gloucester City Hall (1870).

Bryant's Design and Client Modifications

Bryant's competition design consisted of a central administration building flanked by two pavilion wards on each side, with two slightly smaller wards behind, all connected by curving, open colonnades. The two-story administration building was square in plan with a projecting, quatrastyle portico, and a large crowning dome with raised ribs and pendentives. The two story pavilion wards were hip-roofed structures with projecting end pieces whose corners were defined by quoins.

To secure the most favorable exposure to sunlight, Bryant oriented his design toward East Springfield Street, and extended the pavilion wards out laterally toward Harrison and Albany Streets. In his explanatory letter to the Joint Committee, dated April 12, 1861, Bryant stated that his design was based on the pavilion plan "now universally conceded to be the true basis of a successful arrangement of any large or general hospital." He described his design as a "central building with a portico surmounted by a bold and picturesque dome, and connected laterally by means of open colonnades, with advanced pavilions of a corresponding style of architecture, presents in its own absolute requisitions the groundwork for artistic effect of the highest order...the particular style chosen is the modern style of Renaissance architecture, a style which, from its own inherent beauties, not less than from its almost universal susceptibility of adaptation to structures of a dignified and monumental character, stands at the head of all the forms of modern secular architecture in the chief capitals of the world."

Bryant also enumerated fourteen points explaining why his design "provides the conditions essential to secure the health of a hospital." These included its east-west exposure to take advantage of sunlight and air, the complete separation of the administration building and its encircling pavilion wards to prevent spread of disease, the fire-proof nature of its construction, the ingenuity of its ventilating system, and its flexibility "making extensions and additions to the capacity of the hospital easy and practicable, without marring the general plan or increasing the cost or size of the central building." On June 13, 1861, the City Council voted to appropraite $100,000.00 "for the erection of a City Hospital on Harrison Avenue...in general accordance with the plans of G.J.F. Bryant...."

Before ground was broken on September 9, Bryant's proposed design was modified in plan and elevation to reflect the comments and concerns of the Standing Committee and their consulting physicians. First, the administration building was turned to face Harrison Avenue and the curvature of the colonnades connecting it to the paired pavilion wards on Harrison Avenue and Albany Street was reversed. These four pavilion wards remained essentially in their original positions while the two smaller wards facing East Concord Street were deleted. Additionally, a boiler house/laundry building was inserted between the Albany Street pavilion wards. This plan, without accompanying elevation drawing, was published with the "Procedings at the Dedication of the City Hospital" on May 24, 1864. From the actual

buildings however, we know that the administration building received a slightly different and more lofty dome, that the pavilion wards were enclosed by mansard rather than low-hip roofs. The change in orientation to Harrison Street reflected the many concerns about the hospital's proximity to the Roxbury Canal, concerns the city had earlier attempted to allay by extending the site up to Harrison Avenue. Orientation toward Harrison Avenue also made the hospital face the residential South End where its landscaped forecourt complemented the open space established previously by Worcester Square. The changes in the administration building probably reflected an attempt to economize on a non-patient oriented building, for even though Bryant had specifically tried to keep the central building as small and simple as possible, Henry G. Clark, one of the consulting physicians, had commented, "The elegant French facade plan is too complicated, and sacrifices too much of the hospital apartments to the central and less essential parts." The pavilion wards were most likely built with mansard rather than hip roofs, to gain a fully usable attic story for patient accomodation

By the time the first annual report was published, the design had been modified once again. This time, the rear wards stretching out to Albany Street were turned 90 degrees so that their long sides paralleled the street, and they were connected the the boiler house/laundry room rather than the administration building. This change was probably made to allow better air circulation and to remove the pavilions as far as possible from the other buildings, for when the southerly pavilion was erected in 1865 it was called the "Foul Ward" and housed contagious cases. Although Bryant's plan was not built exactly as designed, the modifications do confirm his assertions about its flexibility.

Origins of Bryant's Design

Bryant's design reflected current thought about medical and psychiatric hospital planning. The most prevalent hospital model throughout most of the 19th century consisted of a central administrative core flanked by wings, either attached of detached, containing wardspace and sometimes rooms for nurses and attendants. The most obvious antecedent for Boston City Hospital was its immediate predecessor, Massachusetts General Hospital, designed by Charles Bulfinch in 1811. This imposing granite structure consisted of a four story domed central section with pedimented portico flanked by lower, attached, three story wings. An even closer parallel is to found in the original McLean Asylum, opened in Somerville in 1816, and also designed by Charles Bulfinch. As was the case

with many other early medical institutions, McLean initially reused an existing house - here the brick Federal style Joseph Barrell House, designed by Bulfinch in 1792 with a monumental Neo-classical pedimented portico. To adopt the house to hospital purposes, Bulfinch added two flanking but free standing wings attached to the old mansion house by covered walkways. The wings were built on a T-plan with shallow domes surmounting the cross and with the stems extended forward to form a forecourt as at Boston City Hospital. A third antecedent, probably known to Bryant, is the Taunton State Hospital designed by his fellow BCH competitor, Elbridge Boyden. It followed the recently popularized (for insane asylums) Kirkbride plan of a central administrative core flanked by stepped back patient wings. Importantly for Boston City Hospital it introduced Renaissance Revival style detailing to the central building in the form of Corinthian pilasters and a lofty crowning dome. Also of interest is the fact that at Taunton, the outermost wings are set perpendicular to the rest of the building and are connected only by curved glazed walkways at the second story. The ultimate sources of the pavilion hospital with landscaped forecourt(s) were discussed by Dr. John Green in his 1861 tract "City Hospitals." The European models cited there were La Salpetriere and La Riboisiere in Paris, and Allgenmeine Krankenhaus in Vienna.

Subsequent Growth of Boston City Hospital

Within its first decade, Boston City Hospital had become overcrowded in both its patient and staff accomodations, and in its medical and surgical facilities. Thus, after several years of increased patient rejections, the City Council was convinced to appropriate $190,000 for enlargement. When construction commenced in 1875 however, Bryant's scheme was abandoned in favor of one that reinforced the hospital's division into medical and surgical sides by aligning the new buildings directly behind the existing medical (F,G,H) and surgical (B,C,D) pavilions. Credit for the revised layout is given to George W. Pope, master builder and current President of the Trustees, in consultation with Dr. Edward Cowles, the hospital superintendent.

The changes appear to reflect two important factors. One was Joseph Lister's 1867 discovery of antiseptics which greatly increased the opportunities for surgery, and made the original operating theater in the administration building dome seem hopelessly cramped and out of the way. Thus, new surgical and medical buildings were erected behind the existing pavilions, directly centered on the old connecting colonnades. Importantly the new surgical building contained a

larger and more conveniently situated operating theater which remains today as the Cheever amphitheater. Although antiseptics had been discovered eight years previously, the importance of using non-porous materials inside medical facilities was apparently not understood. This is apparent in two areas. First, the Surgical Building had to be completely stripped and new interior surfaces (marble, glass, hard cement plaster) applied during its enlargement of 1894-98. Further, the Medical and Surgical wards of 1875, known as the 'Iron Clad' Wards, were specifically constructed as temporary, inexpensive buildings that could be demolished without regret when they became too permeated with germs.

The other factor leading to abandonment of Bryant's design may have been the desire to keep most patient facilities away from the Roxbury Canal, and to set aside that back Albany Street portion of the site for support buildings and contagious wards. Indeed, the 1875 expansion removed the kitchen, with its accompanying odors, from the basement of the Administration Building to a new structure, stretching out behind, toward the boiler house/laundry room.

Ensuing construction at BCH has tended to reinforce the pattern of bi-lateral symmetry with well-defined medical and surgical sides that was established in 1875-77. The result of wards placed around a rear courtyard reflects Boyden's competition design and remains readily apparent today despite extensive 20th century rebuilding with substantially taller buildings.

SIGNIFICANCE

Urban Design

Boston City Hospital is directly adjacent to the South End National Register District (1973) and the South End Landmark District (1983) and it is within the Landmark Protection Area (1983). The significance of the South End, as stated in the reports which led to its historic designations, lies in the cohesive quality of its 19th and early 20th century architecture which includes a mix of residential rowhouses, apartment hotels and institutional complexes. The reports also cite the plan of the South End, with its small, English style squares, as significant.

Worcester Square, opposite Boston City Hospital is noted as the most important of those small, self-contained parks. The National Register form calls Worcester Square the 'most cohesive and uniform' and goes on to cite the importance of its relationship to Boston City Hospital. The Landmarks Report says, 'Architecturally the most cohesive of the South End squares, Worcester Square is also significant in having had the first City Hospital buildings, designed by Gridley J. F. Bryant in 1861-64, laid out on the axis of the square. Prior to renovations, these buildings terminated the view to the east with a central dome.'

The Landmarks report goes on to further define the significance of the South End..."the South End is historically important as a large area of intact 19th century urban architecture and city planning, as well as the port of entry for many ethnic groups. The importance of building heights and vistas from within the Landmark area are essential to the character of the district..."

Boston City Hospital as originally constructed was a work of masterful urban design. The complex as originally designed, and throughout its growth in the nineteenth and early twentieth century was strongly integrated with the urban fabric of the South End by the form and location of its entry court.

This entrance, symmetrically framed by Wards B,C,D and F,G,H and anchored by the domed Administration Building, simultaneously served to extend the pattern of open space of the South End into the Hospital site, as well as act as a visual closure to Worcester Square.

The curved connecting colonnades of the original design formed the public space and linked the buildings while freely admitting light and air, and providing adequate physical separation of the Wards. The domed Administration building--although appropriately smaller than the Ward buildings--through its central position and architectural design served admirably to unite the complex.

As the complex developed and advancing medical technology allowed the construction of buildings closer together, the colonnades were infilled with new structures, which in turn reinforced the form of the entry court. These new buildings were the first elements of a pattern of growth which would serve to organize the hospital construction until 1940, two parallel rows of medical and surgical pavilion hospitals located symmetrically on either side of the central axis of the original complex.

Gridley Bryant pointed out in his presentation letter that in his design, "the very necessities of the plan are of themselves the source of some of the highest architectural beauty." This statement is equally true of the urban design.

Throughout the design process the building committee and the architect sought to provide state-of-the-art hospital buildings in an architecture which expressed the institution' larger social purpose and significance. The wrestled with competing demands of designing a building which is strongly related to the community and at the same time removed to insure against the spread of disease; of massing the building for good exposure to sun and light while maintaining a scale compatible with the continuous building massas of the South End; and of zoning the uses of the site so that the contagious and more obnoxious aspects of the complex could be screened from the public facade. The entry court, as ultimately designed by Bryant was a brilliant design solution which accomplished these goals by using the form of urban space as the point of relationship to the larger context.

As the accompanying block plans show, as the campus grew, the Hospital maintained a vital relationship to the surrounding city. When a new Administration Building was built on Harrison Avenue (see Block plan, 1938) the urban design was radically changed. While ~~the new building fronted the end of Worcester Square, the spatial interlock was lost.~~ While the new building--because of its intermediate size--may mitigate between the residential scale of the neighborhood and the highrise construction of the

1930's building program, it is much less effective than the original complex, which acheived a compatible scale through a language of continuous repetitive building fabric similar to the South End fabric. Finally, the new Administration building did not serve to unite the parts of the campus into a coherent whole, nor did it create an open realtionship between the campus and the community. Rather, it created an abrupt end to the rich pattern of open space which at one time had culminated in the dome of the original Administration Building.

The images of accessibility, of community purpose and civic pride very much in the minds of the original committee and architect were exemplified in an architecture of "defined and monumental character" in which all the parts are related to the whole. As the hospital grew, it was necessary to add to the existing facility in ways that would not interupt hospital operations. Accordingly, open space was filled in, and buildings were built taller. Once the original Administration Building was removed its central portion became available for support departments to serve the new row of hospital towers; accodingly the court was eventually infilled by the kitchen/cafeteria building. Similarly, a portion of Ward F,G,H was removed to make way for the medical highrise. As the space was infilled, the clarity of the campus as a strong spatial element in the urban fabric was lost.

The campus remained two rows of tall hospital buildings marching from Administration on Harrison Avenue to the warehouse on Albany Street until the 1970's. At that time Ambulatory Care Center and associated facilities on the South Block was constructed. This building program represented another design approach - this time of an architecture institutional in image through its neutrality and mass, and expressive of technical achievement in its ability to span Massachusetts Avenue to link the South Block to the main campus for the first time. Rather than relate to the intricate scale of the South End, the building provides a plaza on the corner of Harrison Avenue and Massachusetts Avenue to serve as an entrance to the building setback far from Harrison Avenue. This plaza is more in scale with automobile traffic and related to the space of the avenue itself and open sites south of the Hospital, than related to the urban structure established by the rhythm of street and square and the enclosing building masses of the South End.

Attachment 9.3

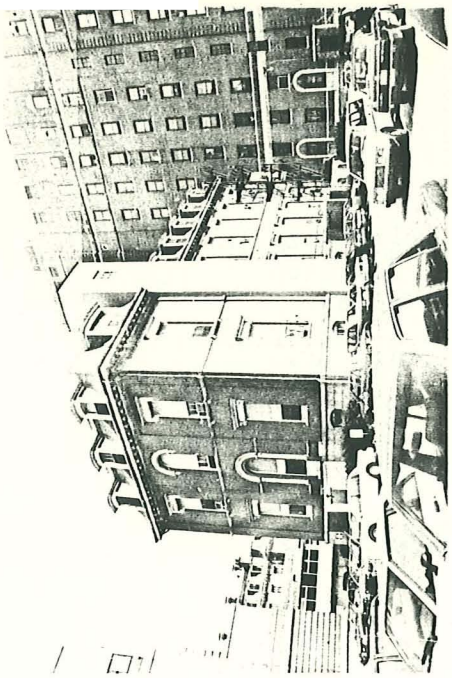
Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	BOS.1479
Historic Name:	Bryant, Gridley Pavilion - Boston City Hospital
Common Name:	
Address:	717 Harrison Ave E. Springfield & E. Concord St
City/Town:	Boston
Village/Neighborhood:	South End
Local No:	
Year Constructed:	
Architect(s):	Bryant, Gridley James Fox
Architectural Style(s):	Italianate
Use(s):	Hospital
Significance:	Architecture; Health Medicine
Area(s):	BOS.AB: South End District BOS.AD: South End Landmark District Protection Area
Designation(s):	Nat'l Register District (5/8/1973)
Building Materials(s):	Wall: Brick; Stone, Cut Foundation: Granite; Stone, Cut

Digital Photo Not Yet Available

Boston Landmarks Commission Building Information Form Form No. #1479 Area South End



ADDRESS 717 Harrison Ave. COR. E. Springfield & E. Conc

NAME Boston City Hospital - Gridley Bryant Pavillions
present original

MAP No. 21-11 SUB AREA

DATE 1861
source

ARCHITECT Gridley Bryant
source

BUILDER
source

OWNER City of Boston City of Boston
original present

PHOTOGRAPHS SE-2-D-22-88

TYPE (residential) single double row 2-fam. 3-deck ten apt.
(non-residential) hospital wards

NO. OF STORIES (1st to cornice) 2 plus basement & mansard

ROOF mansard cupola dormers

MATERIALS (Frame) clapboards shingles stucco asphalt asbestos alum/vinyl
(Other) brick stone concrete iron/steel/alum.

BRIEF DESCRIPTION Bryant's two extant Boston City Hospital Pavillions are two-story structures built on a base of granite which is formed into ballustrades. Windows are equally spaced and feature stone lintels. A string course divides first and second floors and the buildings are topped with Mansard roofs.

EXTERIOR ALTERATION minor moderate drastic

CONDITION good fair poor LOT AREA sq. feet

NOTEWORTHY SITE CHARACTERISTICS

SIGNIFICANCE (cont'd on reverse)

The Boston City Hospital's Bryant Pavillions are two French- and Italian-influenced brick structures, designed by one of this country's most well-known granite construction architects.

Historically, establishment of a free Boston City Hospital is significant as an integral part of Boston's medical past. Founded during the Civil War, the notion of providing a place for free medical treatment resulted from both a desire to serve the poor and to tend to those who did not meet the criteria for admission at Massachusetts General Hospital

A

Moved; date if known_____

Themes (check as many as applicable)

Aboriginal	____	Conservation	____	Recreation	____
Agricultural	____	Education	____	Religion	____
Architectural	X	Exploration/		Science/	
The Arts	____	settlement	____	invention	X
Commerce	____	Industry	____	Social/	
Communication	____	Military	____	humanitarian	X
Community/		Political	____	Transportation	____
development	X				

Significance (include explanation of themes checked above)

Preservation Consideration (accessibility, re-use possibilities, capacity for public use and enjoyment, protection, utilities, context)

Bibliography and/or references (such as local histories, deeds, assessor's records, early maps, etc.)

CENTRAL ARTERY/THIRD HARBOR TUNNEL PROJECT
Updated Survey of Historic Resources

717 Harrison Ave. South End

B.C.H. - Gridley Bryant Pavillions

LOCATION:

Map Number: 21-11

Subarea: South Bay/Fort Point Channel Area

Corridor: primary

NATIONAL REGISTER STATUS

INDIVIDUAL STATUS:		DISTRICT STATUS:	
____	Individual NR-Listed	____	In NR District
____	Individual DOE	____	In DOE District
X	Individual NR-Eligible	____	In NR-Eligible District
____	determined by MHC 4/18/90		

Name of District: None

BOSTON LANDMARKS COMMISSION STATUS:

Landmark Status: Petitioned/Pending

Survey Category: n/a

BLC District: South End Landmark District Protection Area

Community: Boston - SouthEnd

MHC OPINION: ELIGIBILITY FOR NATIONAL REGISTER

Date Received: Date Due: 11.30.88 Date Reviewed: 11.30.88

Type: Individual District (Attach map indicating boundaries)

Name: Boston City Hospital Inventory Form: See BCH Draft EIR August, 1988 (AE)

Address: Harrison Ave., Boston

Requested by: BCH

Action: Honor ITC Grant (R & C) Other:

Agency: Staff in charge of Review: MAC

INDIVIDUAL PROPERTIES

X Eligible - 19th century bldgs. only.
__ Eligible, also in district
__ Eligible only in district
__ Ineligible
__ More information needed

DISTRICTS

__ Eligible
__ Ineligible
__ More information needed

CRITERIA: (A) B (C) D

LEVEL: (Local) State National

STATEMENT OF SIGNIFICANCE by Maureen Cavanaugh

See attached statement of significance prepared by Candace Jenkins.
MHC staff concur with the finding, as do BLC staff.
The complete report is contained in the Draft Environmental Impact Report of August, 1988

Attachment 9.3

Summary Statement

Boston City Hospital is comparable to these other Boston hospitals suggested for National Register and/or landmark listing in terms of architectural integrity and architectural/historical significance. It is particularly important because it retains elements of its original construction as the City's second permanent hospital. It is clear that the Ward Buildings -- in particular B,C,D -- are historically and architecturally significant remnants of early hospital design and the work of a significant Boston architect. However, while the surviving elements of the nineteenth century complex (Wards B,C,D, F,G,H and Sears) compare favorably with the surviving fabrics of other hospitals recommended for National Register designation, it is not clear that they will be designated.

The urban space formed by the original complex was perhaps its most significant feature and the separations between these minimally connected buildings, the key aspect of their design as a nineteenth century hospital complex. The integrity of this space is severely impaired by the absence of the original Administration Building, and its connecting colonnades, and mildly affected by the fragmentary condition of F,G,H. Taken together B,C,D and F,G,H help define the original forecourt. However the combination of the loss of the original domed Administration Building which linked them with the infilling of the original forecourt with the new Administration Building in 1930 has destroyed the integrity of the original space.

South End Citizens have nominated Gridley Bryant's Ward Buildings for designation as landmarks and their petition is presently before the Landmark Commission for review.

Attachment 9.3

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	BOS.1457
Historic Name:	Smith American Organ Company
Common Name:	
Address:	615 Albany St
City/Town:	Boston
Village/Neighborhood:	South End
Local No:	
Year Constructed:	r 1865
Architect(s):	
Architectural Style(s):	Second Empire
Use(s):	Factory Other; Laboratory - Research Facility
Significance:	Architecture; Industry
Area(s):	BOS.AD: South End Landmark District Protection Area BOS.AI: East Brookline Street Historic District
Designation(s):	
Building Materials(s):	Roof: Asphalt Shingle Wall: Brick; Stone, Cut

Attachment 9.3

BOS.1457

#1457

ADDRESS 615 Albany St. COR.

NAME Smith American Organ Company
original

MAP No. 21-12 SUB AREA

DATE 1860s Peter Stott
source

ARCHITECT
source

BUILDER
source

OWNER
original present

PHOTOGRAPHS SE-1-D-21-88

TYPE (residential) single double row 2-fam. 3-deck ten apt.
(non-residential) factory

NO. OF STORIES (1st to cornice) 4 plus 1

ROOF mansard cupola dormers

MATERIALS (Frame) clapboards shingles stucco asphalt asbestos alum/vinyl
(Other) brick stone concrete iron/steel/alum.

BRIEF DESCRIPTION 4½ story 1860s red brick industrial structure with mansard roof. Windows have segmental arches and stone sills. Main entrance is segmentally arched opening on Albany Street. Building has a finely detailed cornice.

EXTERIOR ALTERATION (minor) moderate drastic

CONDITION (good) fair poor LOT AREA sq. feet

NOTEWORTHY SITE CHARACTERISTICS

SIGNIFICANCE (cont'd on reverse)

The South End Industrial ~~District~~ area is a largely intact grouping of late 19th to early 20th century brick industrial buildings with related tenements and worker housing. Many of the industries, attracted here by proximity to rail and wharf facilities, were engaged in woodworking, stonecutting, shoe, piano and organ manufacturing and related industries. These buildings form a remarkably cohesive built environment, an industrial corollary to the adjacent South End residential district.

This building contributes to the streetscape of the South End Industrial District and shares historical and architectural characteristics with other industrial structures in this district.

A

Moved; date if known_____

Themes (check as many as applicable)

Aboriginal	____	Conservation	____	Recreation	____
Agricultural	____	Education	____	Religion	____
Architectural	____	Exploration/ settlement	____	Science/ invention	____
The Arts	____				
Commerce	X	Industry	X	Social/ humanitarian	____
Communication	____	Military	____		
Community/ development	X	Political	____	Transportation	____

Significance (include explanation of themes checked above)

"One indication of the size of the business conducted by the Smith American Organ Company is the existence of two separate substantial factories operated in tandem. Most of the other Boston organ and piano firms either contracted with outside firms for their cases or else constructed independent shops close to the source of raw material.

The Smith case factory was probably built in the 1860s on the South Bay waterfront to take advantage of the local lumber wharves and yards. Like the parent plant on Tremont Street before 1885, the four-story brick plant on Albany Street includes a fifth attic story beneath a mansard roof. Approximately 38X75 feet in plan, the building occupies only part of the block. An apparently contemporaneous section, 75X100 feet, occupied originally by the carpenters Cummings & Carlisle, was taken down in 1938. Today the case factory houses a research laboratory."[1]

Preservation Consideration (accessibility, re-use possibilities, capacity for public use and enjoyment, protection, utilities, context)

Contributing structure in the Potential East Brookline Street National Register District.

Bibliography and/or references (such as local histories, deeds, assessor's records, early maps, etc.)

[1] Stott, Peter, Industrial Archaeology of Boston Proper. Cambridge: M.I.T. Press, 1984.

Attachment 9.3

CENTRAL ARTERY/THIRD HARBOR TUNNEL PROJECT
Updated Survey of Historic Resources

615 Albany St. South End

Smith American Organ Company

LOCATION:

Map Number: 21-12

Subarea: South Bay/Fort Point Channel Area

Corridor: primary

NATIONAL REGISTER STATUS

INDIVIDUAL STATUS:		DISTRICT STATUS:	
____	Individual NR-Listed	____	In NR District
____	Individual DOE	____	In DOE District
____	Individual NR-Eligible	X	In NR-Eligible District

Name of District: East Brookline Street District
determined by MHC 4/13/90

BOSTON LANDMARKS COMMISSION STATUS:

Landmark Status: None

Survey Category: n/a

BLC District: South End Landmark District Protection Area

Attachment 9.3

Massachusetts Cultural Resource Information System

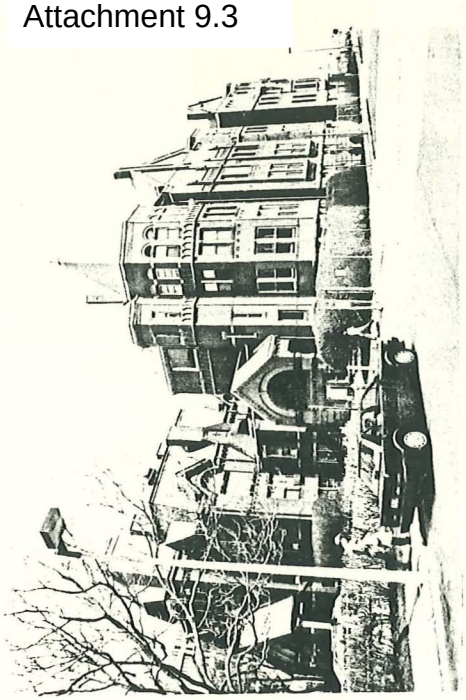
Scanned Record Cover Page

Inventory No:	BOS.1458
Historic Name:	Massachusetts Homeopathic Hospital
Common Name:	University Hospital
Address:	685 Albany St Albany and East Concord Sts
City/Town:	Boston
Village/Neighborhood:	South End
Local No:	
Year Constructed:	
Architect(s):	Allen and Kenway; Emerson, William Ralph
Architectural Style(s):	High Victorian Gothic
Use(s):	Hospital
Significance:	Architecture; Health Medicine
Area(s):	BOS.AD: South End Landmark District Protection Area
Designation(s):	
Building Materials(s):	Roof: Slate Wall: Brick

Digital Photo Not Yet Available

Attachment 9.3

BOS.1458



#1458

ADDRESS 685(?) Albany COR. E. Concord

P1 SOUTH END

NAME Mass. Homeopathic Hospital
present original

USGS BOSTON SECT B

MAP No. 21-11 SUB AREA

AREA AD

DATE 1876, 1884
source

ARCHITECT Allen & Kenway
William R. Emerson
source

BUILDER
source

OWNER Mass. Homeopathic Hospital/University Hospital
original present

PHOTOGRAPHS SE-2-C-18-88

TYPE (residential) single double row 2-fam. 3-deck ten apt.
(non-residential) hospital

NO. OF STORIES (1st to cornice) 2-4 plus ROOF

ROOF mansard, gable cupola dormers

MATERIALS (Frame) clapboards shingles stucco asphalt asbestos alum/vinyl
(Other) brick stone concrete iron/steel/alum.

BRIEF DESCRIPTION Complex of 2½ to 4½ story red brick, High Victorian Gothic buildings featuring numerous turrets, gables, chimneys, oriels, and bays.

EXTERIOR ALTERATION minor moderate drastic

CONDITION good fair poor LOT AREA sq. feet

NOTEWORTHY SITE CHARACTERISTICS

SIGNIFICANCE (cont'd on reverse) →

(Map)

A

Attachment 9.3

Moved; date if known_____

Themes (check as many as applicable)

Aboriginal	____	Conservation	____	Recreation	____
Agricultural	____	Education	____	Religion	____
Architectural	X	Exploration/ settlement	____	Science/ invention	X
The Arts	____	Industry	____	Social/ humanitarian	____
Commerce	____	Military	____	Transportation	____
Communication	____	Political	____		
Community/ development	____				

Significance (include explanation of themes checked above)

This complex of High Victorian Gothic structures, designed by William R. Emerson (Main Building, 1876) and the firm of Allen and Kenway (other structures, 1884) originally housed a homeopathic hospital renowned for its high cure rate. Homeopathic medicine, popular in the 19th century, involved the treatment of diseases by the administration of minute doses of a remedy which in healthy patients would produce symptoms of the disease treated. The complex is significant as a relatively intact and rare example of institutional architecturein the High Victorian Gothic style.

Preservation Consideration (accessibility, re-use possibilities, capacity for public use and enjoyment, protection, utilities, context)

Bibliography and/or references (such as local histories, deeds, assessor's records, early maps, etc.)

Attachment 9.3

CENTRAL ARTERY/THIRD HARBOR TUNNEL PROJECT
Updated Survey of Historic Resources

685 Albany St. South End

Mass. Homeopathic Hospital

LOCATION:

Map Number: 21-11

Subarea: South Bay/Fort Point Channel Area

Corridor: primary

NATIONAL REGISTER STATUS

INDIVIDUAL STATUS:		DISTRICT STATUS:	
____	Individual NR-Listed	____	In NR District
____	Individual DOE	____	In DOE District
X	Individual NR-Eligible	____	In NR-Eligible District
____	determined by MHC 4/18/90		

Name of District: None

BOSTON LANDMARKS COMMISSION STATUS:

Landmark Status: None

Survey Category: n/a

BLC District: South End Landmark District Protection Area

Attachment 9.4

The Secretary of the Interior's Standards for the Treatment of Historic Properties

The Secretary of the Interior's Standards for rehabilitation were developed to help protect the nation's irreplaceable cultural resources by promoting consistent preservation practices. The Standards are a series of concepts about maintaining, repairing and replacing historic materials, as well as designing new additions or making alterations; as such, they cannot, in and of themselves, be used to make essential decisions about which features of a historic property should be saved and which might be changed.

The *Standards for Rehabilitation* provides guidelines for rehabilitation and adaptive reuse of historic properties. The Standards were originally published in 1977 and revised in 1990 as part of Department of the Interior regulations (36 CFR Part 67, Historic Preservation Certifications). They pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and the interior of historic buildings. They also encompass related landscape features and the building's site and environment as well as attached, adjacent or related new construction. The Standards may be applied to all properties listed in the National Register of Historic Places: buildings, sites, structures, objects, and districts.

The four treatment approaches are Preservation, Rehabilitation, Restoration, and Reconstruction, outlined below in hierarchical order and explained:

The first treatment, **Preservation**, places a high premium on the retention of all historic fabric through conservation, maintenance and repair. It reflects a building's continuum over time, through successive occupancies, and the respectful changes and alterations that are made. **Rehabilitation**, the second treatment, emphasizes the retention and repair of historic materials, but more latitude is provided for replacement because it is assumed the property is more deteriorated prior to work. (Both Preservation and Rehabilitation standards focus attention on the preservation of those materials, features, finishes, spaces, and spatial relationships that, together, give a property its historic character.)
Restoration, the third treatment, focuses on the retention of materials from the most significant time in a property's history, while permitting the removal of materials from other periods. **Reconstruction**, the fourth treatment, establishes limited opportunities to re-create a non-surviving site, landscape, building, structure, or object in all new materials.

Definitions:

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location

See http://www2.cr.nps.gov/tps/standguide/index.htm for more information about the Standards

Secretary's Standards for Rehabilitation

The Standards apply to historic buildings of all periods, styles, types, materials, and sizes. They apply to both the exterior and the interior of historic buildings. The Standards also encompass related landscape features and the building's site and environment as well as attached, adjacent, or related new construction.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Guidelines for Rehabilitating Historic Buildings

The Guidelines assist in applying the Standards to rehabilitation projects in general; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. For example, they cannot tell a building owner which features of an historic building are important in defining the historic character and must be preserved or which features could be altered, if necessary, for the new use. Careful case-by-case decision-making is best accomplished by seeking assistance from qualified historic preservation professionals in the planning stage of the project. Such professionals include architects, architectural historians, historians, archeologists, and others who are skilled in the preservation, rehabilitation, and restoration of the historic properties. These Guidelines are also available in PDF format.

http://www.nps.gov/tps/standards/rehabilitation.htm

Attachment 9.6

BOSTON MEDICAL CENTER

EXCEPTIONAL CARE. WITHOUT EXCEPTION.

Boston Medical Center Campus Facilities Building Assessment

August 05, 2015

PREPARED BY:
Tsoi Kobus & Associates
Odeh Engineers
Engineered Solutions Inc.

INDEX

INTRODUCTION

In 2007 Tsoi Kobus & Associates and xx collaboratively prepared a campus building survey report for Boston Medical Center. In response for an Updated Preservation Plan requested by the South End Landmarks District Commission, the building survey report has been updated by TK&A, ESI, and Odeh Engineers. This new report reflects the most current BMC campus building conditions as observed in the spring of 2015.

Boston City Hospital/Boston Medical Center

Boston City Hospital (BCH) was built in 1861-64 after a decade-long campaign of planning.[1] Since 1849, when a cholera epidemic struck Boston, there were efforts aimed at establishing a free hospital, not for indigents but for those who were classified as "the worthy poor." [2] When the Boston City Hospital opened in 1864, it combined a sense of "civic responsibility" with a socially progressive and elegant architectural design. Gridley J. F. Bryant (1816-1899), one of Boston's most prominent architects won the competition to design BCH. Members of BCH's medical community were also influential in planning the new hospital. Together physicians and architect implemented a collaborative design that was "humanitarian in spirit" and modern in its approach to medical care.

The decision to locate BCH in the South End was the most economical solution for the City Council, who already owned the land, formerly the site of the Agricultural Fair Grounds. In 1858 the City of Boston was authorized to establish a City Hospital, and the Committee on the City Hospital was given a budget not to exceed $100,000.[3] In 1859 the City Council set aside the lot on Albany Street for the purpose of building the hospital.

The architect Gridley Bryant began his practice in 1838. He was responsible for a number of prominent institutional buildings all over New England including the innovative plan for the Charles Street Jail on which he worked in collaboration with a social reformer Louis Dwight in 1848.

Bryant's building of the Boston City Hospital (1861-64) was acknowledged as a major civic accomplishment.[4] On completion, BCH occupied 6.7 acres and was assessed at $73,000. The domed central Administrative Building was flanked by pavilions on either side and connected by circular open colonnades. At this time, the pavilion style was considered the basis of a modern hospital.

This plan stood from June 1, 1864, when the hospital was opened, remaining substantially unchanged for the next decade. In 1875, the first major expansion of BCH occurred when five new buildings were added. Since that time, BHC continued to grow through expansion, acquisition and construction, including closing the southern end of Springfield Street and extending the main campus to Massachusetts Avenue (prior to 1897).

More recently, Boston City Hospital became part of a new institution, which continues to function as a teaching hospital. On July 1, 1996, Boston City Hospital, Boston Specialty and Rehabilitation Hospital, and Boston University Medical Center Hospital were consolidated and merged into the Boston Medical Center Corporation.

BCH was the result of the cooperation between a skilled architect Gridley J. F. Bryant, and the medical community associated with the founding of a new "free" hospital. In the second half of the nineteenth century, BCH set out to serve the needs of the working class including the burgeoning immigrant population of Boston. From its inception to the present, Boston City Hospital and Boston Medical Center are evidence of the progressive social values and civic responsibility shown by members of Boston's community.

1 The name first proposed for the institution was the "Free City Hospital." This name was dropped to discourage people who were not sick from seeking help. Later the term "City Hospital" was used, until in 1893 it became "Boston City Hospital."

2 Committee of the Hospital Staff. *A History of the Boston City Hospital from its Foundation Until 1904*. (Boston: 1906): 1.

3 Members of the Committee were Thomas C. Amory, Jr., Elisha T. Wilson, Prescott Barker, Sumner Crosby, George W. Sprague.

4 Reed, *"To Exist for Centuries": Gridley Bryant and the Boston City Hospital,* 73.

History

Boston University Medical Center is a private non-profit hospital; chartered by the Commonwealth of Massachusetts in 1855 in the name of the Massachusetts Homeopathic Hospital.

Boston University (BU) School of Medicine at 80 East Concord Street was founded in 1873, sited opposite the Boston City Hospital. The Hospital opened its doors in the South End in 1876. Teaching facilities were shared by the Medical Schools of Harvard, Boston University and Tufts Schools of Medicine. In May 1962, the Hospital and Boston University School of Medicine, Boston University School of Public Health and the University's Goldman School of Graduate Dentistry were combined as the "Boston University Medical Center."

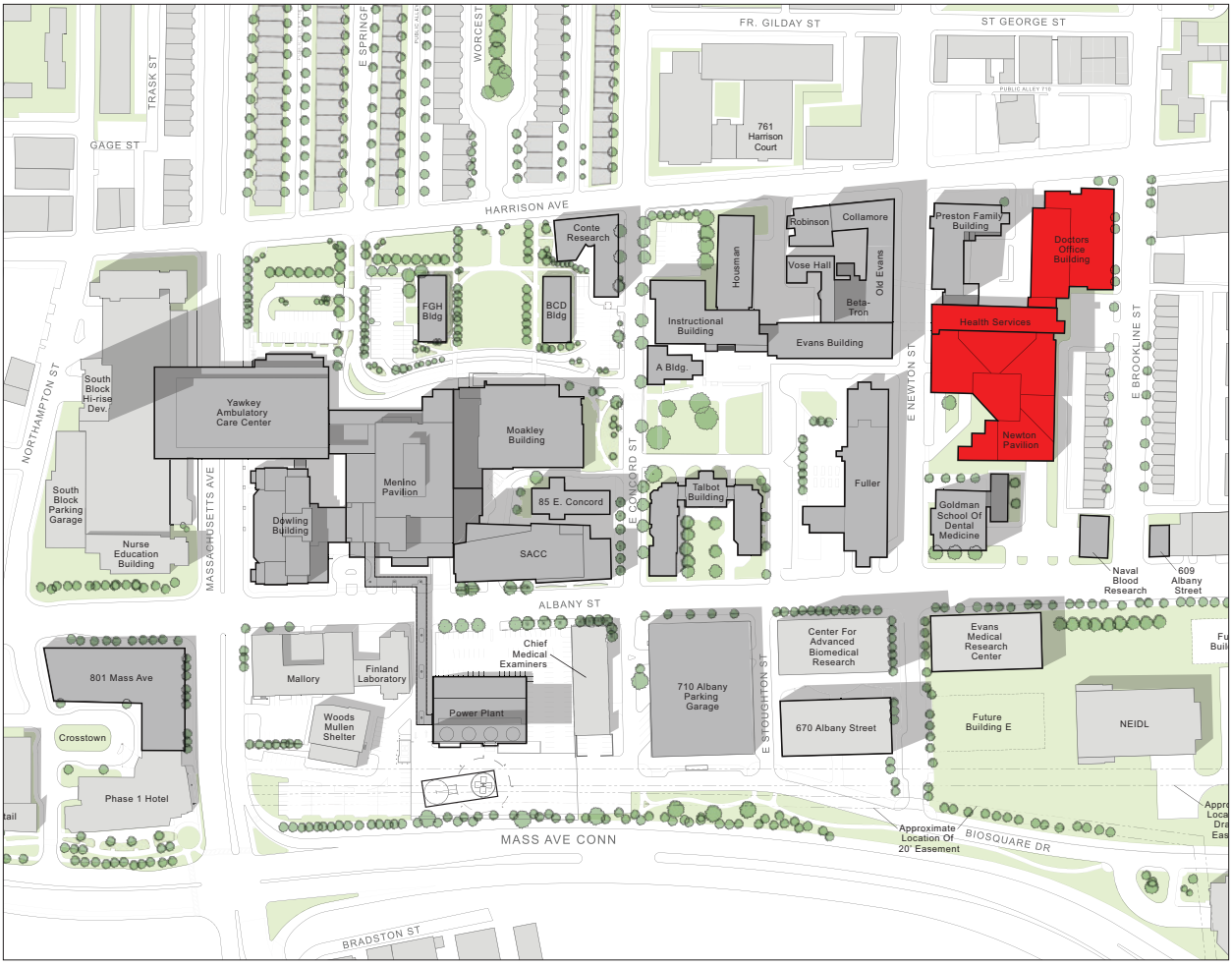
In 1996, Boston Mayor Thomas Menino recommended the merger of Boston University Medical Center Hospital and Boston City Hospital. In the same year, Boston University Medical Center Hospital, in collaboration with Boston City Hospital, received Level One Trauma verification from the American College of Surgeons.

Massachusetts Memorial Hospitals

These buildings on the campus of the Boston University School of Medicine, are located on a quadrant of land that lies southwest of the intersection between Harrison Avenue and East Newton Street. This group of buildings was formerly part of Boston University School of Medicine. In 1929 the Hospital's name was changed to Massachusetts Memorial Hospital in recognition of the fact the hospital was formed by a group of memorial buildings. Throughout the 1930s, government policy boosted relief, recovery and reform. At the same time, the Hospital began a period of resolution, reorganization and rededication.[1] Going forward, the combined memorial buildings, the association with the Medical School and the University, including the productive research program of the Evans Memorial, made it "in fact, if not in name" a medical center.[2] In 1965 the name was changed to University Hospital to reflect the important commitment of the Hospital to medical education and research, as well as to patient care. At that time, this group of structures was known as the Memorial Buildings. The Memorial Buildings include: Anne White Vose Hall, Collamore Memorial and Old Evans.

1 Henry J. Bakst, M.D. "The Story of The Massachusetts Memorial Hospitals." Boston: 1955. p. 25
2 Henry J. Bakst, M.D. "The Story of The Massachusetts Memorial Hospitals." Boston: 1955. p.25

SOLD PROPERTIES



LEGEND

- SOLD PROPERTIES
- BUMC BUILDINGS

In 2013, the Boston Redevelopment Authority reviewed and approved Boston Medical Center's Institutional Master Plan Amendment. This amendment modified the original master plan to consolidate and right size clinical services in support of new trends in health care delivery and patient volume, upgrade and expansion of the Emergency Department and Trauma Center, and moving clinical campus core to the west. The development associated with this amendment will provide space for existing programs currently located in the Doctor's Office Building, the Newton Pavilion, and the Health Services Building. As a result, Boston Medical Center has already or is in the process of selling these properties.

DOCTORS OFFICE BUILDING (SOLD)

Built
1969

Principal Use
Outpatient

Floors
B+12

SF
91,783

Status
Feasibility for reuse under study

Architectural
Good condition

- Uninsulated glazing
- Localized spalling of concrete
- Small floor plate

Systems
Fair Condition

- Antiquated elevator controls
- Cooling system in need of repair
- Heating system problematic during unseasonable weather

Structural
Fair condition

- Low floor-to-floor heights

HEALTH SERVICES (SOLD)

Built
1973

Principal Use
Outpatient

Floors
B+6

SF
73,651

Status
Feasibility for reuse under study

Architectural
Good condition

Systems
Fair Condition

- Cooling system does not meet demand, requires replacement and increased capacity

Structural
Good condition

NEWTON PAVILION (SOLD)

Built
1986

Principal Use
Inpatient

Floors
B+8

SF
246,951

Status
Feasibility for reuse under study

Architectural
Good condition

Systems
Good/fair condition

- Cooling system at life expectancy
- Humidification and associated controls require replacement

Structural
Good condition

EXISTING CAMPUS PLAN

BCD BUILDING

Built
1864

Principal Use
Administration/ Office

Floors
B+5

SF
28,174

Status
Historic Preservation Project - Renovated in 2008

Architectural
Good condition

- Building is 151 years old (1864)
- Small floor plates support administrative functions
- Building envelope in very good condition
- High visibility and recognizable image for the institution
- Easy access from city streets
- Some convenient short term parking on grade.
- Low floor-to-floor
- Mezzanine in-fills at level 2 and level
- Exterior envelope in good condition
- Roof in good condition

Systems
Good Condition

- Most systems meeting current requirements
- Major renovation in 2008 All electrical systems sufficient for present use
- Five AHUs provide supplemental ventilation to FCUs
- Finned-tube radiation provides perimeter heating
- ATC system is fairly new and full DDC
- Steam and chilled water provided from CUP

Structural
Good condition

- Low floor-to-floor heights
- In-flexible grid spacing
- Mezzanine in-fill structure at levels 2 & 4

FGH BUILDING

Built
1864

Principal Use
Administration/ Office

Floors
B+5

SF
29,435

Status
Historic Preservation Project - Renovated in 2005

Architectural
Good condition

- Building is 151 years old (1864)
- Small floor plates support administrative functions
- High visibility and recognizable image for the institution
- Easy access from city streets
- Some convenient short term parking on grade.
- Mezzanine in-fills at level 2 and level
- Exterior envelope in good condition
- Roof in good condition

Systems
Good Condition

- Most systems meeting current requirements
- Major renovation in 2005
- All electrical systems sufficient for present use
- Three rooftop AHUs provide ventilation to VAVs and FCUs
- Finned-tube radiation provides perimeter heating
- ATC system is fairly new and full DDC
- Metered steam and chilled water provided from CUP with booster pumps in basement

Structural
Good condition

- Low floor-to-floor heights
- In-flexible grid spacing
- Mezzanine in-fill structure at levels 2 & 4

Exterior

Buildings BCD and FGH site parallel to each other set back from Harrison Avenue on the interior of the block bounded by Harrison Avenue, East Concord Street, Albany Street and Massachusetts Avenue. Bold and Classic examples of the Second Empire Style, the two buildings are 2 1/2-story red brick structures sitting on a raised granite base with mansard roofs. Rectangular in plan with the long elevations running north-south, the stories above the basement are actually I-shaped in plan with the central seven bays recessed. Originally, the two buildings were identical, three bays wide by nine bays long. The south end of Building FGH was demolished in 1928, so that it is now only eight bays long and the upper stories are T-shaped in plan. The buildings sit on a rubble foundation with a dressed granite block basement story. The red brick walls rise to a bold metal modillion cornice, which is surmounted by a bellcast slate mansard. At BCD only, four paneled red brick chimneys are centered in the roof, two at either end of the narrow section of the building. The center of the roof rises in a gable monitor that is presently sheathed in rubber membrane. Underneath the rubber sheathing, the monitor is intact with its glazed roof and solid sides. A row of regularly spaced ventilators pops up along the ridge of the monitor. Two additional ventilators rise from the north end of the roof; one is centered over a large ventilation duct near the NW corner, the second is near the N edge of the roof.

BCD Exterior Description

Windows set in regularly spaced bays are a major feature of the building. Basement window openings have segmental arches cleanly punched in the granite wall. The tall, flat-arched masonry openings at the first and second stories provide an imposing scale to the building and are detailed with elaborate window caps. The first story windows have architrave cornices set above a recessed flush frieze and supported on shallow scroll brackets. The second story windows have paneled hood molds with a molded cap and simpler shoulders. The center bays at the north elevation and at the second story of the south elevation have round arched window openings trimmed by a molded hood mold. At the roof, segmental arched dormers project out from the mansard.

The granite base is simply detailed with a shallow watertable at the lower course and a projecting beltcourse marks the top of the granite base. Other contrasting stone detail includes typical dressed window sills, projecting sills supported on tab brackets at the second story of the end pavilions, and a deep molded sill course rims the building at the second story. A focal point of the north elevation, an arched molded surround set on paneled pilasters on low pedestals frames the center window at the first story. Suggesting a ceremonial opening, this bay on each building originally had a wooden balustraded balcony supported on large consoles. The balconies were replaced by elaborate cast iron balconies on openwork scrolls that appear in an 1895 photo.

Original windows were 6/6 double hung wood sash. The tall windows at the first and second stories originally held two sets of sash and all of the windows had a set of interior shutters. Basement and attic windows were 3/3 with a segmental arched upper sash. The windows in the returns of the end pavilions were 4/4 at the first and second stories and 2/2 at the attic story. The window openings are currently filled with plywood painted to appear as if they were multi-light sash.

BCD Exterior Alterations

Changes have occurred over time and have been partially reversed by a recent (ca. 2000) exterior rehabilitation. The basement openings in the north bay of the east and west elevations have concrete infill where the granite sill should be. These openings appear to have been doors leading into the basement level, one of which is visible in the 1895 view of the hospital. The circulation from BCD and FGH to the original Administration Building and to the later Medical and Surgical Buildings was formerly at the first floor by means of an open colonnade on a granite base connected to the center bay at the south elevation. The colonnade was later altered to a three-story connector and BCD had been connected at the east elevation to a later addition. That addition and the three-story connector have since been removed and the north end of BCD restored to its original form. A large opening at the basement level, south elevation of BCD would have provided access to the enclosed lower level of the colonnade. The opening presently is blocked down with plywood and holds a single flush metal pedestrian door. A window in the eighth bay of the east elevation has been converted to a door, leading into the basement. Historic views of the building also show a stone balustrade along the east and west elevations at the first story set at the edge of the granite base.

FGH Exterior Alterations:

Originally a matching partner to BCD, FGH has experienced different alterations. As mentioned, the south end pavilion of FGH (three bays wide by one bay deep) was removed in 1928 in order to construct a new Medical Building, which was linked by a narrow connector to the south elevation of FGH. Also at that time (according to the BLC Study Report) the gable-

roofed monitor was removed, the stone balustrades at the east and west elevations were replaced with iron railings, and the one-story brick entry porch was built on the west elevation. A one-story brick and concrete tunnel enclosure may have been part of the 1928 work. Presumably the existing iron fire escape on the west elevation was installed and the chimneys were removed at that time as well. The fire escape and railings on the east elevation appear to be a later addition.

An extensive remodeling in 1963 included the removal of the double windows, the installation of single 6-light sash, the infill of the top of the first and second story window openings with a stucco panel, infill at the bottom of the first story windows and a remodeling of the interior. Other later accretions, including a stucco elevator tower on the south elevation, may have been part of the 1963 renovation.

An entrance has been created in the central bay at the basement of the north elevation. Several window openings have been in-filled completely. Similar to BCD, the basement openings in the north bay of the east and west elevations have brick or concrete window sills suggesting that these had served as doors.

The south elevation of FGH is the red brick former interior wall. The former openings have been filled with brick, a window has been installed at the third story, and a flush metal door has been installed at the first story and at the basement. The first story door leads out to a broad metal landing and stair. FGH does appear to retain its original brick mold at the windows and it is possible that some of the sash at the attic dormers may be original.

BCD Interior

The interior of BCD retains a metal dogleg stair at the southern end of the building and a full turn metal stair with winders at the northern end of the building. They both have slate treads and run from the basement to the attic story. The interior plaster walls and ceilings have been removed exposing wood structure (including joists and studs) and masonry walls. The basement floor has a central corridor with brick walls. Ornamental cast iron columns with flared caps remain in the center room of the basement on both sides of the corridor. Rooms are otherwise divided by brick walls. The concrete floor has settled, cracked and is noticeably sloped. The first floor has been removed from the room at the southwest corner of the building.

The first and second floors are similar. The tall floors measure approximately 17 feet to the underside of the joists. The wider end pavilions of the building have a central corridor running north-south and are divided on either side of the corridor into a stair hall and separate rooms. The plaster walls enclosing the stairs are partially in place and are set on metal lath, while the ghost of wood lath is evident on the wood studs partitioning the corridor and separate rooms. A mezzanine level with a wooden stair has been added to the room at the northwest end of the building on each floor. A large square ventilation duct also rises up through the floor within this room. The central corridor at each end creates a strong visual axis from the north to the south end of the building. At the center shaft of the building, the floors are entirely open, with no partition walls or columns. These were formerly the open wards. The floors are wood and otherwise no interior detail remains.

The attic floor is shorter and has sloped exterior wood frame walls alternating with the tightly spaced dormers. The west corridor walls at the south end of the building on every floor are brick. Most of the roof structure is intact with additional reinforcement added. The central dormer/bay at the south end of the building was reconstructed as part of the recent rehabilitation.

FGH Interior

The ceilings at the first and second floors have been lowered; the full turn metal stair with winders (matching BCD) remains at the NW corner of the building. The original floors are covered with vinyl tile, and no original fireplaces, doors or door surrounds have been located. The floors have been subdivided into offices on each floor with an off-center corridor running north-south with access to the elevator on the west elevation. The basement corridor is centered with brick corridor walls and brick partition walls separating some of the rooms.

Despite the changes to FGH, the significant features of Gridley J. F. Bryant's Second Empire Pavilions remain and in concert with BCD continue to frame his axial plan in line with Worcester Square. The two buildings represent Bryant's expression of the pavilion model that he introduced here at Boston City Hospital. The pavilion plan, the buildings' large windows and open wards provided the desired light and ventilation that were the character-defining features of Bryant's design. Bryant's use of the mansard on the pavilion buildings not only supplied an added floor for more beds, it also intentionally reflected the architecture of Worcester Square.

NAVAL BLOOD RESEARCH

Built
1865

Principal Use
Vacant

Floors
B+5

SF
18,594

Status
Not currently in use - original use was administration & research

Architectural
Fair to poor condition

- Building is 150 years old (1865)
- Very small and narrow floor plates are inefficient
- Low floor-to-floor heights
- Aluminum double hung windows in good shape
- Floors not level
- Some signs of foundation distress
- High visibility on campus
- Brick bearing wall and heavy timber construction
- Easy access from city streets
- Roof is in poor to fair condition
- Envelope is in fair condition - some repointing work is needed
- Parking access at Albany Street garage

Systems
Poor condition

- Most systems need to be upgraded
- AHU in basement in poor condition - replacement needed
- Minimal duct distribution - upgrade needed
- Steam system and PRVs in poor condition - upgrade needed
- Minimal HVAC controls
- Majority of fan systems need upgrades
- Electrical systems beyond their useful life - upgrade needed
- Medical gas system in poor condition - upgrade needed
- No central acid neutralization system

Structural
Fair condition

- Low floor to floor
- Floors not level
- Some foundation distress

ANNA WHITE VOSE HALL

Built
1898

Principal Use
Administration/ Office

Floors
5

SF
22,695

Status
Feasibility for reuse under study

Architectural
Fair/poor condition

- Building is 117 years old (1898)
- Small/narrow floor plates
- Needs new windows
- Brick needs repointing
- Details have been stripped from exterior
- Very small and narrow floor plates are inefficient
- Wood frame double hung windows - need replacement
- Some asbestos
- Limited visibility on campus
- EPDM roof over old asphalt roof
- Envelope is in fair condition

Systems
Poor condition

- Poor heating system
- Minimal ventilation
- Window air conditioning
- Insufficient air distribution system - upgrades needed
- Window AC utilized for cooling - upgrades needed
- Steam perimeter heat with minimal controls - upgrade needed
- Electrical distribution system at end of useful life with no spare capacity

Structural
Fair condition

- Wood frame
- Small bay spacing

ANNA WHITE VOSE HALL

Anna White Vose Hall is shaped like an L in plan with a serif at the end with a one-bay return. Built of red brick with marble detail, the building rises four stories to deep overhanging eaves supported on scroll brackets. The westernmost section of the building is the most elaborate.

The windows are set in punched openings that change at each story. Stone detail includes a simple projecting beltcourse above the first story, a frieze (with the building name carved in the stone) and a molded cornice above the 3rd story, window sills and pilaster capitals. Two-story brick pilasters delineate the bays at the second and third stories. The basement windows have brick segmental arches, windows at the second story are framed by round brick arches with keystones, the second story has segmental arches, the third and fourth stories have flat arches. The window height diminishes as you rise up the building. Typical windows have 6/6 double-hung sashes, except the first story which has tracery at the top of the round arched sashes.

Cast iron balconies at the first story windows match the railing on the open brick porch along the south elevation, where the main entrance is located within a segmental arch. A bowed cast iron balcony projects at the third story, south elevation.

In 1897 – 1898, Vose Hall was built as a permanent Nurse's Home with a bequest from Mrs. White Vose. Expansion of the (Nurse's) Training School, was the catalyst for building the residence, which housed 100 nurses. Once Vose Hall was finished, the Training School was extended to three years, applicants continued to increase and the curriculum was extended.

85 EAST CONCORD STREET (SURGICAL BUILDING)

Built
1928

Principal Use
Administration/ Office

Floors
B+8

SF
66,952

Status
Historic Preservation Project - Renovated in 2001

Architectural
Good condition

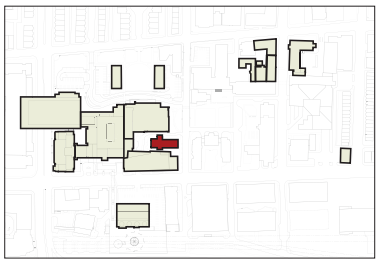
- Building is 87 years old (1928)
- Renovated in 2001
- Very small and narrow floor plates are inefficient
- Low floor-to-floor heights
- Aluminum double hung windows in good shape
- Low visibility on campus
- Easy access from city streets
- Roof is in good condition
- Envelope is in good condition
- Parking access at Albany Street garage

Systems
Good Condition

- Systems are meeting current requirements
- All electrical systems sufficient for present use
- Major renovation in 2001
- AHU in basement provides 100% OA to FCUs
- 4-pipe FCUs throughout the building provide heating and cooling
- Chilled water from CUP provided to building with deny valve and pump at building entrance

Structural
Good condition

- Small bay spacing
- Decent floor-to-floor



Surgical Building, 1926–28
Ritchie, Parson & Taylor

Description

The Surgical Building is a large, eight-story, brick clad structure rising from a basement platform defined by iron rails to a flat roof. Like its contemporaries from the late 1920s, it incorporates elements of the Neo-Federal and Beaux Arts styles in an institutional composition. It is rectangular in plan; with a central cross piece rising above the rest of the building. The corners of the main block and the cross piece are defined by brick quoins. The basement and first story are faced with limestone and set off by a simple beltcourse. Projecting limestone cornices encircle the building above the third and seventh stories and swags and rondels are dispersed above the eighth story. Fenestration is symmetrical, and above the first story most windows are headed by splayed limestone lintels; some windows aligned at the second and eighth stories are set in round arched frames. The northeast elevation facing East Concord Street is defined by a quatrastyle screen of modified Corinthian pilasters, paired at the corners; the pilasters rise from the rusticated first story to the third story cornice. At the opposite end, decorative iron porches topped by slender urns stretch out from the cross piece.

History

Plans for the Surgical Building were prepared in 1926 by Ritchie, Parsons and Taylor. The contract was awarded to Joseph Kugo in February 1927, and it was opened to patients in October 1928. The basement contained the indoor branch of the Department of Physical Therapeutics with facilities for baths, muscle training, massage, etc. The first floor was equipped as an accident ward with two special rooms for patients entering the hospital in surgical shock. Four of the upper floors contained rooms for female patients while three were set aside for males. The Surgical Building replaced the two story Surgical Ward, W.X. of 1895.

COLLAMORE BUILDING

Built
1936

Principal Use
Administration/ Office

Floors
8

SF
41,970

Status
Administrative support functions - Continued use anticipated

Architectural
Fair condition

- Building is 79 years old (1936)
- Very small and narrow floor plates are inefficient
- Level 2 windows have been in-filled with brick
- Good floor-to-floor heights
- Wood frame double hung windows - need replacement
- High visibility on campus
- No direct access - Access is through Robinson or New Evans buildings
- Roof is in poor to fair condition
- Envelope is in good condition - some repointing work is needed
- Parking access at Harrison Ave garage

Systems
Fair condition

- Most systems need to be upgraded
- Rooftop AHUs beyond useful life - replacement needed
- Window AC units utilized for cooling - upgrade needed
- Steam heat with minimal controls
- Chilled water - upgrade needed
- District steam heating system - upgrade needed
- Normal and emergency electrical systems beyond useful life - upgrade needed
- Plumbing systems in poor condition - upgrade needed

Structural
Fair condition

- Small bay spacing
- Good floor-to-floor heights

COLLAMORE BUILDING

Collamore is a red brick, 8- story building, L-shaped in plan and ornamented with cast stone belt courses. Collamore sits on a high basement with a granite sill; windows are framed by flat, splayed brick arches and concrete sills; and the walls rise to a flat roof with a brick parapet. On the Harrison Avenue (north) elevation, shallow pilasters articulate the asymmetrical 8-bay façade. The six-bay East Newton Street (east) elevation is also asymmetrical and has two copper oriels at the 3rd story.

The windows typically have been replaced or filled. The original first story windows were 12/12 double hung sash topped by an 8-light transom. The corner bays and the first story windows are filled with brick on both the north and east elevations.

In 1915, Helen Collamore left funds in memory of her family for the construction of a building for the Hospital. Helen Collamore had been a Trustee of the Hospital for thirty-eight years. The project was not begun for over twenty years, but in 1936 the Hospital was in need of space. Built to relieve this shortage, the Collamore Building contained wards, private rooms, operating rooms, X-Ray and various laboratories when it opened. Its wards and outpatient services were used in connection with the clinical instruction of the students of the Boston University School of Medicine.

DOWLING BUILDING SUMMARY

Built
1937

Principal Use
Administration/ Office

Floors
B+9

SF
144,895

Status
Approved for demolition under 2010 IMP

Site of future clinical and inpatient service expansion

Architectural

Fair/poor condition

- Building is 78 years old (1978)
- High visibility
- Very small and narrow floor plates are inefficient
- No access from city streets - enter through Yawkey or Menino
- Irregular floor plan
- Poor arrival sequence
- Poor pedestrian experience
- Minor street parking
- Very small and restrictive structural grid
- Low floor-to-floor
- In general, exterior envelope is in good condition
- Windows have been replaced in past 10 years
- Roof appears to be new
- Steel columns and beams with concrete joists - limited shaft expansion capabilities
- No expansion potential
- Some asbestos - need verification

Systems

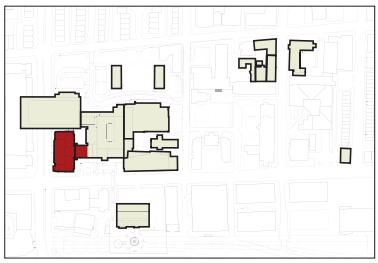
Poor condition

- Lack of a designated transformer or electrical service
- Reduced service feeder from Yawkey building
- Switch board damaged from fire
- Lack of critical branch emergency system
- Life safety emergency system at capacity
- Emergency power from Yawkey building no spare capacity available.
- Branch circuit distribution insufficient for clinical use.
- Limited capacity HW and CHW risers added in 2013
- 4-pipe FCUs serving floors 7-9
- Lack of AHUs for ventilation. Operable windows currently utilized.
- Lack of shaft space for new risers and system upgrades
- Lack of ATC control on floors ground thru 6.
- Ground floor AHUs 1A and 1B beyond their useful life and should be replaced.

Structural

Poor condition

- Low floor-to-floor
- Tight column grid spacing
- Irregular column spacing



DOWLING BUILDING

Constructed in 1937, the Dowling Building anchors the corner of Albany Street and Massachusetts Avenue. The building was named after Dr. John J. Dowling, who was a Superintendent of BCH before being sent to fight in WWI as commanding officer of a military Base Hospital. Over the years the Dowling Building has housed several departments including clinical, administration, patient beds, surgical and educational activities. Originally designed as an inpatient building, it's primary function was downgraded to administrative office space in 1994 due to its numerous physical and infrastructure deficiencies.

Irregular in plan and built up of a series of stepped blocks, Dowling is constructed of red brick with limestone ornament and sits on a stone first story. The limestone first story occupies the full footprint of the building. The red brick upper stories form a U in plan, and step down in sequence from the center 10-story pavilion to 6 stories at the wings. Columns of tightly spaced windows separated by narrow brick and metal mullions emphasize the verticality. Stone ornament is concentrated at the base and at the top stories of the central pavilion and the end pavilions. Stone detail is also found at the corners and parapet of the wings.

Over the years the spandrel panels on the ends of the wings appear to have been replaced with flush metal panels. Typical aluminum replacement windows are 1/1 double-hung with a transom. Many openings have been filled with louvers, air conditioners, infill panels and brick. A one-story mass, referred to as the Shortell, was added along Massachusetts Avenue infilling between the two projecting wings. Two fire-egress stairs were also added to the massing facing Massachusetts Avenue, clad in white and bronze colored metal panel.

Recently, as part the first phase outlined in the 2012 IMP, the two-storey portion of the building located to the northeast has been demolished. This modification has provided vital space for the consolidation of emergency and imaging functions within the Menino Pavilion expansion.

OLD EVANS BUILDING

Built
1942

Principal Use
Administration/ Office

Floors
9

SF
60,070

Status
Administrative support functions - Continued use anticipated

Architectural

Fair condition

- Building is 87 years old (1928)
- Very small and narrow floor plates are inefficient
- Double hung wood - need replacement
- High visibility on campus
- Easy access from city streets - access through New Evans building
- Roof is in fair condition
- Envelope is in good condition
- Parking access at Harrison Avenue garage

Systems

Fair condition

- AHUs over 20 years old - upgrade needed
- 4-pipe FCUs throughout the building in fair condition.
- 150 ton Carrier chilled in fair condition provides building cooling.
- Minimal ATC controls - upgrade needed.
- Normal and emergency electrical system beyond useful life - upgrade needed
- Plumbing and domestic hot water system in fair condition.

Structural

Fair condition

- Good floor-to-floor heights
- Small bay spacing

OLD EVANS BUILDING

The Old Evans Building (1942) is red brick, nine stories tall and rectangular in plan. Designed with minimal ornament, the red brick walls sit on a granite foundation and rise to a simple frieze and cast stone coping at the parapet. Thirteen bays in length, the East Newton Street façade is symmetrical with a 3-bay central pavilion. The central main entrance, in the Art Moderne style, consists of a two-story granite frontispiece. Paired pilasters with stylized capitals frame the openings of the three bay granite entry. The first story is rusticated and a granite sillcourse runs across the façade at the 2nd story windows. Otherwise, the brick walls are unrelieved from the second story to the 7th story, above which there is a denticulated brick beltcourse. Corbelling topped by molded brick courses terminate the façade.

The Old Evans Building (1942) was built as an inpatient facility with funds from the will of Maria Antoinette Evans, in memory of her husband Robert Dawson Evans for clinical research, preventative medicine, and for the study and treatment of neuroses. The Evans endowment proved to be one of the most enduring for the hospital and the School of Medicine.

The building is currently called the Old Evans Building to distinguish it from the “New Evans Building”, which opened in 1971 to provide additional inpatient and clinical research floors. There was also an earlier Evans Memorial building dated from 1912, which was funded by Mrs. Maria A. Evans in memory of her husband for similar medical uses. The building was constructed on East Concord Street on land transferred to the Hospital by Boston University.

PRESTON FAMILY BUILDING

Built
1967

Principal Use
Outpatient

Floors
5

SF
63,325

Status
Originally a hotel, the building was renovated to meet increased outpatient demand

Architectural

Poor to Fair Condition

- Building is 48 years old (1967)
- High visibility
- Easy access from city street
- Entrance through interior courtyard
- On-street parking (or in adjacent DOB garage)
- Very low floor-to-floor height
- Small floor plate
- Light weight construction (former motel)
- Possible asbestos in cavity wall - Need to verify
- Slow hydraulic elevator- additional capacity required

Systems

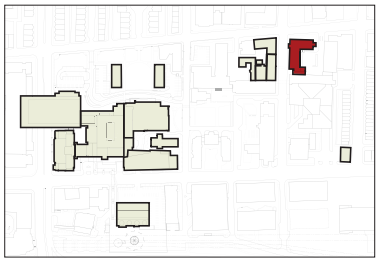
Fair to Good condition

- Limited ATC controls
- New AHU added in 2007 for supplemental ventilation for FCUs. In good condition.
- Ongoing renovations, but majority of building contains limited ATC controls.
- Normal electrical system has no spare capacity - upgraded needed
- Chilled water from Newton Pavilion chiller plant supplied to Preston via Doctor's Office Building.
- District steam from Veolia on Harrison ave.
- Oxygen distribution provided to 4th floor only

Structural

Poor condition

- No excess capacity
- Low floor-to-floor



BETATRON

Built
N/A

Principal Use
Outpatient

Floors
N/A

SF
5,912

Status
Linear Accelerator vaults and support for cancer treatment

Feasibility for reuse under study (program moved to Moakley)

Architectural
Fair Condition

- No visibility
- Not open to public
- No identity
- Feasibility for reuse under study

Systems
Good condition

- Packaged AHUs in fair condition.
- Chilled water system from Evans building in fair condition.
- Partial DDC controls ATC upgrade. Remainder of building requires DDC upgrade.
- Electrical distribution system has no spare capacity and requires upgrade.

Structural
Fair condition

YAWKEY AMBULATORY CARE CENTER

Built
1972

Principal Use
Outpatient

Floors
B+5

SF
218,477

Status
Renovations ongoing including major architectural and MEP elements

3rd & 4th floor windows under repair

Architectural
Good condition

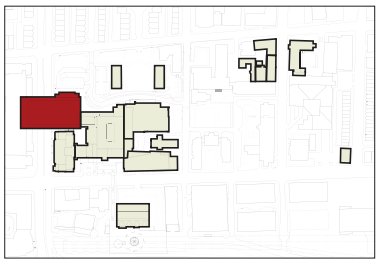
- Large floor plate
- Inefficient layout with perimeter circulation
- Refer to appendix-A
- Building is 33 years old (1972)
- High visibility and recognizable image for the institution
- Easy access from city streets
- Some convenient short term parking on grade. Valet option available to users
- Flexible structural grid
- Tall floor-to-floor (although interstitial mechanical space is questionable advantage)
- Level 5 horizontal expansion the only possible expansion opportunity
- Inefficient layout with perimeter circulation
- In general, exterior envelope in good condition

Systems
Good Condition

- Major renovations to basement, 1st floor, mezzanine and 3rd floor in 2015
- New duct mains, piping mains, and DDC terminal boxes added.
- New server on Mezzanine level
- New maternity unit on 3rd floor
- Normal power electrical distribution upgrade 2012
- Emergency power electrical distribution upgrade 2015
- Critical branch emergency system new 2015
- Duct distribution upgrade in 2012
- Steam piping infrastructure upgrade in 2015
- New 35,000 CFM Maternity RTU added in 2015
- New domestic hot water system added in 2015
- New campus wide medical air and medical vacuum infrastructure added in 2015

Structural
Good condition

- Good floor-to-floor heights
- Flexible grid spacing



POWER PLANT

Built
1972

Principal Use
Mechanical

Floors
B+4

SF
64,064

Status
Interim materials handling location

Approved for demolition under 2010 IMP

Architectural

Good Condition

- Building is 43 years old (1972)
- High visibility and recognizable image for the institution
- Easy access from city streets
- Some convenient short term parking on grade.
- Additional parking at Albany Street garage
- Flexible structural grid
- Tall floor-to-floor
- In general, exterior envelope in good condition

Systems

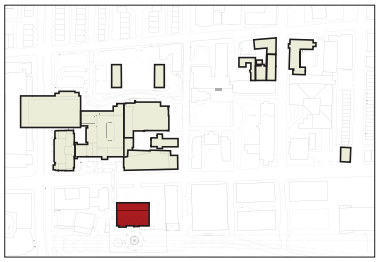
Fair condition

- One of two unit substations at end of life.
- Electrical distribution system at end of life
- Lack of 2 hour separation on life safety branch circuit distribution.
- AHUs approaching end of useful life
- Air distribution terminal boxes beyond their useful life and should be replaced.
- Chillers upgraded in 2006 and in good condition.
- Chiller and condenser water sequences upgraded in 2014
- Steam pressure reducing station in basement requires upgrades

Structural

Good condition

- Good floor-to-floor heights



MENINO PAVILION

Built
1994

Principal Use
Inpatient

Floors
B+8

SF
337,340

Status
Currently under expansion and renovation for increased ED/ Radiology and inpatient demands.

Yellow tube to be replaced by pedestrian overpass; SELDC Approved 2012

Architectural

Good Condition

- Building is 21 years old (1994)
- Renovation and expansion currently occurring - outlined in BMC Institutional Master Plan
- Medium visibility
- Easy access from city streets - main entrance off of Harrison Ave
- Some convenient short term parking on grade - Valet option at drop-off
- Additional parking at Albany Street garage
- Flexible structural grid
- Tall floor-to-floor
- Exterior envelope in good condition
- Good column bay spacing

Systems

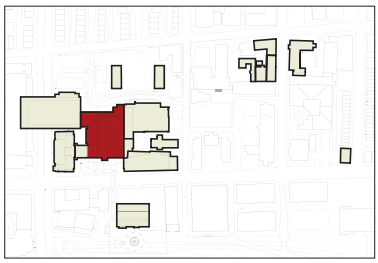
Good condition

- New normal and emergency electrical distribution proposed 2016
- AHUs approximately 20 years old and require mechanical upgrades
- The majority of the original pneumatic terminal boxes are not controlled by the ATC system.
- Medical air and medical vacuum systems are beyond their useful life, and will be cutover to the Yawkey infrastructure systems in 2015.
- Smoke control system to be upgraded in 2016.
- Fire protection system to be cut over to Yawkey fire pump in 2015.
- Sanitary drainage underslab piping in bad condition
- Steam PRV station valves beyond their useful life. Proposed to be replaced in 2015.
- Kitchen and basement HV-1 to be upgraded in 2015.

Structural

Good condition

- Good floor-to-floor heights



MOAKLEY BUILDING

Built
2006

Principal Use
Outpatient

Floors
B+3

SF
133,217

Status
30K sf addition approved uneder 2012 IMP Amendment is currently under construction

Architectural

Very good Condition

- Building is 9 years old (2006)
- 30,000 sf addition currently under construction
- High visibility and recognizable image for the institution
- Easy access from city streets
- Some convenient short term parking on grade. Valet option available to users
- Flexible structural grid
- Tall floor-to-floor
- Envelope in good condition

Systems

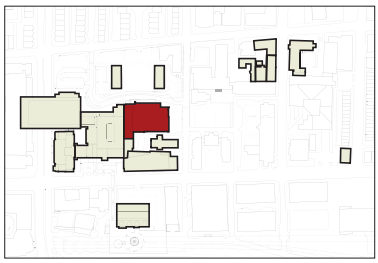
Good condition

- All electrical systems sufficient for present use
- Four AHUs are in good condition but require repairs to the following:
  - Difficulty maintaining temperature and humidity requirements
  - Stratification problems during winter months
- Domestic hot water system in good working order
- Fire protection systems in good working order
- Chilled water cross-connect between Menino and Moakley added in 2012
- Medical air and medical gas systems in good working order with future capacity

Structural

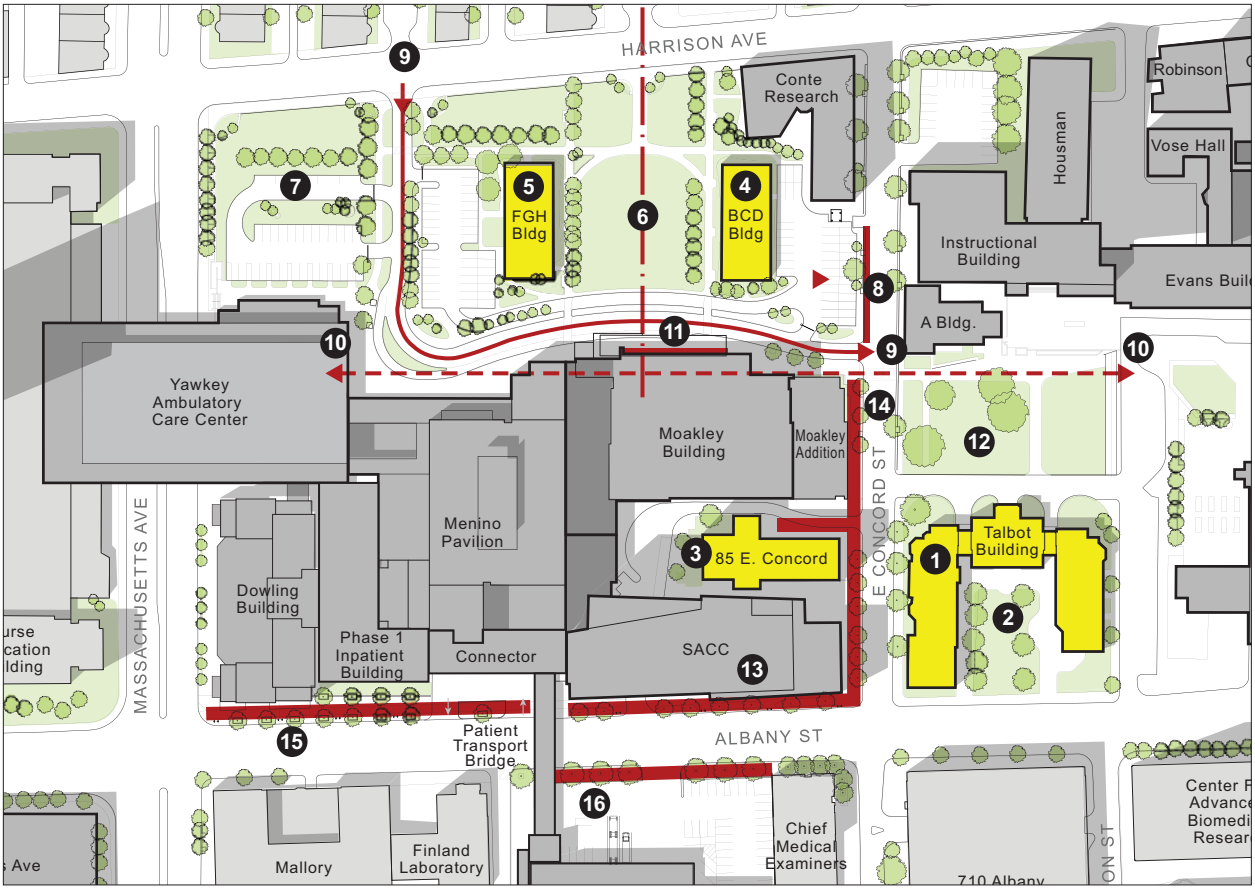
Good condition

- Good floor-to-floor heights

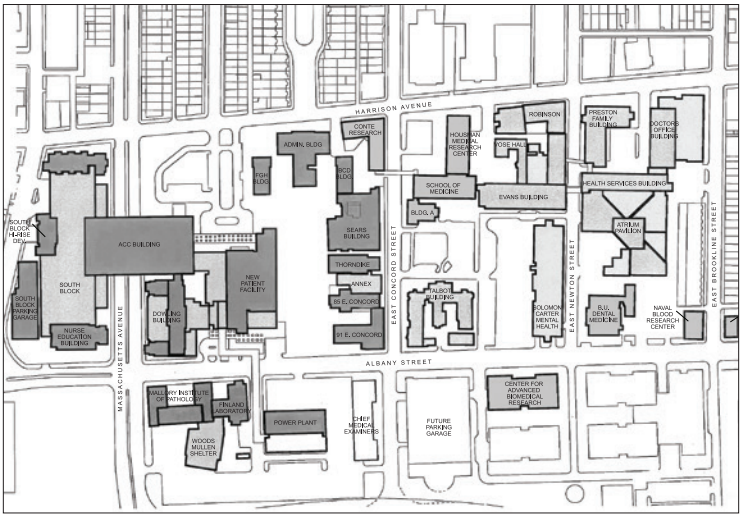


Note: Refer to Appendix-C for Building Infrastructure Forms

CAMPUS PLAN IMPROVEMENTS - Since 1994



Campus Plan Improvements



1994 Campus Plan

1. Preservation of Talbot Building
2. New green space on Albany Street behind Talbot Building
3. Preservation of 85 East Concord Street Building
4. Historic restoration and National Trust renovation of BCD Building
5. Historic restoration and National Trust renovation of FGH Building
6. Landscaped open space between BCD and FGH on axis with Worcester Square
7. Landscaping improvements and parking lot screening at Harrison Ave
8. Reconstruction of historic brick wall along East Concord Street
9. Campus access redesign, shifting traffic away from Harrison Avenue and South End Historic District
10. Enhanced east/west pedestrian connection between Newton Campus and Menino Campus
11. Moakley Building design modifications in response to Worcester Square axis
12. Elimination of parking lot and development of the Talbot green park
13. SACC streetscape improvements including new paving, planters, trees, and landscaping
14. Moakley Addition streetscape improvements including new paving, planters, and trees.
15. Phase 1 Inpatient Building streetscape improvements including new paving, planters, trees, landscaping, and reorganized vehicular circulation
16. Relocation of truck deliveries to Power Plant site to reduce pedestrian and vehicular conflicts

APPENDIX A:
BUILDING GRADING FORMS

BUILDING: **BCD**

800 Harrison Ave

Category	Data	Condition	Comment
GENERAL			
Age (years)	1864 (151)	1	
Typical Bay Dimen.	Varies	2	Bearing wall construction with infill floors- Infill structural bay 25' x 18'-8"
Ave. Typical Floor Area	4,787 sf	1	
Typ. Floor Plate Width	30'	3	
Avg. Fl. To Fl. Height	8'-6"	2	
Total Area (GSF)	28,174		
Bldg. Type by Code	1A		
Occupancy	B		
Historical Designation	No		Within SELDC Protection Area
No. of Stories	6		
PHYSICAL			
Roof	EPDM	4	
Exterior Skin	Brick/Aluminum Wndws	5	Building Renovated in 2007
Life Safety		4	
Finishes		5	
PTS	No		Confirm?
Hazardous Mat'l	No	4	Verify
ADA	Yes	4	
Vertical Transporation		5	
FUNCTIONAL			
Present Use	Office		Information Technology
Potential Use	Office		Information Technology
SITE			
Arrival Experience		4	
Visibility		5	
Identity/Image		5	
Future Expansion Potential		1	
Parking		3	
Landscaping		5	

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **FGH**

820 Harrison Ave

Category	Data	Condition	Comment
GENERAL			
Age (years)	1864 (151)	1	
Typical Bay Dimen.	Varies	2	Bearing wall construction with infill floors- Infill structural bay 25' x 18'-8"
Ave. Typical Floor Area	4,842 sf	1	
Typ. Floor Plate Width	30'	3	
Avg. Fl. To Fl. Height	8'-9"	2	
Total Area (GSF)	29,435 sf		
Bldg. Type by Code	1A		
Occupancy	B		
Historical Designation	No		Within SELDC Protection Area
No. of Stories	6		
PHYSICAL			
Roof	EPDM	4	
Exterior Skin	Brick/Aluminum Wndws	5	Building Renovated in 2005
Life Safety		4	
Finishes		5	
PTS	No		Confirm?
Hazardous Mat'l	No	4	Verify
ADA	Yes	4	
Vertical Transporation		5	
FUNCTIONAL			
Present Use	Office		Administration
Potential Use	Office		Administration
SITE			
Arrival Experience		4	
Visibility		5	
Identity/Image		5	
Future Expansion Potential		1	
Parking		3	
Landscaping		5	

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Naval Blood Lab**
615 Albany Street

Category	Data	Condition	Comment
GENERAL			
Age (years)	c. 1865 (150)	1	
Typical Bay Dimen.	N/A		
Ave. Typical Floor Area	3,000 gsf	1	
Typ. Floor Plate Width	45'	2	
Avg. Fl. To Fl. Height	App. 11'-0"	1	
Total Area (GSF)	18,594 approx.	2	
Bldg. Type by Code	4		
Occupancy	B		
Historical Designation	No		Landmarks Commission review likely if demolition or expansion contemplated
No. of Stories	B+5		
PHYSICAL			
Roof		3	
Exterior Skin		2	
Life Safety		1	
Finishes		1	
PTS	No		
Hazardous Mat'l		3	
ADA		1	
Vertical Transporation		1	
FUNCTIONAL			
Present Use	Vacant		
Potential Use	Office		
SITE			
Arrival Experience		3	
Visibility		4	
Identity/Image		3	
Future Expansion Potential		2	
Parking		2	Urban site
Landscaping		1	

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Vose**
10 Stoughton Street

Category	Data	Condition	Comment
GENERAL			
Age (years)	1898 (117)	1	
Typical Bay Dimen.	13' x 17'	1	
Ave. Typical Floor Area	4500 sf	1	
Typ. Floor Plate Width	23' to 27'	1	
Avg. Fl. To Fl. Height	10'-6"	2	
Total Area (GSF)	30,500		
Bldg. Type by Code	?		
Occupancy	B		
Historical Designation	No		Within SELDC Protection Area
No. of Stories	5		
PHYSICAL			
Roof	EPDM	3	
Exterior Skin	Brick	2	
Life Safety		2	
Finishes		3	
PTS	No		
Hazardous Mat'l		2	Verify
ADA		1	
Vertical Transporation		2	Elevator access via Robinson/Evans
FUNCTIONAL			
Present Use	Administrative Offices		
Potential Use	Administrative Offices		
SITE			
Arrival Experience		1	
Visibility		2	
Identity/Image		3	
Future Expansion Potential		1	
Parking		2	Harrison Ave Parking Garage
Landscaping		1	

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **85 East Concord**
820 Harrison Ave

Category	Data	Condition	Comment
GENERAL			
Age (years)	1928 (87)	2	
Typical Bay Dimen.	Varies	2	Refer to Detail Sheet
Ave. Typical Floor Area	7,100 sf	2	
Typ. Floor Plate Width	40'	2	
Avg. Fl. To Fl. Height	11'-7"	3	
Total Area (GSF)	66,952 sf		
Bldg. Type by Code	?		
Occupancy	?		
Historical Designation	No		Within SELDC Protection Area
No. of Stories	B+8		
PHYSICAL			
Roof	EPDM	4	
Exterior Skin	Brick/Aluminum Wndws	4	Building Renovated in 2007
Life Safety		4	
Finishes		4	
PTS	No		Confirm?
Hazardous Mat'l	No	4	Verify
ADA	Yes	4	
Vertical Transporation		5	
FUNCTIONAL			
Present Use	Office		Administration
Potential Use	Office		Administration
SITE			
Arrival Experience		3	Small entry off E. Concord
Visibility		2	Tucked behind Shapiro
Identity/Image		2	Tucked behind Shapiro
Future Expansion Potential		1	
Parking		4	Close to Albabny Garage
Landscaping		1	

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Helen Collamore**
76 Harrison Ave.

Category	Data	Condition	Comment
GENERAL			
Age (years)	1936 (79)	2	
Typical Bay Dimen.	Varies	2	Refer to detail Sheet
Ave. Typical Floor Area	5,560 sf	1	
Typ. Floor Plate Width	50'-2"	3	
Avg. Fl. To Fl. Height	Varies	4	10'-8" to 15'-10" (3 Flrs @ 13'-6")
Total Area (GSF)	41,970 GSF		
Bldg. Type by Code	2A		Verify
Occupancy	B or E		Verify
Historical Designation	No		
No. of Stories	8		Partial Basement for Mech
PHYSICAL			
Roof	Asphalt/Ballast	2	
Exterior Skin	Brick/Precast	3	
Life Safety		4	Appear to meet code
Finishes		3	
PTS			
Hazardous Mat'l			Verify
ADA		2	Must enter through Evans
Vertical Transporation	2 Elev.	2	1 Locked
FUNCTIONAL			
Present Use	Admin/Office		
Potential Use	Admin/Office		
SITE			
Arrival Experience		1	Enter through other buildings
Visibility		5	
Identity/Image		4	
Future Expansion Potential		1	
Parking		4	
Landscaping		1	

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Helen Collamore**
76 Harrison Ave.

Category	Data	Condition	Comment
GENERAL			
Age (years)	1942 (73)	2	
Typical Bay Dimen.	Varies	2	Refer to detail Sheet
Ave. Typical Floor Area	7,275 sf	1	
Typ. Floor Plate Width	50'-2"	3	
Avg. Fl. To Fl. Height	Varies	4	10'-8" to 15'-10" (3 Flrs @ 13'-6")
Total Area (GSF)	60,070 GSF		
Bldg. Type by Code	2A		Verify
Occupancy	B or E		Verify
Historical Designation	No		
No. of Stories	9		Partial Basement for Mech
PHYSICAL			
Roof	Asphalt/Ballast	2	
Exterior Skin	Brick/Precast	3	
Life Safety		4	Appear to meet code
Finishes		3	
PTS			
Hazardous Mat'l			Verify
ADA		3	Must enter through Evans
Vertical Transporation	3 Elev.	4	
FUNCTIONAL			
Present Use	Admin/Office		
Potential Use	Admin/Office		
SITE			
Arrival Experience		1	Enter through other buildings
Visibility		4	
Identity/Image		3	
Future Expansion Potential		1	
Parking		4	
Landscaping		1	

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Preston**
732 Harrison

Category	Data	Condition	Comment
GENERAL			
Age (years)	1967 (48)	3	
Typical Bay Dimen.	25' x 20'	3	
Ave. Typical Floor Area	12,800 sf	2	
Typ. Floor Plate Width	60'	3	
Avg. Fl. To Fl. Height	9'-9"	1	
Total Area (GSF)	63,325 GSF		
Bldg. Type by Code	?		
Occupancy	B		
Historical Designation	No		
No. of Stories	5		
PHYSICAL			
Roof		4	
Exterior Skin		2	
Life Safety	?	3	
Finishes		4	
PTS	Yes		
Hazardous Mat'l		1	Verify in cavity wall
ADA	?	3	
Vertical Transporation		2	
FUNCTIONAL			
Present Use	Ambulatory		
Potential Use	Ambulatory/Office		
SITE			
Arrival Experience		3	
Visibility		4	
Identity/Image		2	
Future Expansion Potential		2	
Parking		3	
Landscaping		2	Minimal landscaping

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Betaron**

Category	Data	Condition	Comment
GENERAL			
Age (years)	?	C	
Typical Bay Dimen.		N/A	
Ave. Typical Floor Area		N/A	
Typ. Floor Plate Width		N/A	
Avg. Fl. To Fl. Height		N/A	
Total Area (GSF)	6400 GSF		
Bldg. Type by Code	1B		
Occupancy	I 2		
Historical Designation	No		
No. of Stories	1		
PHYSICAL			
Roof		C	
Exterior Skin		C	
Life Safety		B	
Finishes		C	
PTS	No		
Hazardous Mat'l	No		
ADA		C	
Vertical Transporation	N/A		
FUNCTIONAL			
Present Use	Radiation Therapy		
Potential Use	Storage/Office		Concrete vaults have limited re-use potential
SITE			
Arrival Experience		N/A	
Visibility		N/A	
Identity/Image		N/A	
Future Expansion Potential		Undetermined	
Parking		N/A	
Landscaping		N/A	

KEY

F	Poor
D	Fair
C	Good
B	Very Good
A	Excellent
NA	Not Applic.

BUILDING: **Yawkey**
850 Harrison Ave.

Category	Data	Condition	Comment
GENERAL			
Age (years)	1972 (43)	4	
Typical Bay Dimen.	61' x 61'	5	
Ave. Typical Floor Area	51,000 GSF	5	
Typ. Floor Plate Width	61'	5	
Avg. Fl. To Fl. Height	17'	5	8' interstitial space at levels 2, 3, & 4
Total Area (GSF)	250,815 GSF		
Bldg. Type by Code	1B		
Occupancy	B		
Historical Designation	No		
No. of Stories	5		
PHYSICAL			
Roof		4	
Exterior Skin		3	
Life Safety		3	
Finishes		3	
PTS	YES		
Hazardous Mat'l		?	
ADA		?	
Vertical Transporation		3	
FUNCTIONAL			
Present Use	Ambulatory Care		
Potential Use	Ambulatory Care		
SITE			
Arrival Experience		4	
Visibility		5	
Identity/Image		4	
Future Expansion Potential		2	Limited expansion capability at level 5.
Parking		3	
Landscaping		4	

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Power Plant**
750 Albany Street

Category	Data	Condition	Comment
GENERAL			
Age (years)	1972 (43)	3	
Typical Bay Dimen.	36' x 26'	4	
Ave. Typical Floor Area	Varies	3	5,500 sf to 20,500 sf
Typ. Floor Plate Width	100'	5	
Avg. Fl. To Fl. Height	22'-8"	5	
Total Area (GSF)	64,064 GSF		
Bldg. Type by Code	1B		
Occupancy	B		
Historical Designation	No		
No. of Stories	B+4		
PHYSICAL			
Roof		4	
Exterior Skin		4	
Life Safety		2	
Finishes		2	Finishes only in office areas
PTS	YES		
Hazardous Mat'l		?	
ADA		?	
Vertical Transporation		2	
FUNCTIONAL			
Present Use	Mech/Facilities		
Potential Use	Materials Handling		
SITE			
Arrival Experience		3	
Visibility		4	
Identity/Image		5	
Future Expansion Potential		2	Needs verification
Parking		4	Some surface and near Albany garage
Landscaping		1	Minor streetscaping

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Menino Building**
840 Harrison Ave.

Category	Data	Condition	Comment
GENERAL			
Age (years)	1994 (21)	4	
Typical Bay Dimen.	25' x 25'	4	
Ave. Typical Floor Area	51,000 GSF	5	
Typ. Floor Plate Width	141'	5	
Avg. Fl. To Fl. Height	15'	5	
Total Area (GSF)	337,340 GSF		
Bldg. Type by Code	1B		
Occupancy	B		
Historical Designation	No		
No. of Stories	B+8		
PHYSICAL			
Roof		4	
Exterior Skin		4	
Life Safety		4	
Finishes		4	Finishes to be updated with renovation
PTS	YES		
Hazardous Mat'l		?	
ADA	YES		
Vertical Transporation		4	
FUNCTIONAL			
Present Use	Ambulatory Care		
Potential Use	Ambulatory Care		
SITE			
Arrival Experience		4	
Visibility		4	
Identity/Image		4	
Future Expansion Potential		3	
Parking		4	
Landscaping		3	

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Moakley Building**
830 Harrison Ave.

Category	Data	Condition	Comment
GENERAL			
Age (years)	2006 (9)	4	
Typical Bay Dimen.	25' x 26'	4	
Ave. Typical Floor Area	35,000 GSF	4	
Typ. Floor Plate Width	128'	5	
Avg. Fl. To Fl. Height	16'	5	
Total Area (GSF)	133,217 GSF		
Bldg. Type by Code	1B		
Occupancy	B		
Historical Designation	No		
No. of Stories	B+3		
PHYSICAL			
Roof		5	
Exterior Skin		5	
Life Safety		5	
Finishes		4	Finishes to be updated with renovation
PTS	YES		
Hazardous Mat'l	No		
ADA	YES		
Vertical Transporation		5	
FUNCTIONAL			
Present Use	Ambulatory Care		
Potential Use	Ambulatory Care		
SITE			
Arrival Experience		5	
Visibility		5	
Identity/Image		5	
Future Expansion Potential		4	
Parking		3	
Landscaping		5	

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

BUILDING: **Dowling**
771 Albany Street

Category	Data	Condition	Comment
GENERAL			
Age (years)	1937 (68)	2	
Typical Bay Dimen.	16' x 18'	2	Tight for IP use
Ave. Typical Floor Area	10,000 sf	2	Small overall
Typ. Floor Plate Width	40' to 48'	2	Tight for IP use
Avg. Fl. To Fl. Height	11'-8"	2	Low for IP use
Total Area (GSF)	157,376 GSF		
Bldg. Type by Code	?		
Occupancy	B		
Historical Designation	No		
No. of Stories	10		
PHYSICAL			
Roof		4	
Exterior Skin		3	
Life Safety		3	
Finishes		3	
PTS	No		
Hazardous Mat'l		2	Some asbestos/VAT-Verify
ADA		3	
Vertical Transporation		2	
Overall Deficiency Rank			
FUNCTIONAL			
Present Use	Office		Some Ambulatory Care
Potential Use	Office		Some Ambulatory Care
SITE			
Arrival Experience		1	Through Yawkey or Manino
Visibility		5	
Identity/Image		2	
Future Expansion Potential		1	
Parking		2	Albany Street Garage
Landscaping		1	Minimal on Albany Street

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
NA	Not Applic.

APPENDIX B:
BUILDING INFRASTRUCTURE FORMS

BUILDING: **BCD**
800 Harrison Ave.

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	2005	4	Yes	5 AHUs in good capacity
Air Distribution Systems	2005	4	Yes	FCUs and VAVs in good condition
Cooling Systems	2005	4	Yes	FCUs and VAVs in good condition
Heating Systems	2005	4	Yes	FCUs and VAVs in good condition
Boiler Plant	1990's	3	No	LPS from Evans building sized to existing capacity.
Chillers	1990's	4	No	Chilled water from Moakley sized to existing capacity.
Pumping System	2005	4	Yes	Pumps in good condition
Cooling Towers	1990's	3	No	Chilled water from Moakley sized to existing capacity.
Piping Distribution	2005	4	No	Piping system sized to existing capacity.
Exhaust Systems	2005	4	No	
Automatic Temperature Controls	2005	4	Yes	DDC controls in good condition
Fuel Oil Tanks	N/A	N/A	N/A	N/A
ELECTRICAL				
Normal System	2005	4	yes	
Transformers	2005	4	yes	Exterior pad mount
13.8kv feeders	2005	3	yes	Partial upgrade
Highrise Substations	2005	4	yes	upgraded in 2005
Secondary distribution	2005	4	yes	upgraded in 2005
Generators	N/A	N/A	N/A	N/A
Emergency Distribution	N/A	N/A	N/A	N/A
Automatic transfer switches	N/A	N/A	N/A	N/A
PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	N/A	N/A	N/A
Domestic Water Systems	2005	4	yes	upgraded in 2005
Sanitary Drainage	2005	4	yes	upgraded in 2005
Special Drainage	N/A	N/A	N/A	N/A
Natural Gas System	N/A	N/A	N/A	N/A
Purified Water System	N/A	N/A	N/A	N/A
Fire Protection/Sprinkler	2005	4	yes	upgraded in 2005
Plumbing fixtures	2005	4	yes	upgraded in 2005

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **FGH**
820 Harrison

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	2007	4	some capacity	capacity
Air Distribution Systems	2007	4	some capacity	FCUs, VAVs in good condition
Cooling Systems	2007	4	Sized to existing capacity	FCUs, VAVs in good condition
Heating Systems	2007	4	Sized to existing capacity	FCUs, VAVs and FTR in good condition
Boiler Plant	1990s	3	CUP	CUP
Chillers	1990s	4	CUP	CUP
Pumping System	2007	4	some capacity	Booster CHW pumps and HW pumps in basement sized for existing capacity.
Cooling Towers	1990s	4	CUP	CUP
Piping Distribution	2007	4	some capacity	Sized for existing capacity.
Exhaust Systems	2007	4	some capacity	Good condition
Automatic Temperature Controls	2007	4	some capacity	DDC system in good condition
Fuel Oil Tanks	N/A	N/A	N/A	N/A
ELECTRICAL				
Normal System	2007	4	some capacity	Upgraded in 2007
Transformers	2007	4	some capacity	Exterioir pad mount
13.8kv feeders	2007	3	some capacity	partial upgrade in 2007
Highrise Substations	2007	4	some capacity	Upgraded in 2007
Secondary distribution	2007	4	some capacity	Upgraded in 2007
Generators	N/A	N/A	N/A	N/A
Emergency Distribution	N/A	N/A	N/A	N/A
Automatic transfer switches	N/A	N/A	N/A	N/A
PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	N/A	N/A	N/A
Domestic Water Systems	2007	4	some capacity	Upgrade in 2007
Sanitary Drainage	2007	4	some capacity	Upgrade in 2007
Special Drainage	N/A	N/A	N/A	N/A
Natural Gas System	N/A	N/A	N/A	N/A
Purified Water System	N/A	N/A	N/A	N/A
Fire Protection/Sprinkler	2007	4	some capacity	Upgrade in 2007
Plumbing fixtures	2007	4	some capacity	Upgrade in 2007

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: Naval Blood Lab
615 Albany

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	1980's	1	no spare capacity	There are 2water cooled units per floor units need to be replaces and a central AHU in Basement which needs to be replace
Air Distribution Systems	NA	2	no spare capacity	The duct layout is minimal and would require new distribution
Cooling Systems	1970's	2	no spare capacity	The cooling is from a outdoor cooling tower which serves the individual AHU's the tower would need to be replaced
Heating Systems	1970's	1	no spare capacity	The heating system is steam radiation throughout the perimeter (poor control and steam traps). Steam PRV station in basement needs replacement.
Boiler Plant	1970's	2	no spare capacity	The boiler is an oil fired steam boiler needs repair
Chillers	1970's	1	no spare capacity	AHU needs to be replace
Pumping System	1970's	2	no spare capacity	serving cooling tower and Air cooled system
Cooling Towers				
Piping Distribution	1970's	1	no spare capacity	Steam distribution piping requires repair. Steam piping leaking and needs replacement.
Exhaust Systems	1980's	1	no spare capacity	Most of the fans are not operating
Automatic Temperature Controls	1970	1	no spare capacity	Controls need to be replaced with new state of the art control system/BAS
Fuel Oil Tanks	1970,s	1	no spare capacity	underground tank needs to be replaced
Major Renovation				
ELECTRICAL				
Normal System	40	1	no spare capacity	requires upgrade
Transformers	20	1	no spare capacity	Exterior pad mounted
Primary feeders	40			requires upgrade
Highrise Substations	NA	NA	NA	NA
Secondary distribution	40	1	no spare capacity	requires upgrade
Generator	38	1	no spare capacity	125kw exterior unit
Emergency Distribution	38	1	no spare capacity	Not code compliant
Automatic transfer switches	38	1	no spare capacity	Not code compliant

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	1	No	No medical gas systems. Lab gas systems are in poor shape. Exterior bulk nitrogen tank
Domestic Water Systems		1	minimal	Booster pump limits size of expandabilty.
Sanitary Drainage		2	minimal	
Special Drainage		2	minimal	Limited acid resistant piping but no central acid neutralization capabilities
Natural Gas System		2	minimal	
Purified Water System		2	No	Poor system quality
Fire Protection/Sprinkler		2	minimal	
Plumbing fixtures		2	N/A	

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Vose**
10 Stoughton Street

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units				no ahu's
Air Distribution Systems				no distribution
Cooling Systems	w/ac	1	no spare capacity	window ac units
Heating Systems	1970s	1	no spare capacity	Steam radiators controlled by out side temperature
Boiler Plant	1970s	2	no spare capacity	District steam
Chillers	NA			
Pumping System	NA			
Cooling Towers	NA			
Piping Distribution	1970s	2	no spare capacity	steam piping only
Exhaust Systems	1970s	2	no spare capacity	toilet exhaust fans throughout
Automatic Temperature Controls	1970s	1	no spare capacity	minimal controls
Fuel Oil Tanks	NA			
ELECTRICAL				
Normal System	1970's	1	no spare capacity	requires upgrade
CEI vault (3) transformers	1970's	1	no spare capacity	from Evans vault
11.4 kV feeders to highrise	1970's	1	no spare capacity	from Evans vault
Highrise Substations	N/A	N/A	N/A	
Secondary switchgear PBS fused type	1970's	1		requires upgrade
Generators	2000's	3		From Newton Pavilion
Emergency Switchgear (parallel)	1970's	2	minimal	requires upgrade
Automatic transfer switches	1970's	2	minimal	requires upgrade
PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	1980's	3	minimal	equipment
Domestic Water Systems	1970's	3	minimal	
Sanitary Drainage	1970s	3	minimal	
Special Drainage	N/A	N/A	N/A	
Natural Gas System	N/A	N/A	N/A	
Purified Water System	N/A	N/A	N/A	
Fire Protection/Sprinkler	1970's	2	No	
Plumbing fixtures	1970's	2	N/A	Fixtures are old, tank type floor mtd.

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: 85 East Concord

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	2001	4	None	AHU-1 is a 100% OA dedicated to supplemental FCU ventilation. No spare capacity.
Air Distribution Systems	2001	3	Some	The ducts are sized for 100% supplemental ventilation for FCUs. Some capacity available for expansion.
Cooling Systems	2001	3	Some	capacity.
Heating Systems	2001	3	Some	capacity.
Boiler Plant	1990s	CUP	CUP	CUP
Chillers	2001	CUP	CUP	CUP
Pumping System	2001	3	Some	Pumps are sized for existing capacity with some room for expansion.
Cooling Towers	2001	CUP	CUP	CUP
Piping Distribution	2001	4	none	Sized for existing capacity.
Exhaust Systems	2001	3	None	
Automatic Temperature Controls	2001	3	Yes	Full building DDC controls.
Fuel Oil Tanks	N/A	N/A	N/A	N/A
Major Renovation	2001	-	-	-
ELECTRICAL				
Normal System	2008	4		
Transformers	2008	4		Located in Menino Addition
13.8 feeders	2008	3		Partial upgrade
Substations	2001	4		Located in Menino Addition
Secondary distribution	2001	4		
Generators (2) 675kw	2001	4		Moakley Plant
Emergency distribution	2001	4	no	
Automatic transfer switches	2013	5	yes	Located in Moakley
Automatic transfer switches	2008	4	yes	Located in Moakley

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	N/A	N/A	N/A
Domestic Water Systems	2001	3	none	DHW system in good condition
Sanitary Drainage	2001	3	none	Sanitary in good condition
Special Drainage	N/A	N/A	N/A	N/A
Natural Gas System	N/A	N/A	N/A	N/A
Purified Water System	N/A	N/A	N/A	N/A
Fire Protection/Sprinkler	2001	3	none	in good condition
Plumbing fixtures	2001	3	none	in good condition

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Collamore**
76 Harrison Ave

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	1980's	1	none	Roof top units need replacement
Air Distribution Systems	1980's	1	none	existing ventilation needs upgrade
Cooling Systems	1980's	1	none	Window AC units should be replaced with central ventilation system
Heating Systems	1980's	2	none	Steam heat with minimal controls.
Boiler Plant	1980's	2	none	District steam.
Chillers	N/A	N/A	N/A	N/A
Pumping System	1980's	1	none	
Cooling Towers	N/A	N/A	N/A	N/A
Piping Distribution	1980's	1	none	
Exhaust Systems	1980's	2	none	
Automatic Temperature Controls	1980's	1	none	
Fuel Oil Tanks	N/A	N/A	N/A	N/A
ELECTRICAL				
Normal System	1980s	1	no spare capacity	requires upgraded
Transformers	1980s	1	no spare capacity	requires upgraded
13.8kv feeders	1990s	2	no spare capacity	requires upgraded
Highrise Substations	1980s	1	no spare capacity	requires upgraded
Secondary distribution	1980s	1	no spare capacity	requires upgraded
Generators	2000s	3	minimal	requires upgraded
Emergency Distribution	1980s	2	minimal	requires upgraded
Automatic transfer switches	1980s	2	minimal	requires upgraded
PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	N/A	N/A	N/A
Domestic Water Systems	1980's	2	none	
Sanitary Drainage	1980's	2	none	
Special Drainage	N/A	N/A	N/A	N/A
Natural Gas System	N/A	N/A	N/A	N/A
Purified Water System	N/A	N/A	N/A	N/A
Fire Protection/Sprinkler	1980's	2	none	
Plumbing fixtures	1980's	2	none	

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: Old Evans
66 East Newton

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	1990s	2	no spare capacity	
Air Distribution Systems	2000s	2	no spare capacity	
Cooling Systems	2000s	3	some spare capacity	4 pipe FCUs from chiller system in good condition. Chillers have spare capacity.
Heating Systems	1990s	3	some spare capacity	steam radiators served via district heat.
Boiler Plant	1990s	2	some spare capacity	District steam
Chillers	2000s	3	some spare capacity	150 ton carrier chiller has some spare capacity.
Pumping System	2000s	2	none	Sized for existing distribution.
Cooling Towers	2000s	3	some spare capacity	150 ton carrier chiller has some spare capacity.
Piping Distribution	1980s	1	none	Sized for existing distribution.
Exhaust Systems	1990s	2	none	Fair condition
Automatic Temperature Controls	1990s	1	no spare capacity	requires upgrade
Fuel Oil Tanks	N/A	N/A	N/A	N/A
ELECTRICAL				
Normal System	1980s	1	no spare capacity	Requires upgrade
Transformers	1980s	1	no spare capacity	Requires upgrade
13.8kv feeders	1990s	2	no spare capacity	Requires upgrade
Highrise Substations	1980s	1	no spare capacity	Requires upgrade
Secondary distribution	1980s	1	no spare capacity	Requires upgrade
Generators	2000s	3	minimal spare capacity	Requires upgrade
Emergency Distribution	1980s	2	minimal spare capacity	Requires upgrade
Automatic transfer switches	1980s	2	minimal spare capacity	Requires upgrade

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	N/A	N/A	Decommissioned
Domestic Water Systems	1980s	2	minimal spare capacity	Requires upgrade
Sanitary Drainage	1970s	2	capacity	Fair condition
Special Drainage	N/A	N/A	N/A	N/A
Natural Gas System	N/A	N/A	N/A	N/A
Purified Water System	N/A	N/A	N/A	N/A
Fire Protection/Sprinkler	1980s	2	none	Fair condition
Plumbing fixtures	1980s	2	none	Fair condition

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Preston**
732 Harrison Ave.

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	2000-2007	3	no spare capacity	New RTU installed in 2007 to provide ventilation air to FCUs and building distribution.
Air Distribution Systems	2007	3	no spare capacity	Fair condition due to renovations in 2000's.
Cooling Systems	2000's	3	no spare capacity	FCUs upgraded in 2000's. Thru-wall OA systems removed.
Heating Systems	2000's	2	no spare capacity	FCUs upgraded in 2000's. Thru-wall OA systems removed.
Boiler Plant	2000's	2	no spare capacity	steam from DOB
Chillers	2000's	3	no spare capacity	from Newton chillers via DOB
Pumping System	2000's	2	no spare capacity	from DOB
Cooling Towers	2000's	3	no spare capacity	from Newton chillers via DOB
Piping Distribution	1990's	2	no spare capacity	
Exhaust Systems	1970's/2000's	2	no spare capacity	
Automatic Temperature Controls	1990's	2	no spare capacity	DDC conrols
Fuel Oil Tanks	N/A	N/A	N/A	N/A
ELECTRICAL				
Normal System	1970's	1	no spare capacity	requires upgrade
Transformers	2010	4		
11.4 kV feeders to highrise	N/A	N/A	N/A	N/A
Highrise Substations	N/A	N/A	N/A	N/A
Secondary switchgear	1970's	4	no spare capacity	
Generators	2000	3	no spare capacity	from Newton Pavilion
Emergency Switchgear (parallel)	1970's	3	no spare capacity	
Automatic transfer switches	1970's	3	no spare capacity	

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum		2	No	Medical Vac and Ox on 4th Fl only.
Domestic Water Systems		2	No	too small for expansion.
Sanitary Drainage		2	minimal	
Special Drainage	N/A	N/A	N/A	
Natural Gas System	N/A	N/A	N/A	
Purified Water System	N/A	N/A	N/A	
Fire Protection/Sprinkler		3	minimal	
Plumbing fixtures		2	N/A	Floor mounted, tank type fixtures

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Betatron**
Address

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	2000	3	none	package unit with chilled water and preheat.
Air Distribution Systems	2000	3	none	single duct reheat
Cooling Systems	2000	3	none	package unit
Heating Systems	2000	3	none	District steam to HW heat exchangers for reheat.
Boiler Plant	1980's	2		District steam
Chillers	1990's	3		Chilled water from Evans building
Pumping System	1990's	2	none	
Cooling Towers				Cooling towers in Evans building
Piping Distribution	1990's	2	none	Fair condition
Exhaust Systems	1990's	2	none	Requires upgrade
Automatic Temperature Controls	2000's	1	none	Siemens upgrade in 2000. Remainder of building requires upgrade.
Fuel Oil Tanks	N/A	N/A	N/A	N/A
ELECTRICAL				
Normal System	1980's	1	none	Requires upgrade
CEI vault (3) transformers	1980's	1	none	from Evans
Feeders	1980's	1	none	from Evans
Highrise Substations	1980's	1	none	
Secondary switchgear	1980's	1	none	from Evans
Generators	2000's	3	none	from Newton Pavilion
Emergency Switchgear (parallel)	1980's	3	none	Requires upgrade
Automatic transfer switches	1980's	3	none	Requires upgrade
PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum		3	No	Supplied from other buildings
Domestic Water Systems		3	No	Supplied from other buildings
Sanitary Drainage		3	No	
Special Drainage	N/A	N/A	N/A	
Natural Gas System	N/A	N/A	N/A	
Purified Water System	N/A	N/A	N/A	
Fire Protection/Sprinkler		2	No	
Plumbing fixtures		2	N/A	

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Yawkey ACC**
850 Harrison Ave.

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	1970's	3	Spare capacity available	AHUs upgraded in 2012.
Air Distribution Systems	2012	4	Spare capacity available	Major renovation in 2012 included new return aoir duct system, and doubled the supply air duct area.
Cooling Systems	1970's	4	on going	chilled water from chiller plant
Heating Systems	1970's	4	yes	hot water system is adequate and undergoing upgrades in 2015.
Boiler Plant	1970's	4	yes	Upgraded steam piping and pressure reducing station installed in 2015.
Chillers	2000's	4	on going	chilled water from chiller plant
Pumping System	1990's	4	on going	VFD's being added to hot water pumps in 2015.
Cooling Towers	1980's	3	on going	in central plant
Piping Distribution	1970's	3	on going	HW and steam piping being upgraded in 2015.
Exhaust Systems	1970's	2	F -No spare capacity	most exhaust systems are not providing required CFM
Automatic Temperature Controls	2000's	4	on going	Majority of building contains DDC controls.
Fuel Oil Tanks	1970's	3	No spare capacity	Upgraded pumps and level controls in 2015.
Major Renovation				
ELECTRICAL				
Normal System	2013	5	yes	new
Transformers	2013	5	yes	new
13.8 feeders	2013	5	yes	From CUP
Substations	2013	5	yes	new
Secondary distribution	2013	5	yes	some new
Generators (2) 675kw	2013	5	yes	new
Emergency distribution	2013	5	yes	new
Automatic transfer switches	1970's	3	no	equipment branch
Automatic transfer switches	2013	5	yes	critical life safety

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	2015	5	Yes	New campus wide medical air and vaccuum infrastructure installed in 2015.
Domestic Water Systems	2015	5	Yes	New steam instantaneous domestic HW HX system installed in 2015.
Sanitary Drainage	1970's	3	D -minimal	
Special Drainage	2015	N/A	D -minimal	Lab waste system decommissioned in 2015.
Natural Gas System	N/A	N/A	N/A	
Purified Water System	N/A	N/A	N/A	
Fire Protection/Sprinkler	2015	5	Yes	New fire pump installed in 2015
Plumbing fixtures	2015	4	N/A	Over 50% of building plumbing fixtures upgraded in 2015.

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Power Plant**

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	1970s	2	no spare capacity	AHUs are original to the building and require upgrade.
Air Distribution Systems	1970s	1	no spare capacity	Pressure dependant terminal boxesrequire upgrade.
Cooling Systems	1990s	2	no spare capacity	Terminal boxes and duct should be upgraded.
Heating Systems	1980s	2	no spare capacity	Terminal boxes and duct should be upgraded.
Boiler Plant	1970s	3	yes	District steam. PRVs should be upgraded.
Chillers	1970s	4	yes	condition
Pumping System	1970s	3	yes	Original pumping system. Pumps should be upgraded.
Cooling Towers	1980s	3	yes	Cooling towers in good condition.
Piping Distribution	2000s	4	yes	Piping upgraded in 2000. Good condition.
Exhaust Systems	1970s	3	none	Requires upgrade.
Automatic Temperature Controls	2000s	3	none	Requires upgrade.
Fuel Oil Tanks	1999	3	none	10,000 gallon fuel oil tank
Major Renovation	N/A	N/A	N/A	N/A
ELECTRICAL				
Normal System	1970s	2	yes	Needs upgrade
Transformers	1970s	2	yes	Needs upgrade
13.8 feeders	1970s	2	yes	Needs upgrade
Substations (2)	1970s	3	minimal	Needs upgrade
Secondary distribution	1970s	3	yes	Needs upgrade
Generators (1) 550 (1) 400	1990s	3	yes	Needs upgrade
Emergency distribution	1970s	3	yes	Needs upgrade
Automatic transfer switches	1970s	3	yes	Needs upgrade

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	N/A	N/A	N/A
Domestic Water Systems	1970s	2	yes	Needs upgrade
Sanitary Drainage	1970s	2	yes	fair
Special Drainage	N/A	N/A	N/A	N/A
Natural Gas System	N/A	N/A	N/A	N/A
Purified Water System	N/A	N/A	N/A	N/A
Fire Protection/Sprinkler	1970s	2	none	Building is not fully sprinkled
Plumbing fixtures	1970s	2	none	needs upgrade

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Menino**
840 Harrison Ave.

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	1990s	2	some capacity	AHUs 2 & 5 have spare capacity. All other AHUs are operating at full capacity.
Air Distribution Systems	1990s	2	some capacity	Ongoing renovations with major upgrades in 2015.
Cooling Systems	1990s	3	some capacity	upgrades in 2015.
Heating Systems	1990s	3	some capacity	upgrades in 2015.
Boiler Plant	1990s	3	CUP	Steam PRV station expected upgrade in 2015. Condensate system upgrade needed.
Chillers	1990s	3	CUP	8" chilled water sized at building capacity.
Pumping System	1990s	3	none	Pumps sized for building capacity
Cooling Towers	1990s	3	CUP	8" chilled water sized at building capacity.
Piping Distribution	1990s	3	none	Piping sized for building capacity
Exhaust Systems	1990s	2	none	Exhaust fans and ducts in poor condition.
Automatic Temperature Controls	1990s	3	none	Ongoing renovations. Patient rooms require DDC upgrade.
Fuel Oil Tanks	2015	5	none	New fuel tank in 2015.
Major Renovation	2015			
ELECTRICAL				
Normal System	1990s	3	has spare capacity	Proposed upgrade in 2016
Transformers	1990s	3	has spare capacity	Proposed upgrade in 2016
13.8 feeders	1990s	3	has spare capacity	Proposed upgrade in 2016
Substations	1990s	3	has spare capacity	Proposed upgrade in 2016
Secondary distribution	1990s	3	has spare capacity	Proposed upgrade in 2016
Generators (2) 675kw	1990s	3	has spare capacity	Proposed upgrade in 2016
Emergency distribution	1990s	3	has spare capacity	Proposed upgrade in 2016
Automatic transfer switches	1990s	3	has spare capacity	Proposed upgrade in 2016

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	1990s	1	none	Medical air and vacuum system in poor condition
Domestic Water Systems	1990s	3	none	Domestic HW system sized for current capacity.
Sanitary Drainage	1990s	1	none	Underslab piping not properly picthed and causes plumbing backup.
Special Drainage	1990s	1	none	and causes plumbing backup.
Natural Gas System	1990s	3	none	Serves kitchen equipment.
Purified Water System	N/A	N/A	N/A	N/A
Fire Protection/Sprinkler	1990s	5	none	Upgraded to Yawkey fire pump in 2015
Plumbing fixtures	1990s	3	none	Ongoing upgrades. Underslab piping limits added capacity.

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Moakley**
830 Harrison Ave.

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	2008	4	none	(4) AHUs with controls and stratification problems. AHUs do not have spare capacity.
Air Distribution Systems	2008	4	some capacity	Most ducts sized for existing building capacity.
Cooling Systems	2008	4	some capacity	CUP chilled water from Shapiro Tunnel and Menino to Moakley bridge.
Heating Systems	2008	4	some capacity	CUP steam from Shapiro tunnel in good condition.
Boiler Plant	2008	4	CUP	CUP
Chillers	2008	4	CUP	CUP
Pumping System	2008	4	some capacity	Pumps in good condition
Cooling Towers	2008	4	CUP	CUP
Piping Distribution	2008	3	some capacity	Piping system in good condition
Exhaust Systems	2008	4	none	no spare capacity. Fans in good condition
Automatic Temperature Controls	2008	4	spare capacity	DDC controls throughout the building
Fuel Oil Tanks	N/A	N/A	N/A	N/A
Major Renovation	N/A	N/A	N/A	N/A
ELECTRICAL				
Normal System	2008	4	yes	minimal loads on system
Transformers	2008	4	yes	minimal loads on system
13.8 feeders	2008	3	yes	minimal loads on system
Substations	2008	4	yes	minimal loads on system
Secondary distribution	2008	4	yes	minimal loads on system
Generators (2) 675kw	2008	4	yes	minimal loads on system
Emergency distribution	2008	4	yes	minimal loads on system
Automatic transfer switches	2008	4	yes	minimal loads on system

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	2008	4	yes	minimal loads on system
Domestic Water Systems	2008	4	yes	minimal loads on system
Sanitary Drainage	2008	4	yes	in good condition
Special Drainage	2008	4	yes	in good condition
Natural Gas System	N/A	N/A	N/A	N/A
Purified Water System	N/A	N/A	N/A	N/A
Fire Protection/Sprinkler	2008	4	yes	in good condition
Plumbing fixtures	2008	4	yes	in good condition

KEY

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

BUILDING: **Dowling**
771 Albany Street

Category	Equipment Age (Years)	Equipment Condition	Capacity / Expandability	Comments
HVAC				
Air Handling Units	mixed	1	none	needs new AHU's
Air Distribution Systems	minimal	1	none	needs new destitution
Cooling Systems	2013	2	minimal	Risers upsized to support office space in 2013.
Heating Systems	2013	2	minimal	Risers upsized to support office space in 2013.
Boiler Plant	CUP	CUP	CUP	from CUP
Chillers	CUP	CUP	CUP	from CUP
Pumping System	CUP	CUP	CUP	from CUP
Cooling Towers	CUP	CUP	CUP	from CUP
Piping Distribution	2013	3	none	Risers upsized to support office space in 2013.
Exhaust Systems	minimal	2		needs new vetilation sysrem
Automatic Temperature Controls	2013	2	none	New DDC controls added to floors 7-9 in 2013.
Fuel Oil Tanks	n/a	n/a	n/a	
ELECTRICAL				
Normal System	Mixed	2	no	Equipment needs upgrade to accommodate new mechanical systems, no critical branch distribution.
Transformers	2010	4	no	Service from Yawkey sized for existing use. Will need upgrade for new mechanical systems and clinical occupancy.
13.8kv feeders	1970	3	minimal	15 kV feeders to Yawkey substation from CUP.
Highrise Substations	2000	1	no	Substation damaged by fire, supplied by Yawkey building via a reduced feeder.
Secondary distribution	mixed	2	minimal	Equipment needs upgrade to accommodate new mechanical equipment or clinical occupancy.
Generators	2013	5	minimal	building sized for existing loads, no
Emergency Distribution	2005	3	minimal	Life safety seperated, no critical branch power distribution existing.
Automatic transfer switches	2013	5	minimal	No spare capacity on emergency system.

PLUMBING/FIRE PROTECTION				
Medical Gas & Vacuum	N/A	N/A	N/A	N/A
Domestic Water Systems	2013	4	has spare capacity	Domstic HW heat exchanger replaced in 2013.
Sanitary Drainage	1970s	2	minimal	may be approaching the end of its
Special Drainage	N/A	N/A	N/A	
Natural Gas System	N/A	N/A	N/A	
Purified Water System	N/A	N/A	N/A	
Fire Protection/Sprinkler	2013	5		Added to Yawkey fire pump in 2013.
Plumbing fixtures		3	N/A	

1	Poor
2	Fair
3	Good
4	Very Good
5	Excellent
N/A	Not Applicable

Attachment 9.7

BOSTON MEDICAL CENTER

EXCEPTIONAL CARE. WITHOUT EXCEPTION.

The primary teaching affiliate of the
Boston University School of Medicine.

February 20, 2017

South End Historic Landmarks Commission
1 City Hall Square
Boston, MA 02201

Boston Medical Center
Preservation Plan

Commissioners:

Thank you again for meeting with us to review Boston Medical Center's 2016 Preservation Plan and in particular, a discussion over the demolition or reuse of the Dowling Building located at the NE corner of Massachusetts Avenue and Albany Street.

As a follow-up to our meeting, BMC was requested to respond in writing to the commissioner's request to explain in writing how a potential restoration and use of the Dowling Building for non-clinical functions would affect patient care and to state alternative locations for future inpatient clinical spaces and patient bed expansion areas.

As stated in the 2010 Institutional Master Plan (IMP) and again in the 2013 IMP Amendment, BMC's intention is to replace the Dowling Building with a new inpatient facility. The approved 2013 IMP Amendment consolidates all inpatient functions to the Menino Campus located between Harrison and Albany Streets along Massachusetts Avenue. In the approval, BMC's primary location for future growth of inpatient services is the Dowling Building Replacement. The reasons that the Dowling site is uniquely suited for the expansion of inpatient services are:

1) Inpatient bed growth will most likely be driven by increased acuity of our inpatient population and the requirement that inpatients be accommodated in single bed rooms .vs. shared patient rooms.
2) It is conceivable that many of these new beds will be critical care (ICU) beds.
3) Direct access and adjacency to our surgical and diagnostic platforms is essential, as is accessibility to our Emergency Department. All of these services are located in our Menino building, where we are currently making major investments to continue to meet the demands of our patient populations.
4) These critical adjacencies and connectivity required can only be acheived on the Dowling site.

Since 2013, BMC has experienced tremendous growth in demand for our inpatient clinical services and a critical need for expanded inpatient bed counts. BMC currently has a request to amend our approved Clinical Campus Redesign (CCR) Determination of Need (DoN) to add 34 new licensed beds in both the Menino and Yawkey Buildings. With the completed construction of the new beds and the closure of the Newton Pavilion in October 2018, BMC will have very few options for required inpatient growth if demolition of the Dowling Building is not approved. The only other alternative would be to build in the green spaces along Harrison Avenue for future inpatient buildings; BMC has NO intention to present this as an option for discussion since the required adjacencies and connectivity cannot be achieved and the existing green spaces are valued by the hospital community and our neighbors.

Attachment 9.7

BOSTON MEDICAL CENTER

EXCEPTIONAL CARE. WITHOUT EXCEPTION.

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The Dowling Building is an antiquated building with little capacity for conversion to a modern outpatient clinical or office building. Challenges include inefficient structural bay spacing and low floor to floor heights. The need for new code compliant elevator shafts and egress stairs and new vertical shafts for modern mechanical, fire protection and plumbing services would further reduce useable floor area. All of these vertical penetrations would substantially reduce floor area making an already small and inefficient floor plate much worse. Rewiring the building's high and low voltage electrical infrastructure, including new high and low voltage electrical rooms on each floor to accommodate the needs and demands for today's healthcare environment would further negatively impact floor efficiency and functionality. And Dowling's floors do not align with the adjacent buildings requiring multiple stairs and ramps that further detract from functionality and efficiency. But at the end of the day, the most compelling reason for replacing the Dowling Building is that there is simply no other viable location for the expansion of our inpatient services.

Boston Medical Center has a need for both inpatient and outpatient clinical spaces in the foreseeable future, BMC can find adjacent sites to accommodate growth of our outpatient populations and office needs in a safe environment near our campus. Not allowing BMC to use the Dowling Building site for future inpatient growth would impose a serious restriction on our ability to continue our mission to provide quality inpatient care to our patients, who predominately come from the South End and our surrounding City of Boston neighborhoods.

Dino DiFronzo is BMC's representative for all city related issues, please do not hesitate to reach out and work directly with him to address any questions and comments you may have and if a follow-up meeting is required.

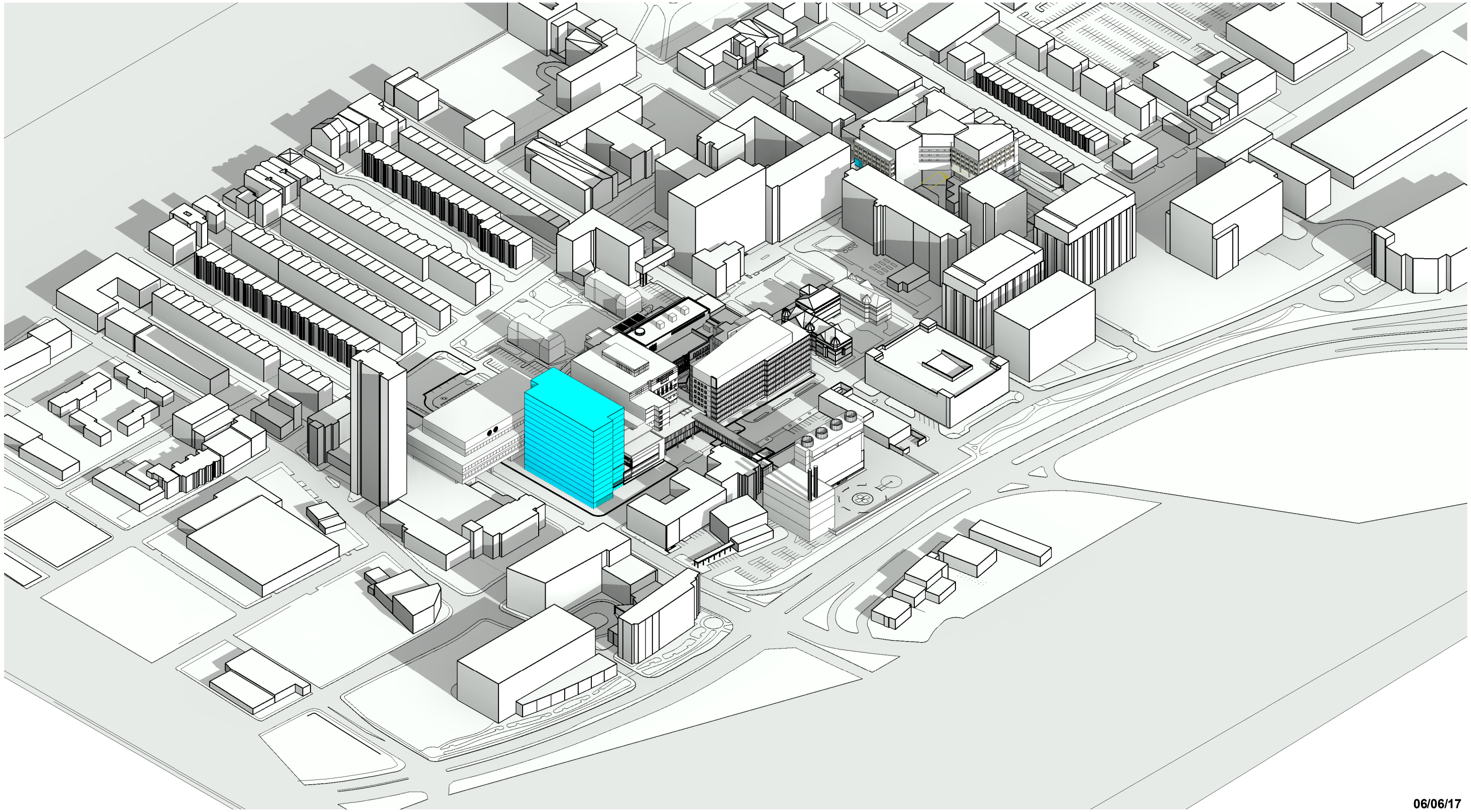
Sincerely,

Brendan R. Whalen
Director, Design and Construction

cc:	Katie Reed	City of Boston Landmarks
	Bob Biggio	Boston Medical Center
	Dino DiFronzo	Boston Medical Center
	Kristi Dowd	Stantec Consulting
	Leslie Donovan	Tremont Preservation Services

BMC MASTERPLAN STUDIES

OPTION A APPROVED IMP TOWER



06/06/17

APPENDIX C
BPDA SCOPING DETERMINATION

boston planning & development agency

January 8, 2020

Mr. Robert Biggio
Senior Vice President, Facilities and Support Services
Boston Medical Center
750 Albany Street
Boston, MA 02118

Re: **Scoping Determination for the proposed Boston Medical Center Institutional Master Plan**

Dear Mr. Biggio:

Please find enclosed the Scoping Determination for the proposed Boston Medical Center ("BMC") Institutional Master Plan. The Scoping Determination describes information required by the Boston Planning & Development Agency in response to the Institutional Master Plan Notification Form ("IMPNF"), which was submitted under Article 80D of the Boston Zoning Code on November 20, 2019 by BMC. Additional information may be required during the course of the review of the proposals.

If you have any questions regarding the Scoping Determination or the review process, please contact me at (617) 918-4422.

Sincerely,

Edward Carmody
Institutional Planner & Project Manager

CC: Jonathan Greeley, BPDA
Jerome Smith, Mayor's Office of Neighborhood Services

BOSTON REDEVELOPMENT AUTHORITY
D/B/A BOSTON PLANNING & DEVELOPMENT AGENCY

SCOPING DETERMINATION

FOR

BOSTON MEDICAL CENTER
INSTITUTIONAL MASTER PLAN

PREAMBLE

On November 20, 2019, Boston Medical Center ("BMC") submitted to the Boston Planning & Development Agency ("BPDA") an Institutional Master Plan Notification Form ("IMPNF") seeking approval of a BMC Institutional Master Plan ("IMP") for its Campus at 1 Boston Medical Center Place in the South End, a site generally bound by Harrison Avenue, East Brookline Street, the Massachusetts Avenue Connector, and Massachusetts Avenue. The Campus also includes several buildings south of Massachusetts Avenue, including 801 Massachusetts Avenue, 801 Albany Street, and the Crosstown Parking Garage. The proposed future IMP projects include: Yawkey Building 6th Floor Addition, Menino & Yawkey Building Lobby Addition, Menino 9th Floor Addition, Collamore/Old Evans Renovation of Existing Administration; 10 Stoughton Street Administrative Building, New Administration/Clinical Building on the Ramp Parcel, New Inpatient Building Phase II, and New Administration/Clinical Building on the Power Plant site ("Proposed IMP Projects"). **The proposed IMP includes several future projects that will be subject to Article 80B Large Project Review should the IMP be approved and should BMC decide to move forward with these projects within the term of the IMP.**

The BPDA will review the proposed IMP pursuant to Section 80D of the Boston Zoning Code ("Code"). As part of the BPDA's Article 80 review, BMC is required to prepare and submit to the BPDA a proposed IMP pursuant to Section 80D. The documents must set forth in sufficient detail the planning framework of the institution and the cumulative impacts of the Proposed Future Projects included in the IMP to allow the

BPDA to make a determination about the merits of the proposed IMP. **The proposed IMP shall contain the information necessary to meet the specifications of Article 80 as well as any additional information requested below.**

Copies of the IMPNF were made available to the public in both electronic and hard copy format. A Task Force Meeting was held on November 18, 2019, and a Public Meeting was held on December 11, 2019 at which the Proposed IMP was presented, and a Scoping Session was held on December 6, 2019 with public agencies. The comment deadline for the IMPNF was December 20, 2019.

Based on review of the IMPNF, related comments, as well as a Scoping Session and both Public and Task Force Meetings, the BPDA hereby issues its written Scoping Determination ("Scope") pursuant to Section 80D of the Code. BMC is requested to respond to the specific elements outlined in this Scope. Written comments constitute an integral part of the Scoping Determination and should be responded to in the IMP or in another appropriate manner over the course of the review process. At other points during the public review of the IMP, the BPDA and other City agencies may require additional information to assist in the review of the Proposed IMP.

To facilitate the preparation and review of the document referenced above, the Scope sets forth the submission requirements for the IMP.

In addition to the specific submission requirements outlined in the sections below, the following general issues should be noted:

- All development projects have construction impacts. As with any urban development there needs to be a balance of construction related inconveniences with the daily activities that will continue to occur adjacent to the project site. A detailed approach to the construction management must be included in the IMP.

- To that point, considerable community concern has been raised regarding proposed plans for the Ramp Parcel (colloquially referred to as "Building H"). These concerns surround the proposed building's potential for significant construction-related and other (i.e. shadow) impacts on abutting East Brookline Street residential properties and resident quality of life. These concerns should be addressed and mitigated.

- Throughout this initial phase of review, the Proponent has taken steps to meet with local residents, elected officials, abutters, and City and State agencies. These conversations must continue, ensuring that what is presented in the IMP is beneficial to the adjacent neighborhoods and the City of Boston as a whole.

- The BPDA encourages the Proponent to continue to work closely with City agencies, including the Boston Transportation Department ("BTD"). In particular, collaboration with the Transportation Demand Management (TDM) program and coordinator is strongly encouraged to enhance BMC's current transit, parking management, and other TDM measures.

- While no additional parking is proposed in the IMP, the BPDA and BTD encourage BMC to consider how additional vehicular trips generated by campus growth over the course of the IMP can be mitigated via transit and design solutions. This will be expected in reviewing the IMP.

- A detailed signage and wayfinding plan should be developed as part of the strategy for improving patient and visitor wayfinding and campus circulation. Please see BPDA Urban Design comment letter.

SUBMISSION REQUIREMENTS

FOR THE

BOSTON MEDICAL CENTER IMP

The Scope requests information required by the BPDA for its review of the proposed IMP in connection with the following:

1. Approval of the BMC IMP pursuant to Article 80D and other applicable sections of the Code.

2. Recommendation to the Zoning Commission for approval of the BMC IMP.

The BMC IMP should be documented in a report of appropriate dimensions and in presentation materials which support the review and discussion of the IMP at public meetings. Ten (10) hard copies of the full report should be submitted to the BPDA, in addition to an electronic version in .pdf format. Hard copies of the document should also be available for distribution to the BMC Task Force, community groups, and other interested parties in support of the public review process. The IMP should include a copy of this Scoping Determination. The IMP should include the following elements:

MISSION AND OBJECTIVES

- **Organizational Mission and Objectives.** Define BMC's institutional mission and objectives, and describe how the development contemplated or proposed in the IMP advances the stated mission and objectives.
- **Major Programs and Initiatives.** Update any major programs or initiatives that will drive physical planning in the future. Included in the description should be current and future trends that are impacting BMC and shaping program objectives, employment numbers, number of beds, etc. Provide any updates to BMC's current employee population, disaggregated by faculty/staff, full-time/part-time, Boston residents/non-residents, as well as projected employment over the term of the new IMP.

EXISTING PROPERTY AND USES

The IMP should present applicable updated maps, tables, narratives, and site plans clearly providing the following information:

- **Owned and Leased Properties.** Provide an updated inventory of land, buildings, and other structures in the City of Boston owned or leased by BMC as of the date of submission of the IMP, with the following information for each property.

    - Illustrative site plans showing the footprints of each building and structure, together with roads, sidewalks, parking, and other significant improvements.
    - Land and building uses.
    - Building gross square footage and, when appropriate, number of dormitory beds or parking spaces.
    - Building height in stories and, approximately, in feet, including mechanical penthouses.
    - Tenure (owned or leased by BMC).

PROPOSED FUTURE PROJECTS

Article 80D Requirements. Pursuant to Article 80D, the IMP should provide the following information for the Proposed
Projects:

- Site location and approximate building footprint.
- Uses (specifying the principal sub-uses of each land area, building, or structure, such as classroom, laboratory, parking facility).
- Square feet of gross floor area.
- Square feet of gross floor area eliminated from existing buildings through demolition of existing facilities.
- Floor area ratio.
- Building height in stories and feet, including mechanical penthouses.
- Parking areas or facilities to be provided in connection with Proposed IMP Projects;
- Any applicable urban renewal plans, land disposition agreements, or the like.
- Current zoning of site.
- Total project cost estimates.
- Estimated development impact payments.

- Approximate timetable for development of proposed institutional projects, with the estimated month and year of construction start and construction completion for each.

Rationale for Proposed Project. Discuss the rationale for the program and location of proposed buildings in light of discussions on mission, facilities needs, and campus planning objectives. Discuss the rationale for the scale of the proposed buildings.

PLANNING FRAMEWORK

This section should discuss, at a minimum, the following:

- **Existing Context.** Describe BMC's place in the broader context of adjacent land uses, and the surrounding neighborhoods. Reference any City policies or plans that shape the planning context for the area and for BMC.
- **Factors Driving Facilities Needs.** Provide any update of current facilities utilization rates and BMC's ability to accommodate patient number growth with existing facilities, by type of facility.
- **Campus Vision and Identity.** Describe any updates to BMC's vision of its desired physical identity and, in general terms, strategies for achieving that identity.
- **Overview of Urban Design Guidelines and Objectives.** Discuss any current or new urban design guidelines and objectives that have emerged and strategies for implementing them in conjunction with the Proposed IMP Projects or in the future.
- **Public Realm.** Discuss any updates to the existing public realm conditions (i.e. parks, plazas, streetscapes) in the vicinity of BMC facilities, regardless of ownership. Discuss key urban design and public realm goals and objectives proposed by BMC for the campus, with a focus on creating a high-quality interface between the campus and the surrounding neighborhoods and transit stations.
- **Pedestrian Circulation Goals and Guidelines.** Provide a statement of goals and guidelines for pedestrian circulation both within and through BMC's campus and in relation to the Proposed IMP Projects.

TRANSPORTATION AND PARKING MANAGEMENT / MITIGATION PLAN

The following submission requirements relate to the proposed IMP. In addition to the submissions detailed in this Scope, BMC should continue to work closely with the

Boston Transportation Department ("BTD") to outline an appropriate scope for studying and mitigating any transportation impact of the Proposed IMP Projects.

- **Existing Conditions.** Provide any updates to BMC's existing transportation and parking characteristics, including data on mode share for employees, parking spaces owned and operated by BMC, and policies regarding patient, visitor and employee parking, transportation demand management measures in place, etc.
- **Impact of New Project.** Discuss the impact of the Proposed IMP Projects on parking demand and supply.

ECONOMIC DEVELOPMENT

The IMP should address the following topics:

- **Employment and Workforce Development.** Provide any updates to existing and proposed programs to train and hire Boston residents for BMC jobs.

COMMUNITY BENEFITS PLAN

The IMP should describe BMC's Community Benefits Plan in general and in relation to the Proposed IMP Projects.

ENVIRONMENTAL SUSTAINABILITY

The City of Boston expects a high level of commitment to principles of sustainable development from all developers and institutions. BMC's Proposed IMP Projects provide exciting opportunities for innovation and excellence. BMC will be expected to work with the BPDA, the City of Boston Environment Department, and others to set and meet ambitious environmental sustainability goals in the design of the Proposed IMP Projects. The IMP should present as much information as possible on the topics below, with the understanding that not all of them may be relevant at this current time.

- **Existing Sustainability Measures.** Update if applicable BMC's existing sustainability measures at the building and campus-wide level, including but not limited to energy, stormwater, solid waste, transportation, and infrastructure and utilities. Explain the administrative structure for making decisions about and

promoting innovation in the area of building a sustainable campus. Describe any formal goals or principles that BMC has adopted in the area of sustainability.

- **Green Building.** New campus buildings should achieve a superior level of performance in the areas of materials and resources (recycled content, construction waste management, local/regional materials), energy (energy performance, renewable energy), water management (water efficiency, stormwater management, graywater and stormwater recycling, etc.), indoor environmental quality, and other standard performance areas of high-performance or "green" buildings. Whenever possible, buildings should achieve a high level of certification through LEED or another appropriate system.
- **Energy Use.** Future campus development should consider the impact of new buildings on the existing heating and cooling infrastructure. Reducing the current energy use of existing buildings should be addressed prior to expanding or building new power plants. Planning should consider the possible benefits of localized heating and cooling systems within a section of the campus or within an individual building, allowing for alternative energy sources to be easily explored.
- **Water Use.** Future campus development should incorporate water use, conservation, and rainwater harvesting strategies at a campus level. New construction allows opportunities for storage systems to be installed for use by the new and adjacent buildings. Collected water can be used for flushing, HVAC make-up water, and irrigation.
- **Stormwater Retention/Treatment/Reuse and Groundwater Recharge.** BMC's development should go beyond the minimum requirements related to stormwater runoff. In particular, the new developments proposed as part of this IMP should set a goal of reducing stormwater discharge from the sites into the storm sewers, not simply avoiding any additional runoff. This goal should be considered in conjunction with strategies for reuse of retained stormwater and strategies for groundwater recharge. Individual building design, site design, and street-level interventions should all maximize the opportunities for stormwater retention, treatment, and reuse, as well as groundwater recharge, through innovative approaches. To the extent possible, the systems put in place should strive to work with the natural hydrology of the area.
- **Solid Waste.** Campus master planning should set the goal of reducing the level of solid waste generation in both the construction and operation of buildings.

OTHER

- **Public Notice.** BMC will be responsible for preparing and publishing in one or more newspapers of general circulation in the city of Boston a Public Notice of

the submission of the IMP to the BPDA as required by Section 80A-2. This Notice shall be published within five (5) days after the receipt of the IMP by the BPDA. In accordance with Article 80, public comments on the IMP shall be transmitted to the BPDA within sixty (60) days of the publication of this notice. A sample form of the Public Notice is attached as Appendix 3. Following publication of the Public Notice, BMC shall submit to the BPDA a copy of the published Notice together with the date of publication.

APPENDIX 1
BPDA STAFF COMMENTS

MEMORANDUM

TO: Edward Carmody, Institutional Planner & Project Manager
FROM: Elizabeth A. Stifel, Senior Architect/Urban Designer, BPDA
James Fitzgerald, Senior Transportation Management Planner, BPDA
DATE: December 20, 2019
SUBJECT: Boston Medical Center
Institutional Master Plan Notification Form

SCOPING DETERMINATION

The Boston Medical Center (BMC) filed their Institutional Master Plan Notification Form (IMPNF) November 20, 2019. The IMPNF does not include any large projects but does look to have the volume and FAR for two new large projects approved for future Article 80B filings. While this scoping document primarily addresses those two future projects. Following the incorporation of this memo into the Scoping Determination, we anticipate an on-going dialogue with BMC regarding responses to these questions and requested submissions.

The Projects outlined in the IMPNF are seeking Article 80D approval at this time, and they are discussed individually in this memo. The following materials should be submitted as part of the Institutional Master Plan (IMP). Visual, rather than written, responses are expected. Provide detailed phasing diagrams to explain how the Article 80 projects will be constructed. These items are in addition to those described in the typical submission requirements outlined in the BPDA Development Review Guidelines (subject to BPDA Design Review Staff discussions). Note that the majority of the BMC campus is within the South End Landmark District Protection Area so close coordination with that body and its preservation planner will be required.

Provide a campus signage master plan, which may trail the IMP. This should include both a catalogue of the existing signage and proposed standards for building signage, wayfinding, and donor signage.

Boston Civic Design Commission comments will be provided after the IMP has been reviewed by that Commission.

COMMENTS

10 Stoughton

Embedding the project in the center of a block seems like a good way to mitigate the impact of the volume, but more information is needed. Provide larger scale plans showing this part of the campus in existing and the proposed new footprint. Provide multiple renderings from 5’-0” showing how visible (or not) this proposed 10-story massing will be

from either side on Harrison Avenue and any other views important views, for example from nearby open spaces.

Ramp Parcel

Creating a clear street edge and hiding the existing loading conditions are potential improvements to the Albany Street corridor provided by this project. Provide larger scale plans showing this part of the campus in existing and the proposed new footprint. Incorporate the recently renovated Boston University Goldman School of Dental Medicine. Provide further studies of the context, including shadow. Is 10 stories the most appropriate height at this location? Could the building step down from the GSDM to the existing building at the corner of Albany and East Brookline.

Public Realm and Open Space

As a campus embedded in a city neighborhood BMC should continue to make the best effort to provide clear wayfinding for patients and visitors while providing well maintained and, wherever possible, planted edges to soften the institutional edge.

Materials

Submit larger scale plans (partial campus plans are likely to be most useful) with legible labeling in the IMP showing the campus contexts and particularly the projects newly proposed in this IMP.

Transportation

In addition to the standard traffic capacity analysis discussed with the BMC team, the Proponent must:

- Conduct a transit network impact analysis that includes assigning their transit trips by route and time of day. These transit trips need to be assigned to specific MBTA bus or shuttle runs and the latest ridership load data needs to be presented.
- Provide an analysis of the existing pedestrian network and potential safety and operational (pedestrian signal timings, etc.) deficiencies
- Provide an analysis of the existing bike network and potential safety and connectivity deficiencies

While specific mitigation and TDM efforts will be determined through the TAPA process and following the review of the Proponent’s impact analysis, broad mitigation efforts already discussed would include:

- Contributing towards advancing the City's Albany Street/South Bay Harbor Trail project which has secured 25% design
- Contributing towards the City's multi-modal improvements for Mass Ave
- A robust TDM program including increased transit pass subsidies and fair market pricing for employee parking

APPENDIX 2
OTHER AGENCY AND PUBLIC COMMENTS

Boston
Groundwater Trust

229 Berkeley St, Fourth Floor, Boston, MA 02116
617.859.8439
www.bostongroundwater.org

December 11th, 2019

Edward Carmody, Institutional Planner & Project Manager
Boston Planning & Development Agency
One City Hall Square
Boston, MA 02201-1007

Subject: Boston Medical Center (BMC) Institutional Master Plan Notification Form (IMPNF) Comments

Dear Mr. Carmody:

Thank you for the opportunity to comment on the Boston Medical Center (BMC) Institutional Master Plan Notification Form (IMPNF) which is located in the South End. The Boston Groundwater Trust (BGwT) was established by the Boston City Council to monitor groundwater levels in sections of Boston where the integrity of building foundations is threatened by low groundwater levels and to make recommendations for solving the problem. Therefore my comments are limited to groundwater related issues.

As stated in the document and confirmed at the scoping session the proposed IMP Projects are located within the Groundwater Conservation Overlay District (GCOD). BMC will incorporate systems into the proposed IMP projects designs that meet the groundwater conservation standards set forth in Article 32 of the Boston Zoning Code. BMC will obtain a written determination from the Boston Water and Sewer Commission as to whether said standards are met and will provide a copy of this letter to the BPDA and the Boston Groundwater Trust (BGwT) prior to the issuance of a Certificate of Consistency. Accordingly, BMC will comply with the requirements of Article 32 and so will not be required to obtain a conditional use permit from the Board of Appeals for its proposed IMP Projects.

The designs for each project will comply with Article 32 and City standards by establishing design and construction methodology which protects groundwater. The Projects will demonstrate that the permanent construction results in no negative impacts to groundwater levels through engineering evaluations.

The engineering evaluations must be submitted, in a letter, to the BGwT and BPDA demonstrating that the standards have been met and stamped by a professional engineer registered in Massachusetts. The document also states that methods to assure these standards include use of fully waterproofed basement (walls and lowest level floor slabs) for the portion of the structure that extends below groundwater levels which will be designed to resist hydrostatic uplift pressures. Design criteria for the Projects will include the provision that no long-term groundwater pumping will be allowed. BMC will conduct the appropriate studies as part of the BPDA's Article 80 Large Project Review process.

As stated at the scoping session foundation data for older, wood pile supported structures in the City is an important piece of information but is limited since most of the original buildings permits do not exist. I was pleased that the proponent committed to providing the BGwT with copies of any available foundation data they have in their records.

I look forward to working with the proponent and the Agency to assure that this project can have only positive impacts on area groundwater levels.

Very truly yours,

Christian Simonelli
Executive Director

CC: Kathleen Pederson, BPDA
Maura Zlody, EEOS

COMMENTS ON THE BMC INSTITUTIONAL MASTER PLAN NOTIFICATION FORM DATED NOVEMBER 20, 2019

Boston December 5, 2019

To: Edward Carmody – BPDA

From: L. Fernando Requena, Task Force Member

Dear Edward:

I reviewed the BMC IMP Notification Form and I am presenting below my most important comments for the Scoping Session.

1. The IMP is predicated on the idea that the BMC has to continue to grow indefinitely based on the population of the City of Boston. This argument does not have a logical foundation. Boston has other resources that should be used such as the Neighborhood Health Centers, instead of concentrating more and more services in the South End. The South End has been already greatly impacted by the existing services and instead some of the services should be transferred elsewhere.

2. Any additional Building and Renovations should be away form the existing residential areas of East Brookline Street and Harrison Avenue. The planned Building H should be relocated to the area of the Power Plant in Albany street, as part of Building G. This will avoid future impacts on East Brookline Street.

3. The justification for the new Inpatient Building Phase II (F) is the need to provide all private beds. This was indicated to be needed for increased inpatient volume. This implies additional beds and services in the campus with the consequent impacts to the area. The growth of this facility will continue without stop if not checked. The neighborhood should not have to suffer additional impacts.

4. Public Benefits are mentioned for the City of Boston. This benefits for the City at large are obtained at the expense of the immediated neighborhood. Other locations should be sought for any additional required services. The South End already supports a myriad of services and should not be further impacted.

5. The addition of almost 2 million square feet of buildings to the campus should be reduced drastically.

Friday, December 20th, 2019
Edward Carmody, BPDA

Dear Eddie,

Thank you for the opportunity to provide feedback on the Boston Medical Center (BMC) Institutional Master Plan (IMP) filing for the 2020 to 2030 period. In this document you will find the following: 1. Context for my feedback. 2. My Feedback and 3. Information that I request in writing from the BPDA.

1. **Context for my feedback**
    a. I provide feedback as a community member, East Springfield Street resident, Pharmacist by education, civic association member, and task force member.
    b. Additionally, given my full time employment over the past 3 years, I have visited over 50 rural, urban, and suburban hospitals in New England, the tri-state, Appalachia, Midwest, mid-Atlantic, Canada, and Carolinas. Given my extensive exposure to hospitals and my proximity to BMC when I am working at home, I provide the following feedback.

2. **Feedback**
    a. **Summary**
        i. I am encouraged by BMC's willingness to look for ways to positively and compassionately activate the street, specifically the proposed Colamore building ground floor retail space and Dowling replacement with potential ground floor retail.
        ii. I strongly encourage BMC to re-panel the Yawkey building with either a brick façade or terra cotta paneling like several Albany street buildings
        iii. I need a better understanding of the square footage changes from now to 2030.
        iv. Neighbors are concerned about the overall medical facility square footage growth
        v. I cannot support building H.
        vi. I am very concerned about the entire Harrison Albany corridor's traffic for the 2020 to 2030 period.
        vii. Safety and security need to be a discussion topic
        viii. No to LED sign
    b. **Medical Facility Square footage growth to 2030 – nearly 1M square footage increasing – neighbors are concerned about overall medical facility growth**
        i. BMC grows 670,000 square feet from now to 2030 (excluding renovations and excluding Newton Pavillion); State of MA renovates 257,000 square foot newton pavilion
        ii. The neighborhood therefore has a net increase of 927,000 square feet of medical space without factoring BU's plans
    c. **BMC's assumptions for why growth is necessary – request written confirmation that I understand their assumptions**

i. Hospital growth occurring due to population growth, homelessness challenges such as complex co-morbidities, and the need for private rooms, not need for increased SUD capacity.
ii. Residents have expressed concerns about the overall growth of substance use disorder treatment in the 02118 zip code (our math says that 02118 has 2 of Boston's 5 methadone clinics, 1 acute detox, nearly 30% of suboxone prescribers), however, at a task force meeting in December, a BMC representative stated that the above factors (pop growth, private beds, complex comorbidities) are driving growth, not increased substance use disorder services.
    1. Comment provided with the context that the City of Boston's Long Island campus comes online before 2025, State of MA repurposes Shattuck Campus in JP for addiction/recovery services by 2025 (new buildings completed by this date), State of MA encourages PCPs to become more active in treating substance use disorder (SUD) from now to 2030, State of MA restricts initial opioid prescription duration (this impacts incident rather than prevalent population), and that BMC was awarded a massive grant to tailor SUD treatment in local cities and towns that have been hit hard by the opioid crisis.
    2. Given the numerous SUD efforts outside of the 02118 zip code that directly address the opioid crisis, I want to ensure that I have a full understanding of the assumptions for BMC's growth, which I believe are contained above.

d. **Safety/security**
    i. IMP filing and/or subsequent presentation referenced BMC's security force. We routinely hear complaints from patients, employees, people experiencing homelessness, or indirectly via business owners that there are a lot of concerns about safety. We should elevate this topic as it is on everyone's mind even if they do not state it in public.

e. **Buildings – comments and ideas**
    i. Building H – strong opposition
        1. Given the neighborhood's opposition to Building H, I cannot support this project. Given BMC's previously stated desire to shrink their footprint, by selling the Newton Pavilion, but then stating that the Building H is necessary to support the State's use of the Newton Pavilion, I am struggling to support this specific building, even if it is moved to another location. If forced, I would encourage BMC to explore building on land closer to the Mass. Ave. connector or outside of Boston's downtown area since it's for administrative non-clinical use (per Worcester Square civic association meeting in late November).
        2. Assuming that BMC terminates the Building H plans, I recognize that this will lead to an uncertain future for the land, which may include selling it to a for profit outside investor who builds under "as of right" zoning. I hope my neighbors are aware of this possibility.
    ii. Vose/Beta Tron demolition and new building in their place (10 Stoughton) - support
        1. Given the building's somewhat hidden location, lack of historical significance beyond the buildings themselves (from what I understand), and that I can not envision a scenario where another developer would purchase the buildings for

an alternative non-hospital use, I support BMC's desire to demolish the buildings and rebuild on the land

2. I provide this feedback under the assumption that the South End Landmarks committee agrees with the demolition and rebuild. Landmarks committee members are in the best position to determine the building's historical significance or insignificance.
3. 10 Stoughton: though I support BMC's desire to demolish the two sitting buildings, I cannot support a building larger than 5 stories without seeing a shadow study and without understanding the massing of this building relative to those next to it. Sunlight is at a premium in the South End and I want to ensure that neighbors have all information before deciding to support a larger building.

iii. Dowling renovation – support at a lower height and with retail or entrances
   1. Assuming that BMC either A) places entrances on Mass ave and on Albany street or B) places a major retail shop in the ground floor with doors on both Mass Ave and Albany, I strongly support BMC renovating the Dowling building. I would not support this building without the entrances or retail space
   2. Height: I read with great interest BMC's note that states that shadows will only be cast on the BMC property. I cannot support 14 stories without being confident that shadows truly stay within BMC's property.
   3. I encourage BMC to prioritize the replacement for the first 5 years rather than the latter years of the IMP, given the positive impact that this could have on the area (and that it would potentially add ground floor retail which would benefit BMC patients and employees)

iv. 615 Albany Street Naval Blood building (BU and BMC jointly owned)
   1. Neighbors report concerns about brick façade maintenance, specifically with falling bricks and a masonry tarp for safety purposes. I am not an engineer nor a mason. I am therefore unable to assess this feedback, however, as a task force member, I urge BMC to address this feedback, specifically with a maintenance plan.

v. **<u>Yawkey Building – PLEASE CHANGE THE FAÇADE</u>**
   1. The Yawkey building is nearing 50 years old, so please change this prior to hitting age 50 (historical significance). Given the street level challenges along Mass. Ave., I believe the area would benefit from a face lift, similar to Albany street's beautiful changes. In my opinion, Albany Street is now one of the most beautiful hospital streets in the city, if not the entire Eastern US with its mix of historical buildings and brand new buildings with a terra cotta colored paneling.
   2. Given that BMC is proposing to demolish 2 historical brick façade buildings (Beta Tron and Vose), I would hope that BMC would be willing to make improvements to the Yawkey building and lower levels to make up for losing two historical buildings between now and 2030.

vi. Please coordinate with and encourage BU to add ground floor entrances or ground floor retail on Harrison Ave.

1. Conte (BU owned), Housman (BU owned), Robinson (BU owned), Preston (BU owned), and currently Colamore (BMC owned) do not have Harrison Ave. entrances, which deactivates the area along nearly 3 blocks. While I am strongly encouraged by BMC's willingness to add ground floor retail to Colamore, I hope that BU would do the same. I encourage BMC to encourage BU to do the same, since that ultimately benefits BU and BMC patients and employees in addition to the neighborhood.

f. **Buildings for future exploration/expansion – need an understanding here**
   i. The document includes a reference to the Miranda Cramer building and 2 story retail locations as future expansion locations. Does the 2 story retail location refer to Miranda Cramer's two stories or to brick row houses on Mass ave zoned for retail?
   ii. I encourage BMC to purchase or lease the Miranda Cramer building, specifically to have a single entity control that corridor of Mass Ave. A single owner would have greater control over compassionate street level activation, which will ultimately benefit BMC's patients and employees (both desiring increased safety) and also benefiting the neighbors

g. **Expiring leases – what are the plans for these buildings?**
   i. 801 Albany Street (2029 expiration)
   ii. 7-11 Melnea Cass (2027 expiration)
   iii. Carter Fuller building – annual lease - what is the plan?

h. **Signage – want to discuss this at a task force meeting**
   i. I read the signage section and request a detailed discussion on signage, however, in general, I agree that BMC campus needs improved signage and I appreciate BMC's recognition of this fact.
   ii. I am concerned about the existing pylon sign at Mass & Harrison ave. Every day, IV drug use and drug sales occur behind that sign, which creates a challenging situation for patients arriving at BMC's campus via the number 1 bus stop near that corner.
      1. Relocation or an alternative sign would be strongly preferred.

i. **LED Sign – I oppose this concept**
   i. While I believe that public health messaging about vaccinations would lead to net benefits for society, I am concerned about setting a precedence for LED/billboard signs in this area.
   ii. There are gas stations and fast food chains, both with marketing and capital budgets that could fund billboards or LED signs. I do not want to set a precedence that would then permit hamburger advertisements, especially with the upcoming Newmarket Planning Process.

j. **Traffic – very concerned and want to discuss this at an upcoming task force meeting**
   i. Given the flower exchange project (4000 jobs), Commonwealth use of the Newton Pavilion, BMC expansions, anticipated changes in Newmarket over the 2020 to 2030 period, BU's plans (which I have not seen), and BMC's projections for increasing patient growth, I am very concerned about the increase in traffic.

ii. Traffic adjustments in front of Harrison ave/Moakley/Menino - can we see these plans? I appreciate BMC's willingness to address traffic concerns on Harrison
iii. Has BMC explored opening the Mass. Ave. connector to Stoughton Street? I see this as helping those using exit 18 from route 93 while the Biosquare connection behind flower exchange requires a different exit (Albany street via route 90 exit), both of which would potentially divert traffic off of Mass Ave

k. **Pedestrians crossing Mass ave without signal or cross walk - idea**
   i. On Massachusetts avenue, between Harrison and Albany street, many people (patients, residents, neighbors, employees, contractors, guest, intoxicated people, etc.) cross the street when traffic is flowing on Mass ave, ignoring lights and cross walks to run to a bus stop. I encourage BMC and city of Boston to explore ways to prevent this, including placing a raised divider on Mass ave, which would encourage people to use cross walks.

l. **Community benefits program - suggestion**
   i. I recognize that BMC targeted the current funding towards people in need but we in the neighborhood would like to see more money spent on the people who are living on the streets near BMC (e.g. patients in Southampton Shelter, people living on the connector, on the corner of Mass and Harrison and Mass and Albany, etc.)

3. Information that I request from the BPDA

a. During the discussion about the Dowling building replacement and the other building carried forward from the previous IMP, BMC's representative from Stantec stated that buildings that are grandfathered from a previously approved IMP cannot be modified in this current IMP process (such as lowering the height) but could be impacted by the article 80 large project process. I request that BPDA either confirm or refute this in writing given my above concerns about the Dowling replacement building's height and strong desire for a commitment to retail or ground floor entrances.

Thank you again for the opportunity to provide feedback.

Sincerely,

Desmond Murphy

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: _____

PRINT NAME: George Pissimissis 12/18/19

86 East Brookline Street, # 4

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

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Signed: Peter L. Houston 12-18-2019

PRINT NAME: Peter L. Houston

90 East Brookline Street, # 1

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

12-16-19

Signed: _____

PRINT NAME: Stephanie Shapiro Berkson

70 East Brookline Street, #3

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: Sydney Sperber

PRINT NAME: Sydney Sperber

74 East Brookline Street, # 3

Boston, MA 02118

12/16/19

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

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Signed: John J. Upton

PRINT NAME: JOHN J. UPTON

78 East Brookline Street, # 3

Boston, MA 02118 12-16-19

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One City Hall Square, Boston, MA 02201

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_____ East Brookline Street, #_____

Boston, MA 02118

12/16/2019

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PRINT NAME: Joseph Lilly

86 East Brookline Street, # Bun Bldg

Boston, MA 02118

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One City Hall Square, Boston, MA 02201

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PRINT NAME: Amanda Lillis

86 East Brookline Street, #2

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

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Signed: _____

PRINT NAME: TRICIA AZZARELLO

90 East Brookline Street, #1

Boston, MA 02118

12/16/2019

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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Signed: _____

PRINT NAME: PATRICK DEVERY

90 East Brookline Street, # 2. 12/18/2019.

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

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PRINT NAME: Samuel Daikey

90 East Brookline Street, # 3

Boston, MA 02118 12/16/19

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One City Hall Square, Boston, MA 02201

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: Kelsey Gottschall

PRINT NAME: KELSEY GOTTSCHALL

98 East Brookline Street, # 2

Boston, MA 02118 12/19/19

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: Jessica M Haverkamp

PRINT NAME: Jessica M. Haverkamp, PhD

170 East Brookline Street, # 61

Boston, MA 02118

12.16.19

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: [signature]

PRINT NAME: Brad McNamara 12-16-14

106 East Brookline Street, # 1

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: Claudia Mally

PRINT NAME: Claudia Mally

106 East Brookline Street, # 4 and 3

Boston, MA 02118 12.18.19

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: _____

PRINT NAME: Anthony Forlan

108 East Brookline Street, # 1 12/18/19

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: _____

PRINT NAME: ANNAMAL BOHL

108 East Brookline Street, # 3 12.16.19

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: _____ 12/16/19

PRINT NAME: ANGELA WRIGHT

167 East Brookline Street, # 3

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: _____

PRINT NAME: Sammy Dekaidek - HNDA, Inc - Owner

105 East Brookline Street, # 1-2-3-4

Boston, MA 02118 12-19-2019

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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Signed: _____

PRINT NAME: Gemma McFarland

103 East Brookline Street, # 2

Boston, MA 02118 12/16/19

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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PRINT NAME: Jayme Wagerl

103 East Brookline Street, #3

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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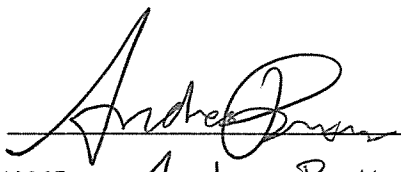
Signed: 

PRINT NAME: Andres Butler 12/15/19

101 East Brookline Street, # 1

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: _____

PRINT NAME: Neal F. Gaffey

109 East Brookline Street, #2 12/16/19

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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Signed: Elyse Hanson

PRINT NAME: Elyse Hanson

99 East Brookline Street, #1

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: _____

PRINT NAME: Amy Lambrakos

99 East Brookline Street, #3

Boston, MA 02118

12/19/19

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

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In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: Michael Warburton 12/16/19

PRINT NAME: Michael Warburton

97 East Brookline Street, # 1

Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

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Mr. Carmody,

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Signed: _____ 12/16/19

PRINT NAME: Daniel Riviello

97 East Brookline Street, #1

Boston, MA 02118

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One City Hall Square, Boston, MA 02201

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Signed: _____

PRINT NAME: Nick Chappel

97 East Brookline Street, # 3

Boston, MA 02118

12/16/19

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One City Hall Square, Boston, MA 02201

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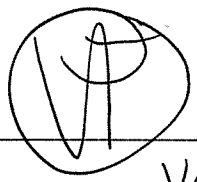
Signed: 

PRINT NAME: Valentina Fedorenko

95 East Brookline Street, # 4

Boston, MA 02118

12/18/19

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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PRINT NAME: Chongjia Chen

91 East Brookline Street, # 2

Boston, MA 02118

12/16/2019

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One City Hall Square, Boston, MA 02201

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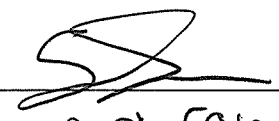
Signed: 

PRINT NAME: S.S. Sarah Shields

81 East Brookline Street, # 2

Boston, MA 02118

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One City Hall Square, Boston, MA 02201

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PRINT NAME: Ryan L Harley

74 East Brookline Street, # 2

Boston, MA 02118

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One City Hall Square, Boston, MA 02201

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Signed: Alison Freed

PRINT NAME: Alison Freed

103 East Brookline Street, # 3

Boston, MA 02118

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One City Hall Square, Boston, MA 02201

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Signed: Elaine Goldberg pts South End Real Estate LLC

PRINT NAME: Elaine Goldberg South End RE LLC

103 East Brookline Street, # 3 and 97 E Brookline #3

Boston, MA 02118

Edward Carmody <edward.carmody@boston.gov>

Opposition to Building H in BMC IMP

1 message

nadia huancahuari Fri, Dec 20, 2019 at 9:16 PM
To: Edward.Carmody@boston.gov

Dear Mr. Carmody,

I am writing to you to **express my opposition to the proposed H building i**n the BMC IMP. As a resident and owner on East Brookline St, a South End Historic Landmark District, I have witnessed the impact of years of construction by BU and BMC. These prior initiatives have resulted in structural damage to our condo and endless disruption to our quality of life in our homes.

As a former resident physician at BMC , I am proud of the work this institution does for the community. I am also aware that BMC consolidated their clinical and administrative buildings and resources to the Menino campus in order to be more efficient and stay viable. Construction of this isolated "administrative" building is in stark contrast to the hospitals other projects and goals over the last decade. These offices could be built elsewhere on the campus or remotely and not have the terrible impact to our buildings and quality of life of the residents on East Brookline Street.

Our homes and the street of 103 E Brookline St has suffered enough from the years of construction by BU and BMC. I ask you kindly to please advocate to your colleagues at the Boston Planning and Development Agency to reject the H building proposal in the BMC IMP.

Thank you for your time in reading this and your efforts to voice our concerns from E Brookline St.

Sincerely,
Nadia Huancahuari, MD
103 E Brookline St, #4

Opposition Letter H Building_Huancahuari.pdf
457K

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

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PRINT NAME:
Nadia Huancahuari
103 East Brookline Street, #4
Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

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Signed: Ida Jones

PRINT NAME: Ida Jones

85 East Brookline Street, #2

Boston, MA 02118

Edward Carmody <edward.carmody@boston.gov>

East Brookline condo

1 message

Ida Jones Fri, Dec 20, 2019 at 12:30 AM
To: edward.carmody@boston.gov

Mr. Edward,

I am a condo owner on 85 East Brookline. I currently have a tenet in the condo. Three walls have cracks that were not there when she moved in 2 year ago. When I heard of the shaking and loud booming noises, I asked her to check the place. She sent pictures. My concern is that we have not received any comments about what will be done to ensure our lovely homes will be repaired and not further destroyed. I was planning on selling my condo next year. I worry this won't be possible as we don't know what, if any, structural damage has been done to our building. The expansion of the Boston Medical Center is an asset to our neighborhood; but not at the cost of destroying our homes.

Thank you for reading my concerns,

Ida Jones
East Brookline owner

Edward Carmody <edward.carmody@boston.gov>

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

1 message

Joshua Lakin Fri, Dec 20, 2019 at 4:44 PM
To: "edward.carmody@boston.gov" <edward.carmody@boston.gov>

Mr. Carmody,

As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

- Construction of Building H, regardless of the number of stories, would weaken the structural integrity of the foundation and building of the historical South End rowhouses on East Brookline St. due to its close proximity; 50 feet. It would also further degrade the quality of life for the residents of my street.
- The rowhouses on East Brookline St., built in the mid-1800's, are built on landfill with just a dirt crawl space under the garden level units and party walls constructed of just two layers of soft brick.

Continued construction activities have had a continued physical impact in buildings on East Brookline St.

- The impact that the construction at the 100 East Newton St. which is 350 feet from the properties of East Brookline St. had significant visual damage, and any structural damage has yet to be determined. The proposed Building H will be only 50 feet from these same properties and would have significantly more potential for damage than the construction further away that already has caused damage.
- In the definition of the Urban Fabric of the neighborhood (section 3.1), East Brookline Street is denoted as an industrial region (same with the west edge of the BMC campus), when in fact it is part of the South End Historic Landmark District, and as such the visual impact (height and shadow) of Building H will have a negative impact on residents' quality of life.
- Administrative use buildings can be placed anywhere on the BMC campus, or in other parts of the city.

In conclusion, I support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Thank You,
Joshua Lakin
108 East Brookline Street.

Edward Carmody <edward.carmody@boston.gov>

Opposition to BMC Master Plan Proposed H Building

1 message

David Meguerdichian Thu, Dec 19, 2019 at 5:27 AM
To: Edward.Carmody@boston.gov

Dear Mr. Carmody,

My name is David Meguerdichian and I had the pleasure of speaking with you at the public hearing last week at BMC regarding their proposed institutional master plan. I have been a resident and owner at 103 E Brookline St, Boston, Ma 02118 for 11 years and have felt/saw significant impact to my home from numerous construction projects nearby. The most recent impact has been from the BU Dental School addition.

As I discussed with you and the group, I am in opposition to the construction of Building H as part of the BMC IMP. As a graduate of the BU School of Medicine and a former chief resident at Boston Medical Center, I am keenly aware of the great work that BMC does for the community of Boston (specifically the South End, Roxbury, Mattapan, and South Boston). I am also keenly aware of the dramatic changes to their campus structure, much of which has been driven by a need to cut cost, be more efficient and stay viable. Construction of this building, a proclaimed administrative building by the team leading the IMP, is inconsistent with the other changes BMC has made (most notably, consolidating medical care to the Menino Campus and selling off the E Newton campus to the state). This isolated administrative building can be built elsewhere on their campus or located off site and prevent the destructive impact it's construction will have on my home and others located just 50 feet away.

The homes on E Brookline Street have endured enough construction over the years and this part of the IMP cannot be green lighted. Our homes are part of the South End Historic Landmark District and I hope you and the Boston Planning and Development Agency can deny this portion of the BMC IMP to prevent any further negative impact to the structural integrity of our historic buildings and the quality of life of E Brookline St's residents. I have attached a signed opposition letter to this email as well. Thank you for your consideration and action on this matter and please feel free to reach out to me if I can be of any further assistance with your decision process going forward.

Sincerely,

David Meguerdichian, MD
103 E Brookline St, #4
Boston, MA 02118
c:

Opposition to BMC Master Plan Building H_Meguerdichian.pdf
324K

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201
Re: Opposition to Boston Medical Center Institutional Master Proposed Building H
Mr. Carmody,
As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

- Construction of Building H, regardless of the number of stories, would weaken the structural integrity of the foundation and building of the historical South End rowhouses on East Brookline St. due to its close proximity; 50 feet. It would also further degrade the quality of life for the residents of my street.
- The rowhouses on East Brookline St., built in the mid-1800's, are built on landfill with just a dirt crawl space under the garden level units and party walls constructed of just two layers of soft brick.
- Continued construction activities have had a continued physical impact in buildings on East Brookline St. (Pictures available upon request).
- Regarding the installation of metal sheet piles and subsequent removal of the same metal sheet piles, an agreement between BU Dental School and BMC was not revealed at a public pre-construction meeting regarding 100 East Newton St. construction site. The three-week installation time of these piles (instead of using the less disruptive slurry method) proved to have a severe visual impact on the buildings (shaking and the resulting aftermath) on East Brookline St. due to its close proximity; 350 feet. The three-week removal time of these piles had an even more severe impact than the installation.
- The project engineer for the 100 East Newton St. construction site, when asked if he knew the condition of the foundations of the buildings on East Brookline St., answered "no."
- In the definition of the Urban Fabric of the neighborhood (section 3.1), East Brookline Street is denoted as an industrial region (same with the west edge of the BMC campus), when in fact it is part of the South End Historic Landmark District, and as such the visual impact (height and shadow) of Building H will have a negative impact on residents' quality of life.
- Administrative use buildings can be placed anywhere on the BMC campus, or in other parts of the city.
- Timing of initial public meeting to introduce Building H in the BMC-IMP was disingenuous and close enough to the December holidays that residents of the neighborhood would not be able to attend and not know about the close timing of the comment period.

In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed:

PRINT NAME:
David Meguerdichian
103 East Brookline Street, #4
Boston, MA 02118

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

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- Timing of initial public meeting to introduce Building H in the BMC-IMP was disingenuous and close enough to the December holidays that residents of the neighborhood would not be able to attend and not know about the close timing of the comment period.

In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: Marc G Croteau

PRINT NAME: Marc G Croteau

97 East Brookline Street, # 4

Boston, MA 02118

12/20/19

Mr. Edward Carmody, Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Mr. Carmody,

As a resident of Boston's South End, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

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- Administrative use buildings can be placed anywhere on the BMC campus, or in other parts of the city.
- Timing of initial public meeting to introduce Building H in the BMC-IMP was disingenuous and close enough to the December holidays that residents of the neighborhood would not be able to attend and not know about the close timing of the comment period.

In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.

Signed: _____

PRINT NAME: Patrick Cannon

917 East Brookline Street, #2

Boston, MA 02118

12/20/19

Edward Carmody <edward.carmody@boston.gov>

Boston Medical Center IMP H Building

1 message

Ken ODonoghue Tue, Dec 17, 2019 at 9:13 AM
To: edward.carmody@boston.gov

Mr. Carmody,

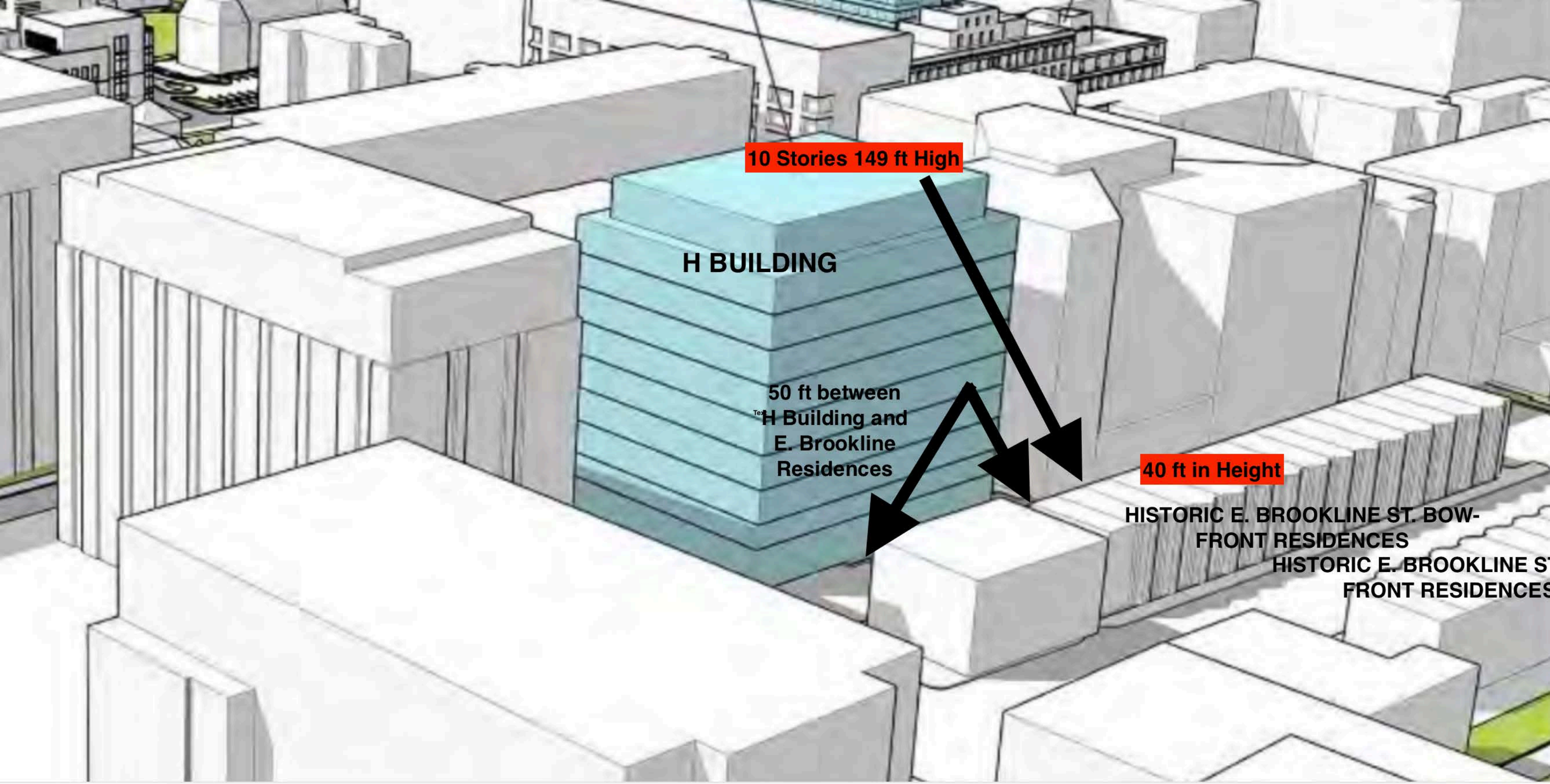
I was at your public task force meeting on December 11th and briefly spoke to after the meeting expressing my thoughts and concerns of the developers being disingenuous on their proposal to develop the site that the H build would occupy.

This a letter against allowing the H building to be located so close to the historic brick row houses on East Brookline St. These row houses were built in the mid 1800's on filled land and do not have foundations up to current standards This filled land is not stable and the weight and construction of the H building will shift the East Brookline buildings and damage there integrity. We have had other construction projects further from our street and regardless of the engineering reports and empty promises of noninvasive construction techniques our building have developed cracked interior walls, windows that no longer close tightly and pronounced cracks in the exterior brick masonry and exterior granite window sills. Our particular building has had all of those problems along with doors that no longer shut tight and need to be recut. We have also had to find exterior cracks that let water in and stain the interior walls and floors.

We are always told these construction projects are a community benefit and the engineers have means to keep our buildings safe but the buildings go up the construction crews leave and the owners ask us to prove our structural problems were caused by their building. We are small individuals and do not have the means to go through the courts so once again big money wins and regular citizens have to live with the after effects.
The meeting showed there might be alternative sites for this administration building and I see no reason to give this particular H building clearance to build sometime in the next ten years when can so adversely affect East Brookline Street's historic row houses. These houses were important enough to be included in the historic committees list. I see no reason to rush this particular building zoning clearance at this point in time and would ask the city to request the developer to study alternative sites for their H building.

Thank you your time and allowing us to voice our opinions.

Ken O'Donoghue
108 East Brookline Street


10 Stories 149 ft High
H BUILDING
50 ft between
H Building and
E. Brookline
Residences
40 ft in Height
HISTORIC E. BROOKLINE ST. BOW-
FRONT RESIDENCES
HISTORIC E. BROOKLINE ST
FRONT RESIDENCES

Marie O'Shea
103 E. Brookline St. #5
Boston, MA 02118

December 16, 2019

Edward Carmody
Boston Planning and Development Agency
One City Hall Square, Boston, MA 02201

Re: Opposition to Boston Medical Center Institutional Master Proposed Building H

Dear Mr. Carmody,

I am writing you in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons:

- Construction of Building H, regardless of the number of stories, would weaken the structural integrity of the foundation and building of the historical South End row houses on East Brookline St. due to its close proximity; 50 feet. It would also further degrade the quality of life for the residents of my street.

- The row houses on East Brookline St., built in the mid-1800's, are built on landfill with just a dirt crawl space under the garden level units and party walls constructed of just two layers of soft brick.

- Continued construction activities have had a continued physical impact in buildings on East Brookline St. (Pictures available upon request).

- Regarding the installation of metal sheet piles and subsequent removal of the same metal sheet piles, an agreement between BU Dental School and BMC was not revealed at a public pre-construction meeting regarding 100 East Newton St. construction site. The three-week installation time of these piles (instead of using the less disruptive slurry method) proved to have a severe visual and physical impact on the buildings (shaking and the resulting aftermath) on East Brookline St. due to its close proximity; 350 feet. The three-week removal time of these piles had an even more severe impact than the installation.

- The project engineer for the 100 East Newton St. construction site, when asked if he knew the condition of the foundations of the buildings on East Brookline St., answered "no."

- In the description of the Urban Fabric of the neighborhood (section 3.1), East Brookline Street is denoted as an industrial region (same with the west edge of the BMC campus), when in fact it is part of the South End Historic Landmark District, and as such the visual impact (height and shadow) of Building H will have a negative impact on residents' quality of life.

- Administrative use buildings can be placed anywhere on the BMC campus, or in other parts of the city.

- Timing of initial public meeting to introduce Building H in the BMC-IMP was disingenuous and close enough to the December holidays that residents of the neighborhood would not be able to attend and not know about the close timing of the comment period. In conclusion, I support all the good work BMC provides for a large community of people. My opposition is strictly to the proposed Building H.

Thank you, Edward, for your thoughtful consideration of this very important matter.

Sincerely,

Marie O'Shea

Dear Mr. Edward Carmody,

My name is Kathryn (Kit) Pyne. I have had the pleasure of talking to you at the last 3 meetings for the BMC's IMP. I am very much opposed to the building H part of their plan. I have been a resident and owner of 108 E Brookline St Boston, MA. for 7 years. This is a neighborhood of beautiful, historic, brick row houses built in the 1800's. They are built on landfill so I am very fearful that a huge construction project as the proposed Building H would cause significant damage and disruption to our homes.

Our E Brookline St neighborhood has been surrounded by enormous construction projects for the last 10 years. The controversial NEIDL building, the South End Smith Residences, the BU Dental School extension - all only a block away on each side of us. Now, we are threatened by the proposal of an administration building for BMC 50 feet away, towering 149 ft over our tiny homes. Boston's rezoning of the Harrison and Albany area gave no consideration of our fine historic neighborhood what so ever. All these projects have caused cracks in the interior walls and exterior brick masonry and granite window sills. Most of our windows and doors are out of kilter. This project will have an even more destructive impact, being so close (50 ft) to us.

The owners of these construction projects are always touting how great an addition they will be for our community. I do not see any benefit of Building H what so ever. An administration building can go any where on the BMC Campus or outside the city limits because this service is all computerized now. I appreciate BMC's efforts to consolidate their medical care to the Menino Campus. This makes good sense: the proposed H building makes no sense especially after selling off their E Newton St Campus.

During the scoping meeting, BMC's project designer mentioned that Worcester Sq was the front door area, the main entrance to the BMC and that E Brookline / Albany St was the back door area. He said that is why they made sure to have a large, beautiful, green area at the front entrance. How about the BMC show some respect and not refer to us as their "back door" area and take this oversized monster of a building out of our back yard and off their IMP. Instead, they could put in a nice, small, green area on this ramp parcel.

E Brookline St has endured enough grief and pain over these last 10 years of construction projects. I sincerely hope that you and the Boston Planning and Development Agency will consider our grievances over the proposed H building and deny this portion of the BMC's IMP. We need to prevent any further negative impact to the structural integrity of our historic buildings and the quality of life of the E Brookline St residents. Thank you for your kind consideration and action on this matter.

Sincerely yours,

Kathryn Pyne

108 E Brookline St #2
Boston. MA 02118

Edward Carmody <edward.carmody@boston.gov>

Boston Medical Center Institutional Master Plan

1 message

Helaine Fri, Dec 20, 2019 at 2:59 PM
To: edward.carmody@boston.gov

I am writing in opposition to proposed Building H in this plan. I have been a resident of the South End for almost 40 years and am very familiar with BMC and East Brookline St., living just a few blocks away. I support BMC in its mission to care for the most vulnerable of us. Indeed, I was born at the old Boston City Hospital to immigrant parents and I have family members who still access the facilities there.

However I am also familiar with the development trauma that has been visited upon East Brookline St. and other streets in that area over the years. Enough is enough! To propose building a 10 story building 50 feet away from the nearest buildings shows a callous disregard, in my opinion, by BMC to the residents of East Brookline St. and probably other nearby streets. To me, this disregard is contrary to the regard with which BMC treats its patients and is inexplicable to me. These residents and their houses are vulnerable to this construction, but BMC seems not to care about the history and foundations of these buildings. It seems as if this street was not considered at all. I attended both public meetings and was particularly shocked to hear that East Brookline St. was not even considered in their Plan with regard to loss of sunlight. It as if it did not even exist.

I thought that the suggestion put forth by Fernando Requena, a member of the task force, that there was room on the land where the Power plant will be demolished has ample space for this proposed building and is far enough away from residents. Another suggestion by a neighbor was that instead of building H, additional stories could be added to other proposed new buildings or existing buildings in order to spare the residents and buildings of East Brookline St. and perhaps of other streets nearby.

I think this was a big blunder on the part of BMC and they should not be allowed to so negatively affect the buildings and quality of life of these residents.

I think I also read in one of the community newspapers that BMC knew about their plans in August of this year. Why they chose not to publicize them until mid November and into the holiday season was never explained. I hope it was not done this way in an attempt to minimize the opposition.

As I said above, enough is enough! This building must be stopped. These residents have as much right to live in peace in secure houses as those patients that BMC so greatly helps.

Thank you,

Helaine Simmonds
49 East Springfield St.
Boston, MA 02118

Date	Name	Organization	Address	Comments
12/15/2019	Cinda Stoner	WSANA	107 East Brookline St. Boston, MA 02118	Re: Opposition to Boston Medical Center Institutional Master Plan Proposed Building H Edward Carmody. As a resident of Boston's South End and the closest abutter to proposed Building H, I am writing you today in opposition to the proposed Building H in BMC's current IMP and that it should NOT be part of the BMC-IMP for the following reasons: - Construction of Building H, 10 stories, 149 ft. high and 50 feet away from properties on East Brookline Street (regardless of the number of stories), would weaken the structural integrity of the foundations and buildings of the historical South End rowhouses on East Brookline Street and would also further degrade the quality of life for the residents of my street. -The rowhouses on East Brookline St., built in the mid-1800s, are built on landfill with just a dirt - crawl space under the garden level units and party walls constructed of just two layers of soft brick. - Continued construction activities have had a continued physical impact in buildings on East - Brookline St. (Pictures available upon request). - Regarding the installation of metal sheet piles and subsequent removal of the same metal sheet -piles, an agreement between BU Dental School and BMC was not revealed at pre-construction meetings regarding the East Newton St. construction site , approximately 350 feet away. - The three-week installation time of these sheet piles (instead of using the less disruptive slurry method) proved to have a severe visual impact on the buildings (shaking and resulting aftermath) on East Brookline St. The three-week removal time of these sheet piles had an ever more severe impact than the installation. ***continued on next page***

				- The project engineer for the 100 East Newton St. construction site, when asked if he knew the condition of the foundations of the buildings on East Brookline St., answered "no." - In the definition of the Urban Fabric of the neighborhood (section 3.1), East Brookline is denoted as an industrial region (same as the west edge of the BMC campus), when in fact it is part of the South End Historic Landmark District, and as such the visual impact (height and shadow) of Building H will have a negative impact on residents' quality of life. - Administrative use buildings can be placed anywhere on the BMC campus, or in other parts of the city. - Timing of initial public meeting to introduce Building H in the BMC-IMP was disingenuous and close enough to the December holidays that residents of the neighborhood would not be able to attend and not know about the close timing of the comment period. In conclusion, we support all the good work BMC provides for a large community of people. Our opposition is strictly to the proposed Building H.
12/16/2019	Michael Cahill		51 Dwight Street Boston, MA 02118	I am writing to provide my full support of BMC's IMP. Being a non profit institution - I understand how they need to capitalize on their real estate to support their growth and care for their patients. Michael Cahill

APPENDIX 3
SAMPLE PUBLIC NOTICE

SAMPLE

PUBLIC NOTICE

The Boston Planning & Development Agency (BPDA), acting pursuant to Article 80 of the Boston Zoning Code, hereby gives notice that an Institutional Master Plan (IMP) has been received from _____

_____

(Name of Applicant)

for _____

(Brief Description of Project)

proposed at _____.

(Location of Project)

The IMP may be reviewed or obtained at the Office of the Secretary of the BPDA Boston City Hall, Room 910, between 9:00 A.M. and 5:00 P.M., Monday through Friday, except legal holidays. Public comments on the IMP, including the comments of public agencies, should be transmitted to Edward Carmody, Institutional Planner & Project Manager, Boston Planning & Development Agency, Boston City Hall, Boston, MA 02201, within sixty (60) days of this notice or by _____. Approvals are requested of the BPDA pursuant to Article 80 for _____.

The BPDA shall issue an Adequacy Determination approving, conditionally approving, or disapproving the IMP pursuant to Section 80B-5.4(c)(iv) of the Boston Zoning Code.

BOSTON REDEVELOPMENT AUTHORITY
Teresa Polhemus, Executive Director/Secretary

APPENDIX D
TRANSPORTATION

Appendix

- Traffic Volume Data
- Seasonal Adjustment Factors
- Vehicle Crash Data
- Public Transportation
- Background Developments
- Trip Generation
- Trip Distribution Calculations
- Internal Trip Distribution Graphics
- Synchro Capacity Analysis
- Transit Capacity Analysis
- Bike Parking Guidelines

Traffic Volume Data

Location Map: 197325 Boston, MA

Precision Data Industries, LLC 46 Morton Street, Framingham, MA 01702 ph: 508-875-0100 email: datarequests@pdillc.com

(13) 7-9am/ 4-6pm TMCs
(2) 24HR VCU-ATRs

Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
VHB	M. Duranleau	14645.00	Thursday 12/5/2019	197325	Boston, MA

Albany Street
east of Massachusetts Avenue
City, State: Boston, MA
Client: VHB/ M. Duranleau
Site Code: 16465

PDI File # **197325 ATR-A**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Count Date: **Thursday, December 5, 2019**
Direction: **EB**

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	10	1	0	11
12:15 AM	12	1	0	13
12:30 AM	9	3	0	12
12:45 AM	7	2	0	9
1:00 AM	4	3	0	7
1:15 AM	4	0	1	5
1:30 AM	4	2	1	7
1:45 AM	7	2	0	9
2:00 AM	11	0	0	11
2:15 AM	4	1	0	5
2:30 AM	6	1	0	7
2:45 AM	9	1	0	10
3:00 AM	7	0	0	7
3:15 AM	7	0	0	7
3:30 AM	17	1	0	18
3:45 AM	7	2	0	9
4:00 AM	4	1	0	5
4:15 AM	7	1	1	9
4:30 AM	14	2	0	16
4:45 AM	26	1	0	27
5:00 AM	20	1	0	21
5:15 AM	55	3	0	58
5:30 AM	64	3	0	67
5:45 AM	83	6	0	89
6:00 AM	114	9	0	123
6:15 AM	133	6	1	140
6:30 AM	143	8	0	151
6:45 AM	146	8	0	154
7:00 AM	111	6	1	118
7:15 AM	133	7	0	140
7:30 AM	153	8	1	162
7:45 AM	153	9	0	162
8:00 AM	159	13	0	172
8:15 AM	171	13	0	184
8:30 AM	152	12	0	164
8:45 AM	169	12	1	182
9:00 AM	173	11	0	184
9:15 AM	139	12	0	151
9:30 AM	150	11	0	161
9:45 AM	171	11	0	182
10:00 AM	160	10	0	170
10:15 AM	141	10	0	151
10:30 AM	116	7	0	123
10:45 AM	125	6	0	131
11:00 AM	121	9	0	130
11:15 AM	109	11	1	121
11:30 AM	109	7	1	117
11:45 AM	120	9	0	129
AM Total	**3769**	**263**	**9**	**4041**
Percentage	**93.27%**	**6.51%**	**0.22%**	
AM Peak	**8:15 AM**	**8:00 AM**	**12:45 AM**	**8:15 AM**
Volume	**665**	**50**	**2**	**714**

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	110	5	0	115
12:15 PM	120	8	0	128
12:30 PM	116	4	1	121
12:45 PM	121	6	0	127
1:00 PM	144	4	0	148
1:15 PM	110	9	0	119
1:30 PM	101	12	0	113
1:45 PM	118	9	0	127
2:00 PM	107	8	0	115
2:15 PM	143	10	0	153
2:30 PM	129	9	0	138
2:45 PM	134	5	1	140
3:00 PM	86	9	0	95
3:15 PM	96	6	0	102
3:30 PM	103	6	0	109
3:45 PM	88	5	0	93
4:00 PM	94	11	0	105
4:15 PM	78	12	0	90
4:30 PM	81	10	0	91
4:45 PM	83	6	0	89
5:00 PM	91	7	0	98
5:15 PM	63	6	0	69
5:30 PM	63	4	0	67
5:45 PM	58	5	0	63
6:00 PM	64	7	0	71
6:15 PM	66	7	0	73
6:30 PM	131	3	0	134
6:45 PM	97	3	0	100
7:00 PM	69	11	0	80
7:15 PM	43	5	0	48
7:30 PM	63	3	0	66
7:45 PM	53	6	0	59
8:00 PM	40	6	1	47
8:15 PM	44	6	0	50
8:30 PM	44	3	0	47
8:45 PM	42	3	1	46
9:00 PM	31	5	0	36
9:15 PM	32	6	0	38
9:30 PM	31	1	0	32
9:45 PM	42	8	0	50
10:00 PM	34	3	0	37
10:15 PM	33	5	0	38
10:30 PM	48	6	1	55
10:45 PM	58	3	0	61
11:00 PM	28	3	0	31
11:15 PM	17	4	0	21
11:30 PM	16	1	0	17
11:45 PM	16	2	0	18
PM Total	**3579**	**286**	**5**	**3870**
Percentage	**92.48%**	**7.39%**	**0.13%**	
PM Peak	**2:00 PM**	**1:30 PM**	**8:00 PM**	**2:00 PM**
Volume	**513**	**39**	**2**	**546**
Day Total	**7348**	**549**	**14**	**7911**
Percentage	**92.88%**	**6.94%**	**0.18%**	

Albany Street
east of Massachusetts Avenue
City, State: Boston, MA
Client: VHB/ M. Duranleau
Site Code: 16465

PDI File # **197325 ATR-A**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Count Date: **Thursday, December 5, 2019**
Direction: **WB**

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	17	1	0	18
12:15 AM	18	1	0	19
12:30 AM	17	2	0	19
12:45 AM	23	1	0	24
1:00 AM	12	5	0	17
1:15 AM	14	0	0	14
1:30 AM	12	3	0	15
1:45 AM	11	1	0	12
2:00 AM	7	1	0	8
2:15 AM	8	0	0	8
2:30 AM	4	0	0	4
2:45 AM	6	2	1	9
3:00 AM	7	0	0	7
3:15 AM	4	1	0	5
3:30 AM	12	4	0	16
3:45 AM	9	2	0	11
4:00 AM	7	2	0	9
4:15 AM	6	2	0	8
4:30 AM	9	0	1	10
4:45 AM	9	5	0	14
5:00 AM	11	3	0	14
5:15 AM	12	2	0	14
5:30 AM	22	2	0	24
5:45 AM	30	2	0	32
6:00 AM	47	7	0	54
6:15 AM	35	8	0	43
6:30 AM	45	10	1	56
6:45 AM	59	8	0	67
7:00 AM	88	7	0	95
7:15 AM	84	7	0	91
7:30 AM	99	9	0	108
7:45 AM	83	9	1	93
8:00 AM	98	7	1	106
8:15 AM	68	4	0	72
8:30 AM	91	8	0	99
8:45 AM	73	10	0	83
9:00 AM	89	12	1	102
9:15 AM	81	5	0	86
9:30 AM	88	9	0	97
9:45 AM	85	8	0	93
10:00 AM	112	8	0	120
10:15 AM	92	9	0	101
10:30 AM	100	4	0	104
10:45 AM	95	8	0	103
11:00 AM	115	5	0	120
11:15 AM	122	10	0	132
11:30 AM	102	6	1	109
11:45 AM	97	9	0	106
AM Total	**2335**	**229**	**7**	**2571**
Percentage	**90.82%**	**8.91%**	**0.27%**	
AM Peak	**11:00 AM**	**8:45 AM**	**7:15 AM**	**11:00 AM**
Volume	**436**	**36**	**2**	**467**

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	94	7	2	103
12:15 PM	96	8	2	106
12:30 PM	109	7	0	116
12:45 PM	149	6	0	155
1:00 PM	105	6	1	112
1:15 PM	128	6	0	134
1:30 PM	119	3	0	122
1:45 PM	121	8	0	129
2:00 PM	130	10	0	140
2:15 PM	142	6	0	148
2:30 PM	134	5	0	139
2:45 PM	144	12	1	157
3:00 PM	143	7	0	150
3:15 PM	166	8	0	174
3:30 PM	151	4	1	156
3:45 PM	156	7	0	163
4:00 PM	145	8	0	153
4:15 PM	168	7	0	175
4:30 PM	140	8	0	148
4:45 PM	149	6	1	156
5:00 PM	145	6	0	151
5:15 PM	128	6	0	134
5:30 PM	118	7	0	125
5:45 PM	117	3	0	120
6:00 PM	133	6	0	139
6:15 PM	108	4	0	112
6:30 PM	138	5	0	143
6:45 PM	113	4	0	117
7:00 PM	96	4	0	100
7:15 PM	90	0	1	91
7:30 PM	100	4	0	104
7:45 PM	86	4	0	90
8:00 PM	104	6	0	110
8:15 PM	73	5	0	78
8:30 PM	63	5	0	68
8:45 PM	61	0	0	61
9:00 PM	58	6	0	64
9:15 PM	43	1	0	44
9:30 PM	50	1	0	51
9:45 PM	37	2	0	39
10:00 PM	46	4	1	51
10:15 PM	32	4	0	36
10:30 PM	43	6	0	49
10:45 PM	44	3	0	47
11:00 PM	50	2	0	52
11:15 PM	49	4	1	54
11:30 PM	90	2	0	92
11:45 PM	30	1	0	31
PM Total	**4934**	**244**	**11**	**5189**
Percentage	**95.09%**	**4.70%**	**0.21%**	
PM Peak	**3:30 PM**	**2:00 PM**	**12:00 PM**	**3:30 PM**
Volume	**620**	**33**	**4**	**647**
Day Total	**7269**	**473**	**18**	**7760**
Percentage	**93.67%**	**6.10%**	**0.23%**	

Harrison Avenue
east of Boston Medical Center Place
City, State: Boston, MA
Client: VHB/ M. Duranleau
Site Code: 16465

PDI File # **197325 ATR-B**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Count Date: **Thursday, December 5, 2019**
Direction: **EB**

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	11	0	0	11
12:15 AM	10	0	0	10
12:30 AM	7	0	0	7
12:45 AM	13	0	0	13
1:00 AM	9	0	0	9
1:15 AM	5	1	0	6
1:30 AM	7	0	0	7
1:45 AM	3	0	0	3
2:00 AM	1	0	0	1
2:15 AM	2	0	0	2
2:30 AM	5	1	0	6
2:45 AM	1	0	0	1
3:00 AM	5	1	0	6
3:15 AM	6	0	0	6
3:30 AM	1	0	0	1
3:45 AM	5	1	0	6
4:00 AM	3	3	0	6
4:15 AM	6	3	0	9
4:30 AM	11	0	0	11
4:45 AM	11	0	0	11
5:00 AM	16	2	0	18
5:15 AM	25	1	0	26
5:30 AM	24	3	0	27
5:45 AM	59	3	0	62
6:00 AM	47	5	0	52
6:15 AM	53	5	0	58
6:30 AM	83	2	0	85
6:45 AM	81	6	0	87
7:00 AM	82	6	0	88
7:15 AM	118	8	0	126
7:30 AM	116	6	0	122
7:45 AM	110	4	0	114
8:00 AM	116	4	0	120
8:15 AM	138	3	2	143
8:30 AM	113	5	0	118
8:45 AM	105	6	0	111
9:00 AM	113	9	1	123
9:15 AM	100	8	1	109
9:30 AM	105	4	0	109
9:45 AM	86	5	1	92
10:00 AM	106	4	0	110
10:15 AM	101	2	1	104
10:30 AM	91	5	0	96
10:45 AM	106	4	0	110
11:00 AM	96	1	1	98
11:15 AM	88	5	0	93
11:30 AM	78	0	0	78
11:45 AM	90	4	0	94
AM Total	**2568**	**130**	**7**	**2705**
Percentage	**94.94%**	**4.81%**	**0.26%**	
AM Peak	**7:30 AM**	**8:30 AM**	**8:15 AM**	**7:30 AM**
Volume	**480**	**28**	**3**	**499**

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	62	3	1	66
12:15 PM	88	5	0	93
12:30 PM	65	2	0	67
12:45 PM	96	3	0	99
1:00 PM	82	5	0	87
1:15 PM	83	3	0	86
1:30 PM	109	3	0	112
1:45 PM	86	1	0	87
2:00 PM	81	3	0	84
2:15 PM	86	3	0	89
2:30 PM	90	2	0	92
2:45 PM	99	3	0	102
3:00 PM	75	3	0	78
3:15 PM	80	2	0	82
3:30 PM	59	3	0	62
3:45 PM	87	5	0	92
4:00 PM	69	1	0	70
4:15 PM	78	4	0	82
4:30 PM	87	3	0	90
4:45 PM	77	4	0	81
5:00 PM	92	4	0	96
5:15 PM	75	2	0	77
5:30 PM	75	5	0	80
5:45 PM	101	3	0	104
6:00 PM	84	1	0	85
6:15 PM	76	1	0	77
6:30 PM	84	1	0	85
6:45 PM	77	2	0	79
7:00 PM	66	3	0	69
7:15 PM	67	1	0	68
7:30 PM	61	2	0	63
7:45 PM	60	1	0	61
8:00 PM	51	2	0	53
8:15 PM	36	0	0	36
8:30 PM	48	3	0	51
8:45 PM	59	3	0	62
9:00 PM	46	1	0	47
9:15 PM	49	0	0	49
9:30 PM	36	0	0	36
9:45 PM	41	1	0	42
10:00 PM	44	0	0	44
10:15 PM	30	0	0	30
10:30 PM	39	1	0	40
10:45 PM	43	0	0	43
11:00 PM	31	0	0	31
11:15 PM	26	0	0	26
11:30 PM	14	2	0	16
11:45 PM	21	0	0	21
PM Total	**3171**	**100**	**1**	**3272**
Percentage	**96.91%**	**3.06%**	**0.03%**	
PM Peak	**12:45 PM**	**12:15 PM**	**12:00 PM**	**12:45 PM**
Volume	**370**	**15**	**1**	**384**
Day Total	**5739**	**230**	**8**	**5977**
Percentage	**96.02%**	**3.85%**	**0.13%**	

Harrison Avenue
east of Boston Medical Center Place
City, State: Boston, MA
Client: VHB/ M. Duranleau
Site Code: 16465

PDI File # **197325 ATR-B**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Count Date: **Thursday, December 5, 2019**
Direction: **WB**

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	11	1	0	12
12:15 AM	7	1	0	8
12:30 AM	6	1	0	7
12:45 AM	10	0	0	10
1:00 AM	4	0	0	4
1:15 AM	6	2	0	8
1:30 AM	9	0	0	9
1:45 AM	2	0	0	2
2:00 AM	3	0	0	3
2:15 AM	8	0	0	8
2:30 AM	6	0	0	6
2:45 AM	8	0	0	8
3:00 AM	1	1	0	2
3:15 AM	4	1	0	5
3:30 AM	1	0	0	1
3:45 AM	3	1	0	4
4:00 AM	1	1	0	2
4:15 AM	1	0	0	1
4:30 AM	2	1	0	3
4:45 AM	8	2	0	10
5:00 AM	3	2	1	6
5:15 AM	7	6	0	13
5:30 AM	9	3	0	12
5:45 AM	8	3	0	11
6:00 AM	22	6	0	28
6:15 AM	16	6	0	22
6:30 AM	26	4	0	30
6:45 AM	41	7	0	48
7:00 AM	36	6	0	42
7:15 AM	50	5	0	55
7:30 AM	48	4	0	52
7:45 AM	46	6	0	52
8:00 AM	35	4	1	40
8:15 AM	47	2	0	49
8:30 AM	48	5	0	53
8:45 AM	56	4	0	60
9:00 AM	57	4	0	61
9:15 AM	46	10	0	56
9:30 AM	33	5	0	38
9:45 AM	40	4	0	44
10:00 AM	49	4	0	53
10:15 AM	56	2	0	58
10:30 AM	55	6	0	61
10:45 AM	77	4	0	81
11:00 AM	71	5	0	76
11:15 AM	57	6	0	63
11:30 AM	68	10	0	78
11:45 AM	73	5	0	78
AM Total	**1281**	**150**	**2**	**1433**
Percentage	**89.39%**	**10.47%**	**0.14%**	
AM Peak	**10:45 AM**	**11:00 AM**	**4:15 AM**	**10:45 AM**
Volume	**273**	**26**	**1**	**298**

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	69	0	0	69
12:15 PM	60	3	0	63
12:30 PM	63	4	0	67
12:45 PM	64	2	0	66
1:00 PM	60	2	0	62
1:15 PM	63	1	1	65
1:30 PM	56	8	0	64
1:45 PM	87	3	0	90
2:00 PM	69	4	0	73
2:15 PM	64	6	0	70
2:30 PM	64	3	0	67
2:45 PM	83	4	0	87
3:00 PM	57	7	1	65
3:15 PM	74	5	0	79
3:30 PM	52	9	0	61
3:45 PM	70	5	0	75
4:00 PM	74	3	0	77
4:15 PM	66	6	0	72
4:30 PM	67	8	0	75
4:45 PM	83	6	0	89
5:00 PM	70	7	0	77
5:15 PM	71	6	0	77
5:30 PM	64	6	0	70
5:45 PM	61	7	0	68
6:00 PM	41	5	0	46
6:15 PM	42	2	0	44
6:30 PM	58	2	0	60
6:45 PM	54	1	0	55
7:00 PM	37	4	0	41
7:15 PM	53	2	0	55
7:30 PM	50	2	0	52
7:45 PM	50	1	0	51
8:00 PM	39	3	0	42
8:15 PM	46	1	0	47
8:30 PM	53	3	0	56
8:45 PM	38	1	0	39
9:00 PM	36	0	0	36
9:15 PM	28	3	0	31
9:30 PM	34	0	0	34
9:45 PM	30	2	0	32
10:00 PM	22	2	0	24
10:15 PM	23	1	0	24
10:30 PM	26	1	1	28
10:45 PM	23	2	0	25
11:00 PM	24	1	0	25
11:15 PM	25	1	0	26
11:30 PM	14	2	0	16
11:45 PM	11	1	0	12
PM Total	**2468**	**158**	**3**	**2629**
Percentage	**93.88%**	**6.01%**	**0.11%**	
PM Peak	**4:30 PM**	**4:15 PM**	**12:30 PM**	**4:30 PM**
Volume	**291**	**27**	**1**	**318**
Day Total	**3749**	**308**	**5**	**4062**
Percentage	**92.29%**	**7.58%**	**0.12%**	

PDI File #: **197325 (1) am**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	16	9	7	0	32	10	48	5	1	64	7	18	4	0	29	14	58	45	0	117	242
7:15 AM	27	9	9	0	45	10	46	13	0	69	10	38	4	0	52	10	56	62	0	128	294
7:30 AM	21	10	15	0	46	12	52	6	0	70	11	27	4	0	42	14	84	53	0	151	309
7:45 AM	23	10	16	0	49	8	56	12	0	76	8	40	3	0	51	17	76	60	0	153	329
Total	87	38	47	0	172	40	202	36	1	279	36	123	15	0	174	55	274	220	0	549	1174
8:00 AM	19	9	20	0	48	8	50	10	0	68	17	30	6	0	53	24	95	31	0	150	319
8:15 AM	22	5	19	0	46	9	32	10	1	52	13	23	6	0	42	24	89	56	0	169	309
8:30 AM	13	8	13	1	35	13	47	8	0	68	11	34	6	0	51	22	90	64	0	176	330
8:45 AM	20	10	24	0	54	8	36	5	2	51	11	33	5	0	49	17	81	51	0	149	303
Total	74	32	76	1	183	38	165	33	3	239	52	120	23	0	195	87	355	202	0	644	1261
Grand Total	161	70	123	1	355	78	367	69	4	518	88	243	38	0	369	142	629	422	0	1193	2435
Approach %	45.4	19.7	34.6	0.3		15.1	70.8	13.3	0.8		23.8	65.9	10.3	0.0		11.9	52.7	35.4	0.0		
Total %	6.6	2.9	5.1	0.0	14.6	3.2	15.1	2.8	0.2	21.3	3.6	10.0	1.6	0.0	15.2	5.8	25.8	17.3	0.0	49.0	
Exiting Leg Total					744					844					281					566	2435
Cars	153	69	114	1	337	75	329	68	4	476	85	239	34	0	358	128	567	400	0	1095	2266
% Cars	95.0	98.6	92.7	100.0	94.9	96.2	89.6	98.6	100.0	91.9	96.6	98.4	89.5	0.0	97.0	90.1	90.1	94.8	0.0	91.8	93.1
Exiting Leg Total					715					770					265					516	2266
Heavy Vehicles	8	1	9	0	18	3	38	1	0	42	3	4	4	0	11	14	62	22	0	98	169
% Heavy Vehicles	5.0	1.4	7.3	0.0	5.1	3.8	10.4	1.4	0.0	8.1	3.4	1.6	10.5	0.0	3.0	9.9	9.9	5.2	0.0	8.2	6.9
Exiting Leg Total					29					74					16					50	169

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	23	10	16	0	49	8	56	12	0	76	8	40	3	0	51	17	76	60	0	153	329
8:00 AM	19	9	20	0	48	8	50	10	0	68	17	30	6	0	53	24	95	31	0	150	319
8:15 AM	22	5	19	0	46	9	32	10	1	52	13	23	6	0	42	24	89	56	0	169	309
8:30 AM	13	8	13	1	35	13	47	8	0	68	11	34	6	0	51	22	90	64	0	176	330
Total Volume	77	32	68	1	178	38	185	40	1	264	49	127	21	0	197	87	350	211	0	648	1287
% Approach Total	43.3	18.0	38.2	0.6		14.4	70.1	15.2	0.4		24.9	64.5	10.7	0.0		13.4	54.0	32.6	0.0		
PHF	0.837	0.800	0.850	0.250	0.908	0.731	0.826	0.833	0.250	0.868	0.721	0.794	0.875	0.000	0.929	0.906	0.921	0.824	0.000	0.920	0.975
Cars	73	31	59	1	164	37	165	39	1	242	47	125	19	0	191	81	318	202	0	601	1198
Cars %	94.8	96.9	86.8	100.0	92.1	97.4	89.2	97.5	100.0	91.7	95.9	98.4	90.5	0.0	97.0	93.1	90.9	95.7	0.0	92.7	93.1
Heavy Vehicles	4	1	9	0	14	1	20	1	0	22	2	2	2	0	6	6	32	9	0	47	89
Heavy Vehicles %	5.2	3.1	13.2	0.0	7.9	2.6	10.8	2.5	0.0	8.3	4.1	1.6	9.5	0.0	3.0	6.9	9.1	4.3	0.0	7.3	6.9
Cars Enter Leg	73	31	59	1	164	37	165	39	1	242	47	125	19	0	191	81	318	202	0	601	1198
Heavy Enter Leg	4	1	9	0	14	1	20	1	0	22	2	2	2	0	6	6	32	9	0	47	89
Total Entering Leg	77	32	68	1	178	38	185	40	1	264	49	127	21	0	197	87	350	211	0	648	1287
Cars Exiting Leg					365					425					151					257	1198
Heavy Exiting Leg					12					43					8					26	89
Total Exiting Leg					377					468					159					283	1287

PDI File #: **197325 (1) am**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	15	9	7	0	31	10	40	5	1	56	7	17	3	0	27	12	48	41	0	101	215
7:15 AM	25	9	9	0	43	10	44	13	0	67	10	38	4	0	52	8	48	59	0	115	277
7:30 AM	20	10	15	0	45	11	48	6	0	65	10	26	3	0	39	12	79	50	0	141	290
7:45 AM	22	10	14	0	46	8	49	12	0	69	8	39	2	0	49	16	72	59	0	147	311
Total	82	38	45	0	165	39	181	36	1	257	35	120	12	0	167	48	247	209	0	504	1093
8:00 AM	18	9	17	0	44	7	46	10	0	63	16	29	6	0	51	22	84	29	0	135	293
8:15 AM	20	5	17	0	42	9	28	9	1	47	13	23	5	0	41	21	79	52	0	152	282
8:30 AM	13	7	11	1	32	13	42	8	0	63	10	34	6	0	50	22	83	62	0	167	312
8:45 AM	20	10	24	0	54	7	32	5	2	46	11	33	5	0	49	15	74	48	0	137	286
Total	71	31	69	1	172	36	148	32	3	219	50	119	22	0	191	80	320	191	0	591	1173
Grand Total	153	69	114	1	337	75	329	68	4	476	85	239	34	0	358	128	567	400	0	1095	2266
Approach %	45.4	20.5	33.8	0.3		15.8	69.1	14.3	0.8		23.7	66.8	9.5	0.0		11.7	51.8	36.5	0.0		
Total %	6.8	3.0	5.0	0.0	14.9	3.3	14.5	3.0	0.2	21.0	3.8	10.5	1.5	0.0	15.8	5.6	25.0	17.7	0.0	48.3	
Exiting Leg Total					715					770					265					516	2266

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	22	10	14	0	46	8	49	12	0	69	8	39	2	0	49	16	72	59	0	147	311
8:00 AM	18	9	17	0	44	7	46	10	0	63	16	29	6	0	51	22	84	29	0	135	293
8:15 AM	20	5	17	0	42	9	28	9	1	47	13	23	5	0	41	21	79	52	0	152	282
8:30 AM	13	7	11	1	32	13	42	8	0	63	10	34	6	0	50	22	83	62	0	167	312
Total Volume	73	31	59	1	164	37	165	39	1	242	47	125	19	0	191	81	318	202	0	601	1198
% Approach Total	44.5	18.9	36.0	0.6		15.3	68.2	16.1	0.4		24.6	65.4	9.9	0.0		13.5	52.9	33.6	0.0		
PHF	0.830	0.775	0.868	0.250	0.891	0.712	0.842	0.813	0.250	0.877	0.734	0.801	0.792	0.000	0.936	0.920	0.946	0.815	0.000	0.900	0.960
Entering Leg	73	31	59	1	164	37	165	39	1	242	47	125	19	0	191	81	318	202	0	601	1198
Exiting Leg					365					425					151					257	1198
Total					529					667					342					858	2396

PDI File #: **197325 (1) am**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	8	0	0	8	0	1	1	0	2	2	10	4	0	16	27
7:15 AM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	2	8	3	0	13	17
7:30 AM	1	0	0	0	1	1	4	0	0	5	1	1	1	0	3	2	5	3	0	10	19
7:45 AM	1	0	2	0	3	0	7	0	0	7	0	1	1	0	2	1	4	1	0	6	18
Total	5	0	2	0	7	1	21	0	0	22	1	3	3	0	7	7	27	11	0	45	81
8:00 AM	1	0	3	0	4	1	4	0	0	5	1	1	0	0	2	2	11	2	0	15	26
8:15 AM	2	0	2	0	4	0	4	1	0	5	0	0	1	0	1	3	10	4	0	17	27
8:30 AM	0	1	2	0	3	0	5	0	0	5	1	0	0	0	1	0	7	2	0	9	18
8:45 AM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	2	7	3	0	12	17
Total	3	1	7	0	11	2	17	1	0	20	2	1	1	0	4	7	35	11	0	53	88
Grand Total	8	1	9	0	18	3	38	1	0	42	3	4	4	0	11	14	62	22	0	98	169
Approach %	44.4	5.6	50.0	0.0		7.1	90.5	2.4	0.0		27.3	36.4	36.4	0.0		14.3	63.3	22.4	0.0		
Total %	4.7	0.6	5.3	0.0	10.7	1.8	22.5	0.6	0.0	24.9	1.8	2.4	2.4	0.0	6.5	8.3	36.7	13.0	0.0	58.0	
Exiting Leg Total					29					74					16					50	169
Buses	5	0	1	0	6	2	19	0	0	21	0	4	3	0	7	14	33	8	0	55	89
% Buses	62.5	0.0	11.1	0.0	33.3	66.7	50.0	0.0	0.0	50.0	0.0	100.0	75.0	0.0	63.6	100.0	53.2	36.4	0.0	56.1	52.7
Exiting Leg Total					14					34					14					27	89
Single-Unit Trucks	3	1	8	0	12	1	17	1	0	19	1	0	0	0	1	0	26	14	0	40	72
% Single-Unit	37.5	100.0	88.9	0.0	66.7	33.3	44.7	100.0	0.0	45.2	33.3	0.0	0.0	0.0	9.1	0.0	41.9	63.6	0.0	40.8	42.6
Exiting Leg Total					15					35					2					20	72
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	2	0	1	0	3	0	3	0	0	3	8
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	4.8	66.7	0.0	25.0	0.0	27.3	0.0	4.8	0.0	0.0	3.1	4.7
Exiting Leg Total					0					5					0					3	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	1	0	0	0	1	1	4	0	0	5	1	1	1	0	3	2	5	3	0	10	19
7:45 AM	1	0	2	0	3	0	7	0	0	7	0	1	1	0	2	1	4	1	0	6	18
8:00 AM	1	0	3	0	4	1	4	0	0	5	1	1	0	0	2	2	11	2	0	15	26
8:15 AM	2	0	2	0	4	0	4	1	0	5	0	0	1	0	1	3	10	4	0	17	27
Total Volume	5	0	7	0	12	2	19	1	0	22	2	3	3	0	8	8	30	10	0	48	90
% Approach Total	41.7	0.0	58.3	0.0		9.1	86.4	4.5	0.0		25.0	37.5	37.5	0.0		16.7	62.5	20.8	0.0		
PHF	0.625	0.000	0.583	0.000	0.750	0.500	0.679	0.250	0.000	0.786	0.500	0.750	0.750	0.000	0.667	0.667	0.682	0.625	0.000	0.706	0.833
Buses	3	0	1	0	4	2	11	0	0	13	0	3	2	0	5	8	18	2	0	28	50
Buses %	60.0	0.0	14.3	0.0	33.3	100.0	57.9	0.0	0.0	59.1	0.0	100.0	66.7	0.0	62.5	100.0	60.0	20.0	0.0	58.3	55.6
Single-Unit Trucks	2	0	6	0	8	0	7	1	0	8	0	0	0	0	0	0	11	8	0	19	35
Single-Unit %	40.0	0.0	85.7	0.0	66.7	0.0	36.8	100.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	36.7	80.0	0.0	39.6	38.9
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	2	0	1	0	3	0	1	0	0	1	5
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	4.5	100.0	0.0	33.3	0.0	37.5	0.0	3.3	0.0	0.0	2.1	5.6
Buses	3	0	1	0	4	2	11	0	0	13	0	3	2	0	5	8	18	2	0	28	50
Single-Unit Trucks	2	0	6	0	8	0	7	1	0	8	0	0	0	0	0	0	11	8	0	19	35
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	2	0	1	0	3	0	1	0	0	1	5
Total Entering Leg	5	0	7	0	12	2	19	1	0	22	2	3	3	0	8	8	30	10	0	48	90
Buses					7					19					8					16	50
Single-Unit Trucks					8					17					1					9	35
Articulated Trucks					0					3					0					2	5
Total Exiting Leg					15					39					9					27	90

PDI File #: **197325 (1) am**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	4	0	0	4	0	1	1	0	2	2	4	3	0	9	16
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	3	2	0	7	8
7:30 AM	1	0	0	0	1	1	2	0	0	3	0	1	0	0	1	2	3	1	0	6	11
7:45 AM	1	0	1	0	2	0	4	0	0	4	0	1	1	0	2	1	3	0	0	4	12
Total	4	0	1	0	5	1	10	0	0	11	0	3	2	0	5	7	13	6	0	26	47
8:00 AM	1	0	0	0	1	1	2	0	0	3	0	1	0	0	1	2	7	0	0	9	14
8:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	3	5	1	0	9	13
8:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	1	0	6	8
8:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	3	0	0	5	7
Total	1	0	0	0	1	1	9	0	0	10	0	1	1	0	2	7	20	2	0	29	42
Grand Total	5	0	1	0	6	2	19	0	0	21	0	4	3	0	7	14	33	8	0	55	89
Approach %	83.3	0.0	16.7	0.0		9.5	90.5	0.0	0.0		0.0	57.1	42.9	0.0		25.5	60.0	14.5	0.0		
Total %	5.6	0.0	1.1	0.0	6.7	2.2	21.3	0.0	0.0	23.6	0.0	4.5	3.4	0.0	7.9	15.7	37.1	9.0	0.0	61.8	
Exiting Leg Total					14					34					14					27	89

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	1	0	0	0	1	1	2	0	0	3	0	1	0	0	1	2	3	1	0	6	11
7:45 AM	1	0	1	0	2	0	4	0	0	4	0	1	1	0	2	1	3	0	0	4	12
8:00 AM	1	0	0	0	1	1	2	0	0	3	0	1	0	0	1	2	7	0	0	9	14
8:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	3	5	1	0	9	13
Total Volume	3	0	1	0	4	2	11	0	0	13	0	3	2	0	5	8	18	2	0	28	50
% Approach Total	75.0	0.0	25.0	0.0		15.4	84.6	0.0	0.0		0.0	60.0	40.0	0.0		28.6	64.3	7.1	0.0		
PHF	0.750	0.000	0.250	0.000	0.500	0.500	0.688	0.000	0.000	0.813	0.000	0.750	0.500	0.000	0.625	0.667	0.643	0.500	0.000	0.778	0.893
Entering Leg	3	0	1	0	4	2	11	0	0	13	0	3	2	0	5	8	18	2	0	28	50
Exiting Leg					7					19					8					16	50
Total					11					32					13					44	100

PDI File #: **197325 (1) am**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
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Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Single-Unit Trucks

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	1	0	6	10
7:15 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	5	1	0	6	9
7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	2	0	3	4
7:45 AM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	1	1	0	2	6
Total	1	0	1	0	2	0	10	0	0	10	0	0	0	0	0	0	12	5	0	17	29
8:00 AM	0	0	3	0	3	0	2	0	0	2	0	0	0	0	0	0	4	2	0	6	11
8:15 AM	2	0	2	0	4	0	1	1	0	2	0	0	0	0	0	0	5	3	0	8	14
8:30 AM	0	1	2	0	3	0	2	0	0	2	1	0	0	0	1	0	1	1	0	2	8
8:45 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	4	3	0	7	10
Total	2	1	7	0	10	1	7	1	0	9	1	0	0	0	1	0	14	9	0	23	43
Grand Total	3	1	8	0	12	1	17	1	0	19	1	0	0	0	1	0	26	14	0	40	72
Approach %	25.0	8.3	66.7	0.0		5.3	89.5	5.3	0.0		100.0	0.0	0.0	0.0		0.0	65.0	35.0	0.0		
Total %	4.2	1.4	11.1	0.0	16.7	1.4	23.6	1.4	0.0	26.4	1.4	0.0	0.0	0.0	1.4	0.0	36.1	19.4	0.0	55.6	
Exiting Leg Total					15					35					2					20	72

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	3	0	3	0	2	0	0	2	0	0	0	0	0	0	4	2	0	6	11
8:15 AM	2	0	2	0	4	0	1	1	0	2	0	0	0	0	0	0	5	3	0	8	14
8:30 AM	0	1	2	0	3	0	2	0	0	2	1	0	0	0	1	0	1	1	0	2	8
8:45 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	4	3	0	7	10
Total Volume	2	1	7	0	10	1	7	1	0	9	1	0	0	0	1	0	14	9	0	23	43
% Approach Total	20.0	10.0	70.0	0.0		11.1	77.8	11.1	0.0		100.0	0.0	0.0	0.0		0.0	60.9	39.1	0.0		
PHF	0.250	0.250	0.583	0.000	0.625	0.250	0.875	0.250	0.000	0.750	0.250	0.000	0.000	0.000	0.250	0.000	0.700	0.750	0.000	0.719	0.768
Entering Leg	2	1	7	0	10	1	7	1	0	9	1	0	0	0	1	0	14	9	0	23	43
Exiting Leg					10					22					2					9	43
Total					20					31					3					32	86

PDI File #: **197325 (1) am**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

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46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	1	0	0	1	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	2	0	0	2	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3
Grand Total	0	0	0	0	0	0	2	0	0	2	2	0	1	0	3	0	3	0	0	3	8
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		66.7	0.0	33.3	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	25.0	0.0	12.5	0.0	37.5	0.0	37.5	0.0	0.0	37.5	
Exiting Leg Total					0					5					0					3	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	1	0	0	1	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	2	0	0	2	5
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.313
Entering Leg	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	2	0	0	2	5
Exiting Leg					0					3					0					2	5
Total					0					4					2					4	10

PDI File #: **197325 (1) am**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Northampton Street							Albany Street							Crosstown Drive							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	1	1	0	0	0	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	2	0	0	1	4	7
8:00 AM	2	0	0	0	0	1	3	0	0	1	0	0	0	1	0	0	0	0	0	2	2	1	0	1	0	0	0	2	8
8:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	4
8:30 AM	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	4
8:45 AM	2	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	2	1	5	0	0	0	0	0	0	0	8
Total	5	3	0	0	0	1	9	0	0	1	0	0	0	1	0	0	2	0	2	3	7	4	2	1	0	0	0	7	24
Grand Total	6	4	0	0	0	1	11	0	0	1	0	1	0	2	0	0	2	0	2	3	7	4	3	3	0	0	1	11	31
Approach %	54.5	36.4	0.0	0.0	0.0	9.1		0.0	0.0	50.0	0.0	50.0	0.0		0.0	0.0	28.6	0.0	28.6	42.9		36.4	27.3	27.3	0.0	0.0	9.1		
Total %	19.4	12.9	0.0	0.0	0.0	3.2	35.5	0.0	0.0	3.2	0.0	3.2	0.0	6.5	0.0	0.0	6.5	0.0	6.5	9.7	22.6	12.9	9.7	9.7	0.0	0.0	3.2	35.5	
Exiting Leg Total							4							4							14							9	31

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Northampton Street							Albany Street							Crosstown Drive							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	2	0	0	0	0	1	3	0	0	1	0	0	0	1	0	0	0	0	0	2	2	1	0	1	0	0	0	2	8
8:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	4
8:30 AM	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	4
8:45 AM	2	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	2	1	5	0	0	0	0	0	0	0	8
Total Volume	5	3	0	0	0	1	9	0	0	1	0	0	0	1	0	0	2	0	2	3	7	4	2	1	0	0	0	7	24
% Approach Total	55.6	33.3	0.0	0.0	0.0	11.1		0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	28.6	0.0	28.6	42.9		57.1	28.6	14.3	0.0	0.0	0.0		
PHF	0.625	0.750	0.000	0.000	0.000	0.250	0.750	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.375	0.350	0.333	0.250	0.250	0.000	0.000	0.000	0.583	0.750
Entering Leg	5	3	0	0	0	1	9	0	0	1	0	0	0	1	0	0	2	0	2	3	7	4	2	1	0	0	0	7	24
Exiting Leg							2							2							13							7	24
Total							11							3							20							14	48

PDI File #: **197325 (1) am**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Northampton Street							Albany Street							Crosstown Drive							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	5	1	6	0	0	0	0	10	30	40	0	0	0	0	1	2	3	0	0	0	0	4	0	4	53
7:15 AM	0	0	0	0	6	1	7	0	0	0	0	4	22	26	0	0	0	0	2	2	4	0	0	0	0	7	1	8	45
7:30 AM	0	0	0	0	7	0	7	0	0	0	0	8	16	24	0	0	0	0	1	4	5	0	0	0	0	7	5	12	48
7:45 AM	0	0	0	0	40	5	45	0	0	0	0	9	34	43	0	0	0	0	1	6	7	0	0	0	0	4	3	7	102
Total	0	0	0	0	58	7	65	0	0	0	0	31	102	133	0	0	0	0	5	14	19	0	0	0	0	22	9	31	248
8:00 AM	0	0	0	0	13	6	19	0	0	0	0	13	11	24	0	0	0	0	0	5	5	0	0	0	0	6	7	13	61
8:15 AM	0	0	0	0	4	5	9	0	0	0	0	9	22	31	0	0	0	0	2	5	7	0	0	0	0	3	0	3	50
8:30 AM	0	0	0	0	11	8	19	0	0	0	0	12	17	29	0	0	0	0	3	6	9	0	0	0	0	4	1	5	62
8:45 AM	0	0	0	0	19	4	23	0	0	0	0	8	16	24	0	0	0	0	1	5	6	0	0	0	0	4	0	4	57
Total	0	0	0	0	47	23	70	0	0	0	0	42	66	108	0	0	0	0	6	21	27	0	0	0	0	17	8	25	230
Grand Total	0	0	0	0	105	30	135	0	0	0	0	73	168	241	0	0	0	0	11	35	46	0	0	0	0	39	17	56	478
Approach %	0.0	0.0	0.0	0.0	77.8	22.2		0.0	0.0	0.0	0.0	30.3	69.7		0.0	0.0	0.0	0.0	23.9	76.1		0.0	0.0	0.0	0.0	69.6	30.4		
Total %	0.0	0.0	0.0	0.0	22.0	6.3	28.2	0.0	0.0	0.0	0.0	15.3	35.1	50.4	0.0	0.0	0.0	0.0	2.3	7.3	9.6	0.0	0.0	0.0	0.0	8.2	3.6	11.7	
Exiting Leg Total							135							241							46							56	478

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Northampton Street							Albany Street							Crosstown Drive							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	40	5	45	0	0	0	0	9	34	43	0	0	0	0	1	6	7	0	0	0	0	4	3	7	102
8:00 AM	0	0	0	0	13	6	19	0	0	0	0	13	11	24	0	0	0	0	0	5	5	0	0	0	0	6	7	13	61
8:15 AM	0	0	0	0	4	5	9	0	0	0	0	9	22	31	0	0	0	0	2	5	7	0	0	0	0	3	0	3	50
8:30 AM	0	0	0	0	11	8	19	0	0	0	0	12	17	29	0	0	0	0	3	6	9	0	0	0	0	4	1	5	62
Total Volume	0	0	0	0	68	24	92	0	0	0	0	43	84	127	0	0	0	0	6	22	28	0	0	0	0	17	11	28	275
% Approach Total	0.0	0.0	0.0	0.0	73.9	26.1		0.0	0.0	0.0	0.0	33.9	66.1		0.0	0.0	0.0	0.0	21.4	78.6		0.0	0.0	0.0	0.0	60.7	39.3		
PHF	0.000	0.000	0.000	0.000	0.425	0.750	0.511	0.000	0.000	0.000	0.000	0.827	0.618	0.738	0.000	0.000	0.000	0.000	0.500	0.917	0.778	0.000	0.000	0.000	0.000	0.708	0.393	0.538	0.674
Entering Leg	0	0	0	0	68	24	92	0	0	0	0	43	84	127	0	0	0	0	6	22	28	0	0	0	0	17	11	28	275
Exiting Leg							92							127							28							28	275
Total							184							254							56							56	550

PDI File #: **197325 (1) pm**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	65	5	25	0	95	14	80	1	1	96	33	8	15	0	56	5	42	28	0	75	322
4:15 PM	47	6	13	0	66	15	104	5	0	124	33	18	15	0	66	7	36	34	0	77	333
4:30 PM	73	7	17	0	97	4	86	4	0	94	36	26	12	0	74	5	43	50	0	98	363
4:45 PM	62	2	17	0	81	9	84	3	0	96	42	17	21	0	80	8	46	30	0	84	341
Total	247	20	72	0	339	42	354	13	1	410	144	69	63	0	276	25	167	142	0	334	1359
5:00 PM	91	4	23	0	118	7	82	5	2	96	38	17	18	0	73	4	44	32	0	80	367
5:15 PM	76	8	14	0	98	5	88	3	1	97	34	16	14	0	64	4	49	37	0	90	349
5:30 PM	58	7	24	0	89	12	80	1	1	94	31	18	20	0	69	4	32	37	0	73	325
5:45 PM	69	3	16	0	88	8	76	2	1	87	33	13	14	0	60	5	39	21	0	65	300
Total	294	22	77	0	393	32	326	11	5	374	136	64	66	0	266	17	164	127	0	308	1341
Grand Total	541	42	149	0	732	74	680	24	6	784	280	133	129	0	542	42	331	269	0	642	2700
Approach %	73.9	5.7	20.4	0.0		9.4	86.7	3.1	0.8		51.7	24.5	23.8	0.0		6.5	51.6	41.9	0.0		
Total %	20.0	1.6	5.5	0.0	27.1	2.7	25.2	0.9	0.2	29.0	10.4	4.9	4.8	0.0	20.1	1.6	12.3	10.0	0.0	23.8	
Exiting Leg Total					476					766					108					1350	2700
Cars	534	40	147	0	721	69	644	23	6	742	279	131	129	0	539	32	296	264	0	592	2594
% Cars	98.7	95.2	98.7	0.0	98.5	93.2	94.7	95.8	100.0	94.6	99.6	98.5	100.0	0.0	99.4	76.2	89.4	98.1	0.0	92.2	96.1
Exiting Leg Total					464					728					95					1307	2594
Heavy Vehicles	7	2	2	0	11	5	36	1	0	42	1	2	0	0	3	10	35	5	0	50	106
% Heavy Vehicles	1.3	4.8	1.3	0.0	1.5	6.8	5.3	4.2	0.0	5.4	0.4	1.5	0.0	0.0	0.6	23.8	10.6	1.9	0.0	7.8	3.9
Exiting Leg Total					12					38					13					43	106

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	65	5	25	0	95	14	80	1	1	96	33	8	15	0	56	5	42	28	0	75	322
4:15 PM	47	6	13	0	66	15	104	5	0	124	33	18	15	0	66	7	36	34	0	77	333
4:30 PM	73	7	17	0	97	4	86	4	0	94	36	26	12	0	74	5	43	50	0	98	363
4:45 PM	62	2	17	0	81	9	84	3	0	96	42	17	21	0	80	8	46	30	0	84	341
Total Volume	247	20	72	0	339	42	354	13	1	410	144	69	63	0	276	25	167	142	0	334	1359
% Approach Total	72.9	5.9	21.2	0.0		10.2	86.3	3.2	0.2		52.2	25.0	22.8	0.0		7.5	50.0	42.5	0.0		
PHF	0.846	0.714	0.720	0.000	0.874	0.700	0.851	0.650	0.250	0.827	0.857	0.663	0.750	0.000	0.863	0.781	0.908	0.710	0.000	0.852	0.936
Cars	243	18	71	0	332	38	334	13	1	386	143	68	63	0	274	20	148	137	0	305	1297
Cars %	98.4	90.0	98.6	0.0	97.9	90.5	94.4	100.0	100.0	94.1	99.3	98.6	100.0	0.0	99.3	80.0	88.6	96.5	0.0	91.3	95.4
Heavy Vehicles	4	2	1	0	7	4	20	0	0	24	1	1	0	0	2	5	19	5	0	29	62
Heavy Vehicles %	1.6	10.0	1.4	0.0	2.1	9.5	5.6	0.0	0.0	5.9	0.7	1.4	0.0	0.0	0.7	20.0	11.4	3.5	0.0	8.7	4.6
Cars Enter Leg	243	18	71	0	332	38	334	13	1	386	143	68	63	0	274	20	148	137	0	305	1297
Heavy Enter Leg	4	2	1	0	7	4	20	0	0	24	1	1	0	0	2	5	19	5	0	29	62
Total Entering Leg	247	20	72	0	339	42	354	13	1	410	144	69	63	0	276	25	167	142	0	334	1359
Cars Exiting Leg					243					363					51					640	1297
Heavy Exiting Leg					10					21					7					24	62
Total Exiting Leg					253					384					58					664	1359

PDI File #: **197325 (1) pm**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	62	5	25	0	92	14	74	1	1	90	33	8	15	0	56	4	38	26	0	68	306
4:15 PM	46	5	13	0	64	13	97	5	0	115	33	18	15	0	66	5	30	34	0	69	314
4:30 PM	73	6	16	0	95	3	81	4	0	88	35	25	12	0	72	4	38	49	0	91	346
4:45 PM	62	2	17	0	81	8	82	3	0	93	42	17	21	0	80	7	42	28	0	77	331
Total	243	18	71	0	332	38	334	13	1	386	143	68	63	0	274	20	148	137	0	305	1297
5:00 PM	90	4	23	0	117	7	76	4	2	89	38	17	18	0	73	2	39	32	0	73	352
5:15 PM	76	8	14	0	98	4	84	3	1	92	34	16	14	0	64	3	44	37	0	84	338
5:30 PM	58	7	23	0	88	12	78	1	1	92	31	17	20	0	68	3	29	37	0	69	317
5:45 PM	67	3	16	0	86	8	72	2	1	83	33	13	14	0	60	4	36	21	0	61	290
Total	291	22	76	0	389	31	310	10	5	356	136	63	66	0	265	12	148	127	0	287	1297
Grand Total	534	40	147	0	721	69	644	23	6	742	279	131	129	0	539	32	296	264	0	592	2594
Approach %	74.1	5.5	20.4	0.0		9.3	86.8	3.1	0.8		51.8	24.3	23.9	0.0		5.4	50.0	44.6	0.0		
Total %	20.6	1.5	5.7	0.0	27.8	2.7	24.8	0.9	0.2	28.6	10.8	5.1	5.0	0.0	20.8	1.2	11.4	10.2	0.0	22.8	
Exiting Leg Total					464					728					95					1307	2594

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	62	5	25	0	92	14	74	1	1	90	33	8	15	0	56	4	38	26	0	68	306
4:15 PM	46	5	13	0	64	13	97	5	0	115	33	18	15	0	66	5	30	34	0	69	314
4:30 PM	73	6	16	0	95	3	81	4	0	88	35	25	12	0	72	4	38	49	0	91	346
4:45 PM	62	2	17	0	81	8	82	3	0	93	42	17	21	0	80	7	42	28	0	77	331
Total Volume	243	18	71	0	332	38	334	13	1	386	143	68	63	0	274	20	148	137	0	305	1297
% Approach Total	73.2	5.4	21.4	0.0		9.8	86.5	3.4	0.3		52.2	24.8	23.0	0.0		6.6	48.5	44.9	0.0		
PHF	0.832	0.750	0.710	0.000	0.874	0.679	0.861	0.650	0.250	0.839	0.851	0.680	0.750	0.000	0.856	0.714	0.881	0.699	0.000	0.838	0.937
Entering Leg	243	18	71	0	332	38	334	13	1	386	143	68	63	0	274	20	148	137	0	305	1297
Exiting Leg					243					363					51					640	1297
Total					575					749					325					945	2594

PDI File #: **197325 (1) pm**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Northampton Street from North					Albany Street from East					Crosstown Drive from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	0	0	3	0	6	0	0	6	0	0	0	0	0	1	4	2	0	7	16
4:15 PM	1	1	0	0	2	2	7	0	0	9	0	0	0	0	0	2	6	0	0	8	19
4:30 PM	0	1	1	0	2	1	5	0	0	6	1	1	0	0	2	1	5	1	0	7	17
4:45 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	1	4	2	0	7	10
Total	4	2	1	0	7	4	20	0	0	24	1	1	0	0	2	5	19	5	0	29	62
5:00 PM	1	0	0	0	1	0	6	1	0	7	0	0	0	0	0	2	5	0	0	7	15
5:15 PM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	1	5	0	0	6	11
5:30 PM	0	0	1	0	1	0	2	0	0	2	0	1	0	0	1	1	3	0	0	4	8
5:45 PM	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	1	3	0	0	4	10
Total	3	0	1	0	4	1	16	1	0	18	0	1	0	0	1	5	16	0	0	21	44
Grand Total	7	2	2	0	11	5	36	1	0	42	1	2	0	0	3	10	35	5	0	50	106
Approach %	63.6	18.2	18.2	0.0		11.9	85.7	2.4	0.0		33.3	66.7	0.0	0.0		20.0	70.0	10.0	0.0		
Total %	6.6	1.9	1.9	0.0	10.4	4.7	34.0	0.9	0.0	39.6	0.9	1.9	0.0	0.0	2.8	9.4	33.0	4.7	0.0	47.2	
Exiting Leg Total					12					38					13					43	106
Buses	3	0	0	0	3	2	23	0	0	25	0	2	0	0	2	10	29	3	0	42	72
% Buses	42.9	0.0	0.0	0.0	27.3	40.0	63.9	0.0	0.0	59.5	0.0	100.0	0.0	0.0	66.7	100.0	82.9	60.0	0.0	84.0	67.9
Exiting Leg Total					7					29					10					26	72
Single-Unit Trucks	4	2	2	0	8	3	13	1	0	17	1	0	0	0	1	0	6	2	0	8	34
% Single-Unit	57.1	100.0	100.0	0.0	72.7	60.0	36.1	100.0	0.0	40.5	100.0	0.0	0.0	0.0	33.3	0.0	17.1	40.0	0.0	16.0	32.1
Exiting Leg Total					5					9					3					17	34
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street from North					Albany Street from East					Crosstown Drive from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	0	0	3	0	6	0	0	6	0	0	0	0	0	1	4	2	0	7	16
4:15 PM	1	1	0	0	2	2	7	0	0	9	0	0	0	0	0	2	6	0	0	8	19
4:30 PM	0	1	1	0	2	1	5	0	0	6	1	1	0	0	2	1	5	1	0	7	17
4:45 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	1	4	2	0	7	10
Total Volume	4	2	1	0	7	4	20	0	0	24	1	1	0	0	2	5	19	5	0	29	62
% Approach Total	57.1	28.6	14.3	0.0		16.7	83.3	0.0	0.0		50.0	50.0	0.0	0.0		17.2	65.5	17.2	0.0		
PHF	0.333	0.500	0.250	0.000	0.583	0.500	0.714	0.000	0.000	0.667	0.250	0.250	0.000	0.000	0.250	0.625	0.792	0.625	0.000	0.906	0.816
Buses	1	0	0	0	1	2	11	0	0	13	0	1	0	0	1	5	14	3	0	22	37
Buses %	25.0	0.0	0.0	0.0	14.3	50.0	55.0	0.0	0.0	54.2	0.0	100.0	0.0	0.0	50.0	100.0	73.7	60.0	0.0	75.9	59.7
Single-Unit Trucks	3	2	1	0	6	2	9	0	0	11	1	0	0	0	1	0	5	2	0	7	25
Single-Unit %	75.0	100.0	100.0	0.0	85.7	50.0	45.0	0.0	0.0	45.8	100.0	0.0	0.0	0.0	50.0	0.0	26.3	40.0	0.0	24.1	40.3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	1	0	0	0	1	2	11	0	0	13	0	1	0	0	1	5	14	3	0	22	37
Single-Unit Trucks	3	2	1	0	6	2	9	0	0	11	1	0	0	0	1	0	5	2	0	7	25
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	4	2	1	0	7	4	20	0	0	24	1	1	0	0	2	5	19	5	0	29	62
Buses					6					14					5					12	37
Single-Unit Trucks					4					7					2					12	25
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					10					21					7					24	62

PDI File #: **197325 (1) pm**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	3	1	0	5	9
4:15 PM	1	0	0	0	1	1	5	0	0	6	0	0	0	0	0	2	4	0	0	6	13
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	1	4	1	0	6	8
4:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	1	3	1	0	5	7
Total	1	0	0	0	1	2	11	0	0	13	0	1	0	0	1	5	14	3	0	22	37
5:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	2	4	0	0	6	11
5:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	5	0	0	6	8
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	1	3	0	0	4	6
5:45 PM	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	1	3	0	0	4	10
Total	2	0	0	0	2	0	12	0	0	12	0	1	0	0	1	5	15	0	0	20	35
Grand Total	3	0	0	0	3	2	23	0	0	25	0	2	0	0	2	10	29	3	0	42	72
Approach %	100.0	0.0	0.0	0.0		8.0	92.0	0.0	0.0		0.0	100.0	0.0	0.0		23.8	69.0	7.1	0.0		
Total %	4.2	0.0	0.0	0.0	4.2	2.8	31.9	0.0	0.0	34.7	0.0	2.8	0.0	0.0	2.8	13.9	40.3	4.2	0.0	58.3	
Exiting Leg Total					7					29					10					26	72

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	3	1	0	5	9
4:15 PM	1	0	0	0	1	1	5	0	0	6	0	0	0	0	0	2	4	0	0	6	13
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	1	4	1	0	6	8
4:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	1	3	1	0	5	7
Total Volume	1	0	0	0	1	2	11	0	0	13	0	1	0	0	1	5	14	3	0	22	37
% Approach Total	100.0	0.0	0.0	0.0		15.4	84.6	0.0	0.0		0.0	100.0	0.0	0.0		22.7	63.6	13.6	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.500	0.550	0.000	0.000	0.542	0.000	0.250	0.000	0.000	0.250	0.625	0.875	0.750	0.000	0.917	0.712
Entering Leg	1	0	0	0	1	2	11	0	0	13	0	1	0	0	1	5	14	3	0	22	37
Exiting Leg					6					14					5					12	37
Total					7					27					6					34	74

PDI File #: **197325 (1) pm**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	7
4:15 PM	0	1	0	0	1	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	6
4:30 PM	0	1	1	0	2	1	4	0	0	5	1	0	0	0	1	0	1	0	0	1	9
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	3
Total	3	2	1	0	6	2	9	0	0	11	1	0	0	0	1	0	5	2	0	7	25
5:00 PM	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	4
5:15 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	2	1	4	1	0	6	0	0	0	0	0	0	1	0	0	1	9
Grand Total	4	2	2	0	8	3	13	1	0	17	1	0	0	0	1	0	6	2	0	8	34
Approach %	50.0	25.0	25.0	0.0		17.6	76.5	5.9	0.0		100.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		
Total %	11.8	5.9	5.9	0.0	23.5	8.8	38.2	2.9	0.0	50.0	2.9	0.0	0.0	0.0	2.9	0.0	17.6	5.9	0.0	23.5	
Exiting Leg Total					5					9					3					17	34

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	7
4:15 PM	0	1	0	0	1	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	6
4:30 PM	0	1	1	0	2	1	4	0	0	5	1	0	0	0	1	0	1	0	0	1	9
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	3
Total Volume	3	2	1	0	6	2	9	0	0	11	1	0	0	0	1	0	5	2	0	7	25
% Approach Total	50.0	33.3	16.7	0.0		18.2	81.8	0.0	0.0		100.0	0.0	0.0	0.0		0.0	71.4	28.6	0.0		
PHF	0.250	0.500	0.250	0.000	0.500	0.500	0.563	0.000	0.000	0.550	0.250	0.000	0.000	0.000	0.250	0.000	0.625	0.500	0.000	0.875	0.694
Entering Leg	3	2	1	0	6	2	9	0	0	11	1	0	0	0	1	0	5	2	0	7	25
Exiting Leg					4					7					2					12	25
Total					10					18					3					19	50

PDI File #: **197325 (1) pm**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street					Albany Street					Crosstown Drive					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (1) pm**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Northampton Street							Albany Street							Crosstown Drive							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
4:15 PM	0	1	0	0	0	0	1	1	0	0	0	0	0	1	2	1	0	0	0	0	3	0	1	0	0	0	0	1	6
4:30 PM	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	4
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	1	1	0	0	0	1	3	1	2	0	0	0	1	4	2	2	0	0	0	0	4	0	2	1	0	0	0	3	14
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	1	0	0	0	0	1	0	1	0	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	4
5:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	2	0	0	0	0	2	5
5:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	1	0	0	0	0	1	0	3	0	0	1	2	6	0	5	0	0	0	0	5	0	3	0	0	0	0	3	15
Grand Total	1	2	0	0	0	1	4	1	5	0	0	1	3	10	2	7	0	0	0	0	9	0	5	1	0	0	0	6	29
Approach %	25.0	50.0	0.0	0.0	0.0	25.0		10.0	50.0	0.0	0.0	10.0	30.0		22.2	77.8	0.0	0.0	0.0	0.0		0.0	83.3	16.7	0.0	0.0	0.0		
Total %	3.4	6.9	0.0	0.0	0.0	3.4	13.8	3.4	17.2	0.0	0.0	3.4	10.3	34.5	6.9	24.1	0.0	0.0	0.0	0.0	31.0	0.0	17.2	3.4	0.0	0.0	0.0	20.7	
Exiting Leg Total							10							11							2							6	29

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Northampton Street							Albany Street							Crosstown Drive							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	1	0	0	0	0	1	1	0	0	0	0	0	1	2	1	0	0	0	0	3	0	1	0	0	0	0	1	6
4:30 PM	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	4
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	1	0	0	0	0	1	0	1	0	0	0	0	1	4
Total Volume	1	1	0	0	0	1	3	1	2	0	0	1	1	5	2	3	0	0	0	0	5	0	3	0	0	0	0	3	16
% Approach Total	33.3	33.3	0.0	0.0	0.0	33.3		20.0	40.0	0.0	0.0	20.0	20.0		40.0	60.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.000	0.000	0.250	0.375	0.250	0.250	0.000	0.000	0.250	0.250	0.625	0.250	0.750	0.000	0.000	0.000	0.000	0.417	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.667
Entering Leg	1	1	0	0	0	1	3	1	2	0	0	1	1	5	2	3	0	0	0	0	5	0	3	0	0	0	0	3	16
Exiting Leg							5							7							1							3	16
Total							8							12							6							6	32

PDI File #: **197325 (1) pm**
Location: **N: Northampton Street S: Crosstown Drive**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Northampton Street (from North)							Albany Street (from East)							Crosstown Drive (from South)							Albany Street (from West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	7	12	19	0	0	0	0	8	4	12	0	0	0	0	1	1	2	0	0	0	0	1	9	10	43
4:15 PM	0	0	0	0	4	7	11	0	0	0	0	16	7	23	0	0	0	0	1	5	6	0	0	0	0	1	9	10	50
4:30 PM	0	0	0	0	7	8	15	0	0	0	0	29	4	33	0	0	0	0	3	1	4	0	0	0	0	1	4	5	57
4:45 PM	0	0	0	0	13	16	29	0	0	0	0	14	9	23	0	0	0	0	1	3	4	0	0	0	0	3	7	10	66
Total	0	0	0	0	31	43	74	0	0	0	0	67	24	91	0	0	0	0	6	10	16	0	0	0	0	6	29	35	216
5:00 PM	0	0	0	0	10	18	28	0	0	0	0	17	7	24	0	0	0	0	2	3	5	0	0	0	0	4	7	11	68
5:15 PM	0	0	0	0	10	8	18	0	0	0	0	12	5	17	0	0	0	0	2	1	3	0	0	0	0	0	8	8	46
5:30 PM	0	0	0	0	6	12	18	0	0	0	0	16	5	21	0	0	0	0	4	3	7	0	0	0	0	4	8	12	58
5:45 PM	0	0	0	0	7	4	11	0	0	0	0	8	6	14	0	0	0	0	1	0	1	0	0	0	0	0	1	1	27
Total	0	0	0	0	33	42	75	0	0	0	0	53	23	76	0	0	0	0	9	7	16	0	0	0	0	8	24	32	199
Grand Total	0	0	0	0	64	85	149	0	0	0	0	120	47	167	0	0	0	0	15	17	32	0	0	0	0	14	53	67	415
Approach %	0.0	0.0	0.0	0.0	43.0	57.0		0.0	0.0	0.0	0.0	71.9	28.1		0.0	0.0	0.0	0.0	46.9	53.1		0.0	0.0	0.0	0.0	20.9	79.1		
Total %	0.0	0.0	0.0	0.0	15.4	20.5	35.9	0.0	0.0	0.0	0.0	28.9	11.3	40.2	0.0	0.0	0.0	0.0	3.6	4.1	7.7	0.0	0.0	0.0	0.0	3.4	12.8	16.1	
Exiting Leg Total							149							167							32							67	415

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Northampton Street (from North)							Albany Street (from East)							Crosstown Drive (from South)							Albany Street (from West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	4	7	11	0	0	0	0	16	7	23	0	0	0	0	1	5	6	0	0	0	0	1	9	10	50
4:30 PM	0	0	0	0	7	8	15	0	0	0	0	29	4	33	0	0	0	0	3	1	4	0	0	0	0	1	4	5	57
4:45 PM	0	0	0	0	13	16	29	0	0	0	0	14	9	23	0	0	0	0	1	3	4	0	0	0	0	3	7	10	66
5:00 PM	0	0	0	0	10	18	28	0	0	0	0	17	7	24	0	0	0	0	2	3	5	0	0	0	0	4	7	11	68
Total Volume	0	0	0	0	34	49	83	0	0	0	0	76	27	103	0	0	0	0	7	12	19	0	0	0	0	9	27	36	241
% Approach Total	0.0	0.0	0.0	0.0	41.0	59.0		0.0	0.0	0.0	0.0	73.8	26.2		0.0	0.0	0.0	0.0	36.8	63.2		0.0	0.0	0.0	0.0	25.0	75.0		
PHF	0.000	0.000	0.000	0.000	0.654	0.681	0.716	0.000	0.000	0.000	0.000	0.655	0.750	0.780	0.000	0.000	0.000	0.000	0.583	0.600	0.792	0.000	0.000	0.000	0.000	0.563	0.750	0.818	0.886
Entering Leg	0	0	0	0	34	49	83	0	0	0	0	76	27	103	0	0	0	0	7	12	19	0	0	0	0	9	27	36	241
Exiting Leg							83							103							19							36	241
Total							166							206							38							72	482

PDI File #: **197325 (2) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	11	103	2	0	116	13	53	26	0	92	75	239	1	3	318	10	42	17	0	69	595
7:15 AM	17	129	17	0	163	23	45	19	0	87	87	264	1	0	352	23	37	16	0	76	678
7:30 AM	13	119	14	0	146	19	58	37	0	114	90	231	1	0	322	25	57	22	0	104	686
7:45 AM	13	153	15	0	181	17	61	22	0	100	90	205	0	0	295	24	61	17	0	102	678
Total	54	504	48	0	606	72	217	104	0	393	342	939	3	3	1287	82	197	72	0	351	2637
8:00 AM	15	107	13	0	135	21	52	33	0	106	99	189	0	1	289	37	73	18	0	128	658
8:15 AM	13	132	19	0	164	17	37	18	0	72	100	188	0	0	288	23	71	20	0	114	638
8:30 AM	11	102	13	0	126	16	55	27	0	98	85	181	2	0	268	18	71	19	0	108	600
8:45 AM	9	134	17	0	160	20	42	21	0	83	86	200	1	0	287	16	88	19	0	123	653
Total	48	475	62	0	585	74	186	99	0	359	370	758	3	1	1132	94	303	76	0	473	2549
Grand Total	102	979	110	0	1191	146	403	203	0	752	712	1697	6	4	2419	176	500	148	0	824	5186
Approach %	8.6	82.2	9.2	0.0		19.4	53.6	27.0	0.0		29.4	70.2	0.2	0.2		21.4	60.7	18.0	0.0		
Total %	2.0	18.9	2.1	0.0	23.0	2.8	7.8	3.9	0.0	14.5	13.7	32.7	0.1	0.1	46.6	3.4	9.6	2.9	0.0	15.9	
Exiting Leg Total					1991					1322					1362					511	5186
Cars	84	899	92	0	1075	131	381	172	0	684	673	1584	6	4	2267	167	473	113	0	753	4779
% Cars	82.4	91.8	83.6	0.0	90.3	89.7	94.5	84.7	0.0	91.0	94.5	93.3	100.0	100.0	93.7	94.9	94.6	76.4	0.0	91.4	92.2
Exiting Leg Total					1828					1238					1242					471	4779
Heavy Vehicles	18	80	18	0	116	15	22	31	0	68	39	113	0	0	152	9	27	35	0	71	407
% Heavy Vehicles	17.6	8.2	16.4	0.0	9.7	10.3	5.5	15.3	0.0	9.0	5.5	6.7	0.0	0.0	6.3	5.1	5.4	23.6	0.0	8.6	7.8
Exiting Leg Total					163					84					120					40	407

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	17	129	17	0	163	23	45	19	0	87	87	264	1	0	352	23	37	16	0	76	678
7:30 AM	13	119	14	0	146	19	58	37	0	114	90	231	1	0	322	25	57	22	0	104	686
7:45 AM	13	153	15	0	181	17	61	22	0	100	90	205	0	0	295	24	61	17	0	102	678
8:00 AM	15	107	13	0	135	21	52	33	0	106	99	189	0	1	289	37	73	18	0	128	658
Total Volume	58	508	59	0	625	80	216	111	0	407	366	889	2	1	1258	109	228	73	0	410	2700
% Approach Total	9.3	81.3	9.4	0.0		19.7	53.1	27.3	0.0		29.1	70.7	0.2	0.1		26.6	55.6	17.8	0.0		
PHF	0.853	0.830	0.868	0.000	0.863	0.870	0.885	0.750	0.000	0.893	0.924	0.842	0.500	0.250	0.893	0.736	0.781	0.830	0.000	0.801	0.984
Cars	53	470	52	0	575	70	203	97	0	370	347	830	2	1	1180	102	215	61	0	378	2503
Cars %	91.4	92.5	88.1	0.0	92.0	87.5	94.0	87.4	0.0	90.9	94.8	93.4	100.0	100.0	93.8	93.6	94.3	83.6	0.0	92.2	92.7
Heavy Vehicles	5	38	7	0	50	10	13	14	0	37	19	59	0	0	78	7	13	12	0	32	197
Heavy Vehicles %	8.6	7.5	11.9	0.0	8.0	12.5	6.0	12.6	0.0	9.1	5.2	6.6	0.0	0.0	6.2	6.4	5.7	16.4	0.0	7.8	7.3
Cars Enter Leg	53	470	52	0	575	70	203	97	0	370	347	830	2	1	1180	102	215	61	0	378	2503
Heavy Enter Leg	5	38	7	0	50	10	13	14	0	37	19	59	0	0	78	7	13	12	0	32	197
Total Entering Leg	58	508	59	0	625	80	216	111	0	407	366	889	2	1	1258	109	228	73	0	410	2700
Cars Exiting Leg					961					614					670					258	2503
Heavy Exiting Leg					81					39					59					18	197
Total Exiting Leg					1042					653					729					276	2700

PDI File #: **197325 (2) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	7	95	2	0	104	12	49	22	0	83	69	223	1	3	296	10	41	8	0	59	542
7:15 AM	17	120	16	0	153	20	43	16	0	79	84	248	1	0	333	21	34	13	0	68	633
7:30 AM	12	106	10	0	128	17	54	33	0	104	86	216	1	0	303	24	56	18	0	98	633
7:45 AM	9	147	14	0	170	13	58	20	0	91	83	194	0	0	277	24	59	15	0	98	636
Total	45	468	42	0	555	62	204	91	0	357	322	881	3	3	1209	79	190	54	0	323	2444
8:00 AM	15	97	12	0	124	20	48	28	0	96	94	172	0	1	267	33	66	15	0	114	601
8:15 AM	9	119	14	0	142	17	36	15	0	68	97	172	0	0	269	21	66	14	0	101	580
8:30 AM	8	96	11	0	115	14	53	22	0	89	78	168	2	0	248	18	68	13	0	99	551
8:45 AM	7	119	13	0	139	18	40	16	0	74	82	191	1	0	274	16	83	17	0	116	603
Total	39	431	50	0	520	69	177	81	0	327	351	703	3	1	1058	88	283	59	0	430	2335
Grand Total	84	899	92	0	1075	131	381	172	0	684	673	1584	6	4	2267	167	473	113	0	753	4779
Approach %	7.8	83.6	8.6	0.0		19.2	55.7	25.1	0.0		29.7	69.9	0.3	0.2		22.2	62.8	15.0	0.0		
Total %	1.8	18.8	1.9	0.0	22.5	2.7	8.0	3.6	0.0	14.3	14.1	33.1	0.1	0.1	47.4	3.5	9.9	2.4	0.0	15.8	
Exiting Leg Total					1828					1238					1242					471	4779

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	17	120	16	0	153	20	43	16	0	79	84	248	1	0	333	21	34	13	0	68	633
7:30 AM	12	106	10	0	128	17	54	33	0	104	86	216	1	0	303	24	56	18	0	98	633
7:45 AM	9	147	14	0	170	13	58	20	0	91	83	194	0	0	277	24	59	15	0	98	636
8:00 AM	15	97	12	0	124	20	48	28	0	96	94	172	0	1	267	33	66	15	0	114	601
Total Volume	53	470	52	0	575	70	203	97	0	370	347	830	2	1	1180	102	215	61	0	378	2503
% Approach Total	9.2	81.7	9.0	0.0		18.9	54.9	26.2	0.0		29.4	70.3	0.2	0.1		27.0	56.9	16.1	0.0		
PHF	0.779	0.799	0.813	0.000	0.846	0.875	0.875	0.735	0.000	0.889	0.923	0.837	0.500	0.250	0.886	0.773	0.814	0.847	0.000	0.829	0.984
Entering Leg	53	470	52	0	575	70	203	97	0	370	347	830	2	1	1180	102	215	61	0	378	2503
Exiting Leg					961					614					670					258	2503
Total					1536					984					1850					636	5006

PDI File #: **197325 (2) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	4	8	0	0	12	1	4	4	0	9	6	16	0	0	22	0	1	9	0	10	53
7:15 AM	0	9	1	0	10	3	2	3	0	8	3	16	0	0	19	2	3	3	0	8	45
7:30 AM	1	13	4	0	18	2	4	4	0	10	4	15	0	0	19	1	1	4	0	6	53
7:45 AM	4	6	1	0	11	4	3	2	0	9	7	11	0	0	18	0	2	2	0	4	42
Total	9	36	6	0	51	10	13	13	0	36	20	58	0	0	78	3	7	18	0	28	193
8:00 AM	0	10	1	0	11	1	4	5	0	10	5	17	0	0	22	4	7	3	0	14	57
8:15 AM	4	13	5	0	22	0	1	3	0	4	3	16	0	0	19	2	5	6	0	13	58
8:30 AM	3	6	2	0	11	2	2	5	0	9	7	13	0	0	20	0	3	6	0	9	49
8:45 AM	2	15	4	0	21	2	2	5	0	9	4	9	0	0	13	0	5	2	0	7	50
Total	9	44	12	0	65	5	9	18	0	32	19	55	0	0	74	6	20	17	0	43	214
Grand Total	18	80	18	0	116	15	22	31	0	68	39	113	0	0	152	9	27	35	0	71	407
Approach %	15.5	69.0	15.5	0.0		22.1	32.4	45.6	0.0		25.7	74.3	0.0	0.0		12.7	38.0	49.3	0.0		
Total %	4.4	19.7	4.4	0.0	28.5	3.7	5.4	7.6	0.0	16.7	9.6	27.8	0.0	0.0	37.3	2.2	6.6	8.6	0.0	17.4	
Exiting Leg Total					163					84					120					40	407
Buses	14	7	12	0	33	3	6	18	0	27	27	19	0	0	46	0	13	19	0	32	138
% Buses	77.8	8.8	66.7	0.0	28.4	20.0	27.3	58.1	0.0	39.7	69.2	16.8	0.0	0.0	30.3	0.0	48.1	54.3	0.0	45.1	33.9
Exiting Leg Total					41					52					25					20	138
Single-Unit Trucks	3	63	6	0	72	11	15	13	0	39	11	86	0	0	97	7	13	15	0	35	243
% Single-Unit	16.7	78.8	33.3	0.0	62.1	73.3	68.2	41.9	0.0	57.4	28.2	76.1	0.0	0.0	63.8	77.8	48.1	42.9	0.0	49.3	59.7
Exiting Leg Total					112					30					83					18	243
Articulated Trucks	1	10	0	0	11	1	1	0	0	2	1	8	0	0	9	2	1	1	0	4	26
% Articulated	5.6	12.5	0.0	0.0	9.5	6.7	4.5	0.0	0.0	2.9	2.6	7.1	0.0	0.0	5.9	22.2	3.7	2.9	0.0	5.6	6.4
Exiting Leg Total					10					2					12					2	26

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	10	1	0	11	1	4	5	0	10	5	17	0	0	22	4	7	3	0	14	57
8:15 AM	4	13	5	0	22	0	1	3	0	4	3	16	0	0	19	2	5	6	0	13	58
8:30 AM	3	6	2	0	11	2	2	5	0	9	7	13	0	0	20	0	3	6	0	9	49
8:45 AM	2	15	4	0	21	2	2	5	0	9	4	9	0	0	13	0	5	2	0	7	50
Total Volume	9	44	12	0	65	5	9	18	0	32	19	55	0	0	74	6	20	17	0	43	214
% Approach Total	13.8	67.7	18.5	0.0		15.6	28.1	56.3	0.0		25.7	74.3	0.0	0.0		14.0	46.5	39.5	0.0		
PHF	0.563	0.733	0.600	0.000	0.739	0.625	0.563	0.900	0.000	0.800	0.679	0.809	0.000	0.000	0.841	0.375	0.714	0.708	0.000	0.768	0.922
Buses	7	2	7	0	16	1	2	9	0	12	14	9	0	0	23	0	10	9	0	19	70
Buses %	77.8	4.5	58.3	0.0	24.6	20.0	22.2	50.0	0.0	37.5	73.7	16.4	0.0	0.0	31.1	0.0	50.0	52.9	0.0	44.2	32.7
Single-Unit Trucks	1	38	5	0	44	4	6	9	0	19	5	42	0	0	47	5	10	8	0	23	133
Single-Unit %	11.1	86.4	41.7	0.0	67.7	80.0	66.7	50.0	0.0	59.4	26.3	76.4	0.0	0.0	63.5	83.3	50.0	47.1	0.0	53.5	62.1
Articulated Trucks	1	4	0	0	5	0	1	0	0	1	0	4	0	0	4	1	0	0	0	1	11
Articulated %	11.1	9.1	0.0	0.0	7.7	0.0	11.1	0.0	0.0	3.1	0.0	7.3	0.0	0.0	5.4	16.7	0.0	0.0	0.0	2.3	5.1
Buses	7	2	7	0	16	1	2	9	0	12	14	9	0	0	23	0	10	9	0	19	70
Single-Unit Trucks	1	38	5	0	44	4	6	9	0	19	5	42	0	0	47	5	10	8	0	23	133
Articulated Trucks	1	4	0	0	5	0	1	0	0	1	0	4	0	0	4	1	0	0	0	1	11
Total Entering Leg	9	44	12	0	65	5	9	18	0	32	19	55	0	0	74	6	20	17	0	43	214
Buses					19					31					11					9	70
Single-Unit Trucks					54					20					52					7	133
Articulated Trucks					4					0					5					2	11
Total Exiting Leg					77					51					68					18	214

PDI File #: **197325 (2) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	3	2	0	0	5	0	1	4	0	5	5	3	0	0	8	0	1	3	0	4	22
7:15 AM	0	1	1	0	2	1	0	1	0	2	2	3	0	0	5	0	1	2	0	3	12
7:30 AM	1	1	3	0	5	0	2	3	0	5	3	2	0	0	5	0	0	3	0	3	18
7:45 AM	3	1	1	0	5	1	1	1	0	3	3	2	0	0	5	0	1	2	0	3	16
Total	7	5	5	0	17	2	4	9	0	15	13	10	0	0	23	0	3	10	0	13	68
8:00 AM	0	1	1	0	2	1	2	1	0	4	5	0	0	0	5	0	4	3	0	7	18
8:15 AM	3	0	2	0	5	0	0	2	0	2	2	2	0	0	4	0	3	2	0	5	16
8:30 AM	2	0	1	0	3	0	0	5	0	5	3	1	0	0	4	0	2	3	0	5	17
8:45 AM	2	1	3	0	6	0	0	1	0	1	4	6	0	0	10	0	1	1	0	2	19
Total	7	2	7	0	16	1	2	9	0	12	14	9	0	0	23	0	10	9	0	19	70
Grand Total	14	7	12	0	33	3	6	18	0	27	27	19	0	0	46	0	13	19	0	32	138
Approach %	42.4	21.2	36.4	0.0		11.1	22.2	66.7	0.0		58.7	41.3	0.0	0.0		0.0	40.6	59.4	0.0		
Total %	10.1	5.1	8.7	0.0	23.9	2.2	4.3	13.0	0.0	19.6	19.6	13.8	0.0	0.0	33.3	0.0	9.4	13.8	0.0	23.2	
Exiting Leg Total					41					52					25					20	138

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	1	1	0	2	1	2	1	0	4	5	0	0	0	5	0	4	3	0	7	18
8:15 AM	3	0	2	0	5	0	0	2	0	2	2	2	0	0	4	0	3	2	0	5	16
8:30 AM	2	0	1	0	3	0	0	5	0	5	3	1	0	0	4	0	2	3	0	5	17
8:45 AM	2	1	3	0	6	0	0	1	0	1	4	6	0	0	10	0	1	1	0	2	19
Total Volume	7	2	7	0	16	1	2	9	0	12	14	9	0	0	23	0	10	9	0	19	70
% Approach Total	43.8	12.5	43.8	0.0		8.3	16.7	75.0	0.0		60.9	39.1	0.0	0.0		0.0	52.6	47.4	0.0		
PHF	0.583	0.500	0.583	0.000	0.667	0.250	0.250	0.450	0.000	0.600	0.700	0.375	0.000	0.000	0.575	0.000	0.625	0.750	0.000	0.679	0.921
Entering Leg	7	2	7	0	16	1	2	9	0	12	14	9	0	0	23	0	10	9	0	19	70
Exiting Leg					19					31					11					9	70
Total					35					43					34					28	140

PDI File #: **197325 (2) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Single-Unit Trucks

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	5	0	0	6	1	3	0	0	4	0	13	0	0	13	0	0	5	0	5	28
7:15 AM	0	6	0	0	6	1	2	2	0	5	1	10	0	0	11	2	2	1	0	5	27
7:30 AM	0	10	1	0	11	2	2	1	0	5	1	12	0	0	13	0	0	1	0	1	30
7:45 AM	1	4	0	0	5	3	2	1	0	6	4	9	0	0	13	0	1	0	0	1	25
Total	2	25	1	0	28	7	9	4	0	20	6	44	0	0	50	2	3	7	0	12	110
8:00 AM	0	7	0	0	7	0	1	4	0	5	0	15	0	0	15	3	3	0	0	6	33
8:15 AM	1	12	3	0	16	0	1	1	0	2	1	13	0	0	14	2	2	4	0	8	40
8:30 AM	0	6	1	0	7	2	2	0	0	4	4	11	0	0	15	0	1	3	0	4	30
8:45 AM	0	13	1	0	14	2	2	4	0	8	0	3	0	0	3	0	4	1	0	5	30
Total	1	38	5	0	44	4	6	9	0	19	5	42	0	0	47	5	10	8	0	23	133
Grand Total	3	63	6	0	72	11	15	13	0	39	11	86	0	0	97	7	13	15	0	35	243
Approach %	4.2	87.5	8.3	0.0		28.2	38.5	33.3	0.0		11.3	88.7	0.0	0.0		20.0	37.1	42.9	0.0		
Total %	1.2	25.9	2.5	0.0	29.6	4.5	6.2	5.3	0.0	16.0	4.5	35.4	0.0	0.0	39.9	2.9	5.3	6.2	0.0	14.4	
Exiting Leg Total					112					30					83					18	243

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	7	0	0	7	0	1	4	0	5	0	15	0	0	15	3	3	0	0	6	33
8:15 AM	1	12	3	0	16	0	1	1	0	2	1	13	0	0	14	2	2	4	0	8	40
8:30 AM	0	6	1	0	7	2	2	0	0	4	4	11	0	0	15	0	1	3	0	4	30
8:45 AM	0	13	1	0	14	2	2	4	0	8	0	3	0	0	3	0	4	1	0	5	30
Total Volume	1	38	5	0	44	4	6	9	0	19	5	42	0	0	47	5	10	8	0	23	133
% Approach Total	2.3	86.4	11.4	0.0		21.1	31.6	47.4	0.0		10.6	89.4	0.0	0.0		21.7	43.5	34.8	0.0		
PHF	0.250	0.731	0.417	0.000	0.688	0.500	0.750	0.563	0.000	0.594	0.313	0.700	0.000	0.000	0.783	0.417	0.625	0.500	0.000	0.719	0.831
Entering Leg	1	38	5	0	44	4	6	9	0	19	5	42	0	0	47	5	10	8	0	23	133
Exiting Leg					54					20					52					7	133
Total					98					39					99					30	266

PDI File #: **197325 (2) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	3
7:15 AM	0	2	0	0	2	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	6
7:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	5
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	6	0	0	6	1	0	0	0	1	1	4	0	0	5	1	1	1	0	3	15
8:00 AM	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	6
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:30 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	4	0	0	5	0	1	0	0	1	0	4	0	0	4	1	0	0	0	1	11
Grand Total	1	10	0	0	11	1	1	0	0	2	1	8	0	0	9	2	1	1	0	4	26
Approach %	9.1	90.9	0.0	0.0		50.0	50.0	0.0	0.0		11.1	88.9	0.0	0.0		50.0	25.0	25.0	0.0		
Total %	3.8	38.5	0.0	0.0	42.3	3.8	3.8	0.0	0.0	7.7	3.8	30.8	0.0	0.0	34.6	7.7	3.8	3.8	0.0	15.4	
Exiting Leg Total					10					2					12					2	26

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	2	0	0	2	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	6
7:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	5
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	6
Total Volume	0	7	0	0	7	1	1	0	0	2	0	6	0	0	6	2	1	0	0	3	18
% Approach Total	0.0	100.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		66.7	33.3	0.0	0.0		
PHF	0.000	0.875	0.000	0.000	0.875	0.250	0.250	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.500	0.500	0.250	0.000	0.000	0.375	0.750
Entering Leg	0	7	0	0	7	1	1	0	0	2	0	6	0	0	6	2	1	0	0	3	18
Exiting Leg					7					1					9					1	18
Total					14					3					15					4	36

PDI File #: **197325 (2) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Massachusetts Avenue from North							Albany Street from East							Massachusetts Avenue from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	1	0	0	1	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4
7:15 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	2	0	0	0	0	2	0	0	0	0	2	3	5	1	0	0	0	0	0	1	0	0	1	0	2	1	4	12
Total	0	4	1	0	0	1	6	1	0	0	0	2	3	6	1	0	0	0	1	0	2	0	0	1	0	3	2	6	20
8:00 AM	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	0	1	6
8:15 AM	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	3
8:45 AM	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	1	10	0	0	0	0	11	0	0	1	0	0	0	1	0	1	0	0	1	1	3	0	0	0	0	1	0	1	16
Grand Total	1	14	1	0	0	1	17	1	0	1	0	2	3	7	1	1	0	0	2	1	5	0	0	1	0	4	2	7	36
Approach %	5.9	82.4	5.9	0.0	0.0	5.9		14.3	0.0	14.3	0.0	28.6	42.9		20.0	20.0	0.0	0.0	40.0	20.0		0.0	0.0	14.3	0.0	57.1	28.6		
Total %	2.8	38.9	2.8	0.0	0.0	2.8	47.2	2.8	0.0	2.8	0.0	5.6	8.3	19.4	2.8	2.8	0.0	0.0	5.6	2.8	13.9	0.0	0.0	2.8	0.0	11.1	5.6	19.4	
Exiting Leg Total							4							7							18							7	36

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Massachusetts Avenue from North							Albany Street from East							Massachusetts Avenue from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	2	0	0	0	0	2	0	0	0	0	2	3	5	1	0	0	0	0	0	1	0	0	1	0	2	1	4	12
8:00 AM	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	0	1	6
8:15 AM	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	3
Total Volume	1	7	0	0	0	0	8	0	0	1	0	2	3	6	1	1	0	0	1	1	4	0	0	1	0	3	1	5	23
% Approach Total	12.5	87.5	0.0	0.0	0.0	0.0		0.0	0.0	16.7	0.0	33.3	50.0		25.0	25.0	0.0	0.0	25.0	25.0		0.0	0.0	20.0	0.0	60.0	20.0		
PHF	0.250	0.875	0.000	0.000	0.000	0.000	0.667	0.000	0.000	0.250	0.000	0.250	0.250	0.300	0.250	0.250	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.250	0.000	0.375	0.250	0.313	0.479
Entering Leg	1	7	0	0	0	0	8	0	0	1	0	2	3	6	1	1	0	0	1	1	4	0	0	1	0	3	1	5	23
Exiting Leg							2							6							10							5	23
Total							10							12							14							10	46

PDI File #: **197325 (2) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Massachusetts Avenue from North							Albany Street from East							Massachusetts Avenue from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	18	5	23	0	0	0	0	37	49	86	0	0	0	0	8	34	42	0	0	0	0	12	10	22	173
7:15 AM	0	0	0	0	15	5	20	0	0	0	0	19	37	56	0	0	0	0	9	11	20	0	0	0	0	20	6	26	122
7:30 AM	0	0	0	0	18	9	27	0	0	0	0	29	37	66	0	0	0	0	11	22	33	0	0	0	0	12	28	40	166
7:45 AM	0	0	0	0	51	5	56	0	0	0	0	67	59	126	0	0	0	0	18	29	47	0	0	0	0	26	52	78	307
Total	0	0	0	0	102	24	126	0	0	0	0	152	182	334	0	0	0	0	46	96	142	0	0	0	0	70	96	166	768
8:00 AM	0	0	0	0	20	4	24	0	0	0	0	34	22	56	0	0	0	0	20	24	44	0	0	0	0	21	10	31	155
8:15 AM	0	0	0	0	15	5	20	0	0	0	0	34	19	53	0	0	0	0	17	33	50	0	0	0	0	16	56	72	195
8:30 AM	0	0	0	0	14	10	24	0	0	0	0	46	34	80	0	0	0	0	26	30	56	0	0	0	0	18	38	56	216
8:45 AM	0	0	0	0	40	11	51	0	0	0	0	48	40	88	0	0	0	0	26	20	46	0	0	0	0	31	37	68	253
Total	0	0	0	0	89	30	119	0	0	0	0	162	115	277	0	0	0	0	89	107	196	0	0	0	0	86	141	227	819
Grand Total	0	0	0	0	191	54	245	0	0	0	0	314	297	611	0	0	0	0	135	203	338	0	0	0	0	156	237	393	1587
Approach %	0.0	0.0	0.0	0.0	78.0	22.0		0.0	0.0	0.0	0.0	51.4	48.6		0.0	0.0	0.0	0.0	39.9	60.1		0.0	0.0	0.0	0.0	39.7	60.3		
Total %	0.0	0.0	0.0	0.0	12.0	3.4	15.4	0.0	0.0	0.0	0.0	19.8	18.7	38.5	0.0	0.0	0.0	0.0	8.5	12.8	21.3	0.0	0.0	0.0	0.0	9.8	14.9	24.8	
Exiting Leg Total							245							611							338							393	1587

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Massachusetts Avenue from North							Albany Street from East							Massachusetts Avenue from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	51	5	56	0	0	0	0	67	59	126	0	0	0	0	18	29	47	0	0	0	0	26	52	78	307
8:00 AM	0	0	0	0	20	4	24	0	0	0	0	34	22	56	0	0	0	0	20	24	44	0	0	0	0	21	10	31	155
8:15 AM	0	0	0	0	15	5	20	0	0	0	0	34	19	53	0	0	0	0	17	33	50	0	0	0	0	16	56	72	195
8:30 AM	0	0	0	0	14	10	24	0	0	0	0	46	34	80	0	0	0	0	26	30	56	0	0	0	0	18	38	56	216
Total Volume	0	0	0	0	100	24	124	0	0	0	0	181	134	315	0	0	0	0	81	116	197	0	0	0	0	81	156	237	873
% Approach Total	0.0	0.0	0.0	0.0	80.6	19.4		0.0	0.0	0.0	0.0	57.5	42.5		0.0	0.0	0.0	0.0	41.1	58.9		0.0	0.0	0.0	0.0	34.2	65.8		
PHF	0.000	0.000	0.000	0.000	0.490	0.600	0.554	0.000	0.000	0.000	0.000	0.675	0.568	0.625	0.000	0.000	0.000	0.000	0.779	0.879	0.879	0.000	0.000	0.000	0.000	0.779	0.696	0.760	0.711
Entering Leg	0	0	0	0	100	24	124	0	0	0	0	181	134	315	0	0	0	0	81	116	197	0	0	0	0	81	156	237	873
Exiting Leg							124							315							197							237	873
Total							248							630							394							474	1746

PDI File #: **197325 (2) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	15	166	18	1	200	25	82	40	0	147	46	163	0	0	209	36	41	16	0	93	649
4:15 PM	18	185	9	0	212	24	84	54	0	162	43	161	0	0	204	33	33	19	0	85	663
4:30 PM	9	148	15	0	172	24	81	41	1	147	34	185	0	0	219	38	40	17	0	95	633
4:45 PM	9	182	13	0	204	20	80	48	0	148	33	175	0	1	209	36	43	21	0	100	661
Total	51	681	55	1	788	93	327	183	1	604	156	684	0	1	841	143	157	73	0	373	2606
5:00 PM	12	159	7	0	178	31	87	44	0	162	45	147	0	1	193	41	48	22	1	112	645
5:15 PM	16	175	12	0	203	17	76	38	0	131	25	170	0	1	196	35	35	23	0	93	623
5:30 PM	12	163	8	0	183	20	84	44	0	148	23	184	0	0	207	37	37	28	0	102	640
5:45 PM	19	196	8	0	223	32	67	23	0	122	24	229	1	0	254	33	31	22	1	87	686
Total	59	693	35	0	787	100	314	149	0	563	117	730	1	2	850	146	151	95	2	394	2594
Grand Total	110	1374	90	1	1575	193	641	332	1	1167	273	1414	1	3	1691	289	308	168	2	767	5200
Approach %	7.0	87.2	5.7	0.1		16.5	54.9	28.4	0.1		16.1	83.6	0.1	0.2		37.7	40.2	21.9	0.3		
Total %	2.1	26.4	1.7	0.0	30.3	3.7	12.3	6.4	0.0	22.4	5.3	27.2	0.0	0.1	32.5	5.6	5.9	3.2	0.0	14.8	
Exiting Leg Total					1776					672					1998					754	5200
Cars	91	1328	72	1	1492	185	617	313	1	1116	249	1393	1	3	1646	288	287	150	2	727	4981
% Cars	82.7	96.7	80.0	100.0	94.7	95.9	96.3	94.3	100.0	95.6	91.2	98.5	100.0	100.0	97.3	99.7	93.2	89.3	100.0	94.8	95.8
Exiting Leg Total					1729					609					1932					711	4981
Heavy Vehicles	19	46	18	0	83	8	24	19	0	51	24	21	0	0	45	1	21	18	0	40	219
% Heavy Vehicles	17.3	3.3	20.0	0.0	5.3	4.1	3.7	5.7	0.0	4.4	8.8	1.5	0.0	0.0	2.7	0.3	6.8	10.7	0.0	5.2	4.2
Exiting Leg Total					47					63					66					43	219

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	15	166	18	1	200	25	82	40	0	147	46	163	0	0	209	36	41	16	0	93	649
4:15 PM	18	185	9	0	212	24	84	54	0	162	43	161	0	0	204	33	33	19	0	85	663
4:30 PM	9	148	15	0	172	24	81	41	1	147	34	185	0	0	219	38	40	17	0	95	633
4:45 PM	9	182	13	0	204	20	80	48	0	148	33	175	0	1	209	36	43	21	0	100	661
Total Volume	51	681	55	1	788	93	327	183	1	604	156	684	0	1	841	143	157	73	0	373	2606
% Approach Total	6.5	86.4	7.0	0.1		15.4	54.1	30.3	0.2		18.5	81.3	0.0	0.1		38.3	42.1	19.6	0.0		
PHF	0.708	0.920	0.764	0.250	0.929	0.930	0.973	0.847	0.250	0.932	0.848	0.924	0.000	0.250	0.960	0.941	0.913	0.869	0.000	0.933	0.983
Cars	41	652	44	1	738	91	311	174	1	577	141	673	0	1	815	142	145	64	0	351	2481
Cars %	80.4	95.7	80.0	100.0	93.7	97.8	95.1	95.1	100.0	95.5	90.4	98.4	0.0	100.0	96.9	99.3	92.4	87.7	0.0	94.1	95.2
Heavy Vehicles	10	29	11	0	50	2	16	9	0	27	15	11	0	0	26	1	12	9	0	22	125
Heavy Vehicles %	19.6	4.3	20.0	0.0	6.3	2.2	4.9	4.9	0.0	4.5	9.6	1.6	0.0	0.0	3.1	0.7	7.6	12.3	0.0	5.9	4.8
Cars Enter Leg	41	652	44	1	738	91	311	174	1	577	141	673	0	1	815	142	145	64	0	351	2481
Heavy Enter Leg	10	29	11	0	50	2	16	9	0	27	15	11	0	0	26	1	12	9	0	22	125
Total Entering Leg	51	681	55	1	788	93	327	183	1	604	156	684	0	1	841	143	157	73	0	373	2606
Cars Exiting Leg					829					331					969					352	2481
Heavy Exiting Leg					22					38					39					26	125
Total Exiting Leg					851					369					1008					378	2606

PDI File #: **197325 (2) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	11	161	15	1	188	25	78	37	0	140	41	161	0	0	202	36	39	15	0	90	620
4:15 PM	14	174	7	0	195	23	79	53	0	155	38	157	0	0	195	32	28	16	0	76	621
4:30 PM	8	141	12	0	161	23	76	39	1	139	31	183	0	0	214	38	36	14	0	88	602
4:45 PM	8	176	10	0	194	20	78	45	0	143	31	172	0	1	204	36	42	19	0	97	638
Total	41	652	44	1	738	91	311	174	1	577	141	673	0	1	815	142	145	64	0	351	2481
5:00 PM	8	156	7	0	171	28	84	41	0	153	42	146	0	1	189	41	44	21	1	107	620
5:15 PM	14	169	8	0	191	17	74	34	0	125	23	167	0	1	191	35	35	20	0	90	597
5:30 PM	12	160	8	0	180	18	82	42	0	142	21	180	0	0	201	37	34	25	0	96	619
5:45 PM	16	191	5	0	212	31	66	22	0	119	22	227	1	0	250	33	29	20	1	83	664
Total	50	676	28	0	754	94	306	139	0	539	108	720	1	2	831	146	142	86	2	376	2500
Grand Total	91	1328	72	1	1492	185	617	313	1	1116	249	1393	1	3	1646	288	287	150	2	727	4981
Approach %	6.1	89.0	4.8	0.1		16.6	55.3	28.0	0.1		15.1	84.6	0.1	0.2		39.6	39.5	20.6	0.3		
Total %	1.8	26.7	1.4	0.0	30.0	3.7	12.4	6.3	0.0	22.4	5.0	28.0	0.0	0.1	33.0	5.8	5.8	3.0	0.0	14.6	
Exiting Leg Total					1729					609					1932					711	4981

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	11	161	15	1	188	25	78	37	0	140	41	161	0	0	202	36	39	15	0	90	620
4:15 PM	14	174	7	0	195	23	79	53	0	155	38	157	0	0	195	32	28	16	0	76	621
4:30 PM	8	141	12	0	161	23	76	39	1	139	31	183	0	0	214	38	36	14	0	88	602
4:45 PM	8	176	10	0	194	20	78	45	0	143	31	172	0	1	204	36	42	19	0	97	638
Total Volume	41	652	44	1	738	91	311	174	1	577	141	673	0	1	815	142	145	64	0	351	2481
% Approach Total	5.6	88.3	6.0	0.1		15.8	53.9	30.2	0.2		17.3	82.6	0.0	0.1		40.5	41.3	18.2	0.0		
PHF	0.732	0.926	0.733	0.250	0.946	0.910	0.984	0.821	0.250	0.931	0.860	0.919	0.000	0.250	0.952	0.934	0.863	0.842	0.000	0.905	0.972
Entering Leg	41	652	44	1	738	91	311	174	1	577	141	673	0	1	815	142	145	64	0	351	2481
Exiting Leg					829					331					969					352	2481
Total					1567					908					1784					703	4962

PDI File #: **197325 (2) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	5	3	0	12	0	4	3	0	7	5	2	0	0	7	0	2	1	0	3	29
4:15 PM	4	11	2	0	17	1	5	1	0	7	5	4	0	0	9	1	5	3	0	9	42
4:30 PM	1	7	3	0	11	1	5	2	0	8	3	2	0	0	5	0	4	3	0	7	31
4:45 PM	1	6	3	0	10	0	2	3	0	5	2	3	0	0	5	0	1	2	0	3	23
Total	10	29	11	0	50	2	16	9	0	27	15	11	0	0	26	1	12	9	0	22	125
5:00 PM	4	3	0	0	7	3	3	3	0	9	3	1	0	0	4	0	4	1	0	5	25
5:15 PM	2	6	4	0	12	0	2	4	0	6	2	3	0	0	5	0	0	3	0	3	26
5:30 PM	0	3	0	0	3	2	2	2	0	6	2	4	0	0	6	0	3	3	0	6	21
5:45 PM	3	5	3	0	11	1	1	1	0	3	2	2	0	0	4	0	2	2	0	4	22
Total	9	17	7	0	33	6	8	10	0	24	9	10	0	0	19	0	9	9	0	18	94
Grand Total	19	46	18	0	83	8	24	19	0	51	24	21	0	0	45	1	21	18	0	40	219
Approach %	22.9	55.4	21.7	0.0		15.7	47.1	37.3	0.0		53.3	46.7	0.0	0.0		2.5	52.5	45.0	0.0		
Total %	8.7	21.0	8.2	0.0	37.9	3.7	11.0	8.7	0.0	23.3	11.0	9.6	0.0	0.0	20.5	0.5	9.6	8.2	0.0	18.3	
Exiting Leg Total					47					63					66					43	219
Buses	14	19	10	0	43	3	12	17	0	32	19	11	0	0	30	1	11	18	0	30	135
% Buses	73.7	41.3	55.6	0.0	51.8	37.5	50.0	89.5	0.0	62.7	79.2	52.4	0.0	0.0	66.7	100.0	52.4	100.0	0.0	75.0	61.6
Exiting Leg Total					32					40					37					26	135
Single-Unit Trucks	3	26	8	0	37	5	12	2	0	19	4	8	0	0	12	0	10	0	0	10	78
% Single-Unit	15.8	56.5	44.4	0.0	44.6	62.5	50.0	10.5	0.0	37.3	16.7	38.1	0.0	0.0	26.7	0.0	47.6	0.0	0.0	25.0	35.6
Exiting Leg Total					13					22					28					15	78
Articulated Trucks	2	1	0	0	3	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	6
% Articulated	10.5	2.2	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	4.2	9.5	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	2.7
Exiting Leg Total					2					1					1					2	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	5	3	0	12	0	4	3	0	7	5	2	0	0	7	0	2	1	0	3	29
4:15 PM	4	11	2	0	17	1	5	1	0	7	5	4	0	0	9	1	5	3	0	9	42
4:30 PM	1	7	3	0	11	1	5	2	0	8	3	2	0	0	5	0	4	3	0	7	31
4:45 PM	1	6	3	0	10	0	2	3	0	5	2	3	0	0	5	0	1	2	0	3	23
Total Volume	10	29	11	0	50	2	16	9	0	27	15	11	0	0	26	1	12	9	0	22	125
% Approach Total	20.0	58.0	22.0	0.0		7.4	59.3	33.3	0.0		57.7	42.3	0.0	0.0		4.5	54.5	40.9	0.0		
PHF	0.625	0.659	0.917	0.000	0.735	0.500	0.800	0.750	0.000	0.844	0.750	0.688	0.000	0.000	0.722	0.250	0.600	0.750	0.000	0.611	0.744
Buses	5	10	4	0	19	0	8	8	0	16	11	5	0	0	16	1	5	9	0	15	66
Buses %	50.0	34.5	36.4	0.0	38.0	0.0	50.0	88.9	0.0	59.3	73.3	45.5	0.0	0.0	61.5	100.0	41.7	100.0	0.0	68.2	52.8
Single-Unit Trucks	3	18	7	0	28	2	8	1	0	11	4	4	0	0	8	0	7	0	0	7	54
Single-Unit %	30.0	62.1	63.6	0.0	56.0	100.0	50.0	11.1	0.0	40.7	26.7	36.4	0.0	0.0	30.8	0.0	58.3	0.0	0.0	31.8	43.2
Articulated Trucks	2	1	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
Articulated %	20.0	3.4	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	18.2	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	4.0
Buses	5	10	4	0	19	0	8	8	0	16	11	5	0	0	16	1	5	9	0	15	66
Single-Unit Trucks	3	18	7	0	28	2	8	1	0	11	4	4	0	0	8	0	7	0	0	7	54
Articulated Trucks	2	1	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
Total Entering Leg	10	29	11	0	50	2	16	9	0	27	15	11	0	0	26	1	12	9	0	22	125
Buses					14					20					19					13	66
Single-Unit Trucks					6					18					19					11	54
Articulated Trucks					2					0					1					2	5
Total Exiting Leg					22					38					39					26	125

PDI File #: **197325 (2) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	1	1	0	3	0	3	3	0	6	3	1	0	0	4	0	1	1	0	2	15
4:15 PM	3	4	1	0	8	0	2	1	0	3	4	3	0	0	7	1	2	3	0	6	24
4:30 PM	0	2	1	0	3	0	2	2	0	4	2	1	0	0	3	0	1	3	0	4	14
4:45 PM	1	3	1	0	5	0	1	2	0	3	2	0	0	0	2	0	1	2	0	3	13
Total	5	10	4	0	19	0	8	8	0	16	11	5	0	0	16	1	5	9	0	15	66
5:00 PM	4	0	0	0	4	0	1	3	0	4	3	0	0	0	3	0	3	1	0	4	15
5:15 PM	2	3	4	0	9	0	0	3	0	3	2	2	0	0	4	0	0	3	0	3	19
5:30 PM	0	2	0	0	2	2	2	2	0	6	1	2	0	0	3	0	2	3	0	5	16
5:45 PM	3	4	2	0	9	1	1	1	0	3	2	2	0	0	4	0	1	2	0	3	19
Total	9	9	6	0	24	3	4	9	0	16	8	6	0	0	14	0	6	9	0	15	69
Grand Total	14	19	10	0	43	3	12	17	0	32	19	11	0	0	30	1	11	18	0	30	135
Approach %	32.6	44.2	23.3	0.0		9.4	37.5	53.1	0.0		63.3	36.7	0.0	0.0		3.3	36.7	60.0	0.0		
Total %	10.4	14.1	7.4	0.0	31.9	2.2	8.9	12.6	0.0	23.7	14.1	8.1	0.0	0.0	22.2	0.7	8.1	13.3	0.0	22.2	
Exiting Leg Total					32					40					37					26	135

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	1	1	0	3	0	3	3	0	6	3	1	0	0	4	0	1	1	0	2	15
4:15 PM	3	4	1	0	8	0	2	1	0	3	4	3	0	0	7	1	2	3	0	6	24
4:30 PM	0	2	1	0	3	0	2	2	0	4	2	1	0	0	3	0	1	3	0	4	14
4:45 PM	1	3	1	0	5	0	1	2	0	3	2	0	0	0	2	0	1	2	0	3	13
Total Volume	5	10	4	0	19	0	8	8	0	16	11	5	0	0	16	1	5	9	0	15	66
% Approach Total	26.3	52.6	21.1	0.0		0.0	50.0	50.0	0.0		68.8	31.3	0.0	0.0		6.7	33.3	60.0	0.0		
PHF	0.417	0.625	1.000	0.000	0.594	0.000	0.667	0.667	0.000	0.667	0.688	0.417	0.000	0.000	0.571	0.250	0.625	0.750	0.000	0.625	0.688
Entering Leg	5	10	4	0	19	0	8	8	0	16	11	5	0	0	16	1	5	9	0	15	66
Exiting Leg					14					20					19					13	66
Total					33					36					35					28	132

PDI File #: **197325 (2) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	4	2	0	7	0	1	0	0	1	2	0	0	0	2	0	1	0	0	1	11
4:15 PM	1	6	1	0	8	1	3	0	0	4	1	0	0	0	1	0	3	0	0	3	16
4:30 PM	1	5	2	0	8	1	3	0	0	4	1	1	0	0	2	0	3	0	0	3	17
4:45 PM	0	3	2	0	5	0	1	1	0	2	0	3	0	0	3	0	0	0	0	0	10
Total	3	18	7	0	28	2	8	1	0	11	4	4	0	0	8	0	7	0	0	7	54
5:00 PM	0	3	0	0	3	3	2	0	0	5	0	1	0	0	1	0	1	0	0	1	10
5:15 PM	0	3	0	0	3	0	2	1	0	3	0	1	0	0	1	0	0	0	0	0	7
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	4
5:45 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
Total	0	8	1	0	9	3	4	1	0	8	0	4	0	0	4	0	3	0	0	3	24
Grand Total	3	26	8	0	37	5	12	2	0	19	4	8	0	0	12	0	10	0	0	10	78
Approach %	8.1	70.3	21.6	0.0		26.3	63.2	10.5	0.0		33.3	66.7	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	3.8	33.3	10.3	0.0	47.4	6.4	15.4	2.6	0.0	24.4	5.1	10.3	0.0	0.0	15.4	0.0	12.8	0.0	0.0	12.8	
Exiting Leg Total					13					22					28					15	78

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	4	2	0	7	0	1	0	0	1	2	0	0	0	2	0	1	0	0	1	11
4:15 PM	1	6	1	0	8	1	3	0	0	4	1	0	0	0	1	0	3	0	0	3	16
4:30 PM	1	5	2	0	8	1	3	0	0	4	1	1	0	0	2	0	3	0	0	3	17
4:45 PM	0	3	2	0	5	0	1	1	0	2	0	3	0	0	3	0	0	0	0	0	10
Total Volume	3	18	7	0	28	2	8	1	0	11	4	4	0	0	8	0	7	0	0	7	54
% Approach Total	10.7	64.3	25.0	0.0		18.2	72.7	9.1	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.750	0.750	0.875	0.000	0.875	0.500	0.667	0.250	0.000	0.688	0.500	0.333	0.000	0.000	0.667	0.000	0.583	0.000	0.000	0.583	0.794
Entering Leg	3	18	7	0	28	2	8	1	0	11	4	4	0	0	8	0	7	0	0	7	54
Exiting Leg					6					18					19					11	54
Total					34					29					27					18	108

PDI File #: **197325 (2) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Grand Total	2	1	0	0	3	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	6
Approach %	66.7	33.3	0.0	0.0		0.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	33.3	16.7	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	16.7	33.3	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					1					1					2	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Albany Street from East					Massachusetts Avenue from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	1	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
% Approach Total	66.7	33.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.417
Entering Leg	2	1	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
Exiting Leg					2					0					1					2	5
Total					5					0					3					2	10

PDI File #: **197325 (2) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Massachusetts Avenue from North							Albany Street from East							Massachusetts Avenue from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	1	3
4:30 PM	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	4
4:45 PM	1	1	0	0	0	0	2	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
Total	3	2	0	0	0	0	5	0	2	0	0	0	1	3	0	1	0	0	0	0	1	0	1	0	0	3	1	5	14
5:00 PM	0	1	0	0	0	0	1	1	0	1	0	0	1	3	0	0	0	0	0	0	0	0	1	2	0	0	0	3	7
5:15 PM	0	3	0	0	0	0	3	2	3	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:30 PM	0	4	0	0	0	0	4	0	1	0	0	0	0	1	1	1	0	0	0	0	2	0	0	1	0	0	2	3	10
5:45 PM	0	1	0	0	0	0	1	0	2	3	0	0	1	6	0	0	0	0	1	0	1	0	0	1	0	1	1	3	11
Total	0	9	0	0	0	0	9	3	6	5	0	0	2	16	1	1	0	0	1	0	3	0	1	4	0	1	3	9	37
Grand Total	3	11	0	0	0	0	14	3	8	5	0	0	3	19	1	2	0	0	1	0	4	0	2	4	0	4	4	14	51
Approach %	21.4	78.6	0.0	0.0	0.0	0.0		15.8	42.1	26.3	0.0	0.0	15.8		25.0	50.0	0.0	0.0	25.0	0.0		0.0	14.3	28.6	0.0	28.6	28.6		
Total %	5.9	21.6	0.0	0.0	0.0	0.0	27.5	5.9	15.7	9.8	0.0	0.0	5.9	37.3	2.0	3.9	0.0	0.0	2.0	0.0	7.8	0.0	3.9	7.8	0.0	7.8	7.8	27.5	
Exiting Leg Total							9							6							17							19	51

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Massachusetts Avenue from North							Albany Street from East							Massachusetts Avenue from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	1	0	0	0	0	1	1	0	1	0	0	1	3	0	0	0	0	0	0	0	0	1	2	0	0	0	3	7
5:15 PM	0	3	0	0	0	0	3	2	3	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:30 PM	0	4	0	0	0	0	4	0	1	0	0	0	0	1	1	1	0	0	0	0	2	0	0	1	0	0	2	3	10
5:45 PM	0	1	0	0	0	0	1	0	2	3	0	0	1	6	0	0	0	0	1	0	1	0	0	1	0	1	1	3	11
Total Volume	0	9	0	0	0	0	9	3	6	5	0	0	2	16	1	1	0	0	1	0	3	0	1	4	0	1	3	9	37
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0		18.8	37.5	31.3	0.0	0.0	12.5		33.3	33.3	0.0	0.0	33.3	0.0		0.0	11.1	44.4	0.0	11.1	33.3		
PHF	0.000	0.563	0.000	0.000	0.000	0.000	0.563	0.375	0.500	0.417	0.000	0.000	0.500	0.667	0.250	0.250	0.000	0.000	0.250	0.000	0.375	0.000	0.250	0.500	0.000	0.250	0.375	0.750	0.841
Entering Leg	0	9	0	0	0	0	9	3	6	5	0	0	2	16	1	1	0	0	1	0	3	0	1	4	0	1	3	9	37
Exiting Leg							8							4							15							10	37
Total							17							20							18							19	74

PDI File #: **197325 (2) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Massachusetts Avenue from North							Albany Street from East							Massachusetts Avenue from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	7	23	30	0	0	0	0	26	29	55	0	0	0	0	19	13	32	0	0	0	0	35	24	59	176
4:15 PM	0	0	0	0	13	19	32	0	0	0	0	51	29	80	0	0	0	0	20	10	30	0	0	0	0	32	28	60	202
4:30 PM	0	0	0	0	7	35	42	0	0	0	0	32	40	72	0	0	0	0	20	35	55	0	0	0	0	40	36	76	245
4:45 PM	0	0	0	0	17	25	42	0	0	0	0	27	54	81	0	0	0	0	19	27	46	0	0	0	0	28	24	52	221
Total	0	0	0	0	44	102	146	0	0	0	0	136	152	288	0	0	0	0	78	85	163	0	0	0	0	135	112	247	844
5:00 PM	0	0	0	0	13	25	38	0	0	0	0	53	47	100	0	0	0	0	35	21	56	0	0	0	0	34	33	67	261
5:15 PM	0	0	0	0	12	33	45	0	0	0	0	46	39	85	0	0	0	0	26	20	46	0	0	0	0	24	21	45	221
5:30 PM	0	0	0	0	16	31	47	0	0	0	0	29	25	54	0	0	0	0	21	20	41	0	0	0	0	17	14	31	173
5:45 PM	0	0	0	0	8	17	25	0	0	0	0	26	31	57	0	0	0	0	16	9	25	0	0	0	0	21	18	39	146
Total	0	0	0	0	49	106	155	0	0	0	0	154	142	296	0	0	0	0	98	70	168	0	0	0	0	96	86	182	801
Grand Total	0	0	0	0	93	208	301	0	0	0	0	290	294	584	0	0	0	0	176	155	331	0	0	0	0	231	198	429	1645
Approach %	0.0	0.0	0.0	0.0	30.9	69.1		0.0	0.0	0.0	0.0	49.7	50.3		0.0	0.0	0.0	0.0	53.2	46.8		0.0	0.0	0.0	0.0	53.8	46.2		
Total %	0.0	0.0	0.0	0.0	5.7	12.6	18.3	0.0	0.0	0.0	0.0	17.6	17.9	35.5	0.0	0.0	0.0	0.0	10.7	9.4	20.1	0.0	0.0	0.0	0.0	14.0	12.0	26.1	
Exiting Leg Total							301							584							331							429	1645

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Massachusetts Avenue from North							Albany Street from East							Massachusetts Avenue from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	0	7	35	42	0	0	0	0	32	40	72	0	0	0	0	20	35	55	0	0	0	0	40	36	76	245
4:45 PM	0	0	0	0	17	25	42	0	0	0	0	27	54	81	0	0	0	0	19	27	46	0	0	0	0	28	24	52	221
5:00 PM	0	0	0	0	13	25	38	0	0	0	0	53	47	100	0	0	0	0	35	21	56	0	0	0	0	34	33	67	261
5:15 PM	0	0	0	0	12	33	45	0	0	0	0	46	39	85	0	0	0	0	26	20	46	0	0	0	0	24	21	45	221
Total Volume	0	0	0	0	49	118	167	0	0	0	0	158	180	338	0	0	0	0	100	103	203	0	0	0	0	126	114	240	948
% Approach Total	0.0	0.0	0.0	0.0	29.3	70.7		0.0	0.0	0.0	0.0	46.7	53.3		0.0	0.0	0.0	0.0	49.3	50.7		0.0	0.0	0.0	0.0	52.5	47.5		
PHF	0.000	0.000	0.000	0.000	0.721	0.843	0.928	0.000	0.000	0.000	0.000	0.745	0.833	0.845	0.000	0.000	0.000	0.000	0.714	0.736	0.906	0.000	0.000	0.000	0.000	0.788	0.792	0.789	0.908
Entering Leg	0	0	0	0	49	118	167	0	0	0	0	158	180	338	0	0	0	0	100	103	203	0	0	0	0	126	114	240	948
Exiting Leg							167							338							203							240	948
Total							334							676							406							480	1896

PDI File #: **197325 (3) am**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	81	0	0	84	0	0	0	0	0	0	101	12	0	113	197
7:15 AM	0	0	0	0	0	2	90	0	0	92	0	0	0	0	0	2	126	8	0	136	228
7:30 AM	0	0	0	0	0	2	111	0	0	113	0	0	3	0	3	1	143	8	1	153	269
7:45 AM	0	0	0	0	0	2	97	1	0	100	2	0	1	0	3	2	154	10	3	169	272
Total	0	0	0	0	0	9	379	1	0	389	2	0	4	0	6	5	524	38	4	571	966
8:00 AM	0	0	0	0	0	4	90	0	0	94	3	0	0	0	3	2	151	15	1	169	266
8:15 AM	0	0	0	0	0	5	69	0	0	74	0	0	0	0	0	1	178	14	4	197	271
8:30 AM	0	0	0	0	0	1	89	0	0	90	1	0	0	0	1	1	151	7	1	160	251
8:45 AM	0	0	0	0	0	3	87	0	0	90	1	0	2	0	3	2	162	20	1	185	278
Total	0	0	0	0	0	13	335	0	0	348	5	0	2	0	7	6	642	56	7	711	1066
Grand Total	0	0	0	0	0	22	714	1	0	737	7	0	6	0	13	11	1166	94	11	1282	2032
Approach %	0.0	0.0	0.0	0.0		3.0	96.9	0.1	0.0		53.8	0.0	46.2	0.0		0.9	91.0	7.3	0.9		
Total %	0.0	0.0	0.0	0.0	0.0	1.1	35.1	0.0	0.0	36.3	0.3	0.0	0.3	0.0	0.6	0.5	57.4	4.6	0.5	63.1	
Exiting Leg Total					116					1173					12					731	2032
Cars	0	0	0	0	0	22	651	0	0	673	3	0	2	0	5	7	1099	82	11	1199	1877
% Cars	0.0	0.0	0.0	0.0	0.0	100.0	91.2	0.0	0.0	91.3	42.9	0.0	33.3	0.0	38.5	63.6	94.3	87.2	100.0	93.5	92.4
Exiting Leg Total					104					1102					7					664	1877
Heavy Vehicles	0	0	0	0	0	0	63	1	0	64	4	0	4	0	8	4	67	12	0	83	155
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	8.8	100.0	0.0	8.7	57.1	0.0	66.7	0.0	61.5	36.4	5.7	12.8	0.0	6.5	7.6
Exiting Leg Total					12					71					5					67	155

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	2	111	0	0	113	0	0	3	0	3	1	143	8	1	153	269
7:45 AM	0	0	0	0	0	2	97	1	0	100	2	0	1	0	3	2	154	10	3	169	272
8:00 AM	0	0	0	0	0	4	90	0	0	94	3	0	0	0	3	2	151	15	1	169	266
8:15 AM	0	0	0	0	0	5	69	0	0	74	0	0	0	0	0	1	178	14	4	197	271
Total Volume	0	0	0	0	0	13	367	1	0	381	5	0	4	0	9	6	626	47	9	688	1078
% Approach Total	0.0	0.0	0.0	0.0		3.4	96.3	0.3	0.0		55.6	0.0	44.4	0.0		0.9	91.0	6.8	1.3		
PHF	0.000	0.000	0.000	0.000	0.000	0.650	0.827	0.250	0.000	0.843	0.417	0.000	0.333	0.000	0.750	0.750	0.879	0.783	0.563	0.873	0.991
Cars	0	0	0	0	0	13	335	0	0	348	2	0	2	0	4	3	592	41	9	645	997
Cars %	0.0	0.0	0.0	0.0	0.0	100.0	91.3	0.0	0.0	91.3	40.0	0.0	50.0	0.0	44.4	50.0	94.6	87.2	100.0	93.8	92.5
Heavy Vehicles	0	0	0	0	0	0	32	1	0	33	3	0	2	0	5	3	34	6	0	43	81
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	8.7	100.0	0.0	8.7	60.0	0.0	50.0	0.0	55.6	50.0	5.4	12.8	0.0	6.3	7.5
Cars Enter Leg	0	0	0	0	0	13	335	0	0	348	2	0	2	0	4	3	592	41	9	645	997
Heavy Enter Leg	0	0	0	0	0	0	32	1	0	33	3	0	2	0	5	3	34	6	0	43	81
Total Entering Leg	0	0	0	0	0	13	367	1	0	381	5	0	4	0	9	6	626	47	9	688	1078
Cars Exiting Leg					54					594					3					346	997
Heavy Exiting Leg					6					37					4					34	81
Total Exiting Leg					60					631					7					380	1078

PDI File #: **197325 (3) am**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	72	0	0	75	0	0	0	0	0	0	96	12	0	108	183
7:15 AM	0	0	0	0	0	2	84	0	0	86	0	0	0	0	0	2	118	6	0	126	212
7:30 AM	0	0	0	0	0	2	102	0	0	104	0	0	2	0	2	1	135	6	1	143	249
7:45 AM	0	0	0	0	0	2	86	0	0	88	1	0	0	0	1	0	146	9	3	158	247
Total	0	0	0	0	0	9	344	0	0	353	1	0	2	0	3	3	495	33	4	535	891
8:00 AM	0	0	0	0	0	4	82	0	0	86	1	0	0	0	1	1	143	13	1	158	245
8:15 AM	0	0	0	0	0	5	65	0	0	70	0	0	0	0	0	1	168	13	4	186	256
8:30 AM	0	0	0	0	0	1	81	0	0	82	0	0	0	0	0	0	141	6	1	148	230
8:45 AM	0	0	0	0	0	3	79	0	0	82	1	0	0	0	1	2	152	17	1	172	255
Total	0	0	0	0	0	13	307	0	0	320	2	0	0	0	2	4	604	49	7	664	986
Grand Total	0	0	0	0	0	22	651	0	0	673	3	0	2	0	5	7	1099	82	11	1199	1877
Approach %	0.0	0.0	0.0	0.0		3.3	96.7	0.0	0.0		60.0	0.0	40.0	0.0		0.6	91.7	6.8	0.9		
Total %	0.0	0.0	0.0	0.0	0.0	1.2	34.7	0.0	0.0	35.9	0.2	0.0	0.1	0.0	0.3	0.4	58.6	4.4	0.6	63.9	
Exiting Leg Total					104					1102					7					664	1877

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	2	102	0	0	104	0	0	2	0	2	1	135	6	1	143	249
7:45 AM	0	0	0	0	0	2	86	0	0	88	1	0	0	0	1	0	146	9	3	158	247
8:00 AM	0	0	0	0	0	4	82	0	0	86	1	0	0	0	1	1	143	13	1	158	245
8:15 AM	0	0	0	0	0	5	65	0	0	70	0	0	0	0	0	1	168	13	4	186	256
Total Volume	0	0	0	0	0	13	335	0	0	348	2	0	2	0	4	3	592	41	9	645	997
% Approach Total	0.0	0.0	0.0	0.0		3.7	96.3	0.0	0.0		50.0	0.0	50.0	0.0		0.5	91.8	6.4	1.4		
PHF	0.000	0.000	0.000	0.000	0.000	0.650	0.821	0.000	0.000	0.837	0.500	0.000	0.250	0.000	0.500	0.750	0.881	0.788	0.563	0.867	0.974
Entering Leg	0	0	0	0	0	13	335	0	0	348	2	0	2	0	4	3	592	41	9	645	997
Exiting Leg					54					594					3					346	997
Total					54					942					7					991	1994

PDI File #: **197325 (3) am**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	5	0	0	5	14
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	8	2	0	10	16
7:30 AM	0	0	0	0	0	0	9	0	0	9	0	0	1	0	1	0	8	2	0	10	20
7:45 AM	0	0	0	0	0	0	11	1	0	12	1	0	1	0	2	2	8	1	0	11	25
Total	0	0	0	0	0	0	35	1	0	36	1	0	2	0	3	2	29	5	0	36	75
8:00 AM	0	0	0	0	0	0	8	0	0	8	2	0	0	0	2	1	8	2	0	11	21
8:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	10	1	0	11	15
8:30 AM	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	1	10	1	0	12	21
8:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	2	0	2	0	10	3	0	13	23
Total	0	0	0	0	0	0	28	0	0	28	3	0	2	0	5	2	38	7	0	47	80
Grand Total	0	0	0	0	0	0	63	1	0	64	4	0	4	0	8	4	67	12	0	83	155
Approach %	0.0	0.0	0.0	0.0		0.0	98.4	1.6	0.0		50.0	0.0	50.0	0.0		4.8	80.7	14.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	40.6	0.6	0.0	41.3	2.6	0.0	2.6	0.0	5.2	2.6	43.2	7.7	0.0	53.5	
Exiting Leg Total					12					71					5					67	155
Buses	0	0	0	0	0	0	28	0	0	28	1	0	0	0	1	0	42	10	0	52	81
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	44.4	0.0	0.0	43.8	25.0	0.0	0.0	0.0	12.5	0.0	62.7	83.3	0.0	62.7	52.3
Exiting Leg Total					10					43					0					28	81
Single-Unit Trucks	0	0	0	0	0	0	33	1	0	34	3	0	4	0	7	4	22	2	0	28	69
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	52.4	100.0	0.0	53.1	75.0	0.0	100.0	0.0	87.5	100.0	32.8	16.7	0.0	33.7	44.5
Exiting Leg Total					2					25					5					37	69
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	3.6	3.2
Exiting Leg Total					0					3					0					2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	8	2	0	10	16
7:30 AM	0	0	0	0	0	0	9	0	0	9	0	0	1	0	1	0	8	2	0	10	20
7:45 AM	0	0	0	0	0	0	11	1	0	12	1	0	1	0	2	2	8	1	0	11	25
8:00 AM	0	0	0	0	0	0	8	0	0	8	2	0	0	0	2	1	8	2	0	11	21
Total Volume	0	0	0	0	0	0	34	1	0	35	3	0	2	0	5	3	32	7	0	42	82
% Approach Total	0.0	0.0	0.0	0.0		0.0	97.1	2.9	0.0		60.0	0.0	40.0	0.0		7.1	76.2	16.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.773	0.250	0.000	0.729	0.375	0.000	0.500	0.000	0.625	0.375	1.000	0.875	0.000	0.955	0.820
Buses	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	20	6	0	26	41
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	41.2	0.0	0.0	40.0	33.3	0.0	0.0	0.0	20.0	0.0	62.5	85.7	0.0	61.9	50.0
Single-Unit Trucks	0	0	0	0	0	0	18	1	0	19	2	0	2	0	4	3	10	1	0	14	37
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	52.9	100.0	0.0	54.3	66.7	0.0	100.0	0.0	80.0	100.0	31.3	14.3	0.0	33.3	45.1
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	4.8	4.9
Buses	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	20	6	0	26	41
Single-Unit Trucks	0	0	0	0	0	0	18	1	0	19	2	0	2	0	4	3	10	1	0	14	37
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total Entering Leg	0	0	0	0	0	0	34	1	0	35	3	0	2	0	5	3	32	7	0	42	82
Buses					6					21					0					14	41
Single-Unit Trucks					1					12					4					20	37
Articulated Trucks					0					2					0					2	4
Total Exiting Leg					7					35					4					36	82

PDI File #: **197325 (3) am**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	6
7:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	2	0	6	11
7:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	9
Total	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	17	4	0	21	36
8:00 AM	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	0	8	2	0	10	15
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	1	0	7	8
8:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	1	0	6	11
8:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	2	0	8	11
Total	0	0	0	0	0	0	13	0	0	13	1	0	0	0	1	0	25	6	0	31	45
Grand Total	0	0	0	0	0	0	28	0	0	28	1	0	0	0	1	0	42	10	0	52	81
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	80.8	19.2	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	34.6	0.0	0.0	34.6	1.2	0.0	0.0	0.0	1.2	0.0	51.9	12.3	0.0	64.2	
Exiting Leg Total					10					43					0					28	81

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	0	8	2	0	10	15
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	1	0	7	8
8:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	1	0	6	11
8:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	2	0	8	11
Total Volume	0	0	0	0	0	0	13	0	0	13	1	0	0	0	1	0	25	6	0	31	45
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	80.6	19.4	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.650	0.000	0.000	0.650	0.250	0.000	0.000	0.000	0.250	0.000	0.781	0.750	0.000	0.775	0.750
Entering Leg	0	0	0	0	0	0	13	0	0	13	1	0	0	0	1	0	25	6	0	31	45
Exiting Leg					6					26					0					13	45
Total					6					39					1					44	90

PDI File #: **197325 (3) am**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	1	0	4	9
7:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	3	0	0	3	8
7:45 AM	0	0	0	0	0	0	5	1	0	6	1	0	1	0	2	2	4	0	0	6	14
Total	0	0	0	0	0	0	18	1	0	19	1	0	2	0	3	2	10	1	0	13	35
8:00 AM	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	1	0	0	0	1	6
8:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
8:30 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	1	5	0	0	6	10
8:45 AM	0	0	0	0	0	0	5	0	0	5	0	0	2	0	2	0	3	1	0	4	11
Total	0	0	0	0	0	0	15	0	0	15	2	0	2	0	4	2	12	1	0	15	34
Grand Total	0	0	0	0	0	0	33	1	0	34	3	0	4	0	7	4	22	2	0	28	69
Approach %	0.0	0.0	0.0	0.0		0.0	97.1	2.9	0.0		42.9	0.0	57.1	0.0		14.3	78.6	7.1	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	47.8	1.4	0.0	49.3	4.3	0.0	5.8	0.0	10.1	5.8	31.9	2.9	0.0	40.6	
Exiting Leg Total					2					25					5					37	69

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	1	0	4	9
7:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	3	0	0	3	8
7:45 AM	0	0	0	0	0	0	5	1	0	6	1	0	1	0	2	2	4	0	0	6	14
8:00 AM	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	1	0	0	0	1	6
Total Volume	0	0	0	0	0	0	18	1	0	19	2	0	2	0	4	3	10	1	0	14	37
% Approach Total	0.0	0.0	0.0	0.0		0.0	94.7	5.3	0.0		50.0	0.0	50.0	0.0		21.4	71.4	7.1	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.900	0.250	0.000	0.792	0.500	0.000	0.500	0.000	0.500	0.375	0.625	0.250	0.000	0.583	0.661
Entering Leg	0	0	0	0	0	0	18	1	0	19	2	0	2	0	4	3	10	1	0	14	37
Exiting Leg					1					12					4					20	37
Total					1					31					8					34	74

PDI File #: **197325 (3) am**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Articulated Trucks**

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	1	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	60.0	
Exiting Leg Total					0					3					0					2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	1	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.500
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Exiting Leg					0					2					0					2	4
Total					0					4					0					4	8

PDI File #: **197325 (3) am**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Shapiro Drive from North							Albany Street from East							Power Plant Driveway from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
7:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	3
Total	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	1	1	2	0	0	0	0	3	6
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	1	0	3	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2	3
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	0	5	0	0	1	0	6	8
Grand Total	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	2	2	1	7	0	0	1	0	9	14
Approach %	0.0	0.0	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		11.1	77.8	0.0	0.0	11.1	0.0		
Total %	0.0	0.0	0.0	0.0	7.1	0.0	7.1	0.0	14.3	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	14.3	14.3	7.1	50.0	0.0	0.0	7.1	0.0	64.3	
Exiting Leg Total							1							7							3							3	14

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Shapiro Drive from North							Albany Street from East							Power Plant Driveway from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
7:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	3
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	1	0	3	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total Volume	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	1	1	1	4	0	0	1	0	6	10
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		16.7	66.7	0.0	0.0	16.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.500	0.000	0.000	0.250	0.000	0.500	0.625
Entering Leg	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	1	1	1	4	0	0	1	0	6	10
Exiting Leg							1							4							2							3	10
Total							2							6							3							9	20

PDI File #: **197325 (3) am**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
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Class:

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Pedestrians

	Shapiro Drive from North							Albany Street from East							Power Plant Driveway from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	31	17	48	0	0	0	0	0	5	5	0	0	0	0	4	5	9	0	0	0	0	18	13	31	93
7:15 AM	0	0	0	0	34	13	47	0	0	0	0	0	1	1	0	0	0	0	0	11	11	0	0	0	0	10	31	41	100
7:30 AM	0	0	0	0	52	17	69	0	0	0	0	0	0	0	0	0	0	0	9	3	12	0	0	0	0	30	16	46	127
7:45 AM	0	0	0	0	70	13	83	0	0	0	0	0	1	1	0	0	0	0	8	6	14	0	0	0	0	36	11	47	145
Total	0	0	0	0	187	60	247	0	0	0	0	0	7	7	0	0	0	0	21	25	46	0	0	0	0	94	71	165	465
8:00 AM	0	0	0	0	48	16	64	0	0	0	0	0	1	1	0	0	0	0	4	0	4	0	0	0	0	34	13	47	116
8:15 AM	0	0	0	0	46	31	77	0	0	0	0	0	2	2	0	0	0	0	14	3	17	0	0	0	0	26	20	46	142
8:30 AM	0	0	0	0	47	20	67	0	0	0	0	1	2	3	0	0	0	0	8	0	8	0	0	0	0	30	8	38	116
8:45 AM	0	0	0	0	58	17	75	0	0	0	0	0	1	1	0	0	0	0	6	1	7	0	0	0	0	36	7	43	126
Total	0	0	0	0	199	84	283	0	0	0	0	1	6	7	0	0	0	0	32	4	36	0	0	0	0	126	48	174	500
Grand Total	0	0	0	0	386	144	530	0	0	0	0	1	13	14	0	0	0	0	53	29	82	0	0	0	0	220	119	339	965
Approach %	0.0	0.0	0.0	0.0	72.8	27.2		0.0	0.0	0.0	0.0	7.1	92.9		0.0	0.0	0.0	0.0	64.6	35.4		0.0	0.0	0.0	0.0	64.9	35.1		
Total %	0.0	0.0	0.0	0.0	40.0	14.9	54.9	0.0	0.0	0.0	0.0	0.1	1.3	1.5	0.0	0.0	0.0	0.0	5.5	3.0	8.5	0.0	0.0	0.0	0.0	22.8	12.3	35.1	
Exiting Leg Total							530							14							82							339	965

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Shapiro Drive from North							Albany Street from East							Power Plant Driveway from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	52	17	69	0	0	0	0	0	0	0	0	0	0	0	9	3	12	0	0	0	0	30	16	46	127
7:45 AM	0	0	0	0	70	13	83	0	0	0	0	0	1	1	0	0	0	0	8	6	14	0	0	0	0	36	11	47	145
8:00 AM	0	0	0	0	48	16	64	0	0	0	0	0	1	1	0	0	0	0	4	0	4	0	0	0	0	34	13	47	116
8:15 AM	0	0	0	0	46	31	77	0	0	0	0	0	2	2	0	0	0	0	14	3	17	0	0	0	0	26	20	46	142
Total Volume	0	0	0	0	216	77	293	0	0	0	0	0	4	4	0	0	0	0	35	12	47	0	0	0	0	126	60	186	530
% Approach Total	0.0	0.0	0.0	0.0	73.7	26.3		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	74.5	25.5		0.0	0.0	0.0	0.0	67.7	32.3		
PHF	0.000	0.000	0.000	0.000	0.771	0.621	0.883	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.625	0.500	0.691	0.000	0.000	0.000	0.000	0.875	0.750	0.989	0.914
Entering Leg	0	0	0	0	216	77	293	0	0	0	0	0	4	4	0	0	0	0	35	12	47	0	0	0	0	126	60	186	530
Exiting Leg							293							4							47							186	530
Total							586							8							94							372	1060

PDI File #: **197325 (3) pm**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	5	159	1	0	165	2	0	0	0	2	0	84	9	0	93	260
4:15 PM	1	0	0	0	1	9	172	0	1	182	2	0	1	0	3	2	77	6	0	85	271
4:30 PM	1	0	0	0	1	8	140	0	0	148	1	0	0	0	1	0	74	5	2	81	231
4:45 PM	0	0	0	0	0	11	148	0	0	159	0	0	1	0	1	2	77	15	1	95	255
Total	2	0	0	0	2	33	619	1	1	654	5	0	2	0	7	4	312	35	3	354	1017
5:00 PM	0	0	0	0	0	8	151	1	1	161	1	0	2	0	3	2	78	11	1	92	256
5:15 PM	0	0	1	0	1	9	147	1	1	158	0	0	1	0	1	1	77	4	0	82	242
5:30 PM	0	0	0	0	0	3	125	0	0	128	2	0	1	0	3	0	54	10	0	64	195
5:45 PM	0	0	0	0	0	5	120	0	1	126	0	0	1	0	1	1	63	5	0	69	196
Total	0	0	1	0	1	25	543	2	3	573	3	0	5	0	8	4	272	30	1	307	889
Grand Total	2	0	1	0	3	58	1162	3	4	1227	8	0	7	0	15	8	584	65	4	661	1906
Approach %	66.7	0.0	33.3	0.0		4.7	94.7	0.2	0.3		53.3	0.0	46.7	0.0		1.2	88.4	9.8	0.6		
Total %	0.1	0.0	0.1	0.0	0.2	3.0	61.0	0.2	0.2	64.4	0.4	0.0	0.4	0.0	0.8	0.4	30.6	3.4	0.2	34.7	
Exiting Leg Total					123					597					11					1175	1906
Cars	2	0	1	0	3	58	1117	3	4	1182	7	0	7	0	14	8	528	61	4	601	1800
% Cars	100.0	0.0	100.0	0.0	100.0	100.0	96.1	100.0	100.0	96.3	87.5	0.0	100.0	0.0	93.3	100.0	90.4	93.8	100.0	90.9	94.4
Exiting Leg Total					119					540					11					1130	1800
Heavy Vehicles	0	0	0	0	0	0	45	0	0	45	1	0	0	0	1	0	56	4	0	60	106
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	3.7	12.5	0.0	0.0	0.0	6.7	0.0	9.6	6.2	0.0	9.1	5.6
Exiting Leg Total					4					57					0					45	106

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	5	159	1	0	165	2	0	0	0	2	0	84	9	0	93	260
4:15 PM	1	0	0	0	1	9	172	0	1	182	2	0	1	0	3	2	77	6	0	85	271
4:30 PM	1	0	0	0	1	8	140	0	0	148	1	0	0	0	1	0	74	5	2	81	231
4:45 PM	0	0	0	0	0	11	148	0	0	159	0	0	1	0	1	2	77	15	1	95	255
Total Volume	2	0	0	0	2	33	619	1	1	654	5	0	2	0	7	4	312	35	3	354	1017
% Approach Total	100.0	0.0	0.0	0.0		5.0	94.6	0.2	0.2		71.4	0.0	28.6	0.0		1.1	88.1	9.9	0.8		
PHF	0.500	0.000	0.000	0.000	0.500	0.750	0.900	0.250	0.250	0.898	0.625	0.000	0.500	0.000	0.583	0.500	0.929	0.583	0.375	0.932	0.938
Cars	2	0	0	0	2	33	594	1	1	629	4	0	2	0	6	4	281	33	3	321	958
Cars %	100.0	0.0	0.0	0.0	100.0	100.0	96.0	100.0	100.0	96.2	80.0	0.0	100.0	0.0	85.7	100.0	90.1	94.3	100.0	90.7	94.2
Heavy Vehicles	0	0	0	0	0	0	25	0	0	25	1	0	0	0	1	0	31	2	0	33	59
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	3.8	20.0	0.0	0.0	0.0	14.3	0.0	9.9	5.7	0.0	9.3	5.8
Cars Enter Leg	2	0	0	0	2	33	594	1	1	629	4	0	2	0	6	4	281	33	3	321	958
Heavy Enter Leg	0	0	0	0	0	0	25	0	0	25	1	0	0	0	1	0	31	2	0	33	59
Total Entering Leg	2	0	0	0	2	33	619	1	1	654	5	0	2	0	7	4	312	35	3	354	1017
Cars Exiting Leg					66					286					5					601	958
Heavy Exiting Leg					2					32					0					25	59
Total Exiting Leg					68					318					5					626	1017

PDI File #: **197325 (3) pm**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	5	152	1	0	158	2	0	0	0	2	0	76	9	0	85	245
4:15 PM	1	0	0	0	1	9	164	0	1	174	2	0	1	0	3	2	69	6	0	77	255
4:30 PM	1	0	0	0	1	8	135	0	0	143	0	0	0	0	0	0	66	5	2	73	217
4:45 PM	0	0	0	0	0	11	143	0	0	154	0	0	1	0	1	2	70	13	1	86	241
Total	2	0	0	0	2	33	594	1	1	629	4	0	2	0	6	4	281	33	3	321	958
5:00 PM	0	0	0	0	0	8	144	1	1	154	1	0	2	0	3	2	73	10	1	86	243
5:15 PM	0	0	1	0	1	9	142	1	1	153	0	0	1	0	1	1	70	4	0	75	230
5:30 PM	0	0	0	0	0	3	120	0	0	123	2	0	1	0	3	0	48	9	0	57	183
5:45 PM	0	0	0	0	0	5	117	0	1	123	0	0	1	0	1	1	56	5	0	62	186
Total	0	0	1	0	1	25	523	2	3	553	3	0	5	0	8	4	247	28	1	280	842
Grand Total	2	0	1	0	3	58	1117	3	4	1182	7	0	7	0	14	8	528	61	4	601	1800
Approach %	66.7	0.0	33.3	0.0		4.9	94.5	0.3	0.3		50.0	0.0	50.0	0.0		1.3	87.9	10.1	0.7		
Total %	0.1	0.0	0.1	0.0	0.2	3.2	62.1	0.2	0.2	65.7	0.4	0.0	0.4	0.0	0.8	0.4	29.3	3.4	0.2	33.4	
Exiting Leg Total					119					540					11					1130	1800

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	5	152	1	0	158	2	0	0	0	2	0	76	9	0	85	245
4:15 PM	1	0	0	0	1	9	164	0	1	174	2	0	1	0	3	2	69	6	0	77	255
4:30 PM	1	0	0	0	1	8	135	0	0	143	0	0	0	0	0	0	66	5	2	73	217
4:45 PM	0	0	0	0	0	11	143	0	0	154	0	0	1	0	1	2	70	13	1	86	241
Total Volume	2	0	0	0	2	33	594	1	1	629	4	0	2	0	6	4	281	33	3	321	958
% Approach Total	100.0	0.0	0.0	0.0		5.2	94.4	0.2	0.2		66.7	0.0	33.3	0.0		1.2	87.5	10.3	0.9		
PHF	0.500	0.000	0.000	0.000	0.500	0.750	0.905	0.250	0.250	0.904	0.500	0.000	0.500	0.000	0.500	0.500	0.924	0.635	0.375	0.933	0.939
Entering Leg	2	0	0	0	2	33	594	1	1	629	4	0	2	0	6	4	281	33	3	321	958
Exiting Leg					66					286					5					601	958
Total					68					915					11					922	1916

PDI File #: **197325 (3) pm**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	8	0	0	8	15
4:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
4:30 PM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	0	8	0	0	8	14
4:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	7	2	0	9	14
Total	0	0	0	0	0	0	25	0	0	25	1	0	0	0	1	0	31	2	0	33	59
5:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	5	1	0	6	13
5:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	12
5:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	1	0	7	12
5:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
Total	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	25	2	0	27	47
Grand Total	0	0	0	0	0	0	45	0	0	45	1	0	0	0	1	0	56	4	0	60	106
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	93.3	6.7	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	42.5	0.0	0.0	42.5	0.9	0.0	0.0	0.0	0.9	0.0	52.8	3.8	0.0	56.6	
Exiting Leg Total					4					57					0					45	106
Buses	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	0	37	3	0	40	70
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	66.1	75.0	0.0	66.7	66.0
Exiting Leg Total					3					37					0					30	70
Single-Unit Trucks	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	18	1	0	19	34
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	32.1	25.0	0.0	31.7	32.1
Exiting Leg Total					1					18					0					15	34
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	1.8	0.0	0.0	1.7	1.9
Exiting Leg Total					0					2					0					0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	8	0	0	8	15
4:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
4:30 PM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	0	8	0	0	8	14
4:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	7	2	0	9	14
Total Volume	0	0	0	0	0	0	25	0	0	25	1	0	0	0	1	0	31	2	0	33	59
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	93.9	6.1	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.781	0.000	0.000	0.781	0.250	0.000	0.000	0.000	0.250	0.000	0.969	0.250	0.000	0.917	0.922
Buses	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	19	1	0	20	35
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	61.3	50.0	0.0	60.6	59.3
Single-Unit Trucks	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	12	1	0	13	23
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	38.7	50.0	0.0	39.4	39.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	1.7
Buses	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	19	1	0	20	35
Single-Unit Trucks	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	12	1	0	13	23
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Entering Leg	0	0	0	0	0	0	25	0	0	25	1	0	0	0	1	0	31	2	0	33	59
Buses					1					19					0					15	35
Single-Unit Trucks					1					12					0					10	23
Articulated Trucks					0					1					0					0	1
Total Exiting Leg					2					32					0					25	59

PDI File #: **197325 (3) pm**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7
4:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	1	0	4	8
Total	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	19	1	0	20	35
5:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	1	0	6	9
5:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
5:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	1	0	4	9
5:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	8
Total	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	18	2	0	20	35
Grand Total	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	0	37	3	0	40	70
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	92.5	7.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	52.9	4.3	0.0	57.1	
Exiting Leg Total					3					37					0					30	70

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7
4:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	1	0	4	8
Total Volume	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	19	1	0	20	35
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	95.0	5.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.679	0.250	0.000	0.714	0.875
Entering Leg	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	19	1	0	20	35
Exiting Leg					1					19					0					15	35
Total					1					34					0					35	70

PDI File #: **197325 (3) pm**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
4:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
4:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	6
Total	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	12	1	0	13	23
5:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	11
Grand Total	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	18	1	0	19	34
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	94.7	5.3	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	44.1	0.0	0.0	44.1	0.0	0.0	0.0	0.0	0.0	0.0	52.9	2.9	0.0	55.9	
Exiting Leg Total					1					18					0					15	34

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
4:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
4:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	6
Total Volume	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	12	1	0	13	23
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	92.3	7.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.650	0.958
Entering Leg	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	12	1	0	13	23
Exiting Leg					1					12					0					10	23
Total					1					22					0					23	46

PDI File #: **197325 (3) pm**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					0					2					0					0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Shapiro Drive from North					Albany Street from East					Power Plant Driveway from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Exiting Leg					0					1					0					0	1
Total					0					1					1					0	2

PDI File #: **197325 (3) pm**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Shapiro Drive from North							Albany Street from East							Power Plant Driveway from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
4:15 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	1	0	1	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	2	0	0	0	0	2	11
5:00 PM	0	0	1	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	0	3	6
5:15 PM	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	1	0	0	1	2	0	12	0	0	0	0	12	0	0	0	0	0	0	0	0	4	0	0	0	0	4	18
Grand Total	0	0	1	0	1	1	3	0	20	0	0	0	0	20	0	0	0	0	0	0	0	0	6	0	0	0	0	6	29
Approach %	0.0	0.0	33.3	0.0	33.3	33.3		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	3.4	0.0	3.4	3.4	10.3	0.0	69.0	0.0	0.0	0.0	0.0	69.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.7	0.0	0.0	0.0	0.0	20.7	
Exiting Leg Total							2							7							0							20	29

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Shapiro Drive from North							Albany Street from East							Power Plant Driveway from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	1	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	0	3	6
5:15 PM	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total Volume	0	0	1	0	0	1	2	0	12	0	0	0	0	12	0	0	0	0	0	0	0	0	4	0	0	0	0	4	18
% Approach Total	0.0	0.0	50.0	0.0	0.0	50.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.000	0.250	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.000	0.333	0.750
Entering Leg	0	0	1	0	0	1	2	0	12	0	0	0	0	12	0	0	0	0	0	0	0	0	4	0	0	0	0	4	18
Exiting Leg							1							5							0							12	18
Total							3							17							0							16	36

PDI File #: **197325 (3) pm**
Location: **N: Shapiro Drive S: Power Plant Driveway**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Shapiro Drive							Albany Street							Power Plant Driveway							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	29	60	89	0	0	0	0	1	3	4	0	0	0	0	5	7	12	0	0	0	0	8	13	21	126
4:15 PM	0	0	0	0	23	47	70	0	0	0	0	2	0	2	0	0	0	0	5	3	8	0	0	0	0	7	12	19	99
4:30 PM	0	0	0	0	23	54	77	0	0	0	0	2	1	3	0	0	0	0	8	10	18	0	0	0	0	12	14	26	124
4:45 PM	0	0	0	0	29	53	82	0	0	0	0	0	1	1	0	0	0	0	8	7	15	0	0	0	0	13	7	20	118
Total	0	0	0	0	104	214	318	0	0	0	0	5	5	10	0	0	0	0	26	27	53	0	0	0	0	40	46	86	467
5:00 PM	0	0	0	0	26	45	71	0	0	0	0	3	0	3	0	0	0	0	4	12	16	0	0	0	0	2	0	2	92
5:15 PM	0	0	0	0	24	27	51	0	0	0	0	3	2	5	0	0	0	0	11	15	26	0	0	0	0	2	0	2	84
5:30 PM	0	0	0	0	18	18	36	0	0	0	0	0	2	2	0	0	0	0	6	5	11	0	0	0	0	1	1	2	51
5:45 PM	0	0	0	0	15	21	36	0	0	0	0	1	0	1	0	0	0	0	2	9	11	0	0	0	0	0	2	2	50
Total	0	0	0	0	83	111	194	0	0	0	0	7	4	11	0	0	0	0	23	41	64	0	0	0	0	5	3	8	277
Grand Total	0	0	0	0	187	325	512	0	0	0	0	12	9	21	0	0	0	0	49	68	117	0	0	0	0	45	49	94	744
Approach %	0.0	0.0	0.0	0.0	36.5	63.5		0.0	0.0	0.0	0.0	57.1	42.9		0.0	0.0	0.0	0.0	41.9	58.1		0.0	0.0	0.0	0.0	47.9	52.1		
Total %	0.0	0.0	0.0	0.0	25.1	43.7	68.8	0.0	0.0	0.0	0.0	1.6	1.2	2.8	0.0	0.0	0.0	0.0	6.6	9.1	15.7	0.0	0.0	0.0	0.0	6.0	6.6	12.6	
Exiting Leg Total							512							21							117							94	744

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Shapiro Drive							Albany Street							Power Plant Driveway							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	29	60	89	0	0	0	0	1	3	4	0	0	0	0	5	7	12	0	0	0	0	8	13	21	126
4:15 PM	0	0	0	0	23	47	70	0	0	0	0	2	0	2	0	0	0	0	5	3	8	0	0	0	0	7	12	19	99
4:30 PM	0	0	0	0	23	54	77	0	0	0	0	2	1	3	0	0	0	0	8	10	18	0	0	0	0	12	14	26	124
4:45 PM	0	0	0	0	29	53	82	0	0	0	0	0	1	1	0	0	0	0	8	7	15	0	0	0	0	13	7	20	118
Total Volume	0	0	0	0	104	214	318	0	0	0	0	5	5	10	0	0	0	0	26	27	53	0	0	0	0	40	46	86	467
% Approach Total	0.0	0.0	0.0	0.0	32.7	67.3		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	49.1	50.9		0.0	0.0	0.0	0.0	46.5	53.5		
PHF	0.000	0.000	0.000	0.000	0.897	0.892	0.893	0.000	0.000	0.000	0.000	0.625	0.417	0.625	0.000	0.000	0.000	0.000	0.813	0.675	0.736	0.000	0.000	0.000	0.000	0.769	0.821	0.827	0.927
Entering Leg	0	0	0	0	104	214	318	0	0	0	0	5	5	10	0	0	0	0	26	27	53	0	0	0	0	40	46	86	467
Exiting Leg							318							10							53							86	467
Total							636							20							106							172	934

PDI File #: **197325 (4) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	26	20	27	0	73	0	55	21	0	76	0	0	0	0	0	63	38	0	0	101	250
7:15 AM	39	23	23	0	85	0	54	24	0	78	0	0	0	0	0	69	51	0	0	120	283
7:30 AM	42	25	32	0	99	0	67	29	0	96	0	0	0	0	0	80	75	0	0	155	350
7:45 AM	31	30	24	0	85	0	71	19	0	90	0	0	0	1	1	91	57	0	0	148	324
Total	138	98	106	0	342	0	247	93	0	340	0	0	0	1	1	303	221	0	0	524	1207
8:00 AM	49	21	27	0	97	0	48	25	0	73	0	0	0	0	0	94	61	0	0	155	325
8:15 AM	30	26	25	0	81	0	47	19	0	66	0	0	0	0	0	97	82	0	0	179	326
8:30 AM	51	20	36	0	107	0	41	20	0	61	0	0	0	0	0	68	73	0	0	141	309
8:45 AM	50	19	33	0	102	0	43	26	0	69	0	0	0	0	0	91	78	0	0	169	340
Total	180	86	121	0	387	0	179	90	0	269	0	0	0	0	0	350	294	0	0	644	1300
Grand Total	318	184	227	0	729	0	426	183	0	609	0	0	0	1	1	653	515	0	0	1168	2507
Approach %	43.6	25.2	31.1	0.0		0.0	70.0	30.0	0.0		0.0	0.0	0.0	100.0		55.9	44.1	0.0	0.0		
Total %	12.7	7.3	9.1	0.0	29.1	0.0	17.0	7.3	0.0	24.3	0.0	0.0	0.0	0.0	0.0	26.0	20.5	0.0	0.0	46.6	
Exiting Leg Total					0					742					1021					744	2507
Cars	290	183	217	0	690	0	393	181	0	574	0	0	0	1	1	649	450	0	0	1099	2364
% Cars	91.2	99.5	95.6	0.0	94.7	0.0	92.3	98.9	0.0	94.3	0.0	0.0	0.0	100.0	100.0	99.4	87.4	0.0	0.0	94.1	94.3
Exiting Leg Total					0					667					1014					683	2364
Heavy Vehicles	28	1	10	0	39	0	33	2	0	35	0	0	0	0	0	4	65	0	0	69	143
% Heavy Vehicles	8.8	0.5	4.4	0.0	5.3	0.0	7.7	1.1	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.6	12.6	0.0	0.0	5.9	5.7
Exiting Leg Total					0					75					7					61	143

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	42	25	32	0	99	0	67	29	0	96	0	0	0	0	0	80	75	0	0	155	350
7:45 AM	31	30	24	0	85	0	71	19	0	90	0	0	0	1	1	91	57	0	0	148	324
8:00 AM	49	21	27	0	97	0	48	25	0	73	0	0	0	0	0	94	61	0	0	155	325
8:15 AM	30	26	25	0	81	0	47	19	0	66	0	0	0	0	0	97	82	0	0	179	326
Total Volume	152	102	108	0	362	0	233	92	0	325	0	0	0	1	1	362	275	0	0	637	1325
% Approach Total	42.0	28.2	29.8	0.0		0.0	71.7	28.3	0.0		0.0	0.0	0.0	100.0		56.8	43.2	0.0	0.0		
PHF	0.776	0.850	0.844	0.000	0.914	0.000	0.820	0.793	0.000	0.846	0.000	0.000	0.000	0.250	0.250	0.933	0.838	0.000	0.000	0.890	0.946
Cars	138	102	104	0	344	0	214	91	0	305	0	0	0	1	1	361	239	0	0	600	1250
Cars %	90.8	100.0	96.3	0.0	95.0	0.0	91.8	98.9	0.0	93.8	0.0	0.0	0.0	100.0	100.0	99.7	86.9	0.0	0.0	94.2	94.3
Heavy Vehicles	14	0	4	0	18	0	19	1	0	20	0	0	0	0	0	1	36	0	0	37	75
Heavy Vehicles %	9.2	0.0	3.7	0.0	5.0	0.0	8.2	1.1	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.3	13.1	0.0	0.0	5.8	5.7
Cars Enter Leg	138	102	104	0	344	0	214	91	0	305	0	0	0	1	1	361	239	0	0	600	1250
Heavy Enter Leg	14	0	4	0	18	0	19	1	0	20	0	0	0	0	0	1	36	0	0	37	75
Total Entering Leg	152	102	108	0	362	0	233	92	0	325	0	0	0	1	1	362	275	0	0	637	1325
Cars Exiting Leg					0					343					555					352	1250
Heavy Exiting Leg					0					40					2					33	75
Total Exiting Leg					0					383					557					385	1325

PDI File #: **197325 (4) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	22	20	27	0	69	0	53	20	0	73	0	0	0	0	0	63	33	0	0	96	238
7:15 AM	38	22	22	0	82	0	48	24	0	72	0	0	0	0	0	68	45	0	0	113	267
7:30 AM	38	25	31	0	94	0	63	29	0	92	0	0	0	0	0	80	66	0	0	146	332
7:45 AM	27	30	23	0	80	0	63	19	0	82	0	0	0	1	1	91	49	0	0	140	303
Total	125	97	103	0	325	0	227	92	0	319	0	0	0	1	1	302	193	0	0	495	1140
8:00 AM	44	21	26	0	91	0	44	25	0	69	0	0	0	0	0	94	51	0	0	145	305
8:15 AM	29	26	24	0	79	0	44	18	0	62	0	0	0	0	0	96	73	0	0	169	310
8:30 AM	45	20	33	0	98	0	38	20	0	58	0	0	0	0	0	68	64	0	0	132	288
8:45 AM	47	19	31	0	97	0	40	26	0	66	0	0	0	0	0	89	69	0	0	158	321
Total	165	86	114	0	365	0	166	89	0	255	0	0	0	0	0	347	257	0	0	604	1224
Grand Total	290	183	217	0	690	0	393	181	0	574	0	0	0	1	1	649	450	0	0	1099	2364
Approach %	42.0	26.5	31.4	0.0		0.0	68.5	31.5	0.0		0.0	0.0	0.0	100.0		59.1	40.9	0.0	0.0		
Total %	12.3	7.7	9.2	0.0	29.2	0.0	16.6	7.7	0.0	24.3	0.0	0.0	0.0	0.0	0.0	27.5	19.0	0.0	0.0	46.5	
Exiting Leg Total					0					667					1014					683	2364

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	38	25	31	0	94	0	63	29	0	92	0	0	0	0	0	80	66	0	0	146	332
7:45 AM	27	30	23	0	80	0	63	19	0	82	0	0	0	1	1	91	49	0	0	140	303
8:00 AM	44	21	26	0	91	0	44	25	0	69	0	0	0	0	0	94	51	0	0	145	305
8:15 AM	29	26	24	0	79	0	44	18	0	62	0	0	0	0	0	96	73	0	0	169	310
Total Volume	138	102	104	0	344	0	214	91	0	305	0	0	0	1	1	361	239	0	0	600	1250
% Approach Total	40.1	29.7	30.2	0.0		0.0	70.2	29.8	0.0		0.0	0.0	0.0	100.0		60.2	39.8	0.0	0.0		
PHF	0.784	0.850	0.839	0.000	0.915	0.000	0.849	0.784	0.000	0.829	0.000	0.000	0.000	0.250	0.250	0.940	0.818	0.000	0.000	0.888	0.941
Entering Leg	138	102	104	0	344	0	214	91	0	305	0	0	0	1	1	361	239	0	0	600	1250
Exiting Leg					0					343					555					352	1250
Total					344					648					556					952	2500

PDI File #: **197325 (4) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	4	0	0	0	4	0	2	1	0	3	0	0	0	0	0	0	5	0	0	5	12
7:15 AM	1	1	1	0	3	0	6	0	0	6	0	0	0	0	0	1	6	0	0	7	16
7:30 AM	4	0	1	0	5	0	4	0	0	4	0	0	0	0	0	0	9	0	0	9	18
7:45 AM	4	0	1	0	5	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	21
Total	13	1	3	0	17	0	20	1	0	21	0	0	0	0	0	1	28	0	0	29	67
8:00 AM	5	0	1	0	6	0	4	0	0	4	0	0	0	0	0	0	10	0	0	10	20
8:15 AM	1	0	1	0	2	0	3	1	0	4	0	0	0	0	0	1	9	0	0	10	16
8:30 AM	6	0	3	0	9	0	3	0	0	3	0	0	0	0	0	0	9	0	0	9	21
8:45 AM	3	0	2	0	5	0	3	0	0	3	0	0	0	0	0	2	9	0	0	11	19
Total	15	0	7	0	22	0	13	1	0	14	0	0	0	0	0	3	37	0	0	40	76
Grand Total	28	1	10	0	39	0	33	2	0	35	0	0	0	0	0	4	65	0	0	69	143
Approach %	71.8	2.6	25.6	0.0		0.0	94.3	5.7	0.0		0.0	0.0	0.0	0.0		5.8	94.2	0.0	0.0		
Total %	19.6	0.7	7.0	0.0	27.3	0.0	23.1	1.4	0.0	24.5	0.0	0.0	0.0	0.0	0.0	2.8	45.5	0.0	0.0	48.3	
Exiting Leg Total					0					75					7					61	143
Buses	27	0	9	0	36	0	1	0	0	1	0	0	0	0	0	0	42	0	0	42	79
% Buses	96.4	0.0	90.0	0.0	92.3	0.0	3.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	64.6	0.0	0.0	60.9	55.2
Exiting Leg Total					0					51					0					28	79
Single-Unit Trucks	1	1	1	0	3	0	30	2	0	32	0	0	0	0	0	4	22	0	0	26	61
% Single-Unit	3.6	100.0	10.0	0.0	7.7	0.0	90.9	100.0	0.0	91.4	0.0	0.0	0.0	0.0	0.0	100.0	33.8	0.0	0.0	37.7	42.7
Exiting Leg Total					0					23					7					31	61
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.4	2.1
Exiting Leg Total					0					1					0					2	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	4	0	1	0	5	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	21
8:00 AM	5	0	1	0	6	0	4	0	0	4	0	0	0	0	0	0	10	0	0	10	20
8:15 AM	1	0	1	0	2	0	3	1	0	4	0	0	0	0	0	1	9	0	0	10	16
8:30 AM	6	0	3	0	9	0	3	0	0	3	0	0	0	0	0	0	9	0	0	9	21
Total Volume	16	0	6	0	22	0	18	1	0	19	0	0	0	0	0	1	36	0	0	37	78
% Approach Total	72.7	0.0	27.3	0.0		0.0	94.7	5.3	0.0		0.0	0.0	0.0	0.0		2.7	97.3	0.0	0.0		
PHF	0.667	0.000	0.500	0.000	0.611	0.000	0.563	0.250	0.000	0.594	0.000	0.000	0.000	0.000	0.000	0.250	0.900	0.000	0.000	0.925	0.929
Buses	15	0	6	0	21	0	0	0	0	0	0	0	0	0	0	0	23	0	0	23	44
Buses %	93.8	0.0	100.0	0.0	95.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.9	0.0	0.0	62.2	56.4
Single-Unit Trucks	1	0	0	0	1	0	17	1	0	18	0	0	0	0	0	1	13	0	0	14	33
Single-Unit %	6.3	0.0	0.0	0.0	4.5	0.0	94.4	100.0	0.0	94.7	0.0	0.0	0.0	0.0	0.0	100.0	36.1	0.0	0.0	37.8	42.3
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Buses	15	0	6	0	21	0	0	0	0	0	0	0	0	0	0	0	23	0	0	23	44
Single-Unit Trucks	1	0	0	0	1	0	17	1	0	18	0	0	0	0	0	1	13	0	0	14	33
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	16	0	6	0	22	0	18	1	0	19	0	0	0	0	0	1	36	0	0	37	78
Buses					0					29					0					15	44
Single-Unit Trucks					0					13					2					18	33
Articulated Trucks					0					0					0					1	1
Total Exiting Leg					0					42					2					34	78

PDI File #: **197325 (4) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	4	0	0	0	4	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	10
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	5
7:30 AM	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	9
7:45 AM	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	9
Total	13	0	2	0	15	0	1	0	0	1	0	0	0	0	0	0	17	0	0	17	33
8:00 AM	5	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	14
8:15 AM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
8:30 AM	5	0	3	0	8	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	13
8:45 AM	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	11
Total	14	0	7	0	21	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	46
Grand Total	27	0	9	0	36	0	1	0	0	1	0	0	0	0	0	0	42	0	0	42	79
Approach %	75.0	0.0	25.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	34.2	0.0	11.4	0.0	45.6	0.0	1.3	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	53.2	0.0	0.0	53.2	
Exiting Leg Total					0					51					0					28	79

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	5	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	14
8:15 AM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
8:30 AM	5	0	3	0	8	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	13
8:45 AM	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	11
Total Volume	14	0	7	0	21	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	46
% Approach Total	66.7	0.0	33.3	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.700	0.000	0.583	0.000	0.656	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.781	0.000	0.000	0.781	0.821
Entering Leg	14	0	7	0	21	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	46
Exiting Leg					0					32					0					14	46
Total					21					32					0					39	92

PDI File #: **197325 (4) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	1	1	0	2	0	5	0	0	5	0	0	0	0	0	1	2	0	0	3	10
7:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
7:45 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
Total	0	1	1	0	2	0	17	1	0	18	0	0	0	0	0	1	10	0	0	11	31
8:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
8:15 AM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	1	3	0	0	4	8
8:30 AM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	8
8:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	2	3	0	0	5	8
Total	1	0	0	0	1	0	13	1	0	14	0	0	0	0	0	3	12	0	0	15	30
Grand Total	1	1	1	0	3	0	30	2	0	32	0	0	0	0	0	4	22	0	0	26	61
Approach %	33.3	33.3	33.3	0.0		0.0	93.8	6.3	0.0		0.0	0.0	0.0	0.0		15.4	84.6	0.0	0.0		
Total %	1.6	1.6	1.6	0.0	4.9	0.0	49.2	3.3	0.0	52.5	0.0	0.0	0.0	0.0	0.0	6.6	36.1	0.0	0.0	42.6	
Exiting Leg Total					0					23					7					31	61

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	1	1	0	2	0	5	0	0	5	0	0	0	0	0	1	2	0	0	3	10
7:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
7:45 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
8:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total Volume	0	1	1	0	2	0	20	0	0	20	0	0	0	0	0	1	12	0	0	13	35
% Approach Total	0.0	50.0	50.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		7.7	92.3	0.0	0.0		
PHF	0.000	0.250	0.250	0.000	0.250	0.000	0.714	0.000	0.000	0.714	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.000	0.813	0.795
Entering Leg	0	1	1	0	2	0	20	0	0	20	0	0	0	0	0	1	12	0	0	13	35
Exiting Leg					0					13					2					20	35
Total					2					33					2					33	70

PDI File #: **197325 (4) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	
Exiting Leg Total					0					1					0					2	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.750
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Exiting Leg					0					1					0					2	3
Total					0					3					0					3	6

PDI File #: **197325 (4) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Concord Street							Albany Street							East Concord Street							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
7:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	4
8:00 AM	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
8:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
Total	1	4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	13
Grand Total	2	5	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	17
Approach %	28.6	71.4	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	11.8	29.4	0.0	0.0	0.0	0.0	41.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.8	0.0	0.0	0.0	0.0	58.8	
Exiting Leg Total							0							10							5							2	17

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street							Albany Street							East Concord Street							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
8:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
Total Volume	1	4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	13
% Approach Total	20.0	80.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.500	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.650
Entering Leg	1	4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	13
Exiting Leg							0							8							4							1	13
Total							5							8							4							9	26

PDI File #: **197325 (4) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Concord Street from North							Albany Street from East							East Concord Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	9	51	60	0	0	0	0	9	21	30	0	0	0	0	16	16	32	0	0	0	0	15	1	16	138
7:15 AM	0	0	0	0	17	42	59	0	0	0	0	25	22	47	0	0	0	0	9	32	41	0	0	0	0	22	3	25	172
7:30 AM	0	0	0	0	91	43	134	0	0	0	0	78	28	106	0	0	0	0	13	39	52	0	0	0	0	8	2	10	302
7:45 AM	0	0	0	0	43	60	103	0	0	0	0	26	33	59	0	0	0	0	16	33	49	0	0	0	0	11	5	16	227
Total	0	0	0	0	160	196	356	0	0	0	0	138	104	242	0	0	0	0	54	120	174	0	0	0	0	56	11	67	839
8:00 AM	0	0	0	0	25	43	68	0	0	0	0	15	44	59	0	0	0	0	13	11	24	0	0	0	0	21	2	23	174
8:15 AM	0	0	0	0	19	35	54	0	0	0	0	11	40	51	0	0	0	0	36	11	47	0	0	0	0	39	3	42	194
8:30 AM	0	0	0	0	16	39	55	0	0	0	0	13	40	53	0	0	0	0	17	11	28	0	0	0	0	19	4	23	159
8:45 AM	0	0	0	0	33	39	72	0	0	0	0	26	41	67	0	0	0	0	21	16	37	0	0	0	0	21	2	23	199
Total	0	0	0	0	93	156	249	0	0	0	0	65	165	230	0	0	0	0	87	49	136	0	0	0	0	100	11	111	726
Grand Total	0	0	0	0	253	352	605	0	0	0	0	203	269	472	0	0	0	0	141	169	310	0	0	0	0	156	22	178	1565
Approach %	0.0	0.0	0.0	0.0	41.8	58.2		0.0	0.0	0.0	0.0	43.0	57.0		0.0	0.0	0.0	0.0	45.5	54.5		0.0	0.0	0.0	0.0	87.6	12.4		
Total %	0.0	0.0	0.0	0.0	16.2	22.5	38.7	0.0	0.0	0.0	0.0	13.0	17.2	30.2	0.0	0.0	0.0	0.0	9.0	10.8	19.8	0.0	0.0	0.0	0.0	10.0	1.4	11.4	
Exiting Leg Total							605							472							310							178	1565

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	East Concord Street from North							Albany Street from East							East Concord Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	91	43	134	0	0	0	0	78	28	106	0	0	0	0	13	39	52	0	0	0	0	8	2	10	302
7:45 AM	0	0	0	0	43	60	103	0	0	0	0	26	33	59	0	0	0	0	16	33	49	0	0	0	0	11	5	16	227
8:00 AM	0	0	0	0	25	43	68	0	0	0	0	15	44	59	0	0	0	0	13	11	24	0	0	0	0	21	2	23	174
8:15 AM	0	0	0	0	19	35	54	0	0	0	0	11	40	51	0	0	0	0	36	11	47	0	0	0	0	39	3	42	194
Total Volume	0	0	0	0	178	181	359	0	0	0	0	130	145	275	0	0	0	0	78	94	172	0	0	0	0	79	12	91	897
% Approach Total	0.0	0.0	0.0	0.0	49.6	50.4		0.0	0.0	0.0	0.0	47.3	52.7		0.0	0.0	0.0	0.0	45.3	54.7		0.0	0.0	0.0	0.0	86.8	13.2		
PHF	0.000	0.000	0.000	0.000	0.489	0.754	0.670	0.000	0.000	0.000	0.000	0.417	0.824	0.649	0.000	0.000	0.000	0.000	0.542	0.603	0.827	0.000	0.000	0.000	0.000	0.506	0.600	0.542	0.743
Entering Leg	0	0	0	0	178	181	359	0	0	0	0	130	145	275	0	0	0	0	78	94	172	0	0	0	0	79	12	91	897
Exiting Leg							359							275							172							91	897
Total							718							550							344							182	1794

PDI File #: **197325 (4) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	48	6	29	0	83	0	114	11	0	125	0	0	0	0	0	14	71	0	1	86	294
4:15 PM	59	4	33	0	96	0	116	5	0	121	0	0	0	1	1	11	68	0	0	79	297
4:30 PM	53	9	32	0	94	0	95	7	0	102	0	0	1	0	1	6	66	0	0	72	269
4:45 PM	53	3	35	0	91	0	107	4	0	111	0	0	0	0	0	7	76	0	0	83	285
Total	213	22	129	0	364	0	432	27	0	459	0	0	1	1	2	38	281	0	1	320	1145
5:00 PM	60	6	42	0	108	0	97	4	0	101	0	0	0	0	0	11	65	0	0	76	285
5:15 PM	62	4	19	0	85	0	96	2	0	98	1	0	0	0	1	13	72	0	0	85	269
5:30 PM	46	1	26	0	73	0	76	2	0	78	0	0	0	0	0	5	50	0	0	55	206
5:45 PM	43	4	23	0	70	0	86	4	0	90	0	0	0	0	0	8	57	0	0	65	225
Total	211	15	110	0	336	0	355	12	0	367	1	0	0	0	1	37	244	0	0	281	985
Grand Total	424	37	239	0	700	0	787	39	0	826	1	0	1	1	3	75	525	0	1	601	2130
Approach %	60.6	5.3	34.1	0.0		0.0	95.3	4.7	0.0		33.3	0.0	33.3	33.3		12.5	87.4	0.0	0.2		
Total %	19.9	1.7	11.2	0.0	32.9	0.0	36.9	1.8	0.0	38.8	0.0	0.0	0.0	0.0	0.1	3.5	24.6	0.0	0.0	28.2	
Exiting Leg Total					0					765					152					1213	2130
Cars	402	37	229	0	668	0	765	39	0	804	1	0	1	1	3	75	469	0	1	545	2020
% Cars	94.8	100.0	95.8	0.0	95.4	0.0	97.2	100.0	0.0	97.3	100.0	0.0	100.0	100.0	100.0	100.0	89.3	0.0	100.0	90.7	94.8
Exiting Leg Total					0					699					152					1169	2020
Heavy Vehicles	22	0	10	0	32	0	22	0	0	22	0	0	0	0	0	0	56	0	0	56	110
% Heavy Vehicles	5.2	0.0	4.2	0.0	4.6	0.0	2.8	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	10.7	0.0	0.0	9.3	5.2
Exiting Leg Total					0					66					0					44	110

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	48	6	29	0	83	0	114	11	0	125	0	0	0	0	0	14	71	0	1	86	294
4:15 PM	59	4	33	0	96	0	116	5	0	121	0	0	0	1	1	11	68	0	0	79	297
4:30 PM	53	9	32	0	94	0	95	7	0	102	0	0	1	0	1	6	66	0	0	72	269
4:45 PM	53	3	35	0	91	0	107	4	0	111	0	0	0	0	0	7	76	0	0	83	285
Total Volume	213	22	129	0	364	0	432	27	0	459	0	0	1	1	2	38	281	0	1	320	1145
% Approach Total	58.5	6.0	35.4	0.0		0.0	94.1	5.9	0.0		0.0	0.0	50.0	50.0		11.9	87.8	0.0	0.3		
PHF	0.903	0.611	0.921	0.000	0.948	0.000	0.931	0.614	0.000	0.918	0.000	0.000	0.250	0.250	0.500	0.679	0.924	0.000	0.250	0.930	0.964
Cars	202	22	125	0	349	0	419	27	0	446	0	0	1	1	2	38	250	0	1	289	1086
Cars %	94.8	100.0	96.9	0.0	95.9	0.0	97.0	100.0	0.0	97.2	0.0	0.0	100.0	100.0	100.0	100.0	89.0	0.0	100.0	90.3	94.8
Heavy Vehicles	11	0	4	0	15	0	13	0	0	13	0	0	0	0	0	0	31	0	0	31	59
Heavy Vehicles %	5.2	0.0	3.1	0.0	4.1	0.0	3.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	9.7	5.2
Cars Enter Leg	202	22	125	0	349	0	419	27	0	446	0	0	1	1	2	38	250	0	1	289	1086
Heavy Enter Leg	11	0	4	0	15	0	13	0	0	13	0	0	0	0	0	0	31	0	0	31	59
Total Entering Leg	213	22	129	0	364	0	432	27	0	459	0	0	1	1	2	38	281	0	1	320	1145
Cars Exiting Leg					0					375					88					623	1086
Heavy Exiting Leg					0					35					0					24	59
Total Exiting Leg					0					410					88					647	1145

PDI File #: **197325 (4) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	44	6	27	0	77	0	111	11	0	122	0	0	0	0	0	14	66	0	1	81	280
4:15 PM	57	4	32	0	93	0	111	5	0	116	0	0	0	1	1	11	58	0	0	69	279
4:30 PM	50	9	32	0	91	0	93	7	0	100	0	0	1	0	1	6	57	0	0	63	255
4:45 PM	51	3	34	0	88	0	104	4	0	108	0	0	0	0	0	7	69	0	0	76	272
Total	202	22	125	0	349	0	419	27	0	446	0	0	1	1	2	38	250	0	1	289	1086
5:00 PM	58	6	39	0	103	0	92	4	0	96	0	0	0	0	0	11	61	0	0	72	271
5:15 PM	59	4	18	0	81	0	94	2	0	96	1	0	0	0	1	13	64	0	0	77	255
5:30 PM	42	1	24	0	67	0	75	2	0	77	0	0	0	0	0	5	44	0	0	49	193
5:45 PM	41	4	23	0	68	0	85	4	0	89	0	0	0	0	0	8	50	0	0	58	215
Total	200	15	104	0	319	0	346	12	0	358	1	0	0	0	1	37	219	0	0	256	934
Grand Total	402	37	229	0	668	0	765	39	0	804	1	0	1	1	3	75	469	0	1	545	2020
Approach %	60.2	5.5	34.3	0.0		0.0	95.1	4.9	0.0		33.3	0.0	33.3	33.3		13.8	86.1	0.0	0.2		
Total %	19.9	1.8	11.3	0.0	33.1	0.0	37.9	1.9	0.0	39.8	0.0	0.0	0.0	0.0	0.1	3.7	23.2	0.0	0.0	27.0	
Exiting Leg Total					0					699					152					1169	2020

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	44	6	27	0	77	0	111	11	0	122	0	0	0	0	0	14	66	0	1	81	280
4:15 PM	57	4	32	0	93	0	111	5	0	116	0	0	0	1	1	11	58	0	0	69	279
4:30 PM	50	9	32	0	91	0	93	7	0	100	0	0	1	0	1	6	57	0	0	63	255
4:45 PM	51	3	34	0	88	0	104	4	0	108	0	0	0	0	0	7	69	0	0	76	272
Total Volume	202	22	125	0	349	0	419	27	0	446	0	0	1	1	2	38	250	0	1	289	1086
% Approach Total	57.9	6.3	35.8	0.0		0.0	93.9	6.1	0.0		0.0	0.0	50.0	50.0		13.1	86.5	0.0	0.3		
PHF	0.886	0.611	0.919	0.000	0.938	0.000	0.944	0.614	0.000	0.914	0.000	0.000	0.250	0.250	0.500	0.679	0.906	0.000	0.250	0.892	0.970
Entering Leg	202	22	125	0	349	0	419	27	0	446	0	0	1	1	2	38	250	0	1	289	1086
Exiting Leg					0					375					88					623	1086
Total					349					821					90					912	2172

PDI File #: **197325 (4) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	2	0	6	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	14
4:15 PM	2	0	1	0	3	0	5	0	0	5	0	0	0	0	0	0	10	0	0	10	18
4:30 PM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	0	9	0	0	9	14
4:45 PM	2	0	1	0	3	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	13
Total	11	0	4	0	15	0	13	0	0	13	0	0	0	0	0	0	31	0	0	31	59
5:00 PM	2	0	3	0	5	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	14
5:15 PM	3	0	1	0	4	0	2	0	0	2	0	0	0	0	0	0	8	0	0	8	14
5:30 PM	4	0	2	0	6	0	1	0	0	1	0	0	0	0	0	0	6	0	0	6	13
5:45 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	7	0	0	7	10
Total	11	0	6	0	17	0	9	0	0	9	0	0	0	0	0	0	25	0	0	25	51
Grand Total	22	0	10	0	32	0	22	0	0	22	0	0	0	0	0	0	56	0	0	56	110
Approach %	68.8	0.0	31.3	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	20.0	0.0	9.1	0.0	29.1	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	50.9	0.0	0.0	50.9	
Exiting Leg Total					0					66					0					44	110
Buses	21	0	6	0	27	0	9	0	0	9	0	0	0	0	0	0	37	0	0	37	73
% Buses	95.5	0.0	60.0	0.0	84.4	0.0	40.9	0.0	0.0	40.9	0.0	0.0	0.0	0.0	0.0	0.0	66.1	0.0	0.0	66.1	66.4
Exiting Leg Total					0					43					0					30	73
Single-Unit Trucks	1	0	4	0	5	0	13	0	0	13	0	0	0	0	0	0	18	0	0	18	36
% Single-Unit	4.5	0.0	40.0	0.0	15.6	0.0	59.1	0.0	0.0	59.1	0.0	0.0	0.0	0.0	0.0	0.0	32.1	0.0	0.0	32.1	32.7
Exiting Leg Total					0					22					0					14	36
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.8	0.9
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	2	0	6	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	14
4:15 PM	2	0	1	0	3	0	5	0	0	5	0	0	0	0	0	0	10	0	0	10	18
4:30 PM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	0	9	0	0	9	14
4:45 PM	2	0	1	0	3	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	13
Total Volume	11	0	4	0	15	0	13	0	0	13	0	0	0	0	0	0	31	0	0	31	59
% Approach Total	73.3	0.0	26.7	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.688	0.000	0.500	0.000	0.625	0.000	0.650	0.000	0.000	0.650	0.000	0.000	0.000	0.000	0.000	0.000	0.775	0.000	0.000	0.775	0.819
Buses	10	0	2	0	12	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	36
Buses %	90.9	0.0	50.0	0.0	80.0	0.0	38.5	0.0	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	61.3	0.0	0.0	61.3	61.0
Single-Unit Trucks	1	0	2	0	3	0	8	0	0	8	0	0	0	0	0	0	12	0	0	12	23
Single-Unit %	9.1	0.0	50.0	0.0	20.0	0.0	61.5	0.0	0.0	61.5	0.0	0.0	0.0	0.0	0.0	0.0	38.7	0.0	0.0	38.7	39.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	10	0	2	0	12	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	36
Single-Unit Trucks	1	0	2	0	3	0	8	0	0	8	0	0	0	0	0	0	12	0	0	12	23
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	11	0	4	0	15	0	13	0	0	13	0	0	0	0	0	0	31	0	0	31	59
Buses					0					21					0					15	36
Single-Unit Trucks					0					14					0					9	23
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					35					0					24	59

PDI File #: **197325 (4) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	2	0	6	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	10
4:15 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	11
4:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
4:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	7
Total	10	0	2	0	12	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	36
5:00 PM	2	0	2	0	4	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	9
5:15 PM	3	0	1	0	4	0	1	0	0	1	0	0	0	0	0	0	6	0	0	6	11
5:30 PM	4	0	1	0	5	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	9
5:45 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	8
Total	11	0	4	0	15	0	4	0	0	4	0	0	0	0	0	0	18	0	0	18	37
Grand Total	21	0	6	0	27	0	9	0	0	9	0	0	0	0	0	0	37	0	0	37	73
Approach %	77.8	0.0	22.2	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	28.8	0.0	8.2	0.0	37.0	0.0	12.3	0.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0	0.0	50.7	0.0	0.0	50.7	
Exiting Leg Total					0					43					0					30	73

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	2	0	6	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	10
4:15 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	11
4:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
4:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	7
Total Volume	10	0	2	0	12	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	36
% Approach Total	83.3	0.0	16.7	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.625	0.000	0.250	0.000	0.500	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.594	0.000	0.000	0.594	0.818
Entering Leg	10	0	2	0	12	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	36
Exiting Leg					0					21					0					15	36
Total					12					26					0					34	72

PDI File #: **197325 (4) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
4:15 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	7
4:30 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	6
4:45 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	6
Total	1	0	2	0	3	0	8	0	0	8	0	0	0	0	0	0	12	0	0	12	23
5:00 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
5:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	2	0	2	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	13
Grand Total	1	0	4	0	5	0	13	0	0	13	0	0	0	0	0	0	18	0	0	18	36
Approach %	20.0	0.0	80.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	2.8	0.0	11.1	0.0	13.9	0.0	36.1	0.0	0.0	36.1	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					0					22					0					14	36

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Albany Street from East					East Concord Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
4:15 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	7
4:30 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	6
4:45 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	6
Total Volume	1	0	2	0	3	0	8	0	0	8	0	0	0	0	0	0	12	0	0	12	23
% Approach Total	33.3	0.0	66.7	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.000	0.500	0.000	0.750	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.821
Entering Leg	1	0	2	0	3	0	8	0	0	8	0	0	0	0	0	0	12	0	0	12	23
Exiting Leg					0					14					0					9	23
Total					3					22					0					21	46

PDI File #: **197325 (4) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street					Albany Street					East Concord Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (4) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Concord Street from North							Albany Street from East							East Concord Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	1	1	0	0	0	2	7
5:00 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
5:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Total	1	0	0	0	0	0	1	0	7	0	0	0	0	7	0	0	0	0	0	0	0	0	3	0	0	2	0	5	13
Grand Total	1	0	0	0	0	0	1	0	12	0	0	0	0	12	0	0	0	0	0	0	0	0	4	1	0	2	0	7	20
Approach %	100.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	57.1	14.3	0.0	28.6	0.0		
Total %	5.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	60.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	5.0	0.0	10.0	0.0	35.0	
Exiting Leg Total							1							4							0							15	20

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	East Concord Street from North							Albany Street from East							East Concord Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
5:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Total Volume	1	0	0	0	0	0	1	0	7	0	0	0	0	7	0	0	0	0	0	0	0	0	3	0	0	2	0	5	13
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	60.0	0.0	0.0	40.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.350	0.000	0.000	0.000	0.000	0.350	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.500	0.000	0.625	0.542
Entering Leg	1	0	0	0	0	0	1	0	7	0	0	0	0	7	0	0	0	0	0	0	0	0	3	0	0	2	0	5	13
Exiting Leg							0							3							0							10	13
Total							1							10							0							15	26

PDI File #: **197325 (4) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Concord Street							Albany Street							East Concord Street							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	45	26	71	0	0	0	0	58	12	70	0	0	0	0	10	36	46	0	0	0	0	5	23	28	215
4:15 PM	0	0	0	0	38	28	66	0	0	0	0	59	24	83	0	0	0	0	9	16	25	0	0	0	0	3	23	26	200
4:30 PM	0	0	0	0	29	21	50	0	0	0	0	46	12	58	0	0	0	0	9	43	52	0	0	0	0	4	23	27	187
4:45 PM	0	0	0	0	52	34	86	0	0	0	0	55	18	73	0	0	0	0	12	40	52	0	0	0	0	7	13	20	231
Total	0	0	0	0	164	109	273	0	0	0	0	218	66	284	0	0	0	0	40	135	175	0	0	0	0	19	82	101	833
5:00 PM	0	0	0	0	64	14	78	0	0	0	0	75	13	88	0	0	0	0	8	31	39	0	0	0	0	4	18	22	227
5:15 PM	0	0	0	0	32	10	42	0	0	0	0	33	14	47	0	0	0	0	13	26	39	0	0	0	0	11	12	23	151
5:30 PM	0	0	0	0	39	8	47	0	0	0	0	49	10	59	0	0	0	0	9	10	19	0	0	0	0	7	4	11	136
5:45 PM	0	0	0	0	18	16	34	0	0	0	0	18	13	31	0	0	0	0	2	13	15	0	0	0	0	0	4	4	84
Total	0	0	0	0	153	48	201	0	0	0	0	175	50	225	0	0	0	0	32	80	112	0	0	0	0	22	38	60	598
Grand Total	0	0	0	0	317	157	474	0	0	0	0	393	116	509	0	0	0	0	72	215	287	0	0	0	0	41	120	161	1431
Approach %	0.0	0.0	0.0	0.0	66.9	33.1		0.0	0.0	0.0	0.0	77.2	22.8		0.0	0.0	0.0	0.0	25.1	74.9		0.0	0.0	0.0	0.0	25.5	74.5		
Total %	0.0	0.0	0.0	0.0	22.2	11.0	33.1	0.0	0.0	0.0	0.0	27.5	8.1	35.6	0.0	0.0	0.0	0.0	5.0	15.0	20.1	0.0	0.0	0.0	0.0	2.9	8.4	11.3	
Exiting Leg Total							474							509							287							161	1431

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	East Concord Street							Albany Street							East Concord Street							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	38	28	66	0	0	0	0	59	24	83	0	0	0	0	9	16	25	0	0	0	0	3	23	26	200
4:30 PM	0	0	0	0	29	21	50	0	0	0	0	46	12	58	0	0	0	0	9	43	52	0	0	0	0	4	23	27	187
4:45 PM	0	0	0	0	52	34	86	0	0	0	0	55	18	73	0	0	0	0	12	40	52	0	0	0	0	7	13	20	231
5:00 PM	0	0	0	0	64	14	78	0	0	0	0	75	13	88	0	0	0	0	8	31	39	0	0	0	0	4	18	22	227
Total Volume	0	0	0	0	183	97	280	0	0	0	0	235	67	302	0	0	0	0	38	130	168	0	0	0	0	18	77	95	845
% Approach Total	0.0	0.0	0.0	0.0	65.4	34.6		0.0	0.0	0.0	0.0	77.8	22.2		0.0	0.0	0.0	0.0	22.6	77.4		0.0	0.0	0.0	0.0	18.9	81.1		
PHF	0.000	0.000	0.000	0.000	0.715	0.713	0.814	0.000	0.000	0.000	0.000	0.783	0.698	0.858	0.000	0.000	0.000	0.000	0.792	0.756	0.808	0.000	0.000	0.000	0.000	0.643	0.837	0.880	0.915
Entering Leg	0	0	0	0	183	97	280	0	0	0	0	235	67	302	0	0	0	0	38	130	168	0	0	0	0	18	77	95	845
Exiting Leg							280							302							168							95	845
Total							560							604							336							190	1690

PDI File #: **197325 (5) am**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	4	0	5	0	9	1	66	0	0	67	13	0	5	0	18	0	63	1	0	64	158
7:15 AM	5	0	3	0	8	2	73	0	0	75	17	0	2	0	19	0	68	1	0	69	171
7:30 AM	2	0	0	0	2	1	54	0	0	55	68	0	39	0	107	0	106	4	0	110	274
7:45 AM	2	0	1	0	3	3	66	0	0	69	58	0	20	0	78	0	72	5	1	78	228
Total	13	0	9	0	22	7	259	0	0	266	156	0	66	0	222	0	309	11	1	321	831
8:00 AM	3	0	0	0	3	2	60	0	0	62	23	0	12	0	35	0	87	4	0	91	191
8:15 AM	6	0	1	0	7	0	57	0	1	58	11	0	4	0	15	0	101	10	0	111	191
8:30 AM	0	0	0	0	0	0	60	0	0	60	8	0	4	0	12	0	100	8	1	109	181
8:45 AM	0	0	0	0	0	1	56	0	0	57	8	0	6	0	14	0	107	2	0	109	180
Total	9	0	1	0	10	3	233	0	1	237	50	0	26	0	76	0	395	24	1	420	743
Grand Total	22	0	10	0	32	10	492	0	1	503	206	0	92	0	298	0	704	35	2	741	1574
Approach %	68.8	0.0	31.3	0.0		2.0	97.8	0.0	0.2		69.1	0.0	30.9	0.0		0.0	95.0	4.7	0.3		
Total %	1.4	0.0	0.6	0.0	2.0	0.6	31.3	0.0	0.1	32.0	13.1	0.0	5.8	0.0	18.9	0.0	44.7	2.2	0.1	47.1	
Exiting Leg Total					45					921					0					608	1574
Cars	22	0	10	0	32	9	458	0	1	468	206	0	90	0	296	0	629	35	2	666	1462
% Cars	100.0	0.0	100.0	0.0	100.0	90.0	93.1	0.0	100.0	93.0	100.0	0.0	97.8	0.0	99.3	0.0	89.3	100.0	100.0	89.9	92.9
Exiting Leg Total					44					846					0					572	1462
Heavy Vehicles	0	0	0	0	0	1	34	0	0	35	0	0	2	0	2	0	75	0	0	75	112
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	10.0	6.9	0.0	0.0	7.0	0.0	0.0	2.2	0.0	0.7	0.0	10.7	0.0	0.0	10.1	7.1
Exiting Leg Total					1					75					0					36	112

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	2	0	0	0	2	1	54	0	0	55	68	0	39	0	107	0	106	4	0	110	274
7:45 AM	2	0	1	0	3	3	66	0	0	69	58	0	20	0	78	0	72	5	1	78	228
8:00 AM	3	0	0	0	3	2	60	0	0	62	23	0	12	0	35	0	87	4	0	91	191
8:15 AM	6	0	1	0	7	0	57	0	1	58	11	0	4	0	15	0	101	10	0	111	191
Total Volume	13	0	2	0	15	6	237	0	1	244	160	0	75	0	235	0	366	23	1	390	884
% Approach Total	86.7	0.0	13.3	0.0		2.5	97.1	0.0	0.4		68.1	0.0	31.9	0.0		0.0	93.8	5.9	0.3		
PHF	0.542	0.000	0.500	0.000	0.536	0.500	0.898	0.000	0.250	0.884	0.588	0.000	0.481	0.000	0.549	0.000	0.863	0.575	0.250	0.878	0.807
Cars	13	0	2	0	15	5	218	0	1	224	160	0	73	0	233	0	326	23	1	350	822
Cars %	100.0	0.0	100.0	0.0	100.0	83.3	92.0	0.0	100.0	91.8	100.0	0.0	97.3	0.0	99.1	0.0	89.1	100.0	100.0	89.7	93.0
Heavy Vehicles	0	0	0	0	0	1	19	0	0	20	0	0	2	0	2	0	40	0	0	40	62
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	16.7	8.0	0.0	0.0	8.2	0.0	0.0	2.7	0.0	0.9	0.0	10.9	0.0	0.0	10.3	7.0
Cars Enter Leg	13	0	2	0	15	5	218	0	1	224	160	0	73	0	233	0	326	23	1	350	822
Heavy Enter Leg	0	0	0	0	0	1	19	0	0	20	0	0	2	0	2	0	40	0	0	40	62
Total Entering Leg	13	0	2	0	15	6	237	0	1	244	160	0	75	0	235	0	366	23	1	390	884
Cars Exiting Leg					28					489					0					305	822
Heavy Exiting Leg					1					40					0					21	62
Total Exiting Leg					29					529					0					326	884

PDI File #: **197325 (5) am**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	4	0	5	0	9	1	61	0	0	62	13	0	5	0	18	0	58	1	0	59	148
7:15 AM	5	0	3	0	8	2	67	0	0	69	17	0	2	0	19	0	62	1	0	63	159
7:30 AM	2	0	0	0	2	1	50	0	0	51	68	0	39	0	107	0	97	4	0	101	261
7:45 AM	2	0	1	0	3	2	58	0	0	60	58	0	20	0	78	0	63	5	1	69	210
Total	13	0	9	0	22	6	236	0	0	242	156	0	66	0	222	0	280	11	1	292	778
8:00 AM	3	0	0	0	3	2	55	0	0	57	23	0	12	0	35	0	75	4	0	79	174
8:15 AM	6	0	1	0	7	0	55	0	1	56	11	0	2	0	13	0	91	10	0	101	177
8:30 AM	0	0	0	0	0	0	57	0	0	57	8	0	4	0	12	0	87	8	1	96	165
8:45 AM	0	0	0	0	0	1	55	0	0	56	8	0	6	0	14	0	96	2	0	98	168
Total	9	0	1	0	10	3	222	0	1	226	50	0	24	0	74	0	349	24	1	374	684
Grand Total	22	0	10	0	32	9	458	0	1	468	206	0	90	0	296	0	629	35	2	666	1462
Approach %	68.8	0.0	31.3	0.0		1.9	97.9	0.0	0.2		69.6	0.0	30.4	0.0		0.0	94.4	5.3	0.3		
Total %	1.5	0.0	0.7	0.0	2.2	0.6	31.3	0.0	0.1	32.0	14.1	0.0	6.2	0.0	20.2	0.0	43.0	2.4	0.1	45.6	
Exiting Leg Total					44					846					0					572	1462

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	2	0	0	0	2	1	50	0	0	51	68	0	39	0	107	0	97	4	0	101	261
7:45 AM	2	0	1	0	3	2	58	0	0	60	58	0	20	0	78	0	63	5	1	69	210
8:00 AM	3	0	0	0	3	2	55	0	0	57	23	0	12	0	35	0	75	4	0	79	174
8:15 AM	6	0	1	0	7	0	55	0	1	56	11	0	2	0	13	0	91	10	0	101	177
Total Volume	13	0	2	0	15	5	218	0	1	224	160	0	73	0	233	0	326	23	1	350	822
% Approach Total	86.7	0.0	13.3	0.0		2.2	97.3	0.0	0.4		68.7	0.0	31.3	0.0		0.0	93.1	6.6	0.3		
PHF	0.542	0.000	0.500	0.000	0.536	0.625	0.940	0.000	0.250	0.933	0.588	0.000	0.468	0.000	0.544	0.000	0.840	0.575	0.250	0.866	0.787
Entering Leg	13	0	2	0	15	5	218	0	1	224	160	0	73	0	233	0	326	23	1	350	822
Exiting Leg					28					489					0					305	822
Total					43					713					233					655	1644

PDI File #: **197325 (5) am**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	12
7:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	9	0	0	9	13
7:45 AM	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	9	0	0	9	18
Total	0	0	0	0	0	1	23	0	0	24	0	0	0	0	0	0	29	0	0	29	53
8:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	12	0	0	12	17
8:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	0	10	0	0	10	14
8:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	13	0	0	13	16
8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	11	0	0	11	12
Total	0	0	0	0	0	0	11	0	0	11	0	0	2	0	2	0	46	0	0	46	59
Grand Total	0	0	0	0	0	1	34	0	0	35	0	0	2	0	2	0	75	0	0	75	112
Approach %	0.0	0.0	0.0	0.0		2.9	97.1	0.0	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.9	30.4	0.0	0.0	31.3	0.0	0.0	1.8	0.0	1.8	0.0	67.0	0.0	0.0	67.0	
Exiting Leg Total					1					75					0					36	112
Buses	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	51	0	0	51	53
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	68.0	0.0	0.0	68.0	47.3
Exiting Leg Total					0					51					0					2	53
Single-Unit Trucks	0	0	0	0	0	1	30	0	0	31	0	0	2	0	2	0	22	0	0	22	55
% Single-Unit	0.0	0.0	0.0	0.0	0.0	100.0	88.2	0.0	0.0	88.6	0.0	0.0	100.0	0.0	100.0	0.0	29.3	0.0	0.0	29.3	49.1
Exiting Leg Total					1					22					0					32	55
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	2.7	3.6
Exiting Leg Total					0					2					0					2	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	9	0	0	9	18
8:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	12	0	0	12	17
8:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	0	10	0	0	10	14
8:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	13	0	0	13	16
Total Volume	0	0	0	0	0	1	18	0	0	19	0	0	2	0	2	0	44	0	0	44	65
% Approach Total	0.0	0.0	0.0	0.0		5.3	94.7	0.0	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.563	0.000	0.000	0.528	0.000	0.000	0.250	0.000	0.250	0.000	0.846	0.000	0.000	0.846	0.903
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0	31	31
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.5	0.0	0.0	70.5	47.7
Single-Unit Trucks	0	0	0	0	0	1	17	0	0	18	0	0	2	0	2	0	13	0	0	13	33
Single-Unit %	0.0	0.0	0.0	0.0	0.0	100.0	94.4	0.0	0.0	94.7	0.0	0.0	100.0	0.0	100.0	0.0	29.5	0.0	0.0	29.5	50.8
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0	31	31
Single-Unit Trucks	0	0	0	0	0	1	17	0	0	18	0	0	2	0	2	0	13	0	0	13	33
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	0	0	0	0	0	1	18	0	0	19	0	0	2	0	2	0	44	0	0	44	65
Buses					0					31					0					0	31
Single-Unit Trucks					1					13					0					19	33
Articulated Trucks					0					0					0					1	1
Total Exiting Leg					1					44					0					20	65

PDI File #: **197325 (5) am**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Buses

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	6
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	17	0	0	17	19
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	10
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	7
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	9
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	8
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	34	34
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	51	0	0	51	53
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	96.2	0.0	0.0	96.2	
Exiting Leg Total					0					51					0					2	53

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	10
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	7
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	9
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	8
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	34	34
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.850	0.000	0.000	0.850	0.850
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	34	34
Exiting Leg					0					34					0					0	34
Total					0					34					0					34	68

PDI File #: **197325 (5) am**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Single-Unit Trucks

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
7:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
7:45 AM	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	4	0	0	4	12
Total	0	0	0	0	0	1	19	0	0	20	0	0	0	0	0	0	10	0	0	10	30
8:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
8:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	0	3	0	0	3	7
8:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
Total	0	0	0	0	0	0	11	0	0	11	0	0	2	0	2	0	12	0	0	12	25
Grand Total	0	0	0	0	0	1	30	0	0	31	0	0	2	0	2	0	22	0	0	22	55
Approach %	0.0	0.0	0.0	0.0		3.2	96.8	0.0	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	1.8	54.5	0.0	0.0	56.4	0.0	0.0	3.6	0.0	3.6	0.0	40.0	0.0	0.0	40.0	
Exiting Leg Total					1					22					0					32	55

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
7:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
7:45 AM	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	4	0	0	4	12
8:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
Total Volume	0	0	0	0	0	1	20	0	0	21	0	0	0	0	0	0	12	0	0	12	33
% Approach Total	0.0	0.0	0.0	0.0		4.8	95.2	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.714	0.000	0.000	0.656	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.688
Entering Leg	0	0	0	0	0	1	20	0	0	21	0	0	0	0	0	0	12	0	0	12	33
Exiting Leg					1					12					0					20	33
Total					1					33					0					32	66

PDI File #: **197325 (5) am**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					0					2					0					2	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Exiting Leg					0					2					0					2	4
Total					0					4					0					4	8

PDI File #: **197325 (5) am**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Stoughton Street from North							Albany Street from East							East Stoughton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	0	2	0	0	0	0	2	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
Total	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	9	0	0	0	0	9	10
Grand Total	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	1	1	0	11	0	0	0	0	11	14
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	7.1	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	7.1	7.1	0.0	78.6	0.0	0.0	0.0	0.0	78.6	
Exiting Leg Total							1							11							1							1	14

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Stoughton Street from North							Albany Street from East							East Stoughton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
Total Volume	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	9	0	0	0	0	9	10
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	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	0.000	0.563	0.000	0.000	0.000	0.000	0.563	0.625
Entering Leg	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	9	0	0	0	0	9	10
Exiting Leg							1							9							0							0	10
Total							1							10							0							9	20

PDI File #: **197325 (5) am**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Stoughton Street from North							Albany Street from East							East Stoughton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	10	34	44	0	0	0	0	7	31	38	0	0	0	0	6	11	17	0	0	0	0	1	1	2	101
7:15 AM	0	0	0	0	10	35	45	0	0	0	0	6	27	33	0	0	0	0	3	18	21	0	0	0	0	9	0	9	108
7:30 AM	0	0	0	0	15	30	45	0	0	0	0	11	27	38	0	0	0	0	10	25	35	0	0	0	0	0	1	1	119
7:45 AM	0	0	0	0	36	46	82	0	0	0	0	34	47	81	0	0	0	0	11	36	47	0	0	0	0	11	4	15	225
Total	0	0	0	0	71	145	216	0	0	0	0	58	132	190	0	0	0	0	30	90	120	0	0	0	0	21	6	27	553
8:00 AM	0	0	0	0	16	34	50	0	0	0	0	12	25	37	0	0	0	0	8	15	23	0	0	0	0	5	0	5	115
8:15 AM	0	0	0	0	21	41	62	0	0	0	0	8	38	46	0	0	0	0	9	24	33	0	0	0	0	21	1	22	163
8:30 AM	0	0	0	0	14	45	59	0	0	0	0	9	40	49	0	0	0	0	9	42	51	0	0	0	0	0	1	1	160
8:45 AM	0	0	0	0	29	33	62	0	0	0	0	9	35	44	0	0	0	0	10	59	69	0	0	0	0	25	0	25	200
Total	0	0	0	0	80	153	233	0	0	0	0	38	138	176	0	0	0	0	36	140	176	0	0	0	0	51	2	53	638
Grand Total	0	0	0	0	151	298	449	0	0	0	0	96	270	366	0	0	0	0	66	230	296	0	0	0	0	72	8	80	1191
Approach %	0.0	0.0	0.0	0.0	33.6	66.4		0.0	0.0	0.0	0.0	26.2	73.8		0.0	0.0	0.0	0.0	22.3	77.7		0.0	0.0	0.0	0.0	90.0	10.0		
Total %	0.0	0.0	0.0	0.0	12.7	25.0	37.7	0.0	0.0	0.0	0.0	8.1	22.7	30.7	0.0	0.0	0.0	0.0	5.5	19.3	24.9	0.0	0.0	0.0	0.0	6.0	0.7	6.7	
Exiting Leg Total							449							366							296							80	1191

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Stoughton Street from North							Albany Street from East							East Stoughton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	36	46	82	0	0	0	0	34	47	81	0	0	0	0	11	36	47	0	0	0	0	11	4	15	225
8:00 AM	0	0	0	0	16	34	50	0	0	0	0	12	25	37	0	0	0	0	8	15	23	0	0	0	0	5	0	5	115
8:15 AM	0	0	0	0	21	41	62	0	0	0	0	8	38	46	0	0	0	0	9	24	33	0	0	0	0	21	1	22	163
8:30 AM	0	0	0	0	14	45	59	0	0	0	0	9	40	49	0	0	0	0	9	42	51	0	0	0	0	0	1	1	160
Total Volume	0	0	0	0	87	166	253	0	0	0	0	63	150	213	0	0	0	0	37	117	154	0	0	0	0	37	6	43	663
% Approach Total	0.0	0.0	0.0	0.0	34.4	65.6		0.0	0.0	0.0	0.0	29.6	70.4		0.0	0.0	0.0	0.0	24.0	76.0		0.0	0.0	0.0	0.0	86.0	14.0		
PHF	0.000	0.000	0.000	0.000	0.604	0.902	0.771	0.000	0.000	0.000	0.000	0.463	0.798	0.657	0.000	0.000	0.000	0.000	0.841	0.696	0.755	0.000	0.000	0.000	0.000	0.440	0.375	0.489	0.737
Entering Leg	0	0	0	0	87	166	253	0	0	0	0	63	150	213	0	0	0	0	37	117	154	0	0	0	0	37	6	43	663
Exiting Leg							253							213							154							43	663
Total							506							426							308							86	1326

PDI File #: **197325 (5) pm**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	1	0	2	2	91	0	1	94	14	0	28	0	42	0	92	6	1	99	237
4:15 PM	2	0	1	0	3	3	102	0	0	105	28	2	23	0	53	0	104	4	0	108	269
4:30 PM	2	0	1	0	3	1	82	0	0	83	27	0	18	0	45	0	92	5	1	98	229
4:45 PM	2	0	0	0	2	2	75	0	0	77	25	0	24	0	49	0	107	2	2	111	239
Total	7	0	3	0	10	8	350	0	1	359	94	2	93	0	189	0	395	17	4	416	974
5:00 PM	4	0	2	0	6	1	78	0	0	79	22	0	22	0	44	0	99	7	0	106	235
5:15 PM	1	0	2	0	3	0	76	0	0	76	19	0	18	0	37	0	85	4	0	89	205
5:30 PM	0	0	2	0	2	1	67	0	0	68	22	0	12	0	34	0	77	2	1	80	184
5:45 PM	4	0	2	0	6	4	78	2	0	84	11	0	13	0	24	0	75	5	2	82	196
Total	9	0	8	0	17	6	299	2	0	307	74	0	65	0	139	0	336	18	3	357	820
Grand Total	16	0	11	0	27	14	649	2	1	666	168	2	158	0	328	0	731	35	7	773	1794
Approach %	59.3	0.0	40.7	0.0		2.1	97.4	0.3	0.2		51.2	0.6	48.2	0.0		0.0	94.6	4.5	0.9		
Total %	0.9	0.0	0.6	0.0	1.5	0.8	36.2	0.1	0.1	37.1	9.4	0.1	8.8	0.0	18.3	0.0	40.7	2.0	0.4	43.1	
Exiting Leg Total					51					911					2					830	1794
Cars	16	0	11	0	27	14	627	2	1	644	168	2	158	0	328	0	667	33	7	707	1706
% Cars	100.0	0.0	100.0	0.0	100.0	100.0	96.6	100.0	100.0	96.7	100.0	100.0	100.0	0.0	100.0	0.0	91.2	94.3	100.0	91.5	95.1
Exiting Leg Total					49					847					2					808	1706
Heavy Vehicles	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	64	2	0	66	88
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	8.8	5.7	0.0	8.5	4.9
Exiting Leg Total					2					64					0					22	88

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	1	0	2	2	91	0	1	94	14	0	28	0	42	0	92	6	1	99	237
4:15 PM	2	0	1	0	3	3	102	0	0	105	28	2	23	0	53	0	104	4	0	108	269
4:30 PM	2	0	1	0	3	1	82	0	0	83	27	0	18	0	45	0	92	5	1	98	229
4:45 PM	2	0	0	0	2	2	75	0	0	77	25	0	24	0	49	0	107	2	2	111	239
Total Volume	7	0	3	0	10	8	350	0	1	359	94	2	93	0	189	0	395	17	4	416	974
% Approach Total	70.0	0.0	30.0	0.0		2.2	97.5	0.0	0.3		49.7	1.1	49.2	0.0		0.0	95.0	4.1	1.0		
PHF	0.875	0.000	0.750	0.000	0.833	0.667	0.858	0.000	0.250	0.855	0.839	0.250	0.830	0.000	0.892	0.000	0.923	0.708	0.500	0.937	0.905
Cars	7	0	3	0	10	8	337	0	1	346	94	2	93	0	189	0	361	17	4	382	927
Cars %	100.0	0.0	100.0	0.0	100.0	100.0	96.3	0.0	100.0	96.4	100.0	100.0	100.0	0.0	100.0	0.0	91.4	100.0	100.0	91.8	95.2
Heavy Vehicles	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	34	0	0	34	47
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0	8.2	4.8
Cars Enter Leg	7	0	3	0	10	8	337	0	1	346	94	2	93	0	189	0	361	17	4	382	927
Heavy Enter Leg	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	34	0	0	34	47
Total Entering Leg	7	0	3	0	10	8	350	0	1	359	94	2	93	0	189	0	395	17	4	416	974
Cars Exiting Leg					27					459					0					441	927
Heavy Exiting Leg					0					34					0					13	47
Total Exiting Leg					27					493					0					454	974

PDI File #: **197325 (5) pm**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	1	0	2	2	88	0	1	91	14	0	28	0	42	0	85	6	1	92	227
4:15 PM	2	0	1	0	3	3	97	0	0	100	28	2	23	0	53	0	93	4	0	97	253
4:30 PM	2	0	1	0	3	1	80	0	0	81	27	0	18	0	45	0	83	5	1	89	218
4:45 PM	2	0	0	0	2	2	72	0	0	74	25	0	24	0	49	0	100	2	2	104	229
Total	7	0	3	0	10	8	337	0	1	346	94	2	93	0	189	0	361	17	4	382	927
5:00 PM	4	0	2	0	6	1	73	0	0	74	22	0	22	0	44	0	93	5	0	98	222
5:15 PM	1	0	2	0	3	0	74	0	0	74	19	0	18	0	37	0	76	4	0	80	194
5:30 PM	0	0	2	0	2	1	66	0	0	67	22	0	12	0	34	0	68	2	1	71	174
5:45 PM	4	0	2	0	6	4	77	2	0	83	11	0	13	0	24	0	69	5	2	76	189
Total	9	0	8	0	17	6	290	2	0	298	74	0	65	0	139	0	306	16	3	325	779
Grand Total	16	0	11	0	27	14	627	2	1	644	168	2	158	0	328	0	667	33	7	707	1706
Approach %	59.3	0.0	40.7	0.0		2.2	97.4	0.3	0.2		51.2	0.6	48.2	0.0		0.0	94.3	4.7	1.0		
Total %	0.9	0.0	0.6	0.0	1.6	0.8	36.8	0.1	0.1	37.7	9.8	0.1	9.3	0.0	19.2	0.0	39.1	1.9	0.4	41.4	
Exiting Leg Total					49					847					2					808	1706

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	1	0	2	2	88	0	1	91	14	0	28	0	42	0	85	6	1	92	227
4:15 PM	2	0	1	0	3	3	97	0	0	100	28	2	23	0	53	0	93	4	0	97	253
4:30 PM	2	0	1	0	3	1	80	0	0	81	27	0	18	0	45	0	83	5	1	89	218
4:45 PM	2	0	0	0	2	2	72	0	0	74	25	0	24	0	49	0	100	2	2	104	229
Total Volume	7	0	3	0	10	8	337	0	1	346	94	2	93	0	189	0	361	17	4	382	927
% Approach Total	70.0	0.0	30.0	0.0		2.3	97.4	0.0	0.3		49.7	1.1	49.2	0.0		0.0	94.5	4.5	1.0		
PHF	0.875	0.000	0.750	0.000	0.833	0.667	0.869	0.000	0.250	0.865	0.839	0.250	0.830	0.000	0.892	0.000	0.903	0.708	0.500	0.918	0.916
Entering Leg	7	0	3	0	10	8	337	0	1	346	94	2	93	0	189	0	361	17	4	382	927
Exiting Leg					27					459					0					441	927
Total					37					805					189					823	1854

PDI File #: **197325 (5) pm**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
4:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	11	0	0	11	16
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	9	0	0	9	11
4:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
Total	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	34	0	0	34	47
5:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	2	0	8	13
5:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	9	0	0	9	11
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	9	0	0	9	10
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	0	0	6	7
Total	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	30	2	0	32	41
Grand Total	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	64	2	0	66	88
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.0	3.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	72.7	2.3	0.0	75.0	
Exiting Leg Total					2					64					0					22	88
Buses	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	42	1	0	43	51
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	36.4	0.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	65.6	50.0	0.0	65.2	58.0
Exiting Leg Total					1					42					0					8	51
Single-Unit Trucks	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	21	1	0	22	36
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	63.6	0.0	0.0	63.6	0.0	0.0	0.0	0.0	0.0	0.0	32.8	50.0	0.0	33.3	40.9
Exiting Leg Total					1					21					0					14	36
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	1.5	1.1
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
4:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	11	0	0	11	16
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	9	0	0	9	11
4:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
Total Volume	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	34	0	0	34	47
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.650	0.000	0.000	0.650	0.000	0.000	0.000	0.000	0.000	0.000	0.773	0.000	0.000	0.773	0.734
Buses	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	24
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	38.5	0.0	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	55.9	0.0	0.0	55.9	51.1
Single-Unit Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	15	0	0	15	23
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	61.5	0.0	0.0	61.5	0.0	0.0	0.0	0.0	0.0	0.0	44.1	0.0	0.0	44.1	48.9
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	24
Single-Unit Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	15	0	0	15	23
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	34	0	0	34	47
Buses					0					19					0					5	24
Single-Unit Trucks					0					15					0					8	23
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					34					0					13	47

PDI File #: **197325 (5) pm**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	9	0	0	9	10
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
4:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	24
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	1	0	7	8
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	7	0	0	7	8
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	23	1	0	24	27
Grand Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	42	1	0	43	51
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.7	2.3	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	15.7	0.0	0.0	15.7	0.0	0.0	0.0	0.0	0.0	0.0	82.4	2.0	0.0	84.3	
Exiting Leg Total					1					42					0					8	51

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	9	0	0	9	10
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
4:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total Volume	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	24
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.528	0.000	0.000	0.528	0.600
Entering Leg	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	24
Exiting Leg					0					19					0					5	24
Total					0					24					0					24	48

PDI File #: **197325 (5) pm**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Single-Unit Trucks

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
4:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	6
Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	15	0	0	15	23
5:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	1	0	1	5
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	1	0	7	13
Grand Total	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	21	1	0	22	36
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	95.5	4.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	38.9	0.0	0.0	38.9	0.0	0.0	0.0	0.0	0.0	0.0	58.3	2.8	0.0	61.1	
Exiting Leg Total					1					21					0					14	36

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
4:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	6
Total Volume	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	15	0	0	15	23
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.958
Entering Leg	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	15	0	0	15	23
Exiting Leg					0					15					0					8	23
Total					0					23					0					23	46

PDI File #: **197325 (5) pm**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Articulated Trucks

	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Stoughton Street from North					Albany Street from East					East Stoughton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (5) pm**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Stoughton Street from North							Albany Street from East							East Stoughton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
4:15 PM	0	0	1	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	0	0	1	1	3	0	0	0	0	4	0	0	1	0	0	0	1	0	3	0	0	0	0	3	9
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	1	0	0	0	1	1	2	0	0	0	0	3	9
Grand Total	0	0	1	0	0	0	1	1	8	0	0	0	0	9	0	0	2	0	0	0	2	1	5	0	0	0	0	6	18
Approach %	0.0	0.0	100.0	0.0	0.0	0.0		11.1	88.9	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		16.7	83.3	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	5.6	0.0	0.0	0.0	5.6	5.6	44.4	0.0	0.0	0.0	0.0	50.0	0.0	0.0	11.1	0.0	0.0	0.0	11.1	5.6	27.8	0.0	0.0	0.0	0.0	33.3	
Exiting Leg Total							1							6							1							10	18

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Stoughton Street from North							Albany Street from East							East Stoughton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
4:15 PM	0	0	1	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	0	0	1	1	3	0	0	0	0	4	0	0	1	0	0	0	1	0	3	0	0	0	0	3	9
% Approach Total	0.0	0.0	100.0	0.0	0.0	0.0		25.0	75.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.375	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.375	0.000	0.000	0.000	0.000	0.375	0.563
Entering Leg	0	0	1	0	0	0	1	1	3	0	0	0	0	4	0	0	1	0	0	0	1	0	3	0	0	0	0	3	9
Exiting Leg							1							4							0							4	9
Total							2							8							1							7	18

PDI File #: **197325 (5) pm**
Location: **N: Stoughton Street S: East Stoughton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Stoughton Street							Albany Street							East Stoughton Street							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	41	31	72	0	0	0	0	40	27	67	0	0	0	0	49	19	68	0	0	0	0	4	2	6	213
4:15 PM	0	0	0	0	46	23	69	0	0	0	0	43	14	57	0	0	0	0	37	18	55	0	0	0	0	1	3	4	185
4:30 PM	0	0	0	0	34	23	57	0	0	0	0	41	16	57	0	0	0	0	36	21	57	0	0	0	0	1	4	5	176
4:45 PM	0	0	0	0	41	32	73	0	0	0	0	42	27	69	0	0	0	0	33	10	43	0	0	0	0	0	1	1	186
Total	0	0	0	0	162	109	271	0	0	0	0	166	84	250	0	0	0	0	155	68	223	0	0	0	0	6	10	16	760
5:00 PM	0	0	0	0	38	20	58	0	0	0	0	39	18	57	0	0	0	0	39	30	69	0	0	0	0	2	3	5	189
5:15 PM	0	0	0	0	42	18	60	0	0	0	0	37	13	50	0	0	0	0	41	18	59	0	0	0	0	2	2	4	173
5:30 PM	0	0	0	0	36	17	53	0	0	0	0	31	15	46	0	0	0	0	29	12	41	0	0	0	0	0	2	2	142
5:45 PM	0	0	0	0	23	12	35	0	0	0	0	16	12	28	0	0	0	0	24	7	31	0	0	0	0	0	5	5	99
Total	0	0	0	0	139	67	206	0	0	0	0	123	58	181	0	0	0	0	133	67	200	0	0	0	0	4	12	16	603
Grand Total	0	0	0	0	301	176	477	0	0	0	0	289	142	431	0	0	0	0	288	135	423	0	0	0	0	10	22	32	1363
Approach %	0.0	0.0	0.0	0.0	63.1	36.9		0.0	0.0	0.0	0.0	67.1	32.9		0.0	0.0	0.0	0.0	68.1	31.9		0.0	0.0	0.0	0.0	31.3	68.8		
Total %	0.0	0.0	0.0	0.0	22.1	12.9	35.0	0.0	0.0	0.0	0.0	21.2	10.4	31.6	0.0	0.0	0.0	0.0	21.1	9.9	31.0	0.0	0.0	0.0	0.0	0.7	1.6	2.3	
Exiting Leg Total							477							431							423						32	1363

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Stoughton Street							Albany Street							East Stoughton Street							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	41	31	72	0	0	0	0	40	27	67	0	0	0	0	49	19	68	0	0	0	0	4	2	6	213
4:15 PM	0	0	0	0	46	23	69	0	0	0	0	43	14	57	0	0	0	0	37	18	55	0	0	0	0	1	3	4	185
4:30 PM	0	0	0	0	34	23	57	0	0	0	0	41	16	57	0	0	0	0	36	21	57	0	0	0	0	1	4	5	176
4:45 PM	0	0	0	0	41	32	73	0	0	0	0	42	27	69	0	0	0	0	33	10	43	0	0	0	0	0	1	1	186
Total Volume	0	0	0	0	162	109	271	0	0	0	0	166	84	250	0	0	0	0	155	68	223	0	0	0	0	6	10	16	760
% Approach Total	0.0	0.0	0.0	0.0	59.8	40.2		0.0	0.0	0.0	0.0	66.4	33.6		0.0	0.0	0.0	0.0	69.5	30.5		0.0	0.0	0.0	0.0	37.5	62.5		
PHF	0.000	0.000	0.000	0.000	0.880	0.852	0.928	0.000	0.000	0.000	0.000	0.965	0.778	0.906	0.000	0.000	0.000	0.000	0.791	0.810	0.820	0.000	0.000	0.000	0.000	0.375	0.625	0.667	0.892
Entering Leg	0	0	0	0	162	109	271	0	0	0	0	166	84	250	0	0	0	0	155	68	223	0	0	0	0	6	10	16	760
Exiting Leg							271							250							223						16	760
Total							542							500							446						32	1520

PDI File #: **197325 (6) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	19	69	0	0	88	1	0	0	0	1	0	63	18	0	81	170
7:15 AM	1	0	0	0	1	10	71	0	0	81	1	2	0	0	3	0	59	20	0	79	164
7:30 AM	0	0	0	0	0	8	59	0	0	67	3	0	0	0	3	0	151	29	0	180	250
7:45 AM	0	0	0	0	0	14	61	0	0	75	2	0	3	0	5	0	98	27	0	125	205
Total	1	0	0	0	1	51	260	0	0	311	7	2	3	0	12	0	371	94	0	465	789
8:00 AM	0	0	0	0	0	11	65	0	0	76	0	0	2	0	2	0	81	37	0	118	196
8:15 AM	0	0	0	0	0	9	52	0	0	61	0	1	2	0	3	0	74	27	0	101	165
8:30 AM	0	0	0	0	0	15	54	1	0	70	3	0	0	0	3	0	74	31	0	105	178
8:45 AM	0	0	0	0	0	9	53	0	0	62	3	2	4	0	9	0	84	28	0	112	183
Total	0	0	0	0	0	44	224	1	0	269	6	3	8	0	17	0	313	123	0	436	722
Grand Total	1	0	0	0	1	95	484	1	0	580	13	5	11	0	29	0	684	217	0	901	1511
Approach %	100.0	0.0	0.0	0.0		16.4	83.4	0.2	0.0		44.8	17.2	37.9	0.0		0.0	75.9	24.1	0.0		
Total %	0.1	0.0	0.0	0.0	0.1	6.3	32.0	0.1	0.0	38.4	0.9	0.3	0.7	0.0	1.9	0.0	45.3	14.4	0.0	59.6	
Exiting Leg Total					317					697					1					496	1511
Cars	1	0	0	0	1	84	451	1	0	536	13	4	10	0	27	0	646	184	0	830	1394
% Cars	100.0	0.0	0.0	0.0	100.0	88.4	93.2	100.0	0.0	92.4	100.0	80.0	90.9	0.0	93.1	0.0	94.4	84.8	0.0	92.1	92.3
Exiting Leg Total					272					659					1					462	1394
Heavy Vehicles	0	0	0	0	0	11	33	0	0	44	0	1	1	0	2	0	38	33	0	71	117
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	11.6	6.8	0.0	0.0	7.6	0.0	20.0	9.1	0.0	6.9	0.0	5.6	15.2	0.0	7.9	7.7
Exiting Leg Total					45					38					0					34	117

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	8	59	0	0	67	3	0	0	0	3	0	151	29	0	180	250
7:45 AM	0	0	0	0	0	14	61	0	0	75	2	0	3	0	5	0	98	27	0	125	205
8:00 AM	0	0	0	0	0	11	65	0	0	76	0	0	2	0	2	0	81	37	0	118	196
8:15 AM	0	0	0	0	0	9	52	0	0	61	0	1	2	0	3	0	74	27	0	101	165
Total Volume	0	0	0	0	0	42	237	0	0	279	5	1	7	0	13	0	404	120	0	524	816
% Approach Total	0.0	0.0	0.0	0.0		15.1	84.9	0.0	0.0		38.5	7.7	53.8	0.0		0.0	77.1	22.9	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.912	0.000	0.000	0.918	0.417	0.250	0.583	0.000	0.650	0.000	0.669	0.811	0.000	0.728	0.816
Cars	0	0	0	0	0	38	219	0	0	257	5	0	6	0	11	0	384	102	0	486	754
Cars %	0.0	0.0	0.0	0.0	0.0	90.5	92.4	0.0	0.0	92.1	100.0	0.0	85.7	0.0	84.6	0.0	95.0	85.0	0.0	92.7	92.4
Heavy Vehicles	0	0	0	0	0	4	18	0	0	22	0	1	1	0	2	0	20	18	0	38	62
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	9.5	7.6	0.0	0.0	7.9	0.0	100.0	14.3	0.0	15.4	0.0	5.0	15.0	0.0	7.3	7.6
Cars Enter Leg	0	0	0	0	0	38	219	0	0	257	5	0	6	0	11	0	384	102	0	486	754
Heavy Enter Leg	0	0	0	0	0	4	18	0	0	22	0	1	1	0	2	0	20	18	0	38	62
Total Entering Leg	0	0	0	0	0	42	237	0	0	279	5	1	7	0	13	0	404	120	0	524	816
Cars Exiting Leg					140					389					0					225	754
Heavy Exiting Leg					23					20					0					19	62
Total Exiting Leg					163					409					0					244	816

PDI File #: **197325 (6) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	16	66	0	0	82	1	0	0	0	1	0	61	15	0	76	159
7:15 AM	1	0	0	0	1	9	64	0	0	73	1	2	0	0	3	0	55	18	0	73	150
7:30 AM	0	0	0	0	0	7	55	0	0	62	3	0	0	0	3	0	148	24	0	172	237
7:45 AM	0	0	0	0	0	13	53	0	0	66	2	0	2	0	4	0	94	23	0	117	187
Total	1	0	0	0	1	45	238	0	0	283	7	2	2	0	11	0	358	80	0	438	733
8:00 AM	0	0	0	0	0	9	60	0	0	69	0	0	2	0	2	0	74	31	0	105	176
8:15 AM	0	0	0	0	0	9	51	0	0	60	0	0	2	0	2	0	68	24	0	92	154
8:30 AM	0	0	0	0	0	13	51	1	0	65	3	0	0	0	3	0	68	25	0	93	161
8:45 AM	0	0	0	0	0	8	51	0	0	59	3	2	4	0	9	0	78	24	0	102	170
Total	0	0	0	0	0	39	213	1	0	253	6	2	8	0	16	0	288	104	0	392	661
Grand Total	1	0	0	0	1	84	451	1	0	536	13	4	10	0	27	0	646	184	0	830	1394
Approach %	100.0	0.0	0.0	0.0		15.7	84.1	0.2	0.0		48.1	14.8	37.0	0.0		0.0	77.8	22.2	0.0		
Total %	0.1	0.0	0.0	0.0	0.1	6.0	32.4	0.1	0.0	38.5	0.9	0.3	0.7	0.0	1.9	0.0	46.3	13.2	0.0	59.5	
Exiting Leg Total					272					659					1					462	1394

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	7	55	0	0	62	3	0	0	0	3	0	148	24	0	172	237
7:45 AM	0	0	0	0	0	13	53	0	0	66	2	0	2	0	4	0	94	23	0	117	187
8:00 AM	0	0	0	0	0	9	60	0	0	69	0	0	2	0	2	0	74	31	0	105	176
8:15 AM	0	0	0	0	0	9	51	0	0	60	0	0	2	0	2	0	68	24	0	92	154
Total Volume	0	0	0	0	0	38	219	0	0	257	5	0	6	0	11	0	384	102	0	486	754
% Approach Total	0.0	0.0	0.0	0.0		14.8	85.2	0.0	0.0		45.5	0.0	54.5	0.0		0.0	79.0	21.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.731	0.913	0.000	0.000	0.931	0.417	0.000	0.750	0.000	0.688	0.000	0.649	0.823	0.000	0.706	0.795
Entering Leg	0	0	0	0	0	38	219	0	0	257	5	0	6	0	11	0	384	102	0	486	754
Exiting Leg					140					389					0					225	754
Total					140					646					11					711	1508

PDI File #: **197325 (6) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	3	0	0	6	0	0	0	0	0	0	2	3	0	5	11
7:15 AM	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	4	2	0	6	14
7:30 AM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	3	5	0	8	13
7:45 AM	0	0	0	0	0	1	8	0	0	9	0	0	1	0	1	0	4	4	0	8	18
Total	0	0	0	0	0	6	22	0	0	28	0	0	1	0	1	0	13	14	0	27	56
8:00 AM	0	0	0	0	0	2	5	0	0	7	0	0	0	0	0	0	7	6	0	13	20
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	6	3	0	9	11
8:30 AM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	0	6	6	0	12	17
8:45 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	6	4	0	10	13
Total	0	0	0	0	0	5	11	0	0	16	0	1	0	0	1	0	25	19	0	44	61
Grand Total	0	0	0	0	0	11	33	0	0	44	0	1	1	0	2	0	38	33	0	71	117
Approach %	0.0	0.0	0.0	0.0		25.0	75.0	0.0	0.0		0.0	50.0	50.0	0.0		0.0	53.5	46.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	9.4	28.2	0.0	0.0	37.6	0.0	0.9	0.9	0.0	1.7	0.0	32.5	28.2	0.0	60.7	
Exiting Leg Total					45					38					0					34	117
Buses	0	0	0	0	0	8	2	0	0	10	0	0	0	0	0	0	17	32	0	49	59
% Buses	0.0	0.0	0.0	0.0	0.0	72.7	6.1	0.0	0.0	22.7	0.0	0.0	0.0	0.0	0.0	0.0	44.7	97.0	0.0	69.0	50.4
Exiting Leg Total					40					17					0					2	59
Single-Unit Trucks	0	0	0	0	0	3	29	0	0	32	0	1	1	0	2	0	21	0	0	21	55
% Single-Unit	0.0	0.0	0.0	0.0	0.0	27.3	87.9	0.0	0.0	72.7	0.0	100.0	100.0	0.0	100.0	0.0	55.3	0.0	0.0	29.6	47.0
Exiting Leg Total					4					21					0					30	55
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	1.4	2.6
Exiting Leg Total					1					0					0					2	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	1	8	0	0	9	0	0	1	0	1	0	4	4	0	8	18
8:00 AM	0	0	0	0	0	2	5	0	0	7	0	0	0	0	0	0	7	6	0	13	20
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	6	3	0	9	11
8:30 AM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	0	6	6	0	12	17
Total Volume	0	0	0	0	0	5	17	0	0	22	0	1	1	0	2	0	23	19	0	42	66
% Approach Total	0.0	0.0	0.0	0.0		22.7	77.3	0.0	0.0		0.0	50.0	50.0	0.0		0.0	54.8	45.2	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.625	0.531	0.000	0.000	0.611	0.000	0.250	0.250	0.000	0.500	0.000	0.821	0.792	0.000	0.808	0.825
Buses	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	10	19	0	29	32
Buses %	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0	43.5	100.0	0.0	69.0	48.5
Single-Unit Trucks	0	0	0	0	0	2	16	0	0	18	0	1	1	0	2	0	13	0	0	13	33
Single-Unit %	0.0	0.0	0.0	0.0	0.0	40.0	94.1	0.0	0.0	81.8	0.0	100.0	100.0	0.0	100.0	0.0	56.5	0.0	0.0	31.0	50.0
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Buses	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	10	19	0	29	32
Single-Unit Trucks	0	0	0	0	0	2	16	0	0	18	0	1	1	0	2	0	13	0	0	13	33
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	0	0	0	0	0	5	17	0	0	22	0	1	1	0	2	0	23	19	0	42	66
Buses					22					10					0					0	32
Single-Unit Trucks					3					13					0					17	33
Articulated Trucks					0					0					0					1	1
Total Exiting Leg					25					23					0					18	66

PDI File #: **197325 (6) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	2	3	0	5	8
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	2	0	3	4
7:30 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	4	0	4	6
7:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	4	0	5	6
Total	0	0	0	0	0	5	2	0	0	7	0	0	0	0	0	0	4	13	0	17	24
8:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	4	6	0	10	11
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6	6
8:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	6	0	8	9
8:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	4	4	0	8	9
Total	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	13	19	0	32	35
Grand Total	0	0	0	0	0	8	2	0	0	10	0	0	0	0	0	0	17	32	0	49	59
Approach %	0.0	0.0	0.0	0.0		80.0	20.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	34.7	65.3	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	13.6	3.4	0.0	0.0	16.9	0.0	0.0	0.0	0.0	0.0	0.0	28.8	54.2	0.0	83.1	
Exiting Leg Total					40					17					0					2	59

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	4	6	0	10	11
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6	6
8:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	6	0	8	9
8:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	4	4	0	8	9
Total Volume	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	13	19	0	32	35
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	40.6	59.4	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.813	0.792	0.000	0.800	0.795
Entering Leg	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	13	19	0	32	35
Exiting Leg					22					13					0					0	35
Total					22					16					0					32	70

PDI File #: **197325 (6) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Single-Unit Trucks

	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
7:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
7:45 AM	0	0	0	0	0	0	7	0	0	7	0	0	1	0	1	0	3	0	0	3	11
Total	0	0	0	0	0	1	18	0	0	19	0	0	1	0	1	0	9	0	0	9	29
8:00 AM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	3	0	0	3	9
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	3	0	0	3	5
8:30 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	4	0	0	4	8
8:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total	0	0	0	0	0	2	11	0	0	13	0	1	0	0	1	0	12	0	0	12	26
Grand Total	0	0	0	0	0	3	29	0	0	32	0	1	1	0	2	0	21	0	0	21	55
Approach %	0.0	0.0	0.0	0.0		9.4	90.6	0.0	0.0		0.0	50.0	50.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	5.5	52.7	0.0	0.0	58.2	0.0	1.8	1.8	0.0	3.6	0.0	38.2	0.0	0.0	38.2	
Exiting Leg Total					4					21					0					30	55

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
7:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
7:45 AM	0	0	0	0	0	0	7	0	0	7	0	0	1	0	1	0	3	0	0	3	11
8:00 AM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	3	0	0	3	9
Total Volume	0	0	0	0	0	1	21	0	0	22	0	0	1	0	1	0	12	0	0	12	35
% Approach Total	0.0	0.0	0.0	0.0		4.5	95.5	0.0	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.000	0.786	0.000	0.000	0.250	0.000	0.250	0.000	1.000	0.000	0.000	1.000	0.795
Entering Leg	0	0	0	0	0	1	21	0	0	22	0	0	1	0	1	0	12	0	0	12	35
Exiting Leg					1					12					0					22	35
Total					1					34					1					34	70

PDI File #: **197325 (6) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	33.3	
Exiting Leg Total					1					0					0					2	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.750
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
Exiting Leg					1					0					0					2	3
Total					1					2					0					3	6

PDI File #: **197325 (6) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Newton Street from North							Albany Street from East							East Newton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	1	1	0	2	0	0	0	0	2	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	5	0	0	0	0	7	8
Grand Total	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	1	1	2	7	0	0	0	0	9	13
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		22.2	77.8	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1	0.0	0.0	0.0	0.0	23.1	0.0	0.0	0.0	0.0	0.0	7.7	7.7	15.4	53.8	0.0	0.0	0.0	0.0	69.2	
Exiting Leg Total							0							7							3							3	13

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Newton Street from North							Albany Street from East							East Newton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
Total Volume	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	5	0	0	0	0	7	8
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		28.6	71.4	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.417	0.000	0.000	0.000	0.000	0.583	0.667
Entering Leg	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	5	0	0	0	0	7	8
Exiting Leg							0							5							2							1	8
Total							0							6							2							8	16

PDI File #: **197325 (6) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Newton Street from North							Albany Street from East							East Newton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	19	22	41	0	0	0	0	7	2	9	0	0	0	0	4	3	7	0	0	0	0	4	7	11	68
7:15 AM	0	0	0	0	5	4	9	0	0	0	0	4	12	16	0	0	0	0	2	4	6	0	0	0	0	11	4	15	46
7:30 AM	0	0	0	0	22	12	34	0	0	0	0	4	15	19	0	0	0	0	8	5	13	0	0	0	0	10	15	25	91
7:45 AM	0	0	0	0	28	13	41	0	0	0	0	17	32	49	0	0	0	0	13	27	40	0	0	0	0	23	25	48	178
Total	0	0	0	0	74	51	125	0	0	0	0	32	61	93	0	0	0	0	27	39	66	0	0	0	0	48	51	99	383
8:00 AM	0	0	0	0	17	13	30	0	0	0	0	9	25	34	0	0	0	0	10	12	22	0	0	0	0	16	3	19	105
8:15 AM	0	0	0	0	23	10	33	0	0	0	0	8	21	29	0	0	0	0	7	12	19	0	0	0	0	16	7	23	104
8:30 AM	0	0	0	0	26	15	41	0	0	0	0	10	18	28	0	0	0	0	6	10	16	0	0	0	0	23	4	27	112
8:45 AM	0	0	0	0	35	38	73	0	0	0	0	20	20	40	0	0	0	0	13	29	42	0	0	0	0	13	8	21	176
Total	0	0	0	0	101	76	177	0	0	0	0	47	84	131	0	0	0	0	36	63	99	0	0	0	0	68	22	90	497
Grand Total	0	0	0	0	175	127	302	0	0	0	0	79	145	224	0	0	0	0	63	102	165	0	0	0	0	116	73	189	880
Approach %	0.0	0.0	0.0	0.0	57.9	42.1		0.0	0.0	0.0	0.0	35.3	64.7		0.0	0.0	0.0	0.0	38.2	61.8		0.0	0.0	0.0	0.0	61.4	38.6		
Total %	0.0	0.0	0.0	0.0	19.9	14.4	34.3	0.0	0.0	0.0	0.0	9.0	16.5	25.5	0.0	0.0	0.0	0.0	7.2	11.6	18.8	0.0	0.0	0.0	0.0	13.2	8.3	21.5	
Exiting Leg Total							302							224							165							189	880

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Newton Street from North							Albany Street from East							East Newton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	28	13	41	0	0	0	0	17	32	49	0	0	0	0	13	27	40	0	0	0	0	23	25	48	178
8:00 AM	0	0	0	0	17	13	30	0	0	0	0	9	25	34	0	0	0	0	10	12	22	0	0	0	0	16	3	19	105
8:15 AM	0	0	0	0	23	10	33	0	0	0	0	8	21	29	0	0	0	0	7	12	19	0	0	0	0	16	7	23	104
8:30 AM	0	0	0	0	26	15	41	0	0	0	0	10	18	28	0	0	0	0	6	10	16	0	0	0	0	23	4	27	112
Total Volume	0	0	0	0	94	51	145	0	0	0	0	44	96	140	0	0	0	0	36	61	97	0	0	0	0	78	39	117	499
% Approach Total	0.0	0.0	0.0	0.0	64.8	35.2		0.0	0.0	0.0	0.0	31.4	68.6		0.0	0.0	0.0	0.0	37.1	62.9		0.0	0.0	0.0	0.0	66.7	33.3		
PHF	0.000	0.000	0.000	0.000	0.839	0.850	0.884	0.000	0.000	0.000	0.000	0.647	0.750	0.714	0.000	0.000	0.000	0.000	0.692	0.565	0.606	0.000	0.000	0.000	0.000	0.848	0.390	0.609	0.701
Entering Leg	0	0	0	0	94	51	145	0	0	0	0	44	96	140	0	0	0	0	36	61	97	0	0	0	0	78	39	117	499
Exiting Leg							145							140							97							117	499
Total							290							280							194							234	998

PDI File #: **197325 (6) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	17	76	0	0	93	46	12	18	0	76	0	86	26	0	112	281
4:15 PM	0	0	0	0	0	10	82	0	0	92	47	16	22	0	85	0	99	36	0	135	312
4:30 PM	0	0	0	0	0	13	65	0	0	78	53	12	22	0	87	0	93	31	0	124	289
4:45 PM	0	0	0	0	0	13	55	0	0	68	43	10	17	0	70	0	104	20	0	124	262
Total	0	0	0	0	0	53	278	0	0	331	189	50	79	0	318	0	382	113	0	495	1144
5:00 PM	0	0	0	0	0	18	50	0	0	68	56	10	29	0	95	0	98	36	0	134	297
5:15 PM	0	0	0	0	0	12	48	0	0	60	50	20	23	0	93	0	80	19	0	99	252
5:30 PM	0	0	0	0	0	7	53	0	0	60	43	11	17	0	71	0	87	19	0	106	237
5:45 PM	0	0	0	0	0	11	70	0	0	81	37	5	11	0	53	0	66	19	0	85	219
Total	0	0	0	0	0	48	221	0	0	269	186	46	80	0	312	0	331	93	0	424	1005
Grand Total	0	0	0	0	0	101	499	0	0	600	375	96	159	0	630	0	713	206	0	919	2149
Approach %	0.0	0.0	0.0	0.0		16.8	83.2	0.0	0.0		59.5	15.2	25.2	0.0		0.0	77.6	22.4	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	4.7	23.2	0.0	0.0	27.9	17.4	4.5	7.4	0.0	29.3	0.0	33.2	9.6	0.0	42.8	
Exiting Leg Total					403					1088					0					658	2149
Cars	0	0	0	0	0	90	475	0	0	565	375	96	159	0	630	0	684	173	0	857	2052
% Cars	0.0	0.0	0.0	0.0	0.0	89.1	95.2	0.0	0.0	94.2	100.0	100.0	100.0	0.0	100.0	0.0	95.9	84.0	0.0	93.3	95.5
Exiting Leg Total					359					1059					0					634	2052
Heavy Vehicles	0	0	0	0	0	11	24	0	0	35	0	0	0	0	0	0	29	33	0	62	97
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	10.9	4.8	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	4.1	16.0	0.0	6.7	4.5
Exiting Leg Total					44					29					0					24	97

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	17	76	0	0	93	46	12	18	0	76	0	86	26	0	112	281
4:15 PM	0	0	0	0	0	10	82	0	0	92	47	16	22	0	85	0	99	36	0	135	312
4:30 PM	0	0	0	0	0	13	65	0	0	78	53	12	22	0	87	0	93	31	0	124	289
4:45 PM	0	0	0	0	0	13	55	0	0	68	43	10	17	0	70	0	104	20	0	124	262
Total Volume	0	0	0	0	0	53	278	0	0	331	189	50	79	0	318	0	382	113	0	495	1144
% Approach Total	0.0	0.0	0.0	0.0		16.0	84.0	0.0	0.0		59.4	15.7	24.8	0.0		0.0	77.2	22.8	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.779	0.848	0.000	0.000	0.890	0.892	0.781	0.898	0.000	0.914	0.000	0.918	0.785	0.000	0.917	0.917
Cars	0	0	0	0	0	46	265	0	0	311	189	50	79	0	318	0	364	98	0	462	1091
Cars %	0.0	0.0	0.0	0.0	0.0	86.8	95.3	0.0	0.0	94.0	100.0	100.0	100.0	0.0	100.0	0.0	95.3	86.7	0.0	93.3	95.4
Heavy Vehicles	0	0	0	0	0	7	13	0	0	20	0	0	0	0	0	0	18	15	0	33	53
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	13.2	4.7	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	13.3	0.0	6.7	4.6
Cars Enter Leg	0	0	0	0	0	46	265	0	0	311	189	50	79	0	318	0	364	98	0	462	1091
Heavy Enter Leg	0	0	0	0	0	7	13	0	0	20	0	0	0	0	0	0	18	15	0	33	53
Total Entering Leg	0	0	0	0	0	53	278	0	0	331	189	50	79	0	318	0	382	113	0	495	1144
Cars Exiting Leg					194					553					0					344	1091
Heavy Exiting Leg					22					18					0					13	53
Total Exiting Leg					216					571					0					357	1144

PDI File #: **197325 (6) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	15	73	0	0	88	46	12	18	0	76	0	83	25	0	108	272
4:15 PM	0	0	0	0	0	8	77	0	0	85	47	16	22	0	85	0	92	30	0	122	292
4:30 PM	0	0	0	0	0	12	63	0	0	75	53	12	22	0	87	0	89	26	0	115	277
4:45 PM	0	0	0	0	0	11	52	0	0	63	43	10	17	0	70	0	100	17	0	117	250
Total	0	0	0	0	0	46	265	0	0	311	189	50	79	0	318	0	364	98	0	462	1091
5:00 PM	0	0	0	0	0	17	44	0	0	61	56	10	29	0	95	0	95	33	0	128	284
5:15 PM	0	0	0	0	0	12	46	0	0	58	50	20	23	0	93	0	77	14	0	91	242
5:30 PM	0	0	0	0	0	5	52	0	0	57	43	11	17	0	71	0	83	13	0	96	224
5:45 PM	0	0	0	0	0	10	68	0	0	78	37	5	11	0	53	0	65	15	0	80	211
Total	0	0	0	0	0	44	210	0	0	254	186	46	80	0	312	0	320	75	0	395	961
Grand Total	0	0	0	0	0	90	475	0	0	565	375	96	159	0	630	0	684	173	0	857	2052
Approach %	0.0	0.0	0.0	0.0		15.9	84.1	0.0	0.0		59.5	15.2	25.2	0.0		0.0	79.8	20.2	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	4.4	23.1	0.0	0.0	27.5	18.3	4.7	7.7	0.0	30.7	0.0	33.3	8.4	0.0	41.8	
Exiting Leg Total					359					1059					0					634	2052

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	15	73	0	0	88	46	12	18	0	76	0	83	25	0	108	272
4:15 PM	0	0	0	0	0	8	77	0	0	85	47	16	22	0	85	0	92	30	0	122	292
4:30 PM	0	0	0	0	0	12	63	0	0	75	53	12	22	0	87	0	89	26	0	115	277
4:45 PM	0	0	0	0	0	11	52	0	0	63	43	10	17	0	70	0	100	17	0	117	250
Total Volume	0	0	0	0	0	46	265	0	0	311	189	50	79	0	318	0	364	98	0	462	1091
% Approach Total	0.0	0.0	0.0	0.0		14.8	85.2	0.0	0.0		59.4	15.7	24.8	0.0		0.0	78.8	21.2	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.767	0.860	0.000	0.000	0.884	0.892	0.781	0.898	0.000	0.914	0.000	0.910	0.817	0.000	0.947	0.934
Entering Leg	0	0	0	0	0	46	265	0	0	311	189	50	79	0	318	0	364	98	0	462	1091
Exiting Leg					194					553					0					344	1091
Total					194					864					318					806	2182

PDI File #: **197325 (6) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	0	3	1	0	4	9
4:15 PM	0	0	0	0	0	2	5	0	0	7	0	0	0	0	0	0	7	6	0	13	20
4:30 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	4	5	0	9	12
4:45 PM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	0	4	3	0	7	12
Total	0	0	0	0	0	7	13	0	0	20	0	0	0	0	0	0	18	15	0	33	53
5:00 PM	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	3	3	0	6	13
5:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	5	0	8	10
5:30 PM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	4	6	0	10	13
5:45 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	1	4	0	5	8
Total	0	0	0	0	0	4	11	0	0	15	0	0	0	0	0	0	11	18	0	29	44
Grand Total	0	0	0	0	0	11	24	0	0	35	0	0	0	0	0	0	29	33	0	62	97
Approach %	0.0	0.0	0.0	0.0		31.4	68.6	0.0	0.0		0.0	0.0	0.0	0.0		0.0	46.8	53.2	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	11.3	24.7	0.0	0.0	36.1	0.0	0.0	0.0	0.0	0.0	0.0	29.9	34.0	0.0	63.9	
Exiting Leg Total					44					29					0					24	97
Buses	0	0	0	0	0	11	9	0	0	20	0	0	0	0	0	0	12	30	0	42	62
% Buses	0.0	0.0	0.0	0.0	0.0	100.0	37.5	0.0	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0	41.4	90.9	0.0	67.7	63.9
Exiting Leg Total					41					12					0					9	62
Single-Unit Trucks	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	16	3	0	19	34
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	62.5	0.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	55.2	9.1	0.0	30.6	35.1
Exiting Leg Total					3					16					0					15	34
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	1.6	1.0
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	0	3	1	0	4	9
4:15 PM	0	0	0	0	0	2	5	0	0	7	0	0	0	0	0	0	7	6	0	13	20
4:30 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	4	5	0	9	12
4:45 PM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	0	4	3	0	7	12
Total Volume	0	0	0	0	0	7	13	0	0	20	0	0	0	0	0	0	18	15	0	33	53
% Approach Total	0.0	0.0	0.0	0.0		35.0	65.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	54.5	45.5	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.875	0.650	0.000	0.000	0.714	0.000	0.000	0.000	0.000	0.000	0.000	0.643	0.625	0.000	0.635	0.663
Buses	0	0	0	0	0	7	5	0	0	12	0	0	0	0	0	0	5	14	0	19	31
Buses %	0.0	0.0	0.0	0.0	0.0	100.0	38.5	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	27.8	93.3	0.0	57.6	58.5
Single-Unit Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	13	1	0	14	22
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	61.5	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	72.2	6.7	0.0	42.4	41.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	7	5	0	0	12	0	0	0	0	0	0	5	14	0	19	31
Single-Unit Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	13	1	0	14	22
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	7	13	0	0	20	0	0	0	0	0	0	18	15	0	33	53
Buses					21					5					0					5	31
Single-Unit Trucks					1					13					0					8	22
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					22					18					0					13	53

PDI File #: **197325 (6) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	1	1	0	2	6
4:15 PM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	3	6	0	9	12
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	5	0	6	7
4:45 PM	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	2	0	2	6
Total	0	0	0	0	0	7	5	0	0	12	0	0	0	0	0	0	5	14	0	19	31
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	3	0	6	8
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	4	0	6	7
5:30 PM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	1	5	0	6	9
5:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	4	0	5	7
Total	0	0	0	0	0	4	4	0	0	8	0	0	0	0	0	0	7	16	0	23	31
Grand Total	0	0	0	0	0	11	9	0	0	20	0	0	0	0	0	0	12	30	0	42	62
Approach %	0.0	0.0	0.0	0.0		55.0	45.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	28.6	71.4	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	17.7	14.5	0.0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0	19.4	48.4	0.0	67.7	
Exiting Leg Total					41					12					0					9	62

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street					Albany Street					East Newton Street					Albany Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	1	1	0	2	6
4:15 PM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	3	6	0	9	12
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	5	0	6	7
4:45 PM	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	2	0	2	6
Total Volume	0	0	0	0	0	7	5	0	0	12	0	0	0	0	0	0	5	14	0	19	31
% Approach Total	0.0	0.0	0.0	0.0		58.3	41.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	26.3	73.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.875	0.625	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.583	0.000	0.528	0.646
Entering Leg	0	0	0	0	0	7	5	0	0	12	0	0	0	0	0	0	5	14	0	19	31
Exiting Leg					21					5					0					5	31
Total					21					17					0					24	62

PDI File #: **197325 (6) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Single-Unit Trucks

	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
4:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	6
Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	13	1	0	14	22
5:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	3	2	0	5	12
Grand Total	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	16	3	0	19	34
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	84.2	15.8	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	44.1	0.0	0.0	44.1	0.0	0.0	0.0	0.0	0.0	0.0	47.1	8.8	0.0	55.9	
Exiting Leg Total					3					16					0					15	34

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
4:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	6
Total Volume	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	13	1	0	14	22
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	92.9	7.1	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.813	0.250	0.000	0.700	0.688
Entering Leg	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	13	1	0	14	22
Exiting Leg					1					13					0					8	22
Total					1					21					0					22	44

PDI File #: **197325 (6) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Articulated Trucks

	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North					Albany Street from East					East Newton Street from South					Albany Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (6) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Newton Street from North							Albany Street from East							East Newton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1	0	1	0	4	5
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	3	1	0	1	0	5	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	1	0	2	0	0	0	0	2	1	1	0	0	0	0	2	0	2	0	0	0	0	2	7
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	0	1	0	1	0	7	0	0	0	0	7	1	1	0	0	0	0	2	0	2	0	0	0	0	2	12
Grand Total	0	0	0	0	1	0	1	0	9	0	0	0	0	9	1	1	0	0	0	0	2	0	5	1	0	1	0	7	19
Approach %	0.0	0.0	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0	0.0		0.0	71.4	14.3	0.0	14.3	0.0		
Total %	0.0	0.0	0.0	0.0	5.3	0.0	5.3	0.0	47.4	0.0	0.0	0.0	0.0	47.4	5.3	5.3	0.0	0.0	0.0	0.0	10.5	0.0	26.3	5.3	0.0	5.3	0.0	36.8	
Exiting Leg Total							3							6							0							10	19

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	East Newton Street from North							Albany Street from East							East Newton Street from South							Albany Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	1	0	2	0	0	0	0	2	1	1	0	0	0	0	2	0	2	0	0	0	0	2	7
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	0	0	0	1	0	1	0	7	0	0	0	0	7	1	1	0	0	0	0	2	0	2	0	0	0	0	2	12
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.438	0.000	0.000	0.000	0.000	0.438	0.250	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.429
Entering Leg	0	0	0	0	1	0	1	0	7	0	0	0	0	7	1	1	0	0	0	0	2	0	2	0	0	0	0	2	12
Exiting Leg							2							3							0							7	12
Total							3							10							2							9	24

PDI File #: **197325 (6) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Albany Street W: Albany Street**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Newton Street							Albany Street							East Newton Street							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	24	21	45	0	0	0	0	20	19	39	0	0	0	0	21	11	32	0	0	0	0	14	18	32	148
4:15 PM	0	0	0	0	17	24	41	0	0	0	0	25	8	33	0	0	0	0	16	12	28	0	0	0	0	7	10	17	119
4:30 PM	0	0	0	0	17	18	35	0	0	0	0	24	10	34	0	0	0	0	17	11	28	0	0	0	0	7	16	23	120
4:45 PM	0	0	0	0	24	19	43	0	0	0	0	19	20	39	0	0	0	0	8	10	18	0	0	0	0	4	8	12	112
Total	0	0	0	0	82	82	164	0	0	0	0	88	57	145	0	0	0	0	62	44	106	0	0	0	0	32	52	84	499
5:00 PM	0	0	0	0	38	18	56	0	0	0	0	43	13	56	0	0	0	0	26	14	40	0	0	0	0	3	24	27	179
5:15 PM	0	0	0	0	20	13	33	0	0	0	0	23	11	34	0	0	0	0	12	14	26	0	0	0	0	7	13	20	113
5:30 PM	0	0	0	0	15	10	25	0	0	0	0	23	5	28	0	0	0	0	10	9	19	0	0	0	0	4	15	19	91
5:45 PM	0	0	0	0	11	6	17	0	0	0	0	13	7	20	0	0	0	0	14	5	19	0	0	0	0	4	7	11	67
Total	0	0	0	0	84	47	131	0	0	0	0	102	36	138	0	0	0	0	62	42	104	0	0	0	0	18	59	77	450
Grand Total	0	0	0	0	166	129	295	0	0	0	0	190	93	283	0	0	0	0	124	86	210	0	0	0	0	50	111	161	949
Approach %	0.0	0.0	0.0	0.0	56.3	43.7		0.0	0.0	0.0	0.0	67.1	32.9		0.0	0.0	0.0	0.0	59.0	41.0		0.0	0.0	0.0	0.0	31.1	68.9		
Total %	0.0	0.0	0.0	0.0	17.5	13.6	31.1	0.0	0.0	0.0	0.0	20.0	9.8	29.8	0.0	0.0	0.0	0.0	13.1	9.1	22.1	0.0	0.0	0.0	0.0	5.3	11.7	17.0	
Exiting Leg Total							295							283							210							161	949

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	East Newton Street							Albany Street							East Newton Street							Albany Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	17	24	41	0	0	0	0	25	8	33	0	0	0	0	16	12	28	0	0	0	0	7	10	17	119
4:30 PM	0	0	0	0	17	18	35	0	0	0	0	24	10	34	0	0	0	0	17	11	28	0	0	0	0	7	16	23	120
4:45 PM	0	0	0	0	24	19	43	0	0	0	0	19	20	39	0	0	0	0	8	10	18	0	0	0	0	4	8	12	112
5:00 PM	0	0	0	0	38	18	56	0	0	0	0	43	13	56	0	0	0	0	26	14	40	0	0	0	0	3	24	27	179
Total Volume	0	0	0	0	96	79	175	0	0	0	0	111	51	162	0	0	0	0	67	47	114	0	0	0	0	21	58	79	530
% Approach Total	0.0	0.0	0.0	0.0	54.9	45.1		0.0	0.0	0.0	0.0	68.5	31.5		0.0	0.0	0.0	0.0	58.8	41.2		0.0	0.0	0.0	0.0	26.6	73.4		
PHF	0.000	0.000	0.000	0.000	0.632	0.823	0.781	0.000	0.000	0.000	0.000	0.645	0.638	0.723	0.000	0.000	0.000	0.000	0.644	0.839	0.713	0.000	0.000	0.000	0.000	0.750	0.604	0.731	0.740
Entering Leg	0	0	0	0	96	79	175	0	0	0	0	111	51	162	0	0	0	0	67	47	114	0	0	0	0	21	58	79	530
Exiting Leg							175							162							114							79	530
Total							350							324							228							158	1060

PDI File #: **197325 (7) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	18	108	15	0	141	3	33	10	0	46	54	147	28	1	230	5	47	4	0	56	473
7:15 AM	25	124	19	0	168	7	35	13	0	55	82	156	41	0	279	10	52	5	0	67	569
7:30 AM	26	142	15	1	184	13	31	8	0	52	63	160	21	0	244	12	65	7	0	84	564
7:45 AM	29	141	20	0	190	7	33	16	0	56	65	141	26	1	233	5	59	3	0	67	546
Total	98	515	69	1	683	30	132	47	0	209	264	604	116	2	986	32	223	19	0	274	2152
8:00 AM	15	121	19	0	155	5	29	13	0	47	71	131	16	0	218	8	61	4	0	73	493
8:15 AM	23	129	19	1	172	9	28	14	0	51	85	164	16	0	265	9	55	3	0	67	555
8:30 AM	23	103	16	0	142	5	34	17	0	56	71	130	20	0	221	10	68	2	0	80	499
8:45 AM	22	121	21	0	164	10	33	16	0	59	69	151	31	0	251	7	58	2	0	67	541
Total	83	474	75	1	633	29	124	60	0	213	296	576	83	0	955	34	242	11	0	287	2088
Grand Total	181	989	144	2	1316	59	256	107	0	422	560	1180	199	2	1941	66	465	30	0	561	4240
Approach %	13.8	75.2	10.9	0.2		14.0	60.7	25.4	0.0		28.9	60.8	10.3	0.1		11.8	82.9	5.3	0.0		
Total %	4.3	23.3	3.4	0.0	31.0	1.4	6.0	2.5	0.0	10.0	13.2	27.8	4.7	0.0	45.8	1.6	11.0	0.7	0.0	13.2	
Exiting Leg Total					1271					1169					1164					636	4240
Cars	170	884	141	2	1197	57	228	98	0	383	538	1032	193	2	1765	62	442	28	0	532	3877
% Cars	93.9	89.4	97.9	100.0	91.0	96.6	89.1	91.6	0.0	90.8	96.1	87.5	97.0	100.0	90.9	93.9	95.1	93.3	0.0	94.8	91.4
Exiting Leg Total					1119					1121					1046					591	3877
Heavy Vehicles	11	105	3	0	119	2	28	9	0	39	22	148	6	0	176	4	23	2	0	29	363
% Heavy Vehicles	6.1	10.6	2.1	0.0	9.0	3.4	10.9	8.4	0.0	9.2	3.9	12.5	3.0	0.0	9.1	6.1	4.9	6.7	0.0	5.2	8.6
Exiting Leg Total					152					48					118					45	363

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	25	124	19	0	168	7	35	13	0	55	82	156	41	0	279	10	52	5	0	67	569
7:30 AM	26	142	15	1	184	13	31	8	0	52	63	160	21	0	244	12	65	7	0	84	564
7:45 AM	29	141	20	0	190	7	33	16	0	56	65	141	26	1	233	5	59	3	0	67	546
8:00 AM	15	121	19	0	155	5	29	13	0	47	71	131	16	0	218	8	61	4	0	73	493
Total Volume	95	528	73	1	697	32	128	50	0	210	281	588	104	1	974	35	237	19	0	291	2172
% Approach Total	13.6	75.8	10.5	0.1		15.2	61.0	23.8	0.0		28.9	60.4	10.7	0.1		12.0	81.4	6.5	0.0		
PHF	0.819	0.930	0.913	0.250	0.917	0.615	0.914	0.781	0.000	0.938	0.857	0.919	0.634	0.250	0.873	0.729	0.912	0.679	0.000	0.866	0.954
Cars	90	482	71	1	644	31	113	45	0	189	273	511	102	1	887	32	223	19	0	274	1994
Cars %	94.7	91.3	97.3	100.0	92.4	96.9	88.3	90.0	0.0	90.0	97.2	86.9	98.1	100.0	91.1	91.4	94.1	100.0	0.0	94.2	91.8
Heavy Vehicles	5	46	2	0	53	1	15	5	0	21	8	77	2	0	87	3	14	0	0	17	178
Heavy Vehicles %	5.3	8.7	2.7	0.0	7.6	3.1	11.7	10.0	0.0	10.0	2.8	13.1	1.9	0.0	8.9	8.6	5.9	0.0	0.0	5.8	8.2
Cars Enter Leg	90	482	71	1	644	31	113	45	0	189	273	511	102	1	887	32	223	19	0	274	1994
Heavy Enter Leg	5	46	2	0	53	1	15	5	0	21	8	77	2	0	87	3	14	0	0	17	178
Total Entering Leg	95	528	73	1	697	32	128	50	0	210	281	588	104	1	974	35	237	19	0	291	2172
Cars Exiting Leg					562					567					560					305	1994
Heavy Exiting Leg					78					24					54					22	178
Total Exiting Leg					640					591					614					327	2172

PDI File #: **197325 (7) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	17	97	15	0	129	3	26	8	0	37	48	130	27	1	206	5	46	3	0	54	426
7:15 AM	23	117	18	0	158	7	32	12	0	51	80	136	40	0	256	8	47	5	0	60	525
7:30 AM	26	126	15	1	168	13	27	8	0	48	60	137	21	0	218	11	61	7	0	79	513
7:45 AM	28	130	19	0	177	6	27	15	0	48	63	123	26	1	213	5	58	3	0	66	504
Total	94	470	67	1	632	29	112	43	0	184	251	526	114	2	893	29	212	18	0	259	1968
8:00 AM	13	109	19	0	141	5	27	10	0	42	70	115	15	0	200	8	57	4	0	69	452
8:15 AM	21	111	19	1	152	9	25	14	0	48	83	140	15	0	238	9	52	3	0	64	502
8:30 AM	23	91	16	0	130	4	31	16	0	51	68	112	20	0	200	10	67	2	0	79	460
8:45 AM	19	103	20	0	142	10	33	15	0	58	66	139	29	0	234	6	54	1	0	61	495
Total	76	414	74	1	565	28	116	55	0	199	287	506	79	0	872	33	230	10	0	273	1909
Grand Total	170	884	141	2	1197	57	228	98	0	383	538	1032	193	2	1765	62	442	28	0	532	3877
Approach %	14.2	73.9	11.8	0.2		14.9	59.5	25.6	0.0		30.5	58.5	10.9	0.1		11.7	83.1	5.3	0.0		
Total %	4.4	22.8	3.6	0.1	30.9	1.5	5.9	2.5	0.0	9.9	13.9	26.6	5.0	0.1	45.5	1.6	11.4	0.7	0.0	13.7	
Exiting Leg Total					1119					1121					1046					591	3877

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	23	117	18	0	158	7	32	12	0	51	80	136	40	0	256	8	47	5	0	60	525
7:30 AM	26	126	15	1	168	13	27	8	0	48	60	137	21	0	218	11	61	7	0	79	513
7:45 AM	28	130	19	0	177	6	27	15	0	48	63	123	26	1	213	5	58	3	0	66	504
8:00 AM	13	109	19	0	141	5	27	10	0	42	70	115	15	0	200	8	57	4	0	69	452
Total Volume	90	482	71	1	644	31	113	45	0	189	273	511	102	1	887	32	223	19	0	274	1994
% Approach Total	14.0	74.8	11.0	0.2		16.4	59.8	23.8	0.0		30.8	57.6	11.5	0.1		11.7	81.4	6.9	0.0		
PHF	0.804	0.927	0.934	0.250	0.910	0.596	0.883	0.750	0.000	0.926	0.853	0.932	0.638	0.250	0.866	0.727	0.914	0.679	0.000	0.867	0.950
Entering Leg	90	482	71	1	644	31	113	45	0	189	273	511	102	1	887	32	223	19	0	274	1994
Exiting Leg					562					567					560					305	1994
Total					1206					756					1447					579	3988

PDI File #: **197325 (7) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	11	0	0	12	0	7	2	0	9	6	17	1	0	24	0	1	1	0	2	47
7:15 AM	2	7	1	0	10	0	3	1	0	4	2	20	1	0	23	2	5	0	0	7	44
7:30 AM	0	16	0	0	16	0	4	0	0	4	3	23	0	0	26	1	4	0	0	5	51
7:45 AM	1	11	1	0	13	1	6	1	0	8	2	18	0	0	20	0	1	0	0	1	42
Total	4	45	2	0	51	1	20	4	0	25	13	78	2	0	93	3	11	1	0	15	184
8:00 AM	2	12	0	0	14	0	2	3	0	5	1	16	1	0	18	0	4	0	0	4	41
8:15 AM	2	18	0	0	20	0	3	0	0	3	2	24	1	0	27	0	3	0	0	3	53
8:30 AM	0	12	0	0	12	1	3	1	0	5	3	18	0	0	21	0	1	0	0	1	39
8:45 AM	3	18	1	0	22	0	0	1	0	1	3	12	2	0	17	1	4	1	0	6	46
Total	7	60	1	0	68	1	8	5	0	14	9	70	4	0	83	1	12	1	0	14	179
Grand Total	11	105	3	0	119	2	28	9	0	39	22	148	6	0	176	4	23	2	0	29	363
Approach %	9.2	88.2	2.5	0.0		5.1	71.8	23.1	0.0		12.5	84.1	3.4	0.0		13.8	79.3	6.9	0.0		
Total %	3.0	28.9	0.8	0.0	32.8	0.6	7.7	2.5	0.0	10.7	6.1	40.8	1.7	0.0	48.5	1.1	6.3	0.6	0.0	8.0	
Exiting Leg Total					152					48					118					45	363
Buses	4	31	0	0	35	0	28	0	0	28	3	38	1	0	42	2	21	2	0	25	130
% Buses	36.4	29.5	0.0	0.0	29.4	0.0	100.0	0.0	0.0	71.8	13.6	25.7	16.7	0.0	23.9	50.0	91.3	100.0	0.0	86.2	35.8
Exiting Leg Total					40					24					33					33	130
Single-Unit Trucks	7	65	3	0	75	2	0	8	0	10	17	101	3	0	121	1	2	0	0	3	209
% Single-Unit	63.6	61.9	100.0	0.0	63.0	100.0	0.0	88.9	0.0	25.6	77.3	68.2	50.0	0.0	68.8	25.0	8.7	0.0	0.0	10.3	57.6
Exiting Leg Total					103					22					74					10	209
Articulated Trucks	0	9	0	0	9	0	0	1	0	1	2	9	2	0	13	1	0	0	0	1	24
% Articulated	0.0	8.6	0.0	0.0	7.6	0.0	0.0	11.1	0.0	2.6	9.1	6.1	33.3	0.0	7.4	25.0	0.0	0.0	0.0	3.4	6.6
Exiting Leg Total					9					2					11					2	24

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	16	0	0	16	0	4	0	0	4	3	23	0	0	26	1	4	0	0	5	51
7:45 AM	1	11	1	0	13	1	6	1	0	8	2	18	0	0	20	0	1	0	0	1	42
8:00 AM	2	12	0	0	14	0	2	3	0	5	1	16	1	0	18	0	4	0	0	4	41
8:15 AM	2	18	0	0	20	0	3	0	0	3	2	24	1	0	27	0	3	0	0	3	53
Total Volume	5	57	1	0	63	1	15	4	0	20	8	81	2	0	91	1	12	0	0	13	187
% Approach Total	7.9	90.5	1.6	0.0		5.0	75.0	20.0	0.0		8.8	89.0	2.2	0.0		7.7	92.3	0.0	0.0		
PHF	0.625	0.792	0.250	0.000	0.788	0.250	0.625	0.333	0.000	0.625	0.667	0.844	0.500	0.000	0.843	0.250	0.750	0.000	0.000	0.650	0.882
Buses	2	16	0	0	18	0	15	0	0	15	1	20	0	0	21	0	12	0	0	12	66
Buses %	40.0	28.1	0.0	0.0	28.6	0.0	100.0	0.0	0.0	75.0	12.5	24.7	0.0	0.0	23.1	0.0	100.0	0.0	0.0	92.3	35.3
Single-Unit Trucks	3	37	1	0	41	1	0	3	0	4	5	58	1	0	64	0	0	0	0	0	109
Single-Unit %	60.0	64.9	100.0	0.0	65.1	100.0	0.0	75.0	0.0	20.0	62.5	71.6	50.0	0.0	70.3	0.0	0.0	0.0	0.0	0.0	58.3
Articulated Trucks	0	4	0	0	4	0	0	1	0	1	2	3	1	0	6	1	0	0	0	1	12
Articulated %	0.0	7.0	0.0	0.0	6.3	0.0	0.0	25.0	0.0	5.0	25.0	3.7	50.0	0.0	6.6	100.0	0.0	0.0	0.0	7.7	6.4
Buses	2	16	0	0	18	0	15	0	0	15	1	20	0	0	21	0	12	0	0	12	66
Single-Unit Trucks	3	37	1	0	41	1	0	3	0	4	5	58	1	0	64	0	0	0	0	0	109
Articulated Trucks	0	4	0	0	4	0	0	1	0	1	2	3	1	0	6	1	0	0	0	1	12
Total Entering Leg	5	57	1	0	63	1	15	4	0	20	8	81	2	0	91	1	12	0	0	13	187
Buses					20					13					16					17	66
Single-Unit Trucks					59					6					40					4	109
Articulated Trucks					3					2					6					1	12
Total Exiting Leg					82					21					62					22	187

PDI File #: **197325 (7) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	4	0	0	5	0	7	0	0	7	0	6	0	0	6	0	1	1	0	2	20
7:15 AM	1	2	0	0	3	0	3	0	0	3	0	4	0	0	4	1	4	0	0	5	15
7:30 AM	0	4	0	0	4	0	4	0	0	4	0	7	0	0	7	0	4	0	0	4	19
7:45 AM	1	5	0	0	6	0	6	0	0	6	0	6	0	0	6	0	1	0	0	1	19
Total	3	15	0	0	18	0	20	0	0	20	0	23	0	0	23	1	10	1	0	12	73
8:00 AM	1	3	0	0	4	0	2	0	0	2	1	3	0	0	4	0	4	0	0	4	14
8:15 AM	0	4	0	0	4	0	3	0	0	3	0	4	0	0	4	0	3	0	0	3	14
8:30 AM	0	5	0	0	5	0	3	0	0	3	1	2	0	0	3	0	1	0	0	1	12
8:45 AM	0	4	0	0	4	0	0	0	0	0	1	6	1	0	8	1	3	1	0	5	17
Total	1	16	0	0	17	0	8	0	0	8	3	15	1	0	19	1	11	1	0	13	57
Grand Total	4	31	0	0	35	0	28	0	0	28	3	38	1	0	42	2	21	2	0	25	130
Approach %	11.4	88.6	0.0	0.0		0.0	100.0	0.0	0.0		7.1	90.5	2.4	0.0		8.0	84.0	8.0	0.0		
Total %	3.1	23.8	0.0	0.0	26.9	0.0	21.5	0.0	0.0	21.5	2.3	29.2	0.8	0.0	32.3	1.5	16.2	1.5	0.0	19.2	
Exiting Leg Total					40					24					33					33	130

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	4	0	0	5	0	7	0	0	7	0	6	0	0	6	0	1	1	0	2	20
7:15 AM	1	2	0	0	3	0	3	0	0	3	0	4	0	0	4	1	4	0	0	5	15
7:30 AM	0	4	0	0	4	0	4	0	0	4	0	7	0	0	7	0	4	0	0	4	19
7:45 AM	1	5	0	0	6	0	6	0	0	6	0	6	0	0	6	0	1	0	0	1	19
Total Volume	3	15	0	0	18	0	20	0	0	20	0	23	0	0	23	1	10	1	0	12	73
% Approach Total	16.7	83.3	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		8.3	83.3	8.3	0.0		
PHF	0.750	0.750	0.000	0.000	0.750	0.000	0.714	0.000	0.000	0.714	0.000	0.821	0.000	0.000	0.821	0.250	0.625	0.250	0.000	0.600	0.913
Entering Leg	3	15	0	0	18	0	20	0	0	20	0	23	0	0	23	1	10	1	0	12	73
Exiting Leg					24					10					16					23	73
Total					42					30					39					35	146

PDI File #: **197325 (7) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	5	0	0	5	0	0	2	0	2	6	9	1	0	16	0	0	0	0	0	23
7:15 AM	1	4	1	0	6	0	0	1	0	1	2	13	1	0	16	1	1	0	0	2	25
7:30 AM	0	12	0	0	12	0	0	0	0	0	3	15	0	0	18	0	0	0	0	0	30
7:45 AM	0	5	1	0	6	1	0	1	0	2	2	12	0	0	14	0	0	0	0	0	22
Total	1	26	2	0	29	1	0	4	0	5	13	49	2	0	64	1	1	0	0	2	100
8:00 AM	1	7	0	0	8	0	0	2	0	2	0	11	0	0	11	0	0	0	0	0	21
8:15 AM	2	13	0	0	15	0	0	0	0	0	0	20	1	0	21	0	0	0	0	0	36
8:30 AM	0	6	0	0	6	1	0	1	0	2	2	15	0	0	17	0	0	0	0	0	25
8:45 AM	3	13	1	0	17	0	0	1	0	1	2	6	0	0	8	0	1	0	0	1	27
Total	6	39	1	0	46	1	0	4	0	5	4	52	1	0	57	0	1	0	0	1	109
Grand Total	7	65	3	0	75	2	0	8	0	10	17	101	3	0	121	1	2	0	0	3	209
Approach %	9.3	86.7	4.0	0.0		20.0	0.0	80.0	0.0		14.0	83.5	2.5	0.0		33.3	66.7	0.0	0.0		
Total %	3.3	31.1	1.4	0.0	35.9	1.0	0.0	3.8	0.0	4.8	8.1	48.3	1.4	0.0	57.9	0.5	1.0	0.0	0.0	1.4	
Exiting Leg Total					103					22					74					10	209

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	12	0	0	12	0	0	0	0	0	3	15	0	0	18	0	0	0	0	0	30
7:45 AM	0	5	1	0	6	1	0	1	0	2	2	12	0	0	14	0	0	0	0	0	22
8:00 AM	1	7	0	0	8	0	0	2	0	2	0	11	0	0	11	0	0	0	0	0	21
8:15 AM	2	13	0	0	15	0	0	0	0	0	0	20	1	0	21	0	0	0	0	0	36
Total Volume	3	37	1	0	41	1	0	3	0	4	5	58	1	0	64	0	0	0	0	0	109
% Approach Total	7.3	90.2	2.4	0.0		25.0	0.0	75.0	0.0		7.8	90.6	1.6	0.0		0.0	0.0	0.0	0.0		
PHF	0.375	0.712	0.250	0.000	0.683	0.250	0.000	0.375	0.000	0.500	0.417	0.725	0.250	0.000	0.762	0.000	0.000	0.000	0.000	0.000	0.757
Entering Leg	3	37	1	0	41	1	0	3	0	4	5	58	1	0	64	0	0	0	0	0	109
Exiting Leg					59					6					40					4	109
Total					100					10					104					4	218

PDI File #: **197325 (7) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	11
8:00 AM	0	2	0	0	2	0	0	1	0	1	0	2	1	0	3	0	0	0	0	0	6
8:15 AM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Total	0	5	0	0	5	0	0	1	0	1	2	3	2	0	7	0	0	0	0	0	13
Grand Total	0	9	0	0	9	0	0	1	0	1	2	9	2	0	13	1	0	0	0	1	24
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		15.4	69.2	15.4	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	37.5	0.0	0.0	37.5	0.0	0.0	4.2	0.0	4.2	8.3	37.5	8.3	0.0	54.2	4.2	0.0	0.0	0.0	4.2	
Exiting Leg Total					9					2					11					2	24

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	2	0	0	2	0	0	1	0	1	0	2	1	0	3	0	0	0	0	0	6
Total Volume	0	4	0	0	4	0	0	1	0	1	0	6	1	0	7	1	0	0	0	1	13
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	85.7	14.3	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.250	0.000	0.583	0.250	0.000	0.000	0.000	0.250	0.542
Entering Leg	0	4	0	0	4	0	0	1	0	1	0	6	1	0	7	1	0	0	0	1	13
Exiting Leg					6					0					6					1	13
Total					10					1					13					2	26

PDI File #: **197325 (7) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Massachusetts Avenue from North							Harrison Avenue from East							Massachusetts Avenue from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	2	1	0	0	1	4	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	1	1	7
7:15 AM	1	2	0	0	0	2	5	1	0	0	0	0	1	2	1	0	0	0	0	0	1	0	1	0	0	2	1	4	12
7:30 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	1	0	0	0	0	1	4
7:45 AM	0	1	2	0	0	0	3	0	0	1	0	0	1	2	0	2	0	0	0	0	2	0	3	0	0	0	2	5	12
Total	2	5	3	0	0	3	13	1	0	1	0	0	2	4	1	6	0	0	0	0	7	0	5	0	0	2	4	11	35
8:00 AM	0	0	1	0	0	1	2	1	0	0	0	0	1	2	1	3	0	0	0	0	4	0	3	0	0	0	1	4	12
8:15 AM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0	1	1	5
8:30 AM	0	2	3	0	0	0	5	0	1	0	0	0	0	1	0	3	0	0	1	0	4	0	0	0	0	0	0	0	10
8:45 AM	0	3	2	0	0	0	5	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	8
Total	0	6	7	0	0	1	14	1	1	0	0	1	1	4	1	9	0	0	1	1	12	0	3	0	0	0	2	5	35
Grand Total	2	11	10	0	0	4	27	2	1	1	0	1	3	8	2	15	0	0	1	1	19	0	8	0	0	2	6	16	70
Approach %	7.4	40.7	37.0	0.0	0.0	14.8		25.0	12.5	12.5	0.0	12.5	37.5		10.5	78.9	0.0	0.0	5.3	5.3		0.0	50.0	0.0	0.0	12.5	37.5		
Total %	2.9	15.7	14.3	0.0	0.0	5.7	38.6	2.9	1.4	1.4	0.0	1.4	4.3	11.4	2.9	21.4	0.0	0.0	1.4	1.4	27.1	0.0	11.4	0.0	0.0	2.9	8.6	22.9	
Exiting Leg Total							21							24							14							11	70

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Massachusetts Avenue from North							Harrison Avenue from East							Massachusetts Avenue from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	1	2	0	0	0	2	5	1	0	0	0	0	1	2	1	0	0	0	0	0	1	0	1	0	0	2	1	4	12
7:30 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	1	0	0	0	0	1	4
7:45 AM	0	1	2	0	0	0	3	0	0	1	0	0	1	2	0	2	0	0	0	0	2	0	3	0	0	0	2	5	12
8:00 AM	0	0	1	0	0	1	2	1	0	0	0	0	1	2	1	3	0	0	0	0	4	0	3	0	0	0	1	4	12
Total Volume	2	3	3	0	0	3	11	2	0	1	0	0	3	6	2	7	0	0	0	0	9	0	8	0	0	2	4	14	40
% Approach Total	18.2	27.3	27.3	0.0	0.0	27.3		33.3	0.0	16.7	0.0	0.0	50.0		22.2	77.8	0.0	0.0	0.0	0.0		0.0	57.1	0.0	0.0	14.3	28.6		
PHF	0.500	0.375	0.375	0.000	0.000	0.375	0.550	0.500	0.000	0.250	0.000	0.000	0.750	0.750	0.500	0.583	0.000	0.000	0.000	0.000	0.563	0.000	0.667	0.000	0.000	0.250	0.500	0.700	0.833
Entering Leg	2	3	3	0	0	3	11	2	0	1	0	0	3	6	2	7	0	0	0	0	9	0	8	0	0	2	4	14	40
Exiting Leg							12							16							4							8	40
Total							23							22							13							22	80

PDI File #: **197325 (7) am**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Massachusetts Avenue from North							Harrison Avenue from East							Massachusetts Avenue from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	2	6	8	0	0	0	0	10	6	16	0	0	0	0	4	19	23	0	0	0	0	5	11	16	63
7:15 AM	0	0	0	0	6	11	17	0	0	0	0	13	8	21	0	0	0	0	9	20	29	0	0	0	0	1	16	17	84
7:30 AM	0	0	0	0	12	5	17	0	0	0	0	20	10	30	0	0	0	0	7	24	31	0	0	0	0	7	21	28	106
7:45 AM	0	0	0	0	12	7	19	0	0	0	0	21	10	31	0	0	0	0	12	39	51	0	0	0	0	8	20	28	129
Total	0	0	0	0	32	29	61	0	0	0	0	64	34	98	0	0	0	0	32	102	134	0	0	0	0	21	68	89	382
8:00 AM	0	0	0	0	16	6	22	0	0	0	0	11	6	17	0	0	0	0	5	21	26	0	0	0	0	7	13	20	85
8:15 AM	0	0	0	0	15	3	18	0	0	0	0	27	5	32	0	0	0	0	0	45	45	0	0	0	0	3	20	23	118
8:30 AM	0	0	0	0	7	4	11	0	0	0	0	18	18	36	0	0	0	0	8	44	52	0	0	0	0	7	23	30	129
8:45 AM	0	0	0	0	9	10	19	0	0	0	0	28	10	38	0	0	0	0	9	30	39	0	0	0	0	9	17	26	122
Total	0	0	0	0	47	23	70	0	0	0	0	84	39	123	0	0	0	0	22	140	162	0	0	0	0	26	73	99	454
Grand Total	0	0	0	0	79	52	131	0	0	0	0	148	73	221	0	0	0	0	54	242	296	0	0	0	0	47	141	188	836
Approach %	0.0	0.0	0.0	0.0	60.3	39.7		0.0	0.0	0.0	0.0	67.0	33.0		0.0	0.0	0.0	0.0	18.2	81.8		0.0	0.0	0.0	0.0	25.0	75.0		
Total %	0.0	0.0	0.0	0.0	9.4	6.2	15.7	0.0	0.0	0.0	0.0	17.7	8.7	26.4	0.0	0.0	0.0	0.0	6.5	28.9	35.4	0.0	0.0	0.0	0.0	5.6	16.9	22.5	
Exiting Leg Total							131							221							296							188	836

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Massachusetts Avenue from North							Harrison Avenue from East							Massachusetts Avenue from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	12	7	19	0	0	0	0	21	10	31	0	0	0	0	12	39	51	0	0	0	0	8	20	28	129
8:00 AM	0	0	0	0	16	6	22	0	0	0	0	11	6	17	0	0	0	0	5	21	26	0	0	0	0	7	13	20	85
8:15 AM	0	0	0	0	15	3	18	0	0	0	0	27	5	32	0	0	0	0	0	45	45	0	0	0	0	3	20	23	118
8:30 AM	0	0	0	0	7	4	11	0	0	0	0	18	18	36	0	0	0	0	8	44	52	0	0	0	0	7	23	30	129
Total Volume	0	0	0	0	50	20	70	0	0	0	0	77	39	116	0	0	0	0	25	149	174	0	0	0	0	25	76	101	461
% Approach Total	0.0	0.0	0.0	0.0	71.4	28.6		0.0	0.0	0.0	0.0	66.4	33.6		0.0	0.0	0.0	0.0	14.4	85.6		0.0	0.0	0.0	0.0	24.8	75.2		
PHF	0.000	0.000	0.000	0.000	0.781	0.714	0.795	0.000	0.000	0.000	0.000	0.713	0.542	0.806	0.000	0.000	0.000	0.000	0.521	0.828	0.837	0.000	0.000	0.000	0.000	0.781	0.826	0.842	0.893
Entering Leg	0	0	0	0	50	20	70	0	0	0	0	77	39	116	0	0	0	0	25	149	174	0	0	0	0	25	76	101	461
Exiting Leg							70							116							174							101	461
Total							140							232							348							202	922

PDI File #: **197325 (7) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	33	135	15	1	184	6	49	23	0	78	45	140	23	0	208	18	30	10	0	58	528
4:15 PM	31	169	5	0	205	7	50	18	0	75	44	146	18	0	208	8	43	8	0	59	547
4:30 PM	42	130	8	0	180	11	47	9	0	67	48	160	23	0	231	13	51	8	0	72	550
4:45 PM	35	128	9	0	172	7	58	9	0	74	43	135	23	0	201	12	42	5	0	59	506
Total	141	562	37	1	741	31	204	59	0	294	180	581	87	0	848	51	166	31	0	248	2131
5:00 PM	37	135	8	0	180	9	52	12	0	73	50	150	18	0	218	10	46	4	0	60	531
5:15 PM	41	188	15	0	244	12	66	6	0	84	44	144	24	0	212	17	41	8	0	66	606
5:30 PM	35	155	14	0	204	9	41	14	0	64	48	161	25	0	234	14	42	2	0	58	560
5:45 PM	45	154	12	1	212	8	50	21	0	79	55	190	16	0	261	8	41	8	0	57	609
Total	158	632	49	1	840	38	209	53	0	300	197	645	83	0	925	49	170	22	0	241	2306
Grand Total	299	1194	86	2	1581	69	413	112	0	594	377	1226	170	0	1773	100	336	53	0	489	4437
Approach %	18.9	75.5	5.4	0.1		11.6	69.5	18.9	0.0		21.3	69.1	9.6	0.0		20.4	68.7	10.8	0.0		
Total %	6.7	26.9	1.9	0.0	35.6	1.6	9.3	2.5	0.0	13.4	8.5	27.6	3.8	0.0	40.0	2.3	7.6	1.2	0.0	11.0	
Exiting Leg Total					1350					799					1406					882	4437
Cars	287	1128	82	2	1499	62	380	106	0	548	369	1191	165	0	1725	93	321	48	0	462	4234
% Cars	96.0	94.5	95.3	100.0	94.8	89.9	92.0	94.6	0.0	92.3	97.9	97.1	97.1	0.0	97.3	93.0	95.5	90.6	0.0	94.5	95.4
Exiting Leg Total					1303					772					1327					832	4234
Heavy Vehicles	12	66	4	0	82	7	33	6	0	46	8	35	5	0	48	7	15	5	0	27	203
% Heavy Vehicles	4.0	5.5	4.7	0.0	5.2	10.1	8.0	5.4	0.0	7.7	2.1	2.9	2.9	0.0	2.7	7.0	4.5	9.4	0.0	5.5	4.6
Exiting Leg Total					47					27					79					50	203

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	33	135	15	1	184	6	49	23	0	78	45	140	23	0	208	18	30	10	0	58	528
4:15 PM	31	169	5	0	205	7	50	18	0	75	44	146	18	0	208	8	43	8	0	59	547
4:30 PM	42	130	8	0	180	11	47	9	0	67	48	160	23	0	231	13	51	8	0	72	550
4:45 PM	35	128	9	0	172	7	58	9	0	74	43	135	23	0	201	12	42	5	0	59	506
Total Volume	141	562	37	1	741	31	204	59	0	294	180	581	87	0	848	51	166	31	0	248	2131
% Approach Total	19.0	75.8	5.0	0.1		10.5	69.4	20.1	0.0		21.2	68.5	10.3	0.0		20.6	66.9	12.5	0.0		
PHF	0.839	0.831	0.617	0.250	0.904	0.705	0.879	0.641	0.000	0.942	0.938	0.908	0.946	0.000	0.918	0.708	0.814	0.775	0.000	0.861	0.969
Cars	132	524	34	1	691	29	188	57	0	274	179	561	86	0	826	45	159	29	0	233	2024
Cars %	93.6	93.2	91.9	100.0	93.3	93.5	92.2	96.6	0.0	93.2	99.4	96.6	98.9	0.0	97.4	88.2	95.8	93.5	0.0	94.0	95.0
Heavy Vehicles	9	38	3	0	50	2	16	2	0	20	1	20	1	0	22	6	7	2	0	15	107
Heavy Vehicles %	6.4	6.8	8.1	0.0	6.7	6.5	7.8	3.4	0.0	6.8	0.6	3.4	1.1	0.0	2.6	11.8	4.2	6.5	0.0	6.0	5.0
Cars Enter Leg	132	524	34	1	691	29	188	57	0	274	179	561	86	0	826	45	159	29	0	233	2024
Heavy Enter Leg	9	38	3	0	50	2	16	2	0	20	1	20	1	0	22	6	7	2	0	15	107
Total Entering Leg	141	562	37	1	741	31	204	59	0	294	180	581	87	0	848	51	166	31	0	248	2131
Cars Exiting Leg					620					372					626					406	2024
Heavy Exiting Leg					24					11					46					26	107
Total Exiting Leg					644					383					672					432	2131

PDI File #: **197325 (7) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	29	127	15	1	172	6	48	23	0	77	44	137	23	0	204	15	29	10	0	54	507
4:15 PM	30	156	4	0	190	7	45	16	0	68	44	140	18	0	202	7	40	7	0	54	514
4:30 PM	40	123	8	0	171	10	42	9	0	61	48	154	22	0	224	12	49	8	0	69	525
4:45 PM	33	118	7	0	158	6	53	9	0	68	43	130	23	0	196	11	41	4	0	56	478
Total	132	524	34	1	691	29	188	57	0	274	179	561	86	0	826	45	159	29	0	233	2024
5:00 PM	37	129	8	0	174	8	48	11	0	67	49	147	16	0	212	10	43	3	0	56	509
5:15 PM	40	178	15	0	233	11	62	5	0	78	42	140	23	0	205	17	40	7	0	64	580
5:30 PM	34	150	14	0	198	7	36	14	0	57	45	156	25	0	226	13	39	2	0	54	535
5:45 PM	44	147	11	1	203	7	46	19	0	72	54	187	15	0	256	8	40	7	0	55	586
Total	155	604	48	1	808	33	192	49	0	274	190	630	79	0	899	48	162	19	0	229	2210
Grand Total	287	1128	82	2	1499	62	380	106	0	548	369	1191	165	0	1725	93	321	48	0	462	4234
Approach %	19.1	75.3	5.5	0.1		11.3	69.3	19.3	0.0		21.4	69.0	9.6	0.0		20.1	69.5	10.4	0.0		
Total %	6.8	26.6	1.9	0.0	35.4	1.5	9.0	2.5	0.0	12.9	8.7	28.1	3.9	0.0	40.7	2.2	7.6	1.1	0.0	10.9	
Exiting Leg Total					1303					772					1327					832	4234

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	29	127	15	1	172	6	48	23	0	77	44	137	23	0	204	15	29	10	0	54	507
4:15 PM	30	156	4	0	190	7	45	16	0	68	44	140	18	0	202	7	40	7	0	54	514
4:30 PM	40	123	8	0	171	10	42	9	0	61	48	154	22	0	224	12	49	8	0	69	525
4:45 PM	33	118	7	0	158	6	53	9	0	68	43	130	23	0	196	11	41	4	0	56	478
Total Volume	132	524	34	1	691	29	188	57	0	274	179	561	86	0	826	45	159	29	0	233	2024
% Approach Total	19.1	75.8	4.9	0.1		10.6	68.6	20.8	0.0		21.7	67.9	10.4	0.0		19.3	68.2	12.4	0.0		
PHF	0.825	0.840	0.567	0.250	0.909	0.725	0.887	0.620	0.000	0.890	0.932	0.911	0.935	0.000	0.922	0.750	0.811	0.725	0.000	0.844	0.964
Entering Leg	132	524	34	1	691	29	188	57	0	274	179	561	86	0	826	45	159	29	0	233	2024
Exiting Leg					620					372					626					406	2024
Total					1311					646					1452					639	4048

PDI File #: **197325 (7) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	8	0	0	12	0	1	0	0	1	1	3	0	0	4	3	1	0	0	4	21
4:15 PM	1	13	1	0	15	0	5	2	0	7	0	6	0	0	6	1	3	1	0	5	33
4:30 PM	2	7	0	0	9	1	5	0	0	6	0	6	1	0	7	1	2	0	0	3	25
4:45 PM	2	10	2	0	14	1	5	0	0	6	0	5	0	0	5	1	1	1	0	3	28
Total	9	38	3	0	50	2	16	2	0	20	1	20	1	0	22	6	7	2	0	15	107
5:00 PM	0	6	0	0	6	1	4	1	0	6	1	3	2	0	6	0	3	1	0	4	22
5:15 PM	1	10	0	0	11	1	4	1	0	6	2	4	1	0	7	0	1	1	0	2	26
5:30 PM	1	5	0	0	6	2	5	0	0	7	3	5	0	0	8	1	3	0	0	4	25
5:45 PM	1	7	1	0	9	1	4	2	0	7	1	3	1	0	5	0	1	1	0	2	23
Total	3	28	1	0	32	5	17	4	0	26	7	15	4	0	26	1	8	3	0	12	96
Grand Total	12	66	4	0	82	7	33	6	0	46	8	35	5	0	48	7	15	5	0	27	203
Approach %	14.6	80.5	4.9	0.0		15.2	71.7	13.0	0.0		16.7	72.9	10.4	0.0		25.9	55.6	18.5	0.0		
Total %	5.9	32.5	2.0	0.0	40.4	3.4	16.3	3.0	0.0	22.7	3.9	17.2	2.5	0.0	23.6	3.4	7.4	2.5	0.0	13.3	
Exiting Leg Total					47					27					79					50	203
Buses	6	35	2	0	43	2	30	3	0	35	6	25	2	0	33	3	12	4	0	19	130
% Buses	50.0	53.0	50.0	0.0	52.4	28.6	90.9	50.0	0.0	76.1	75.0	71.4	40.0	0.0	68.8	42.9	80.0	80.0	0.0	70.4	64.0
Exiting Leg Total					31					20					41					38	130
Single-Unit Trucks	6	30	2	0	38	5	3	3	0	11	2	9	3	0	14	3	3	1	0	7	70
% Single-Unit	50.0	45.5	50.0	0.0	46.3	71.4	9.1	50.0	0.0	23.9	25.0	25.7	60.0	0.0	29.2	42.9	20.0	20.0	0.0	25.9	34.5
Exiting Leg Total					15					7					36					12	70
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
% Articulated	0.0	1.5	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.1	14.3	0.0	0.0	0.0	3.7	1.5
Exiting Leg Total					1					0					2					0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	8	0	0	12	0	1	0	0	1	1	3	0	0	4	3	1	0	0	4	21
4:15 PM	1	13	1	0	15	0	5	2	0	7	0	6	0	0	6	1	3	1	0	5	33
4:30 PM	2	7	0	0	9	1	5	0	0	6	0	6	1	0	7	1	2	0	0	3	25
4:45 PM	2	10	2	0	14	1	5	0	0	6	0	5	0	0	5	1	1	1	0	3	28
Total Volume	9	38	3	0	50	2	16	2	0	20	1	20	1	0	22	6	7	2	0	15	107
% Approach Total	18.0	76.0	6.0	0.0		10.0	80.0	10.0	0.0		4.5	90.9	4.5	0.0		40.0	46.7	13.3	0.0		
PHF	0.563	0.731	0.375	0.000	0.833	0.500	0.800	0.250	0.000	0.714	0.250	0.833	0.250	0.000	0.786	0.500	0.583	0.500	0.000	0.750	0.811
Buses	5	15	1	0	21	0	15	1	0	16	1	15	0	0	16	3	6	2	0	11	64
Buses %	55.6	39.5	33.3	0.0	42.0	0.0	93.8	50.0	0.0	80.0	100.0	75.0	0.0	0.0	72.7	50.0	85.7	100.0	0.0	73.3	59.8
Single-Unit Trucks	4	22	2	0	28	2	1	1	0	4	0	4	1	0	5	3	1	0	0	4	41
Single-Unit %	44.4	57.9	66.7	0.0	56.0	100.0	6.3	50.0	0.0	20.0	0.0	20.0	100.0	0.0	22.7	50.0	14.3	0.0	0.0	26.7	38.3
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Articulated %	0.0	2.6	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	1.9
Buses	5	15	1	0	21	0	15	1	0	16	1	15	0	0	16	3	6	2	0	11	64
Single-Unit Trucks	4	22	2	0	28	2	1	1	0	4	0	4	1	0	5	3	1	0	0	4	41
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Total Entering Leg	9	38	3	0	50	2	16	2	0	20	1	20	1	0	22	6	7	2	0	15	107
Buses					17					8					19					20	64
Single-Unit Trucks					6					3					26					6	41
Articulated Trucks					1					0					1					0	2
Total Exiting Leg					24					11					46					26	107

PDI File #: **197325 (7) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	2	0	0	3	0	1	0	0	1	1	2	0	0	3	1	1	0	0	2	9
4:15 PM	1	5	0	0	6	0	4	1	0	5	0	3	0	0	3	1	3	1	0	5	19
4:30 PM	1	4	0	0	5	0	5	0	0	5	0	6	0	0	6	0	1	0	0	1	17
4:45 PM	2	4	1	0	7	0	5	0	0	5	0	4	0	0	4	1	1	1	0	3	19
Total	5	15	1	0	21	0	15	1	0	16	1	15	0	0	16	3	6	2	0	11	64
5:00 PM	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	0	1	1	0	2	8
5:15 PM	0	8	0	0	8	1	4	1	0	6	2	3	1	0	6	0	1	0	0	1	21
5:30 PM	1	4	0	0	5	1	4	0	0	5	2	4	0	0	6	0	3	0	0	3	19
5:45 PM	0	5	1	0	6	0	4	1	0	5	1	3	1	0	5	0	1	1	0	2	18
Total	1	20	1	0	22	2	15	2	0	19	5	10	2	0	17	0	6	2	0	8	66
Grand Total	6	35	2	0	43	2	30	3	0	35	6	25	2	0	33	3	12	4	0	19	130
Approach %	14.0	81.4	4.7	0.0		5.7	85.7	8.6	0.0		18.2	75.8	6.1	0.0		15.8	63.2	21.1	0.0		
Total %	4.6	26.9	1.5	0.0	33.1	1.5	23.1	2.3	0.0	26.9	4.6	19.2	1.5	0.0	25.4	2.3	9.2	3.1	0.0	14.6	
Exiting Leg Total					31					20					41					38	130

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	2	0	0	3	0	1	0	0	1	1	2	0	0	3	1	1	0	0	2	9
4:15 PM	1	5	0	0	6	0	4	1	0	5	0	3	0	0	3	1	3	1	0	5	19
4:30 PM	1	4	0	0	5	0	5	0	0	5	0	6	0	0	6	0	1	0	0	1	17
4:45 PM	2	4	1	0	7	0	5	0	0	5	0	4	0	0	4	1	1	1	0	3	19
Total Volume	5	15	1	0	21	0	15	1	0	16	1	15	0	0	16	3	6	2	0	11	64
% Approach Total	23.8	71.4	4.8	0.0		0.0	93.8	6.3	0.0		6.3	93.8	0.0	0.0		27.3	54.5	18.2	0.0		
PHF	0.625	0.750	0.250	0.000	0.750	0.000	0.750	0.250	0.000	0.800	0.250	0.625	0.000	0.000	0.667	0.750	0.500	0.500	0.000	0.550	0.842
Entering Leg	5	15	1	0	21	0	15	1	0	16	1	15	0	0	16	3	6	2	0	11	64
Exiting Leg					17					8					19					20	64
Total					38					24					35					31	128

PDI File #: **197325 (7) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	6	0	0	9	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	11
4:15 PM	0	7	1	0	8	0	1	1	0	2	0	3	0	0	3	0	0	0	0	0	13
4:30 PM	1	3	0	0	4	1	0	0	0	1	0	0	1	0	1	1	1	0	0	2	8
4:45 PM	0	6	1	0	7	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	9
Total	4	22	2	0	28	2	1	1	0	4	0	4	1	0	5	3	1	0	0	4	41
5:00 PM	0	3	0	0	3	1	1	1	0	3	1	3	2	0	6	0	2	0	0	2	14
5:15 PM	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	5
5:30 PM	0	1	0	0	1	1	1	0	0	2	1	1	0	0	2	0	0	0	0	0	5
5:45 PM	1	2	0	0	3	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	5
Total	2	8	0	0	10	3	2	2	0	7	2	5	2	0	9	0	2	1	0	3	29
Grand Total	6	30	2	0	38	5	3	3	0	11	2	9	3	0	14	3	3	1	0	7	70
Approach %	15.8	78.9	5.3	0.0		45.5	27.3	27.3	0.0		14.3	64.3	21.4	0.0		42.9	42.9	14.3	0.0		
Total %	8.6	42.9	2.9	0.0	54.3	7.1	4.3	4.3	0.0	15.7	2.9	12.9	4.3	0.0	20.0	4.3	4.3	1.4	0.0	10.0	
Exiting Leg Total					15					7					36					12	70

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	6	0	0	9	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	11
4:15 PM	0	7	1	0	8	0	1	1	0	2	0	3	0	0	3	0	0	0	0	0	13
4:30 PM	1	3	0	0	4	1	0	0	0	1	0	0	1	0	1	1	1	0	0	2	8
4:45 PM	0	6	1	0	7	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	9
Total Volume	4	22	2	0	28	2	1	1	0	4	0	4	1	0	5	3	1	0	0	4	41
% Approach Total	14.3	78.6	7.1	0.0		50.0	25.0	25.0	0.0		0.0	80.0	20.0	0.0		75.0	25.0	0.0	0.0		
PHF	0.333	0.786	0.500	0.000	0.778	0.500	0.250	0.250	0.000	0.500	0.000	0.333	0.250	0.000	0.417	0.375	0.250	0.000	0.000	0.500	0.788
Entering Leg	4	22	2	0	28	2	1	1	0	4	0	4	1	0	5	3	1	0	0	4	41
Exiting Leg					6					3					26					6	41
Total					34					7					31					10	82

PDI File #: **197325 (7) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	33.3	0.0	0.0	0.0	33.3	
Exiting Leg Total					1					0					2					0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Massachusetts Avenue from North					Harrison Avenue from East					Massachusetts Avenue from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Exiting Leg					1					0					1					0	2
Total					2					0					2					0	4

PDI File #: **197325 (7) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Massachusetts Avenue from North							Harrison Avenue from East							Massachusetts Avenue from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	2	0	0	1	0	3	1	1	0	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	1	0	1	8
4:15 PM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	1	3	0	0	0	0	4	0	0	0	0	0	0	0	6
4:30 PM	0	1	0	0	0	0	1	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	4
4:45 PM	0	0	1	0	0	0	1	0	0	1	0	0	0	1	2	3	0	0	0	1	6	0	0	0	0	0	0	0	8
Total	0	3	1	0	1	1	6	1	2	1	0	1	0	5	3	10	0	0	0	1	14	0	0	0	0	1	0	1	26
5:00 PM	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	2	0	3	0	0	0	0	3	0	1	1	0	0	1	3	9
5:30 PM	0	2	0	0	0	0	2	0	1	0	0	0	0	1	0	2	0	0	0	0	2	0	0	2	0	0	0	2	7
5:45 PM	0	2	0	0	0	0	2	0	0	0	0	1	0	1	1	4	0	0	1	1	7	0	0	0	0	0	1	1	11
Total	0	5	0	0	0	1	6	2	2	0	0	1	0	5	1	12	0	0	1	1	15	0	1	3	0	0	2	6	32
Grand Total	0	8	1	0	1	2	12	3	4	1	0	2	0	10	4	22	0	0	1	2	29	0	1	3	0	1	2	7	58
Approach %	0.0	66.7	8.3	0.0	8.3	16.7		30.0	40.0	10.0	0.0	20.0	0.0		13.8	75.9	0.0	0.0	3.4	6.9		0.0	14.3	42.9	0.0	14.3	28.6		
Total %	0.0	13.8	1.7	0.0	1.7	3.4	20.7	5.2	6.9	1.7	0.0	3.4	0.0	17.2	6.9	37.9	0.0	0.0	1.7	3.4	50.0	0.0	1.7	5.2	0.0	1.7	3.4	12.1	
Exiting Leg Total							31							8							12							7	58

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Massachusetts Avenue from North							Harrison Avenue from East							Massachusetts Avenue from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	2	0	3	0	0	0	0	3	0	1	1	0	0	1	3	9
5:30 PM	0	2	0	0	0	0	2	0	1	0	0	0	0	1	0	2	0	0	0	0	2	0	0	2	0	0	0	2	7
5:45 PM	0	2	0	0	0	0	2	0	0	0	0	1	0	1	1	4	0	0	1	1	7	0	0	0	0	0	1	1	11
Total Volume	0	5	0	0	0	1	6	2	2	0	0	1	0	5	1	12	0	0	1	1	15	0	1	3	0	0	2	6	32
% Approach Total	0.0	83.3	0.0	0.0	0.0	16.7		40.0	40.0	0.0	0.0	20.0	0.0		6.7	80.0	0.0	0.0	6.7	6.7		0.0	16.7	50.0	0.0	0.0	33.3		
PHF	0.000	0.625	0.000	0.000	0.000	0.250	0.750	0.250	0.500	0.000	0.000	0.250	0.000	0.625	0.250	0.750	0.000	0.000	0.250	0.250	0.536	0.000	0.250	0.375	0.000	0.000	0.500	0.500	0.727
Entering Leg	0	5	0	0	0	1	6	2	2	0	0	1	0	5	1	12	0	0	1	1	15	0	1	3	0	0	2	6	32
Exiting Leg							18							3							7							4	32
Total							24							8							22							10	64

PDI File #: **197325 (7) pm**
Location: **N: Massachusetts Avenue S: Massachusetts Avenue**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Massachusetts Avenue from North							Harrison Avenue from East							Massachusetts Avenue from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	10	7	17	0	0	0	0	13	38	51	0	0	0	0	15	20	35	0	0	0	0	9	17	26	129
4:15 PM	0	0	0	0	9	14	23	0	0	0	0	10	25	35	0	0	0	0	9	10	19	0	0	0	0	15	16	31	108
4:30 PM	0	0	0	0	6	10	16	0	0	0	0	11	26	37	0	0	0	0	31	18	49	0	0	0	0	10	11	21	123
4:45 PM	0	0	0	0	10	8	18	0	0	0	0	14	30	44	0	0	0	0	14	18	32	0	0	0	0	15	3	18	112
Total	0	0	0	0	35	39	74	0	0	0	0	48	119	167	0	0	0	0	69	66	135	0	0	0	0	49	47	96	472
5:00 PM	0	0	0	0	6	9	15	0	0	0	0	13	29	42	0	0	0	0	22	30	52	0	0	0	0	17	15	32	141
5:15 PM	0	0	0	0	4	14	18	0	0	0	0	6	30	36	0	0	0	0	19	11	30	0	0	0	0	11	9	20	104
5:30 PM	0	0	0	0	7	13	20	0	0	0	0	17	14	31	0	0	0	0	21	13	34	0	0	0	0	13	8	21	106
5:45 PM	0	0	0	0	10	16	26	0	0	0	0	6	30	36	0	0	0	0	26	14	40	0	0	0	0	17	7	24	126
Total	0	0	0	0	27	52	79	0	0	0	0	42	103	145	0	0	0	0	88	68	156	0	0	0	0	58	39	97	477
Grand Total	0	0	0	0	62	91	153	0	0	0	0	90	222	312	0	0	0	0	157	134	291	0	0	0	0	107	86	193	949
Approach %	0.0	0.0	0.0	0.0	40.5	59.5		0.0	0.0	0.0	0.0	28.8	71.2		0.0	0.0	0.0	0.0	54.0	46.0		0.0	0.0	0.0	0.0	55.4	44.6		
Total %	0.0	0.0	0.0	0.0	6.5	9.6	16.1	0.0	0.0	0.0	0.0	9.5	23.4	32.9	0.0	0.0	0.0	0.0	16.5	14.1	30.7	0.0	0.0	0.0	0.0	11.3	9.1	20.3	
Exiting Leg Total							153							312							291							193	949

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Massachusetts Avenue from North							Harrison Avenue from East							Massachusetts Avenue from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	9	14	23	0	0	0	0	10	25	35	0	0	0	0	9	10	19	0	0	0	0	15	16	31	108
4:30 PM	0	0	0	0	6	10	16	0	0	0	0	11	26	37	0	0	0	0	31	18	49	0	0	0	0	10	11	21	123
4:45 PM	0	0	0	0	10	8	18	0	0	0	0	14	30	44	0	0	0	0	14	18	32	0	0	0	0	15	3	18	112
5:00 PM	0	0	0	0	6	9	15	0	0	0	0	13	29	42	0	0	0	0	22	30	52	0	0	0	0	17	15	32	141
Total Volume	0	0	0	0	31	41	72	0	0	0	0	48	110	158	0	0	0	0	76	76	152	0	0	0	0	57	45	102	484
% Approach Total	0.0	0.0	0.0	0.0	43.1	56.9		0.0	0.0	0.0	0.0	30.4	69.6		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	55.9	44.1		
PHF	0.000	0.000	0.000	0.000	0.775	0.732	0.783	0.000	0.000	0.000	0.000	0.857	0.917	0.898	0.000	0.000	0.000	0.000	0.613	0.633	0.731	0.000	0.000	0.000	0.000	0.838	0.703	0.797	0.858
Entering Leg	0	0	0	0	31	41	72	0	0	0	0	48	110	158	0	0	0	0	76	76	152	0	0	0	0	57	45	102	484
Exiting Leg							72							158							152							102	484
Total							144							316							304							204	968

PDI File #: **197325 (8) am**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	3	2	4	0	9	0	40	3	1	44	0	0	0	0	0	30	83	0	1	114	167
7:15 AM	7	2	8	0	17	0	52	3	0	55	0	0	0	0	0	36	119	0	0	155	227
7:30 AM	4	5	5	0	14	0	44	6	0	50	0	0	0	0	0	27	115	0	0	142	206
7:45 AM	11	6	4	0	21	0	49	6	0	55	0	0	0	0	0	32	107	0	1	140	216
Total	25	15	21	0	61	0	185	18	1	204	0	0	0	0	0	125	424	0	2	551	816
8:00 AM	4	1	5	0	10	0	39	0	0	39	0	0	0	0	0	38	115	0	0	153	202
8:15 AM	5	3	7	0	15	0	44	5	0	49	0	0	0	0	0	25	135	0	0	160	224
8:30 AM	9	3	3	0	15	0	46	7	0	53	0	0	0	0	0	38	115	0	0	153	221
8:45 AM	8	1	5	0	14	0	54	5	0	59	0	0	0	0	0	38	105	0	0	143	216
Total	26	8	20	0	54	0	183	17	0	200	0	0	0	0	0	139	470	0	0	609	863
Grand Total	51	23	41	0	115	0	368	35	1	404	0	0	0	0	0	264	894	0	2	1160	1679
Approach %	44.3	20.0	35.7	0.0		0.0	91.1	8.7	0.2		0.0	0.0	0.0	0.0		22.8	77.1	0.0	0.2		
Total %	3.0	1.4	2.4	0.0	6.8	0.0	21.9	2.1	0.1	24.1	0.0	0.0	0.0	0.0	0.0	15.7	53.2	0.0	0.1	69.1	
Exiting Leg Total					0					936					322					421	1679
Cars	49	23	40	0	112	0	331	34	1	366	0	0	0	0	0	261	852	0	1	1114	1592
% Cars	96.1	100.0	97.6	0.0	97.4	0.0	89.9	97.1	100.0	90.6	0.0	0.0	0.0	0.0	0.0	98.9	95.3	0.0	50.0	96.0	94.8
Exiting Leg Total					0					893					318					381	1592
Heavy Vehicles	2	0	1	0	3	0	37	1	0	38	0	0	0	0	0	3	42	0	1	46	87
% Heavy Vehicles	3.9	0.0	2.4	0.0	2.6	0.0	10.1	2.9	0.0	9.4	0.0	0.0	0.0	0.0	0.0	1.1	4.7	0.0	50.0	4.0	5.2
Exiting Leg Total					0					43					4					40	87

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	11	6	4	0	21	0	49	6	0	55	0	0	0	0	0	32	107	0	1	140	216
8:00 AM	4	1	5	0	10	0	39	0	0	39	0	0	0	0	0	38	115	0	0	153	202
8:15 AM	5	3	7	0	15	0	44	5	0	49	0	0	0	0	0	25	135	0	0	160	224
8:30 AM	9	3	3	0	15	0	46	7	0	53	0	0	0	0	0	38	115	0	0	153	221
Total Volume	29	13	19	0	61	0	178	18	0	196	0	0	0	0	0	133	472	0	1	606	863
% Approach Total	47.5	21.3	31.1	0.0		0.0	90.8	9.2	0.0		0.0	0.0	0.0	0.0		21.9	77.9	0.0	0.2		
PHF	0.659	0.542	0.679	0.000	0.726	0.000	0.908	0.643	0.000	0.891	0.000	0.000	0.000	0.000	0.000	0.875	0.874	0.000	0.250	0.947	0.963
Cars	27	13	18	0	58	0	159	17	0	176	0	0	0	0	0	132	455	0	1	588	822
Cars %	93.1	100.0	94.7	0.0	95.1	0.0	89.3	94.4	0.0	89.8	0.0	0.0	0.0	0.0	0.0	99.2	96.4	0.0	100.0	97.0	95.2
Heavy Vehicles	2	0	1	0	3	0	19	1	0	20	0	0	0	0	0	1	17	0	0	18	41
Heavy Vehicles %	6.9	0.0	5.3	0.0	4.9	0.0	10.7	5.6	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.8	3.6	0.0	0.0	3.0	4.8
Cars Enter Leg	27	13	18	0	58	0	159	17	0	176	0	0	0	0	0	132	455	0	1	588	822
Heavy Enter Leg	2	0	1	0	3	0	19	1	0	20	0	0	0	0	0	1	17	0	0	18	41
Total Entering Leg	29	13	19	0	61	0	178	18	0	196	0	0	0	0	0	133	472	0	1	606	863
Cars Exiting Leg					0					473					162					187	822
Heavy Exiting Leg					0					18					2					21	41
Total Exiting Leg					0					491					164					208	863

PDI File #: **197325 (8) am**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	3	2	4	0	9	0	34	3	1	38	0	0	0	0	0	30	77	0	0	107	154
7:15 AM	7	2	8	0	17	0	47	3	0	50	0	0	0	0	0	36	111	0	0	147	214
7:30 AM	4	5	5	0	14	0	41	6	0	47	0	0	0	0	0	26	109	0	0	135	196
7:45 AM	9	6	4	0	19	0	43	5	0	48	0	0	0	0	0	32	103	0	1	136	203
Total	23	15	21	0	59	0	165	17	1	183	0	0	0	0	0	124	400	0	1	525	767
8:00 AM	4	1	5	0	10	0	33	0	0	33	0	0	0	0	0	37	111	0	0	148	191
8:15 AM	5	3	7	0	15	0	42	5	0	47	0	0	0	0	0	25	130	0	0	155	217
8:30 AM	9	3	2	0	14	0	41	7	0	48	0	0	0	0	0	38	111	0	0	149	211
8:45 AM	8	1	5	0	14	0	50	5	0	55	0	0	0	0	0	37	100	0	0	137	206
Total	26	8	19	0	53	0	166	17	0	183	0	0	0	0	0	137	452	0	0	589	825
Grand Total	49	23	40	0	112	0	331	34	1	366	0	0	0	0	0	261	852	0	1	1114	1592
Approach %	43.8	20.5	35.7	0.0		0.0	90.4	9.3	0.3		0.0	0.0	0.0	0.0		23.4	76.5	0.0	0.1		
Total %	3.1	1.4	2.5	0.0	7.0	0.0	20.8	2.1	0.1	23.0	0.0	0.0	0.0	0.0	0.0	16.4	53.5	0.0	0.1	70.0	
Exiting Leg Total					0					893					318					381	1592

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	4	1	5	0	10	0	33	0	0	33	0	0	0	0	0	37	111	0	0	148	191
8:15 AM	5	3	7	0	15	0	42	5	0	47	0	0	0	0	0	25	130	0	0	155	217
8:30 AM	9	3	2	0	14	0	41	7	0	48	0	0	0	0	0	38	111	0	0	149	211
8:45 AM	8	1	5	0	14	0	50	5	0	55	0	0	0	0	0	37	100	0	0	137	206
Total Volume	26	8	19	0	53	0	166	17	0	183	0	0	0	0	0	137	452	0	0	589	825
% Approach Total	49.1	15.1	35.8	0.0		0.0	90.7	9.3	0.0		0.0	0.0	0.0	0.0		23.3	76.7	0.0	0.0		
PHF	0.722	0.667	0.679	0.000	0.883	0.000	0.830	0.607	0.000	0.832	0.000	0.000	0.000	0.000	0.000	0.901	0.869	0.000	0.000	0.950	0.950
Entering Leg	26	8	19	0	53	0	166	17	0	183	0	0	0	0	0	137	452	0	0	589	825
Exiting Leg					0					471					162					192	825
Total					53					654					162					781	1650

PDI File #: **197325 (8) am**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	0	1	7	13
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	8	0	0	8	13
7:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	6	0	0	7	10
7:45 AM	2	0	0	0	2	0	6	1	0	7	0	0	0	0	0	0	4	0	0	4	13
Total	2	0	0	0	2	0	20	1	0	21	0	0	0	0	0	1	24	0	1	26	49
8:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	1	4	0	0	5	11
8:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7
8:30 AM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	10
8:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	5	0	0	6	10
Total	0	0	1	0	1	0	17	0	0	17	0	0	0	0	0	2	18	0	0	20	38
Grand Total	2	0	1	0	3	0	37	1	0	38	0	0	0	0	0	3	42	0	1	46	87
Approach %	66.7	0.0	33.3	0.0		0.0	97.4	2.6	0.0		0.0	0.0	0.0	0.0		6.5	91.3	0.0	2.2		
Total %	2.3	0.0	1.1	0.0	3.4	0.0	42.5	1.1	0.0	43.7	0.0	0.0	0.0	0.0	0.0	3.4	48.3	0.0	1.1	52.9	
Exiting Leg Total					0					43					4					40	87
Buses	1	0	1	0	2	0	28	1	0	29	0	0	0	0	0	3	21	0	0	24	55
% Buses	50.0	0.0	100.0	0.0	66.7	0.0	75.7	100.0	0.0	76.3	0.0	0.0	0.0	0.0	0.0	100.0	50.0	0.0	0.0	52.2	63.2
Exiting Leg Total					0					22					4					29	55
Single-Unit Trucks	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	0	19	0	1	20	29
% Single-Unit	50.0	0.0	0.0	0.0	33.3	0.0	21.6	0.0	0.0	21.1	0.0	0.0	0.0	0.0	0.0	0.0	45.2	0.0	100.0	43.5	33.3
Exiting Leg Total					0					19					0					10	29
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.3	3.4
Exiting Leg Total					0					2					0					1	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	0	1	7	13
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	8	0	0	8	13
7:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	6	0	0	7	10
7:45 AM	2	0	0	0	2	0	6	1	0	7	0	0	0	0	0	0	4	0	0	4	13
Total Volume	2	0	0	0	2	0	20	1	0	21	0	0	0	0	0	1	24	0	1	26	49
% Approach Total	100.0	0.0	0.0	0.0		0.0	95.2	4.8	0.0		0.0	0.0	0.0	0.0		3.8	92.3	0.0	3.8		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.833	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.250	0.813	0.942
Buses	1	0	0	0	1	0	18	1	0	19	0	0	0	0	0	1	9	0	0	10	30
Buses %	50.0	0.0	0.0	0.0	50.0	0.0	90.0	100.0	0.0	90.5	0.0	0.0	0.0	0.0	0.0	100.0	37.5	0.0	0.0	38.5	61.2
Single-Unit Trucks	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	15	0	1	16	19
Single-Unit %	50.0	0.0	0.0	0.0	50.0	0.0	10.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	62.5	0.0	100.0	61.5	38.8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	1	0	0	0	1	0	18	1	0	19	0	0	0	0	0	1	9	0	0	10	30
Single-Unit Trucks	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	15	0	1	16	19
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	2	0	0	0	2	0	20	1	0	21	0	0	0	0	0	1	24	0	1	26	49
Buses					0					9					2					19	30
Single-Unit Trucks					0					15					0					4	19
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					24					2					23	49

PDI File #: **197325 (8) am**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	7
7:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
7:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	3	0	0	4	7
7:45 AM	1	0	0	0	1	0	5	1	0	6	0	0	0	0	0	0	1	0	0	1	8
Total	1	0	0	0	1	0	18	1	0	19	0	0	0	0	0	1	9	0	0	10	30
8:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	4	0	0	5	8
8:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
8:30 AM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	6
8:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	3	0	0	4	6
Total	0	0	1	0	1	0	10	0	0	10	0	0	0	0	0	2	12	0	0	14	25
Grand Total	1	0	1	0	2	0	28	1	0	29	0	0	0	0	0	3	21	0	0	24	55
Approach %	50.0	0.0	50.0	0.0		0.0	96.6	3.4	0.0		0.0	0.0	0.0	0.0		12.5	87.5	0.0	0.0		
Total %	1.8	0.0	1.8	0.0	3.6	0.0	50.9	1.8	0.0	52.7	0.0	0.0	0.0	0.0	0.0	5.5	38.2	0.0	0.0	43.6	
Exiting Leg Total					0					22					4					29	55

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
7:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	3	0	0	4	7
7:45 AM	1	0	0	0	1	0	5	1	0	6	0	0	0	0	0	0	1	0	0	1	8
8:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	4	0	0	5	8
Total Volume	1	0	0	0	1	0	15	1	0	16	0	0	0	0	0	2	12	0	0	14	31
% Approach Total	100.0	0.0	0.0	0.0		0.0	93.8	6.3	0.0		0.0	0.0	0.0	0.0		14.3	85.7	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.750	0.250	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.500	0.750	0.000	0.000	0.700	0.969
Entering Leg	1	0	0	0	1	0	15	1	0	16	0	0	0	0	0	2	12	0	0	14	31
Exiting Leg					0					12					3					16	31
Total					1					28					3					30	62

PDI File #: **197325 (8) am**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	1	6	6
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	5
Total	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	15	0	1	16	19
8:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
8:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
Grand Total	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	0	19	0	1	20	29
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	95.0	0.0	5.0		
Total %	3.4	0.0	0.0	0.0	3.4	0.0	27.6	0.0	0.0	27.6	0.0	0.0	0.0	0.0	0.0	0.0	65.5	0.0	3.4	69.0	
Exiting Leg Total					0					19					0					10	29

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	1	6	6
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	5
Total Volume	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	15	0	1	16	19
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	93.8	0.0	6.3		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.250	0.667	0.792
Entering Leg	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	15	0	1	16	19
Exiting Leg					0					15					0					4	19
Total					1					17					0					20	38

PDI File #: **197325 (8) am**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	
Exiting Leg Total					0					2					0					1	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.375
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Exiting Leg					0					2					0					1	3
Total					0					3					0					3	6

PDI File #: **197325 (8) am**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Springfield Street from North							Harrison Avenue from East							Boston Medical Center Place from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	2	3
7:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
7:45 AM	0	1	0	0	0	0	1	0	2	1	0	0	0	3	0	0	0	0	0	0	0	1	5	0	0	0	0	6	10
Total	0	2	0	0	0	0	2	0	3	1	0	0	0	4	0	0	0	0	1	0	1	3	8	0	0	0	0	11	18
8:00 AM	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0	5	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	0	0	2	0	3	0	0	0	0	3	6
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	1	0	0	3	0	0	0	3	0	1	1	0	0	0	2	1	9	0	0	0	0	10	16
Grand Total	0	3	0	0	0	0	3	0	3	4	0	0	0	7	0	1	1	0	1	0	3	4	17	0	0	0	0	21	34
Approach %	0.0	100.0	0.0	0.0	0.0	0.0		0.0	42.9	57.1	0.0	0.0	0.0		0.0	33.3	33.3	0.0	33.3	0.0		19.0	81.0	0.0	0.0	0.0	0.0		
Total %	0.0	8.8	0.0	0.0	0.0	0.0	8.8	0.0	8.8	11.8	0.0	0.0	0.0	20.6	0.0	2.9	2.9	0.0	2.9	0.0	8.8	11.8	50.0	0.0	0.0	0.0	0.0	61.8	
Exiting Leg Total							1							17							12							4	34

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Springfield Street from North							Harrison Avenue from East							Boston Medical Center Place from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	1	0	0	0	0	1	0	2	1	0	0	0	3	0	0	0	0	0	0	0	1	5	0	0	0	0	6	10
8:00 AM	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0	5	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	0	0	2	0	3	0	0	0	0	3	6
Total Volume	0	2	0	0	0	0	2	0	2	3	0	0	0	5	0	1	1	0	0	0	2	2	14	0	0	0	0	16	25
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0		0.0	40.0	60.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0	0.0	0.0		12.5	87.5	0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.250	0.750	0.000	0.000	0.000	0.417	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.500	0.700	0.000	0.000	0.000	0.000	0.667	0.625
Entering Leg	0	2	0	0	0	0	2	0	2	3	0	0	0	5	0	1	1	0	0	0	2	2	14	0	0	0	0	16	25
Exiting Leg							1							14							7							3	25
Total							3							19							9							19	50

PDI File #: **197325 (8) am**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Springfield Street							Harrison Avenue							Boston Medical Center Place							Harrison Avenue							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	8	6	14	0	0	0	0	4	2	6	0	0	0	0	3	7	10	0	0	0	0	1	1	2	32
7:15 AM	0	0	0	0	7	11	18	0	0	0	0	12	0	12	0	0	0	0	9	9	18	0	0	0	0	1	5	6	54
7:30 AM	0	0	0	0	13	5	18	0	0	0	0	19	6	25	0	0	0	0	9	27	36	0	0	0	0	3	0	3	82
7:45 AM	0	0	0	0	13	6	19	0	0	0	0	27	3	30	0	0	0	0	5	21	26	0	0	0	0	0	5	5	80
Total	0	0	0	0	41	28	69	0	0	0	0	62	11	73	0	0	0	0	26	64	90	0	0	0	0	5	11	16	248
8:00 AM	0	0	0	0	12	8	20	0	0	0	0	14	2	16	0	0	0	0	9	9	18	0	0	0	0	1	6	7	61
8:15 AM	0	0	0	0	20	9	29	0	0	0	0	22	2	24	0	0	0	0	5	30	35	0	0	0	0	7	7	14	102
8:30 AM	0	0	0	0	14	14	28	0	0	0	0	15	1	16	0	0	0	0	11	26	37	0	0	0	0	3	9	12	93
8:45 AM	0	0	0	0	7	10	17	0	0	0	0	15	4	19	0	0	0	0	9	20	29	0	0	0	0	2	6	8	73
Total	0	0	0	0	53	41	94	0	0	0	0	66	9	75	0	0	0	0	34	85	119	0	0	0	0	13	28	41	329
Grand Total	0	0	0	0	94	69	163	0	0	0	0	128	20	148	0	0	0	0	60	149	209	0	0	0	0	18	39	57	577
Approach %	0.0	0.0	0.0	0.0	57.7	42.3		0.0	0.0	0.0	0.0	86.5	13.5		0.0	0.0	0.0	0.0	28.7	71.3		0.0	0.0	0.0	0.0	31.6	68.4		
Total %	0.0	0.0	0.0	0.0	16.3	12.0	28.2	0.0	0.0	0.0	0.0	22.2	3.5	25.6	0.0	0.0	0.0	0.0	10.4	25.8	36.2	0.0	0.0	0.0	0.0	3.1	6.8	9.9	
Exiting Leg Total							163							148							209							57	577

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Springfield Street							Harrison Avenue							Boston Medical Center Place							Harrison Avenue							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	13	6	19	0	0	0	0	27	3	30	0	0	0	0	5	21	26	0	0	0	0	0	5	5	80
8:00 AM	0	0	0	0	12	8	20	0	0	0	0	14	2	16	0	0	0	0	9	9	18	0	0	0	0	1	6	7	61
8:15 AM	0	0	0	0	20	9	29	0	0	0	0	22	2	24	0	0	0	0	5	30	35	0	0	0	0	7	7	14	102
8:30 AM	0	0	0	0	14	14	28	0	0	0	0	15	1	16	0	0	0	0	11	26	37	0	0	0	0	3	9	12	93
Total Volume	0	0	0	0	59	37	96	0	0	0	0	78	8	86	0	0	0	0	30	86	116	0	0	0	0	11	27	38	336
% Approach Total	0.0	0.0	0.0	0.0	61.5	38.5		0.0	0.0	0.0	0.0	90.7	9.3		0.0	0.0	0.0	0.0	25.9	74.1		0.0	0.0	0.0	0.0	28.9	71.1		
PHF	0.000	0.000	0.000	0.000	0.738	0.661	0.828	0.000	0.000	0.000	0.000	0.722	0.667	0.717	0.000	0.000	0.000	0.000	0.682	0.717	0.784	0.000	0.000	0.000	0.000	0.393	0.750	0.679	0.824
Entering Leg	0	0	0	0	59	37	96	0	0	0	0	78	8	86	0	0	0	0	30	86	116	0	0	0	0	11	27	38	336
Exiting Leg							96							86							116							38	336
Total							192							172							232							76	672

PDI File #: **197325 (8) pm**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Springfield Street from North					Harrison Avenue from East					Boston Medical Center Place from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	8	1	4	0	13	0	70	9	0	79	2	0	0	0	2	28	62	0	0	90	184
4:15 PM	13	1	7	0	21	0	68	5	0	73	0	0	1	0	1	19	76	0	1	96	191
4:30 PM	7	2	9	0	18	0	69	4	1	74	0	0	0	0	0	25	84	0	0	109	201
4:45 PM	5	1	7	0	13	0	81	7	0	88	0	1	1	0	2	21	71	0	0	92	195
Total	33	5	27	0	65	0	288	25	1	314	2	1	2	0	5	93	293	0	1	387	771
5:00 PM	7	7	10	0	24	0	69	5	0	74	0	0	0	0	0	21	85	0	0	106	204
5:15 PM	9	4	9	0	22	0	73	3	0	76	0	0	0	0	0	29	69	0	0	98	196
5:30 PM	9	1	2	0	12	0	65	3	0	68	0	0	0	0	0	25	77	0	0	102	182
5:45 PM	7	1	10	0	18	0	64	3	0	67	0	0	0	0	0	16	95	0	0	111	196
Total	32	13	31	0	76	0	271	14	0	285	0	0	0	0	0	91	326	0	0	417	778
Grand Total	65	18	58	0	141	0	559	39	1	599	2	1	2	0	5	184	619	0	1	804	1549
Approach %	46.1	12.8	41.1	0.0		0.0	93.3	6.5	0.2		40.0	20.0	40.0	0.0		22.9	77.0	0.0	0.1		
Total %	4.2	1.2	3.7	0.0	9.1	0.0	36.1	2.5	0.1	38.7	0.1	0.1	0.1	0.0	0.3	11.9	40.0	0.0	0.1	51.9	
Exiting Leg Total					1					680					241					627	1549
Cars	63	17	57	0	137	0	510	37	1	548	2	1	2	0	5	180	594	0	1	775	1465
% Cars	96.9	94.4	98.3	0.0	97.2	0.0	91.2	94.9	100.0	91.5	100.0	100.0	100.0	0.0	100.0	97.8	96.0	0.0	100.0	96.4	94.6
Exiting Leg Total					1					654					234					576	1465
Heavy Vehicles	2	1	1	0	4	0	49	2	0	51	0	0	0	0	0	4	25	0	0	29	84
% Heavy Vehicles	3.1	5.6	1.7	0.0	2.8	0.0	8.8	5.1	0.0	8.5	0.0	0.0	0.0	0.0	0.0	2.2	4.0	0.0	0.0	3.6	5.4
Exiting Leg Total					0					26					7					51	84

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Springfield Street from North					Harrison Avenue from East					Boston Medical Center Place from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	8	1	4	0	13	0	70	9	0	79	2	0	0	0	2	28	62	0	0	90	184
4:15 PM	13	1	7	0	21	0	68	5	0	73	0	0	1	0	1	19	76	0	1	96	191
4:30 PM	7	2	9	0	18	0	69	4	1	74	0	0	0	0	0	25	84	0	0	109	201
4:45 PM	5	1	7	0	13	0	81	7	0	88	0	1	1	0	2	21	71	0	0	92	195
Total Volume	33	5	27	0	65	0	288	25	1	314	2	1	2	0	5	93	293	0	1	387	771
% Approach Total	50.8	7.7	41.5	0.0		0.0	91.7	8.0	0.3		40.0	20.0	40.0	0.0		24.0	75.7	0.0	0.3		
PHF	0.635	0.625	0.750	0.000	0.774	0.000	0.889	0.694	0.250	0.892	0.250	0.250	0.500	0.000	0.625	0.830	0.872	0.000	0.250	0.888	0.959
Cars	33	5	26	0	64	0	265	24	1	290	2	1	2	0	5	91	282	0	1	374	733
Cars %	100.0	100.0	96.3	0.0	98.5	0.0	92.0	96.0	100.0	92.4	100.0	100.0	100.0	0.0	100.0	97.8	96.2	0.0	100.0	96.6	95.1
Heavy Vehicles	0	0	1	0	1	0	23	1	0	24	0	0	0	0	0	2	11	0	0	13	38
Heavy Vehicles %	0.0	0.0	3.7	0.0	1.5	0.0	8.0	4.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	2.2	3.8	0.0	0.0	3.4	4.9
Cars Enter Leg	33	5	26	0	64	0	265	24	1	290	2	1	2	0	5	91	282	0	1	374	733
Heavy Enter Leg	0	0	1	0	1	0	23	1	0	24	0	0	0	0	0	2	11	0	0	13	38
Total Entering Leg	33	5	27	0	65	0	288	25	1	314	2	1	2	0	5	93	293	0	1	387	771
Cars Exiting Leg					1					311					120					301	733
Heavy Exiting Leg					0					12					3					23	38
Total Exiting Leg					1					323					123					324	771

PDI File #: **197325 (8) pm**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	8	1	4	0	13	0	66	9	0	75	2	0	0	0	2	26	61	0	0	87	177
4:15 PM	13	1	7	0	21	0	62	5	0	67	0	0	1	0	1	19	72	0	1	92	181
4:30 PM	7	2	8	0	17	0	62	3	1	66	0	0	0	0	0	25	82	0	0	107	190
4:45 PM	5	1	7	0	13	0	75	7	0	82	0	1	1	0	2	21	67	0	0	88	185
Total	33	5	26	0	64	0	265	24	1	290	2	1	2	0	5	91	282	0	1	374	733
5:00 PM	7	7	10	0	24	0	63	4	0	67	0	0	0	0	0	21	81	0	0	102	193
5:15 PM	9	4	9	0	22	0	67	3	0	70	0	0	0	0	0	28	67	0	0	95	187
5:30 PM	7	0	2	0	9	0	59	3	0	62	0	0	0	0	0	25	72	0	0	97	168
5:45 PM	7	1	10	0	18	0	56	3	0	59	0	0	0	0	0	15	92	0	0	107	184
Total	30	12	31	0	73	0	245	13	0	258	0	0	0	0	0	89	312	0	0	401	732
Grand Total	63	17	57	0	137	0	510	37	1	548	2	1	2	0	5	180	594	0	1	775	1465
Approach %	46.0	12.4	41.6	0.0		0.0	93.1	6.8	0.2		40.0	20.0	40.0	0.0		23.2	76.6	0.0	0.1		
Total %	4.3	1.2	3.9	0.0	9.4	0.0	34.8	2.5	0.1	37.4	0.1	0.1	0.1	0.0	0.3	12.3	40.5	0.0	0.1	52.9	
Exiting Leg Total					1					654					234					576	1465

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	8	1	4	0	13	0	66	9	0	75	2	0	0	0	2	26	61	0	0	87	177
4:15 PM	13	1	7	0	21	0	62	5	0	67	0	0	1	0	1	19	72	0	1	92	181
4:30 PM	7	2	8	0	17	0	62	3	1	66	0	0	0	0	0	25	82	0	0	107	190
4:45 PM	5	1	7	0	13	0	75	7	0	82	0	1	1	0	2	21	67	0	0	88	185
Total Volume	33	5	26	0	64	0	265	24	1	290	2	1	2	0	5	91	282	0	1	374	733
% Approach Total	51.6	7.8	40.6	0.0		0.0	91.4	8.3	0.3		40.0	20.0	40.0	0.0		24.3	75.4	0.0	0.3		
PHF	0.635	0.625	0.813	0.000	0.762	0.000	0.883	0.667	0.250	0.884	0.250	0.250	0.500	0.000	0.625	0.875	0.860	0.000	0.250	0.874	0.964
Entering Leg	33	5	26	0	64	0	265	24	1	290	2	1	2	0	5	91	282	0	1	374	733
Exiting Leg					1					311					120					301	733
Total					65					601					125					675	1466

PDI File #: **197325 (8) pm**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	2	1	0	0	3	7
4:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
4:30 PM	0	0	1	0	1	0	7	1	0	8	0	0	0	0	0	0	2	0	0	2	11
4:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
Total	0	0	1	0	1	0	23	1	0	24	0	0	0	0	0	2	11	0	0	13	38
5:00 PM	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	4	0	0	4	11
5:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	1	2	0	0	3	9
5:30 PM	2	1	0	0	3	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	14
5:45 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	3	0	0	4	12
Total	2	1	0	0	3	0	26	1	0	27	0	0	0	0	0	2	14	0	0	16	46
Grand Total	2	1	1	0	4	0	49	2	0	51	0	0	0	0	0	4	25	0	0	29	84
Approach %	50.0	25.0	25.0	0.0		0.0	96.1	3.9	0.0		0.0	0.0	0.0	0.0		13.8	86.2	0.0	0.0		
Total %	2.4	1.2	1.2	0.0	4.8	0.0	58.3	2.4	0.0	60.7	0.0	0.0	0.0	0.0	0.0	4.8	29.8	0.0	0.0	34.5	
Exiting Leg Total					0					26					7					51	84
Buses	1	0	0	0	1	0	35	1	0	36	0	0	0	0	0	4	18	0	0	22	59
% Buses	50.0	0.0	0.0	0.0	25.0	0.0	71.4	50.0	0.0	70.6	0.0	0.0	0.0	0.0	0.0	100.0	72.0	0.0	0.0	75.9	70.2
Exiting Leg Total					0					18					5					36	59
Single-Unit Trucks	1	1	1	0	3	0	14	1	0	15	0	0	0	0	0	0	7	0	0	7	25
% Single-Unit	50.0	100.0	100.0	0.0	75.0	0.0	28.6	50.0	0.0	29.4	0.0	0.0	0.0	0.0	0.0	0.0	28.0	0.0	0.0	24.1	29.8
Exiting Leg Total					0					8					2					15	25
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	2	1	0	0	3	7
4:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
4:30 PM	0	0	1	0	1	0	7	1	0	8	0	0	0	0	0	0	2	0	0	2	11
4:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
Total Volume	0	0	1	0	1	0	23	1	0	24	0	0	0	0	0	2	11	0	0	13	38
% Approach Total	0.0	0.0	100.0	0.0		0.0	95.8	4.2	0.0		0.0	0.0	0.0	0.0		15.4	84.6	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.821	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.250	0.688	0.000	0.000	0.813	0.864
Buses	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	2	8	0	0	10	27
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	73.9	0.0	0.0	70.8	0.0	0.0	0.0	0.0	0.0	100.0	72.7	0.0	0.0	76.9	71.1
Single-Unit Trucks	0	0	1	0	1	0	6	1	0	7	0	0	0	0	0	0	3	0	0	3	11
Single-Unit %	0.0	0.0	100.0	0.0	100.0	0.0	26.1	100.0	0.0	29.2	0.0	0.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0	23.1	28.9
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	2	8	0	0	10	27
Single-Unit Trucks	0	0	1	0	1	0	6	1	0	7	0	0	0	0	0	0	3	0	0	3	11
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	1	0	1	0	23	1	0	24	0	0	0	0	0	2	11	0	0	13	38
Buses					0					8					2					17	27
Single-Unit Trucks					0					4					1					6	11
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					12					3					23	38

PDI File #: **197325 (8) pm**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	2	1	0	0	3	6
4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
4:30 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	7
4:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
Total	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	2	8	0	0	10	27
5:00 PM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	1	0	0	1	5
5:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	2	0	0	3	7
5:30 PM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	10
5:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	1	3	0	0	4	10
Total	1	0	0	0	1	0	18	1	0	19	0	0	0	0	0	2	10	0	0	12	32
Grand Total	1	0	0	0	1	0	35	1	0	36	0	0	0	0	0	4	18	0	0	22	59
Approach %	100.0	0.0	0.0	0.0		0.0	97.2	2.8	0.0		0.0	0.0	0.0	0.0		18.2	81.8	0.0	0.0		
Total %	1.7	0.0	0.0	0.0	1.7	0.0	59.3	1.7	0.0	61.0	0.0	0.0	0.0	0.0	0.0	6.8	30.5	0.0	0.0	37.3	
Exiting Leg Total					0					18					5					36	59

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	2	1	0	0	3	6
4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
4:30 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	7
4:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
Total Volume	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	2	8	0	0	10	27
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		20.0	80.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.708	0.000	0.000	0.708	0.000	0.000	0.000	0.000	0.000	0.250	0.667	0.000	0.000	0.833	0.844
Entering Leg	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	2	8	0	0	10	27
Exiting Leg					0					8					2					17	27
Total					0					25					2					27	54

PDI File #: **197325 (8) pm**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	East Springfield Street from North					Harrison Avenue from East					Boston Medical Center Place from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
4:30 PM	0	0	1	0	1	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	4
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	1	0	1	0	6	1	0	7	0	0	0	0	0	0	3	0	0	3	11
5:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
5:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	4
5:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	1	1	0	0	2	0	8	0	0	8	0	0	0	0	0	0	4	0	0	4	14
Grand Total	1	1	1	0	3	0	14	1	0	15	0	0	0	0	0	0	7	0	0	7	25
Approach %	33.3	33.3	33.3	0.0		0.0	93.3	6.7	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	4.0	4.0	4.0	0.0	12.0	0.0	56.0	4.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	28.0	0.0	0.0	28.0	
Exiting Leg Total					0					8					2					15	25

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Springfield Street from North					Harrison Avenue from East					Boston Medical Center Place from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
4:30 PM	0	0	1	0	1	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	4
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total Volume	0	0	1	0	1	0	6	1	0	7	0	0	0	0	0	0	3	0	0	3	11
% Approach Total	0.0	0.0	100.0	0.0		0.0	85.7	14.3	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.250	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.688
Entering Leg	0	0	1	0	1	0	6	1	0	7	0	0	0	0	0	0	3	0	0	3	11
Exiting Leg					0					4					1					6	11
Total					1					11					1					9	22

PDI File #: **197325 (8) pm**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Springfield Street					Harrison Avenue					Boston Medical Center Place					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (8) pm**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Springfield Street							Harrison Avenue							Boston Medical Center Place							Harrison Avenue							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	2	0	0	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	2	0	1	0	0	0	0	1	4
Total	0	0	0	0	0	0	0	0	2	0	0	0	2	4	1	2	3	0	0	0	6	0	1	0	0	0	0	1	11
5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	2	0	0	0	2	0	0	0	0	0	0	0	4
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0	0	0	3	0	1	0	0	1	0	2	6
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	1	1	0	1	0	0	0	0	1	4
Total	0	1	0	0	0	0	1	0	5	0	0	0	0	5	0	1	5	0	0	1	7	0	2	0	0	1	0	3	16
Grand Total	0	1	0	0	0	0	1	0	7	0	0	0	2	9	1	3	8	0	0	1	13	0	3	0	0	1	0	4	27
Approach %	0.0	100.0	0.0	0.0	0.0	0.0		0.0	77.8	0.0	0.0	0.0	22.2		7.7	23.1	61.5	0.0	0.0	7.7		0.0	75.0	0.0	0.0	25.0	0.0		
Total %	0.0	3.7	0.0	0.0	0.0	0.0	3.7	0.0	25.9	0.0	0.0	0.0	7.4	33.3	3.7	11.1	29.6	0.0	0.0	3.7	48.1	0.0	11.1	0.0	0.0	3.7	0.0	14.8	
Exiting Leg Total							3							6							2							16	27

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	East Springfield Street							Harrison Avenue							Boston Medical Center Place							Harrison Avenue							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	2	0	1	0	0	0	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	2	0	0	0	2	0	0	0	0	0	0	0	4
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0	0	0	3	0	1	0	0	1	0	2	6
Total Volume	0	1	0	0	0	0	1	0	2	0	0	0	1	3	1	3	5	0	0	0	9	0	2	0	0	1	0	3	16
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0		0.0	66.7	0.0	0.0	0.0	33.3		11.1	33.3	55.6	0.0	0.0	0.0		0.0	66.7	0.0	0.0	33.3	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.250	0.375	0.250	0.375	0.625	0.000	0.000	0.000	0.750	0.000	0.500	0.000	0.000	0.250	0.000	0.375	0.667
Entering Leg	0	1	0	0	0	0	1	0	2	0	0	0	1	3	1	3	5	0	0	0	9	0	2	0	0	1	0	3	16
Exiting Leg							3							4							1							8	16
Total							4							7							10							11	32

PDI File #: **197325 (8) pm**
Location: **N: East Springfield Street S: Boston Medical Center Place**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Springfield Street							Harrison Avenue							Boston Medical Center Place							Harrison Avenue							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	7	4	11	0	0	0	0	3	7	10	0	0	0	0	11	4	15	0	0	0	0	6	1	7	43
4:15 PM	0	0	0	0	7	12	19	0	0	0	0	8	16	24	0	0	0	0	14	4	18	0	0	0	0	3	3	6	67
4:30 PM	0	0	0	0	9	7	16	0	0	0	0	4	3	7	0	0	0	0	9	11	20	0	0	0	0	4	2	6	49
4:45 PM	0	0	0	0	8	11	19	0	0	0	0	3	7	10	0	0	0	0	7	20	27	0	0	0	0	2	4	6	62
Total	0	0	0	0	31	34	65	0	0	0	0	18	33	51	0	0	0	0	41	39	80	0	0	0	0	15	10	25	221
5:00 PM	0	0	0	0	9	23	32	0	0	0	0	5	22	27	0	0	0	0	24	23	47	0	0	0	0	9	10	19	125
5:15 PM	0	0	0	0	3	14	17	0	0	0	0	5	16	21	0	0	0	0	16	17	33	0	0	0	0	3	2	5	76
5:30 PM	0	0	0	0	5	8	13	0	0	0	0	4	12	16	0	0	0	0	6	9	15	0	0	0	0	5	2	7	51
5:45 PM	0	0	0	0	8	7	15	0	0	0	0	7	9	16	0	0	0	0	13	19	32	0	0	0	0	3	3	6	69
Total	0	0	0	0	25	52	77	0	0	0	0	21	59	80	0	0	0	0	59	68	127	0	0	0	0	20	17	37	321
Grand Total	0	0	0	0	56	86	142	0	0	0	0	39	92	131	0	0	0	0	100	107	207	0	0	0	0	35	27	62	542
Approach %	0.0	0.0	0.0	0.0	39.4	60.6		0.0	0.0	0.0	0.0	29.8	70.2		0.0	0.0	0.0	0.0	48.3	51.7		0.0	0.0	0.0	0.0	56.5	43.5		
Total %	0.0	0.0	0.0	0.0	10.3	15.9	26.2	0.0	0.0	0.0	0.0	7.2	17.0	24.2	0.0	0.0	0.0	0.0	18.5	19.7	38.2	0.0	0.0	0.0	0.0	6.5	5.0	11.4	
Exiting Leg Total							142							131							207							62	542

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	East Springfield Street							Harrison Avenue							Boston Medical Center Place							Harrison Avenue							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	9	23	32	0	0	0	0	5	22	27	0	0	0	0	24	23	47	0	0	0	0	9	10	19	125
5:15 PM	0	0	0	0	3	14	17	0	0	0	0	5	16	21	0	0	0	0	16	17	33	0	0	0	0	3	2	5	76
5:30 PM	0	0	0	0	5	8	13	0	0	0	0	4	12	16	0	0	0	0	6	9	15	0	0	0	0	5	2	7	51
5:45 PM	0	0	0	0	8	7	15	0	0	0	0	7	9	16	0	0	0	0	13	19	32	0	0	0	0	3	3	6	69
Total Volume	0	0	0	0	25	52	77	0	0	0	0	21	59	80	0	0	0	0	59	68	127	0	0	0	0	20	17	37	321
% Approach Total	0.0	0.0	0.0	0.0	32.5	67.5		0.0	0.0	0.0	0.0	26.3	73.8		0.0	0.0	0.0	0.0	46.5	53.5		0.0	0.0	0.0	0.0	54.1	45.9		
PHF	0.000	0.000	0.000	0.000	0.694	0.565	0.602	0.000	0.000	0.000	0.000	0.750	0.670	0.741	0.000	0.000	0.000	0.000	0.615	0.739	0.676	0.000	0.000	0.000	0.000	0.556	0.425	0.487	0.642
Entering Leg	0	0	0	0	25	52	77	0	0	0	0	21	59	80	0	0	0	0	59	68	127	0	0	0	0	20	17	37	321
Exiting Leg							77							80							127							37	321
Total							154							160							254							74	642

PDI File #: **197325 (9) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	8	8	0	18	0	39	14	0	53	0	0	0	0	0	22	43	0	0	65	136
7:15 AM	4	10	2	0	16	0	46	9	0	55	0	0	0	0	0	22	75	0	0	97	168
7:30 AM	4	17	7	0	28	0	48	15	0	63	0	0	0	0	0	21	68	0	0	89	180
7:45 AM	3	13	8	0	24	0	45	13	0	58	0	0	0	0	0	22	69	0	0	91	173
Total	13	48	25	0	86	0	178	51	0	229	0	0	0	0	0	87	255	0	0	342	657
8:00 AM	6	13	4	0	23	1	40	8	0	49	0	0	0	0	0	20	54	0	0	74	146
8:15 AM	4	6	2	0	12	0	42	8	0	50	0	0	0	0	0	32	61	0	0	93	155
8:30 AM	8	13	4	0	25	1	49	10	0	60	0	0	0	0	0	33	60	0	0	93	178
8:45 AM	11	9	4	0	24	0	53	10	0	63	0	0	0	0	0	26	56	0	0	82	169
Total	29	41	14	0	84	2	184	36	0	222	0	0	0	0	0	111	231	0	0	342	648
Grand Total	42	89	39	0	170	2	362	87	0	451	0	0	0	0	0	198	486	0	0	684	1305
Approach %	24.7	52.4	22.9	0.0		0.4	80.3	19.3	0.0		0.0	0.0	0.0	0.0		28.9	71.1	0.0	0.0		
Total %	3.2	6.8	3.0	0.0	13.0	0.2	27.7	6.7	0.0	34.6	0.0	0.0	0.0	0.0	0.0	15.2	37.2	0.0	0.0	52.4	
Exiting Leg Total					2					525					374					404	1305
Cars	40	89	39	0	168	2	323	72	0	397	0	0	0	0	0	188	458	0	0	646	1211
% Cars	95.2	100.0	100.0	0.0	98.8	100.0	89.2	82.8	0.0	88.0	0.0	0.0	0.0	0.0	0.0	94.9	94.2	0.0	0.0	94.4	92.8
Exiting Leg Total					2					497					349					363	1211
Heavy Vehicles	2	0	0	0	2	0	39	15	0	54	0	0	0	0	0	10	28	0	0	38	94
% Heavy Vehicles	4.8	0.0	0.0	0.0	1.2	0.0	10.8	17.2	0.0	12.0	0.0	0.0	0.0	0.0	0.0	5.1	5.8	0.0	0.0	5.6	7.2
Exiting Leg Total					0					28					25					41	94

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	4	10	2	0	16	0	46	9	0	55	0	0	0	0	0	22	75	0	0	97	168
7:30 AM	4	17	7	0	28	0	48	15	0	63	0	0	0	0	0	21	68	0	0	89	180
7:45 AM	3	13	8	0	24	0	45	13	0	58	0	0	0	0	0	22	69	0	0	91	173
8:00 AM	6	13	4	0	23	1	40	8	0	49	0	0	0	0	0	20	54	0	0	74	146
Total Volume	17	53	21	0	91	1	179	45	0	225	0	0	0	0	0	85	266	0	0	351	667
% Approach Total	18.7	58.2	23.1	0.0		0.4	79.6	20.0	0.0		0.0	0.0	0.0	0.0		24.2	75.8	0.0	0.0		
PHF	0.708	0.779	0.656	0.000	0.813	0.250	0.932	0.750	0.000	0.893	0.000	0.000	0.000	0.000	0.000	0.966	0.887	0.000	0.000	0.905	0.926
Cars	16	53	21	0	90	1	157	40	0	198	0	0	0	0	0	81	253	0	0	334	622
Cars %	94.1	100.0	100.0	0.0	98.9	100.0	87.7	88.9	0.0	88.0	0.0	0.0	0.0	0.0	0.0	95.3	95.1	0.0	0.0	95.2	93.3
Heavy Vehicles	1	0	0	0	1	0	22	5	0	27	0	0	0	0	0	4	13	0	0	17	45
Heavy Vehicles %	5.9	0.0	0.0	0.0	1.1	0.0	12.3	11.1	0.0	12.0	0.0	0.0	0.0	0.0	0.0	4.7	4.9	0.0	0.0	4.8	6.7
Cars Enter Leg	16	53	21	0	90	1	157	40	0	198	0	0	0	0	0	81	253	0	0	334	622
Heavy Enter Leg	1	0	0	0	1	0	22	5	0	27	0	0	0	0	0	4	13	0	0	17	45
Total Entering Leg	17	53	21	0	91	1	179	45	0	225	0	0	0	0	0	85	266	0	0	351	667
Cars Exiting Leg					1					274					174					173	622
Heavy Exiting Leg					0					13					9					23	45
Total Exiting Leg					1					287					183					196	667

PDI File #: **197325 (9) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	8	8	0	18	0	32	10	0	42	0	0	0	0	0	21	38	0	0	59	119
7:15 AM	4	10	2	0	16	0	41	9	0	50	0	0	0	0	0	21	68	0	0	89	155
7:30 AM	4	17	7	0	28	0	44	12	0	56	0	0	0	0	0	20	65	0	0	85	169
7:45 AM	3	13	8	0	24	0	38	12	0	50	0	0	0	0	0	22	68	0	0	90	164
Total	13	48	25	0	86	0	155	43	0	198	0	0	0	0	0	84	239	0	0	323	607
8:00 AM	5	13	4	0	22	1	34	7	0	42	0	0	0	0	0	18	52	0	0	70	134
8:15 AM	4	6	2	0	12	0	41	6	0	47	0	0	0	0	0	31	57	0	0	88	147
8:30 AM	7	13	4	0	24	1	44	8	0	53	0	0	0	0	0	31	58	0	0	89	166
8:45 AM	11	9	4	0	24	0	49	8	0	57	0	0	0	0	0	24	52	0	0	76	157
Total	27	41	14	0	82	2	168	29	0	199	0	0	0	0	0	104	219	0	0	323	604
Grand Total	40	89	39	0	168	2	323	72	0	397	0	0	0	0	0	188	458	0	0	646	1211
Approach %	23.8	53.0	23.2	0.0		0.5	81.4	18.1	0.0		0.0	0.0	0.0	0.0		29.1	70.9	0.0	0.0		
Total %	3.3	7.3	3.2	0.0	13.9	0.2	26.7	5.9	0.0	32.8	0.0	0.0	0.0	0.0	0.0	15.5	37.8	0.0	0.0	53.3	
Exiting Leg Total					2					497					349					363	1211

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	4	10	2	0	16	0	41	9	0	50	0	0	0	0	0	21	68	0	0	89	155
7:30 AM	4	17	7	0	28	0	44	12	0	56	0	0	0	0	0	20	65	0	0	85	169
7:45 AM	3	13	8	0	24	0	38	12	0	50	0	0	0	0	0	22	68	0	0	90	164
8:00 AM	5	13	4	0	22	1	34	7	0	42	0	0	0	0	0	18	52	0	0	70	134
Total Volume	16	53	21	0	90	1	157	40	0	198	0	0	0	0	0	81	253	0	0	334	622
% Approach Total	17.8	58.9	23.3	0.0		0.5	79.3	20.2	0.0		0.0	0.0	0.0	0.0		24.3	75.7	0.0	0.0		
PHF	0.800	0.779	0.656	0.000	0.804	0.250	0.892	0.833	0.000	0.884	0.000	0.000	0.000	0.000	0.000	0.920	0.930	0.000	0.000	0.928	0.920
Entering Leg	16	53	21	0	90	1	157	40	0	198	0	0	0	0	0	81	253	0	0	334	622
Exiting Leg					1					274					174					173	622
Total					91					472					174					507	1244

PDI File #: **197325 (9) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	7	4	0	11	0	0	0	0	0	1	5	0	0	6	17
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	7	0	0	8	13
7:30 AM	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	1	3	0	0	4	11
7:45 AM	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	1	0	0	1	9
Total	0	0	0	0	0	0	23	8	0	31	0	0	0	0	0	3	16	0	0	19	50
8:00 AM	1	0	0	0	1	0	6	1	0	7	0	0	0	0	0	2	2	0	0	4	12
8:15 AM	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	1	4	0	0	5	8
8:30 AM	1	0	0	0	1	0	5	2	0	7	0	0	0	0	0	2	2	0	0	4	12
8:45 AM	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	2	4	0	0	6	12
Total	2	0	0	0	2	0	16	7	0	23	0	0	0	0	0	7	12	0	0	19	44
Grand Total	2	0	0	0	2	0	39	15	0	54	0	0	0	0	0	10	28	0	0	38	94
Approach %	100.0	0.0	0.0	0.0		0.0	72.2	27.8	0.0		0.0	0.0	0.0	0.0		26.3	73.7	0.0	0.0		
Total %	2.1	0.0	0.0	0.0	2.1	0.0	41.5	16.0	0.0	57.4	0.0	0.0	0.0	0.0	0.0	10.6	29.8	0.0	0.0	40.4	
Exiting Leg Total					0					28					25					41	94
Buses	0	0	0	0	0	0	31	14	0	45	0	0	0	0	0	9	11	0	0	20	65
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	79.5	93.3	0.0	83.3	0.0	0.0	0.0	0.0	0.0	90.0	39.3	0.0	0.0	52.6	69.1
Exiting Leg Total					0					11					23					31	65
Single-Unit Trucks	2	0	0	0	2	0	7	1	0	8	0	0	0	0	0	1	14	0	0	15	25
% Single-Unit	100.0	0.0	0.0	0.0	100.0	0.0	17.9	6.7	0.0	14.8	0.0	0.0	0.0	0.0	0.0	10.0	50.0	0.0	0.0	39.5	26.6
Exiting Leg Total					0					14					2					9	25
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	10.7	0.0	0.0	7.9	4.3
Exiting Leg Total					0					3					0					1	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	7	4	0	11	0	0	0	0	0	1	5	0	0	6	17
7:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	7	0	0	8	13
7:30 AM	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	1	3	0	0	4	11
7:45 AM	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	1	0	0	1	9
Total Volume	0	0	0	0	0	0	23	8	0	31	0	0	0	0	0	3	16	0	0	19	50
% Approach Total	0.0	0.0	0.0	0.0		0.0	74.2	25.8	0.0		0.0	0.0	0.0	0.0		15.8	84.2	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.821	0.500	0.000	0.705	0.000	0.000	0.000	0.000	0.000	0.750	0.571	0.000	0.000	0.594	0.735
Buses	0	0	0	0	0	0	20	7	0	27	0	0	0	0	0	3	4	0	0	7	34
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	87.0	87.5	0.0	87.1	0.0	0.0	0.0	0.0	0.0	100.0	25.0	0.0	0.0	36.8	68.0
Single-Unit Trucks	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	12	0	0	12	16
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	13.0	12.5	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	63.2	32.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	20	7	0	27	0	0	0	0	0	3	4	0	0	7	34
Single-Unit Trucks	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	12	0	0	12	16
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	23	8	0	31	0	0	0	0	0	3	16	0	0	19	50
Buses					0					4					10					20	34
Single-Unit Trucks					0					12					1					3	16
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					16					11					23	50

PDI File #: **197325 (9) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	7	3	0	10	0	0	0	0	0	1	0	0	0	1	11
7:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	3	0	0	4	8
7:30 AM	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	1	1	0	0	2	9
7:45 AM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	0	0	0	0	20	7	0	27	0	0	0	0	0	3	4	0	0	7	34
8:00 AM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	2	2	0	0	4	9
8:15 AM	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	1	2	0	0	3	6
8:30 AM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	2	1	0	0	3	8
8:45 AM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	1	2	0	0	3	8
Total	0	0	0	0	0	0	11	7	0	18	0	0	0	0	0	6	7	0	0	13	31
Grand Total	0	0	0	0	0	0	31	14	0	45	0	0	0	0	0	9	11	0	0	20	65
Approach %	0.0	0.0	0.0	0.0		0.0	68.9	31.1	0.0		0.0	0.0	0.0	0.0		45.0	55.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	47.7	21.5	0.0	69.2	0.0	0.0	0.0	0.0	0.0	13.8	16.9	0.0	0.0	30.8	
Exiting Leg Total					0					11					23					31	65

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	7	3	0	10	0	0	0	0	0	1	0	0	0	1	11
7:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	3	0	0	4	8
7:30 AM	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	1	1	0	0	2	9
7:45 AM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	6
Total Volume	0	0	0	0	0	0	20	7	0	27	0	0	0	0	0	3	4	0	0	7	34
% Approach Total	0.0	0.0	0.0	0.0		0.0	74.1	25.9	0.0		0.0	0.0	0.0	0.0		42.9	57.1	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.714	0.583	0.000	0.675	0.000	0.000	0.000	0.000	0.000	0.750	0.333	0.000	0.000	0.438	0.773
Entering Leg	0	0	0	0	0	0	20	7	0	27	0	0	0	0	0	3	4	0	0	7	34
Exiting Leg					0					4					10					20	34
Total					0					31					10					27	68

PDI File #: **197325 (9) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	5	0	0	5	6
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	12	0	0	12	16
8:00 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	4
Total	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	1	2	0	0	3	9
Grand Total	2	0	0	0	2	0	7	1	0	8	0	0	0	0	0	1	14	0	0	15	25
Approach %	100.0	0.0	0.0	0.0		0.0	87.5	12.5	0.0		0.0	0.0	0.0	0.0		6.7	93.3	0.0	0.0		
Total %	8.0	0.0	0.0	0.0	8.0	0.0	28.0	4.0	0.0	32.0	0.0	0.0	0.0	0.0	0.0	4.0	56.0	0.0	0.0	60.0	
Exiting Leg Total					0					14					2					9	25

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	5	0	0	5	6
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total Volume	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	12	0	0	12	16
% Approach Total	0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.600	0.000	0.000	0.600	0.667
Entering Leg	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	12	0	0	12	16
Exiting Leg					0					12					1					3	16
Total					0					16					1					15	32

PDI File #: **197325 (9) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Articulated Trucks

	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	75.0	
Exiting Leg Total					0					3					0					1	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.500
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
Exiting Leg					0					3					0					1	4
Total					0					4					0					4	8

PDI File #: **197325 (9) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Concord Street from North							Harrison Avenue from East							East Concord Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2	1	0	0	0	0	0	1	4
7:15 AM	1	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	2
7:45 AM	0	2	0	0	0	0	2	0	2	1	0	1	1	5	1	1	0	0	0	0	2	1	0	0	0	0	0	1	10
Total	1	3	1	0	0	0	5	0	2	2	0	1	1	6	1	1	0	0	2	1	5	3	0	0	0	0	0	3	19
8:00 AM	0	3	0	0	0	0	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0	0	3	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:30 AM	0	3	0	0	0	0	3	0	1	0	0	0	0	1	1	0	0	0	0	0	1	2	1	0	0	0	0	3	8
8:45 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	7	0	0	0	0	7	0	2	0	0	0	0	2	1	0	0	0	0	0	1	3	4	0	0	0	0	7	17
Grand Total	1	10	1	0	0	0	12	0	4	2	0	1	1	8	2	1	0	0	2	1	6	6	4	0	0	0	0	10	36
Approach %	8.3	83.3	8.3	0.0	0.0	0.0		0.0	50.0	25.0	0.0	12.5	12.5		33.3	16.7	0.0	0.0	33.3	16.7		60.0	40.0	0.0	0.0	0.0	0.0		
Total %	2.8	27.8	2.8	0.0	0.0	0.0	33.3	0.0	11.1	5.6	0.0	2.8	2.8	22.2	5.6	2.8	0.0	0.0	5.6	2.8	16.7	16.7	11.1	0.0	0.0	0.0	0.0	27.8	
Exiting Leg Total							1							9							21							5	36

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Concord Street from North							Harrison Avenue from East							East Concord Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	2	0	0	0	0	2	0	2	1	0	1	1	5	1	1	0	0	0	0	2	1	0	0	0	0	0	1	10
8:00 AM	0	3	0	0	0	0	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0	0	3	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:30 AM	0	3	0	0	0	0	3	0	1	0	0	0	0	1	1	0	0	0	0	0	1	2	1	0	0	0	0	3	8
Total Volume	0	8	0	0	0	0	8	0	4	1	0	1	1	7	2	1	0	0	0	0	3	4	4	0	0	0	0	8	26
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0		0.0	57.1	14.3	0.0	14.3	14.3		66.7	33.3	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.667	0.000	0.000	0.000	0.000	0.667	0.000	0.500	0.250	0.000	0.250	0.250	0.350	0.500	0.250	0.000	0.000	0.000	0.000	0.375	0.500	0.500	0.000	0.000	0.000	0.000	0.667	0.650
Entering Leg	0	8	0	0	0	0	8	0	4	1	0	1	1	7	2	1	0	0	0	0	3	4	4	0	0	0	0	8	26
Exiting Leg							1							8							13							4	26
Total							9							15							16							12	52

PDI File #: **197325 (9) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Concord Street from North							Harrison Avenue from East							East Concord Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	2	10	12	0	0	0	0	0	0	0	0	0	0	0	5	9	14	0	0	0	0	0	8	8	34
7:15 AM	0	0	0	0	7	8	15	0	0	0	0	6	0	6	0	0	0	0	12	5	17	0	0	0	0	2	5	7	45
7:30 AM	0	0	0	0	17	11	28	0	0	0	0	11	1	12	0	0	0	0	10	13	23	0	0	0	0	1	14	15	78
7:45 AM	0	0	0	0	17	6	23	0	0	0	0	16	0	16	0	0	0	0	6	15	21	0	0	0	0	8	13	21	81
Total	0	0	0	0	43	35	78	0	0	0	0	33	1	34	0	0	0	0	33	42	75	0	0	0	0	11	40	51	238
8:00 AM	0	0	0	0	7	9	16	0	0	0	0	6	1	7	0	0	0	0	8	10	18	0	0	0	0	3	19	22	63
8:15 AM	0	0	0	0	13	13	26	0	0	0	0	11	1	12	0	0	0	0	8	20	28	0	0	0	0	2	18	20	86
8:30 AM	0	0	0	0	23	6	29	0	0	0	0	9	2	11	0	0	0	0	19	15	34	0	0	0	0	6	16	22	96
8:45 AM	0	0	0	0	13	9	22	0	0	0	0	15	0	15	0	0	0	0	10	12	22	0	0	0	0	1	22	23	82
Total	0	0	0	0	56	37	93	0	0	0	0	41	4	45	0	0	0	0	45	57	102	0	0	0	0	12	75	87	327
Grand Total	0	0	0	0	99	72	171	0	0	0	0	74	5	79	0	0	0	0	78	99	177	0	0	0	0	23	115	138	565
Approach %	0.0	0.0	0.0	0.0	57.9	42.1		0.0	0.0	0.0	0.0	93.7	6.3		0.0	0.0	0.0	0.0	44.1	55.9		0.0	0.0	0.0	0.0	16.7	83.3		
Total %	0.0	0.0	0.0	0.0	17.5	12.7	30.3	0.0	0.0	0.0	0.0	13.1	0.9	14.0	0.0	0.0	0.0	0.0	13.8	17.5	31.3	0.0	0.0	0.0	0.0	4.1	20.4	24.4	
Exiting Leg Total							171							79							177							138	565

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North							Harrison Avenue from East							East Concord Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	7	9	16	0	0	0	0	6	1	7	0	0	0	0	8	10	18	0	0	0	0	3	19	22	63
8:15 AM	0	0	0	0	13	13	26	0	0	0	0	11	1	12	0	0	0	0	8	20	28	0	0	0	0	2	18	20	86
8:30 AM	0	0	0	0	23	6	29	0	0	0	0	9	2	11	0	0	0	0	19	15	34	0	0	0	0	6	16	22	96
8:45 AM	0	0	0	0	13	9	22	0	0	0	0	15	0	15	0	0	0	0	10	12	22	0	0	0	0	1	22	23	82
Total Volume	0	0	0	0	56	37	93	0	0	0	0	41	4	45	0	0	0	0	45	57	102	0	0	0	0	12	75	87	327
% Approach Total	0.0	0.0	0.0	0.0	60.2	39.8		0.0	0.0	0.0	0.0	91.1	8.9		0.0	0.0	0.0	0.0	44.1	55.9		0.0	0.0	0.0	0.0	13.8	86.2		
PHF	0.000	0.000	0.000	0.000	0.609	0.712	0.802	0.000	0.000	0.000	0.000	0.683	0.500	0.750	0.000	0.000	0.000	0.000	0.592	0.713	0.750	0.000	0.000	0.000	0.000	0.500	0.852	0.946	0.852
Entering Leg	0	0	0	0	56	37	93	0	0	0	0	41	4	45	0	0	0	0	45	57	102	0	0	0	0	12	75	87	327
Exiting Leg							93							45							102							87	327
Total							186							90							204							174	654

PDI File #: **197325 (9) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	10	8	2	0	20	0	75	21	0	96	0	0	0	0	0	10	46	0	0	56	172
4:15 PM	3	7	5	0	15	0	66	14	0	80	1	0	0	0	1	16	53	0	1	70	166
4:30 PM	4	15	4	0	23	0	85	13	1	99	0	0	0	0	0	15	49	0	0	64	186
4:45 PM	5	13	5	0	23	0	69	10	0	79	0	0	0	0	0	21	48	0	0	69	171
Total	22	43	16	0	81	0	295	58	1	354	1	0	0	0	1	62	196	0	1	259	695
5:00 PM	7	7	8	0	22	0	76	10	0	86	0	0	0	0	0	10	51	0	1	62	170
5:15 PM	2	9	4	0	15	0	74	10	0	84	0	0	0	0	0	13	45	0	0	58	157
5:30 PM	8	5	0	0	13	0	75	10	0	85	0	0	0	0	0	12	45	0	0	57	155
5:45 PM	7	4	0	0	11	0	61	8	0	69	0	0	0	0	0	16	55	0	0	71	151
Total	24	25	12	0	61	0	286	38	0	324	0	0	0	0	0	51	196	0	1	248	633
Grand Total	46	68	28	0	142	0	581	96	1	678	1	0	0	0	1	113	392	0	2	507	1328
Approach %	32.4	47.9	19.7	0.0		0.0	85.7	14.2	0.1		100.0	0.0	0.0	0.0		22.3	77.3	0.0	0.4		
Total %	3.5	5.1	2.1	0.0	10.7	0.0	43.8	7.2	0.1	51.1	0.1	0.0	0.0	0.0	0.1	8.5	29.5	0.0	0.2	38.2	
Exiting Leg Total					0					422					277					629	1328
Cars	45	68	26	0	139	0	534	87	1	622	1	0	0	0	1	105	377	0	2	484	1246
% Cars	97.8	100.0	92.9	0.0	97.9	0.0	91.9	90.6	100.0	91.7	100.0	0.0	0.0	0.0	100.0	92.9	96.2	0.0	100.0	95.5	93.8
Exiting Leg Total					0					405					260					581	1246
Heavy Vehicles	1	0	2	0	3	0	47	9	0	56	0	0	0	0	0	8	15	0	0	23	82
% Heavy Vehicles	2.2	0.0	7.1	0.0	2.1	0.0	8.1	9.4	0.0	8.3	0.0	0.0	0.0	0.0	0.0	7.1	3.8	0.0	0.0	4.5	6.2
Exiting Leg Total					0					17					17					48	82

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	10	8	2	0	20	0	75	21	0	96	0	0	0	0	0	10	46	0	0	56	172
4:15 PM	3	7	5	0	15	0	66	14	0	80	1	0	0	0	1	16	53	0	1	70	166
4:30 PM	4	15	4	0	23	0	85	13	1	99	0	0	0	0	0	15	49	0	0	64	186
4:45 PM	5	13	5	0	23	0	69	10	0	79	0	0	0	0	0	21	48	0	0	69	171
Total Volume	22	43	16	0	81	0	295	58	1	354	1	0	0	0	1	62	196	0	1	259	695
% Approach Total	27.2	53.1	19.8	0.0		0.0	83.3	16.4	0.3		100.0	0.0	0.0	0.0		23.9	75.7	0.0	0.4		
PHF	0.550	0.717	0.800	0.000	0.880	0.000	0.868	0.690	0.250	0.894	0.250	0.000	0.000	0.000	0.250	0.738	0.925	0.000	0.250	0.925	0.934
Cars	22	43	15	0	80	0	274	52	1	327	1	0	0	0	1	58	191	0	1	250	658
Cars %	100.0	100.0	93.8	0.0	98.8	0.0	92.9	89.7	100.0	92.4	100.0	0.0	0.0	0.0	100.0	93.5	97.4	0.0	100.0	96.5	94.7
Heavy Vehicles	0	0	1	0	1	0	21	6	0	27	0	0	0	0	0	4	5	0	0	9	37
Heavy Vehicles %	0.0	0.0	6.3	0.0	1.2	0.0	7.1	10.3	0.0	7.6	0.0	0.0	0.0	0.0	0.0	6.5	2.6	0.0	0.0	3.5	5.3
Cars Enter Leg	22	43	15	0	80	0	274	52	1	327	1	0	0	0	1	58	191	0	1	250	658
Heavy Enter Leg	0	0	1	0	1	0	21	6	0	27	0	0	0	0	0	4	5	0	0	9	37
Total Entering Leg	22	43	16	0	81	0	295	58	1	354	1	0	0	0	1	62	196	0	1	259	695
Cars Exiting Leg					0					208					153					297	658
Heavy Exiting Leg					0					6					10					21	37
Total Exiting Leg					0					214					163					318	695

PDI File #: **197325 (9) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	10	8	2	0	20	0	72	18	0	90	0	0	0	0	0	9	45	0	0	54	164
4:15 PM	3	7	5	0	15	0	60	13	0	73	1	0	0	0	1	15	51	0	1	67	156
4:30 PM	4	15	3	0	22	0	78	12	1	91	0	0	0	0	0	14	48	0	0	62	175
4:45 PM	5	13	5	0	23	0	64	9	0	73	0	0	0	0	0	20	47	0	0	67	163
Total	22	43	15	0	80	0	274	52	1	327	1	0	0	0	1	58	191	0	1	250	658
5:00 PM	7	7	7	0	21	0	68	9	0	77	0	0	0	0	0	10	47	0	1	58	156
5:15 PM	2	9	4	0	15	0	67	9	0	76	0	0	0	0	0	12	44	0	0	56	147
5:30 PM	8	5	0	0	13	0	70	9	0	79	0	0	0	0	0	9	43	0	0	52	144
5:45 PM	6	4	0	0	10	0	55	8	0	63	0	0	0	0	0	16	52	0	0	68	141
Total	23	25	11	0	59	0	260	35	0	295	0	0	0	0	0	47	186	0	1	234	588
Grand Total	45	68	26	0	139	0	534	87	1	622	1	0	0	0	1	105	377	0	2	484	1246
Approach %	32.4	48.9	18.7	0.0		0.0	85.9	14.0	0.2		100.0	0.0	0.0	0.0		21.7	77.9	0.0	0.4		
Total %	3.6	5.5	2.1	0.0	11.2	0.0	42.9	7.0	0.1	49.9	0.1	0.0	0.0	0.0	0.1	8.4	30.3	0.0	0.2	38.8	
Exiting Leg Total					0					405					260					581	1246

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	10	8	2	0	20	0	72	18	0	90	0	0	0	0	0	9	45	0	0	54	164
4:15 PM	3	7	5	0	15	0	60	13	0	73	1	0	0	0	1	15	51	0	1	67	156
4:30 PM	4	15	3	0	22	0	78	12	1	91	0	0	0	0	0	14	48	0	0	62	175
4:45 PM	5	13	5	0	23	0	64	9	0	73	0	0	0	0	0	20	47	0	0	67	163
Total Volume	22	43	15	0	80	0	274	52	1	327	1	0	0	0	1	58	191	0	1	250	658
% Approach Total	27.5	53.8	18.8	0.0		0.0	83.8	15.9	0.3		100.0	0.0	0.0	0.0		23.2	76.4	0.0	0.4		
PHF	0.550	0.717	0.750	0.000	0.870	0.000	0.878	0.722	0.250	0.898	0.250	0.000	0.000	0.000	0.250	0.725	0.936	0.000	0.250	0.933	0.940
Entering Leg	22	43	15	0	80	0	274	52	1	327	1	0	0	0	1	58	191	0	1	250	658
Exiting Leg					0					208					153					297	658
Total					80					535					154					547	1316

PDI File #: **197325 (9) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	1	1	0	0	2	8
4:15 PM	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	1	2	0	0	3	10
4:30 PM	0	0	1	0	1	0	7	1	0	8	0	0	0	0	0	1	1	0	0	2	11
4:45 PM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	1	1	0	0	2	8
Total	0	0	1	0	1	0	21	6	0	27	0	0	0	0	0	4	5	0	0	9	37
5:00 PM	0	0	1	0	1	0	8	1	0	9	0	0	0	0	0	0	4	0	0	4	14
5:15 PM	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	1	1	0	0	2	10
5:30 PM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	3	2	0	0	5	11
5:45 PM	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	10
Total	1	0	1	0	2	0	26	3	0	29	0	0	0	0	0	4	10	0	0	14	45
Grand Total	1	0	2	0	3	0	47	9	0	56	0	0	0	0	0	8	15	0	0	23	82
Approach %	33.3	0.0	66.7	0.0		0.0	83.9	16.1	0.0		0.0	0.0	0.0	0.0		34.8	65.2	0.0	0.0		
Total %	1.2	0.0	2.4	0.0	3.7	0.0	57.3	11.0	0.0	68.3	0.0	0.0	0.0	0.0	0.0	9.8	18.3	0.0	0.0	28.0	
Exiting Leg Total					0					17					17					48	82
Buses	0	0	0	0	0	0	37	8	0	45	0	0	0	0	0	8	9	0	0	17	62
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	78.7	88.9	0.0	80.4	0.0	0.0	0.0	0.0	0.0	100.0	60.0	0.0	0.0	73.9	75.6
Exiting Leg Total					0					9					16					37	62
Single-Unit Trucks	1	0	2	0	3	0	10	1	0	11	0	0	0	0	0	0	6	0	0	6	20
% Single-Unit	100.0	0.0	100.0	0.0	100.0	0.0	21.3	11.1	0.0	19.6	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	26.1	24.4
Exiting Leg Total					0					8					1					11	20
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	1	1	0	0	2	8
4:15 PM	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	1	2	0	0	3	10
4:30 PM	0	0	1	0	1	0	7	1	0	8	0	0	0	0	0	1	1	0	0	2	11
4:45 PM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	1	1	0	0	2	8
Total Volume	0	0	1	0	1	0	21	6	0	27	0	0	0	0	0	4	5	0	0	9	37
% Approach Total	0.0	0.0	100.0	0.0		0.0	77.8	22.2	0.0		0.0	0.0	0.0	0.0		44.4	55.6	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.750	0.500	0.000	0.844	0.000	0.000	0.000	0.000	0.000	1.000	0.625	0.000	0.000	0.750	0.841
Buses	0	0	0	0	0	0	17	5	0	22	0	0	0	0	0	4	3	0	0	7	29
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	81.0	83.3	0.0	81.5	0.0	0.0	0.0	0.0	0.0	100.0	60.0	0.0	0.0	77.8	78.4
Single-Unit Trucks	0	0	1	0	1	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	8
Single-Unit %	0.0	0.0	100.0	0.0	100.0	0.0	19.0	16.7	0.0	18.5	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	22.2	21.6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	17	5	0	22	0	0	0	0	0	4	3	0	0	7	29
Single-Unit Trucks	0	0	1	0	1	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	1	0	1	0	21	6	0	27	0	0	0	0	0	4	5	0	0	9	37
Buses					0					3					9					17	29
Single-Unit Trucks					0					3					1					4	8
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					6					10					21	37

PDI File #: **197325 (9) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	1	1	0	0	2	7
4:15 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	1	1	0	0	2	7
4:30 PM	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	1	0	0	0	1	8
4:45 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	1	1	0	0	2	7
Total	0	0	0	0	0	0	17	5	0	22	0	0	0	0	0	4	3	0	0	7	29
5:00 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	1	0	0	1	6
5:15 PM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	1	1	0	0	2	8
5:30 PM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	3	1	0	0	4	10
5:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
Total	0	0	0	0	0	0	20	3	0	23	0	0	0	0	0	4	6	0	0	10	33
Grand Total	0	0	0	0	0	0	37	8	0	45	0	0	0	0	0	8	9	0	0	17	62
Approach %	0.0	0.0	0.0	0.0		0.0	82.2	17.8	0.0		0.0	0.0	0.0	0.0		47.1	52.9	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	59.7	12.9	0.0	72.6	0.0	0.0	0.0	0.0	0.0	12.9	14.5	0.0	0.0	27.4	
Exiting Leg Total					0					9					16					37	62

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	1	1	0	0	2	7
4:15 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	1	1	0	0	2	7
4:30 PM	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	1	0	0	0	1	8
4:45 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	1	1	0	0	2	7
Total Volume	0	0	0	0	0	0	17	5	0	22	0	0	0	0	0	4	3	0	0	7	29
% Approach Total	0.0	0.0	0.0	0.0		0.0	77.3	22.7	0.0		0.0	0.0	0.0	0.0		57.1	42.9	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.708	0.625	0.000	0.786	0.000	0.000	0.000	0.000	0.000	1.000	0.750	0.000	0.000	0.875	0.906
Entering Leg	0	0	0	0	0	0	17	5	0	22	0	0	0	0	0	4	3	0	0	7	29
Exiting Leg					0					3					9					17	29
Total					0					25					9					24	58

PDI File #: **197325 (9) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Single-Unit Trucks

	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	8
5:00 PM	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	8
5:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	1	0	2	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	12
Grand Total	1	0	2	0	3	0	10	1	0	11	0	0	0	0	0	0	6	0	0	6	20
Approach %	33.3	0.0	66.7	0.0		0.0	90.9	9.1	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	5.0	0.0	10.0	0.0	15.0	0.0	50.0	5.0	0.0	55.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	
Exiting Leg Total					0					8					1					11	20

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street					Harrison Avenue					East Concord Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	1	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	8
% Approach Total	0.0	0.0	100.0	0.0		0.0	80.0	20.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.250	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.667
Entering Leg	0	0	1	0	1	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	8
Exiting Leg					0					3					1					4	8
Total					1					8					1					6	16

PDI File #: **197325 (9) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Harrison Avenue from East					East Concord Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (9) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Concord Street							Harrison Avenue							East Concord Street							Harrison Avenue							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	2	1	0	0	0	0	1	2	5
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	2	0	0	0	0	2	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	2	0	0	0	0	2	0	2	0	0	0	0	2	1	2	1	0	0	0	4	2	0	0	0	0	1	3	11
5:00 PM	0	2	0	0	0	0	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	0	1	3
5:45 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	3	0	0	0	0	3	1	2	0	0	0	0	3	2	0	1	0	0	0	3	0	2	0	0	0	0	2	11
Grand Total	0	5	0	0	0	0	5	1	4	0	0	0	0	5	3	2	2	0	0	0	7	2	2	0	0	0	1	5	22
Approach %	0.0	100.0	0.0	0.0	0.0	0.0		20.0	80.0	0.0	0.0	0.0	0.0		42.9	28.6	28.6	0.0	0.0	0.0		40.0	40.0	0.0	0.0	0.0	20.0		
Total %	0.0	22.7	0.0	0.0	0.0	0.0	22.7	4.5	18.2	0.0	0.0	0.0	0.0	22.7	13.6	9.1	9.1	0.0	0.0	0.0	31.8	9.1	9.1	0.0	0.0	0.0	4.5	22.7	
Exiting Leg Total							3							5							7							7	22

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street							Harrison Avenue							East Concord Street							Harrison Avenue							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	2	1	0	0	0	0	1	2	5
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	2	0	0	0	0	2	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Total Volume	0	2	0	0	0	0	2	0	2	0	0	0	0	2	1	2	1	0	0	0	4	2	0	0	0	0	1	3	11
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		25.0	50.0	25.0	0.0	0.0	0.0		66.7	0.0	0.0	0.0	0.0	33.3		
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.250	0.500	0.250	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.250	0.375	0.550
Entering Leg	0	2	0	0	0	0	2	0	2	0	0	0	0	2	1	2	1	0	0	0	4	2	0	0	0	0	1	3	11
Exiting Leg							2							1							4							4	11
Total							4							3							8							7	22

PDI File #: **197325 (9) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Concord Street from North							Harrison Avenue from East							East Concord Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	9	5	14	0	0	0	0	8	6	14	0	0	0	0	18	10	28	0	0	0	0	29	5	34	90
4:15 PM	0	0	0	0	10	7	17	0	0	0	0	4	4	8	0	0	0	0	28	11	39	0	0	0	0	22	2	24	88
4:30 PM	0	0	0	0	8	8	16	0	0	0	0	3	9	12	0	0	0	0	16	13	29	0	0	0	0	30	4	34	91
4:45 PM	0	0	0	0	6	13	19	0	0	0	0	7	7	14	0	0	0	0	12	22	34	0	0	0	0	16	7	23	90
Total	0	0	0	0	33	33	66	0	0	0	0	22	26	48	0	0	0	0	74	56	130	0	0	0	0	97	18	115	359
5:00 PM	0	0	0	0	5	11	16	0	0	0	0	1	10	11	0	0	0	0	29	16	45	0	0	0	0	24	2	26	98
5:15 PM	0	0	0	0	13	8	21	0	0	0	0	8	9	17	0	0	0	0	27	15	42	0	0	0	0	35	1	36	116
5:30 PM	0	0	0	0	7	17	24	0	0	0	0	4	7	11	0	0	0	0	14	8	22	0	0	0	0	22	4	26	83
5:45 PM	0	0	0	0	11	9	20	0	0	0	0	5	10	15	0	0	0	0	21	18	39	0	0	0	0	16	6	22	96
Total	0	0	0	0	36	45	81	0	0	0	0	18	36	54	0	0	0	0	91	57	148	0	0	0	0	97	13	110	393
Grand Total	0	0	0	0	69	78	147	0	0	0	0	40	62	102	0	0	0	0	165	113	278	0	0	0	0	194	31	225	752
Approach %	0.0	0.0	0.0	0.0	46.9	53.1		0.0	0.0	0.0	0.0	39.2	60.8		0.0	0.0	0.0	0.0	59.4	40.6		0.0	0.0	0.0	0.0	86.2	13.8		
Total %	0.0	0.0	0.0	0.0	9.2	10.4	19.5	0.0	0.0	0.0	0.0	5.3	8.2	13.6	0.0	0.0	0.0	0.0	21.9	15.0	37.0	0.0	0.0	0.0	0.0	25.8	4.1	29.9	
Exiting Leg Total							147							102							278							225	752

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	East Concord Street from North							Harrison Avenue from East							East Concord Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	0	8	8	16	0	0	0	0	3	9	12	0	0	0	0	16	13	29	0	0	0	0	30	4	34	91
4:45 PM	0	0	0	0	6	13	19	0	0	0	0	7	7	14	0	0	0	0	12	22	34	0	0	0	0	16	7	23	90
5:00 PM	0	0	0	0	5	11	16	0	0	0	0	1	10	11	0	0	0	0	29	16	45	0	0	0	0	24	2	26	98
5:15 PM	0	0	0	0	13	8	21	0	0	0	0	8	9	17	0	0	0	0	27	15	42	0	0	0	0	35	1	36	116
Total Volume	0	0	0	0	32	40	72	0	0	0	0	19	35	54	0	0	0	0	84	66	150	0	0	0	0	105	14	119	395
% Approach Total	0.0	0.0	0.0	0.0	44.4	55.6		0.0	0.0	0.0	0.0	35.2	64.8		0.0	0.0	0.0	0.0	56.0	44.0		0.0	0.0	0.0	0.0	88.2	11.8		
PHF	0.000	0.000	0.000	0.000	0.615	0.769	0.857	0.000	0.000	0.000	0.000	0.594	0.875	0.794	0.000	0.000	0.000	0.000	0.724	0.750	0.833	0.000	0.000	0.000	0.000	0.750	0.500	0.826	0.851
Entering Leg	0	0	0	0	32	40	72	0	0	0	0	19	35	54	0	0	0	0	84	66	150	0	0	0	0	105	14	119	395
Exiting Leg							72							54							150							119	395
Total							144							108							300							238	790

PDI File #: **197325 (10) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	6	43	0	0	49	6	16	12	0	34	0	44	4	0	48	131
7:15 AM	0	0	0	0	0	7	46	0	0	53	4	15	12	0	31	0	56	20	0	76	160
7:30 AM	0	0	0	0	0	12	45	0	0	57	5	17	14	0	36	0	59	9	0	68	161
7:45 AM	0	0	0	0	0	8	47	0	0	55	7	26	13	0	46	0	66	9	0	75	176
Total	0	0	0	0	0	33	181	0	0	214	22	74	51	0	147	0	225	42	0	267	628
8:00 AM	0	0	0	0	0	22	36	0	0	58	10	17	14	0	41	0	54	4	0	58	157
8:15 AM	0	0	0	0	0	15	45	0	0	60	7	25	7	0	39	0	44	14	1	59	158
8:30 AM	0	0	0	0	0	5	42	0	0	47	9	20	15	0	44	1	53	9	0	63	154
8:45 AM	0	0	0	0	0	9	51	0	0	60	7	17	15	0	39	1	52	7	1	61	160
Total	0	0	0	0	0	51	174	0	0	225	33	79	51	0	163	2	203	34	2	241	629
Grand Total	0	0	0	0	0	84	355	0	0	439	55	153	102	0	310	2	428	76	2	508	1257
Approach %	0.0	0.0	0.0	0.0		19.1	80.9	0.0	0.0		17.7	49.4	32.9	0.0		0.4	84.3	15.0	0.4		
Total %	0.0	0.0	0.0	0.0	0.0	6.7	28.2	0.0	0.0	34.9	4.4	12.2	8.1	0.0	24.7	0.2	34.0	6.0	0.2	40.4	
Exiting Leg Total					313					483					2					459	1257
Cars	0	0	0	0	0	77	320	0	0	397	49	134	81	0	264	2	405	71	2	480	1141
% Cars	0.0	0.0	0.0	0.0	0.0	91.7	90.1	0.0	0.0	90.4	89.1	87.6	79.4	0.0	85.2	100.0	94.6	93.4	100.0	94.5	90.8
Exiting Leg Total					282					454					2					403	1141
Heavy Vehicles	0	0	0	0	0	7	35	0	0	42	6	19	21	0	46	0	23	5	0	28	116
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	8.3	9.9	0.0	0.0	9.6	10.9	12.4	20.6	0.0	14.8	0.0	5.4	6.6	0.0	5.5	9.2
Exiting Leg Total					31					29					0					56	116

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	7	46	0	0	53	4	15	12	0	31	0	56	20	0	76	160
7:30 AM	0	0	0	0	0	12	45	0	0	57	5	17	14	0	36	0	59	9	0	68	161
7:45 AM	0	0	0	0	0	8	47	0	0	55	7	26	13	0	46	0	66	9	0	75	176
8:00 AM	0	0	0	0	0	22	36	0	0	58	10	17	14	0	41	0	54	4	0	58	157
Total Volume	0	0	0	0	0	49	174	0	0	223	26	75	53	0	154	0	235	42	0	277	654
% Approach Total	0.0	0.0	0.0	0.0		22.0	78.0	0.0	0.0		16.9	48.7	34.4	0.0		0.0	84.8	15.2	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.557	0.926	0.000	0.000	0.961	0.650	0.721	0.946	0.000	0.837	0.000	0.890	0.525	0.000	0.911	0.929
Cars	0	0	0	0	0	45	157	0	0	202	24	64	43	0	131	0	226	38	0	264	597
Cars %	0.0	0.0	0.0	0.0	0.0	91.8	90.2	0.0	0.0	90.6	92.3	85.3	81.1	0.0	85.1	0.0	96.2	90.5	0.0	95.3	91.3
Heavy Vehicles	0	0	0	0	0	4	17	0	0	21	2	11	10	0	23	0	9	4	0	13	57
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	8.2	9.8	0.0	0.0	9.4	7.7	14.7	18.9	0.0	14.9	0.0	3.8	9.5	0.0	4.7	8.7
Cars Enter Leg	0	0	0	0	0	45	157	0	0	202	24	64	43	0	131	0	226	38	0	264	597
Heavy Enter Leg	0	0	0	0	0	4	17	0	0	21	2	11	10	0	23	0	9	4	0	13	57
Total Entering Leg	0	0	0	0	0	49	174	0	0	223	26	75	53	0	154	0	235	42	0	277	654
Cars Exiting Leg					147					250					0					200	597
Heavy Exiting Leg					19					11					0					27	57
Total Exiting Leg					166					261					0					227	654

PDI File #: **197325 (10) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	6	38	0	0	44	6	16	7	0	29	0	40	4	0	44	117
7:15 AM	0	0	0	0	0	6	42	0	0	48	4	13	10	0	27	0	53	17	0	70	145
7:30 AM	0	0	0	0	0	10	40	0	0	50	5	13	13	0	31	0	56	8	0	64	145
7:45 AM	0	0	0	0	0	8	43	0	0	51	7	23	9	0	39	0	65	9	0	74	164
Total	0	0	0	0	0	30	163	0	0	193	22	65	39	0	126	0	214	38	0	252	571
8:00 AM	0	0	0	0	0	21	32	0	0	53	8	15	11	0	34	0	52	4	0	56	143
8:15 AM	0	0	0	0	0	14	42	0	0	56	6	22	6	0	34	0	40	14	1	55	145
8:30 AM	0	0	0	0	0	5	38	0	0	43	6	18	12	0	36	1	50	9	0	60	139
8:45 AM	0	0	0	0	0	7	45	0	0	52	7	14	13	0	34	1	49	6	1	57	143
Total	0	0	0	0	0	47	157	0	0	204	27	69	42	0	138	2	191	33	2	228	570
Grand Total	0	0	0	0	0	77	320	0	0	397	49	134	81	0	264	2	405	71	2	480	1141
Approach %	0.0	0.0	0.0	0.0		19.4	80.6	0.0	0.0		18.6	50.8	30.7	0.0		0.4	84.4	14.8	0.4		
Total %	0.0	0.0	0.0	0.0	0.0	6.7	28.0	0.0	0.0	34.8	4.3	11.7	7.1	0.0	23.1	0.2	35.5	6.2	0.2	42.1	
Exiting Leg Total					282					454					2					403	1141

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	6	42	0	0	48	4	13	10	0	27	0	53	17	0	70	145
7:30 AM	0	0	0	0	0	10	40	0	0	50	5	13	13	0	31	0	56	8	0	64	145
7:45 AM	0	0	0	0	0	8	43	0	0	51	7	23	9	0	39	0	65	9	0	74	164
8:00 AM	0	0	0	0	0	21	32	0	0	53	8	15	11	0	34	0	52	4	0	56	143
Total Volume	0	0	0	0	0	45	157	0	0	202	24	64	43	0	131	0	226	38	0	264	597
% Approach Total	0.0	0.0	0.0	0.0		22.3	77.7	0.0	0.0		18.3	48.9	32.8	0.0		0.0	85.6	14.4	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.536	0.913	0.000	0.000	0.953	0.750	0.696	0.827	0.000	0.840	0.000	0.869	0.559	0.000	0.892	0.910
Entering Leg	0	0	0	0	0	45	157	0	0	202	24	64	43	0	131	0	226	38	0	264	597
Exiting Leg					147					250					0					200	597
Total					147					452					131					464	1194

PDI File #: **197325 (10) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	5	0	5	0	4	0	0	4	14
7:15 AM	0	0	0	0	0	1	4	0	0	5	0	2	2	0	4	0	3	3	0	6	15
7:30 AM	0	0	0	0	0	2	5	0	0	7	0	4	1	0	5	0	3	1	0	4	16
7:45 AM	0	0	0	0	0	0	4	0	0	4	0	3	4	0	7	0	1	0	0	1	12
Total	0	0	0	0	0	3	18	0	0	21	0	9	12	0	21	0	11	4	0	15	57
8:00 AM	0	0	0	0	0	1	4	0	0	5	2	2	3	0	7	0	2	0	0	2	14
8:15 AM	0	0	0	0	0	1	3	0	0	4	1	3	1	0	5	0	4	0	0	4	13
8:30 AM	0	0	0	0	0	0	4	0	0	4	3	2	3	0	8	0	3	0	0	3	15
8:45 AM	0	0	0	0	0	2	6	0	0	8	0	3	2	0	5	0	3	1	0	4	17
Total	0	0	0	0	0	4	17	0	0	21	6	10	9	0	25	0	12	1	0	13	59
Grand Total	0	0	0	0	0	7	35	0	0	42	6	19	21	0	46	0	23	5	0	28	116
Approach %	0.0	0.0	0.0	0.0		16.7	83.3	0.0	0.0		13.0	41.3	45.7	0.0		0.0	82.1	17.9	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	6.0	30.2	0.0	0.0	36.2	5.2	16.4	18.1	0.0	39.7	0.0	19.8	4.3	0.0	24.1	
Exiting Leg Total					31					29					0					56	116
Buses	0	0	0	0	0	4	24	0	0	28	3	16	20	0	39	0	9	2	0	11	78
% Buses	0.0	0.0	0.0	0.0	0.0	57.1	68.6	0.0	0.0	66.7	50.0	84.2	95.2	0.0	84.8	0.0	39.1	40.0	0.0	39.3	67.2
Exiting Leg Total					22					12					0					44	78
Single-Unit Trucks	0	0	0	0	0	3	10	0	0	13	3	2	1	0	6	0	12	3	0	15	34
% Single-Unit	0.0	0.0	0.0	0.0	0.0	42.9	28.6	0.0	0.0	31.0	50.0	10.5	4.8	0.0	13.0	0.0	52.2	60.0	0.0	53.6	29.3
Exiting Leg Total					8					15					0					11	34
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	4
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.4	0.0	5.3	0.0	0.0	2.2	0.0	8.7	0.0	0.0	7.1	3.4
Exiting Leg Total					1					2					0					1	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	1	4	0	0	5	2	2	3	0	7	0	2	0	0	2	14
8:15 AM	0	0	0	0	0	1	3	0	0	4	1	3	1	0	5	0	4	0	0	4	13
8:30 AM	0	0	0	0	0	0	4	0	0	4	3	2	3	0	8	0	3	0	0	3	15
8:45 AM	0	0	0	0	0	2	6	0	0	8	0	3	2	0	5	0	3	1	0	4	17
Total Volume	0	0	0	0	0	4	17	0	0	21	6	10	9	0	25	0	12	1	0	13	59
% Approach Total	0.0	0.0	0.0	0.0		19.0	81.0	0.0	0.0		24.0	40.0	36.0	0.0		0.0	92.3	7.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.708	0.000	0.000	0.656	0.500	0.833	0.750	0.000	0.781	0.000	0.750	0.250	0.000	0.813	0.868
Buses	0	0	0	0	0	2	10	0	0	12	3	9	9	0	21	0	7	0	0	7	40
Buses %	0.0	0.0	0.0	0.0	0.0	50.0	58.8	0.0	0.0	57.1	50.0	90.0	100.0	0.0	84.0	0.0	58.3	0.0	0.0	53.8	67.8
Single-Unit Trucks	0	0	0	0	0	2	6	0	0	8	3	1	0	0	4	0	3	1	0	4	16
Single-Unit %	0.0	0.0	0.0	0.0	0.0	50.0	35.3	0.0	0.0	38.1	50.0	10.0	0.0	0.0	16.0	0.0	25.0	100.0	0.0	30.8	27.1
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	15.4	5.1
Buses	0	0	0	0	0	2	10	0	0	12	3	9	9	0	21	0	7	0	0	7	40
Single-Unit Trucks	0	0	0	0	0	2	6	0	0	8	3	1	0	0	4	0	3	1	0	4	16
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total Entering Leg	0	0	0	0	0	4	17	0	0	21	6	10	9	0	25	0	12	1	0	13	59
Buses					11					10					0					19	40
Single-Unit Trucks					4					6					0					6	16
Articulated Trucks					0					2					0					1	3
Total Exiting Leg					15					18					0					26	59

PDI File #: **197325 (10) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Newton Street					Harrison Avenue					East Newton Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	4	0	4	0	0	0	0	0	8
7:15 AM	0	0	0	0	0	0	3	0	0	3	0	2	2	0	4	0	1	2	0	3	10
7:30 AM	0	0	0	0	0	2	5	0	0	7	0	3	1	0	4	0	1	0	0	1	12
7:45 AM	0	0	0	0	0	0	2	0	0	2	0	2	4	0	6	0	0	0	0	0	8
Total	0	0	0	0	0	2	14	0	0	16	0	7	11	0	18	0	2	2	0	4	38
8:00 AM	0	0	0	0	0	0	2	0	0	2	1	2	3	0	6	0	2	0	0	2	10
8:15 AM	0	0	0	0	0	1	2	0	0	3	0	2	1	0	3	0	2	0	0	2	8
8:30 AM	0	0	0	0	0	0	2	0	0	2	2	2	3	0	7	0	1	0	0	1	10
8:45 AM	0	0	0	0	0	1	4	0	0	5	0	3	2	0	5	0	2	0	0	2	12
Total	0	0	0	0	0	2	10	0	0	12	3	9	9	0	21	0	7	0	0	7	40
Grand Total	0	0	0	0	0	4	24	0	0	28	3	16	20	0	39	0	9	2	0	11	78
Approach %	0.0	0.0	0.0	0.0		14.3	85.7	0.0	0.0		7.7	41.0	51.3	0.0		0.0	81.8	18.2	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	5.1	30.8	0.0	0.0	35.9	3.8	20.5	25.6	0.0	50.0	0.0	11.5	2.6	0.0	14.1	
Exiting Leg Total					22					12					0					44	78

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	East Newton Street					Harrison Avenue					East Newton Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	3	0	0	3	0	2	2	0	4	0	1	2	0	3	10
7:30 AM	0	0	0	0	0	2	5	0	0	7	0	3	1	0	4	0	1	0	0	1	12
7:45 AM	0	0	0	0	0	0	2	0	0	2	0	2	4	0	6	0	0	0	0	0	8
8:00 AM	0	0	0	0	0	0	2	0	0	2	1	2	3	0	6	0	2	0	0	2	10
Total Volume	0	0	0	0	0	2	12	0	0	14	1	9	10	0	20	0	4	2	0	6	40
% Approach Total	0.0	0.0	0.0	0.0		14.3	85.7	0.0	0.0		5.0	45.0	50.0	0.0		0.0	66.7	33.3	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.600	0.000	0.000	0.500	0.250	0.750	0.625	0.000	0.833	0.000	0.500	0.250	0.000	0.500	0.833
Entering Leg	0	0	0	0	0	2	12	0	0	14	1	9	10	0	20	0	4	2	0	6	40
Exiting Leg					13					5					0					22	40
Total					13					19					20					28	80

PDI File #: **197325 (10) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	4	0	0	4	6
7:15 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2	1	0	3	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
7:45 AM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
Total	0	0	0	0	0	1	4	0	0	5	0	1	1	0	2	0	9	2	0	11	18
8:00 AM	0	0	0	0	0	1	1	0	0	2	1	0	0	0	1	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	5
8:45 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	1	1	0	2	5
Total	0	0	0	0	0	2	6	0	0	8	3	1	0	0	4	0	3	1	0	4	16
Grand Total	0	0	0	0	0	3	10	0	0	13	3	2	1	0	6	0	12	3	0	15	34
Approach %	0.0	0.0	0.0	0.0		23.1	76.9	0.0	0.0		50.0	33.3	16.7	0.0		0.0	80.0	20.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	8.8	29.4	0.0	0.0	38.2	8.8	5.9	2.9	0.0	17.6	0.0	35.3	8.8	0.0	44.1	
Exiting Leg Total					8					15					0					11	34

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	4	0	0	4	6
7:15 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2	1	0	3	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
7:45 AM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
Total Volume	0	0	0	0	0	1	4	0	0	5	0	1	1	0	2	0	9	2	0	11	18
% Approach Total	0.0	0.0	0.0	0.0		20.0	80.0	0.0	0.0		0.0	50.0	50.0	0.0		0.0	81.8	18.2	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.625	0.000	0.250	0.250	0.000	0.500	0.000	0.563	0.500	0.000	0.688	0.750
Entering Leg	0	0	0	0	0	1	4	0	0	5	0	1	1	0	2	0	9	2	0	11	18
Exiting Leg					4					9					0					5	18
Total					4					14					2					16	36

PDI File #: **197325 (10) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Grand Total	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	4
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	0.0	25.0	0.0	0.0	25.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					1					2					0					1	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	4
Exiting Leg					1					2					0					1	4
Total					1					3					1					3	8

PDI File #: **197325 (10) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Newton Street from North							Harrison Avenue from East							East Newton Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	2	2	0	0	0	4	7
Total	1	0	0	0	0	0	1	0	3	0	0	0	0	3	0	0	0	0	1	1	2	0	3	2	0	0	0	5	11
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	5	0	0	0	0	5	8
Grand Total	1	0	0	0	1	0	2	0	5	0	0	0	0	5	0	0	0	0	1	1	2	0	8	2	0	0	0	10	19
Approach %	50.0	0.0	0.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	80.0	20.0	0.0	0.0	0.0		
Total %	5.3	0.0	0.0	0.0	5.3	0.0	10.5	0.0	26.3	0.0	0.0	0.0	0.0	26.3	0.0	0.0	0.0	0.0	5.3	5.3	10.5	0.0	42.1	10.5	0.0	0.0	0.0	52.6	
Exiting Leg Total							3							8							2							6	19

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Newton Street from North							Harrison Avenue from East							East Newton Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	2	2	0	0	0	4	7
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Total Volume	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	7	2	0	0	0	9	14
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	77.8	22.2	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.250	0.000	0.000	0.000	0.563	0.500
Entering Leg	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	7	2	0	0	0	9	14
Exiting Leg							2							7							0							5	14
Total							2							12							0							14	28

PDI File #: **197325 (10) am**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Newton Street from North							Harrison Avenue from East							East Newton Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	5	10	15	0	0	0	0	13	2	15	0	0	0	0	5	7	12	0	0	0	0	1	16	17	59
7:15 AM	0	0	0	0	3	3	6	0	0	0	0	16	0	16	0	0	0	0	11	5	16	0	0	0	0	0	17	17	55
7:30 AM	0	0	0	0	6	3	9	0	0	0	0	12	0	12	0	0	0	0	12	14	26	0	0	0	0	1	37	38	85
7:45 AM	0	0	0	0	6	5	11	0	0	0	0	31	2	33	0	0	0	0	7	12	19	0	0	0	0	0	46	46	109
Total	0	0	0	0	20	21	41	0	0	0	0	72	4	76	0	0	0	0	35	38	73	0	0	0	0	2	116	118	308
8:00 AM	0	0	0	0	2	4	6	0	0	0	0	8	1	9	0	0	0	0	7	14	21	0	0	0	0	1	28	29	65
8:15 AM	0	0	0	0	7	10	17	0	0	0	0	17	1	18	0	0	0	0	5	15	20	0	0	0	0	3	44	47	102
8:30 AM	0	0	0	0	12	6	18	0	0	0	0	24	0	24	0	0	0	0	9	11	20	0	0	0	0	1	43	44	106
8:45 AM	0	0	0	0	9	9	18	0	0	0	0	8	3	11	0	0	0	0	10	15	25	0	0	0	0	9	38	47	101
Total	0	0	0	0	30	29	59	0	0	0	0	57	5	62	0	0	0	0	31	55	86	0	0	0	0	14	153	167	374
Grand Total	0	0	0	0	50	50	100	0	0	0	0	129	9	138	0	0	0	0	66	93	159	0	0	0	0	16	269	285	682
Approach %	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	93.5	6.5		0.0	0.0	0.0	0.0	41.5	58.5		0.0	0.0	0.0	0.0	5.6	94.4		
Total %	0.0	0.0	0.0	0.0	7.3	7.3	14.7	0.0	0.0	0.0	0.0	18.9	1.3	20.2	0.0	0.0	0.0	0.0	9.7	13.6	23.3	0.0	0.0	0.0	0.0	2.3	39.4	41.8	
Exiting Leg Total							100							138							159							285	682

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Newton Street from North							Harrison Avenue from East							East Newton Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	6	5	11	0	0	0	0	31	2	33	0	0	0	0	7	12	19	0	0	0	0	0	46	46	109
8:00 AM	0	0	0	0	2	4	6	0	0	0	0	8	1	9	0	0	0	0	7	14	21	0	0	0	0	1	28	29	65
8:15 AM	0	0	0	0	7	10	17	0	0	0	0	17	1	18	0	0	0	0	5	15	20	0	0	0	0	3	44	47	102
8:30 AM	0	0	0	0	12	6	18	0	0	0	0	24	0	24	0	0	0	0	9	11	20	0	0	0	0	1	43	44	106
Total Volume	0	0	0	0	27	25	52	0	0	0	0	80	4	84	0	0	0	0	28	52	80	0	0	0	0	5	161	166	382
% Approach Total	0.0	0.0	0.0	0.0	51.9	48.1		0.0	0.0	0.0	0.0	95.2	4.8		0.0	0.0	0.0	0.0	35.0	65.0		0.0	0.0	0.0	0.0	3.0	97.0		
PHF	0.000	0.000	0.000	0.000	0.563	0.625	0.722	0.000	0.000	0.000	0.000	0.645	0.500	0.636	0.000	0.000	0.000	0.000	0.778	0.867	0.952	0.000	0.000	0.000	0.000	0.417	0.875	0.883	0.876
Entering Leg	0	0	0	0	27	25	52	0	0	0	0	80	4	84	0	0	0	0	28	52	80	0	0	0	0	5	161	166	382
Exiting Leg							52							84							80							166	382
Total							104							168							160							332	764

PDI File #: **197325 (10) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	13	75	0	0	88	13	26	15	0	54	0	48	6	0	54	196
4:15 PM	0	0	0	0	0	12	53	0	0	65	12	35	21	0	68	0	49	5	0	54	187
4:30 PM	0	0	0	0	0	11	71	0	0	82	7	23	27	0	57	0	37	7	2	46	185
4:45 PM	0	0	0	0	0	17	58	0	0	75	11	23	18	0	52	0	41	5	0	46	173
Total	0	0	0	0	0	53	257	0	0	310	43	107	81	0	231	0	175	23	2	200	741
5:00 PM	0	0	0	0	0	17	70	0	0	87	6	29	19	0	54	0	52	6	0	58	199
5:15 PM	0	0	0	0	0	10	59	0	0	69	9	31	20	0	60	0	47	1	0	48	177
5:30 PM	0	0	0	0	0	11	71	0	0	82	5	21	9	0	35	0	36	8	0	44	161
5:45 PM	0	0	0	0	0	10	58	0	0	68	4	22	8	0	34	0	47	5	0	52	154
Total	0	0	0	0	0	48	258	0	0	306	24	103	56	0	183	0	182	20	0	202	691
Grand Total	0	0	0	0	0	101	515	0	0	616	67	210	137	0	414	0	357	43	2	402	1432
Approach %	0.0	0.0	0.0	0.0		16.4	83.6	0.0	0.0		16.2	50.7	33.1	0.0		0.0	88.8	10.7	0.5		
Total %	0.0	0.0	0.0	0.0	0.0	7.1	36.0	0.0	0.0	43.0	4.7	14.7	9.6	0.0	28.9	0.0	24.9	3.0	0.1	28.1	
Exiting Leg Total					354					424					0					654	1432
Cars	0	0	0	0	0	97	484	0	0	581	63	192	112	0	367	0	343	41	2	386	1334
% Cars	0.0	0.0	0.0	0.0	0.0	96.0	94.0	0.0	0.0	94.3	94.0	91.4	81.8	0.0	88.6	0.0	96.1	95.3	100.0	96.0	93.2
Exiting Leg Total					330					406					0					598	1334
Heavy Vehicles	0	0	0	0	0	4	31	0	0	35	4	18	25	0	47	0	14	2	0	16	98
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	4.0	6.0	0.0	0.0	5.7	6.0	8.6	18.2	0.0	11.4	0.0	3.9	4.7	0.0	4.0	6.8
Exiting Leg Total					24					18					0					56	98

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	13	75	0	0	88	13	26	15	0	54	0	48	6	0	54	196
4:15 PM	0	0	0	0	0	12	53	0	0	65	12	35	21	0	68	0	49	5	0	54	187
4:30 PM	0	0	0	0	0	11	71	0	0	82	7	23	27	0	57	0	37	7	2	46	185
4:45 PM	0	0	0	0	0	17	58	0	0	75	11	23	18	0	52	0	41	5	0	46	173
Total Volume	0	0	0	0	0	53	257	0	0	310	43	107	81	0	231	0	175	23	2	200	741
% Approach Total	0.0	0.0	0.0	0.0		17.1	82.9	0.0	0.0		18.6	46.3	35.1	0.0		0.0	87.5	11.5	1.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.779	0.857	0.000	0.000	0.881	0.827	0.764	0.750	0.000	0.849	0.000	0.893	0.821	0.250	0.926	0.945
Cars	0	0	0	0	0	50	243	0	0	293	41	97	68	0	206	0	171	22	2	195	694
Cars %	0.0	0.0	0.0	0.0	0.0	94.3	94.6	0.0	0.0	94.5	95.3	90.7	84.0	0.0	89.2	0.0	97.7	95.7	100.0	97.5	93.7
Heavy Vehicles	0	0	0	0	0	3	14	0	0	17	2	10	13	0	25	0	4	1	0	5	47
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	5.7	5.4	0.0	0.0	5.5	4.7	9.3	16.0	0.0	10.8	0.0	2.3	4.3	0.0	2.5	6.3
Cars Enter Leg	0	0	0	0	0	50	243	0	0	293	41	97	68	0	206	0	171	22	2	195	694
Heavy Enter Leg	0	0	0	0	0	3	14	0	0	17	2	10	13	0	25	0	4	1	0	5	47
Total Entering Leg	0	0	0	0	0	53	257	0	0	310	43	107	81	0	231	0	175	23	2	200	741
Cars Exiting Leg					169					212					0					313	694
Heavy Exiting Leg					14					6					0					27	47
Total Exiting Leg					183					218					0					340	741

PDI File #: **197325 (10) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	12	73	0	0	85	12	26	12	0	50	0	46	6	0	52	187
4:15 PM	0	0	0	0	0	12	46	0	0	58	11	31	19	0	61	0	48	5	0	53	172
4:30 PM	0	0	0	0	0	9	67	0	0	76	7	19	24	0	50	0	37	6	2	45	171
4:45 PM	0	0	0	0	0	17	57	0	0	74	11	21	13	0	45	0	40	5	0	45	164
Total	0	0	0	0	0	50	243	0	0	293	41	97	68	0	206	0	171	22	2	195	694
5:00 PM	0	0	0	0	0	17	62	0	0	79	6	26	16	0	48	0	48	5	0	53	180
5:15 PM	0	0	0	0	0	9	56	0	0	65	9	30	17	0	56	0	46	1	0	47	168
5:30 PM	0	0	0	0	0	11	69	0	0	80	4	19	5	0	28	0	34	8	0	42	150
5:45 PM	0	0	0	0	0	10	54	0	0	64	3	20	6	0	29	0	44	5	0	49	142
Total	0	0	0	0	0	47	241	0	0	288	22	95	44	0	161	0	172	19	0	191	640
Grand Total	0	0	0	0	0	97	484	0	0	581	63	192	112	0	367	0	343	41	2	386	1334
Approach %	0.0	0.0	0.0	0.0		16.7	83.3	0.0	0.0		17.2	52.3	30.5	0.0		0.0	88.9	10.6	0.5		
Total %	0.0	0.0	0.0	0.0	0.0	7.3	36.3	0.0	0.0	43.6	4.7	14.4	8.4	0.0	27.5	0.0	25.7	3.1	0.1	28.9	
Exiting Leg Total					330					406					0					598	1334

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	12	73	0	0	85	12	26	12	0	50	0	46	6	0	52	187
4:15 PM	0	0	0	0	0	12	46	0	0	58	11	31	19	0	61	0	48	5	0	53	172
4:30 PM	0	0	0	0	0	9	67	0	0	76	7	19	24	0	50	0	37	6	2	45	171
4:45 PM	0	0	0	0	0	17	57	0	0	74	11	21	13	0	45	0	40	5	0	45	164
Total Volume	0	0	0	0	0	50	243	0	0	293	41	97	68	0	206	0	171	22	2	195	694
% Approach Total	0.0	0.0	0.0	0.0		17.1	82.9	0.0	0.0		19.9	47.1	33.0	0.0		0.0	87.7	11.3	1.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.735	0.832	0.000	0.000	0.862	0.854	0.782	0.708	0.000	0.844	0.000	0.891	0.917	0.250	0.920	0.928
Entering Leg	0	0	0	0	0	50	243	0	0	293	41	97	68	0	206	0	171	22	2	195	694
Exiting Leg					169					212					0					313	694
Total					169					505					206					508	1388

PDI File #: **197325 (10) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	1	2	0	0	3	1	0	3	0	4	0	2	0	0	2	9
4:15 PM	0	0	0	0	0	0	7	0	0	7	1	4	2	0	7	0	1	0	0	1	15
4:30 PM	0	0	0	0	0	2	4	0	0	6	0	4	3	0	7	0	0	1	0	1	14
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	2	5	0	7	0	1	0	0	1	9
Total	0	0	0	0	0	3	14	0	0	17	2	10	13	0	25	0	4	1	0	5	47
5:00 PM	0	0	0	0	0	0	8	0	0	8	0	3	3	0	6	0	4	1	0	5	19
5:15 PM	0	0	0	0	0	1	3	0	0	4	0	1	3	0	4	0	1	0	0	1	9
5:30 PM	0	0	0	0	0	0	2	0	0	2	1	2	4	0	7	0	2	0	0	2	11
5:45 PM	0	0	0	0	0	0	4	0	0	4	1	2	2	0	5	0	3	0	0	3	12
Total	0	0	0	0	0	1	17	0	0	18	2	8	12	0	22	0	10	1	0	11	51
Grand Total	0	0	0	0	0	4	31	0	0	35	4	18	25	0	47	0	14	2	0	16	98
Approach %	0.0	0.0	0.0	0.0		11.4	88.6	0.0	0.0		8.5	38.3	53.2	0.0		0.0	87.5	12.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	4.1	31.6	0.0	0.0	35.7	4.1	18.4	25.5	0.0	48.0	0.0	14.3	2.0	0.0	16.3	
Exiting Leg Total					24					18					0					56	98
Buses	0	0	0	0	0	2	22	0	0	24	3	16	22	0	41	0	10	0	0	10	75
% Buses	0.0	0.0	0.0	0.0	0.0	50.0	71.0	0.0	0.0	68.6	75.0	88.9	88.0	0.0	87.2	0.0	71.4	0.0	0.0	62.5	76.5
Exiting Leg Total					18					13					0					44	75
Single-Unit Trucks	0	0	0	0	0	2	9	0	0	11	1	2	3	0	6	0	4	2	0	6	23
% Single-Unit	0.0	0.0	0.0	0.0	0.0	50.0	29.0	0.0	0.0	31.4	25.0	11.1	12.0	0.0	12.8	0.0	28.6	100.0	0.0	37.5	23.5
Exiting Leg Total					6					5					0					12	23
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	1	2	0	0	3	1	0	3	0	4	0	2	0	0	2	9
4:15 PM	0	0	0	0	0	0	7	0	0	7	1	4	2	0	7	0	1	0	0	1	15
4:30 PM	0	0	0	0	0	2	4	0	0	6	0	4	3	0	7	0	0	1	0	1	14
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	2	5	0	7	0	1	0	0	1	9
Total Volume	0	0	0	0	0	3	14	0	0	17	2	10	13	0	25	0	4	1	0	5	47
% Approach Total	0.0	0.0	0.0	0.0		17.6	82.4	0.0	0.0		8.0	40.0	52.0	0.0		0.0	80.0	20.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.375	0.500	0.000	0.000	0.607	0.500	0.625	0.650	0.000	0.893	0.000	0.500	0.250	0.000	0.625	0.783
Buses	0	0	0	0	0	2	9	0	0	11	2	8	12	0	22	0	3	0	0	3	36
Buses %	0.0	0.0	0.0	0.0	0.0	66.7	64.3	0.0	0.0	64.7	100.0	80.0	92.3	0.0	88.0	0.0	75.0	0.0	0.0	60.0	76.6
Single-Unit Trucks	0	0	0	0	0	1	5	0	0	6	0	2	1	0	3	0	1	1	0	2	11
Single-Unit %	0.0	0.0	0.0	0.0	0.0	33.3	35.7	0.0	0.0	35.3	0.0	20.0	7.7	0.0	12.0	0.0	25.0	100.0	0.0	40.0	23.4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	2	9	0	0	11	2	8	12	0	22	0	3	0	0	3	36
Single-Unit Trucks	0	0	0	0	0	1	5	0	0	6	0	2	1	0	3	0	1	1	0	2	11
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	3	14	0	0	17	2	10	13	0	25	0	4	1	0	5	47
Buses					10					5					0					21	36
Single-Unit Trucks					4					1					0					6	11
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					14					6					0					27	47

PDI File #: **197325 (10) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Newton Street					Harrison Avenue					East Newton Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	1	0	3	0	4	0	1	0	0	1	6
4:15 PM	0	0	0	0	0	0	4	0	0	4	1	4	2	0	7	0	1	0	0	1	12
4:30 PM	0	0	0	0	0	2	3	0	0	5	0	3	3	0	6	0	0	0	0	0	11
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	1	4	0	5	0	1	0	0	1	7
Total	0	0	0	0	0	2	9	0	0	11	2	8	12	0	22	0	3	0	0	3	36
5:00 PM	0	0	0	0	0	0	5	0	0	5	0	3	2	0	5	0	2	0	0	2	12
5:15 PM	0	0	0	0	0	0	2	0	0	2	0	1	2	0	3	0	1	0	0	1	6
5:30 PM	0	0	0	0	0	0	2	0	0	2	0	2	4	0	6	0	1	0	0	1	9
5:45 PM	0	0	0	0	0	0	4	0	0	4	1	2	2	0	5	0	3	0	0	3	12
Total	0	0	0	0	0	0	13	0	0	13	1	8	10	0	19	0	7	0	0	7	39
Grand Total	0	0	0	0	0	2	22	0	0	24	3	16	22	0	41	0	10	0	0	10	75
Approach %	0.0	0.0	0.0	0.0		8.3	91.7	0.0	0.0		7.3	39.0	53.7	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	2.7	29.3	0.0	0.0	32.0	4.0	21.3	29.3	0.0	54.7	0.0	13.3	0.0	0.0	13.3	
Exiting Leg Total					18					13					0					44	75

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street					Harrison Avenue					East Newton Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	1	0	3	0	4	0	1	0	0	1	6
4:15 PM	0	0	0	0	0	0	4	0	0	4	1	4	2	0	7	0	1	0	0	1	12
4:30 PM	0	0	0	0	0	2	3	0	0	5	0	3	3	0	6	0	0	0	0	0	11
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	1	4	0	5	0	1	0	0	1	7
Total Volume	0	0	0	0	0	2	9	0	0	11	2	8	12	0	22	0	3	0	0	3	36
% Approach Total	0.0	0.0	0.0	0.0		18.2	81.8	0.0	0.0		9.1	36.4	54.5	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.563	0.000	0.000	0.550	0.500	0.500	0.750	0.000	0.786	0.000	0.750	0.000	0.000	0.750	0.750
Entering Leg	0	0	0	0	0	2	9	0	0	11	2	8	12	0	22	0	3	0	0	3	36
Exiting Leg					10					5					0					21	36
Total					10					16					22					24	72

PDI File #: **197325 (10) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	1	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	1	5	0	0	6	0	2	1	0	3	0	1	1	0	2	11
5:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	0	2	1	0	3	7
5:15 PM	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	4	0	0	5	1	0	2	0	3	0	3	1	0	4	12
Grand Total	0	0	0	0	0	2	9	0	0	11	1	2	3	0	6	0	4	2	0	6	23
Approach %	0.0	0.0	0.0	0.0		18.2	81.8	0.0	0.0		16.7	33.3	50.0	0.0		0.0	66.7	33.3	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	8.7	39.1	0.0	0.0	47.8	4.3	8.7	13.0	0.0	26.1	0.0	17.4	8.7	0.0	26.1	
Exiting Leg Total					6					5					0					12	23

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North					Harrison Avenue from East					East Newton Street from South					Harrison Avenue from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	1	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
Total Volume	0	0	0	0	0	1	5	0	0	6	0	2	1	0	3	0	1	1	0	2	11
% Approach Total	0.0	0.0	0.0	0.0		16.7	83.3	0.0	0.0		0.0	66.7	33.3	0.0		0.0	50.0	50.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.417	0.000	0.000	0.500	0.000	0.500	0.250	0.000	0.375	0.000	0.250	0.250	0.000	0.500	0.917
Entering Leg	0	0	0	0	0	1	5	0	0	6	0	2	1	0	3	0	1	1	0	2	11
Exiting Leg					4					1					0					6	11
Total					4					7					3					8	22

PDI File #: **197325 (10) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Newton Street					Harrison Avenue					East Newton Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street					Harrison Avenue					East Newton Street					Harrison Avenue					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (10) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Newton Street from North							Harrison Avenue from East							East Newton Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	0	1	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	2
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	1	2	0	0	0	0	3	0	3	0	0	0	0	3	0	1	0	0	1	0	2	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3	0	0	0	0	1	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3	0	0	0	0	3	0	1	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	2	0	0	0	0	3	5
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	2	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	6	2	0	1	1	10	1	3	0	0	1	0	5	17
Grand Total	0	0	0	0	0	0	0	1	4	0	0	0	0	5	0	9	2	0	1	1	13	1	4	0	0	2	0	7	25
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		20.0	80.0	0.0	0.0	0.0	0.0		0.0	69.2	15.4	0.0	7.7	7.7		14.3	57.1	0.0	0.0	28.6	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	16.0	0.0	0.0	0.0	0.0	20.0	0.0	36.0	8.0	0.0	4.0	4.0	52.0	4.0	16.0	0.0	0.0	8.0	0.0	28.0	
Exiting Leg Total							10							4							3							8	25

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	East Newton Street from North							Harrison Avenue from East							East Newton Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3	0	0	0	0	1	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3	0	0	0	0	3	0	1	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	2	0	0	0	0	3	5
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	2	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	6	2	0	1	1	10	1	3	0	0	1	0	5	17
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	60.0	20.0	0.0	10.0	10.0		20.0	60.0	0.0	0.0	20.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.500	0.000	0.250	0.250	0.833	0.250	0.375	0.000	0.000	0.250	0.000	0.417	0.850
Entering Leg	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	6	2	0	1	1	10	1	3	0	0	1	0	5	17
Exiting Leg							6							3							3							5	17
Total							6							5							13							10	34

PDI File #: **197325 (10) pm**
Location: **N: East Newton Street S: East Newton Street**
Location: **E: Harrison Avenue W: Harrison Avenue**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Newton Street from North							Harrison Avenue from East							East Newton Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	11	6	17	0	0	0	0	10	39	49	0	0	0	0	10	18	28	0	0	0	0	37	12	49	143
4:15 PM	0	0	0	0	8	6	14	0	0	0	0	1	18	19	0	0	0	0	20	14	34	0	0	0	0	25	3	28	95
4:30 PM	0	0	0	0	5	10	15	0	0	0	0	5	20	25	0	0	0	0	6	16	22	0	0	0	0	37	11	48	110
4:45 PM	0	0	0	0	5	9	14	0	0	0	0	3	18	21	0	0	0	0	6	26	32	0	0	0	0	36	15	51	118
Total	0	0	0	0	29	31	60	0	0	0	0	19	95	114	0	0	0	0	42	74	116	0	0	0	0	135	41	176	466
5:00 PM	0	0	0	0	8	10	18	0	0	0	0	1	31	32	0	0	0	0	14	17	31	0	0	0	0	32	5	37	118
5:15 PM	0	0	0	0	9	6	15	0	0	0	0	0	17	17	0	0	0	0	13	14	27	0	0	0	0	32	3	35	94
5:30 PM	0	0	0	0	4	13	17	0	0	0	0	2	17	19	0	0	0	0	6	16	22	0	0	0	0	22	3	25	83
5:45 PM	0	0	0	0	6	8	14	0	0	0	0	0	11	11	0	0	0	0	8	12	20	0	0	0	0	18	7	25	70
Total	0	0	0	0	27	37	64	0	0	0	0	3	76	79	0	0	0	0	41	59	100	0	0	0	0	104	18	122	365
Grand Total	0	0	0	0	56	68	124	0	0	0	0	22	171	193	0	0	0	0	83	133	216	0	0	0	0	239	59	298	831
Approach %	0.0	0.0	0.0	0.0	45.2	54.8		0.0	0.0	0.0	0.0	11.4	88.6		0.0	0.0	0.0	0.0	38.4	61.6		0.0	0.0	0.0	0.0	80.2	19.8		
Total %	0.0	0.0	0.0	0.0	6.7	8.2	14.9	0.0	0.0	0.0	0.0	2.6	20.6	23.2	0.0	0.0	0.0	0.0	10.0	16.0	26.0	0.0	0.0	0.0	0.0	28.8	7.1	35.9	
Exiting Leg Total							124							193							216							298	831

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Newton Street from North							Harrison Avenue from East							East Newton Street from South							Harrison Avenue from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	11	6	17	0	0	0	0	10	39	49	0	0	0	0	10	18	28	0	0	0	0	37	12	49	143
4:15 PM	0	0	0	0	8	6	14	0	0	0	0	1	18	19	0	0	0	0	20	14	34	0	0	0	0	25	3	28	95
4:30 PM	0	0	0	0	5	10	15	0	0	0	0	5	20	25	0	0	0	0	6	16	22	0	0	0	0	37	11	48	110
4:45 PM	0	0	0	0	5	9	14	0	0	0	0	3	18	21	0	0	0	0	6	26	32	0	0	0	0	36	15	51	118
Total Volume	0	0	0	0	29	31	60	0	0	0	0	19	95	114	0	0	0	0	42	74	116	0	0	0	0	135	41	176	466
% Approach Total	0.0	0.0	0.0	0.0	48.3	51.7		0.0	0.0	0.0	0.0	16.7	83.3		0.0	0.0	0.0	0.0	36.2	63.8		0.0	0.0	0.0	0.0	76.7	23.3		
PHF	0.000	0.000	0.000	0.000	0.659	0.775	0.882	0.000	0.000	0.000	0.000	0.475	0.609	0.582	0.000	0.000	0.000	0.000	0.525	0.712	0.853	0.000	0.000	0.000	0.000	0.912	0.683	0.863	0.815
Entering Leg	0	0	0	0	29	31	60	0	0	0	0	19	95	114	0	0	0	0	42	74	116	0	0	0	0	135	41	176	466
Exiting Leg							60							114							116							176	466
Total							120							228							232							352	932

PDI File #: **197325 (11) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	47	0	0	47	0	0	0	0	0	0	0	0	0	0	26	0	0	0	26	73
7:15 AM	0	37	0	0	37	0	0	0	0	0	0	0	0	0	0	32	0	1	0	33	70
7:30 AM	0	56	0	0	56	0	0	0	0	0	0	0	0	0	0	35	0	0	0	35	91
7:45 AM	0	43	0	0	43	0	0	0	0	0	0	0	0	0	0	29	0	0	0	29	72
Total	0	183	0	0	183	0	0	0	0	0	0	0	0	0	0	122	0	1	0	123	306
8:00 AM	0	42	0	0	42	0	0	0	0	0	0	0	0	0	0	37	0	0	0	37	79
8:15 AM	0	44	0	0	44	0	0	0	0	0	0	0	0	0	0	28	0	0	0	28	72
8:30 AM	0	54	0	0	54	0	0	0	0	0	0	0	0	0	0	33	0	0	0	33	87
8:45 AM	0	46	0	0	46	0	0	0	0	0	0	0	0	0	0	40	0	0	0	40	86
Total	0	186	0	0	186	0	0	0	0	0	0	0	0	0	0	138	0	0	0	138	324
Grand Total	0	369	0	0	369	0	0	0	0	0	0	0	0	0	0	260	0	1	0	261	630
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		99.6	0.0	0.4	0.0		
Total %	0.0	58.6	0.0	0.0	58.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.3	0.0	0.2	0.0	41.4	
Exiting Leg Total					1					0					629					0	630
Cars	0	345	0	0	345	0	0	0	0	0	0	0	0	0	0	256	0	1	0	257	602
% Cars	0.0	93.5	0.0	0.0	93.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.5	0.0	100.0	0.0	98.5	95.6
Exiting Leg Total					1					0					601					0	602
Heavy Vehicles	0	24	0	0	24	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	28
% Heavy Vehicles	0.0	6.5	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.5	4.4
Exiting Leg Total					0					0					28					0	28

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	42	0	0	42	0	0	0	0	0	0	0	0	0	0	37	0	0	0	37	79
8:15 AM	0	44	0	0	44	0	0	0	0	0	0	0	0	0	0	28	0	0	0	28	72
8:30 AM	0	54	0	0	54	0	0	0	0	0	0	0	0	0	0	33	0	0	0	33	87
8:45 AM	0	46	0	0	46	0	0	0	0	0	0	0	0	0	0	40	0	0	0	40	86
Total Volume	0	186	0	0	186	0	0	0	0	0	0	0	0	0	0	138	0	0	0	138	324
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.861	0.000	0.000	0.861	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.863	0.000	0.000	0.000	0.863	0.931
Cars	0	173	0	0	173	0	0	0	0	0	0	0	0	0	0	135	0	0	0	135	308
Cars %	0.0	93.0	0.0	0.0	93.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.8	0.0	0.0	0.0	97.8	95.1
Heavy Vehicles	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
Heavy Vehicles %	0.0	7.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	2.2	4.9
Cars Enter Leg	0	173	0	0	173	0	0	0	0	0	0	0	0	0	0	135	0	0	0	135	308
Heavy Enter Leg	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
Total Entering Leg	0	186	0	0	186	0	0	0	0	0	0	0	0	0	0	138	0	0	0	138	324
Cars Exiting Leg					0					0					308					0	308
Heavy Exiting Leg					0					0					16					0	16
Total Exiting Leg					0					0					324					0	324

PDI File #: **197325 (11) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	42	0	0	42	0	0	0	0	0	0	0	0	0	0	26	0	0	0	26	68
7:15 AM	0	36	0	0	36	0	0	0	0	0	0	0	0	0	0	32	0	1	0	33	69
7:30 AM	0	52	0	0	52	0	0	0	0	0	0	0	0	0	0	35	0	0	0	35	87
7:45 AM	0	42	0	0	42	0	0	0	0	0	0	0	0	0	0	28	0	0	0	28	70
Total	0	172	0	0	172	0	0	0	0	0	0	0	0	0	0	121	0	1	0	122	294
8:00 AM	0	39	0	0	39	0	0	0	0	0	0	0	0	0	0	35	0	0	0	35	74
8:15 AM	0	41	0	0	41	0	0	0	0	0	0	0	0	0	0	28	0	0	0	28	69
8:30 AM	0	50	0	0	50	0	0	0	0	0	0	0	0	0	0	33	0	0	0	33	83
8:45 AM	0	43	0	0	43	0	0	0	0	0	0	0	0	0	0	39	0	0	0	39	82
Total	0	173	0	0	173	0	0	0	0	0	0	0	0	0	0	135	0	0	0	135	308
Grand Total	0	345	0	0	345	0	0	0	0	0	0	0	0	0	0	256	0	1	0	257	602
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		99.6	0.0	0.4	0.0		
Total %	0.0	57.3	0.0	0.0	57.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	0.0	0.2	0.0	42.7	
Exiting Leg Total					1					0					601					0	602

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	39	0	0	39	0	0	0	0	0	0	0	0	0	0	35	0	0	0	35	74
8:15 AM	0	41	0	0	41	0	0	0	0	0	0	0	0	0	0	28	0	0	0	28	69
8:30 AM	0	50	0	0	50	0	0	0	0	0	0	0	0	0	0	33	0	0	0	33	83
8:45 AM	0	43	0	0	43	0	0	0	0	0	0	0	0	0	0	39	0	0	0	39	82
Total Volume	0	173	0	0	173	0	0	0	0	0	0	0	0	0	0	135	0	0	0	135	308
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.865	0.000	0.000	0.865	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.865	0.000	0.000	0.000	0.865	0.928
Entering Leg	0	173	0	0	173	0	0	0	0	0	0	0	0	0	0	135	0	0	0	135	308
Exiting Leg					0					0					308					0	308
Total					173					0					308					135	616

PDI File #: **197325 (11) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Total	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	12
8:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	5
8:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
Total	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
Grand Total	0	24	0	0	24	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	28
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	85.7	0.0	0.0	85.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	14.3	
Exiting Leg Total					0					0					28					0	28
Buses	0	23	0	0	23	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	27
% Buses	0.0	95.8	0.0	0.0	95.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	96.4
Exiting Leg Total					0					0					27					0	27
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Single-Unit	0.0	4.2	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
Exiting Leg Total					0					0					1					0	1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	5
8:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
Total Volume	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.813	0.000	0.000	0.813	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.375	0.800
Buses	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
Buses %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
Buses					0					0					16					0	16
Single-Unit Trucks					0					0					0					0	0
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					16					0	16

PDI File #: **197325 (11) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Total	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	11
8:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	5
8:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
Total	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
Grand Total	0	23	0	0	23	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	27
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	85.2	0.0	0.0	85.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	0.0	0.0	0.0	14.8	
Exiting Leg Total					0					0					27					0	27

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	5
8:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
Total Volume	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.813	0.000	0.000	0.813	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.375	0.800
Entering Leg	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	16
Exiting Leg					0					0					16					0	16
Total					13					0					16					3	32

PDI File #: **197325 (11) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					1					0	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg					0					0					1					0	1
Total					1					0					1					0	2

PDI File #: **197325 (11) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (11) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Concord Street from North							Walkway from East							East Concord Street from South							Boston Medical Center Place from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	1	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	6
Total	1	5	3	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	11
8:00 AM	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
8:30 AM	0	5	1	0	0	0	6	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	8
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	10	1	0	0	0	12	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	1	15
Grand Total	2	15	4	0	0	0	21	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	1	0	1	0	3	26
Approach %	9.5	71.4	19.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	33.3	33.3	0.0	33.3	0.0		
Total %	7.7	57.7	15.4	0.0	0.0	0.0	80.8	0.0	0.0	0.0	0.0	3.8	0.0	3.8	0.0	3.8	0.0	0.0	0.0	0.0	3.8	0.0	3.8	3.8	0.0	3.8	0.0	11.5	
Exiting Leg Total							2							6							15							3	26

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Concord Street from North							Walkway from East							East Concord Street from South							Boston Medical Center Place from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	1	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	6
8:00 AM	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
8:30 AM	0	5	1	0	0	0	6	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	8
Total Volume	1	11	4	0	0	0	16	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	1	0	1	0	3	21
% Approach Total	6.3	68.8	25.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	33.3	33.3	0.0	33.3	0.0		
PHF	0.250	0.550	0.333	0.000	0.000	0.000	0.667	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.250	0.000	0.375	0.656
Entering Leg	1	11	4	0	0	0	16	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	1	0	1	0	3	21
Exiting Leg							2							6							11							2	21
Total							18							7							12							5	42

PDI File #: **197325 (11) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Concord Street from North							Walkway from East							East Concord Street from South							Boston Medical Center Place from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	0	0	19	25	44	0	0	0	0	5	5	10	56
7:15 AM	0	0	0	0	1	2	3	0	0	0	0	2	0	2	0	0	0	0	28	27	55	0	0	0	0	2	9	11	71
7:30 AM	0	0	0	0	1	0	1	0	0	0	0	7	1	8	0	0	0	0	29	35	64	0	0	0	0	6	19	25	98
7:45 AM	0	0	0	0	2	1	3	0	0	0	0	6	3	9	0	0	0	0	39	66	105	0	0	0	0	13	10	23	140
Total	0	0	0	0	5	3	8	0	0	0	0	15	5	20	0	0	0	0	115	153	268	0	0	0	0	26	43	69	365
8:00 AM	0	0	0	0	6	2	8	0	0	0	0	5	3	8	0	0	0	0	38	63	101	0	0	0	0	8	11	19	136
8:15 AM	0	0	0	0	3	0	3	0	0	0	0	5	7	12	0	0	0	0	32	64	96	0	0	0	0	4	18	22	133
8:30 AM	0	0	0	0	3	2	5	0	0	0	0	1	1	2	0	0	0	0	43	61	104	0	0	0	0	11	16	27	138
8:45 AM	0	0	0	0	2	1	3	0	0	0	0	6	1	7	0	0	0	0	55	65	120	0	0	0	0	11	18	29	159
Total	0	0	0	0	14	5	19	0	0	0	0	17	12	29	0	0	0	0	168	253	421	0	0	0	0	34	63	97	566
Grand Total	0	0	0	0	19	8	27	0	0	0	0	32	17	49	0	0	0	0	283	406	689	0	0	0	0	60	106	166	931
Approach %	0.0	0.0	0.0	0.0	70.4	29.6		0.0	0.0	0.0	0.0	65.3	34.7		0.0	0.0	0.0	0.0	41.1	58.9		0.0	0.0	0.0	0.0	36.1	63.9		
Total %	0.0	0.0	0.0	0.0	2.0	0.9	2.9	0.0	0.0	0.0	0.0	3.4	1.8	5.3	0.0	0.0	0.0	0.0	30.4	43.6	74.0	0.0	0.0	0.0	0.0	6.4	11.4	17.8	
Exiting Leg Total							27							49							689							166	931

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North							Walkway from East							East Concord Street from South							Boston Medical Center Place from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	6	2	8	0	0	0	0	5	3	8	0	0	0	0	38	63	101	0	0	0	0	8	11	19	136
8:15 AM	0	0	0	0	3	0	3	0	0	0	0	5	7	12	0	0	0	0	32	64	96	0	0	0	0	4	18	22	133
8:30 AM	0	0	0	0	3	2	5	0	0	0	0	1	1	2	0	0	0	0	43	61	104	0	0	0	0	11	16	27	138
8:45 AM	0	0	0	0	2	1	3	0	0	0	0	6	1	7	0	0	0	0	55	65	120	0	0	0	0	11	18	29	159
Total Volume	0	0	0	0	14	5	19	0	0	0	0	17	12	29	0	0	0	0	168	253	421	0	0	0	0	34	63	97	566
% Approach Total	0.0	0.0	0.0	0.0	73.7	26.3		0.0	0.0	0.0	0.0	58.6	41.4		0.0	0.0	0.0	0.0	39.9	60.1		0.0	0.0	0.0	0.0	35.1	64.9		
PHF	0.000	0.000	0.000	0.000	0.583	0.625	0.594	0.000	0.000	0.000	0.000	0.708	0.429	0.604	0.000	0.000	0.000	0.000	0.764	0.973	0.877	0.000	0.000	0.000	0.000	0.773	0.875	0.836	0.890
Entering Leg	0	0	0	0	14	5	19	0	0	0	0	17	12	29	0	0	0	0	168	253	421	0	0	0	0	34	63	97	566
Exiting Leg							19							29							421							97	566
Total							38							58							842							194	1132

PDI File #: **197325 (11) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	41	0	0	41	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38	79
4:15 PM	0	36	0	0	36	0	0	0	0	0	0	0	0	0	0	37	0	0	0	37	73
4:30 PM	0	46	0	0	46	0	0	0	0	0	0	0	0	0	0	36	0	0	0	36	82
4:45 PM	0	43	0	0	43	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38	81
Total	0	166	0	0	166	0	0	0	0	0	0	0	0	0	0	149	0	0	0	149	315
5:00 PM	0	32	0	0	32	0	0	0	0	0	0	0	0	0	0	39	0	0	0	39	71
5:15 PM	0	32	0	0	32	0	0	0	0	0	0	0	0	0	0	44	0	0	0	44	76
5:30 PM	0	28	0	0	28	0	0	0	0	0	0	0	0	0	0	35	0	0	0	35	63
5:45 PM	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	26	0	0	0	26	53
Total	0	119	0	0	119	0	0	0	0	0	0	0	0	0	0	144	0	0	0	144	263
Grand Total	0	285	0	0	285	0	0	0	0	0	0	0	0	0	0	293	0	0	0	293	578
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	49.3	0.0	0.0	49.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.7	0.0	0.0	0.0	50.7	
Exiting Leg Total					0					0					578					0	578
Cars	0	268	0	0	268	0	0	0	0	0	0	0	0	0	0	285	0	0	0	285	553
% Cars	0.0	94.0	0.0	0.0	94.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.3	0.0	0.0	0.0	97.3	95.7
Exiting Leg Total					0					0					553					0	553
Heavy Vehicles	0	17	0	0	17	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8	25
% Heavy Vehicles	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	2.7	4.3
Exiting Leg Total					0					0					25					0	25

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	41	0	0	41	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38	79
4:15 PM	0	36	0	0	36	0	0	0	0	0	0	0	0	0	0	37	0	0	0	37	73
4:30 PM	0	46	0	0	46	0	0	0	0	0	0	0	0	0	0	36	0	0	0	36	82
4:45 PM	0	43	0	0	43	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38	81
Total Volume	0	166	0	0	166	0	0	0	0	0	0	0	0	0	0	149	0	0	0	149	315
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.902	0.000	0.000	0.902	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.980	0.000	0.000	0.000	0.980	0.960
Cars	0	156	0	0	156	0	0	0	0	0	0	0	0	0	0	145	0	0	0	145	301
Cars %	0.0	94.0	0.0	0.0	94.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.3	0.0	0.0	0.0	97.3	95.6
Heavy Vehicles	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	14
Heavy Vehicles %	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	2.7	4.4
Cars Enter Leg	0	156	0	0	156	0	0	0	0	0	0	0	0	0	0	145	0	0	0	145	301
Heavy Enter Leg	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	14
Total Entering Leg	0	166	0	0	166	0	0	0	0	0	0	0	0	0	0	149	0	0	0	149	315
Cars Exiting Leg					0					0					301					0	301
Heavy Exiting Leg					0					0					14					0	14
Total Exiting Leg					0					0					315					0	315

PDI File #: **197325 (11) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	37	0	0	37	0	0	0	0	0	0	0	0	0	0	36	0	0	0	36	73
4:15 PM	0	34	0	0	34	0	0	0	0	0	0	0	0	0	0	37	0	0	0	37	71
4:30 PM	0	44	0	0	44	0	0	0	0	0	0	0	0	0	0	34	0	0	0	34	78
4:45 PM	0	41	0	0	41	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38	79
Total	0	156	0	0	156	0	0	0	0	0	0	0	0	0	0	145	0	0	0	145	301
5:00 PM	0	31	0	0	31	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38	69
5:15 PM	0	30	0	0	30	0	0	0	0	0	0	0	0	0	0	44	0	0	0	44	74
5:30 PM	0	24	0	0	24	0	0	0	0	0	0	0	0	0	0	33	0	0	0	33	57
5:45 PM	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	25	0	0	0	25	52
Total	0	112	0	0	112	0	0	0	0	0	0	0	0	0	0	140	0	0	0	140	252
Grand Total	0	268	0	0	268	0	0	0	0	0	0	0	0	0	0	285	0	0	0	285	553
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	48.5	0.0	0.0	48.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.5	0.0	0.0	0.0	51.5	
Exiting Leg Total					0					0					553					0	553

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	37	0	0	37	0	0	0	0	0	0	0	0	0	0	36	0	0	0	36	73
4:15 PM	0	34	0	0	34	0	0	0	0	0	0	0	0	0	0	37	0	0	0	37	71
4:30 PM	0	44	0	0	44	0	0	0	0	0	0	0	0	0	0	34	0	0	0	34	78
4:45 PM	0	41	0	0	41	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38	79
Total Volume	0	156	0	0	156	0	0	0	0	0	0	0	0	0	0	145	0	0	0	145	301
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.886	0.000	0.000	0.886	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.954	0.000	0.000	0.000	0.954	0.953
Entering Leg	0	156	0	0	156	0	0	0	0	0	0	0	0	0	0	145	0	0	0	145	301
Exiting Leg					0					0					301					0	301
Total					156					0					301					145	602

PDI File #: **197325 (11) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	6
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	14
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
5:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	11
Grand Total	0	17	0	0	17	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8	25
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	68.0	0.0	0.0	68.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0	0.0	0.0	32.0	
Exiting Leg Total					0					0					25					0	25
Buses	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	22
% Buses	0.0	94.1	0.0	0.0	94.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	75.0	88.0
Exiting Leg Total					0					0					22					0	22
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3
% Single-Unit	0.0	5.9	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	12.0
Exiting Leg Total					0					0					3					0	3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	6
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	14
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.583
Buses	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	12
Buses %	0.0	90.0	0.0	0.0	90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	75.0	85.7
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Single-Unit %	0.0	10.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	14.3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	12
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	14
Buses					0					0					12					0	12
Single-Unit Trucks					0					0					2					0	2
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					14					0	14

PDI File #: **197325 (11) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	5
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	12
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
5:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	10
Grand Total	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	22
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	72.7	0.0	0.0	72.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0	0.0	27.3	
Exiting Leg Total					0					0					22					0	22

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	5
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	12
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.375	0.600
Entering Leg	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	12
Exiting Leg					0					0					12					0	12
Total					9					0					12					3	24

PDI File #: **197325 (11) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	0.0	66.7	
Exiting Leg Total					0					0					3					0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.500
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Exiting Leg					0					0					2					0	2
Total					1					0					2					1	4

PDI File #: **197325 (11) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Walkway from East					East Concord Street from South					Boston Medical Center Place from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (11) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Concord Street from North							Walkway from East							East Concord Street from South							Boston Medical Center Place from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	8
5:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	3
5:15 PM	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	1	0	0	0	1	2	0	0	0	0	0	1	1	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Total	1	1	0	0	0	0	2	0	0	0	0	1	0	1	0	1	0	0	2	2	5	0	0	1	0	0	1	2	10
Grand Total	1	5	0	0	0	0	6	0	0	0	0	1	0	1	0	5	0	0	2	2	9	0	0	1	0	0	1	2	18
Approach %	16.7	83.3	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	55.6	0.0	0.0	22.2	22.2		0.0	0.0	50.0	0.0	0.0	50.0		
Total %	5.6	27.8	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	5.6	0.0	5.6	0.0	27.8	0.0	0.0	11.1	11.1	50.0	0.0	0.0	5.6	0.0	0.0	5.6	11.1	
Exiting Leg Total							6							1							9							2	18

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	East Concord Street from North							Walkway from East							East Concord Street from South							Boston Medical Center Place from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	3
5:15 PM	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	1	0	0	0	1	2	0	0	0	0	0	1	1	5
Total Volume	1	3	0	0	0	0	4	0	0	0	0	1	0	1	0	2	0	0	1	2	5	0	0	0	0	0	1	1	11
% Approach Total	25.0	75.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	40.0	0.0	0.0	20.0	40.0		0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.250	0.750	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.000	0.250	0.500	0.625	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.550
Entering Leg	1	3	0	0	0	0	4	0	0	0	0	1	0	1	0	2	0	0	1	2	5	0	0	0	0	0	1	1	11
Exiting Leg							2							1							6							2	11
Total							6							2							11							3	22

PDI File #: **197325 (11) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Walkway W: Boston Medical Center Place**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Concord Street from North							Walkway from East							East Concord Street from South							Boston Medical Center Place from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	5	1	6	0	0	0	0	4	5	9	0	0	0	0	62	57	119	0	0	0	0	24	9	33	167
4:15 PM	0	0	0	0	4	2	6	0	0	0	0	1	1	2	0	0	0	0	57	53	110	0	0	0	0	19	16	35	153
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	58	57	115	0	0	0	0	17	6	23	140
4:45 PM	0	0	0	0	4	0	4	0	0	0	0	3	6	9	0	0	0	0	55	44	99	0	0	0	0	20	9	29	141
Total	0	0	0	0	13	3	16	0	0	0	0	10	12	22	0	0	0	0	232	211	443	0	0	0	0	80	40	120	601
5:00 PM	0	0	0	0	5	2	7	0	0	0	0	0	4	4	0	0	0	0	89	60	149	0	0	0	0	24	8	32	192
5:15 PM	0	0	0	0	5	2	7	0	0	0	0	2	5	7	0	0	0	0	64	39	103	0	0	0	0	25	7	32	149
5:30 PM	0	0	0	0	5	1	6	0	0	0	0	1	6	7	0	0	0	0	51	25	76	0	0	0	0	19	12	31	120
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	19	58	77	0	0	0	0	10	9	19	100
Total	0	0	0	0	15	5	20	0	0	0	0	4	18	22	0	0	0	0	223	182	405	0	0	0	0	78	36	114	561
Grand Total	0	0	0	0	28	8	36	0	0	0	0	14	30	44	0	0	0	0	455	393	848	0	0	0	0	158	76	234	1162
Approach %	0.0	0.0	0.0	0.0	77.8	22.2		0.0	0.0	0.0	0.0	31.8	68.2		0.0	0.0	0.0	0.0	53.7	46.3		0.0	0.0	0.0	0.0	67.5	32.5		
Total %	0.0	0.0	0.0	0.0	2.4	0.7	3.1	0.0	0.0	0.0	0.0	1.2	2.6	3.8	0.0	0.0	0.0	0.0	39.2	33.8	73.0	0.0	0.0	0.0	0.0	13.6	6.5	20.1	
Exiting Leg Total							36							44							848							234	1162

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	East Concord Street from North							Walkway from East							East Concord Street from South							Boston Medical Center Place from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	4	2	6	0	0	0	0	1	1	2	0	0	0	0	57	53	110	0	0	0	0	19	16	35	153
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	58	57	115	0	0	0	0	17	6	23	140
4:45 PM	0	0	0	0	4	0	4	0	0	0	0	3	6	9	0	0	0	0	55	44	99	0	0	0	0	20	9	29	141
5:00 PM	0	0	0	0	5	2	7	0	0	0	0	0	4	4	0	0	0	0	89	60	149	0	0	0	0	24	8	32	192
Total Volume	0	0	0	0	13	4	17	0	0	0	0	6	11	17	0	0	0	0	259	214	473	0	0	0	0	80	39	119	626
% Approach Total	0.0	0.0	0.0	0.0	76.5	23.5		0.0	0.0	0.0	0.0	35.3	64.7		0.0	0.0	0.0	0.0	54.8	45.2		0.0	0.0	0.0	0.0	67.2	32.8		
PHF	0.000	0.000	0.000	0.000	0.650	0.500	0.607	0.000	0.000	0.000	0.000	0.500	0.458	0.472	0.000	0.000	0.000	0.000	0.728	0.892	0.794	0.000	0.000	0.000	0.000	0.833	0.609	0.850	0.815
Entering Leg	0	0	0	0	13	4	17	0	0	0	0	6	11	17	0	0	0	0	259	214	473	0	0	0	0	80	39	119	626
Exiting Leg							17							17							473							119	626
Total							34							34							946							238	1252

PDI File #: **197325 (12) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	65	2	0	67	0	0	0	0	0	0	0	0	0	0	12	0	0	0	12	79
7:15 AM	0	70	0	0	70	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	77
7:30 AM	0	90	1	0	91	0	0	0	0	0	0	0	0	0	0	14	0	0	0	14	105
7:45 AM	0	72	0	0	72	0	0	0	0	0	0	0	0	0	0	12	0	0	0	12	84
Total	0	297	3	0	300	0	0	0	0	0	0	0	0	0	0	45	0	0	0	45	345
8:00 AM	0	83	0	0	83	0	0	0	0	0	0	0	0	0	0	17	0	0	0	17	100
8:15 AM	0	68	1	0	69	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	84
8:30 AM	0	91	1	0	92	0	0	0	0	0	0	0	0	0	0	11	0	0	0	11	103
8:45 AM	1	84	0	0	85	0	0	0	0	0	0	0	0	0	0	19	1	0	0	20	105
Total	1	326	2	0	329	0	0	0	0	0	0	0	0	0	0	62	1	0	0	63	392
Grand Total	1	623	5	0	629	0	0	0	0	0	0	0	0	0	0	107	1	0	0	108	737
Approach %	0.2	99.0	0.8	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		99.1	0.9	0.0	0.0		
Total %	0.1	84.5	0.7	0.0	85.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	0.1	0.0	0.0	14.7	
Exiting Leg Total					0					6					730					1	737
Cars	1	596	5	0	602	0	0	0	0	0	0	0	0	0	0	96	1	0	0	97	699
% Cars	100.0	95.7	100.0	0.0	95.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.7	100.0	0.0	0.0	89.8	94.8
Exiting Leg Total					0					6					692					1	699
Heavy Vehicles	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	11	0	0	0	11	38
% Heavy Vehicles	0.0	4.3	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0	10.2	5.2
Exiting Leg Total					0					0					38					0	38

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	83	0	0	83	0	0	0	0	0	0	0	0	0	0	17	0	0	0	17	100
8:15 AM	0	68	1	0	69	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	84
8:30 AM	0	91	1	0	92	0	0	0	0	0	0	0	0	0	0	11	0	0	0	11	103
8:45 AM	1	84	0	0	85	0	0	0	0	0	0	0	0	0	0	19	1	0	0	20	105
Total Volume	1	326	2	0	329	0	0	0	0	0	0	0	0	0	0	62	1	0	0	63	392
% Approach Total	0.3	99.1	0.6	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		98.4	1.6	0.0	0.0		
PHF	0.250	0.896	0.500	0.000	0.894	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.816	0.250	0.000	0.000	0.788	0.933
Cars	1	310	2	0	313	0	0	0	0	0	0	0	0	0	0	57	1	0	0	58	371
Cars %	100.0	95.1	100.0	0.0	95.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.9	100.0	0.0	0.0	92.1	94.6
Heavy Vehicles	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
Heavy Vehicles %	0.0	4.9	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	7.9	5.4
Cars Enter Leg	1	310	2	0	313	0	0	0	0	0	0	0	0	0	0	57	1	0	0	58	371
Heavy Enter Leg	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
Total Entering Leg	1	326	2	0	329	0	0	0	0	0	0	0	0	0	0	62	1	0	0	63	392
Cars Exiting Leg					0					3					367					1	371
Heavy Exiting Leg					0					0					21					0	21
Total Exiting Leg					0					3					388					1	392

PDI File #: **197325 (12) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	61	2	0	63	0	0	0	0	0	0	0	0	0	0	12	0	0	0	12	75
7:15 AM	0	69	0	0	69	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	74
7:30 AM	0	86	1	0	87	0	0	0	0	0	0	0	0	0	0	11	0	0	0	11	98
7:45 AM	0	70	0	0	70	0	0	0	0	0	0	0	0	0	0	11	0	0	0	11	81
Total	0	286	3	0	289	0	0	0	0	0	0	0	0	0	0	39	0	0	0	39	328
8:00 AM	0	78	0	0	78	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	94
8:15 AM	0	66	1	0	67	0	0	0	0	0	0	0	0	0	0	14	0	0	0	14	81
8:30 AM	0	86	1	0	87	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	96
8:45 AM	1	80	0	0	81	0	0	0	0	0	0	0	0	0	0	18	1	0	0	19	100
Total	1	310	2	0	313	0	0	0	0	0	0	0	0	0	0	57	1	0	0	58	371
Grand Total	1	596	5	0	602	0	0	0	0	0	0	0	0	0	0	96	1	0	0	97	699
Approach %	0.2	99.0	0.8	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		99.0	1.0	0.0	0.0		
Total %	0.1	85.3	0.7	0.0	86.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.1	0.0	0.0	13.9	
Exiting Leg Total					0					6					692					1	699

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	78	0	0	78	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	94
8:15 AM	0	66	1	0	67	0	0	0	0	0	0	0	0	0	0	14	0	0	0	14	81
8:30 AM	0	86	1	0	87	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	96
8:45 AM	1	80	0	0	81	0	0	0	0	0	0	0	0	0	0	18	1	0	0	19	100
Total Volume	1	310	2	0	313	0	0	0	0	0	0	0	0	0	0	57	1	0	0	58	371
% Approach Total	0.3	99.0	0.6	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		98.3	1.7	0.0	0.0		
PHF	0.250	0.901	0.500	0.000	0.899	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.792	0.250	0.000	0.000	0.763	0.928
Entering Leg	1	310	2	0	313	0	0	0	0	0	0	0	0	0	0	57	1	0	0	58	371
Exiting Leg					0					3					367					1	371
Total					313					3					367					59	742

PDI File #: **197325 (12) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3
7:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	7
7:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
Total	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	17
8:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
8:30 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	7
8:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
Total	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
Grand Total	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	11	0	0	0	11	38
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	71.1	0.0	0.0	71.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.9	0.0	0.0	0.0	28.9	
Exiting Leg Total					0					0					38					0	38
Buses	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	36
% Buses	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.8	0.0	0.0	0.0	81.8	94.7
Exiting Leg Total					0					0					36					0	36
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.2	0.0	0.0	0.0	18.2	5.3
Exiting Leg Total					0					0					2					0	2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
8:30 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	7
8:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
Total Volume	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.800	0.000	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.625	0.750
Buses	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
Buses %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
Buses					0					0					21					0	21
Single-Unit Trucks					0					0					0					0	0
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					21					0	21

PDI File #: **197325 (12) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	7
7:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
Total	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	15
8:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
8:30 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	7
8:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
Total	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
Grand Total	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	36
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	75.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	
Exiting Leg Total					0					0					36					0	36

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
8:30 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	7
8:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
Total Volume	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.800	0.000	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.625	0.750
Entering Leg	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	21
Exiting Leg					0					0					21					0	21
Total					16					0					21					5	42

PDI File #: **197325 (12) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	2	0	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	
Exiting Leg Total					0					0					2					0	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	2	0	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Exiting Leg					0					0					2					0	2
Total					0					0					2					2	4

PDI File #: **197325 (12) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Articulated Trucks

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	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	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (12) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Concord Street from North							Driveway from East							East Concord Street from South							Shapiro Drive from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
7:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	0	3	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	7
8:00 AM	2	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	6
8:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
8:30 AM	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	6	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	12
Grand Total	2	9	2	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	6	19
Approach %	15.4	69.2	15.4	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	33.3	66.7		
Total %	10.5	47.4	10.5	0.0	0.0	0.0	68.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	21.1	31.6	
Exiting Leg Total							0							2							9							8	19

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	East Concord Street from North							Driveway from East							East Concord Street from South							Shapiro Drive from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
8:00 AM	2	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	6
8:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
8:30 AM	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
Total Volume	2	6	1	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5	14
% Approach Total	22.2	66.7	11.1	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	40.0	60.0		
PHF	0.250	0.500	0.250	0.000	0.000	0.000	0.563	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.375	0.625	0.583
Entering Leg	2	6	1	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5	14
Exiting Leg							0							1							6							7	14
Total							9							1							6							12	28

PDI File #: **197325 (12) am**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Concord Street from North							Driveway from East							East Concord Street from South							Shapiro Drive from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	5	2	7	0	0	0	0	2	6	8	0	0	0	0	1	2	3	0	0	0	0	30	19	49	67
7:15 AM	0	0	0	0	9	2	11	0	0	0	0	12	3	15	0	0	0	0	0	2	2	0	0	0	0	33	17	50	78
7:30 AM	0	0	0	0	5	4	9	0	0	0	0	15	14	29	0	0	0	0	1	0	1	0	0	0	0	30	30	60	99
7:45 AM	0	0	0	0	7	0	7	0	0	0	0	11	12	23	0	0	0	0	0	1	1	0	0	0	0	43	34	77	108
Total	0	0	0	0	26	8	34	0	0	0	0	40	35	75	0	0	0	0	2	5	7	0	0	0	0	136	100	236	352
8:00 AM	0	0	0	0	7	4	11	0	0	0	0	5	22	27	0	0	0	0	3	2	5	0	0	0	0	37	30	67	110
8:15 AM	0	0	0	0	6	5	11	0	0	0	0	13	28	41	0	0	0	0	0	3	3	0	0	0	0	31	32	63	118
8:30 AM	0	0	0	0	6	2	8	0	0	0	0	6	13	19	0	0	0	0	0	2	2	0	0	0	0	54	33	87	116
8:45 AM	0	0	0	0	18	2	20	0	0	0	0	24	26	50	0	0	0	0	2	1	3	0	0	0	0	53	42	95	168
Total	0	0	0	0	37	13	50	0	0	0	0	48	89	137	0	0	0	0	5	8	13	0	0	0	0	175	137	312	512
Grand Total	0	0	0	0	63	21	84	0	0	0	0	88	124	212	0	0	0	0	7	13	20	0	0	0	0	311	237	548	864
Approach %	0.0	0.0	0.0	0.0	75.0	25.0		0.0	0.0	0.0	0.0	41.5	58.5		0.0	0.0	0.0	0.0	35.0	65.0		0.0	0.0	0.0	0.0	56.8	43.2		
Total %	0.0	0.0	0.0	0.0	7.3	2.4	9.7	0.0	0.0	0.0	0.0	10.2	14.4	24.5	0.0	0.0	0.0	0.0	0.8	1.5	2.3	0.0	0.0	0.0	0.0	36.0	27.4	63.4	
Exiting Leg Total							84							212							20							548	864

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	East Concord Street from North							Driveway from East							East Concord Street from South							Shapiro Drive from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	7	4	11	0	0	0	0	5	22	27	0	0	0	0	3	2	5	0	0	0	0	37	30	67	110
8:15 AM	0	0	0	0	6	5	11	0	0	0	0	13	28	41	0	0	0	0	0	3	3	0	0	0	0	31	32	63	118
8:30 AM	0	0	0	0	6	2	8	0	0	0	0	6	13	19	0	0	0	0	0	2	2	0	0	0	0	54	33	87	116
8:45 AM	0	0	0	0	18	2	20	0	0	0	0	24	26	50	0	0	0	0	2	1	3	0	0	0	0	53	42	95	168
Total Volume	0	0	0	0	37	13	50	0	0	0	0	48	89	137	0	0	0	0	5	8	13	0	0	0	0	175	137	312	512
% Approach Total	0.0	0.0	0.0	0.0	74.0	26.0		0.0	0.0	0.0	0.0	35.0	65.0		0.0	0.0	0.0	0.0	38.5	61.5		0.0	0.0	0.0	0.0	56.1	43.9		
PHF	0.000	0.000	0.000	0.000	0.514	0.650	0.625	0.000	0.000	0.000	0.000	0.500	0.795	0.685	0.000	0.000	0.000	0.000	0.417	0.667	0.650	0.000	0.000	0.000	0.000	0.810	0.815	0.821	0.762
Entering Leg	0	0	0	0	37	13	50	0	0	0	0	48	89	137	0	0	0	0	5	8	13	0	0	0	0	175	137	312	512
Exiting Leg							50							137							13							312	512
Total							100							274							26							624	1024

PDI File #: **197325 (12) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	73	0	0	73	0	0	0	0	0	0	0	0	0	0	18	0	0	0	18	91
4:15 PM	0	77	0	0	77	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	92
4:30 PM	1	80	0	0	81	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	94
4:45 PM	0	78	0	0	78	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	94
Total	1	308	0	0	309	0	0	0	0	0	0	0	0	0	0	62	0	0	0	62	371
5:00 PM	0	74	0	0	74	0	0	0	0	0	0	0	0	0	0	25	0	0	0	25	99
5:15 PM	0	74	0	0	74	0	0	0	0	0	0	0	0	0	0	14	0	0	0	14	88
5:30 PM	0	65	0	0	65	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	78
5:45 PM	0	52	0	0	52	0	0	0	0	0	0	0	0	0	0	10	0	0	0	10	62
Total	0	265	0	0	265	0	0	0	0	0	0	0	0	0	0	62	0	0	0	62	327
Grand Total	1	573	0	0	574	0	0	0	0	0	0	0	0	0	0	124	0	0	0	124	698
Approach %	0.2	99.8	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.1	82.1	0.0	0.0	82.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8	0.0	0.0	0.0	17.8	
Exiting Leg Total					0					0					697					1	698
Cars	1	546	0	0	547	0	0	0	0	0	0	0	0	0	0	119	0	0	0	119	666
% Cars	100.0	95.3	0.0	0.0	95.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.0	0.0	0.0	0.0	96.0	95.4
Exiting Leg Total					0					0					665					1	666
Heavy Vehicles	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	32
% Heavy Vehicles	0.0	4.7	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	4.0	4.6
Exiting Leg Total					0					0					32					0	32

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	73	0	0	73	0	0	0	0	0	0	0	0	0	0	18	0	0	0	18	91
4:15 PM	0	77	0	0	77	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	92
4:30 PM	1	80	0	0	81	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	94
4:45 PM	0	78	0	0	78	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	94
Total Volume	1	308	0	0	309	0	0	0	0	0	0	0	0	0	0	62	0	0	0	62	371
% Approach Total	0.3	99.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.250	0.963	0.000	0.000	0.954	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.861	0.000	0.000	0.000	0.861	0.987
Cars	1	293	0	0	294	0	0	0	0	0	0	0	0	0	0	61	0	0	0	61	355
Cars %	100.0	95.1	0.0	0.0	95.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.4	0.0	0.0	0.0	98.4	95.7
Heavy Vehicles	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	16
Heavy Vehicles %	0.0	4.9	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6	4.3
Cars Enter Leg	1	293	0	0	294	0	0	0	0	0	0	0	0	0	0	61	0	0	0	61	355
Heavy Enter Leg	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	16
Total Entering Leg	1	308	0	0	309	0	0	0	0	0	0	0	0	0	0	62	0	0	0	62	371
Cars Exiting Leg					0					0					354					1	355
Heavy Exiting Leg					0					0					16					0	16
Total Exiting Leg					0					0					370					1	371

PDI File #: **197325 (12) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	67	0	0	67	0	0	0	0	0	0	0	0	0	0	17	0	0	0	17	84
4:15 PM	0	75	0	0	75	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	90
4:30 PM	1	77	0	0	78	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	91
4:45 PM	0	74	0	0	74	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	90
Total	1	293	0	0	294	0	0	0	0	0	0	0	0	0	0	61	0	0	0	61	355
5:00 PM	0	72	0	0	72	0	0	0	0	0	0	0	0	0	0	23	0	0	0	23	95
5:15 PM	0	71	0	0	71	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	84
5:30 PM	0	59	0	0	59	0	0	0	0	0	0	0	0	0	0	12	0	0	0	12	71
5:45 PM	0	51	0	0	51	0	0	0	0	0	0	0	0	0	0	10	0	0	0	10	61
Total	0	253	0	0	253	0	0	0	0	0	0	0	0	0	0	58	0	0	0	58	311
Grand Total	1	546	0	0	547	0	0	0	0	0	0	0	0	0	0	119	0	0	0	119	666
Approach %	0.2	99.8	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.2	82.0	0.0	0.0	82.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9	0.0	0.0	0.0	17.9	
Exiting Leg Total					0					0					665					1	666

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	67	0	0	67	0	0	0	0	0	0	0	0	0	0	17	0	0	0	17	84
4:15 PM	0	75	0	0	75	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	90
4:30 PM	1	77	0	0	78	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	91
4:45 PM	0	74	0	0	74	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	90
Total Volume	1	293	0	0	294	0	0	0	0	0	0	0	0	0	0	61	0	0	0	61	355
% Approach Total	0.3	99.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.250	0.951	0.000	0.000	0.942	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.897	0.000	0.000	0.000	0.897	0.975
Entering Leg	1	293	0	0	294	0	0	0	0	0	0	0	0	0	0	61	0	0	0	61	355
Exiting Leg					0					0					354					1	355
Total					294					0					354					62	710

PDI File #: **197325 (12) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	7
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	16
5:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4
5:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
5:30 PM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	7
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	16
Grand Total	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	32
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	84.4	0.0	0.0	84.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6	0.0	0.0	0.0	15.6	
Exiting Leg Total					0					0					32					0	32
Buses	0	23	0	0	23	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	27
% Buses	0.0	85.2	0.0	0.0	85.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	0.0	80.0	84.4
Exiting Leg Total					0					0					27					0	27
Single-Unit Trucks	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
% Single-Unit	0.0	14.8	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	20.0	15.6
Exiting Leg Total					0					0					5					0	5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	7
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	16
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.571
Buses	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	13
Buses %	0.0	80.0	0.0	0.0	80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	81.3
Single-Unit Trucks	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Single-Unit %	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	13
Single-Unit Trucks	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	16
Buses					0					0					13					0	13
Single-Unit Trucks					0					0					3					0	3
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					16					0	16

PDI File #: **197325 (12) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	13
5:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
5:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
5:30 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	14
Grand Total	0	23	0	0	23	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	27
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	85.2	0.0	0.0	85.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	0.0	0.0	0.0	14.8	
Exiting Leg Total					0					0					27					0	27

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	13
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.600	0.000	0.000	0.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.542
Entering Leg	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	13
Exiting Leg					0					0					13					0	13
Total					12					0					13					1	26

PDI File #: **197325 (12) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Grand Total	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	80.0	0.0	0.0	80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	20.0	
Exiting Leg Total					0					0					5					0	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Exiting Leg					0					0					3					0	3
Total					3					0					3					0	6

PDI File #: **197325 (12) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North					Driveway from East					East Concord Street from South					Shapiro Drive from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	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	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **197325 (12) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	East Concord Street from North							Driveway from East							East Concord Street from South							Shapiro Drive from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	1	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	2
4:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	1	0	0	0	2	1	0	0	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	1	1	6
5:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
Grand Total	1	2	1	0	0	0	4	1	0	0	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	2	2	9
Approach %	25.0	50.0	25.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		
Total %	11.1	22.2	11.1	0.0	0.0	0.0	44.4	11.1	0.0	0.0	0.0	0.0	0.0	11.1	0.0	22.2	0.0	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	22.2	22.2	
Exiting Leg Total							3							1							2							3	9

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	East Concord Street from North							Driveway from East							East Concord Street from South							Shapiro Drive from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	1	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	2
4:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	1	0	0	0	2	1	0	0	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	1	1	6
% Approach Total	0.0	50.0	50.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.250	0.250	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500
Entering Leg	0	1	1	0	0	0	2	1	0	0	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	1	1	6
Exiting Leg							3							1							1							1	6
Total							5							2							3							2	12

PDI File #: **197325 (12) pm**
Location: **N: East Concord Street S: East Concord Street**
Location: **E: Driveway W: Shapiro Drive**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	East Concord Street from North							Driveway from East							East Concord Street from South							Shapiro Drive from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	7	2	9	0	0	0	0	14	7	21	0	0	0	0	2	1	3	0	0	0	0	39	27	66	99
4:15 PM	0	0	0	0	8	5	13	0	0	0	0	28	8	36	0	0	0	0	2	0	2	0	0	0	0	27	29	56	107
4:30 PM	0	0	0	0	7	3	10	0	0	0	0	13	13	26	0	0	0	0	0	0	0	0	0	0	0	29	32	61	97
4:45 PM	0	0	0	0	9	3	12	0	0	0	0	11	9	20	0	0	0	0	1	7	8	0	0	0	0	35	27	62	102
Total	0	0	0	0	31	13	44	0	0	0	0	66	37	103	0	0	0	0	5	8	13	0	0	0	0	130	115	245	405
5:00 PM	0	0	0	0	5	4	9	0	0	0	0	17	17	34	0	0	0	0	0	7	7	0	0	0	0	28	40	68	118
5:15 PM	0	0	0	0	1	3	4	0	0	0	0	11	13	24	0	0	0	0	0	2	2	0	0	0	0	32	28	60	90
5:30 PM	0	0	0	0	2	0	2	0	0	0	0	11	21	32	0	0	0	0	0	4	4	0	0	0	0	14	13	27	65
5:45 PM	0	0	0	0	2	3	5	0	0	0	0	8	7	15	0	0	0	0	1	3	4	0	0	0	0	12	21	33	57
Total	0	0	0	0	10	10	20	0	0	0	0	47	58	105	0	0	0	0	1	16	17	0	0	0	0	86	102	188	330
Grand Total	0	0	0	0	41	23	64	0	0	0	0	113	95	208	0	0	0	0	6	24	30	0	0	0	0	216	217	433	735
Approach %	0.0	0.0	0.0	0.0	64.1	35.9		0.0	0.0	0.0	0.0	54.3	45.7		0.0	0.0	0.0	0.0	20.0	80.0		0.0	0.0	0.0	0.0	49.9	50.1		
Total %	0.0	0.0	0.0	0.0	5.6	3.1	8.7	0.0	0.0	0.0	0.0	15.4	12.9	28.3	0.0	0.0	0.0	0.0	0.8	3.3	4.1	0.0	0.0	0.0	0.0	29.4	29.5	58.9	
Exiting Leg Total							64							208							30							433	735

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	East Concord Street from North							Driveway from East							East Concord Street from South							Shapiro Drive from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	8	5	13	0	0	0	0	28	8	36	0	0	0	0	2	0	2	0	0	0	0	27	29	56	107
4:30 PM	0	0	0	0	7	3	10	0	0	0	0	13	13	26	0	0	0	0	0	0	0	0	0	0	0	29	32	61	97
4:45 PM	0	0	0	0	9	3	12	0	0	0	0	11	9	20	0	0	0	0	1	7	8	0	0	0	0	35	27	62	102
5:00 PM	0	0	0	0	5	4	9	0	0	0	0	17	17	34	0	0	0	0	0	7	7	0	0	0	0	28	40	68	118
Total Volume	0	0	0	0	29	15	44	0	0	0	0	69	47	116	0	0	0	0	3	14	17	0	0	0	0	119	128	247	424
% Approach Total	0.0	0.0	0.0	0.0	65.9	34.1		0.0	0.0	0.0	0.0	59.5	40.5		0.0	0.0	0.0	0.0	17.6	82.4		0.0	0.0	0.0	0.0	48.2	51.8		
PHF	0.000	0.000	0.000	0.000	0.806	0.750	0.846	0.000	0.000	0.000	0.000	0.616	0.691	0.806	0.000	0.000	0.000	0.000	0.375	0.500	0.531	0.000	0.000	0.000	0.000	0.850	0.800	0.908	0.898
Entering Leg	0	0	0	0	29	15	44	0	0	0	0	69	47	116	0	0	0	0	3	14	17	0	0	0	0	119	128	247	424
Exiting Leg							44							116							17							247	424
Total							88							232							34							494	848

PDI File #: **197325 (13) am**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars and Heavy Vehicles (Combined)**

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	0	2	64	332	0	396	0	0	0	0	398
7:15 AM	7	0	0	7	74	329	0	403	0	0	0	0	410
7:30 AM	3	0	0	3	70	286	0	356	0	0	0	0	359
7:45 AM	3	0	0	3	72	329	0	401	0	0	0	0	404
Total	15	0	0	15	280	1276	0	1556	0	0	0	0	1571
8:00 AM	8	0	0	8	56	326	0	382	0	0	0	0	390
8:15 AM	4	0	0	4	69	275	0	344	0	0	0	0	348
8:30 AM	9	0	0	9	63	339	0	402	0	0	0	0	411
8:45 AM	8	0	0	8	68	327	0	395	0	0	0	0	403
Total	29	0	0	29	256	1267	0	1523	0	0	0	0	1552
Grand Total	44	0	0	44	536	2543	0	3079	0	0	0	0	3123
Approach %	100.0	0.0	0.0		17.4	82.6	0.0		0.0	0.0	0.0		
Total %	1.4	0.0	0.0	1.4	17.2	81.4	0.0	98.6	0.0	0.0	0.0	0.0	
Exiting Leg Total				536				0				2587	3123
Cars	30	0	0	30	526	2384	0	2910	0	0	0	0	2940
% Cars	68.2	0.0	0.0	68.2	98.1	93.7	0.0	94.5	0.0	0.0	0.0	0.0	94.1
Exiting Leg Total				526				0				2414	2940
Heavy Vehicles	14	0	0	14	10	159	0	169	0	0	0	0	183
% Heavy Vehicles	31.8	0.0	0.0	31.8	1.9	6.3	0.0	5.5	0.0	0.0	0.0	0.0	5.9
Exiting Leg Total				10				0				173	183

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	0	2	64	332	0	396	0	0	0	0	398
7:15 AM	7	0	0	7	74	329	0	403	0	0	0	0	410
7:30 AM	3	0	0	3	70	286	0	356	0	0	0	0	359
7:45 AM	3	0	0	3	72	329	0	401	0	0	0	0	404
Total Volume	15	0	0	15	280	1276	0	1556	0	0	0	0	1571
% Approach Total	100.0	0.0	0.0		18.0	82.0	0.0		0.0	0.0	0.0		
PHF	0.536	0.000	0.000	0.536	0.946	0.961	0.000	0.965	0.000	0.000	0.000	0.000	0.958
Cars	8	0	0	8	272	1200	0	1472	0	0	0	0	1480
Cars %	53.3	0.0	0.0	53.3	97.1	94.0	0.0	94.6	0.0	0.0	0.0	0.0	94.2
Heavy Vehicles	7	0	0	7	8	76	0	84	0	0	0	0	91
Heavy Vehicles %	46.7	0.0	0.0	46.7	2.9	6.0	0.0	5.4	0.0	0.0	0.0	0.0	5.8
Cars Enter Leg	8	0	0	8	272	1200	0	1472	0	0	0	0	1480
Heavy Enter Leg	7	0	0	7	8	76	0	84	0	0	0	0	91
Total Entering Leg	15	0	0	15	280	1276	0	1556	0	0	0	0	1571
Cars Exiting Leg				272				0				1208	1480
Heavy Exiting Leg				8				0				83	91
Total Exiting Leg				280				0				1291	1571

PDI File #: **197325 (13) am**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars**

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	62	306	0	368	0	0	0	0	368
7:15 AM	5	0	0	5	74	309	0	383	0	0	0	0	388
7:30 AM	1	0	0	1	67	268	0	335	0	0	0	0	336
7:45 AM	2	0	0	2	69	317	0	386	0	0	0	0	388
Total	8	0	0	8	272	1200	0	1472	0	0	0	0	1480
8:00 AM	6	0	0	6	54	306	0	360	0	0	0	0	366
8:15 AM	3	0	0	3	69	262	0	331	0	0	0	0	334
8:30 AM	6	0	0	6	63	312	0	375	0	0	0	0	381
8:45 AM	7	0	0	7	68	304	0	372	0	0	0	0	379
Total	22	0	0	22	254	1184	0	1438	0	0	0	0	1460
Grand Total	30	0	0	30	526	2384	0	2910	0	0	0	0	2940
Approach %	100.0	0.0	0.0		18.1	81.9	0.0		0.0	0.0	0.0		
Total %	1.0	0.0	0.0	1.0	17.9	81.1	0.0	99.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				526				0				2414	2940

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	62	306	0	368	0	0	0	0	368
7:15 AM	5	0	0	5	74	309	0	383	0	0	0	0	388
7:30 AM	1	0	0	1	67	268	0	335	0	0	0	0	336
7:45 AM	2	0	0	2	69	317	0	386	0	0	0	0	388
Total Volume	8	0	0	8	272	1200	0	1472	0	0	0	0	1480
% Approach Total	100.0	0.0	0.0		18.5	81.5	0.0		0.0	0.0	0.0		
PHF	0.400	0.000	0.000	0.400	0.919	0.946	0.000	0.953	0.000	0.000	0.000	0.000	0.954
Entering Leg	8	0	0	8	272	1200	0	1472	0	0	0	0	1480
Exiting Leg				272				0				1208	1480
Total				280				1472				1208	2960

PDI File #: **197325 (13) am**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	0	2	2	26	0	28	0	0	0	0	30
7:15 AM	2	0	0	2	0	20	0	20	0	0	0	0	22
7:30 AM	2	0	0	2	3	18	0	21	0	0	0	0	23
7:45 AM	1	0	0	1	3	12	0	15	0	0	0	0	16
Total	7	0	0	7	8	76	0	84	0	0	0	0	91
8:00 AM	2	0	0	2	2	20	0	22	0	0	0	0	24
8:15 AM	1	0	0	1	0	13	0	13	0	0	0	0	14
8:30 AM	3	0	0	3	0	27	0	27	0	0	0	0	30
8:45 AM	1	0	0	1	0	23	0	23	0	0	0	0	24
Total	7	0	0	7	2	83	0	85	0	0	0	0	92
Grand Total	14	0	0	14	10	159	0	169	0	0	0	0	183
Approach %	100.0	0.0	0.0		5.9	94.1	0.0		0.0	0.0	0.0		
Total %	7.7	0.0	0.0	7.7	5.5	86.9	0.0	92.3	0.0	0.0	0.0	0.0	
Exiting Leg Total				10				0				173	183
Buses	13	0	0	13	5	37	0	42	0	0	0	0	55
% Buses	92.9	0.0	0.0	92.9	50.0	23.3	0.0	24.9	0.0	0.0	0.0	0.0	30.1
Exiting Leg Total				5				0				50	55
Single-Unit Trucks	1	0	0	1	2	108	0	110	0	0	0	0	111
% Single-Unit	7.1	0.0	0.0	7.1	20.0	67.9	0.0	65.1	0.0	0.0	0.0	0.0	60.7
Exiting Leg Total				2				0				109	111
Articulated Trucks	0	0	0	0	3	14	0	17	0	0	0	0	17
% Articulated	0.0	0.0	0.0	0.0	30.0	8.8	0.0	10.1	0.0	0.0	0.0	0.0	9.3
Exiting Leg Total				3				0				14	17

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	2	0	0	2	2	20	0	22	0	0	0	0	24
8:15 AM	1	0	0	1	0	13	0	13	0	0	0	0	14
8:30 AM	3	0	0	3	0	27	0	27	0	0	0	0	30
8:45 AM	1	0	0	1	0	23	0	23	0	0	0	0	24
Total Volume	7	0	0	7	2	83	0	85	0	0	0	0	92
% Approach Total	100.0	0.0	0.0		2.4	97.6	0.0		0.0	0.0	0.0		
PHF	0.583	0.000	0.000	0.583	0.250	0.769	0.000	0.787	0.000	0.000	0.000	0.000	0.767
Buses	6	0	0	6	1	22	0	23	0	0	0	0	29
Buses %	85.7	0.0	0.0	85.7	50.0	26.5	0.0	27.1	0.0	0.0	0.0	0.0	31.5
Single-Unit Trucks	1	0	0	1	1	48	0	49	0	0	0	0	50
Single-Unit %	14.3	0.0	0.0	14.3	50.0	57.8	0.0	57.6	0.0	0.0	0.0	0.0	54.3
Articulated Trucks	0	0	0	0	0	13	0	13	0	0	0	0	13
Articulated %	0.0	0.0	0.0	0.0	0.0	15.7	0.0	15.3	0.0	0.0	0.0	0.0	14.1
Buses	6	0	0	6	1	22	0	23	0	0	0	0	29
Single-Unit Trucks	1	0	0	1	1	48	0	49	0	0	0	0	50
Articulated Trucks	0	0	0	0	0	13	0	13	0	0	0	0	13
Total Entering Leg	7	0	0	7	2	83	0	85	0	0	0	0	92
Buses				1				0				28	29
Single-Unit Trucks				1				0				49	50
Articulated Trucks				0				0				13	13
Total Exiting Leg				2				0				90	92

PDI File #: **197325 (13) am**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	2	0	0	2	2	6	0	8	0	0	0	0	10
7:15 AM	2	0	0	2	0	3	0	3	0	0	0	0	5
7:30 AM	2	0	0	2	1	3	0	4	0	0	0	0	6
7:45 AM	1	0	0	1	1	3	0	4	0	0	0	0	5
Total	7	0	0	7	4	15	0	19	0	0	0	0	26
8:00 AM	2	0	0	2	1	8	0	9	0	0	0	0	11
8:15 AM	1	0	0	1	0	2	0	2	0	0	0	0	3
8:30 AM	2	0	0	2	0	4	0	4	0	0	0	0	6
8:45 AM	1	0	0	1	0	8	0	8	0	0	0	0	9
Total	6	0	0	6	1	22	0	23	0	0	0	0	29
Grand Total	13	0	0	13	5	37	0	42	0	0	0	0	55
Approach %	100.0	0.0	0.0		11.9	88.1	0.0		0.0	0.0	0.0		
Total %	23.6	0.0	0.0	23.6	9.1	67.3	0.0	76.4	0.0	0.0	0.0	0.0	
Exiting Leg Total				5				0				50	55

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	2	0	0	2	1	8	0	9	0	0	0	0	11
8:15 AM	1	0	0	1	0	2	0	2	0	0	0	0	3
8:30 AM	2	0	0	2	0	4	0	4	0	0	0	0	6
8:45 AM	1	0	0	1	0	8	0	8	0	0	0	0	9
Total Volume	6	0	0	6	1	22	0	23	0	0	0	0	29
% Approach Total	100.0	0.0	0.0		4.3	95.7	0.0		0.0	0.0	0.0		
PHF	0.750	0.000	0.000	0.750	0.250	0.688	0.000	0.639	0.000	0.000	0.000	0.000	0.659
Entering Leg	6	0	0	6	1	22	0	23	0	0	0	0	29
Exiting Leg				1				0				28	29
Total				7				23				28	58

PDI File #: **197325 (13) am**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	20	0	20	0	0	0	0	20
7:15 AM	0	0	0	0	0	17	0	17	0	0	0	0	17
7:30 AM	0	0	0	0	0	15	0	15	0	0	0	0	15
7:45 AM	0	0	0	0	1	8	0	9	0	0	0	0	9
Total	0	0	0	0	1	60	0	61	0	0	0	0	61
8:00 AM	0	0	0	0	1	11	0	12	0	0	0	0	12
8:15 AM	0	0	0	0	0	6	0	6	0	0	0	0	6
8:30 AM	1	0	0	1	0	21	0	21	0	0	0	0	22
8:45 AM	0	0	0	0	0	10	0	10	0	0	0	0	10
Total	1	0	0	1	1	48	0	49	0	0	0	0	50
Grand Total	1	0	0	1	2	108	0	110	0	0	0	0	111
Approach %	100.0	0.0	0.0		1.8	98.2	0.0		0.0	0.0	0.0		
Total %	0.9	0.0	0.0	0.9	1.8	97.3	0.0	99.1	0.0	0.0	0.0	0.0	
Exiting Leg Total				2				0				109	111

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	20	0	20	0	0	0	0	20
7:15 AM	0	0	0	0	0	17	0	17	0	0	0	0	17
7:30 AM	0	0	0	0	0	15	0	15	0	0	0	0	15
7:45 AM	0	0	0	0	1	8	0	9	0	0	0	0	9
Total Volume	0	0	0	0	1	60	0	61	0	0	0	0	61
% Approach Total	0.0	0.0	0.0		1.6	98.4	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.763	0.000	0.000	0.000	0.000	0.763
Entering Leg	0	0	0	0	1	60	0	61	0	0	0	0	61
Exiting Leg				1				0				60	61
Total				1				61				60	122

PDI File #: **197325 (13) am**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	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
7:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
7:45 AM	0	0	0	0	1	1	0	2	0	0	0	0	2
Total	0	0	0	0	3	1	0	4	0	0	0	0	4
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	5	0	5	0	0	0	0	5
8:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	0	5	0	5	0	0	0	0	5
Total	0	0	0	0	0	13	0	13	0	0	0	0	13
Grand Total	0	0	0	0	3	14	0	17	0	0	0	0	17
Approach %	0.0	0.0	0.0		17.6	82.4	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	17.6	82.4	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				3				0				14	17

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	5	0	5	0	0	0	0	5
8:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	0	5	0	5	0	0	0	0	5
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	13
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.650	0.000	0.650	0.000	0.000	0.000	0.000	0.650
Entering Leg	0	0	0	0	0	13	0	13	0	0	0	0	13
Exiting Leg				0				0				13	13
Total				0				13				13	26

PDI File #: **197325 (13) am**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard WB**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Northampton Street						Melnea Cass Boulevard WB						Melnea Cass Boulevard WB						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	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	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	2
Grand Total	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	50.0	50.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						1						0						1	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Northampton Street						Melnea Cass Boulevard WB						Melnea Cass Boulevard WB						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	2
Exiting Leg						1						0						1	2
Total						2						1						1	4

PDI File #: **197325 (13) am**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard WB**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Northampton Street						Melnea Cass Boulevard WB						Melnea Cass Boulevard WB						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	2	2	4	0	0	0	0	1	1	0	0	0	0	1	1	6
7:15 AM	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	1	1	2	0	0	0	0	1	1	0	0	0	0	1	1	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
Total	0	0	0	6	3	9	0	0	0	0	4	4	0	0	0	0	2	2	15
8:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	2	3
8:15 AM	0	0	0	5	1	6	0	0	0	0	0	0	0	0	0	0	1	1	7
8:30 AM	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	9	5	14	0	0	0	0	0	0	0	0	0	0	3	3	17
Grand Total	0	0	0	15	8	23	0	0	0	0	4	4	0	0	0	0	5	5	32
Approach %	0.0	0.0	0.0	65.2	34.8		0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	46.9	25.0	71.9	0.0	0.0	0.0	0.0	12.5	12.5	0.0	0.0	0.0	0.0	15.6	15.6	
Exiting Leg Total						23						4						5	32

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Northampton Street						Melnea Cass Boulevard WB						Melnea Cass Boulevard WB						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	2	3
8:15 AM	0	0	0	5	1	6	0	0	0	0	0	0	0	0	0	0	1	1	7
8:30 AM	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	0	0	9	5	14	0	0	0	0	0	0	0	0	0	0	3	3	17
% Approach Total	0.0	0.0	0.0	64.3	35.7		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.450	0.417	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.375	0.607
Entering Leg	0	0	0	9	5	14	0	0	0	0	0	0	0	0	0	0	3	3	17
Exiting Leg						14						0						3	17
Total						28						0						6	34

PDI File #: **197325 (13) pm**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Cars and Heavy Vehicles (Combined)

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	10	0	0	10	18	226	0	244	0	0	0	0	254
4:15 PM	8	0	0	8	17	240	0	257	0	0	0	0	265
4:30 PM	12	0	0	12	17	248	0	265	0	0	0	0	277
4:45 PM	12	0	0	12	22	223	0	245	0	0	0	0	257
Total	42	0	0	42	74	937	0	1011	0	0	0	0	1053
5:00 PM	19	0	0	19	16	248	0	264	0	0	0	0	283
5:15 PM	15	0	0	15	18	245	0	263	0	0	0	0	278
5:30 PM	12	0	0	12	18	268	0	286	0	0	0	0	298
5:45 PM	5	0	1	6	20	259	0	279	0	0	0	0	285
Total	51	0	1	52	72	1020	0	1092	0	0	0	0	1144
Grand Total	93	0	1	94	146	1957	0	2103	0	0	0	0	2197
Approach %	98.9	0.0	1.1		6.9	93.1	0.0		0.0	0.0	0.0		
Total %	4.2	0.0	0.0	4.3	6.6	89.1	0.0	95.7	0.0	0.0	0.0	0.0	
Exiting Leg Total				147				0				2050	2197
Cars	77	0	1	78	143	1868	0	2011	0	0	0	0	2089
% Cars	82.8	0.0	100.0	83.0	97.9	95.5	0.0	95.6	0.0	0.0	0.0	0.0	95.1
Exiting Leg Total				144				0				1945	2089
Heavy Vehicles	16	0	0	16	3	89	0	92	0	0	0	0	108
% Heavy Vehicles	17.2	0.0	0.0	17.0	2.1	4.5	0.0	4.4	0.0	0.0	0.0	0.0	4.9
Exiting Leg Total				3				0				105	108

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	10	0	0	10	18	226	0	244	0	0	0	0	254
4:15 PM	8	0	0	8	17	240	0	257	0	0	0	0	265
4:30 PM	12	0	0	12	17	248	0	265	0	0	0	0	277
4:45 PM	12	0	0	12	22	223	0	245	0	0	0	0	257
Total Volume	42	0	0	42	74	937	0	1011	0	0	0	0	1053
% Approach Total	100.0	0.0	0.0		7.3	92.7	0.0		0.0	0.0	0.0		
PHF	0.875	0.000	0.000	0.875	0.841	0.945	0.000	0.954	0.000	0.000	0.000	0.000	0.950
Cars	35	0	0	35	73	885	0	958	0	0	0	0	993
Cars %	83.3	0.0	0.0	83.3	98.6	94.5	0.0	94.8	0.0	0.0	0.0	0.0	94.3
Heavy Vehicles	7	0	0	7	1	52	0	53	0	0	0	0	60
Heavy Vehicles %	16.7	0.0	0.0	16.7	1.4	5.5	0.0	5.2	0.0	0.0	0.0	0.0	5.7
Cars Enter Leg	35	0	0	35	73	885	0	958	0	0	0	0	993
Heavy Enter Leg	7	0	0	7	1	52	0	53	0	0	0	0	60
Total Entering Leg	42	0	0	42	74	937	0	1011	0	0	0	0	1053
Cars Exiting Leg				73				0				920	993
Heavy Exiting Leg				1				0				59	60
Total Exiting Leg				74				0				979	1053

PDI File #: **197325 (13) pm**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars**

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	8	0	0	8	18	209	0	227	0	0	0	0	235
4:15 PM	7	0	0	7	17	229	0	246	0	0	0	0	253
4:30 PM	9	0	0	9	16	235	0	251	0	0	0	0	260
4:45 PM	11	0	0	11	22	212	0	234	0	0	0	0	245
Total	35	0	0	35	73	885	0	958	0	0	0	0	993
5:00 PM	15	0	0	15	15	237	0	252	0	0	0	0	267
5:15 PM	13	0	0	13	18	237	0	255	0	0	0	0	268
5:30 PM	10	0	0	10	17	263	0	280	0	0	0	0	290
5:45 PM	4	0	1	5	20	246	0	266	0	0	0	0	271
Total	42	0	1	43	70	983	0	1053	0	0	0	0	1096
Grand Total	77	0	1	78	143	1868	0	2011	0	0	0	0	2089
Approach %	98.7	0.0	1.3		7.1	92.9	0.0		0.0	0.0	0.0		
Total %	3.7	0.0	0.0	3.7	6.8	89.4	0.0	96.3	0.0	0.0	0.0	0.0	
Exiting Leg Total				144				0				1945	2089

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	8	0	0	8	18	209	0	227	0	0	0	0	235
4:15 PM	7	0	0	7	17	229	0	246	0	0	0	0	253
4:30 PM	9	0	0	9	16	235	0	251	0	0	0	0	260
4:45 PM	11	0	0	11	22	212	0	234	0	0	0	0	245
Total Volume	35	0	0	35	73	885	0	958	0	0	0	0	993
% Approach Total	100.0	0.0	0.0		7.6	92.4	0.0		0.0	0.0	0.0		
PHF	0.795	0.000	0.000	0.795	0.830	0.941	0.000	0.954	0.000	0.000	0.000	0.000	0.955
Entering Leg	35	0	0	35	73	885	0	958	0	0	0	0	993
Exiting Leg				73				0				920	993
Total				108				958				920	1986

PDI File #: **197325 (13) pm**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	2	0	17	0	17	0	0	0	0	19
4:15 PM	1	0	0	1	0	11	0	11	0	0	0	0	12
4:30 PM	3	0	0	3	1	13	0	14	0	0	0	0	17
4:45 PM	1	0	0	1	0	11	0	11	0	0	0	0	12
Total	7	0	0	7	1	52	0	53	0	0	0	0	60
5:00 PM	4	0	0	4	1	11	0	12	0	0	0	0	16
5:15 PM	2	0	0	2	0	8	0	8	0	0	0	0	10
5:30 PM	2	0	0	2	1	5	0	6	0	0	0	0	8
5:45 PM	1	0	0	1	0	13	0	13	0	0	0	0	14
Total	9	0	0	9	2	37	0	39	0	0	0	0	48
Grand Total	16	0	0	16	3	89	0	92	0	0	0	0	108
Approach %	100.0	0.0	0.0		3.3	96.7	0.0		0.0	0.0	0.0		
Total %	14.8	0.0	0.0	14.8	2.8	82.4	0.0	85.2	0.0	0.0	0.0	0.0	
Exiting Leg Total				3				0				105	108
Buses	13	0	0	13	3	50	0	53	0	0	0	0	66
% Buses	81.3	0.0	0.0	81.3	100.0	56.2	0.0	57.6	0.0	0.0	0.0	0.0	61.1
Exiting Leg Total				3				0				63	66
Single-Unit Trucks	3	0	0	3	0	34	0	34	0	0	0	0	37
% Single-Unit	18.8	0.0	0.0	18.8	0.0	38.2	0.0	37.0	0.0	0.0	0.0	0.0	34.3
Exiting Leg Total				0				0				37	37
Articulated Trucks	0	0	0	0	0	5	0	5	0	0	0	0	5
% Articulated	0.0	0.0	0.0	0.0	0.0	5.6	0.0	5.4	0.0	0.0	0.0	0.0	4.6
Exiting Leg Total				0				0				5	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	2	0	17	0	17	0	0	0	0	19
4:15 PM	1	0	0	1	0	11	0	11	0	0	0	0	12
4:30 PM	3	0	0	3	1	13	0	14	0	0	0	0	17
4:45 PM	1	0	0	1	0	11	0	11	0	0	0	0	12
Total Volume	7	0	0	7	1	52	0	53	0	0	0	0	60
% Approach Total	100.0	0.0	0.0		1.9	98.1	0.0		0.0	0.0	0.0		
PHF	0.583	0.000	0.000	0.583	0.250	0.765	0.000	0.779	0.000	0.000	0.000	0.000	0.789
Buses	6	0	0	6	1	28	0	29	0	0	0	0	35
Buses %	85.7	0.0	0.0	85.7	100.0	53.8	0.0	54.7	0.0	0.0	0.0	0.0	58.3
Single-Unit Trucks	1	0	0	1	0	20	0	20	0	0	0	0	21
Single-Unit %	14.3	0.0	0.0	14.3	0.0	38.5	0.0	37.7	0.0	0.0	0.0	0.0	35.0
Articulated Trucks	0	0	0	0	0	4	0	4	0	0	0	0	4
Articulated %	0.0	0.0	0.0	0.0	0.0	7.7	0.0	7.5	0.0	0.0	0.0	0.0	6.7
Buses	6	0	0	6	1	28	0	29	0	0	0	0	35
Single-Unit Trucks	1	0	0	1	0	20	0	20	0	0	0	0	21
Articulated Trucks	0	0	0	0	0	4	0	4	0	0	0	0	4
Total Entering Leg	7	0	0	7	1	52	0	53	0	0	0	0	60
Buses				1				0				34	35
Single-Unit Trucks				0				0				21	21
Articulated Trucks				0				0				4	4
Total Exiting Leg				1				0				59	60

PDI File #: **197325 (13) pm**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	2	0	8	0	8	0	0	0	0	10
4:15 PM	1	0	0	1	0	6	0	6	0	0	0	0	7
4:30 PM	2	0	0	2	1	7	0	8	0	0	0	0	10
4:45 PM	1	0	0	1	0	7	0	7	0	0	0	0	8
Total	6	0	0	6	1	28	0	29	0	0	0	0	35
5:00 PM	3	0	0	3	1	8	0	9	0	0	0	0	12
5:15 PM	1	0	0	1	0	3	0	3	0	0	0	0	4
5:30 PM	2	0	0	2	1	2	0	3	0	0	0	0	5
5:45 PM	1	0	0	1	0	9	0	9	0	0	0	0	10
Total	7	0	0	7	2	22	0	24	0	0	0	0	31
Grand Total	13	0	0	13	3	50	0	53	0	0	0	0	66
Approach %	100.0	0.0	0.0		5.7	94.3	0.0		0.0	0.0	0.0		
Total %	19.7	0.0	0.0	19.7	4.5	75.8	0.0	80.3	0.0	0.0	0.0	0.0	
Exiting Leg Total				3				0				63	66

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	2	0	8	0	8	0	0	0	0	10
4:15 PM	1	0	0	1	0	6	0	6	0	0	0	0	7
4:30 PM	2	0	0	2	1	7	0	8	0	0	0	0	10
4:45 PM	1	0	0	1	0	7	0	7	0	0	0	0	8
Total Volume	6	0	0	6	1	28	0	29	0	0	0	0	35
% Approach Total	100.0	0.0	0.0		3.4	96.6	0.0		0.0	0.0	0.0		
PHF	0.750	0.000	0.000	0.750	0.250	0.875	0.000	0.906	0.000	0.000	0.000	0.000	0.875
Entering Leg	6	0	0	6	1	28	0	29	0	0	0	0	35
Exiting Leg				1				0				34	35
Total				7				29				34	70

PDI File #: **197325 (13) pm**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	7	0	7	0	0	0	0	7
4:15 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
4:30 PM	1	0	0	1	0	5	0	5	0	0	0	0	6
4:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
Total	1	0	0	1	0	20	0	20	0	0	0	0	21
5:00 PM	1	0	0	1	0	3	0	3	0	0	0	0	4
5:15 PM	1	0	0	1	0	5	0	5	0	0	0	0	6
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
Total	2	0	0	2	0	14	0	14	0	0	0	0	16
Grand Total	3	0	0	3	0	34	0	34	0	0	0	0	37
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	8.1	0.0	0.0	8.1	0.0	91.9	0.0	91.9	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				37	37

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	7	0	7	0	0	0	0	7
4:15 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
4:30 PM	1	0	0	1	0	5	0	5	0	0	0	0	6
4:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
Total Volume	1	0	0	1	0	20	0	20	0	0	0	0	21
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.714	0.000	0.714	0.000	0.000	0.000	0.000	0.750
Entering Leg	1	0	0	1	0	20	0	20	0	0	0	0	21
Exiting Leg				0				0				21	21
Total				1				20				21	42

PDI File #: **197325 (13) pm**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard W**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Articulated Trucks

	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	4	0	4	0	0	0	0	4
5:00 PM	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
5:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	0	0	0	0	5	0	5	0	0	0	0	5
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				5	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Northampton Street				Melnea Cass Boulevard WB				Melnea Cass Boulevard WB				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	4	0	4	0	0	0	0	4
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	4	0	4	0	0	0	0	4
Exiting Leg				0				0				4	4
Total				0				4				4	8

PDI File #: **197325 (13) pm**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard WB**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Northampton Street						Melnea Cass Boulevard WB						Melnea Cass Boulevard WB						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	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	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						1						0						0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Northampton Street						Melnea Cass Boulevard WB						Melnea Cass Boulevard WB						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg						1						0						0	1
Total						2						0						0	2

PDI File #: **197325 (13) pm**
Location: **N: Northampton Street**
Location: **E: Melnea Cass Boulevard WB W: Melnea Cass Boulevard WB**
City, State: **Boston, MA**
Client: **VHB/ M. Duranleau**
Site Code: **14645.00**
Count Date: **Thursday, December 5, 2019**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Pedestrians**

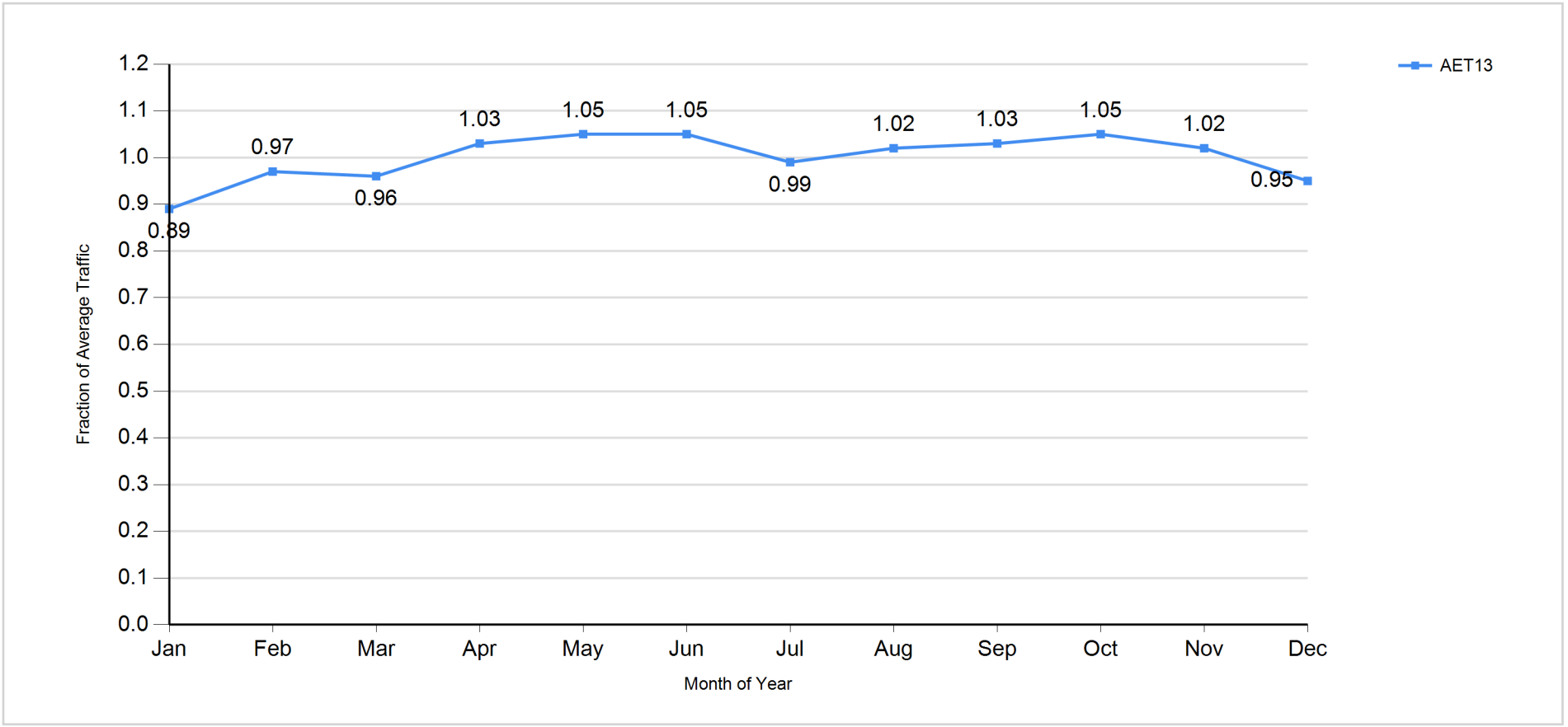
	Northampton Street						Melnea Cass Boulevard WB						Melnea Cass Boulevard WB						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	2	1	3	0	0	0	1	0	1	0	0	0	0	1	1	5
4:15 PM	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6	6	9
4:45 PM	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	1	1	3
Total	0	0	0	3	6	9	0	0	0	2	0	2	0	0	0	0	8	8	19
5:00 PM	0	0	0	1	1	2	0	0	0	1	0	1	0	0	0	0	3	3	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	3	1	4	0	0	0	2	1	3	0	0	0	0	3	3	10
Grand Total	0	0	0	6	7	13	0	0	0	4	1	5	0	0	0	0	11	11	29
Approach %	0.0	0.0	0.0	46.2	53.8		0.0	0.0	0.0	80.0	20.0		0.0	0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	20.7	24.1	44.8	0.0	0.0	0.0	13.8	3.4	17.2	0.0	0.0	0.0	0.0	37.9	37.9	
Exiting Leg Total						13						5						11	29

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Northampton Street						Melnea Cass Boulevard WB						Melnea Cass Boulevard WB						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6	6	9
4:45 PM	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	1	1	3
5:00 PM	0	0	0	1	1	2	0	0	0	1	0	1	0	0	0	0	3	3	6
Total Volume	0	0	0	2	6	8	0	0	0	2	0	2	0	0	0	0	10	10	20
% Approach Total	0.0	0.0	0.0	25.0	75.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.500	0.500	0.667	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.417	0.417	0.556
Entering Leg	0	0	0	2	6	8	0	0	0	2	0	2	0	0	0	0	10	10	20
Exiting Leg						8						2						10	20
Total						16						4						20	40

Seasonal Adjustment Factors

Traffic Pattern by Month for 1/1/2018 - 12/31/2018



Traffic Pattern by Month for 1/1/2018 - 12/31/2018

Factor Group	Station	Weight	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
U1-Boston	AET13	1	0.894	0.969	0.957	1.027	1.049	1.046	0.991	1.017	1.031	1.052	1.019	0.950
	Average of Weighted Factors		**0.894**	**0.969**	**0.957**	**1.027**	**1.049**	**1.046**	**0.991**	**1.017**	**1.031**	**1.052**	**1.019**	**0.950**

Vehicle Crash Data

Albany Street at Northampton Street

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	MassDOT District	Non-Motorist Type (All Persons)	RMV Document Numbers	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
4235021	BOSTON	07/26/2016	Property damage only (none injured)	11:30 AM	No injury	1	Local police	25-34	25-34	D1: (Unknown)	Daylight	Single vehicle crash	6	P5: Pedestrian	PR201622200134	Dry	0	0	V1: Turning left	V1:(Passenger car)	V1: E	Clear		V1:(Collision with pedestrian)		NORTHAMPTON STREET / ALBANY STREET	
4409126	BOSTON	06/27/2017	Property damage only (none injured)	6:53 PM	No injury	1	Local police	45-54	45-54	D1: (Unknown)	Daylight	Single vehicle crash	6	P2: Pedestrian	PR201722600150 / PR201722300217	Wet	0	0	V1: Turning left	V1:(Passenger car)	V1: Not Reported	Rain	201700005493	V1:(Collision with pedestrian)	6	NORTHAMPTON STREET	
4787587	BOSTON	07/20/2018	Unknown	8:00 AM	Not reported	2	MBTA police	45-54	55-64		Daylight	Sideswipe, same direction	6		PR201934700109	Dry	0	0	V1: Not reported / V2: Not reported	V1:(Passenger car) / V2:(Bus (seats for 9-15 people, including driver))	V1: Not Reported / V2: Not Reported	Clear	186363			NORTHAMPTON STREET / ALBANY STREET	

Data Level: CRASH
Query Type: Spatial
Criteria: If you conducted an Advanced Query your SQL statement will be listed here

Albany Street at Massachusetts Avenue

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	Non-Motorist Type (All Persons)	RMV Document Numbers	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
3979055	BOSTON	02/02/2014	Unknown	4:52 AM	Not reported	1	Local police	35-44	35-44		Not reported	Not reported	P2: Pedestrian	FP201427300325	Not reported	0	0	V1: Not reported	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported	Not Reported				MASSACHUSETTS AVENUE / ALBANY STREET	
4063142	BOSTON	02/02/2014	Property damage only (none injured)	4:52 AM	Deceased not caused by crash	1	Local police	35-44	35-44		Dark - lighted roadway	Not reported	P2: Pedestrian	FP201428300223	Not reported	0	0	V1: Other	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported	Cloudy		V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE / ALBANY STREET	
4097681	BOSTON	09/15/2015	Non-fatal injury	11:43 AM	Non-fatal injury - Non-incapacitating	2	MBTA police	25-34	55-64	D1: (No improper driving) / D2: (Disregarded traffic signs, signals, road markings),(Failed to yield right of way)	Daylight	Angle		PR201520300647	Dry	0	3	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: W / V2: N	Clear	15-9972	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASS AVENUE / ALBANY STREET	
4105989	BOSTON	10/13/2015	Non-fatal injury	8:05 AM	Non-fatal injury - Possible	1	MBTA police	55-64	55-64	D1: (No improper driving)	Daylight	Not reported	P2: Pedestrian / P3: Pedestrian	PR201530300347	Wet	0	2	V1: Turning left	V1:(Bus (seats for 16 or more, including driver))	V1: S	Rain/Cloudy		V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE / ALBANY STREET	
4172417	BOSTON	01/16/2016	Property damage only (none injured)	7:50 AM	No injury	2	Local police	25-34	55-64	D1: (No improper driving) / D2: (Unknown)	Dark - lighted roadway	Angle		PR201602800410	Wet	0	0	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported / V2: Not Reported	Cloudy/Rain	162004236	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		ALBANY STREET / MASS AVENUE / MELNEA CASS BOULEVARD	
4172419	BOSTON	01/16/2016	Not Reported	7:33 AM	Not reported	2	Local police	25-34	45-54		Not reported	Not reported		PR201602800411	Not reported	0	0	V1: Not reported / V2: Not reported	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported / V2: Not Reported	Not Reported	162004237			MASSACHUSETTS AVENUE / ALBANY STREET	
4208254	BOSTON	05/19/2016	Non-fatal injury	8:55 PM	Non-fatal injury - Non-incapacitating	1	Local police	55-64	55-64	D1: (Unknown)	Dark - lighted roadway	Single vehicle crash	P4: Pedestrian	PR201616900101	Dry	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: Not Reported	Clear		V1:(Collision with pedestrian)		MASS AVENUE / ALBANY STREET	
4215725	BOSTON	06/23/2016	Property damage only (none injured)	12:23 PM	No injury	2	Local police			D1: (Other improper action) / D2: (Other improper action)	Daylight	Unknown	P3: Cyclist	PR201619500420	Dry	0	0	V1: Parked / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported / V2: Not Reported	Clear		V1:(Collision with cyclist (bicycle, tricycle, unicycle, pedal car)) / V2:(Collision with cyclist (bicycle, tricycle, unicycle, pedal car))		MASS AVENUE / ALBANY STREET	
4232757	BOSTON	07/27/2016	Not Reported	8:00 AM	Not reported	1	Local police	45-54	45-54	D1: (No improper driving)	Daylight	Single vehicle crash	P2: Pedestrian	PR201621100232	Dry	0	0	V1: Turning right	V1:(Unknown heavy truck, cannot classify)	V1: Not Reported	Clear				MASS AVENUE / ALBANY STREET	
4302603	BOSTON	12/14/2016	Property damage only (none injured)	6:19 AM	No injury	1	Local police	25-34	25-34	D1: (No improper driving)	Dawn	Single vehicle crash	P2: Pedestrian	PR201635800106	Dry	0	0	V1: Travelling straight ahead	V1:(Passenger car)	V1: W	Clear		V1:(Collision with pedestrian)	784	MASSACHUSETTS AVENUE	
4343151	BOSTON	01/25/2017	Not Reported	10:00 AM	Not reported	1	Local police				Daylight	Unknown	P2: Pedestrian	PR201705900447	Dry	0	0	V1: Not reported		V1: Not Reported	Clear	172006627			ALBANY STREET	MASS AVENUE
4368939	BOSTON	05/04/2017	Property damage only (none injured)	11:00 AM	No injury	1	Local police	35-44	35-44	D1: (Unknown)	Unknown	Single vehicle crash	P2: Pedestrian	PR201715000116	Unknown	0	0	V1: Unknown	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported	Unknown	172038415	V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE / ALBANY STREET	
4373886	BOSTON	05/30/2017	Non-fatal injury	4:10 PM	Non-fatal injury - Possible	2	Local police	25-34	55-64	D1: (No improper driving) / D2: (No improper driving)	Daylight	Sideswipe, same direction		PR201715700510	Dry	0	1	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Tractor/semi-trailer)	V1: Not Reported / V2: Not Reported	Clear/Clear		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	784	MASSACHUSETTS AVENUE	
4488937	BOSTON	11/10/2017	Non-fatal injury	2:52 PM	Non-fatal injury - Non-incapacitating	1	Local police	65-74	65-74	D1: (Unknown)	Daylight	Single vehicle crash	P3: Pedestrian	PR201733400204	Other	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: S	Clear	172094122	V1:(Collision with pedestrian)	780	ALBANY STREET	
4488955	BOSTON	11/17/2017	Non-fatal injury	4:00 PM	Non-fatal injury - Non-incapacitating	1	Local police	65-74	65-74	D1: (Disregarded traffic signs, signals, road markings)	Dark - lighted roadway	Sideswipe, same direction	P2: Pedestrian	PR201733400208	Dry	0	1	V1: Turning left	V1:(Passenger car)	V1: Not Reported	Clear				ALBANY STREET / MASS AVENUE	
4525896	BOSTON	03/10/2018	Non-fatal injury	10:19 PM	Non-fatal injury - Incapacitating	1	Local police	35-44	35-44	D1: (No improper driving)	Dark - lighted roadway	Angle	P2: Cyclist	PR201809400231	Dry	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: E	Clear		V1:(Collision with cyclist (bicycle, tricycle, unicycle, pedal car))		MASSACHUSETTS AVENUE	ALBANY STREET
4568539	BOSTON	06/15/2018	Non-fatal injury	5:48 PM	Non-fatal injury - Non-incapacitating	2	Local police	65-74	65-74	D1: (No improper driving) / D2: (No improper driving)	Daylight	Angle		PR201819200222	Dry	0	1	V1: Travelling straight ahead / V2: Turning left	V1:(Passenger car) / V2:(Passenger car)	V1: Not Reported / V2: S	Clear				MASSACHUSETTS AVENUE / ALBANY STREET	
4609706	BOSTON	09/21/2018	Property damage only (none injured)	10:53 AM	No injury	2	Local police	25-34	55-64	D1: (Unknown) / D2: (Unknown)	Daylight	Sideswipe, same direction		PR201828300130	Dry	0	0	V1: Turning left / V2: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Clear	182076285			ALBANY STREET / MASSACHUSETTS AVENUE	
4722007	BOSTON	05/30/2018	Non-fatal injury	12:36 PM	Non-fatal injury - Possible	2	MBTA police	45-54	55-64	D1: (Over-correcting/over-steering) / D2: (No improper driving)	Daylight	Angle		PR201919100211	Dry	0	1	V1: Turning left / V2: Slowing or stopped in traffic	V1:(Bus (seats for 16 or more, including driver)) / V2:(Unknown heavy truck, cannot classify)	V1: S / V2: E	Clear				ALBANY STREET / MASS AVENUE	

Data Level: CRASH
Query Type: Spatial
Criteria: If you conducted an Advanced Query your SQL statement will be listed here

Albany Street at Shapiro Driveway/ Power Plant Driveway

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	MassDOT District	Non-Motorist Type (All Persons)	RMV Document Numbers	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
4389484	BOSTON	07/05/2017	Non-fatal injury	7:30 AM	Non-fatal injury - Non-incapacitating	1	Local police	35-44	35-44	D1: (Unknown)	Daylight	Single vehicle crash	6	P2: Pedestrian	PR201719400506	Dry	0	1	V1: Making U-turn	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported	Clear/Clear	172054066	V1:(Collision with pedestrian)	750	ALBANY STREET	
4601507	BOSTON	08/10/2018	Unknown	11:20 AM	Not reported	2	Local police			D1: (Unknown) / D2: (Unknown)	Daylight	Rear-end	6		PR201825600120	Dry	0	0	V1: Backing / V2: Parked	V1:(Bus (seats for 9-15 people, including driver)) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Clear	182063567		725	ALBANY STREET	
4698016	BOSTON	09/19/2018	Non-fatal injury	12:37 PM	Non-fatal injury - Possible	2	Local police	25-34	35-44	D1: (Failed to yield right of way) / D2: (No improper driving)	Daylight	Sideswipe, opposite direction	6		PR201912800101	Dry	0	1	V1: Travelling straight ahead / V2: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Unknown heavy truck, cannot classify)	V1: E / V2: W	Clear	I182075645	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	740	ALBANY STREET	

Data Level: CRASH
Query Type: Spatial
Criteria: If you conducted an Advanced Query your SQL statement will be listed here

Albany Street at East Concord Street

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	MassDOT District	Non-Motorist Type (All Persons)	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
4411381	BOSTON	07/17/2017	Non-fatal injury	2:36 PM	Non-fatal injury - Non-incapacitating	1	Local police				Daylight	Unknown	6	P2: Pedestrian	Dry	0	1	V1: Travelling straight ahead	V1(Passenger car)	V1: Not Reported	Clear				ALBANY STREET / EAST CONCORD STREET	
4488957	BOSTON	11/24/2017	Not Reported	6:50 AM	Not reported	2	Local police	25-34	35-44	D1:(Unknown),(Unknown) / D2: (Unknown),(Unknown)	Daylight	Sideswipe, opposite direction	6		Dry	0	0	V1: Turning left / V2: Travelling straight ahead	V1(Light truck(van, mini-van, pickup, sport utility)) / V2(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported / V2: Not Reported	Clear/Other	172097752	V1:(Unknown no collision) / V2:(Unknown no collision)		ALBANY STREET / EAST CONCORD STREET	

Data Level:	CRASH
Query Type:	Spatial
Criteria:	If you conducted an Advanced Query your SQL statement will be listed here

Albany Street at Stoughton Street

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	MassDOT District	Non-Motorist Type (All Persons)	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
3867620	BOSTON	04/16/2014	Not Reported	9:50 AM	Not reported	1	Local police	21-24	21-24		Daylight	Single vehicle crash	6	P2: Pedestrian	Dry	0	0	V1: Not reported	V1 (Passenger car)	V1: Not Reported	Clear				ALBANY STREET / EAST STOUGHTON STREET	

Data Level: CRASH
Query Type: Spatial
Criteria: If you conducted an Advanced Query your SQL statement will be listed here

Albany Street at East Newton Street

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	MassDOT District	Non-Motorist Type (All Persons)	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
4013204	BOSTON	12/17/2014	Non-fatal injury	12:13 PM	Non-fatal injury - Incapacitating	1	Local police	55-64	55-64	D1: (Wrong side or wrong way),(Wrong side or wrong way)	Daylight	Single vehicle crash	6	P2: Pedestrian	Dry	0	1	V1: Backing	V1:(Passenger car)	V1: Not Reported	Clear/Clear		V1:(Collision with pedestrian)		EAST NEWTON STREET / ALBANY STREET	
4021497	BOSTON	10/01/2014	Not Reported	12:25 PM	Not reported	2	Local police	18-20	45-54		Not reported	Not reported	6		Not reported	0	0	V1: Not reported / V2: Not reported	V1:(Passenger car) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Not Reported				ALBANY STREET / EAST NEWTON STREET	

Data Level: CRASH
Query Type: Spatial
Criteria: If you conducted an Advanced Query your SQL statement will be listed here

Massachusetts Avenue at Harrison Avenue

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	MassDOT District
4094643	BOSTON	03/19/2014	Unknown	4:46 PM	Not reported	1	Local police	45-54	45-54	D1: (Failed to yield right of way)	Daylight	Angle	6
4346977	BOSTON	02/28/2017	Non-fatal injury	7:38 PM	Non-fatal injury - Incapacitating	1	Local police				Dark - lighted roadway	Single vehicle crash	6
4349115	BOSTON	03/06/2017	Non-fatal injury	10:12 AM	Non-fatal injury - Possible	1	Local police	75-84	75-84	D1: (Unknown)	Daylight	Single vehicle crash	6
4363747	BOSTON	05/10/2017	Non-fatal injury	9:40 PM	Non-fatal injury - Possible	1	Local police	25-34	25-34	D1: (No improper driving)	Dark - lighted roadway	Not reported	6
4370277	BOSTON	05/23/2017	Property damage only (none injured)	9:20 AM	No injury	2	Local police	25-34	45-54	D1: (Unknown) / D2: (Unknown)	Daylight	Sideswipe, opposite direction	6
4406405	BOSTON	07/26/2017	Non-fatal injury	3:40 PM	Non-fatal injury - Non-incapacitating	1	Local police				Daylight	Head-on	6
4468684	BOSTON	10/30/2017	Non-fatal injury	3:52 PM	Non-fatal injury - Non-incapacitating	1	Local police	25-34	25-34	D1: (No improper driving)	Daylight	Single vehicle crash	6
4570973	BOSTON	05/27/2018	Non-fatal injury	6:08 AM	Non-fatal injury - Non-incapacitating	2	Local police	35-44	45-54	D1: (No improper driving) / D2: (Made an improper turn)	Dawn	Sideswipe, opposite direction	6

Crash Number	Non-Motorist Type (All Persons)	RMV Document Numbers	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
4094643	P2: Cyclist	PR201523200148	Dry	0	0	V1: Turning left	V1:(Passenger car)	V1: W	Clear		V1:(Collision with cyclist (bicycle, tricycle, unicycle, pedal car))		MASS AVENUE / HARRISON AVENUE	
4346977	P2: Pedestrian	PR201708600241	Wet	0	1	V1: Not reported		V1: Not Reported	Rain/Rain	172015475			MASSACHUSETTS AVENUE / HARRISON AVENUE	
4349115	P2: Pedestrian	PR201708701939	Dry	0	1	V1: Turning left	V1:(Passenger car)	V1: W	Clear/Clear	17-2017815	V1:(Collision with pedestrian)		HARRISON AVENUE / MASSACHUSETTS AVENUE	
4363747	P3: Pedestrian	PR201713600122	Dry	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: S	Clear/Clear	172036889	V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE / HARRISON AVENUE	
4370277		PR201715100116	Dry	0	0	V1: Turning right / V2: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported / V2: Not Reported	Clear	172040590			HARRISON AVENUE / MASSACHUSETTS AVENUE	
4406405	P2: Pedestrian	PR201721600406	Dry	0	1	V1: Not reported		V1: Not Reported	Clear				MASSACHUSETTS AVENUE / HARRISON AVENUE	
4468684	P2: Pedestrian	PR201730700116	Dry	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: Not Reported	Clear/Clear	172090780	V1:(Collision with pedestrian)	721	MASS AVENUE	HARRISON AVENUE
4570973		PR201817900608	Dry	0	4	V1: Travelling straight ahead / V2: Turning right	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: W / V2: N	Clear	182040595			MASSACHUSETTS AVENUE / HARRISON AVENUE	

Data Level: CRASH
Query Type: Spatial
Criteria: If you conducted an Advanced Query your SQL statement will be listed here

Harrison Avenue at East Springfield Street/ BMC Place

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	MassDOT District	Non-Motorist Type (All Persons)	RMV Document Numbers	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
4194141	BOSTON	04/05/2016	Non-fatal injury	5:17 PM	Non-fatal injury - Non-incapacitating	1	Local police	21-24	21-24	D1: (Unknown)	Daylight	Single vehicle crash	6	P2: Pedestrian	PR201612300246	Dry	0	1	V1: Turning left	V1:(Passenger car)	V1: Not Reported	Clear		V1:(Collision with pedestrian)		HARRISON AVENUE / EAST SPRINGFIELD STREET	
4519374	BOSTON	02/14/2018	Property damage only (none injured)	9:38 AM	No injury	2	Local police	35-44	35-44	D1: (Unknown) / D2: (Unknown)	Daylight	Sideswipe, same direction	6		PR201808600309	Dry	0	0	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Motorcycle)	V1: E / V2: E	Clear/Clear		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		HARRISON AVENUE / EAST SPRINGFIELD STREET	
4659446	BOSTON	11/29/2018	Non-fatal injury	3:41 PM	Non-fatal injury - Incapacitating	2	Local police	18-20	45-54	D1: (No improper driving) / D2: (Distracted),(Followed too closely)	Daylight	Rear-end	6		PR201903000904	Dry	0	1	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Clear/Clear	182096304	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	817	HARRISON AVENUE	

Data Level: CRASH
Query Type: Spatial
Criteria: If you conducted an Advanced Query your SQL statement will be listed here

Massachusetts Avenue at Melnea Cass Boulevard

Crash Number	City Town Name	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	Police Agency Type	Age of Driver - Youngest Known	Age of Driver - Oldest Known	Driver Contributing Circumstances (All Drivers)	Light Conditions	Manner of Collision	MassDOT District	Non-Motorist Type (All Persons)	RMV Document Numbers	Road Surface Condition	Total Fatalities	Total Non-Fatal Injuries	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Crash Report IDs	Most Harmful Event (All Vehicles)	Street Number	Roadway	Near Intersection Roadway
3772652	BOSTON	03/06/2014	Non-fatal injury	12:14 PM	Non-fatal injury - Non-incapacitating	3	State police	45-54	65-74	D1: (No improper driving) / D2: (Disregarded traffic signs, signals, road markings) / D3: (No improper driving)	Daylight	Angle	6		PW201408401649	Dry	0	2	V1: Travelling straight ahead / V2: Changing lanes / V3: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car) / V3:(Light truck(van, mini-van, pickup, sport utility))	V1: W / V2: W / V3: W	Clear	2014-0E4-002098	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE CONNECTOR	
3808569	BOSTON	05/15/2014	Non-fatal injury	7:26 PM	Non-fatal injury - Incapacitating	2	State police	35-44	35-44	D1: (No improper driving) / D2: (Operating vehicle in erratic, reckless, careless, negligent or aggressive manner)	Dusk	Sideswipe, same direction	6		PW201414700404	Dry	0	2	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1: W / V2: W	Cloudy	2014-0E4-004152	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE Rte UNKNOW W	MELNEA CASS BOULEVARD
3866480	BOSTON	05/21/2014	Not Reported	9:16 AM	Not reported	2	Local police	55-64	55-64		Not reported	Not reported	6		PR201417800304	Not reported	0	0	V1: Not reported / V2: Not reported	V1:(Bus (seats for 16 or more, including driver)) / V2:(Single-unit truck (2-axle, 6-tires))	V1: Not Reported / V2: Not Reported	Not Reported	140315561			MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
3901554	BOSTON	07/15/2014	Non-fatal injury	1:25 PM	Non-fatal injury - Non-incapacitating	3	Local police	25-34	25-34	D1: (No improper driving) / D2: (No improper driving) / D3: (Followed too closely)	Not reported	Not reported	6		PR201422000732 / PA201435700248	Not reported	0	2	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic / V3: Changing lanes	V1:(Passenger car) / V2:(Truck tractor (bobtail)) / V3:(Passenger car)	V1: E / V2: E / V3: E	Not Reported		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic)	811	MASSACHUSETTS AVENUE	
3924276	BOSTON	08/27/2014	Property damage only (none injured)	4:08 PM	No injury	1	State police	35-44	35-44	D1: (Failure to keep in proper lane or running off road)	Daylight	Single vehicle crash	6		PW201424400605	Dry	0	0	V1: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: E	Clear	2014-0E4-007374	V1:(Collision with light pole or other post/support)		MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE	
3984156	BOSTON	11/17/2014	Not Reported	2:38 AM	Not reported	2	Local police	25-34	25-34		Dark - lighted roadway	Rear-end	6		PR201434900309	Wet	0	0	V1: Not reported / V2: Not reported	V1:(Unknown vehicle configuration) / V2:(Unknown vehicle configuration)	V1: Not Reported / V2: Not Reported	Rain/Sleet, hail (freezing rain or drizzle)				MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4013914	BOSTON	02/17/2015	Property damage only (none injured)	12:50 AM	No injury	2	State police	25-34	55-64	D1: (No improper driving) / D2: (Inattention)	Dark - lighted roadway	Angle	6		PW201505801714	Wet	0	0	V1: Turning left / V2: Turning left	V1:(Single-unit truck (3-or-more axles)) / V2:(Passenger car)	V1: E / V2: E	Clear	2015-0E4-001311	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE / SOUTHAMPTON STREET	
4016657	BOSTON	10/07/2014	Property damage only (none injured)	9:45 AM	No injury	1	Local police	25-34	25-34	D1: (Driving too fast for conditions),(Failure to keep in proper lane or running off road)	Daylight	Sideswipe, same direction	6	P2: Cyclist	PR201432800536	Unknown	0	0	V1: Changing lanes	V1:(Passenger car)	V1: N	Unknown/Unknown	142036742	V1:(Collision with cyclist (bicycle, tricycle, unicycle, pedal car))		MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4028083	BOSTON	03/16/2015	Property damage only (none injured)	3:08 PM	No injury	3	State police	25-34	45-54	D1: (No improper driving) / D2: (No improper driving) / D3: (No improper driving)	Daylight	Rear-end	6		PW201509200622	Dry	0	0	V1: Slowing or stopped in traffic / V2: Travelling straight ahead / V3: Travelling straight ahead	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility)) / V3:(Tractor/semi-trailer)	V1: W / V2: W / V3: W	Clear	2015-0E4-002264	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE CONNECTOR	MELNEA CASS BOULEVARD
4120276	BOSTON	12/03/2015	Property damage only (none injured)	12:48 PM	No injury	2	State police	25-34	35-44	D1: (No improper driving) / D2: (Other improper action)	Daylight	Rear-end	6		PW201534500171	Dry	0	0	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1: W / V2: W	Cloudy	2015-0E4-010030	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE Rte UNKNOW	MELNEA CASS BOULEVARD
4157154	BOSTON	11/20/2015	Non-fatal injury	5:23 AM	Non-fatal injury - Non-incapacitating	1	Local police	65-74	65-74	D1: (No improper driving)	Not reported	Not reported	6	P2: Pedestrian	PR201600600231	Not reported	0	1	V1: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: W	Not Reported		V1:(Collision with pedestrian)		MASS AVENUE / MELNEA CASS BOULEVARD	
4163255	BOSTON	02/29/2016	Not Reported	10:45 AM	Not reported	2	Local police	21-24	45-54	D1: (No improper driving)	Daylight	Sideswipe, same direction	6		PR201607100406	Dry	0	0	V1: Turning left / V2: Not reported	V1:(Truck/trailer) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Clear				MASS AVENUE / MELNEA CASS BOULEVARD	
4172287	BOSTON	03/30/2016	Property damage only (none injured)	8:35 PM	No injury	2	State police	<16	25-34	D1: (Operating vehicle in erratic, reckless, careless, negligent or aggressive manner) / D2: (No improper driving)	Dark - lighted roadway	Angle	6		PW201609700508	Dry	0	0	V1: Making U-turn / V2: Slowing or stopped in traffic	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: W / V2: E	Clear	2016-0H6-001872	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE CONNECTOR	MELNEA CASS BOULEVARD
4181698	BOSTON	04/23/2016	Property damage only (none injured)	1:59 AM	No injury	2	State police	25-34	25-34	D1: (No improper driving) / D2: (Followed too closely)	Dark - lighted roadway	Rear-end	6		PW201611900199	Wet	0	0	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1: E / V2: E	Rain	2016-0E4-003061	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE / SOUTHAMPTON STREET	
4227045	BOSTON	08/01/2016	Non-fatal injury	1:07 PM	Non-fatal injury - Non-incapacitating	1	State police	21-24	21-24	D1: (No improper driving)	Daylight	Single vehicle crash	6	P2: Pedestrian	PW201621700826	Dry	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: E	Clear	2016-0E4-006250	V1:(Collision with pedestrian)		MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE / MASSACHUSETTS AVENUE CONNECTOR	
4259947	BOSTON	10/08/2016	Property damage only (none injured)	8:25 AM	No injury	3	State police	45-54	65-74	D1: (No improper driving) / D3: (Followed too closely)	Daylight	Rear-end	6		PW201628501018	Dry	0	0	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic / V3: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility)) / V3:(Single-unit truck (3-or-more axles))	V1: W / V2: W / V3: W	Clear	2016-0E4-008401	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic)		MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE / MASSACHUSETTS AVENUE CONNECTOR	
4281557	BOSTON	11/02/2016	Non-fatal injury	9:37 PM	Non-fatal injury - Non-incapacitating	1	State police	55-64	55-64	D1: (No improper driving)	Dark - lighted roadway	Single vehicle crash	6	P2: Pedestrian	PW201631900627	Dry	0	1	V1: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: S	Cloudy	2016-0E4-009287	V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE Rte UNKNOW	MELNEA CASS BOULEVARD
4313687	BOSTON	01/03/2017	Non-fatal injury	5:32 PM	Non-fatal injury - Non-incapacitating	1	State police	21-24	21-24	D1: (No improper driving)	Dark - lighted roadway	Single vehicle crash	6	P2: Pedestrian	PW201701907928	Wet	0	1	V1: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: E	Rain	2017-0E4-000066	V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE	MELNEA CASS BOULEVARD
4343509	BOSTON	01/27/2017	Non-fatal injury	2:00 PM	Non-fatal injury - Possible	2	Local police	45-54	75-84	D1: (Unknown) / D2: (Unknown)	Daylight	Rear-end	6		PR201705900449	Dry	0	1	V1: Unknown / V2: Unknown	V1:(Passenger car) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Cloudy		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	811	MASS AVENUE	MELNEA CASS BOULEVARD
4345548	BOSTON	02/21/2017	Non-fatal injury	7:26 PM	Non-fatal injury - Incapacitating	1	Local police	65-74	65-74	D1: (Unknown)	Dark - lighted roadway	Single vehicle crash	6	P1: Pedestrian	PR201708100201	Dry	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: W	Clear	I172014308	V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE CONNECTOR / MASS AVENUE / MELNEA CASS BOULEVARD	
4351497	BOSTON	02/28/2017	Property damage only (none injured)	12:37 PM	No injury	2	Local police	55-64	65-74	D1: (Unknown),(Unknown) / D2: (Unknown),(Unknown)	Daylight	Angle	6		PR201710300126	Dry	0	0	V1: Turning left / V2: Turning left	V1:(Passenger car) / V2:(Bus (seats for 16 or more, including driver))	V1: W / V2: W	Clear		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE CONNECTOR / MASS AVENUE	
4351624	BOSTON	02/24/2017	Property damage only (none injured)	7:15 PM	No injury	2	Local police	55-64	55-64	D1: (No improper driving) / D2: (Disregarded traffic signs, signals, road markings)	Dark - lighted roadway	Angle	6		PR201710300324	Dry	0	0	V1: Turning left / V2: Not reported	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1: N / V2: Not Reported	Clear		V1:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4356437	BOSTON	04/18/2017	Property damage only (none injured)	8:51 PM	No injury	2	Local police	35-44	45-54	D1: (No improper driving) / D2: (Made an improper turn)	Dark - lighted roadway	Head-on	6		PR201711501111	Dry	0	0	V1: Travelling straight ahead / V2: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Unknown/Unknown		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4357414	BOSTON	04/24/2017	Property damage only (none injured)	11:00 PM	No injury	1	State police	21-24	21-24	D1: (No improper driving)	Dark - lighted roadway	Single vehicle crash	6		PW201712200464	Dry	0	0	V1: Travelling straight ahead	V1:(Passenger car)	V1: E	Clear	2017-0E4-003737	V1:(Collision with median barrier)		MASSACHUSETTS AVENUE CONNECTOR Rte UNKNOW	MELNEA CASS BOULEVARD
4360612	BOSTON	04/18/2017	Property damage only (none injured)	6:00 AM	No injury	2	Local police	25-34	35-44	D1: (Unknown) / D2: (Unknown)	Dawn	Not reported	6		PR201712900304	Dry	0	0	V1: Turning left / V2: Turning left	V1:(Truck/trailer) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: E / V2: E	Rain		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		SOUTHAMPTON STREET / MASSACHUSETTS AVENUE	
4363790	BOSTON	05/01/2017	Property damage only (none injured)	3:00 PM	No injury	2	Local police	35-44	75-84	D1: (Unknown) / D2: (Unknown)	Daylight	Angle	6		PR201713600143	Dry	0	0	V1: Travelling straight ahead / V2: Turning left	V1:(Passenger car) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Clear/Clear		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4370651	BOSTON	05/29/2017	Property damage only (none injured)	3:05 AM	No injury	2	State police	35-44	35-44		Dark - lighted roadway	Sideswipe, same direction	6		PW201715302643	Dry	0	0	V1: Turning left / V2: Turning left	V1:(Passenger car) / V2:(Passenger car)	V1: W / V2: W	Clear	2017-0E4-004926	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE CONNECTOR Rte UNKNOW	MASS AVENUE

4374586	BOSTON	06/03/2017	Non-fatal injury	1:40 PM	Non-fatal injury - Non-incapacitating	1	State police	35-44	35-44	D1: (No improper driving)	Daylight	Single vehicle crash	6	P2: Pedestrian	PW201716002583	Dry	0	1	V1: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: E	Clear	2017-0E4-005084	V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE CONNECTOR Rte UNKNOW	MASS AVENUE
4383858	BOSTON	06/14/2017	Non-fatal injury	7:42 AM	Non-fatal injury - Non-incapacitating	1	Local police	65-74	65-74	D1: (No improper driving)	Daylight	Single vehicle crash	6	P2: Pedestrian	PR201717900320	Dry	0	1	V1: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported	Clear		V1:(Collision with pedestrian)	891	MASSACHUSETTS AVENUE	SOUTHAMPTON STREET
4383860	BOSTON	04/14/2017	Non-fatal injury	4:58 PM	Non-fatal injury - Non-incapacitating	2	Local police	21-24	21-24	D1: (Unknown) / D2: (Unknown)	Daylight	Sideswipe, same direction	6		PR201717900321	Dry	0	1	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car)	V1: E / V2: Not Reported	Clear		V1:(Collision with tree) / V2:(Collision with motor vehicle in traffic)		MELNEA CASS BOULEVARD	MASSACHUSETTS AVENUE
4414348	BOSTON	08/11/2017	Non-fatal injury	9:30 PM	Non-fatal injury - Non-incapacitating	1	Local police			D1: (No improper driving)	Dark - lighted roadway	Single vehicle crash	6		PR201722900144	Dry	0	1	V1: Turning left	V1:(Passenger car)	V1: Not Reported	Clear/Clear		V1:(Collision with pedestrian)		MELNEA CASS BOULEVARD / MASS AVENUE	
4420127	BOSTON	08/27/2017	Property damage only (none injured)	3:20 PM	No injury	2	State police	21-24	25-34	D1: (Followed too closely) / D2: (No improper driving)	Daylight	Rear-end	6		PW201725500322	Dry	0	0	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Single-unit truck (2-axle, 6-tires)) / V2:(Passenger car)	V1: W / V2: W	Clear	2017-0E4-007629	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE CONNECTOR	MELNEA CASS BOULEVARD
4423659	BOSTON	09/14/2017	Non-fatal injury	1:59 PM	Non-fatal injury - Non-incapacitating	2	Local police	21-24	55-64	D1: (No improper driving) / D2: (Followed too closely)	Daylight	Rear-end	6		PR201725500317	Dry	0	1	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Bus (seats for 16 or more, including driver))	V1: Not Reported / V2: Not Reported	Clear/Clear	I172073273	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4452037	BOSTON	10/05/2017	Non-fatal injury	1:15 AM	Non-fatal injury - Non-incapacitating	1	State police	65-74	65-74	D1: (Other improper action)	Dark - lighted roadway	Single vehicle crash	6		PW201731701609	Dry	0	1	V1: Turning left	V1:(Motorcycle)	V1: E	Clear	2017-0E4-008749	V1:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE CONNECTOR	MELNEA CASS BOULEVARD
4488964	BOSTON	11/17/2017	Non-fatal injury	4:16 PM	Non-fatal injury - Possible	2	Local police	25-34	25-34	D1: (No improper driving) / D2: (Failed to yield right of way)	Dusk	Angle	6		PR201733400211	Dry	0	2	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1: N / V2: E	Clear		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		SOUTHAMPTON STREET / MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE	
4502068	BOSTON	12/25/2017	Property damage only (none injured)	8:15 AM	No injury	1	Local police	25-34	25-34	D1: (Unknown),(Unknown)	Daylight	Single vehicle crash	6		PR201803200214	Snow	0	0	V1: Turning right	V1:(Passenger car)	V1: Not Reported	Snow/Rain		V1:(Collision with utility pole)		MELNEA CASS BOULEVARD / MASS AVENUE	
4508870	BOSTON	01/28/2018	Property damage only (none injured)	7:42 PM	No injury	1	Local police	21-24	21-24	D1: (No improper driving)	Dark - lighted roadway	Single vehicle crash	6	P2: Pedestrian	PR201803700417	Dry	0	0	V1: Travelling straight ahead	V1:(Passenger car)	V1: W	Clear/Clear	18-2007453	V1:(Collision with pedestrian)		MASS AVENUE / MELNEA CASS BOULEVARD	
4508931	BOSTON	01/02/2018	Property damage only (none injured)	10:00 AM	No injury	2	Local police	21-24	55-64	D1: (Unknown) / D2: (Unknown)	Daylight	Front to Rear	6		PR201803600202	Dry	0	0	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Clear	182000314	V1:(Unknown) / V2:(Unknown)		SOUTHAMPTON STREET / MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE	
4513994	BOSTON	12/02/2017	Property damage only (none injured)	2:25 PM	No injury	3	Local police	25-34	45-54	D1: (No improper driving) / D2: (No improper driving)	Daylight	Rear-end	6		PR201807400111	Dry	0	0	V1: Travelling straight ahead / V2: Travelling straight ahead / V3: Not reported	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility)) / V3:(Light truck(van, mini-van, pickup, sport utility))	V1: N / V2: N / V3: Not Reported	Cloudy	1720100114	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE	
4515617	BOSTON	01/04/2018	Non-fatal injury	9:11 AM	Non-fatal injury - Possible	3	Local police	18-20	55-64		Daylight	Rear-end	6		PR201807100147	Ice	0	2	V1: Travelling straight ahead / V2: Slowing or stopped in traffic / V3: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility)) / V3:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported / V2: Not Reported / V3: Not Reported	Snow/Blowing sand, snow	180005951	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4524314	BOSTON	02/19/2018	Property damage only (none injured)	12:40 PM	No injury	2	Local police	25-34	55-64	D1: (No improper driving) / D2: (Failed to yield right of way)	Daylight	Angle	6		PR201809900306	Dry	0	0	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Other e.g. farm equipment) / V2:(Passenger car)	V1: N / V2: W	Clear		V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE	
4524947	BOSTON	03/25/2018	Property damage only (none injured)	11:30 AM	No injury	2	Local police	21-24	25-34	D1: (No improper driving) / D2: (No improper driving)	Daylight	Angle	6		PR201809500320	Dry	0	0	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Clear/Clear	182022204	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4533181	BOSTON	03/07/2018	Non-fatal injury	10:00 PM	Non-fatal injury - Possible	2	Local police	21-24	55-64	D1: (Unknown),(Unknown) / D2: (Unknown)	Dawn	Rear-end	6		PR201811000219	Wet	0	1	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1: N / V2: N	Rain/Cloudy	182017467	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MELNEA CASS BOULEVARD / MASSACHUSETTS AVENUE	
4536801	BOSTON	03/19/2018	Property damage only (none injured)	12:40 PM	No injury	2	Local police	45-54	55-64	D1: (No improper driving) / D2: (Followed too closely)	Daylight	Rear-end	6		PR201811400109	Dry	0	0	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported / V2: Not Reported	Clear/Clear	182020615	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4557664	BOSTON	06/23/2018	Non-fatal injury	6:53 PM	Non-fatal injury - Possible	1	State police	65-74	65-74	D1: (History heart/epilepsy/fainting)	Daylight	Single vehicle crash	6		PW201817800310	Wet	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: W	Rain	2018-0H9-001445	V1:(Collision with median barrier)		MASSACHUSETTS AVENUE CONNECTOR	MELNEA CASS BOULEVARD
4559126	BOSTON	06/02/2018	Property damage only (none injured)	9:15 PM	No injury	2	State police	21-24	35-44	D1: (Disregarded traffic signs, signals, road markings) / D2: (No improper driving)	Dark - lighted roadway	Angle	6		PW201818300529	Dry	0	0	V1: Travelling straight ahead / V2: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1: N / V2: N	Clear	2018-0H9-000908	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASS AVENUE Rte UNKNOW	MASSACHUSETTS AVENUE CONNECTOR
4573275	BOSTON	07/27/2018	Non-fatal injury	11:45 PM	Non-fatal injury - Non-incapacitating	1	State police	35-44	35-44	D1: (No improper driving)	Dark - lighted roadway	Single vehicle crash	6	P2: Pedestrian	PW201821100720	Dry	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: N	Clear	2018-0H9-002339	V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE CONNECTOR Rte UNKNOW N	MASS AVENUE
4590505	BOSTON	08/30/2018	Non-fatal injury	12:05 AM	Non-fatal injury - Non-incapacitating	1	State police				Dark - lighted roadway	Not reported	6		PW201825300516	Dry	0	1	V1: Travelling straight ahead	V1:(Passenger car)	V1: E	Clear	2018-0H9-003307	V1:(Collision with pedestrian)		MASS AVENUE / MASSACHUSETTS AVENUE CONNECTOR /	
4623655	BOSTON	11/10/2018	Non-fatal injury	9:33 PM	Non-fatal injury - Incapacitating	1	State police	65-74	65-74	D1: (No improper driving)	Dark - roadway not lighted	Single vehicle crash	6	P2: Pedestrian	PW201832300944	Dry	0	1	V1: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: E	Cloudy	2018-0H9-005584	V1:(Collision with pedestrian)		MASSACHUSETTS AVENUE CONNECTOR Rte UNKNOW E	MASS AVENUE
4626958	BOSTON	11/20/2018	Property damage only (none injured)	6:37 PM	No injury	2	State police	45-54	65-74	D1: (No improper driving) / D2: (Followed too closely)	Dark - lighted roadway	Rear-end	6		PW201833000768	Wet	0	0	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1: W / V2: W	Rain/Snow	2018-0H9-005884	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		MASSACHUSETTS AVENUE CONNECTOR Rte UNKNOW	MELNEA CASS BOULEVARD
4642258	BOSTON	11/07/2018	Property damage only (none injured)	12:07 PM	No injury	2	Local police	25-34	55-64	D1: (No improper driving) / D2: (Other improper action)	Daylight	Angle	6		PR201833300128	Dry	0	0	V1: Travelling straight ahead / V2: Changing lanes	V1:(Passenger car) / V2:(Passenger car)	V1: Not Reported / V2: Not Reported	Clear	182090267			MASSACHUSETTS AVENUE / MELNEA CASS BOULEVARD	
4690803	BOSTON	02/22/2017	Fatal injury	3:51 PM	Fatal injury (K)	1	Local police	35-44	35-44		Daylight	Single vehicle crash	6	P2: Pedestrian	FP201910900101	Dry	1	0	V1: Not reported	V1:(Light truck(van, mini-van, pickup, sport utility))	V1: Not Reported	Clear		V1:(Collision with pedestrian)		MASS AVENUE / MELNEA CASS BOULEVARD	
4722825	BOSTON	08/23/2018	Property damage only (none injured)	4:00 PM	No injury	1	MBTA police	55-64	55-64	D1: (No improper driving)	Daylight	Not reported	6	P3: Pedestrian	PR201919100130	Dry	0	0	V1: Slowing or stopped in traffic	V1:(Passenger car)	V1: W	Clear		V1:(Collision with pedestrian)		SOUTHAMPTON STREET / MELNEA CASS BOULEVARD	

Data Level: CRASH
Query Type: Spatial
Criteria: If you conducted an Advanced Query your SQL statement will be listed here

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston | COUNT DATE : December 2019

DISTRICT : 6 | UNSIGNALIZED : | SIGNALIZED : X

0.52 | 0.71

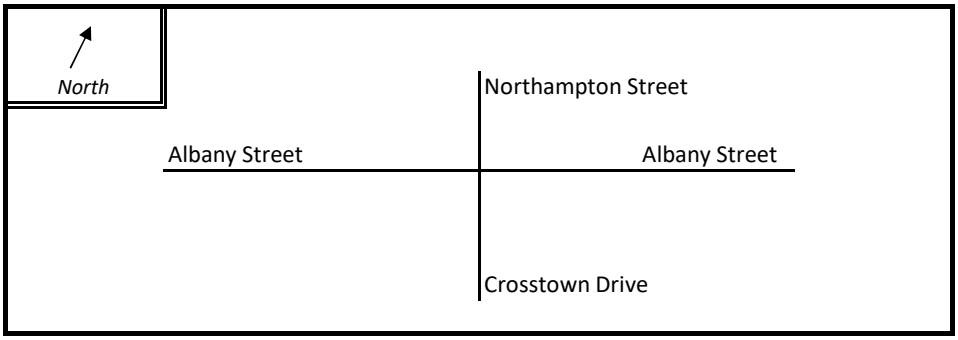
~ INTERSECTION DATA ~

MAJOR STREET : Albany Street

MINOR STREET(S) : Northampton Street

Crosstown Drive

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	293	362	339	410		**1,404**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **15,600**

TOTAL # OF CRASHES : 3 | # OF YEARS : 5 | AVERAGE # OF CRASHES PER YEAR (**A**) : **0.60**

CRASH RATE CALCULATION : **0.11**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston | COUNT DATE : December 2019

DISTRICT : 6 | UNSIGNALIZED : | SIGNALIZED : X

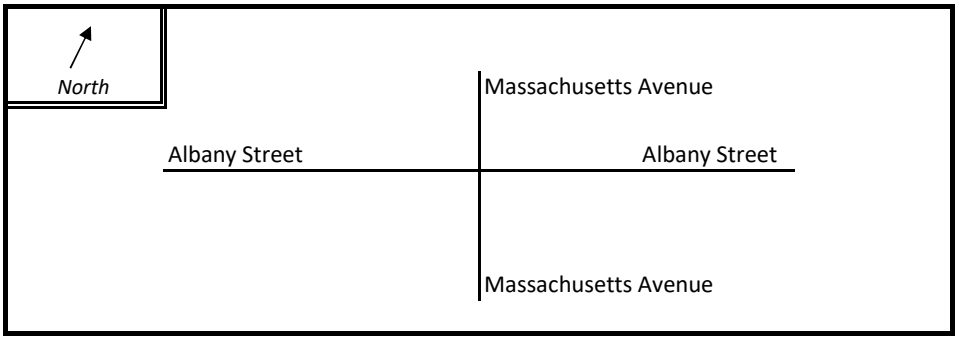
0.52 | 0.71

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Albany Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	825	766	392	619		**2,602**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **28,911**

TOTAL # OF CRASHES : 19 | # OF YEARS : 5 | AVERAGE # OF CRASHES PER YEAR (**A**) : **3.80**

CRASH RATE CALCULATION : **0.36**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston | COUNT DATE : December 2019

DISTRICT : 6 | UNSIGNALIZED : X (0.52) | SIGNALIZED : (0.71)

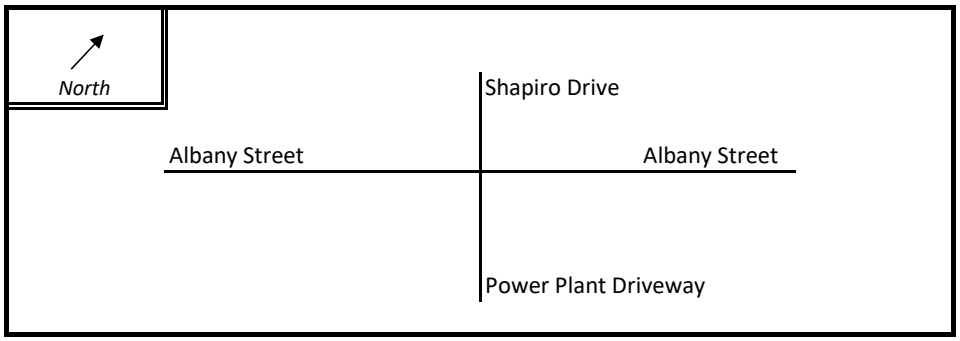
~ INTERSECTION DATA ~

MAJOR STREET : Albany Street

MINOR STREET(S) : Shapiro Drive

Power Plant Driveway

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	8	2	353	650		**1,013**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **11,256**

TOTAL # OF CRASHES : 3 | # OF YEARS : 5 | AVERAGE # OF CRASHES PER YEAR (**A**) : **0.60**

CRASH RATE CALCULATION : **0.15**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston

COUNT DATE : December 2019

DISTRICT : 6

UNSIGNALIZED : [ ] 0.52

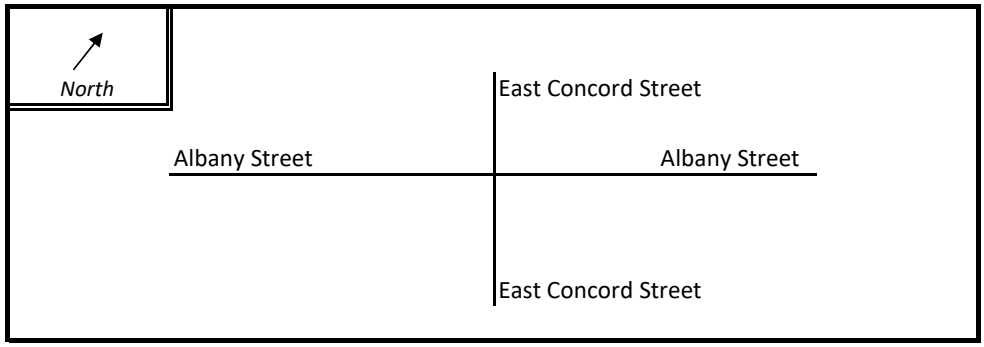
SIGNALIZED : [X] 0.71

~ INTERSECTION DATA ~

MAJOR STREET : Albany Street

MINOR STREET(S) : East Concord Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	2	389	310	435		**1,136**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **12,622**

TOTAL # OF CRASHES : 2

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **0.40**

CRASH RATE CALCULATION : **0.09**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston

COUNT DATE : December 2019

DISTRICT : 6

UNSIGNALIZED : X (0.52)

SIGNALIZED : (0.71)

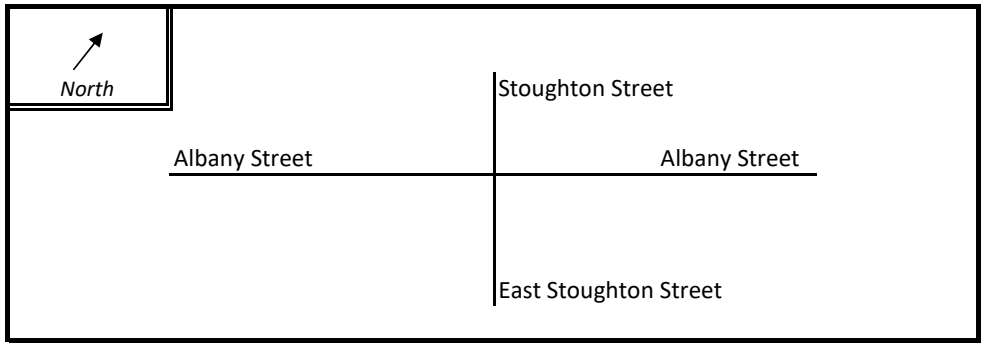
~ INTERSECTION DATA ~

MAJOR STREET : Albany Street

MINOR STREET(S) : Stoughton Street

East Stoughton Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	191	14	423	344		**972**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **10,800**

TOTAL # OF CRASHES : 1

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **0.20**

CRASH RATE CALCULATION : **0.05**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston | COUNT DATE : December 2019

DISTRICT : 6 | UNSIGNALIZED : | SIGNALIZED : X

0.52 | 0.71

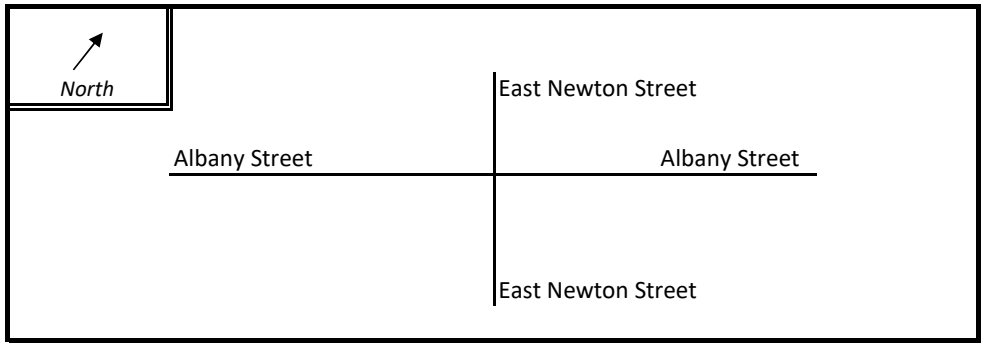
~ INTERSECTION DATA ~

MAJOR STREET : Albany Street

MINOR STREET(S) : East Newton Street

East Newton Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	337	0	517	306		**1,160**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **12,889**

TOTAL # OF CRASHES : 2 | # OF YEARS : 5 | AVERAGE # OF CRASHES PER YEAR (**A**) : **0.40**

CRASH RATE CALCULATION : **0.09**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston | COUNT DATE : December 2019

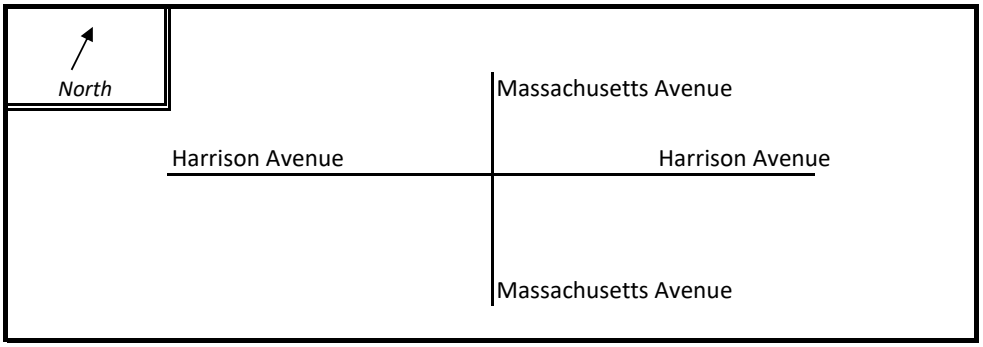
DISTRICT : 6 | UNSIGNALIZED : [ ] 0.52 | SIGNALIZED : [X] 0.71

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Harrison Avenue

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	858	737	250	289		**2,134**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **23,711**

TOTAL # OF CRASHES : 8 | # OF YEARS : 5 | AVERAGE # OF CRASHES PER YEAR (**A**) : **1.60**

CRASH RATE CALCULATION : **0.18**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston | COUNT DATE : December 2019

DISTRICT : 6 | UNSIGNALIZED : X (0.52) | SIGNALIZED : (0.71)

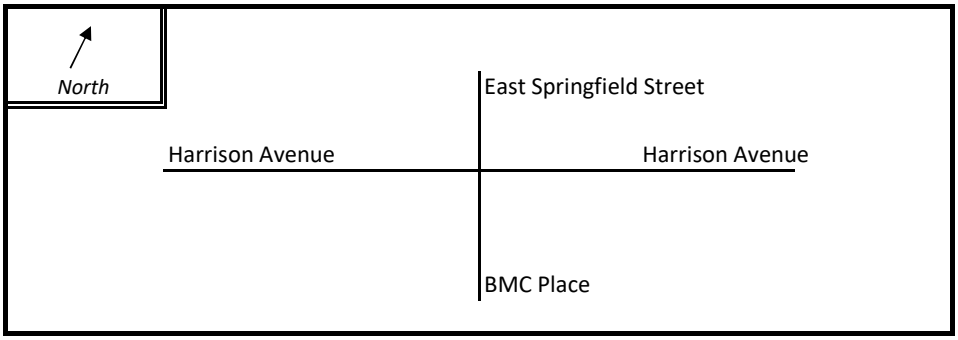
~ INTERSECTION DATA ~

MAJOR STREET : Harrison Avenue

MINOR STREET(S) : East Springfield Street

BMC Place

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	3	76	403	309		**791**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **8,789**

TOTAL # OF CRASHES : 3 | # OF YEARS : 5 | AVERAGE # OF CRASHES PER YEAR (**A**) : **0.60**

CRASH RATE CALCULATION : **0.19**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston | COUNT DATE : December 2019

DISTRICT : 6 | UNSIGNALIZED : | SIGNALIZED : X

0.52 | 0.71

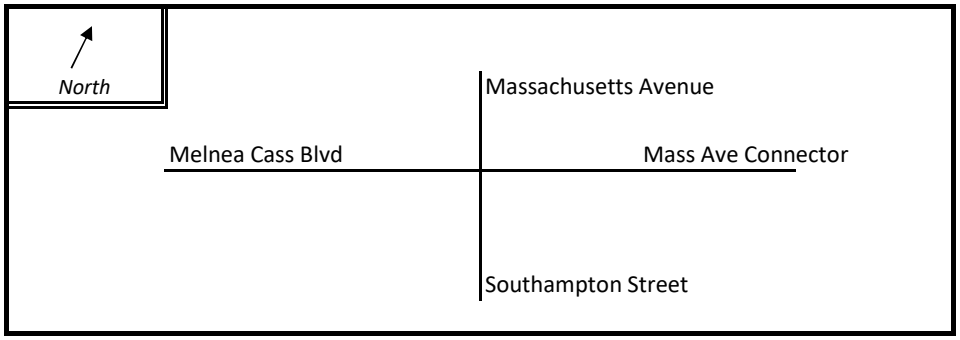
~ INTERSECTION DATA ~

MAJOR STREET : Melnea Cass Blvd/ Mass Ave Connector

MINOR STREET(S) : Massachusetts Avenue

Southampton Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/**PM**) :	1,119	956	1,288	1,510		**4,873**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **54,144**

TOTAL # OF CRASHES : 53 | # OF YEARS : 5 | AVERAGE # OF CRASHES PER YEAR (**A**) : **10.60**

CRASH RATE CALCULATION : **0.54**

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

Comments : MassDOT Accident Data (2014-2018)

Project Title & Date: 14645.00 BMC IMP Boston MA 02/09/2021

Public Transportation

FAIRMOUNT LINE with FOXBORO PILOT Effective October 21, 2019

Monday to Friday

Inbound to Boston

ZONE	STATION	TRAIN #	766	740	768	770	772	774	746	776	778	748	780	782	784	750	786	788	754	790	726	758
			AM							PM												
	Bikes Allowed		🚲					🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲
4	Foxboro	♿	-	5:47	-	-	-	-	10:29	-	-	1:29	-	-	-	4:32	-	-	6:34	-	FRANK	9:49
2	Dedham Corp. Ctr.	♿	-	6:15	-	-	-	-	10:53	-	-	1:53	-	-	-	4:56	-	-	6:58	-	8:50	10:13
2	Readville	♿	5:35	6:22	7:15	7:55	8:45	10:00	11:00	12:00	1:00	2:00	2:40	3:35	4:15	5:03	5:45	6:30	7:06	8:00	8:57	10:20
1A	Fairmount	♿	5:39	6:26	7:19	7:59	8:49	f 10:04	f 11:04	f 12:04	f 1:04	f 2:04	f 2:44	f 3:39	f 4:19	f 5:07	f 5:49	f 6:34	f 7:10	f 8:04	f 9:01	f 10:24
1A	Blue Hill Ave	♿	5:42	6:29	7:22	8:02	8:52	f 10:07	f 11:07	f 12:07	f 1:07	f 2:07	f 2:47	f 3:42	f 4:22	f 5:10	f 5:52	f 6:37	f 7:13	f 8:07	f 9:04	f 10:27
1A	Morton Street	♿	5:45	6:32	7:25	8:05	8:55	f 10:10	f 11:10	f 12:10	f 1:10	f 2:10	f 2:50	f 3:45	f 4:25	f 5:13	f 5:55	f 6:40	f 7:16	f 8:10	f 9:07	f 10:30
1A	Talbot Ave	♿	5:48	6:35	7:28	8:08	8:58	f 10:13	f 11:13	f 12:13	f 1:13	f 2:13	f 2:53	f 3:48	f 4:28	f 5:16	f 5:58	f 6:43	f 7:19	f 8:13	f 9:10	f 10:33
1A	Four Corners/Geneva Ave	♿	5:51	6:38	7:31	8:11	9:01	f 10:16	f 11:16	f 12:16	f 1:16	f 2:16	f 2:56	f 3:51	f 4:31	f 5:19	f 6:01	f 6:46	f 7:22	f 8:16	f 9:13	f 10:36
1A	Uphams Corner	♿	5:54	6:41	7:34	8:14	9:04	f 10:19	f 11:19	f 12:19	f 1:19	f 2:19	f 2:59	f 3:54	f 4:34	f 5:22	f 6:04	f 6:49	f 7:25	f 8:19	f 9:16	f 10:39
1A	Newmarket	♿	5:57	6:44	7:37	8:17	9:07	f 10:22	f 11:22	f 12:22	f 1:22	f 2:22	f 3:02	f 3:57	f 4:37	f 5:25	f 6:07	f 6:52	f 7:28	f 8:22	f 9:19	f 10:42
1A	South Station	♿	6:05	6:52	7:45	8:25	9:15	10:30	11:30	12:30	1:30	2:30	3:10	4:05	4:45	5:33	6:15	7:00	7:36	8:30	9:27	10:50

Trains in purple box indicate peak period trains.

Monday to Friday

Outbound from Boston

ZONE	STATION	TRAIN #	741	743	769	771	773	775	747	777	779	749	781	783	785	787	755	789	757	791	759	793
			AM							PM												
	Bikes Allowed		🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲						🚲	🚲	🚲	🚲	🚲
1A	South Station	♿	6:03	7:05	8:00	8:40	9:45	10:45	11:45	12:45	1:45	2:45	3:30	4:15	5:00	5:45	6:30	7:15	8:15	9:00	10:00	11:00
1A	Newmarket	♿	f 6:11	f 7:13	f 8:08	f 8:48	f 9:53	f 10:53	f 11:53	f 12:53	f 1:53	f 2:53	3:38	4:23	5:08	5:53	6:38	f 7:23	f 8:23	f 9:08	f 10:08	f 11:08
1A	Uphams Corner	♿	f 6:13	f 7:15	f 8:10	f 8:50	f 9:55	f 10:55	f 11:55	f 12:55	f 1:55	f 2:55	3:40	4:25	5:10	5:55	6:40	f 7:25	f 8:25	f 9:10	f 10:10	f 11:10
1A	Four Corners/Geneva Ave	♿	f 6:16	f 7:18	f 8:13	f 8:53	f 9:58	f 10:58	f 11:58	f 12:58	f 1:58	f 2:58	3:43	4:28	5:13	5:58	6:43	f 7:28	f 8:28	f 9:13	f 10:13	f 11:13
1A	Talbot Ave	♿	f 6:19	f 7:21	f 8:16	f 8:56	f 10:01	f 11:01	f 12:01	f 1:01	f 2:01	f 3:01	3:46	4:31	5:16	6:01	6:46	f 7:31	f 8:31	f 9:16	f 10:16	f 11:16
1A	Morton Street	♿	f 6:22	f 7:24	f 8:19	f 8:59	f 10:04	f 11:04	f 12:04	f 1:04	f 2:04	f 3:04	3:49	4:34	5:19	6:04	6:49	f 7:34	f 8:34	f 9:19	f 10:19	f 11:19
1A	Blue Hill Ave	♿	f 6:25	f 7:27	f 8:22	f 9:02	f 10:07	f 11:07	f 12:07	f 1:07	f 2:07	f 3:07	3:52	4:37	5:22	6:07	6:52	f 7:37	f 8:37	f 9:22	f 10:22	f 11:22
1A	Fairmount	♿	f 6:28	f 7:30	f 8:25	f 9:05	f 10:10	f 11:10	f 12:10	f 1:10	f 2:10	f 3:10	3:55	4:40	5:25	6:10	6:55	f 7:40	f 8:40	f 9:25	f 10:25	f 11:25
2	Readville	♿	6:33	7:35	8:30	9:10	10:15	11:15	12:15	1:15	2:15	3:15	4:00	4:45	5:30	6:15	7:00	7:45	8:45	9:30	10:30	11:30
2	Dedham Corp. Ctr.	♿	6:37	7:41	-	-	-	-	12:20	-	-	3:23	-	-	-	-	7:05	-	8:51	-	10:35	-
4	Foxboro	♿	6:59	8:06	-	-	-	-	12:43	-	-	3:52	-	-	-	-	7:26	-	9:19	-	10:56	-

Trains in purple box indicate peak period trains.

Saturday & Sunday

Inbound to Boston

ZONE	STATION	SATURDAY TRAIN # / SUNDAY TRAIN #	1752 2752	1754 2754	1756 2756	1758 2758	1760 2760	1762 2762	1764 2764	1766 2766	1768 2768	1770 2770	1772 2772	1774 2774	1776 2776	1778 2778	1780 2780	1782 2782
			AM					PM										
	Bikes Allowed		🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲
2	Readville	♿	7:30	8:30	9:30	10:30	11:30	12:30	1:30	2:30	3:30	4:30	5:30	6:30	7:30	8:30	9:30	10:30
1A	Fairmount	♿	f 7:33	f 8:33	f 9:33	f 10:33	f 11:33	f 12:33	f 1:33	f 2:33	f 3:33	f 4:33	f 5:33	f 6:33	f 7:33	f 8:33	f 9:33	f 10:33
1A	Blue Hill Ave		f 7:36	f 8:36	f 9:36	f 10:36	f 11:36	f 12:36	f 1:36	f 2:36	f 3:36	f 4:36	f 5:36	f 6:36	f 7:36	f 8:36	f 9:36	f 10:36
1A	Morton Street	♿	f 7:39	f 8:39	f 9:39	f 10:39	f 11:39	f 12:39	f 1:39	f 2:39	f 3:39	f 4:39	f 5:39	f 6:39	f 7:39	f 8:39	f 9:39	f 10:39
1A	Talbot Ave	♿	f 7:41	f 8:41	f 9:41	f 10:41	f 11:41	f 12:41	f 1:41	f 2:41	f 3:41	f 4:41	f 5:41	f 6:41	f 7:41	f 8:41	f 9:41	f 10:41
1A	Four Corners/Geneva Ave	♿	f 7:44	f 8:44	f 9:44	f 10:44	f 11:44	f 12:44	f 1:44	f 2:44	f 3:44	f 4:44	f 5:44	f 6:44	f 7:44	f 8:44	f 9:44	f 10:44
1A	Uphams Corner	♿	f 7:47	f 8:47	f 9:47	f 10:47	f 11:47	f 12:47	f 1:47	f 2:47	f 3:47	f 4:47	f 5:47	f 6:47	f 7:47	f 8:47	f 9:47	f 10:47
1A	Newmarket	♿	f 7:49	f 8:49	f 9:49	f 10:49	f 11:49	f 12:49	f 1:49	f 2:49	f 3:49	f 4:49	f 5:49	f 6:49	f 7:49	f 8:49	f 9:49	f 10:49
1A	South Station	♿	7:58	8:58	9:58	10:58	11:58	12:58	1:58	2:58	3:58	4:58	5:58	6:58	7:58	8:58	9:58	10:58

Saturday & Sunday

Outbound from Boston

ZONE	STATION	SATURDAY TRAIN # / SUNDAY TRAIN #	1753 2753	1755 2755	1757 2757	1759 2759	1761 2761	1763 2763	1765 2765	1767 2767	1769 2769	1771 2771	1773 2773	1775 2775	1777 2777	1779 2779	1781 2781	1783 2783
			AM					PM										
	Bikes Allowed		🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲
1A	South Station	♿	7:50	8:50	9:50	10:50	11:50	12:50	1:50	2:50	3:50	4:50	5:50	6:50	7:50	8:50	9:50	10:50
1A	Newmarket	♿	f 7:58	f 8:58	f 9:58	f 10:58	f 11:58	f 12:58	f 1:58	f 2:58	f 3:58	f 4:58	f 5:58	f 6:58	f 7:58	f 8:58	f 9:58	f 10:58
1A	Uphams Corner	♿	f 8:00	f 9:00	f 10:00	f 11:00	f 12:00	f 1:00	f 2:00	f 3:00	f 4:00	f 5:00	f 6:00	f 7:00	f 8:00	f 9:00	f 10:00	f 11:00
1A	Four Corners/Geneva Ave	♿	f 8:03	f 9:03	f 10:03	f 11:03	f 12:03	f 1:03	f 2:03	f 3:03	f 4:03	f 5:03	f 6:03	f 7:03	f 8:03	f 9:03	f 10:03	f 11:03
1A	Talbot Ave	♿	f 8:06	f 9:06	f 10:06	f 11:06	f 12:06	f 1:06	f 2:06	f 3:06	f 4:06	f 5:06	f 6:06	f 7:06	f 8:06	f 9:06	f 10:06	f 11:06
1A	Morton Street	♿	f 8:08	f 9:08	f 10:08	f 11:08	f 12:08	f 1:08	f 2:08	f 3:08	f 4:08	f 5:08	f 6:08	f 7:08	f 8:08	f 9:08	f 10:08	f 11:08
1A	Blue Hill Ave		f 8:10	f 9:10	f 10:10	f 11:10	f 12:10	f 1:10	f 2:10	f 3:10	f 4:10	f 5:10	f 6:10	f 7:10	f 8:10	f 9:10	f 10:10	f 11:10
1A	Fairmount	♿	8:13	9:13	10:13	11:13	12:13	1:13	2:13	3:13	4:13	5:13	6:13	7:13	8:13	9:13	10:13	11:13
2	Readville	♿	8:18	9:18	10:18	11:18	12:18	1:18	2:18	3:18	4:18	5:18	6:18	7:18	8:18	9:18	10:18	11:18

FRANK: Operates from Forge Park.
Does not serve Foxboro.
See the Franklin Line schedule for all stops.

Foxboro Weekday Pilot service begins Oct 21, 2019.
As part of the pilot, a Reverse Commute fare is being tested between Zone 1A stations and Foxboro on specific trains. More details at mbta.com/foxboro.

Foxboro Pilot – Reverse Commute Fare Details	
Zone 1A stations	South Station, Back Bay, Ruggles, Newmarket, Uphams Corner, Four Corners/Geneva, Talbot Ave, Morton Street, Blue Hill Ave and Fairmount
AM trains from South Station	Train 741 (6:03 AM Fairmount) Train 743 (7:05 AM Fairmount) Train 745 (8:50 AM Franklin)
PM trains from Foxboro Station	Train 750 (4:32 PM Fairmount) Train 752 (5:25 PM Franklin) Train 754 (6:34 PM Fairmount) Train 756 (7:39 PM Franklin)
Fares	One-Way $4.25 Reduced Fare One-Way $2 Monthly Pass (incl. local bus transfers) $139 Monthly Pass on mTicket (no transfers) $129
Tickets	Tickets available on the mTicket app, onboard, and at the South Station Commuter Rail Ticket Office.

Keep in Mind:

This schedule will be effective from October 21, 2019 and will replace the schedule of May 20, 2019.

Presidents' Day and 4th of July operate on a **Saturday service schedule.**

New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, and Christmas Day operate on a **Sunday service schedule**.

For all other holiday schedules, please check MBTA.com or call 617-222-3200.

For additional services to Readville Station refer to the Franklin Line schedule.

Times in purple with "f" indicate a flag stop: Passengers must tell the conductor that they wish to leave. Passengers waiting to board must be visible on the platform for the train to stop.

Times in blue with "L" indicate an early departure: The train may leave ahead of schedule at these stops.

Bikes: Bicycles are allowed on trains with the bicycle symbol shown below the train number.

High level platform and bridge plate available. Visit **mbta.com/accessibility** for more information.

For additional service to Readville Station refer to the Franklin Line schedule.

Schedules may change in the event of severe weather

The MBTA and Keolis closely monitor weather forecasts to determine if conditions necessitate changes to the Commuter Rail schedule.

During weather events, the symbols below will communicate service level and impact on passengers. Service level for the following day will be announced mid-afternoon on the prior day.

REGULAR SCHEDULE
Trains will operate on a normal schedule.

STORM SCHEDULE
Major changes to the regular schedule. Schedules will be available on mbta.com, and in Boston stations.

NO SERVICE
No passenger service on Commuter Rail.

AD102119V1

Massachusetts Bay Transportation Authority
Keolis

Visit **MBTA.com**
Customer Service **617-222-3200**
Download the **Commuter Rail App**
Follow **@MBTA_CR**

FRANKLIN LINE with FOXBORO PILOT

Effective October 21, 2019

Monday to Friday

Inbound to Boston

ZONE	STATION	TRAIN #	AM								PM																			
	Bikes Allowed		700	740	702	704	706	742	708	744	710	746	712	714	748	716	718	720	750	722	752	754	756	724	726	728	758	730	732
6	Forge Park/495	♿	5:18	-	6:03	6:35	7:05	-	7:51	-	9:22	-	10:55	12:20	-	1:37	2:54	3:55	-	4:56	-	-	-	7:43	8:07	9:10	-	10:30	11:50
6	Franklin/Dean Coll.		5:25	-	6:10	6:42	7:12	-	7:58	-	9:29	-	11:02	12:27	-	1:44	3:01	4:02	-	5:03	-	-	-	7:50	8:14	9:17	-	10:37	11:57
5	Norfolk	♿	5:32	-	6:17	6:49	7:19	-	8:05	-	9:36	-	11:09	12:34	-	1:51	3:08	4:09	-	5:10	-	-	-	7:57	8:21	9:24	-	10:44	12:04
4	Foxboro	♿	-	5:47	-	-	-	7:29	-	8:19	-	10:29	-	-	1:29	-	-	-	4:32	-	5:25	6:34	7:39	-	-	-	9:49	-	-
4	Walpole		5:39	-	6:24	6:56	7:27	-	8:12	-	9:43	-	11:16	12:41	-	1:58	3:23	4:24	-	5:24	-	-	-	8:04	8:36	9:31	-	10:51	12:11
4	Plimptonville		-	-	-	f 6:58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Windsor Gardens		5:42	6:00	6:28	7:01	-	7:42	8:16	-	9:47	10:42	11:20	12:45	1:42	-	3:28	-	4:45	-	-	f 6:47	-	-	-	-	10:02	-	-
3	Norwood Central	♿	5:46	6:05	6:33	7:06	7:34	7:47	8:22	8:35	9:51	10:46	11:24	12:49	1:46	2:05	3:32	4:31	4:49	5:31	5:40	6:51	7:55	8:11	8:43	9:38	10:06	10:58	f 12:18
3	Norwood Depot	♿	5:49	6:08	6:36	7:09	-	7:50	-	8:38	9:53	10:48	11:26	12:51	1:48	2:07	3:34	-	4:51	-	5:42	6:53	-	8:13	8:45	9:40	10:08	11:00	f 12:20
3	Islington		5:52	6:12	6:40	7:13	-	7:54	-	8:42	9:56	10:51	11:29	12:54	1:51	2:10	3:37	-	4:54	-	5:45	6:56	-	8:16	8:48	9:43	10:11	11:02	f 12:22
2	Dedham Corp. Ctr.	♿	5:55	6:15	6:43	7:16	7:40	7:57	8:28	8:45	9:59	10:53	11:31	12:56	1:53	2:12	3:39	4:36	4:56	5:36	5:47	6:58	8:00	8:18	8:50	9:45	10:13	11:05	f 12:25
2	Endicott		5:58	6:18	6:46	7:20	-	8:01	8:31	8:48	10:02	10:56	11:34	12:59	1:56	2:15	3:42	-	4:59	-	5:50	7:01	-	8:21	8:53	9:48	10:16	11:08	f 12:28
2	Readville	♿	6:02	VIA	6:51	7:25	-	8:06	8:35	8:53	10:06	VIA	11:38	1:03	VIA	2:19	-	-	VIA	-	5:54	VIA	-	8:25	VIA	9:52	VIA	11:12	f 12:32
1	Hyde Park	♿	-	FAIR-	-	-	-	-	-	-	-	FAIR-	-	-	FAIR-	-	-	-	FAIR-	-	-	FAIR-	-	-	FAIR-	-	FAIR-	-	-
1A	Ruggles	♿	L 6:13	MOUNT	L 7:01	L 7:35	L 7:57	-	L 8:48	L 9:04	L 10:16	MOUNT	-	-	MOUNT	-	-	-	MOUNT	-	-	MOUNT	-	L 8:35	MOUNT	L 10:02	MOUNT	-	-
1A	Back Bay	♿	L 6:17	LINE	L 7:05	L 7:39	L 8:01	L 8:18	L 8:52	L 9:08	L 10:20	LINE	L 11:49	L 1:14	LINE	L 2:30	L 4:00	L 4:56	LINE	L 5:58	L 6:11	LINE	L 8:20	L 8:39	LINE	L 10:06	LINE	L 11:24	L 12:43
1A	South Station	♿	6:23	6:52	7:11	7:45	8:07	8:24	8:58	9:14	10:25	11:30	11:54	1:19	2:30	2:35	4:05	5:01	5:33	6:03	6:16	7:36	8:25	8:44	9:27	10:11	10:50	11:29	12:48

Trains in purple box indicate peak period trains.

Monday to Friday

Outbound from Boston

ZONE	STATION	TRAIN #	AM								PM																		
	Bikes Allowed		701	741	743	703	745	705	707	747	709	711	713	749	715	751	717	753	719	721	723	755	725	757	727	759	729	731
1A	South Station	♿	4:15	6:03	7:05	8:04	8:50	9:40	11:00	11:45	12:20	1:35	2:40	2:45	3:40	4:15	4:40	5:03	5:20	5:45	6:20	6:30	7:50	8:15	9:10	10:00	10:30	11:50
1A	Back Bay	♿	-	VIA	VIA	8:09	8:55	9:45	11:05	VIA	12:25	1:40	2:45	VIA	3:45	4:20	4:45	5:08	5:25	5:50	6:25	VIA	7:55	VIA	9:15	VIA	10:35	11:55
1A	Ruggles	♿	-	FAIR-	FAIR-	8:13	8:59	-	11:08	FAIR-	12:28	1:44	2:49	FAIR-	3:49	4:24	4:49	5:12	5:29	5:54	6:29	FAIR-	7:59	FAIR-	9:18	FAIR-	10:38	11:58
1	Hyde Park	♿	-	MOUNT	MOUNT	-	-	-	-	MOUNT	-	-	-	MOUNT	-	4:33	-	5:21	-	-	-	MOUNT	-	MOUNT	-	MOUNT	10:46	-
2	Readville	♿	-	LINE	LINE	8:23	9:09	9:56	-	LINE	12:38	1:53	2:59	LINE	-	4:37	-	5:25	-	-	6:38	LINE	8:08	LINE	9:28	LINE	10:50	12:08
2	Endicott		-	-	7:38	8:26	9:12	9:59	11:19	-	12:41	1:57	-	3:20	-	4:40	-	5:29	-	6:08	6:42	-	8:11	8:48	9:31	-	10:53	12:11
2	Dedham Corp. Ctr.	♿	-	6:37	7:41	8:29	9:15	10:02	11:22	12:20	12:44	1:59	3:04	3:23	4:04	4:43	5:04	5:33	5:46	6:11	6:45	7:05	8:14	8:51	9:34	10:35	10:56	12:14
3	Islington		-	-	7:44	f 8:32	9:18	10:05	11:25	-	12:47	2:02	-	3:26	-	4:46	-	5:36	5:49	-	6:48	-	8:17	8:54	9:37	-	10:59	12:17
3	Norwood Depot	♿	-	-	7:47	8:35	9:21	10:08	11:28	-	12:50	2:05	-	3:30	-	4:49	-	5:40	-	6:18	6:52	-	8:20	8:57	9:40	-	11:02	12:20
3	Norwood Central	♿	L 4:37	6:42	7:50	8:38	9:24	10:11	11:31	12:25	12:53	2:08	3:10	3:33	4:10	4:52	5:10	5:44	5:54	6:22	6:56	7:10	8:23	9:00	9:43	10:40	11:05	12:23
4	Windsor Gardens		-	-	-	8:42	-	10:15	11:35	-	12:57	2:12	-	3:37	-	4:56	-	5:48	5:58	6:26	7:00	-	8:27	9:04	9:47	-	11:08	12:26
4	Plimptonville		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L 5:52	-	-	-	-	-	-	-	-	-	-
4	Walpole		L 4:43	-	-	8:46	-	10:19	11:39	-	1:01	2:16	3:18	-	4:19	-	5:19	-	6:04	6:31	7:05	-	8:32	-	9:52	-	11:12	12:31
4	Foxboro	♿	-	6:59	8:06	-	9:40	-	-	12:43	-	-	-	3:52	-	5:12	-	6:06	-	-	-	7:26	-	9:19	-	10:56	-	-
5	Norfolk	♿	-	-	-	8:52	-	10:25	11:45	-	1:07	2:22	3:25	-	4:26	-	5:26	-	6:12	6:38	7:12	-	8:39	-	9:59	-	11:19	12:38
6	Franklin/Dean Coll.		4:55	-	-	8:59	-	10:32	11:52	-	1:14	2:29	3:32	-	4:33	-	5:33	-	6:19	6:45	7:19	-	8:46	-	10:06	-	11:26	12:45
6	Forge Park/495	♿	5:03	-	-	9:07	-	10:40	12:00	-	1:22	2:37	3:40	-	4:41	-	5:42	-	6:29	6:54	7:30	-	8:54	-	10:14	-	11:34	12:53

Trains in purple box indicate peak period trains.

Saturday & Sunday

Outbound from Boston

ZONE	STATION	SATURDAY TRAIN # / SUNDAY TRAIN #	AM			PM					
			1703	1705	1707	1709	1711	1713	1715	1717	1719
			SAT ONLY	SAT ONLY	2707	2709	2711	2713	2715	2717	2719
	Bikes Allowed										
1A	South Station	♿	7:20	9:20	11:20	1:20	3:20	5:20	7:20	9:20	11:20
1A	Back Bay	♿	7:25	9:25	11:25	1:25	3:25	5:25	7:25	9:25	11:25
1A	Ruggles	♿	7:28	9:28	11:28	1:28	3:28	5:28	7:28	9:28	11:28
2	Readville	♿	7:38	9:38	11:38	1:38	3:38	5:38	7:38	9:38	11:38
2	Endicott		7:41	9:41	11:41	1:41	3:41	5:41	7:41	9:41	11:41
2	Dedham Corp. Ctr.	♿	7:45	9:45	11:45	1:45	3:45	5:45	7:45	9:45	11:45
3	Islington		7:47	9:47	11:47	1:47	3:47	5:47	7:47	9:47	11:47
3	Norwood Depot	♿	7:50	9:50	11:50	1:50	3:50	5:50	7:50	9:50	11:50
3	Norwood Central	♿	7:53	9:53	11:53	1:53	3:53	5:53	7:53	9:53	11:53
4	Windsor Gardens		7:57	9:57	11:57	1:57	3:57	5:57	7:57	9:57	11:57
4	Walpole		8:03	10:03	12:03	2:03	4:03	6:03	8:03	10:03	12:03
5	Norfolk	♿	8:10	10:10	12:10	2:10	4:10	6:10	8:10	10:10	12:10
6	Franklin/Dean Coll.		8:17	10:17	12:17	2:17	4:17	6:17	8:17	10:17	12:17
6	Forge Park/495	♿	8:24	10:24	12:24	2:24	4:24	6:24	8:24	10:24	12:24

Trains 1703 and 1705 are Saturday only trains and will not operate on Sunday.

Saturday & Sunday

Inbound to Boston

ZONE	STATION	SATURDAY TRAIN # / SUNDAY TRAIN #	AM			PM					
			1702	1704	1706	1708	1710	1712	1714	1716	1718
			SAT ONLY	SAT ONLY	2706	2708	2710	2712	2714	2716	2718
	Bikes Allowed										
6	Forge Park/495	♿	6:40	8:40	10:40	12:40	2:40	4:40	6:40	8:40	10:40
6	Franklin/Dean Coll.		6:47	8:47	10:47	12:47	2:47	4:47	6:47	8:47	10:47
5	Norfolk	♿	6:54	8:54	10:54	12:54	2:54	4:54	6:54	8:54	10:54
4	Walpole		7:01	9:01	11:01	1:01	3:01	5:01	7:01	9:01	11:01
4	Windsor Gardens		7:06	9:06	11:06	1:06	3:06	5:06	7:06	9:06	f 11:05
3	Norwood Central	♿	7:10	9:10	11:10	1:10	3:10	5:10	7:10	9:10	f 11:09
3	Norwood Depot	♿	7:12	9:12	11:12	1:12	3:12	5:12	7:12	9:12	f 11:11
3	Islington		7:16	9:16	11:16	1:16	3:16	5:16	7:16	9:16	f 11:14
2	Dedham Corp. Ctr.	♿	7:19	9:19	11:19	1:19	3:19	5:19	7:19	9:19	f 11:17
2	Endicott		7:21	9:21	11:21	1:21	3:21	5:21	7:21	9:21	f 11:19
2	Readville	♿	7:24	9:24	11:24	1:24	3:24	5:24	7:24	9:24	f 11:21
1A	Ruggles	♿	L 7:34	L 9:34	L 11:34	L 1:34	L 3:34	L 5:34	L 7:34	L 9:34	L 11:31
1A	Back Bay	♿	L 7:38	L 9:38	L 11:38	L 1:38	L 3:38	L 5:38	L 7:38	L 9:38	L 11:35
1A	South Station	♿	7:43	9:43	11:43	1:43	3:43	5:43	7:43	9:43	11:40

Trains 1702 and 1704 are Saturday only trains and will not operate on Sunday.

Keep in Mind:

This schedule will be effective from October 21, 2019 and will replace the schedule of May, 20, 2019.

Presidents' Day and 4th of July operate on a **Saturday service schedule.**

New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, and Christmas Day operate on a **Sunday service schedule**.

For all other holiday schedules, please check MBTA.com or call 617-222-3200.

Times in purple with "f" indicate a flag stop: Passengers must tell the conductor that they wish to leave. Passengers waiting to board must be visible on the platform for the train to stop.

Times in blue indicate an early departure (L stop): The train may leave ahead of schedule at these stops.

Bikes: Bicycles are allowed on trains with the bicycle symbol shown below the train number.

High level platform and bridge plate available. Visit **mbta.com/accessibility** for more information.

VIA FAIRMOUNT LINE: Operates via the Fairmount Line between Readville and South Station. See the Fairmount Line schedule for all stops.

For additional service to Readville Station, refer to the Fairmount Line schedule for particular trains.

For additional service to Ruggles Station, refer to the Providence and Needham Line schedules for particular trains.

For additional service to Hyde Park Station, refer to the Providence Line schedule for particular trains.

Foxboro Weekday Pilot service begins Oct 21, 2019.
As part of the pilot, a Reverse Commute fare is being tested between Zone 1A stations and Foxboro on specific trains. More details at mbta.com/foxboro.

Foxboro Pilot – Reverse Commute Fare Details	
Zone 1A stations	South Station, Back Bay, Ruggles, Newmarket, Uphams Corner, Four Corners/Geneva, Talbot Ave, Morton Street, Blue Hill Ave and Fairmount
AM trains from South Station	Train 741 (6:03 AM Fairmount) Train 743 (7:05 AM Fairmount) Train 745 (8:50 AM Franklin)
PM trains from Foxboro Station	Train 750 (4:32 PM Fairmount) Train 752 (5:25 PM Franklin) Train 754 (6:34 PM Fairmount) Train 756 (7:39 PM Franklin)
Fares	One-Way $4.25 Reduced Fare One-Way $2 Monthly Pass (incl. local bus transfers) $139 Monthly Pass on mTicket (no transfers) $129
Tickets	Tickets available on the mTicket app, onboard, and at the South Station Commuter Rail Ticket Office.

Schedules may change in the event of severe weather

The MBTA and Keolis closely monitor weather forecasts to determine if conditions necessitate changes to the Commuter Rail schedule.

During weather events, the symbols below will communicate service level and impact on passengers. Service level for the following day will be announced mid-afternoon on the prior day.

REGULAR SCHEDULE
Trains will operate on a normal schedule.

STORM SCHEDULE
Major changes to the regular schedule. Schedules will be available on mbta.com, and in Boston stations.

NO SERVICE
No passenger service on Commuter Rail.

NEEDHAM LINE

Effective October 21, 2019

Monday to Friday

Inbound to Boston

ZONE	STATION	TRAIN #	600	602	604	606	608	610	612	614	616	618	620	622	624	626	628	630
	Bikes Allowed							🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲
2	Needham Heights	♿	6:05	6:40	7:30	8:01	8:45	10:05	11:05	12:50	2:50	3:55	5:04	5:44	6:25	7:50	8:37	10:02
2	Needham Center	♿	6:09	6:44	7:34	8:05	8:49	10:09	11:09	12:54	2:54	3:59	f 5:08	5:48	6:29	7:54	8:41	10:06
2	Needham Junction	♿	6:14	6:49	7:39	8:10	8:54	10:13	11:13	12:58	2:58	4:03	-	5:52	6:33	7:58	8:45	10:10
2	Hersey	♿	6:17	6:52	7:43	8:13	8:57	10:16	11:16	1:01	3:01	-	-	-	6:36	8:03	8:48	10:13
1	West Roxbury	♿	6:23	6:58	7:49	8:19	9:03	10:21	11:21	1:06	3:06	4:09	5:18	5:59	6:41	8:08	8:53	10:23
1	Highland	♿	6:26	7:01	7:52	8:22	9:06	10:23	11:23	1:08	3:08	-	5:20	-	6:43	8:10	8:55	10:25
1	Bellevue	♿	6:30	7:05	7:55	8:25	9:10	10:25	11:25	1:10	3:10	-	5:22	-	6:45	8:12	8:57	10:27
1	Roslindale Village	♿	6:33	7:08	7:58	8:28	9:13	10:28	11:28	1:13	3:13	-	5:25	-	6:48	8:15	9:00	10:30
1A	Forest Hills	♿	6:36	7:11	8:02	8:32	9:16	10:31	11:31	1:16	3:16	-	5:28	-	6:53	8:18	9:03	10:33
1A	Ruggles	♿	L 6:41	L 7:16	L 8:07	L 8:37	L 9:21	L 10:36	L 11:36	L 1:21	-	-	-	-	-	L 8:23	L 9:08	L 10:38
1A	Back Bay	♿	L 6:45	L 7:20	L 8:12	L 8:41	L 9:25	L 10:40	L 11:40	L 1:25	L 3:24	L 4:25	L 5:42	L 6:17	L 7:03	L 8:27	L 9:12	L 10:42
1A	South Station	♿	6:50	7:25	8:18	8:47	9:30	10:45	11:45	1:30	3:29	4:30	5:47	6:22	7:08	8:32	9:17	10:47

Trains in purple box indicate peak period trains.

Monday to Friday

Outbound from Boston

ZONE	STATION	TRAIN #	601	603	605	607	609	611	613	615	617	619	621	623	625	627	629	631
	Bikes Allowed		🚲	🚲	🚲	🚲	🚲	🚲	🚲						🚲	🚲	🚲	🚲
1A	South Station	♿	7:05	7:52	9:05	9:53	11:50	1:52	3:00	4:05	4:47	5:26	5:58	6:36	7:30	8:50	9:50	11:20
1A	Back Bay	♿	7:10	7:57	9:10	9:58	11:55	1:57	3:05	4:10	4:52	5:31	6:03	6:41	7:35	8:55	9:55	11:25
1A	Ruggles	♿	-	-	-	10:02	11:59	2:01	3:09	4:14	4:56	5:35	6:07	6:45	7:39	8:59	9:59	11:29
1A	Forest Hills	♿	7:17	-	9:18	10:08	12:05	2:07	3:15	4:20	5:02	5:41	6:13	6:51	7:45	9:05	10:05	11:35
1	Roslindale Village	♿	7:20	-	9:21	10:11	12:08	2:10	3:18	4:25	5:07	5:46	6:18	6:56	7:48	9:08	10:08	11:38
1	Bellevue	♿	7:23	-	9:24	10:14	12:11	2:13	3:21	4:28	5:10	5:50	6:21	6:59	7:51	9:11	10:11	11:41
1	Highland	♿	7:25	-	9:26	10:16	12:13	2:15	3:23	4:30	5:12	5:52	6:23	7:01	7:53	9:13	10:13	11:43
1	West Roxbury	♿	7:27	8:09	9:29	10:18	12:15	2:17	3:25	4:32	5:14	5:54	6:25	7:03	7:55	9:15	10:15	11:45
2	Hersey	♿	7:32	-	9:34	10:25	12:20	2:22	3:30	4:37	5:20	6:00	6:30	7:08	8:00	9:20	10:20	11:50
2	Needham Junction	♿	7:42	8:25	9:36	10:28	12:23	2:25	3:34	4:41	5:24	6:04	6:37	7:12	8:03	9:23	10:23	11:53
2	Needham Center	♿	7:45	L 8:28	9:39	10:31	12:26	2:28	3:37	4:44	5:27	6:07	6:40	7:15	8:06	9:26	10:26	11:56
2	Needham Heights	♿	7:51	8:32	9:43	10:35	12:30	2:33	3:42	4:49	5:32	6:13	6:45	7:20	8:10	9:30	10:30	12:00

Trains in purple box indicate peak period trains.

Saturday (NO SERVICE ON SUNDAY)

Inbound to Boston

ZONE	STATION	TRAIN #	1602	1604	1606	1608	1610	1612	1614	1616	1618
	Bikes Allowed		🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲
2	Needham Heights	♿	8:05	10:05	12:05	2:05	4:05	6:05	8:05	10:05	11:40
2	Needham Center	♿	8:10	10:10	12:10	2:10	4:10	6:10	8:10	10:10	-
2	Needham Junction	♿	8:13	10:13	12:13	2:13	4:13	6:13	8:13	10:13	-
2	Hersey	♿	8:16	10:16	12:16	2:16	4:16	6:16	8:16	10:16	-
1	West Roxbury	♿	8:21	10:21	12:21	2:21	4:21	6:21	8:21	10:21	-
1	Highland	♿	8:23	10:23	12:23	2:23	4:23	6:23	8:23	10:23	-
1	Bellevue	♿	8:25	10:25	12:25	2:25	4:25	6:25	8:25	10:25	-
1	Roslindale Village	♿	8:27	10:27	12:27	2:27	4:27	6:27	8:27	10:27	-
1A	Forest Hills	♿	8:31	10:31	12:31	2:31	4:31	6:31	8:31	10:31	-
1A	Ruggles	♿	L 8:35	L 10:35	L 12:35	L 2:35	L 4:35	L 6:35	L 8:35	L 10:35	-
1A	Back Bay	♿	L 8:39	L 10:39	L 12:39	L 2:39	L 4:39	L 6:39	L 8:39	L 10:39	L 12:00
1A	South Station	♿	8:44	10:44	12:44	2:44	4:44	6:44	8:44	10:44	12:05

Saturday (NO SERVICE ON SUNDAY)

Outbound from Boston

ZONE	STATION	TRAIN #	1601	1603	1605	1607	1609	1611	1613	1615	1617
	Bikes Allowed		🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲
1A	South Station	♿	7:10	9:10	11:10	1:10	3:10	5:10	7:10	9:10	10:45
1A	Back Bay	♿	7:15	9:15	11:15	1:15	3:15	5:15	7:15	9:15	10:50
1A	Ruggles	♿	7:18	9:18	11:18	1:18	3:18	5:18	7:18	9:18	10:54
1A	Forest Hills	♿	7:24	9:24	11:24	1:24	3:24	5:24	7:24	9:24	11:00
1	Roslindale Village	♿	7:28	9:28	11:28	1:28	3:28	5:28	7:28	9:28	11:03
1	Bellevue	♿	7:30	9:30	11:30	1:30	3:30	5:30	7:30	9:30	11:06
1	Highland	♿	7:33	9:33	11:33	1:33	3:33	5:33	7:33	9:33	11:08
1	West Roxbury	♿	7:35	9:35	11:35	1:35	3:35	5:35	7:35	9:35	11:10
2	Hersey	♿	7:39	9:39	11:39	1:39	3:39	5:39	7:39	9:39	11:15
2	Needham Junction	♿	7:42	9:42	11:42	1:42	3:42	5:42	7:42	9:42	11:18
2	Needham Center	♿	7:46	9:46	11:46	1:46	3:46	5:46	7:46	9:46	11:21
2	Needham Heights	♿	7:50	9:50	11:50	1:50	3:50	5:50	7:50	9:50	11:25

Keep in Mind:

This schedule will be effective from October 21, 2019 and will replace the schedule of May 20, 2019.

Times listed are departure times. To ensure you make your train, please be on the platform ready to board prior to departure time.

Presidents' Day and 4th of July operate on a **Saturday service schedule.**

New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, and Christmas Day operate on a **Sunday service schedule**.

For all other holiday schedules, please check MBTA.com or call 617-222-3200.

For additional service to Ruggles Station, refer to the Providence and Franklin Line schedules for particular trains.

Schedules may change in the event of severe weather

The MBTA and Keolis closely monitor weather forecasts to determine if conditions necessitate changes to the Commuter Rail schedule.

During weather events, the symbols below will communicate service level and impact on passengers. Service level for the following day will be announced mid-afternoon on the prior day.

REGULAR SCHEDULE
Trains will operate on a normal schedule.

STORM SCHEDULE
Major changes to the regular schedule. Schedules will be available on mbta.com, and in Boston stations.

NO SERVICE
No passenger service on Commuter Rail.

Times in purple with "f" indicate a flag stop: Passengers must tell the conductor that they wish to leave. Passengers waiting to board must be visible on the platform for the train to stop.

Times in blue with "L" indicate an early departure: The train may leave ahead of schedule at these stops.

Bikes: Bicycles are allowed on trains with the bicycle symbol shown below the train number.

High level platform and bridge plate available. Visit **mbta.com/accessibility** for more information.

AD102119V1

Massachusetts Bay Transportation Authority

KEOLIS

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Customer Service **617-222-3200**

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PROVIDENCE/STOUGHTON LINE

Effective December 16, 2019

Monday to Friday

Inbound to Boston

ZONE	STATION	TRAIN #	AM														PM																						
	Bikes Allowed		800	802	900	804	902	806	842	808	904	810	812	906	814	908	816	910	818	820	912	822	824	914	826	916	828	918	830	920	922	832	924	834	836	926	838	928
10	Wickford Junction		-	4:45	-	-	-	5:45	-	6:35	-	-	-	-	7:45	-	9:20	-	-	-	-	1:25	-	-	-	-	-	-	5:28	-	-	6:57	-	7:45	8:58	-	-	-
9	TF Green Airport		-	5:00	-	-	-	6:00	-	6:50	-	-	-	-	8:00	-	9:34	-	-	-	-	1:39	-	-	-	-	-	-	5:41	-	-	7:11	-	7:59	9:12	-	-	-
8	Providence (Arr.)		-	5:15	-	-	-	6:15	-	7:05	-	-	-	-	8:15	-	9:49	-	-	-	-	1:54	-	-	-	-	-	-	5:59	-	-	7:26	-	8:14	9:27	-	-	-
8	Providence (Dep.)		5:00	5:25	-	6:00	-	6:23	-	7:13	-	7:30	7:50	-	8:25	-	9:50	-	11:15	1:11	-	1:55	3:05	-	4:05	-	5:20	-	6:02	-	-	7:27	-	8:15	9:30	-	10:30	-
7	South Attleboro		5:09	5:34	-	6:09	-	6:32	-	7:23	-	7:39	8:00	-	8:34	-	9:59	-	11:24	1:22	-	2:06	3:17	-	4:17	-	5:29	-	6:11	-	-	7:36	-	8:24	9:41	-	10:39	-
7	Attleboro		5:19	5:44	-	6:19	-	6:42	7:12	7:33	-	7:49	8:10	-	8:44	-	10:09	-	11:34	1:32	-	2:16	3:30	-	4:30	-	5:39	-	6:21	-	-	7:46	-	8:34	9:51	-	10:49	-
6	Mansfield		5:29	5:54	-	6:29	-	6:53	7:22	7:45	-	7:59	8:20	-	8:54	-	10:19	-	11:44	1:42	-	2:26	3:41	-	4:41	-	5:48	-	6:31	-	-	7:56	-	8:44	10:01	-	f 10:59	-
4	Sharon		5:38	6:03	-	6:39	-	7:03	7:33	-	-	8:07	8:29	-	9:03	-	10:28	-	11:53	1:51	-	2:35	3:50	-	4:50	-	5:55	-	6:38	-	-	8:05	-	8:53	10:10	-	f 11:08	-
4	Stoughton		-	-	6:15	-	6:45	-	-	-	7:50	-	-	8:30	-	9:15	-	10:45	-	-	2:15	-	-	4:32	-	5:20	-	6:16	-	7:20	7:40	-	8:35	-	-	10:35	-	11:35
3	Canton Center		-	-	6:23	-	6:53	-	-	-	7:58	-	-	8:38	-	9:23	-	10:51	-	-	2:23	-	-	4:40	-	5:28	-	6:24	-	7:28	-	-	8:43	-	-	10:43	-	f 11:43
3	Canton Junction		5:45	6:10	6:26	-	6:56	-	7:40	-	8:01	-	-	8:41	9:10	9:26	-	10:54	12:00	1:57	2:26	-	3:57	-	4:57	5:31	-	6:28	-	7:32	-	8:12	8:46	9:00	10:17	10:46	f 11:15	f 11:46
2	Route 128		5:50	6:15	6:32	6:47	7:02	7:12	7:45	-	8:07	8:16	8:37	8:46	9:15	9:31	10:37	11:01	12:05	2:03	2:31	2:43	4:02	4:49	5:02	5:36	6:03	6:31	6:46	7:37	-	8:17	8:51	9:05	10:22	10:51	f 11:20	f 11:51
1	Hyde Park		5:55	6:20	6:38	-	7:08	-	7:51	-	-	8:21	-	8:52	9:20	-	-	11:06	12:10	2:08	-	2:48	4:07	-	5:07	5:41	-	6:36	-	7:42	-	8:22	-	9:10	10:27	10:56	f 11:25	f 11:56
1A	Ruggles		L 6:04	L 6:30	-	-	-	L 7:26	-	-	L 8:21	-	-	-	L 9:29	-	L 10:50	-	L 12:19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1A	Back Bay		L 6:08	L 6:34	L 6:47	L 6:59	L 7:17	L 7:30	L 8:00	L 8:10	L 8:26	L 8:31	L 8:51	L 9:02	L 9:33	L 9:43	L 10:54	L 11:17	L 12:23	L 2:18	L 2:44	L 2:57	L 4:18	L 5:04	L 5:18	L 5:50	L 6:17	L 6:47	L 6:57	L 7:51	L 8:12	L 8:31	L 9:03	L 9:19	L 10:36	L 11:05	L 11:34	L 12:05
1A	South Station		6:14	6:40	6:53	7:05	7:23	7:36	8:06	8:16	8:32	8:37	8:57	9:08	9:39	9:49	10:59	11:22	12:28	2:23	2:49	3:02	4:23	5:09	5:23	5:55	6:22	6:52	7:02	7:56	8:17	8:36	9:08	9:24	10:41	11:10	11:39	12:10

Trains in purple box indicate peak period trains.

Outbound from Boston

ZONE	STATION	TRAIN #	AM													PM																						
	Bikes Allowed		8801	8803	801	803	903	805	905	907	807	909	809	811	911	813	815	817	913	819	915	821	823	917	825	919	827	921	829	923	831	833	925	835	927	837	839
1A	South Station		-	-	5:30	6:31	6:57	7:25	7:35	8:23	9:35	9:45	10:25	11:25	1:20	1:43	2:30	3:25	3:30	3:55	4:20	4:30	4:53	5:12	5:40	5:50	6:10	6:28	6:50	7:20	7:30	8:30	9:40	10:00	10:40	11:00	11:59		
1A	Back Bay		-	-	5:35	6:36	7:02	7:30	7:40	8:28	9:40	9:50	10:30	11:30	1:25	1:48	2:35	3:30	3:35	4:00	4:25	4:35	4:58	5:17	5:45	5:55	6:15	6:33	6:55	7:25	7:35	8:35	9:45	10:05	10:45	11:05	12:04		
1A	Ruggles		-	-	-	6:39	-	7:33	-	-	9:44	9:53	10:33	11:33	1:28	1:52	2:38	3:34	3:38	4:04	4:29	4:39	5:02	5:21	5:49	5:59	6:19	6:37	6:58	7:28	7:38	8:38	9:48	10:08	10:48	11:08	12:07		
1	Hyde Park		-	-	-	-	-	-	-	-	-	10:01	10:43	-	1:38	-	-	-	3:48	-	-	-	-	5:31	-	6:10	-	6:47	7:08	7:38	-	8:46	-	10:18	-	11:18	12:17		
2	Route 128		-	-	5:49	6:51	7:17	7:45	7:55	8:43	9:56	10:08	10:48	11:45	1:43	2:04	2:51	-	3:53	-	4:40	4:53	5:15	5:41	-	6:16	-	6:53	7:13	7:43	7:52	8:51	10:02	10:23	11:03	11:23	12:22		
3	Canton Junction		-	-	-	6:56	7:23	7:51	8:01	8:49	10:02	10:14	10:54	-	1:49	-	2:57	-	3:59	-	4:48	-	-	5:49	-	6:23	-	6:59	7:19	7:49	7:58	8:57	10:08	10:29	11:09	11:29	12:28		
3	Canton Center		-	-	-	-	7:26	-	8:04	8:52	-	10:17	-	-	1:52	-	-	-	4:02	-	4:52	-	-	5:52	-	6:28	-	7:02	-	7:52	-	-	10:11	-	11:12	-	-		
4	Stoughton		-	-	-	-	7:34	-	8:12	9:00	-	10:25	-	-	2:00	-	-	-	4:10	-	5:01	-	-	6:01	-	6:36	-	7:11	-	8:00	-	-	10:19	-	11:20	-	-		
4	Sharon		-	-	5:57	7:02	-	7:57	-	-	10:08	-	11:00	11:53	-	2:12	3:03	3:51	-	4:22	-	5:01	5:23	-	6:07	-	6:37	-	7:25	-	8:04	9:03	-	10:35	-	11:35	12:34		
6	Mansfield		-	-	6:04	7:09	-	8:05	-	-	10:16	-	11:08	12:00	-	2:20	3:11	3:59	-	4:30	-	5:09	5:31	-	6:15	-	6:45	-	7:33	-	8:12	9:11	-	10:43	-	11:43	12:42		
7	Attleboro		-	-	6:12	7:17	-	8:13	-	-	10:24	-	11:16	12:08	-	2:28	3:19	4:07	-	4:38	-	5:17	5:44	-	6:23	-	6:53	-	7:41	-	8:20	9:19	-	10:51	-	11:51	12:50		
7	South Attleboro		-	-	6:21	7:26	-	8:20	-	-	10:34	-	11:26	12:17	-	2:35	3:29	4:17	-	4:48	-	5:27	5:55	-	6:33	-	7:03	-	7:51	-	8:29	9:28	-	11:01	-	12:00	12:59		
8	Providence (Arr.)		-	-	6:31	7:36	-	8:30	-	-	10:44	-	11:36	12:27	-	2:45	3:39	4:27	-	4:58	-	5:37	6:08	-	6:43	-	7:13	-	8:01	-	8:40	9:39	-	11:11	-	12:11	1:10		
8	Providence (Dep.)		4:58	5:49	6:55	-	-	8:31	-	-	-	-	-	12:28	-	-	-	4:28	-	-	-	5:39	-	-	6:45	-	-	-	8:03	-	-	-	-	11:12	-	-	-		
9	TF Green Airport		5:14	6:07	7:11	-	-	8:45	-	-	-	-	-	12:42	-	-	-	4:43	-	-	-	5:53	-	-	6:59	-	-	-	8:17	-	-	-	-	11:27	-	-	-		
10	Wickford Junction		5:30	6:21	7:27	-	-	9:01	-	-	-	-	-	12:58	-	-	-	4:59	-	-	-	6:10	-	-	7:15	-	-	-	8:33	-	-	-	-	11:43	-	-	-		

Trains in purple box indicate peak period trains.

Saturday & Sunday

Inbound to Boston

ZONE	STATION	SATURDAY TRAIN # / SUNDAY TRAIN #	AM			PM					
			1802	1804	1806	1808	1810	1812	1814	1816	1818
	Bikes Allowed		Sat Only	Sat Only	2806	2808	2810	2812	2814	2816	2818
8	Providence		6:20	8:20	11:20	12:50	2:57	4:50	7:04	8:52	9:59
7	South Attleboro		6:29	8:29	11:29	12:59	3:06	4:59	7:13	9:01	10:08
7	Attleboro		6:39	8:39	11:39	1:09	3:16	5:09	7:23	9:11	10:18
6	Mansfield		6:49	8:49	11:49	1:19	3:26	5:19	7:33	9:21	10:28
4	Sharon		6:58	8:58	11:58	1:28	3:35	5:28	7:42	9:30	10:37
3	Canton Junction		7:05	9:05	12:05	1:35	3:42	5:35	7:49	9:37	10:44
2	Route 128		7:10	9:10	12:10	1:40	3:47	5:40	7:54	9:42	10:49
1	Hyde Park		7:15	9:15	12:15	1:45	3:52	5:45	7:59	9:47	10:54
1A	Ruggles		L 7:24	L 9:24	L 12:24	L 1:54	L 4:01	L 5:54	L 8:08	L 9:56	L 11:03
1A	Back Bay		L 7:28	L 9:28	L 12:28	L 1:58	L 4:05	5:58	L 8:12	L 10:00	L 11:07
1A	South Station		7:33	9:33	12:33	2:03	4:10	6:03	8:17	10:05	11:12

Trains 1802 and 1804 are Saturday only trains and will not operate on Sunday.

Outbound from Boston

ZONE	STATION	SATURDAY TRAIN # / SUNDAY TRAIN #	AM			PM					
			1801	1803	1805	1807	1809	1811	1813	1815	1817
	Bikes Allowed		Sat Only	Sat Only	2805	2807	2809	2811	2813	2815	2817
1A	South Station		6:40	9:50	11:00	1:05	2:20	4:35	6:45	8:30	11:10
1A	Back Bay		6:45	9:55	11:05	1:10	2:25	4:40	6:50	8:35	11:15
1A	Ruggles		6:48	9:58	11:08	1:13	2:28	4:43	6:53	8:38	11:18
1	Hyde Park		6:57	10:07	11:17	1:22	2:37	4:52	7:02	8:47	11:27
2	Route 128		7:03	10:13	11:23	1:28	2:43	4:58	7:08	8:53	11:33
3	Canton Junction		7:09	10:19	11:29	1:34	2:49	5:04	7:14	8:59	11:39
4	Sharon		7:14	10:24	11:34	1:39	2:54	5:09	7:19	9:04	11:44
6	Mansfield		7:22	10:32	11:42	1:47	3:02	5:17	7:27	9:12	11:52
7	Attleboro		7:31	10:41	11:51	1:56	3:11	5:26	7:36	9:21	12:01
7	South Attleboro		7:40	10:50	12:00	2:05	3:20	5:35	7:45	9:30	12:10
8	Providence		7:51	11:01	12:11	2:16	3:31	5:46	7:56	9:41	12:21

Trains 1801 and 1803 are Saturday only trains and will not operate on Sunday.

Keep in Mind:

This schedule will be effective from December 16, 2019 and will replace the schedule of October 21, 2019.

Presidents' Day and 4th of July operate on a **Saturday service schedule.**

New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, and Christmas Day operate on a **Sunday service schedule**.

For all other holiday schedules, please check MBTA.com or call 617-222-3200.

For additional service to Ruggles Station, refer to the Needham and Franklin Line schedules for particular trains.

For additional service to Hyde Park Station, refer to the Franklin Line schedule for particular trains.

Times in purple with "f" indicate a flag stop: Passengers must tell the conductor that they wish to leave. Passengers waiting to board must be visible on the platform for the train to stop.

Times in blue indicate an early departure (L stop): The train may leave ahead of schedule at these stops.

Bikes: Bicycles are allowed on trains with the bicycle symbol shown below the train number.

High level platform and bridge plate available. Visit mbta.com/accessibility for more information.

Schedules may change in the event of severe weather

The MBTA and Keolis closely monitor weather forecasts to determine if conditions necessitate changes to the Commuter Rail schedule.

During weather events, the symbols below will communicate service level and impact on passengers. Service level for the following day will be announced mid-afternoon on the prior day.

REGULAR SCHEDULE
Trains will operate on a normal schedule.

STORM SCHEDULE
Major changes to the regular schedule. Schedules will be available on mbta.com, and in Boston stations.

NO SERVICE
No passenger service on Commuter Rail.

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Massachusetts Bay Transportation Authority

KEOLIS

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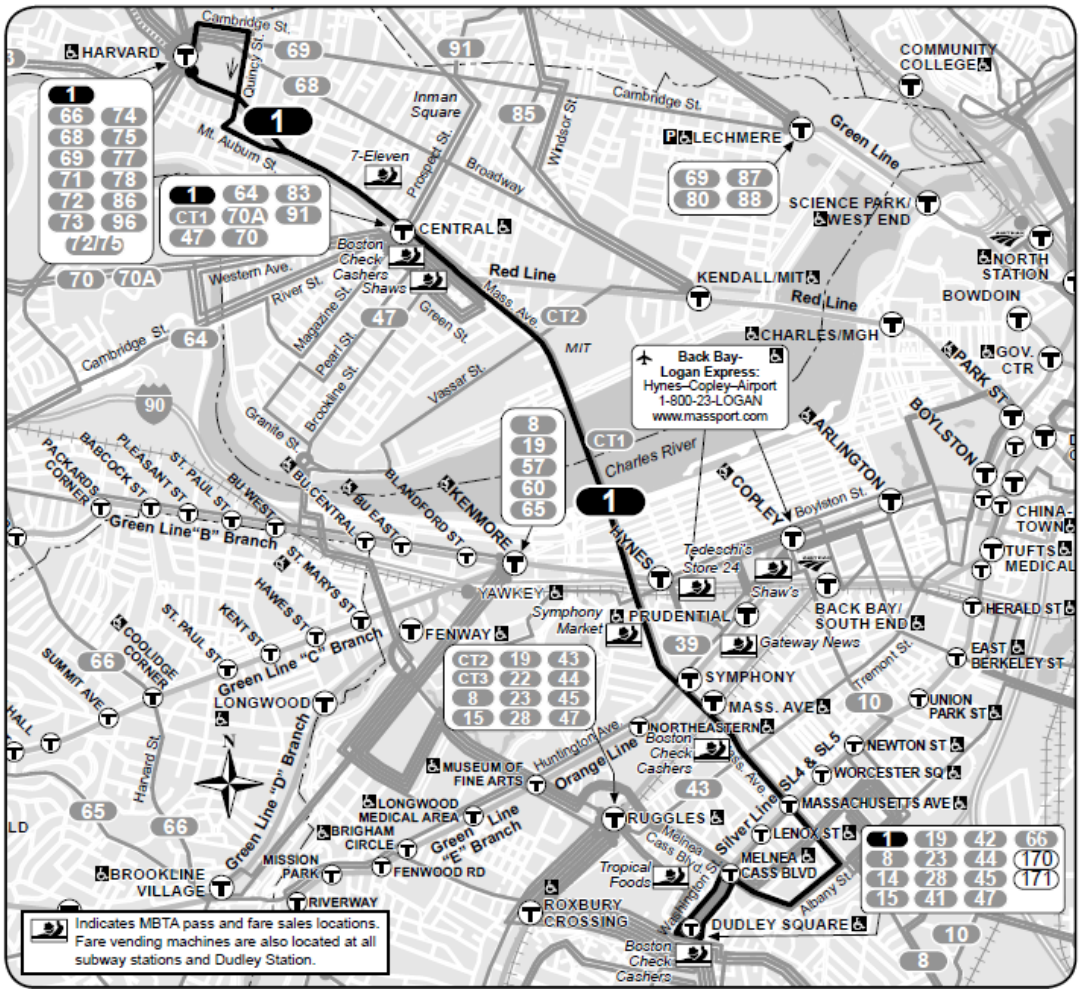
Route 1

Harvard – Dudley Station

Route Overview

Route 1 Harvard– Dudley Station is a Key Bus route that provides crosstown service between Harvard Station and Dudley Station. It operates largely along Massachusetts Avenue via Central Square, MIT, Back Bay, South End, and the BU Medical Campus. Route 1 also has a limited stop counterpart, Route CT1 Central Square, Cambridge - BU Medical Campus/BMC. Route CT1 operates along the same alignment as Route 1 between Central Square and Massachusetts Avenue at Albany Street, where it then terminates in a loop around the BU Medical Campus rather than continuing south to Dudley Square. The two routes duplicate each other much more than they complement each other.

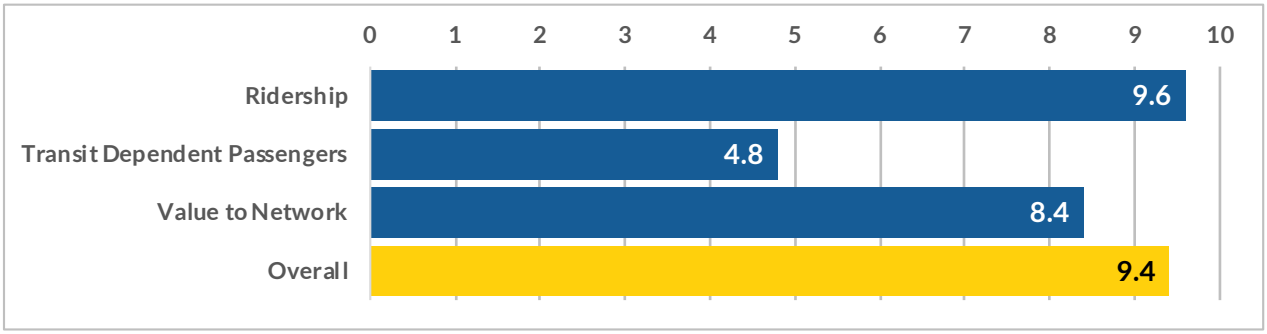
Figure 1 | Service Map



Network Importance

Route 1 is one of the most important routes in the MBTA system (see Figure 2). On a relative scale of 0 to 10, the route rates 9.6 in terms of ridership, 4.8 in terms of transit dependent ridership, and 8.4 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score, which gives a 70% weight to overall ridership and a 15% weight to both other measures, is 9.4.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

Except during the Sunrise service span, Route 1 provides frequent service on weekdays and Saturdays until the end of service (see Table 1). On weekdays, it operates from 4:37 AM to 1:32 PM, with trips every 10 minutes or better during the AM and PM peaks.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	**4:37 AM to 1:27 AM**			**109/114**
Sunrise	4:37 AM to 5:59 AM	16 – 20	19	3/5
Early AM	6:00 AM to 6:59 AM	9 – 16	12	5/8
AM Peak	7:00 AM to 8:59 AM	9 – 10	9	13/12
Midday Base	9:00 AM to 1:29 PM	10 – 15	13	20/20
Midday School	1:30 PM to 3:59 PM	8 – 15	12	13/14
PM Peak	4:00 PM to 6:29 PM	8	8	18/19
Evening	6:30 PM to 9:59 PM	7 – 13	10	22/22
Late Evening	10:00 PM to 11:59 PM	13	13	9/10
Night	12:00 AM to 1:27 AM	13 – 14	13	6/4
Saturday	**4:40 AM to 1:40 AM**	**9 – 25**	**12**	**100/104**
Sunday	**6:00 AM to 1:32 AM**	**15 – 20**	**18**	**67/67**

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

On Saturdays, Route 1 provides a similar span of service, and operates trips every 10 minutes through the midday and evening hours. On Sundays, Route 1 provides moderately frequent service, operating every 16 to 20 minutes. Schedules on all days are generally very regular.

Route 1 operates for longer than the minimum span of service standards on all days. It meets the frequency standards except for Saturday service after 11:30 PM, when service operates every 25 minutes versus the standard of every 20 minutes.

Finally, as described above, Route CT1 operates along much of the same alignment as Route 1 and most riders can ride either route. However, because the two routes operate with different frequencies, schedules are not coordinated (see Table 2).

Table 2 | Route 1 and CT1 Frequencies

SERVICE DAY	ROUTE 1 TYPICAL FREQUENCY	ROUTE CT1 TYPICAL FREQUENCY
Monday-Friday		
Sunrise	20	No service
Early AM	8 – 16	20
AM Peak	10	20
Midday Base	15	20
Midday School	11	12
PM Peak	8	20
Evening	8 – 11	20 - 24
Late Evening	13	No service
Night	12 – 13	No service
Saturday	**10 – 15**	**No service**
Sunday	**16 – 20**	**No service**

Service Patterns

Route 1 operates along the same service pattern from Harvard Station to Dudley Station on all trips on all days (see Table 3).

Table 3 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				**109**	**100**	**67**
1.0	Harvard Station	Dudley Station	Primary Pattern	109	100	67
OUTBOUND				**114**	**104**	**67**
1.0	Dudley Station	Harvard Station	Primary Pattern	114	104	67

Ridership

Route 1 is one of the MBTA's highest ridership bus routes, carrying about 12,000 daily riders on weekdays, 9,600 riders on Saturdays, and 6,700 riders on Sundays.

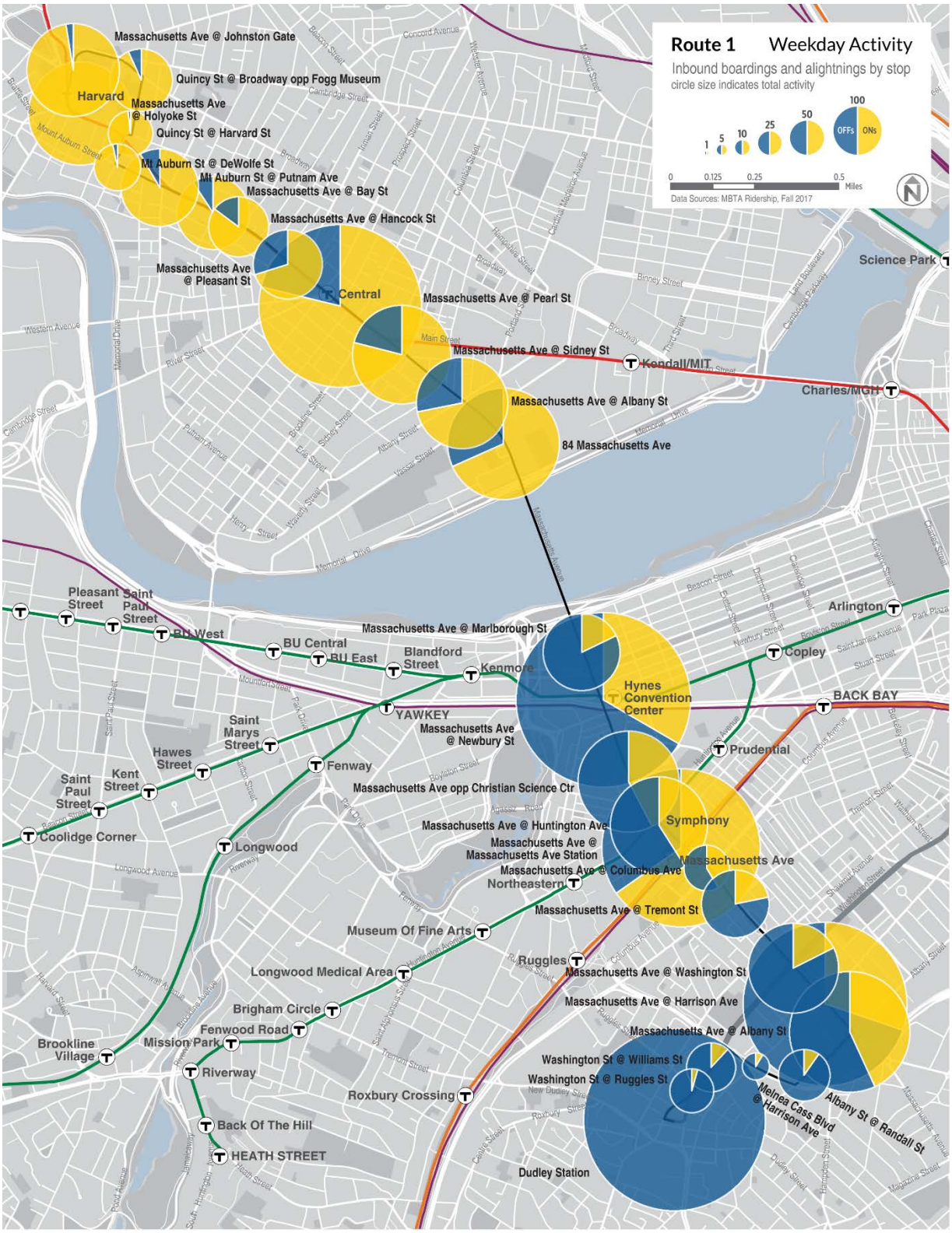
Ridership by Stop

Route 1 has high ridership along most of the route, with the highest ridership at connections with rapid transit and at Dudley Station. On weekdays, inbound from Harvard Station (see Figure 3):

- 940 passengers board at the first three stops in Harvard Square: 440 at Massachusetts Avenue at Holyoke Street, 345 at Massachusetts Avenue at Johnston Gate, and 150 at Quincy Street at Broadway.
- Ridership is high at all stops through Central Square, with most stops serving more than 100 boardings but far fewer alightings.
- The stop in Central Square that serves Central Station is the second highest ridership stop on the route, with 860 boardings and 230 alightings.
- Stops between Central Station and the Charles River also have high activity, especially the three stops that serve MIT, which have a total of 920 boardings and 340 alightings.
- South of the Charles River, ridership is high at nearly all stops, and particularly at stops where connections can be made with rapid transit and the Silver Line:
    - Green Line Hynes Convention Center Station (B, C, and D branches): 430 boardings and 840 alightings
    - Green Line Symphony Station (E branch): 16 boardings and 230 alightings
    - Orange Line Massachusetts Avenue Station: 670 boardings and 360 alightings
    - Silver Line Massachusetts Avenue Station: 59 boardings and 280 alightings
- The two stops on Massachusetts Avenue that serve Boston Medical Center (at Harrison Street and at Albany Street) serve very high ridership, with a total of 511 boardings and 1,120 alightings.
- Dudley Station is the single highest ridership stop on the route, with 1,370 alightings per weekday.

Weekend ridership patterns between Harvard Square and Hynes Convention Center are similar to those on weekdays, with similarly distributed boardings and alightings and a similar number of passengers served. Weekend ridership patterns on the southern half of the route between Hynes Convention Center and Dudley Square are similar to weekdays but with significantly lower ridership volumes.

Figure 3 | Weekday Inbound Ridership by Stop Map



Ridership by Trip

On all days, ridership per trip is very high except on early morning and late night trips and in both directions. On weekdays (see Figure 4 and Figure 5):

- During AM and PM peak trips, most trips carry more than 60 total passengers, and some carry over 90 passengers. However, there is a large amount of ridership turnover along the route, and maximum loads are significantly lower; on average, maximum loads are less than 140% of seated capacity, which is the MBTA's load standard.
- Midday service operates only one-third as frequently as peak period service, and total ridership per trip is only slightly lower than peak period ridership per trip. In both directions, midday trips carry 50 to 80 passengers. Maximum loads are generally 40 passengers or fewer.
- In the evening, inbound ridership declines from over 40 passengers per trip to 30 passengers per trip around 10:00 PM, and then to 10 passengers after midnight. Outbound evening ridership is significantly lower, at 10 to 20 passengers for most of the evening.

Due to high ridership turnover along the route, no trips exceed the MBTA's peak period maximum load standard. However, average maximum loads on many trips come close, and so when there are service issues, which as described below occur frequently, trips become overcrowded.

On Saturdays, ridership in both directions is low before 6:00 AM (see Figure 6 and Figure 7), with fewer than 15 riders per trip. It then increases from approximately 20 passengers per trip around 6:00 AM to 35 passengers at 8:00 AM. Inbound ridership peaks between 2:00 PM and 3:00 PM, with some trips serving more than 80 passengers. Ridership remains high through midnight, when it begins to drop off. Outbound ridership follows very similar patterns. In both directions, many trips are at or above the MBTA's maximum load standard, and crowding is worse when there are service disruptions. Both indicate that more frequent Saturday service is needed.

Sunday service follows similar patterns as on Saturdays, with higher ridership per trip and overcrowding on more trips (see Figure 8 and Figure 9). This is because, compared to Saturdays, reductions in service are greater than reductions in ridership, and indicates that more frequent service is needed on Sundays.

Figure 4 | Weekday Ridership by Trip: Inbound

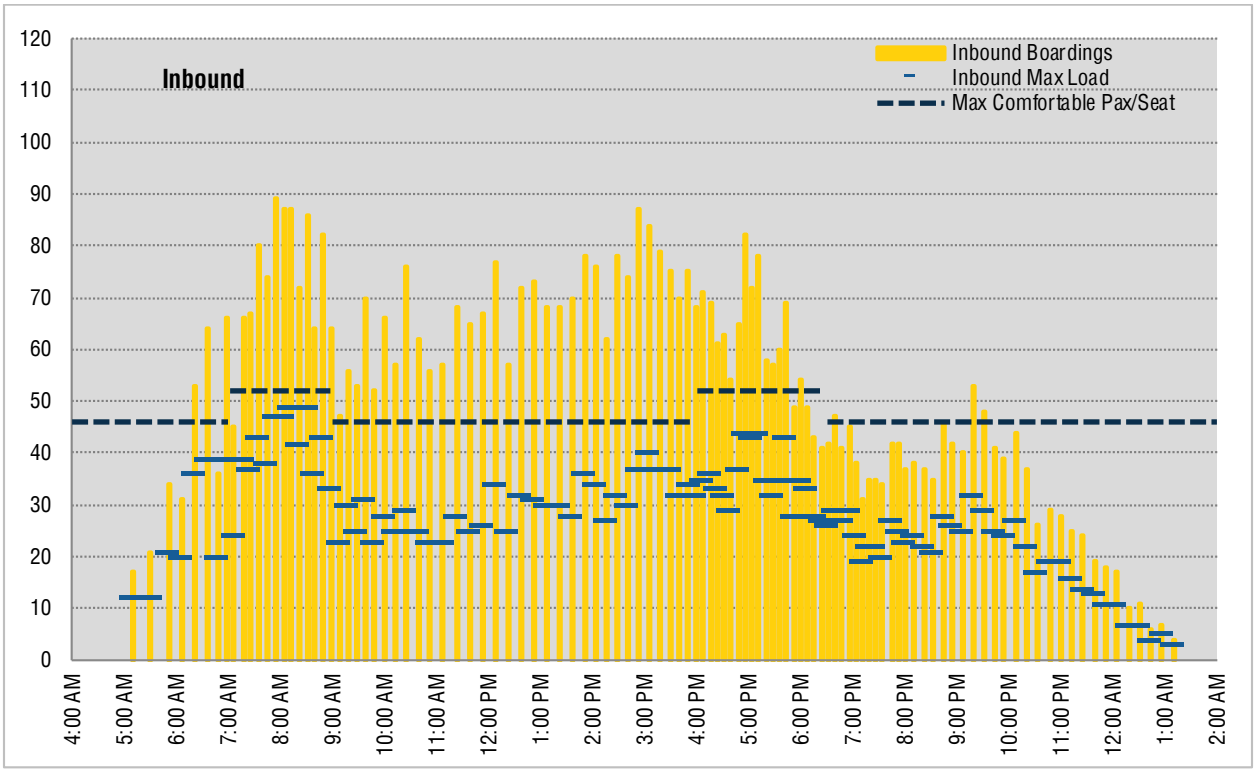


Figure 5 | Weekday Ridership by Trip: Outbound

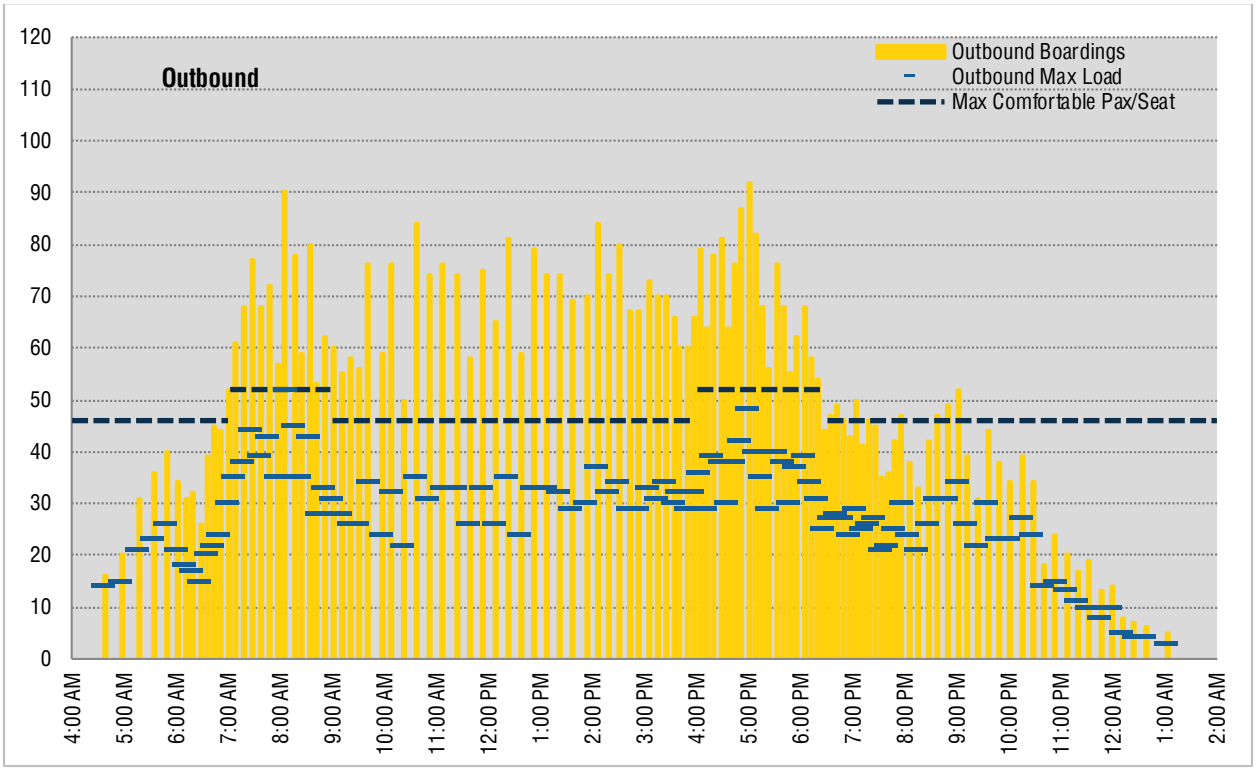


Figure 6 | Saturday Ridership by Trip: Inbound

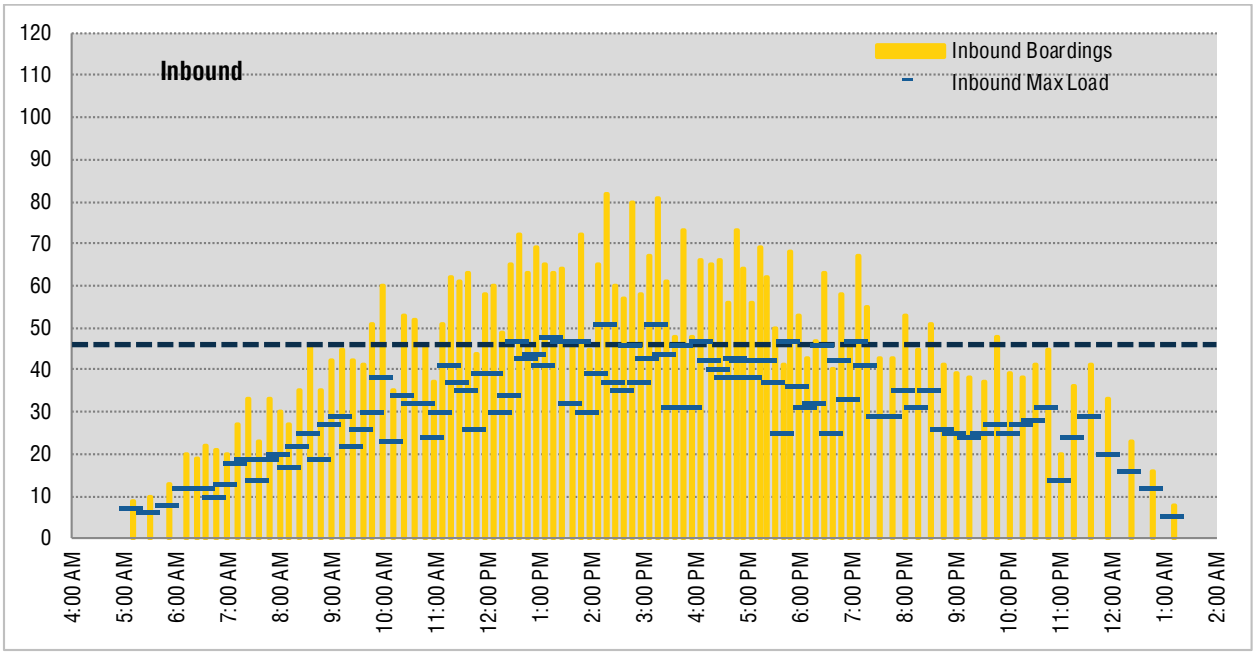


Figure 7 | Saturday Ridership by Trip: Outbound

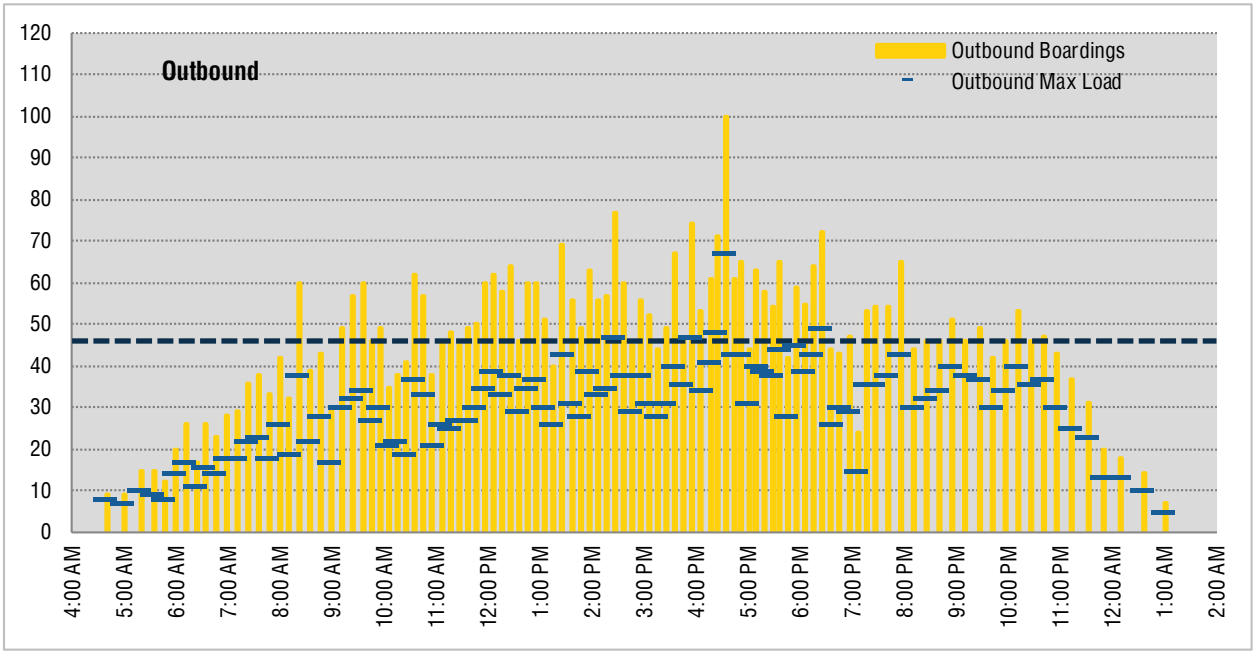


Figure 8 | Sunday Ridership by Trip: Inbound

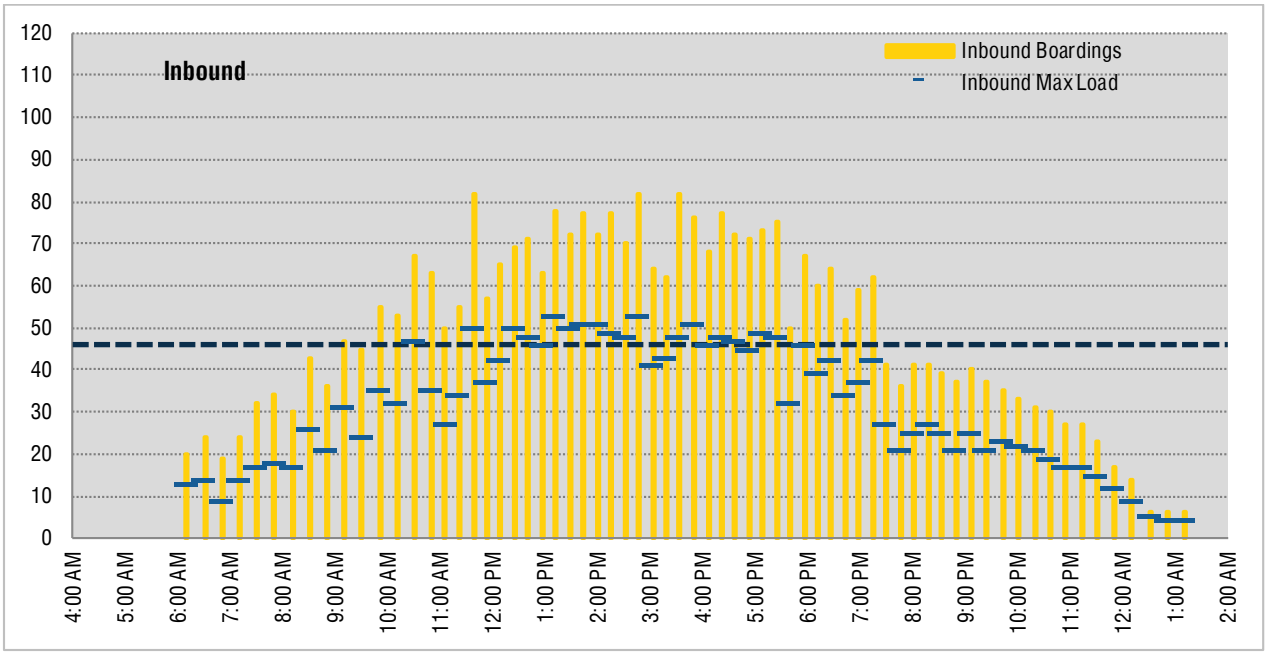
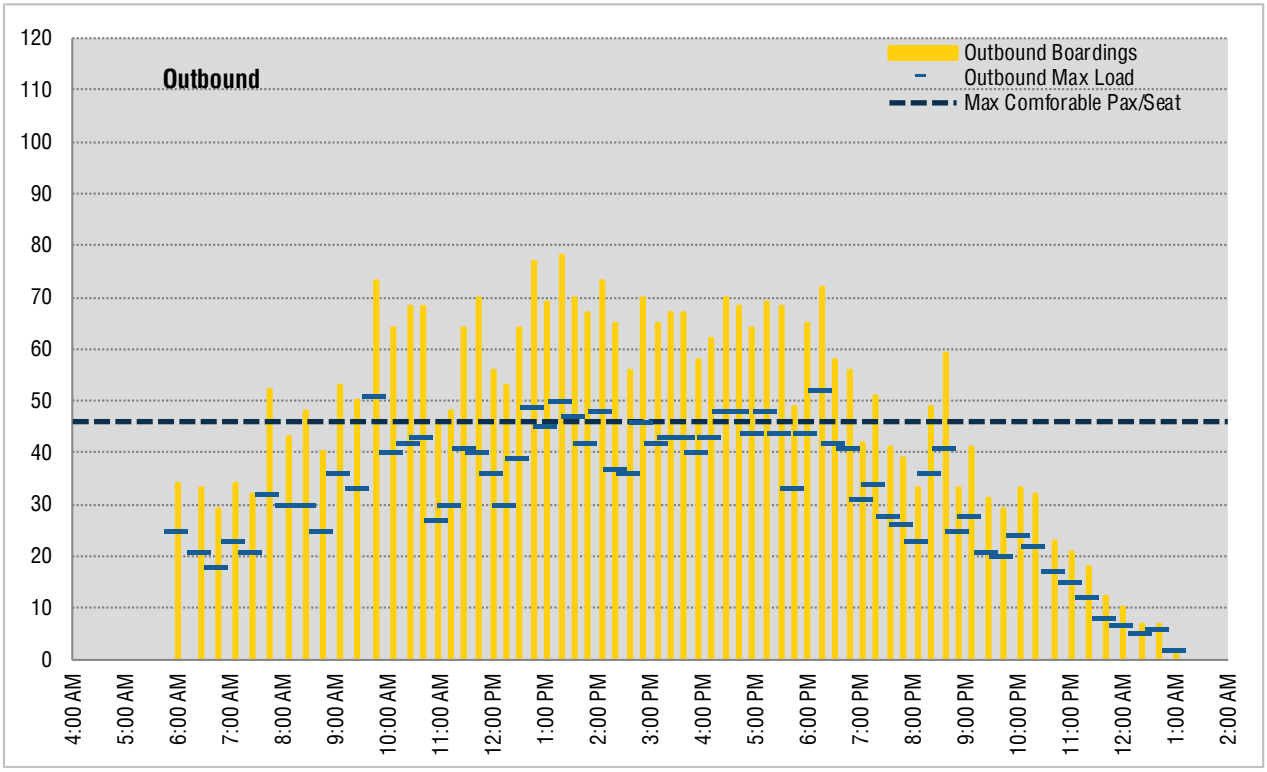


Figure 9 | Sunday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

On weekdays, 90.3% of passenger minutes on Route 1 are in comfortable conditions, which is below the minimum standard (see Table 4). Weekend comfort levels are significantly lower, with 79.6% on Saturdays and 75.2% on Sundays. Route 1 ranks the lowest of all routes for comfort on Saturdays and Sundays by a significant margin.

Table 4 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92.0%	92.0%	92.0%
Target	96.0%	96.0%	96.0%
Actual	90.3%	79.6%	75.2%

As described below, reliability is within the standard on weekdays and close to the standard on weekends, but even so, many trips are late. Missed trips are also a significant problem, with over 2.3% of trips missed in Fall 2017. As such, in addition to too little service being scheduled on weekends, reliability issues also contribute to substandard passenger comfort levels.

Reliability and Speed

Reliability

On weekdays, Route 1 falls below the minimum reliability standard of 75% for Key Bus routes on all service days (see Table 5). Dropped trips are also a significant issue, with approximately 2.3% of trips not operated in Fall 2017. In addition, and although not indicated by the data presented in Table 5, it is known that bunching due to off-schedule performance is a significant problem on Route 1 (see Figure 10).

Table 5 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	71%	74%	71%	2.3%
Saturday	69%	68%	68%	-
Sunday	62%	75%	63%	-

Figure 10 | Route 1 Bus Bunching

Route 1 trips regularly exceed their scheduled running times, especially during midday school and PM peak service (see Figure 11). As the scheduled running time increases for midday service, Route 1 runs faster than that scheduled time. Inbound PM peak trips typically run about five to eight minutes behind schedule. Outbound trips exceed their scheduled running times through most of the day, running up to 10 minutes behind schedule from the AM peak through the PM peak. Actual evening running times are more closely aligned with scheduled running times. The MBTA adjusted schedules in Spring 2018 to make scheduled travel times better reflect actual travel times.

Figure 11 | Scheduled & Median Travel Time by Trip: Route 1 Inbound

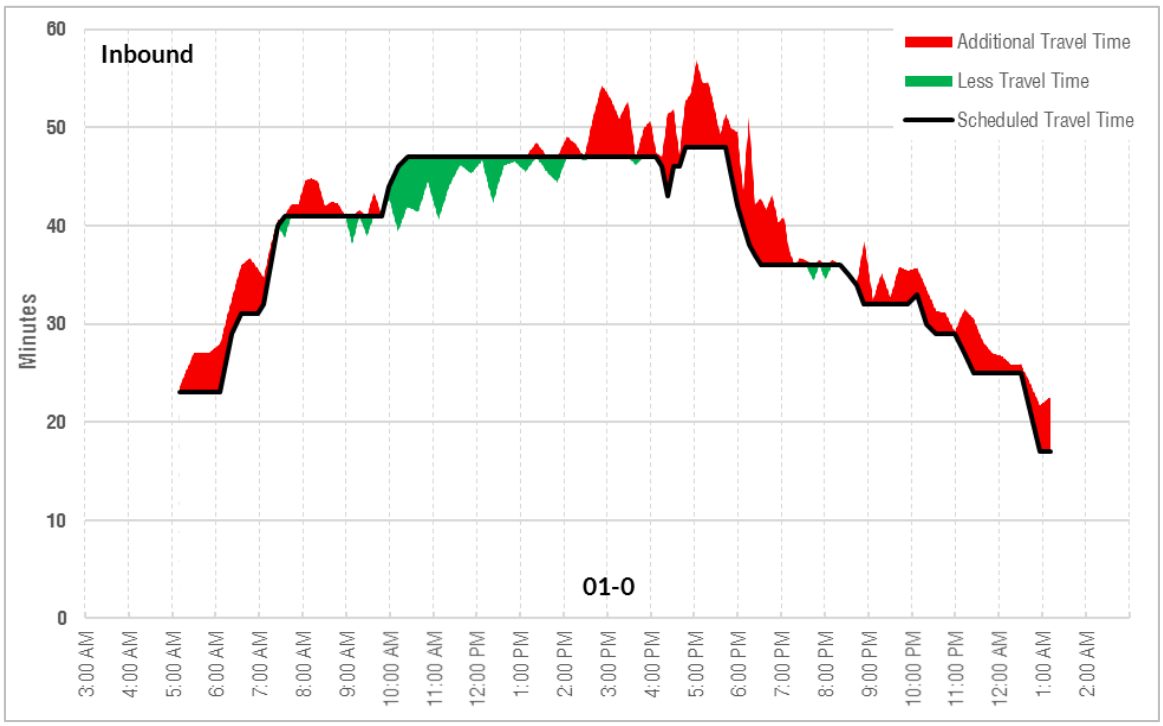
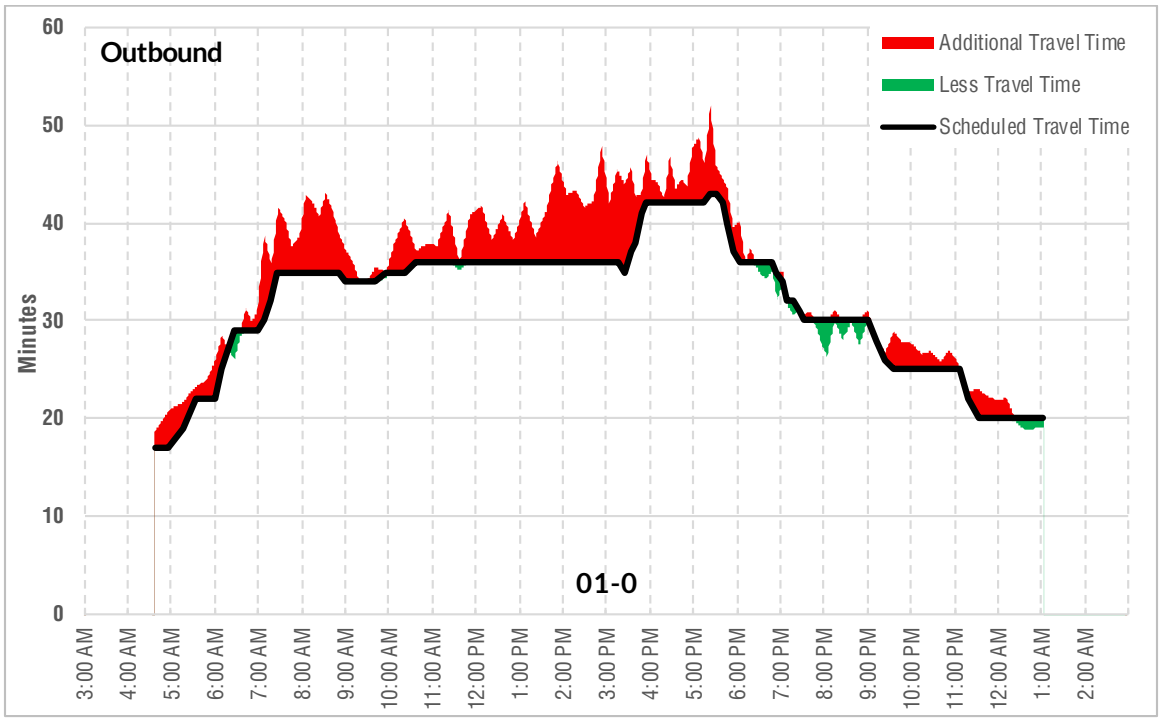


Figure 12 | Scheduled & Median Travel Time by Trip: Route 1 Outbound



Stop Spacing

Route 1 has appropriate stop spacing along most of the route in both directions. The route has approximately six stops per mile, which falls within the four to seven stops per mile recommended for urban areas under MBTA guidelines. Customers can walk between stops with this spacing in about three to four minutes. As people will typically walk at least five minutes to access a local bus route, this spacing is close, but acceptable.

However, certain parts of the route have stops within a tenth of a mile of each other, which is unnecessarily close, and makes service slower and less reliable. These areas include between Bow Street and Inman Street in Cambridge, between Huntington Avenue and Tremont Street in Boston, and between Albany Street and Dudley Station in Boston.

Summary

Route 1 provides frequent service on the high demand Massachusetts Avenue corridor in Cambridge and Boston, carrying among the highest ridership of any bus route in the MBTA network. However, service is unreliable and overcrowded.

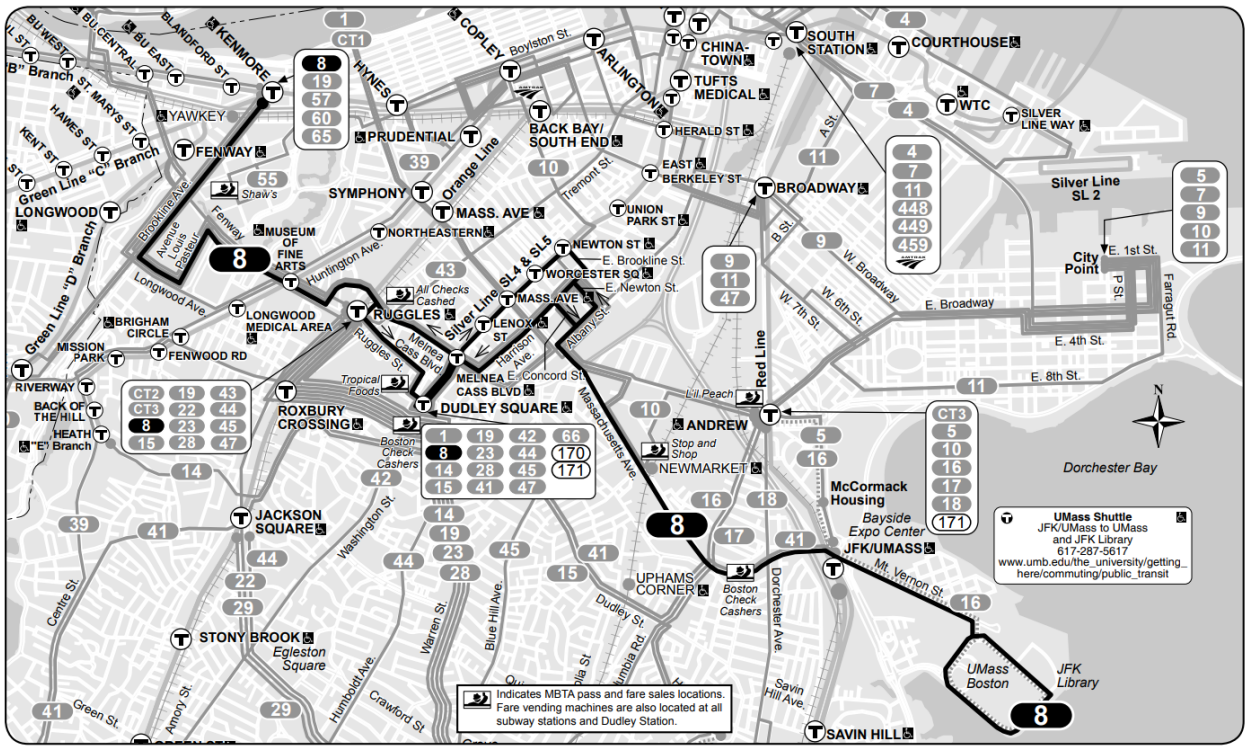
Route 8

Harbor Point/UMass – Kenmore Station

Route Overview

Route 8 Harbor Point/UMass – Kenmore Station is a Local route that provides crosstown service between the UMass/Boston campus on Columbia Point and Kenmore Square via Boston University Medical Campus area and the Longwood Medical Area (LMA) (see Figure 1).

Figure 1 | Service Map

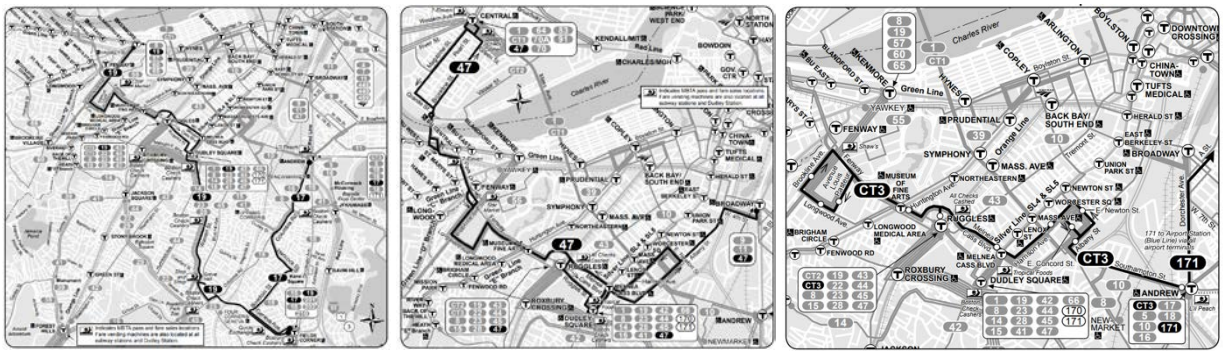


Route 8 is similar in many respects to three other routes (see Figure 2):

- Route 19 Fields Corner-Kenmore or Ruggles, which operates along the same alignment between Dudley Station and Kenmore Station. At its eastern/southern end, it operates to Fields Corner Station instead of JFK/UMass Station and Harbor Point.
- Route 47 Central Square, Cambridge-Broadway Station, which uses the same alignment between the BU Medical Campus and the Longwood Medical Area. At its western end beyond the LMA, it operates to Central Square, Cambridge instead of Kenmore Station.

- Route CT3 Beth Israel Deaconess or BU Medical Campus-Andrew Station, which operates along the same alignment between the LMA and the BU Medical Campus except that it bypasses Dudley Square. Beyond the BU Medical Campus, it operates to Andrew Station instead of JFK/UMass Station and Harbor Point.

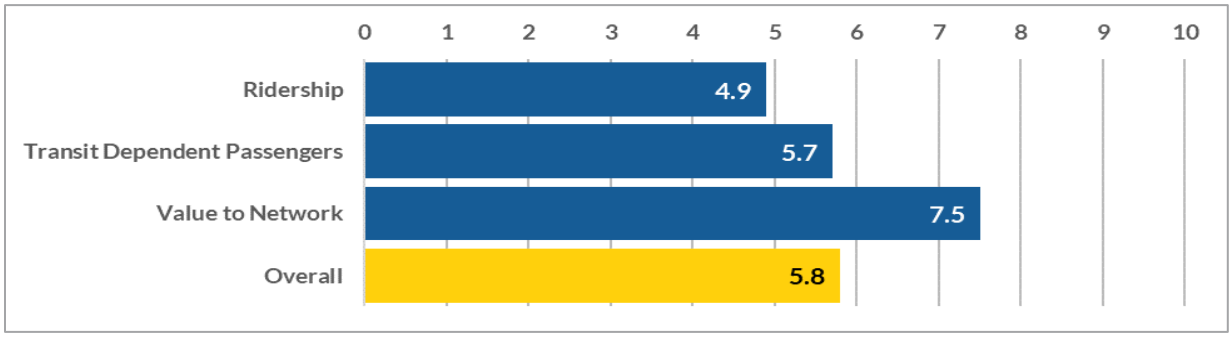
Figure 2 | Similar Service on Routes 19, 47, and CT3



Network Importance

Route 8 is moderately important within the MBTA bus network (see Figure 3). On a relative scale of 0 to 10, the route rates 4.9 in terms of ridership, 5.7 in terms of transit dependent ridership, and 7.5 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score, which gives a 70% weighting to overall ridership and a 15% weight to both other measures, is 5.8. A key reason for the relatively low rating is duplication with other routes, as described above.

Figure 3 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

Route 8 provides moderately frequent service on weekday mornings and infrequent service at all other times (see Table 1). On weekdays, inbound service operates from 5:15 AM to 12:25 AM:

- Every 20 minutes from the beginning of service until 6:11 AM.
- Every 12 to 16 minutes from 6:11 AM until 7:35 AM, including one school trip between Ruggles and Kenmore Station at 7:21 AM.
- Every 15 minutes from 7:35 AM until 8:20 AM.
- Every 23 to 25 minutes from 8:20 AM until 9:30 AM.
- Every 49 to 60 minutes from 9:30 AM until 1:53 PM.
- Every 28 to 43 until the end of service at 12:25 AM, but predominantly every 35 minutes.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	**5:15 AM to 12:56 AM**			**41/41**
Sunrise	5:15 AM to 5:59 AM	16 - 20	19	3/2
Early AM	6:00 AM to 6:59 AM	12 - 16	13	4/4
AM Peak	7:00 AM to 8:59 AM	2 - 23	15	8/7
Midday Base	9:00 AM to 1:29 PM	22 - 60	48	6/7
Midday School	1:30 PM to 3:59 PM	30 - 50	32	4/6
PM Peak	4:00 PM to 6:29 PM	23 - 35	32	5/5
Evening	6:30 PM to 9:59 PM	23 - 37	33	6/6
Late Evening	10:00 PM to 11:59 PM	33 - 43	36	4/3
Night	12:00 AM to 12:56 AM	43	43	1/1
Saturday	**6:30 AM to 1:01 AM**	**35 - 60**	**43**	**24/24**
Sunday	**6:30 AM to 1:01 AM**	**40 - 55**	**43**	**24/24**

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Route 8 operates with a similar span of service on Saturdays and Sundays, from 6:30 AM to 1:01 AM. Service frequencies on both average 43 minutes.

Route 8 meets the MBTA's service span and frequencies standards on all days.

Service Patterns

As shown in Figure 1, Route 8's alignment is very circuitous, and this is primarily because it deviates from more direct routings to provide "front door" service to multiple locations in the BU Medical Campus Area and the LMA, plus to Dudley Station. Pattern 8.9 is the primary service pattern, operating the full length of the route as shown in Figure 1 plus a deviation through South Bay Center that is not shown. Exceptions to this operation are (see Table 2):

- Pattern 8.1 makes up early and late service, and does not operate through South Bay Center. On weekdays, this includes inbound trips before 8:40 AM and outbound trips before 8:00 AM and all trips from 11:00 PM on. On Saturdays, this

includes trips before 9:00 AM and after 11:00 PM. On Sundays, this includes trips before 12:00 noon and after 6:45 PM.

- Pattern 8.3 makes an inbound school trip on weekdays, running from Ruggles Station to Kenmore Station departing at 7:21 AM, and an outbound trip departing at 7:06 AM and operating to Ruggles Station. As of Fall 2018, this trip is now part of a Route 22 Service Pattern.
- Pattern 8.2 makes an outbound school trip on weekdays that runs from Kenmore Station to Dudley Square, departing at 2:30 PM. As of Fall 2018, this trip is now part of a Route 57 Service Pattern.

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS per WKD	TRIPS per SAT	TRIPS per SUN
INBOUND				**41**	**24**	**24**
8.1	UMass/Boston	Kenmore Station	Skips South Bay Center	16	5	15
8.3	Ruggles Station	Kenmore Station	AM school trip	1	-	-
8.9	UMass/Boston	Kenmore Station	Via South Bay Center	24	19	9
OUTBOUND				**41**	**24**	**24**
8.1	Kenmore Station	UMass/Boston	Skips South Bay Center	13	5	15
8.2	Kenmore Station	Dudley Station	PM school trip	1	-	-
8.3	Kenmore Station	Ruggles Station	AM school trip	1	-	-
8.9	Kenmore Station	UMass/Boston	Via South Bay Center	26	19	9

Ridership

Route 8 carries 3,050 passengers on weekdays, 1,270 on Saturdays, and 920 on Sundays.

Ridership by Stop

Route 8 has high ridership to and from many locations. These include the combination of stops on Columbia Point, JFK/UMass Station, the BU Medical Campus area, Dudley Station, Ruggles Station, the LMA, and Kenmore Station. On weekday inbound trips (to Kenmore Station) (see Figure 4):

- 250 passengers, or 17% of the all inbound passengers, board on the Columbia Point peninsula. The two major stops include UMass/Boston with 70 boardings, and Mount Vernon Street at South Point Drive, with 80 boardings. This is the only segment that is served uniquely by Route 8.
- 110 passengers, or 44% of all passengers who board on Columbia Point, alight at JFK/UMass Station, 100 passengers board at JFK/UMass Station.
- 290 passengers board and 80 alight at the 13 stops between JFK/UMass Station and the BU Medical Campus area. This includes 90 who board and 30 who alight at the three stops in South Bay Center.

- 110 passengers board and 120 alight at the five stops in the BU Medical Campus area.
- 50 passengers board and 50 alight at the four stops between the BU Medical Campus area and Dudley Station.
- 260 passengers board and 70 alight at Dudley Station.
- 30 passengers board and 20 alight at the three stops between Dudley Station and Ruggles Station.
- 260 passengers board and 70 alight at Ruggles Station.
- 130 passengers board and 330 alight at the six stops in the Longwood Medical Area.
- 30 passengers board and 210 alight at the five stops between the LMA and Kenmore Station.
- 220 passengers alight at Kenmore Station.

Outbound patterns are similar but in the reverse. Weekend patterns are also similar but with lower volumes.

Ridership by Trip

On weekdays, Route 8's ridership per trip is high throughout most of the day, moderate in the evening, and low at night. On weekday inbound trips (see Figure 5):

- Ridership on the first two trips at 5:15 AM and 5:35 AM carry 24 and 26 passengers.
- Ridership between 5:50 AM and 11:30 AM is around 40 passengers per trip.

Figure 4 | Weekday Inbound Ridership by Stop Map

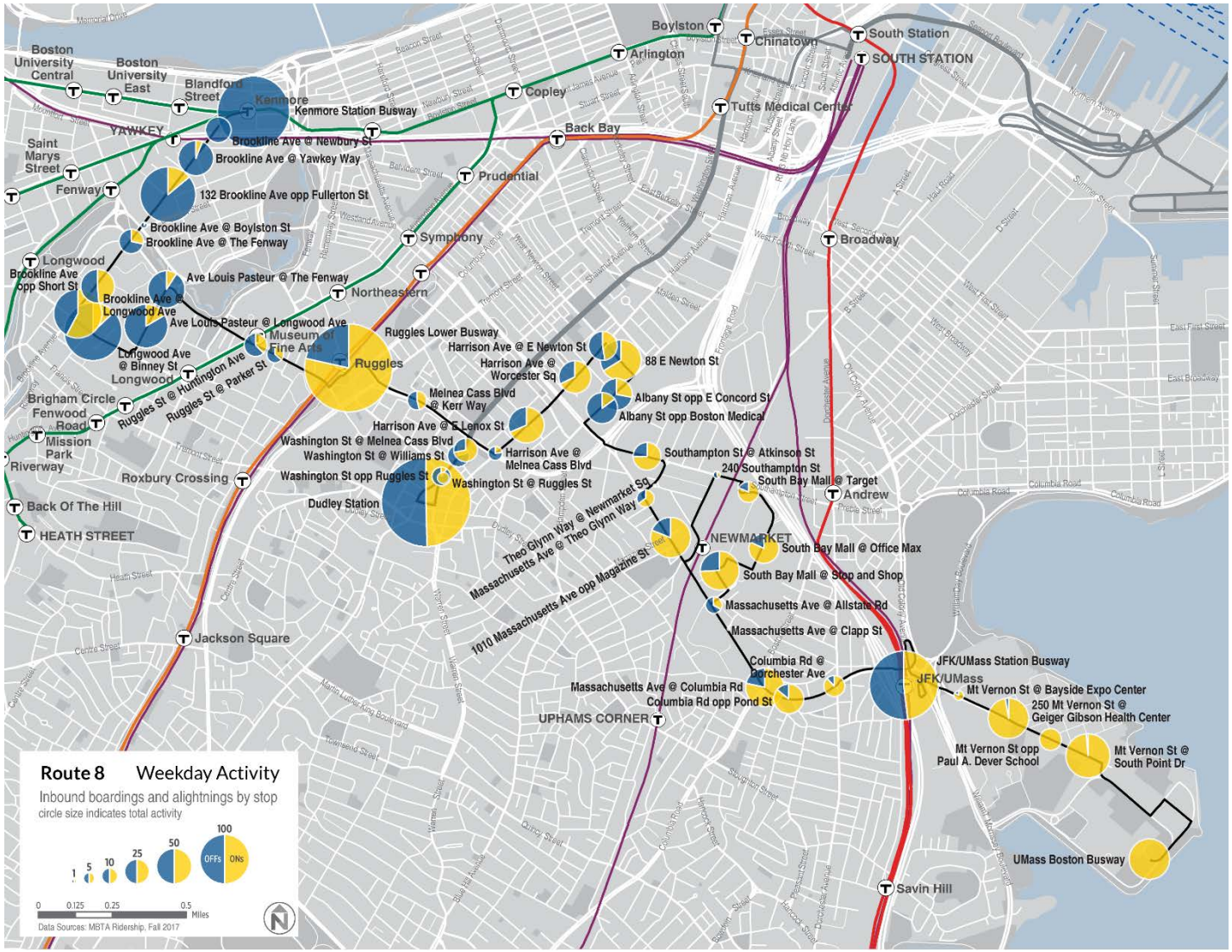
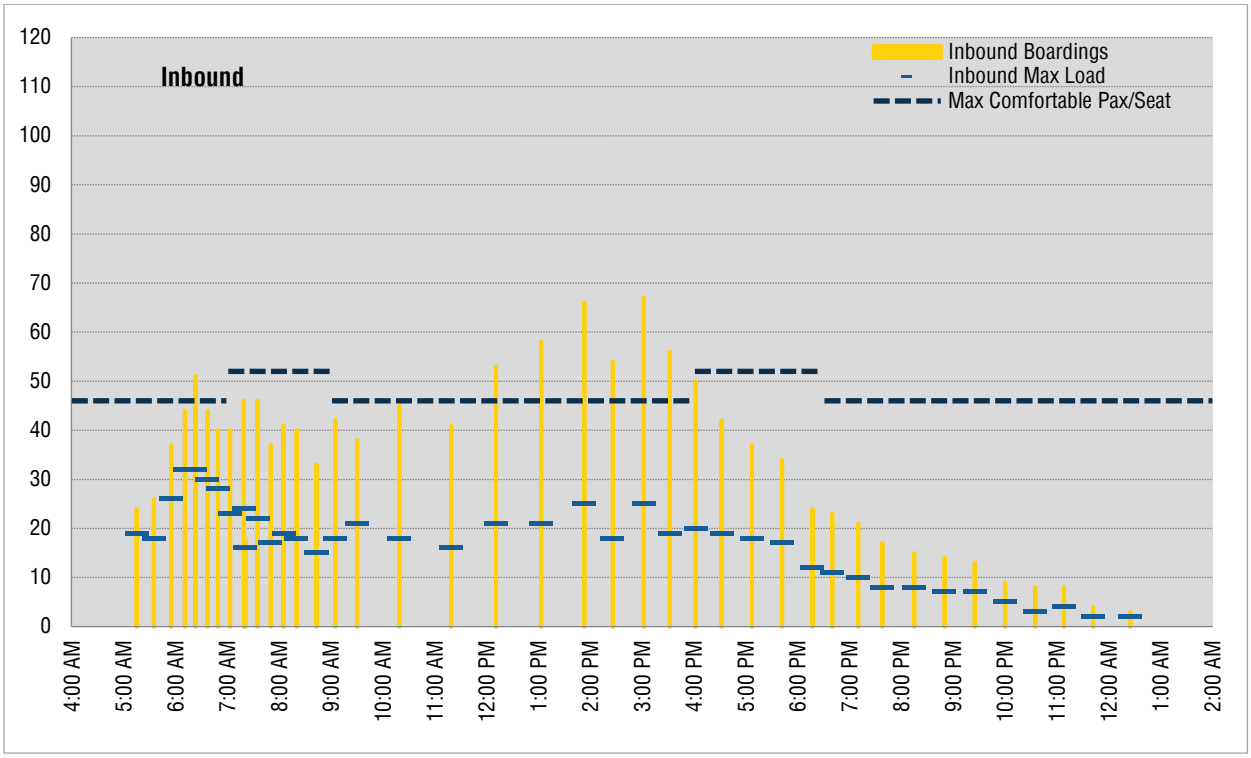


Figure 5 | Weekday Ridership by Trip: Inbound



- Between 11:30 AM and just after 4:00 PM, ridership per trip increases to 50 to over 60. Ridership is during this period because service operates infrequently (averaging only 48 minutes in the Midday Base period), but none of the trips have loads that, on average, exceed loading standards because turnover is also high.
- Ridership per trip then declines steadily from 41 passengers at 4:32 PM to 21 at 7:10 PM.
- It is then less than 20 for the rest of the service day.

On outbound trips (see Figure 6):

- Ridership per trip ranges from 30 to 40 on most trips through 9:30 AM.
- Ridership per trip then increases to close to 50 at 9:35 AM to over 70 at 1:31 PM.
- It then ranges from 60 to 80 through 4:50 PM. Some trips are crowded, but because of high turnover along the route, none have loads that, on average, exceed loading standards.
- Ridership per trip then ranges from 30 to 40 through 9:30 PM.
- It then declines to less than 10 on the last trip at 12:20 AM.

Saturday ridership ranges from 20 to 40 for most of the day inbound and 30 to 50 outbound, with the highest ridership in the middle of the day (see Figure 7 and Figure 8).

Sunday ridership averages 10 to 30 passengers for trip in both directions, also with the highest ridership in the middle of the day (see Figure 9 and Figure 10).

Figure 6 | Weekday Ridership by Trip: Outbound

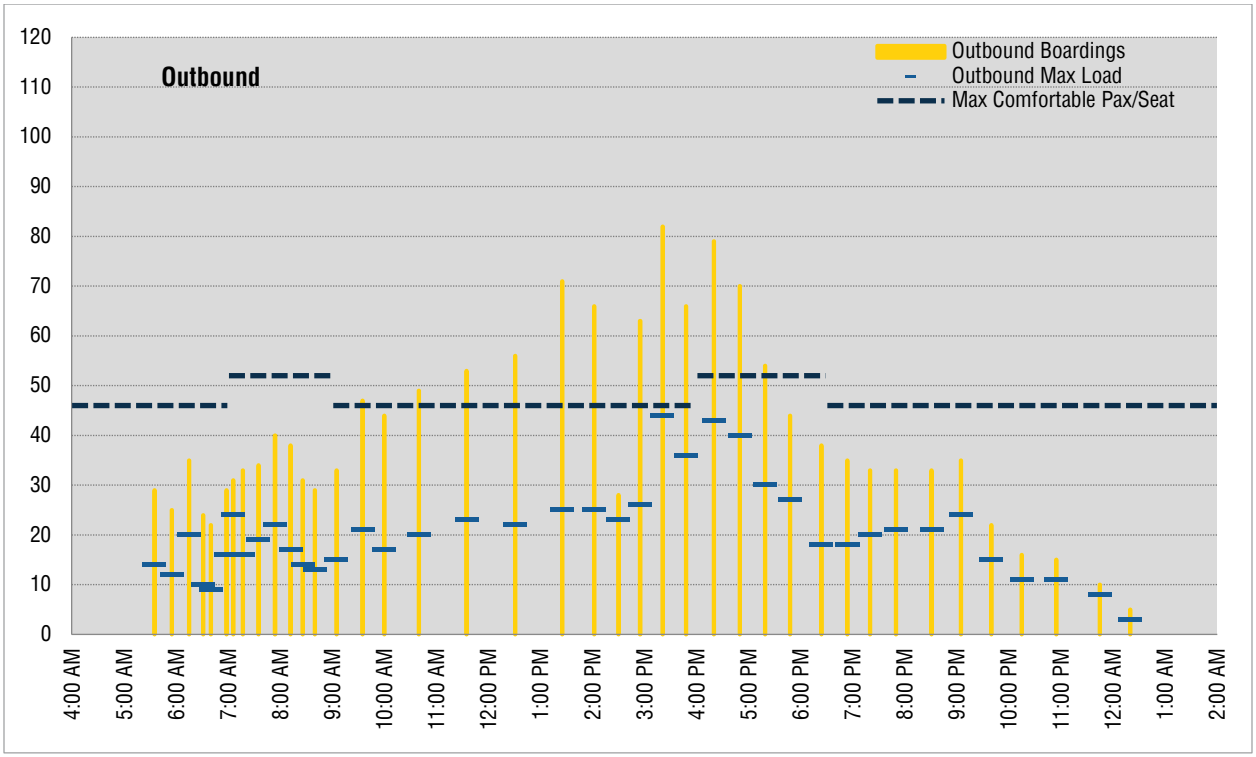


Figure 7 | Saturday Ridership by Trip: Inbound

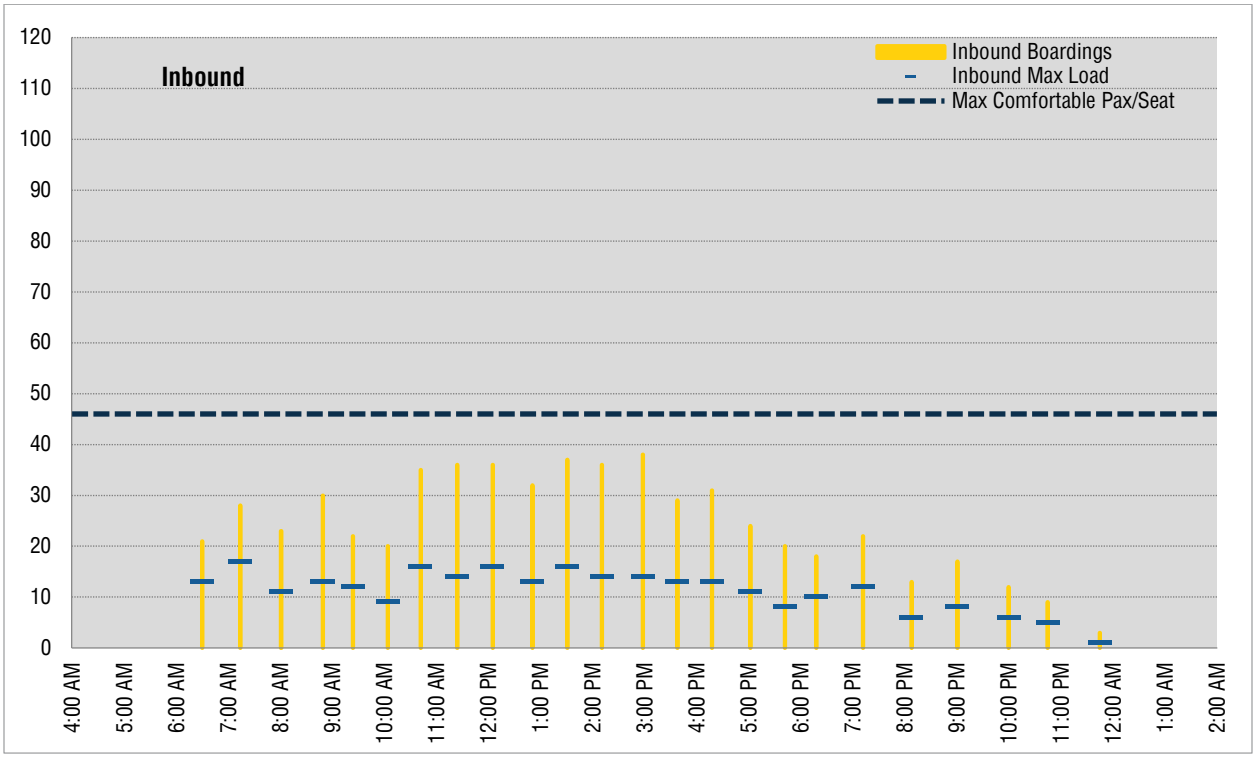


Figure 8 | Saturday Ridership by Trip: Outbound

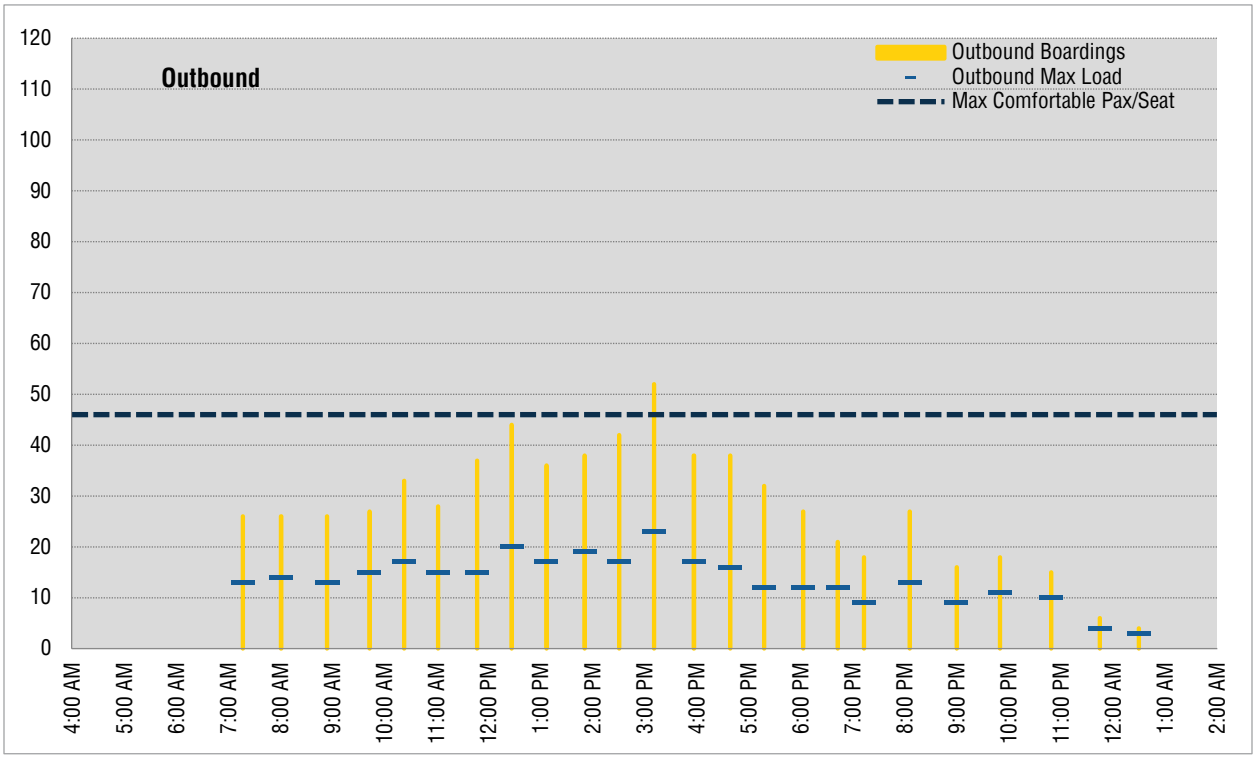


Figure 9 | Sunday Ridership by Trip: Inbound

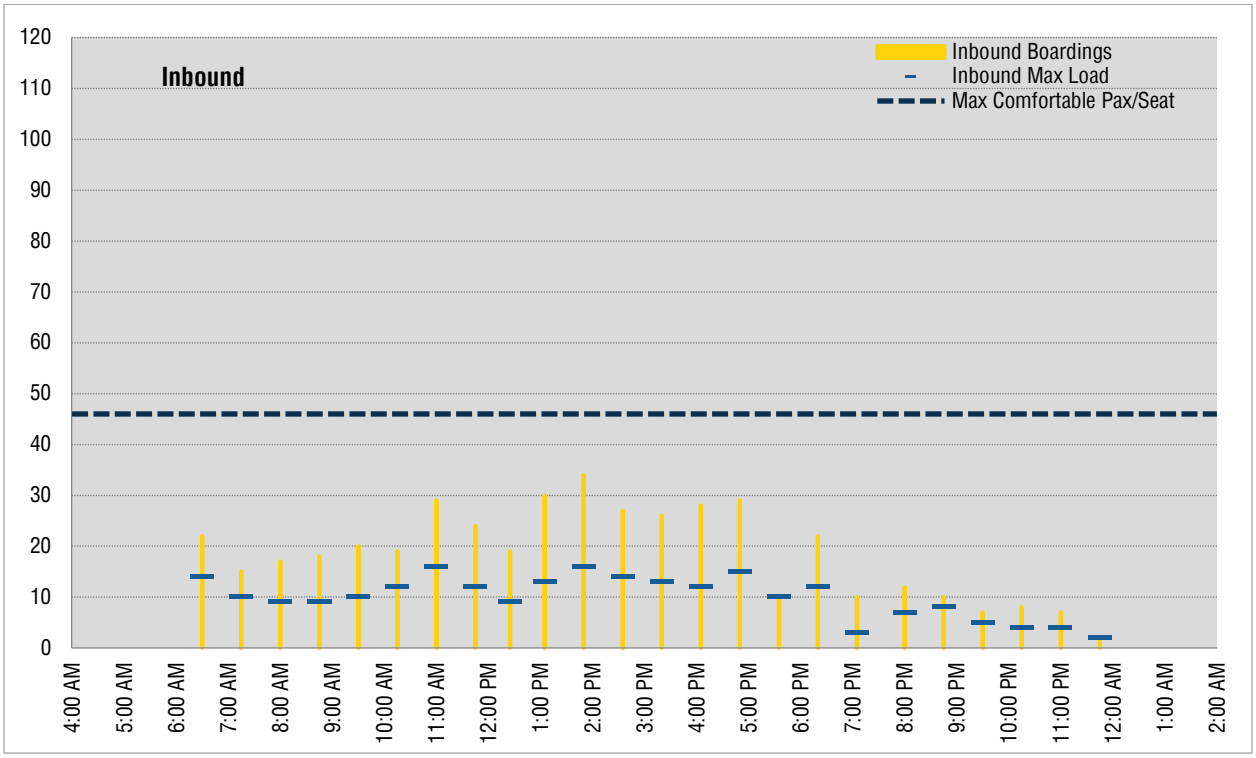
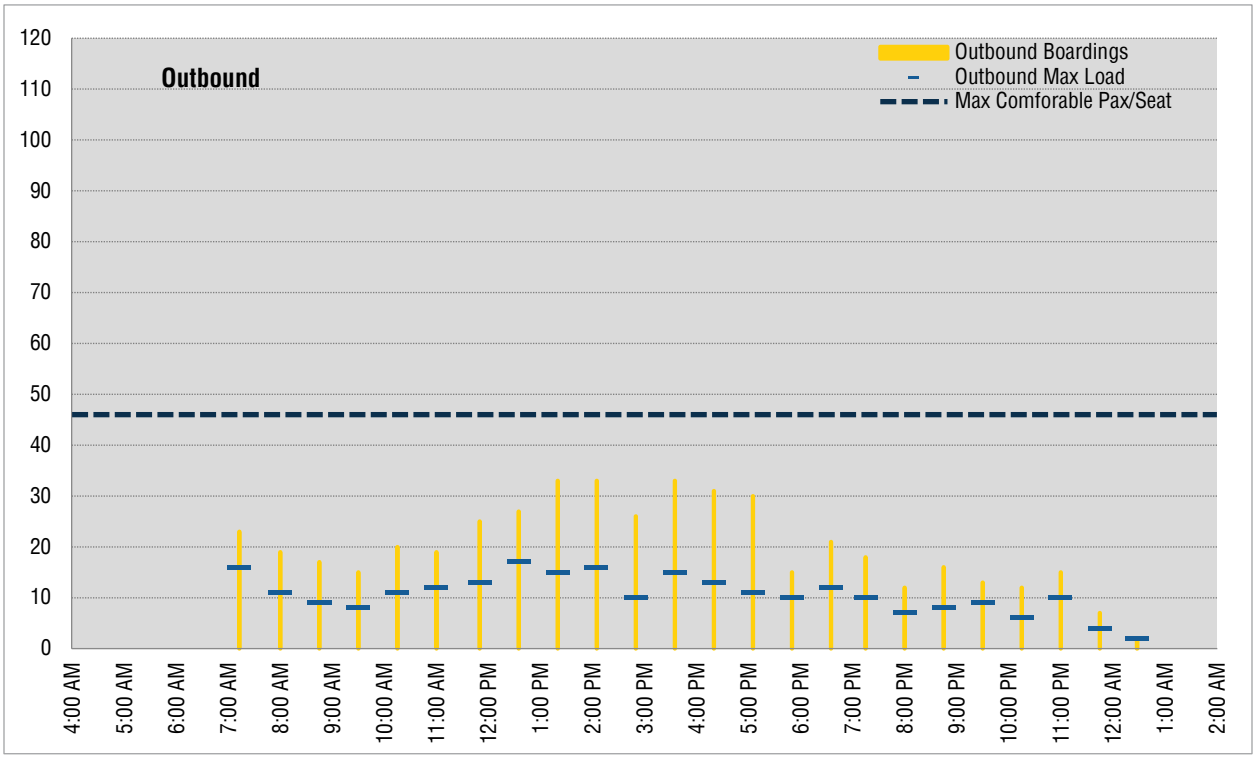


Figure 10 | Sunday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

On Route 8, 98% of passenger minutes are in comfortable conditions, which is above the target of 96% (see Table 3). Even though weekday total ridership per trip is very high, turnover is also very high and thus buses do not become overcrowded.

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	98.2%	-	-

Reliability and Speed

Reliability

Route 8's weekday overall reliability is very poor at only 51% (see Table 4). Weekend reliability is better, but below the minimum standard of 70%.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	50%	61%	51%	1.1%
Saturday	67%	68%	67%	-
Sunday	69%	61%	66%	-

Running Times

Route 8's actual running times routinely exceed scheduled times for much of the day. However, the differences are smaller on Route 8 than on many other routes, with significant differences only in the afternoon and PM peak inbound and the PM peak outbound (see Figure 11 and Figure 12).

Stop Spacing

Route 8 has an average of 5.4 stops per mile, which is well within the four to seven stops per mile recommended for urban areas under MBTA guidelines.

Figure 11 | Scheduled & Median Travel Time by Trip: Route 8 Inbound

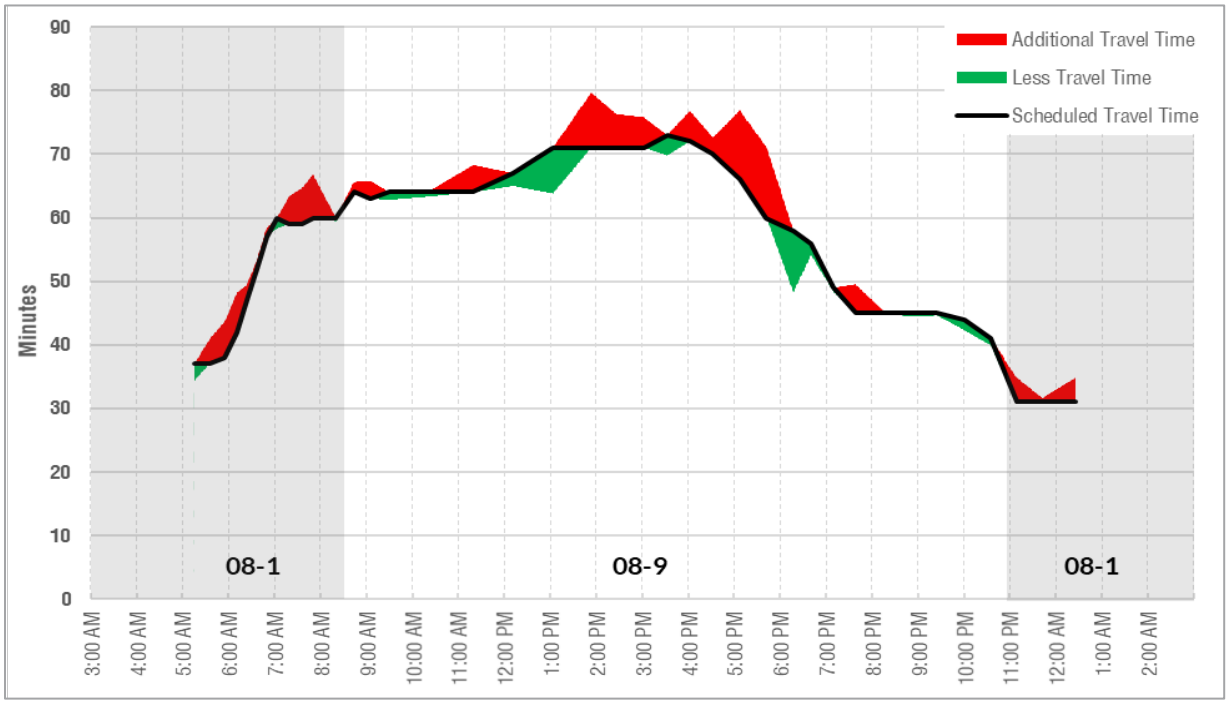
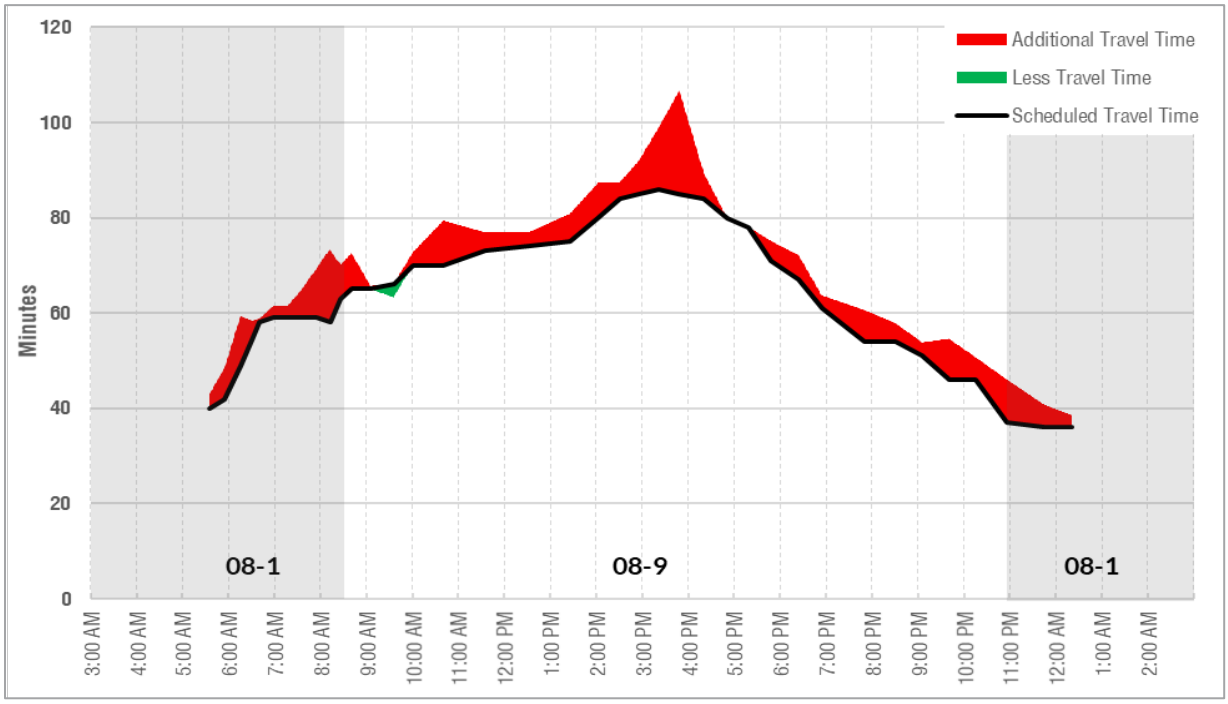


Figure 12 | Scheduled & Median Travel Time by Trip: Route 8 Outbound



Summary

Route 8 is one of four routes that provide similar service, with the others including:

- Route 19 Fields Corner-Kenmore or Ruggles
- Route 47 Central Square, Cambridge-Broadway Station
- Route CT3 Beth Israel Deaconess or BU Medical Campus-Andrew Station

With the exception of Route CT3, all generate high ridership, but do not provide consistent coordinated service (except Route 19 PM peak trips) along the shared segments. The service structure is also complex, with four routes providing similar service but in different ways.

As with the other three routes, Route 8 is circuitous as it deviates to provide front door service to many different locations in the BU Medical Campus area and the LMA. This contributes to very slow service, and the many turns contribute to poor reliability.

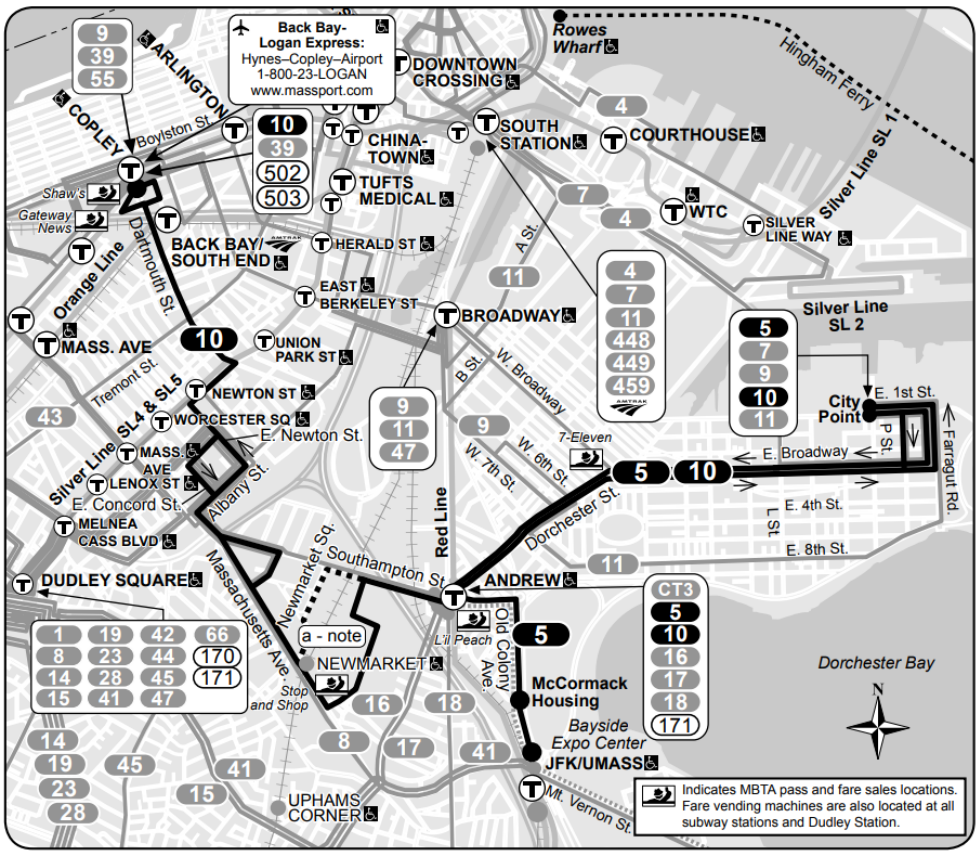
Route 10

City Point – Copley Square

Route Overview

Route 10 City Point – Copley Square is a Local bus route that operates between City Point in South Boston and Copley Square via South Bay Center, the Boston Medical Center area, and the South End (Figure 1).

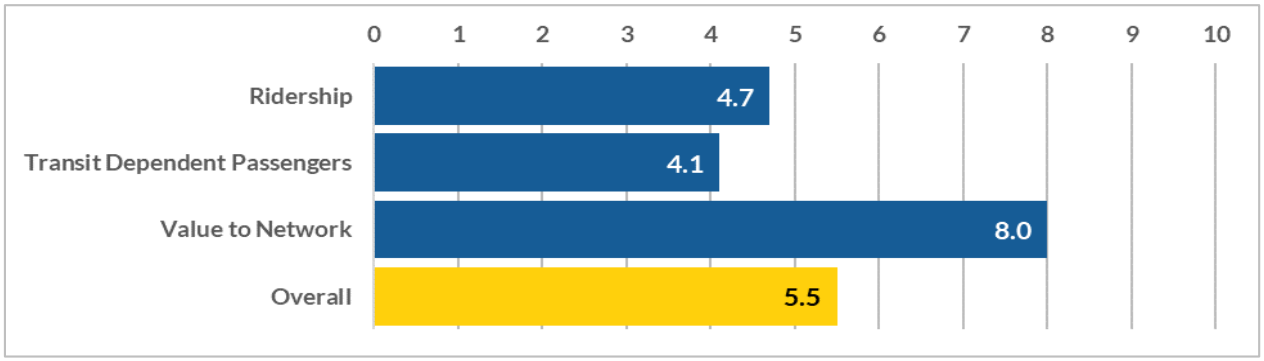
Figure 1 | Service Map



Network Importance

Route 10 has moderate importance within the overall system (see Figure 2). On a scale of 0 to 10, the route rates 4.7 in terms of ridership, 4.1 in terms of transit dependent ridership, and 8.0 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score, which gives a 70% weight to overall ridership and a 15% weight to both other measures, is 5.5.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

On weekdays, Route 10 operates from 4:55 AM to 1:31 AM, with service generally running every 20 during the AM and PM peaks (see Table 1). Early morning service is slightly more frequent, with service running as often as every 10 minutes. Midday and evening service is less frequent, with trips averaging every 35 to 60 minutes.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	**4:55 AM to 1:31 AM**			**42/46**
Sunrise	4:55 AM to 5:59 AM	15-35	23	3/1
Early AM	6:00 AM to 6:59 AM	10-35	15	4/3
AM Peak	7:00 AM to 8:59 AM	5-35	23	6/9
Midday Base	9:00 AM to 1:29 PM	5-40	38	7/9
Midday School	1:30 PM to 3:59 PM	15-40	28	5/6
PM Peak	4:00 PM to 6:29 PM	21-24	25	6/6
Evening	6:30 PM to 9:59 PM	20-40	29	8/8
Late Evening	10:00 PM to 11:59 PM	35-64	62	2/2
Night	12:00 AM to 1:31 AM	60	60	1/2
Saturday	**6:15 AM to 1:14 AM**	**22-60**	**31**	**35/35**
Sunday	**6:00 AM to 1:11 AM**	**35-60**	**45**	**24/23**

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Route 10 operates for similar hours on Saturdays, beginning an hour later in the mornings and running every 31 minutes on average. Sunday service is more limited, with service running from 6:00 AM to 1:11 AM every 45 minutes on average.

Route 10 meets the span of service and the service frequency standards for Local routes during all service days and periods, except for some weekday late evening trips that operate 64 minutes apart (versus the standard of no more than 60).

Service Patterns

The majority of Route 10 trips operate Pattern 10.9, which serves the route's full alignment from City Point to Copley Square via Andrew Station. There are six additional service patterns (see Table 2):

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				**42**	**35**	**24**
10.0	City Point Bus Terminal	Saint James Avenue at Dartmouth Street	Skips South Bay Center	13	3	11
10.1	City Point Bus Terminal	Dudley Station	Skips South Bay Center, Boston Latin Academy school trip	1	-	-
10.9	City Point Bus Terminal	Saint James Avenue at Dartmouth Street	Via South Bay Center	28	32	13
OUTBOUND				**46**	**35**	**23**
10.0	Saint James Avenue at Dartmouth Street	City Point Bus Terminal	Skips South Bay Center	9	2	10
10.3	Saint James Avenue at Dartmouth Street	Andrew Station Busway	Skips South Bay Center, skips Dorchester Street and E. Broadway	1	-	-
10.4	Andrew Station Busway	City Point Bus Terminal	Skips South Bay Center	1	-	-
10.5	Boylston Street at Dartmouth Street	City Point Bus Terminal	Continues to Boylston Street past Saint James Avenue	1	1	1
10.6	Saint James Avenue at Dartmouth Street	Andrew Station Busway	Skips Dorchester Street and E. Broadway	1	-	-
10.8	Townsend Street at Warren Street	City Point Bus Terminal	Boston Latin Academy school trip; Skips South Bay Center	2	-	-

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
10.9	Saint James Avenue at Dartmouth Street	City Point Bus Terminal	Via South Bay Center	31	32	12

- Trips that depart before approximately 8:30 AM operate Pattern 10.0, bypassing South Bay Center (since activity these has not yet started) and instead traveling from Andrew Station to Massachusetts Avenue via Newmarket Square.
- One early morning outbound trip operates Pattern 10.5, beginning service at Boylston Street at Dartmouth Street rather than Saint James Avenue.
- There are also a number of school trips:
    - One weekday morning school trip operates between City Point and Dudley Square, departing City Point at 6:25 AM (Pattern 10.1)
    - One outbound school trip operates between Andrew Station and City Point, departing Andrew Station at 7:40 AM (Pattern 10.4).
    - One outbound school trip operates between Saint James Avenue at Dartmouth Street and Andrew Station, departing at 7:50 AM (Pattern 10.3).
    - Two outbound school trips operate between Boston Latin Academy and City Point via Dudley Square and Andrew Station (Pattern 10.8). Two buses depart from the school at 1:40 PM.

Since the development of this document, the MBTA has modified or discontinued several infrequent Route 10 service patterns.

Ridership

Route 10 carries over 2,900 passengers on weekdays, 1,550 passengers on Saturday, and 800 passengers on Sundays. While total ridership is fairly high, Route 10 is the lowest ridership City Point route except for Route 5 City Point Terminal – McCormack Housing, which provides only very limited service.

Ridership by Stop

Route 10 has moderate but consistent ridership along most of its length. It largely transports South Boston residents and others alighting the Red Line at Andrew Station to Back Bay Station and Copley Square (see Figure 3).

On weekdays heading inbound from City Point:

- The outer segment of the route between City Point and East Broadway at M Street has the route's lowest ridership, with a total of 105 boardings and only one

alighting at six stops. This is because riders in this area traveling to the Red Line can use Route 7 City Point-Downtown to travel to South Station or Route 9 City Point-Copley Square, which have better travel times for most inbound trips.

- Boardings are consistent between East Broadway at L Street and Andrew Station, with stops serving between 15 and 105 passengers per day. Through this South Boston stretch of the route, the stops with the most boardings include E. Broadway at K Street (70 boardings), Dorchester Street at Broadway (72 boardings), and Dorchester Street at 8th Street (41 boardings).
- 115 passengers alight at Andrew Station and account for nearly 25% of the passengers who board prior to that point. A total of 370 passengers board at Andrew Station.
- At total of 105 passengers board and 115 passengers alight at the three stops in South Bay Center. These numbers indicate that ridership to the shopping center is similar from the eastern and western ends of the route.
- The stops along Massachusetts Avenue serve 100 boardings and 80 alightings.
- The three stops in the Boston Medical Center area on Albany Street and East Newton Street serve 175 boardings and 185 alightings. These numbers indicate that ridership to this area is similar from the eastern and western ends of the route.
- A total of 130 passengers board and 145 alight at the stops between the Boston Medical Center area and Back Bay Station.
- 315 passengers alight at Back Bay Station, or 24% of all inbound boardings.
- 205 passengers alight at Copley Square (Saint James Avenue at Dartmouth Street), or 15% of all inbound boardings.

School trips that serve Dudley Square serve fewer than two passengers per day (inbound and outbound). Therefore, while the school trips are well utilized overall, the service to and via Dudley Square is not. The majority of school riders on these trips are traveling to or from Boston Latin Academy.

Weekend ridership follows roughly the same ridership patterns inbound, with fewer but similarly distributed boardings and alightings. Stops serving the South Bay Center at Target, at Office Max, and at Stop & Shop have a higher proportion of overall route activity on weekends than on weekdays.

Figure 3 | Weekday Inbound Ridership by Stop Map

Ridership by Trip

Route 10 provides the only one-seat service between the Back Bay, South Boston, and South Bay Center. The majority of passengers board or alight at Andrew Station, Back Bay Station, and Saint James Avenue at Dartmouth Street. Together, these characteristics have a significant impact on ridership per trip.

On weekdays (see Figure 4 and Figure 5):

- Ridership is consistent throughout the day, with midday trips serving as many passengers as peak period trips. This is likely the result of passengers using the route for trips to access South Bay Center throughout the day.
- Ridership on inbound trips is consistent between 6:00 AM and 5:00 PM, with most trips serving between 40 and 70 passengers. However, because of a large amount of turnover at Andrew Station, South Bay Center, and Boston Medical Center, maximum loads are significantly lower, and consistently below seated capacity.
- Outbound ridership is also consistent between 6:00 AM and 6:00 PM, with most trips serving between 30 and 60 passengers. Maximum loads are significantly lower, ranging from 10 to 30.
- Ridership declines significantly after 10:00 PM, with all trips carrying fewer than 10 passengers.

On Saturdays, inbound trips serve between 20 and 40 passengers per trip from 8:00 AM to 7:00 PM (see Figure 6 and Figure 7). Ridership decreases after 8:00 PM, with all but one trip serving fewer than 15 riders. Outbound trips serve between 15 and 30 passengers. After 10:00 PM, ridership drops to below 10 passengers per trip.

On Sundays, ridership per trip is highest midday between 12:00 PM and 5:00 PM in both directions, with most trips serving between 20 and 30 passengers (see Figure 8 and Figure 9). Ridership in both directions decreases after 9:00 PM, with no trip serving more than 10 passengers.

No weekend trips have any standing riders.

Figure 4 | Weekday Ridership by Trip: Inbound

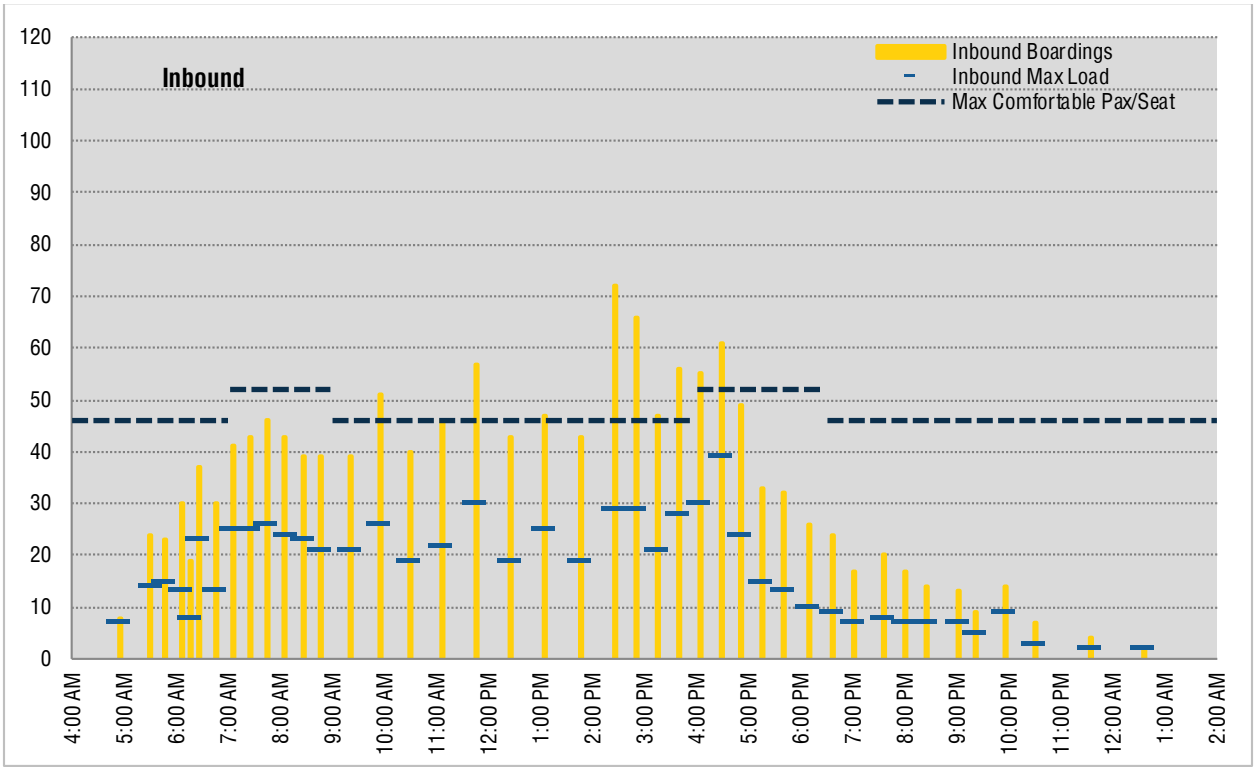


Figure 5 | Weekday Ridership by Trip: Outbound

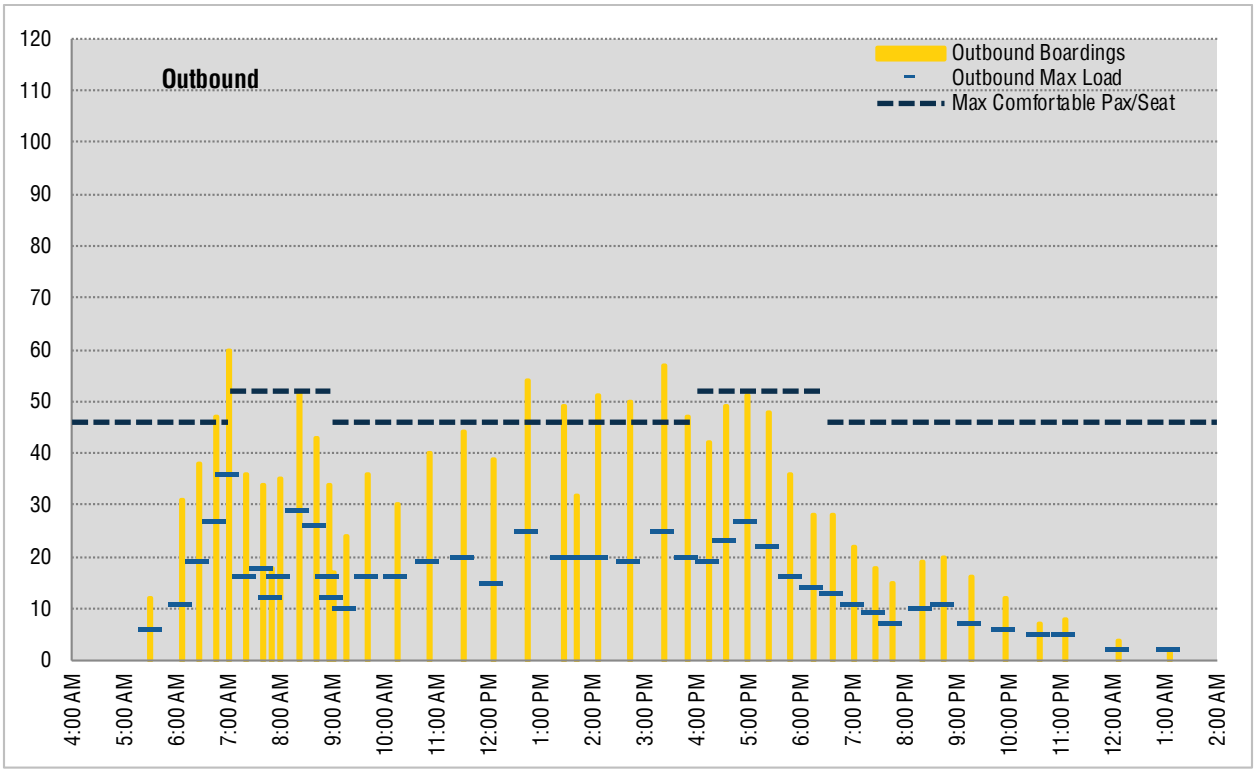


Figure 6 | Saturday Ridership by Trip: Inbound

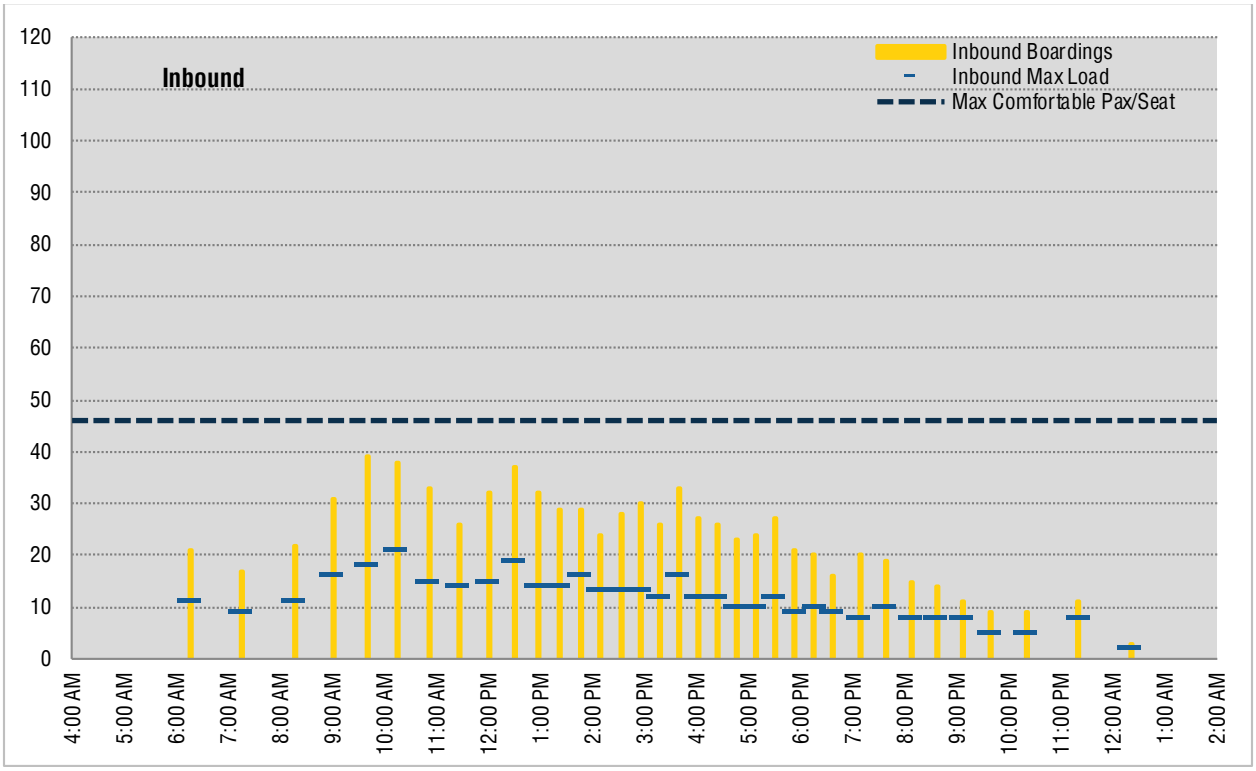


Figure 7 | Saturday Ridership by Trip: Outbound

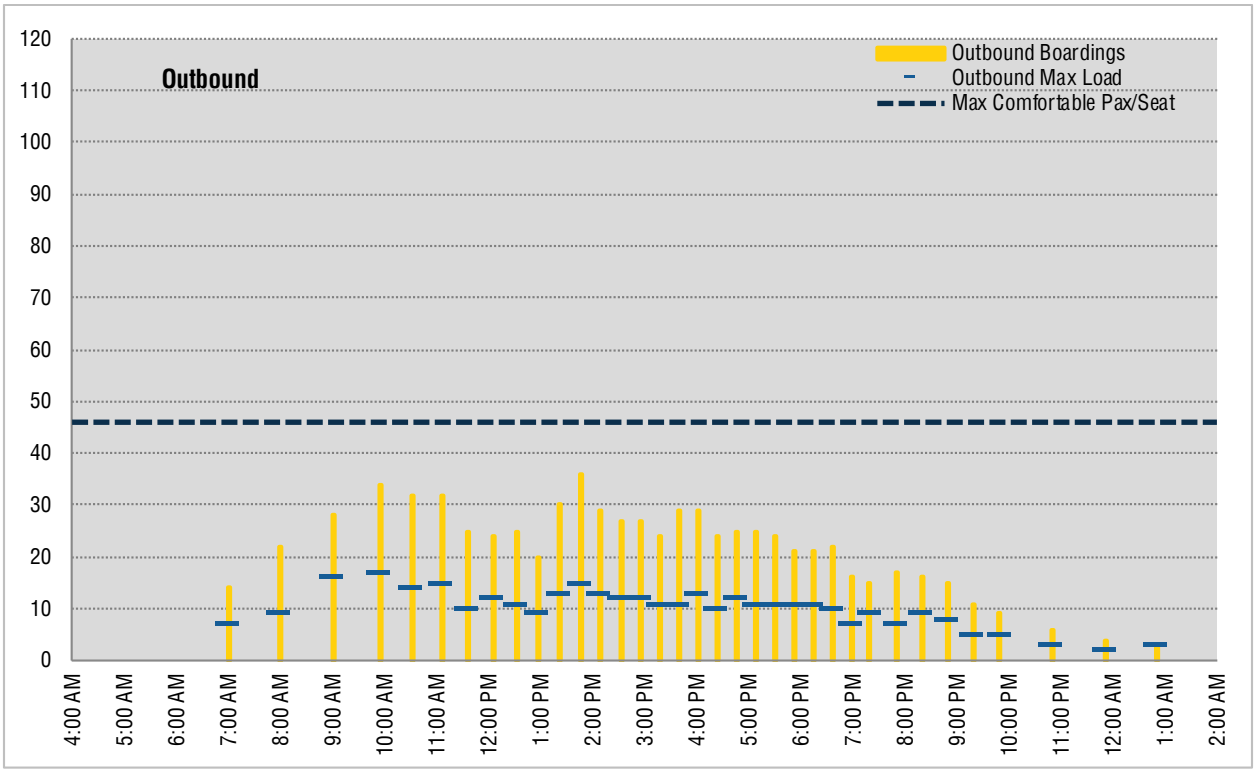


Figure 8 | Sunday Ridership by Trip: Inbound

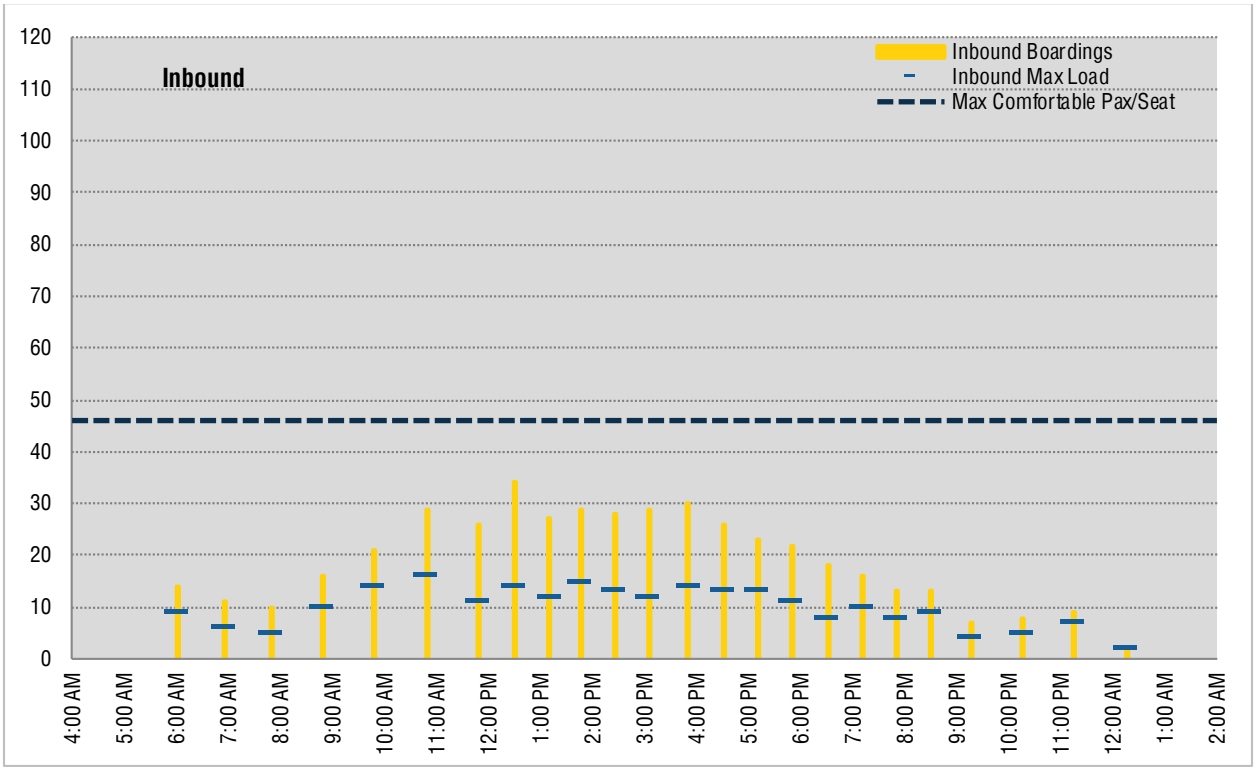
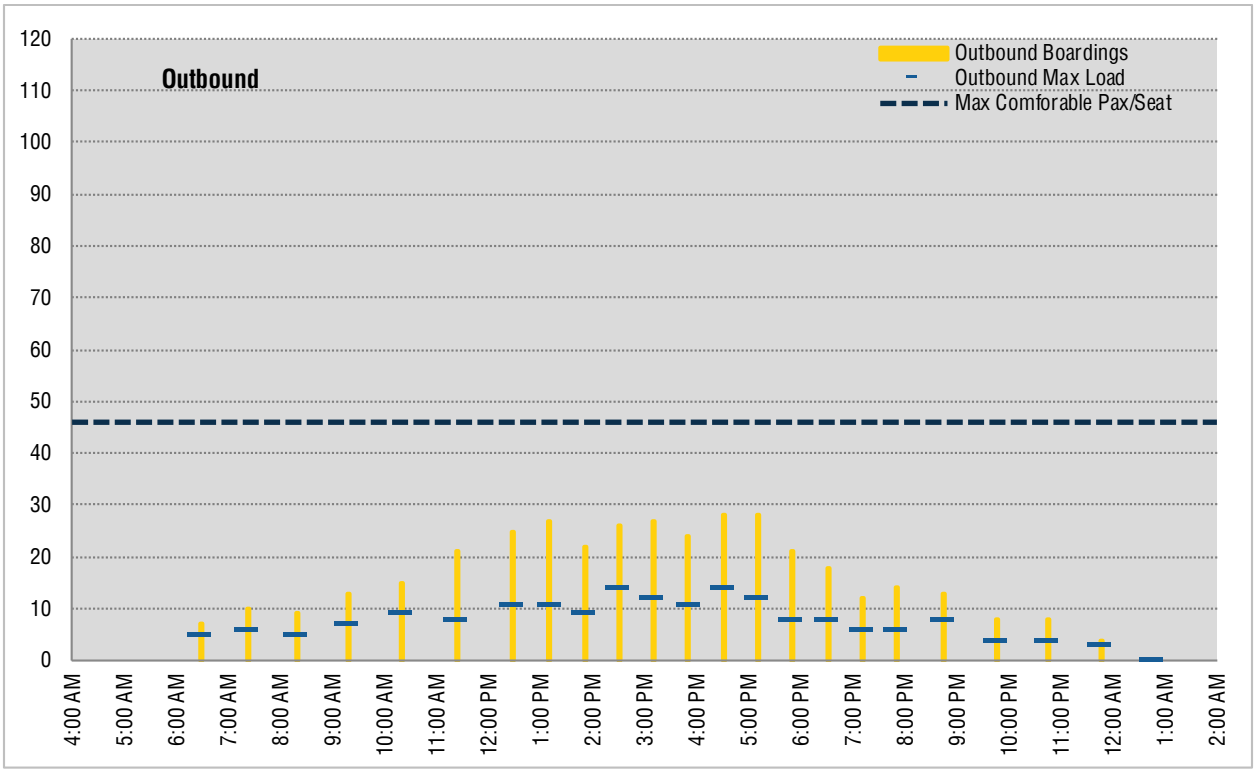


Figure 9 | Sunday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

On weekdays, 99.3% of passenger minutes on Route 10 are in comfortable conditions, which is well above both the target of 96% (see Table 3). On Saturdays and Sundays, 100% of passenger minutes are spent in comfortable conditions.

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	99.3%	100%	100%

Reliability and Speed

Reliability

On weekdays, Route 10 trips leave on-time 61% of the time and arrive on-time 76% of the time. This is the worst performance of all the routes serving South Boston, but better than the majority of the MBTA's local bus routes. Dropped trips are a moderate issue on this route, with 0.7% of trips not operated in Fall 2017. On weekends, 70% of Saturday trips are completed on time and on Sundays, only 62% of trips are completed on time.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	61%	76%	63%	0.7%
Saturday	66%	70%	66%	-
Sunday	70%	62%	69%	-

Many or most of the issues with mid-route reliability are due to differences between actual running time and scheduled running time, which are up to five minutes longer than scheduled for most of the day (see Figure 10 and Figure 11). Since the development of this document, the MBTA has updated Route 10 schedules to better reflect actual running times.

Figure 10 | Scheduled & Median Travel Time by Trip: Route 10 Inbound

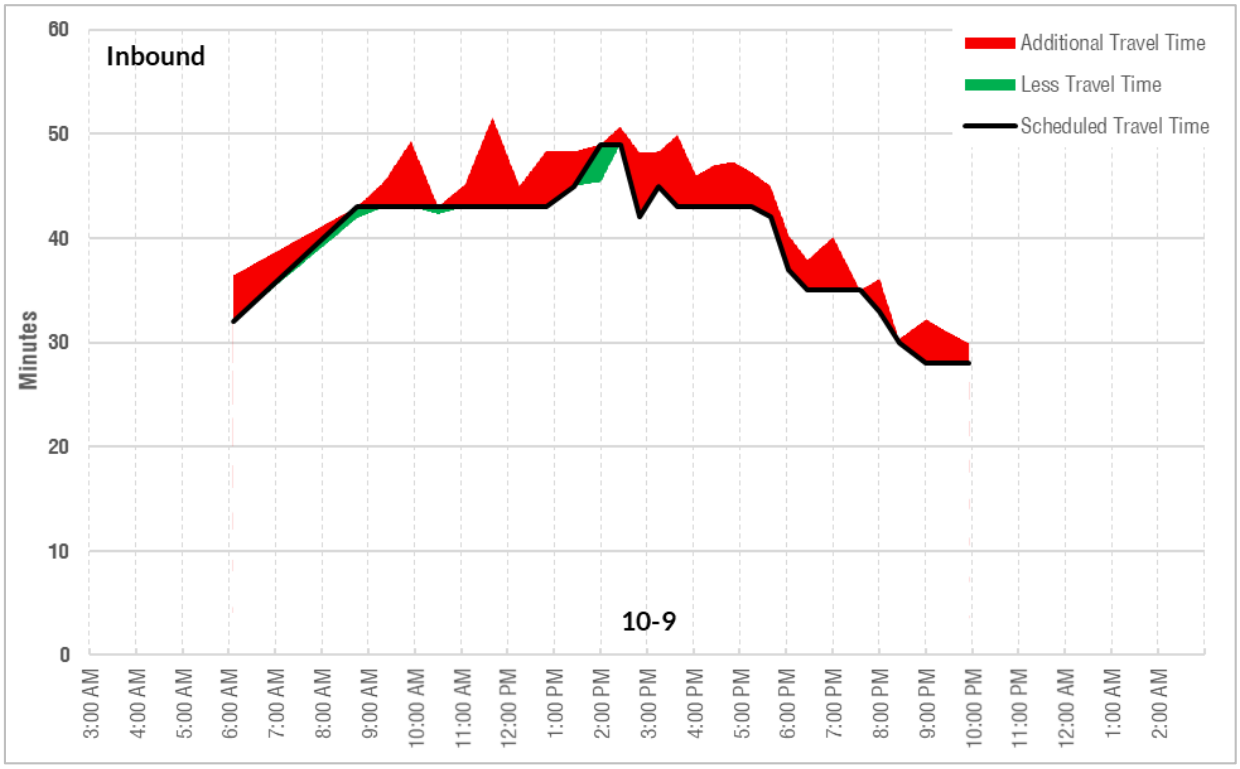
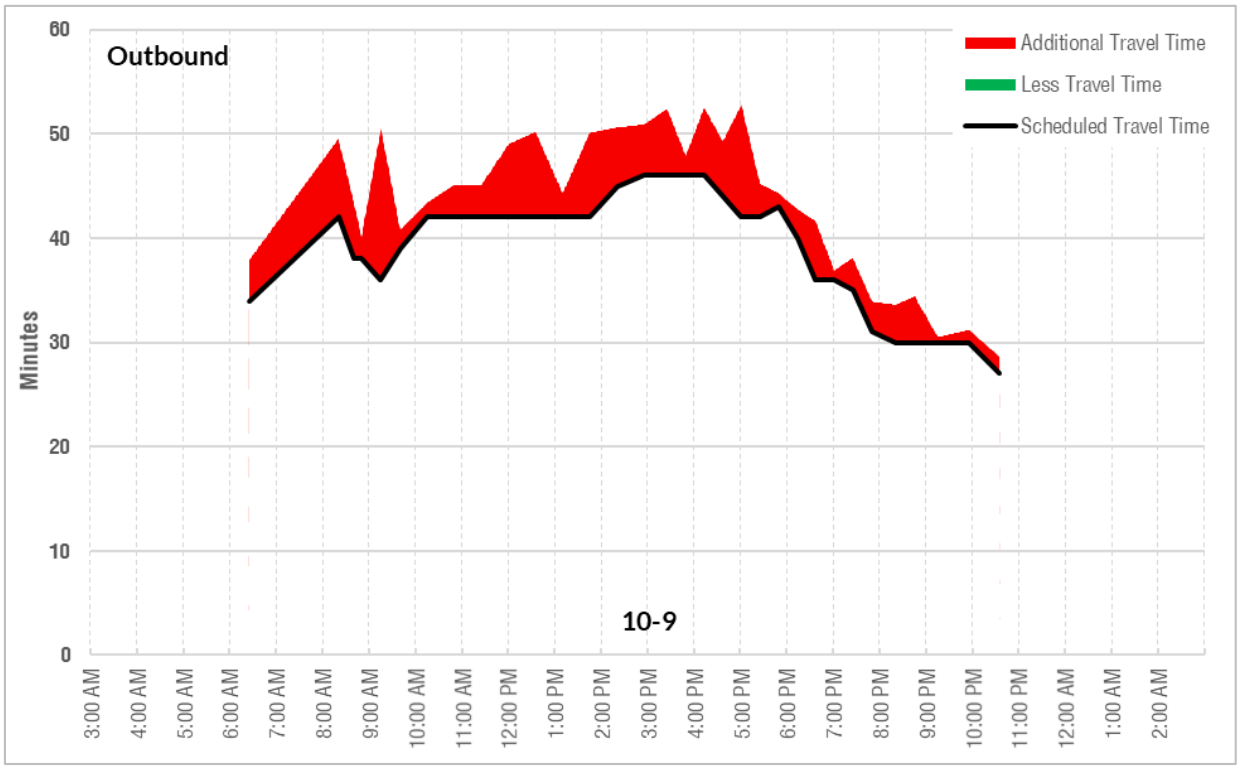


Figure 11 | Scheduled & Median Travel Time by Trip: Route 10 Outbound



Stop Spacing

On average, Route 10 stops are 760 feet apart, or seven per mile, at the high end of the four to seven stops per mile recommended for urban areas under MBTA guidelines. Customers can walk between stops with this spacing in about two to three minutes. As people will typically walk at least five minutes to access a local bus route, this spacing is unnecessarily close, and makes service slower and less reliable.

Stops are located extremely close together at two points along the route:

- Along East Broadway, stops at N Street and at M Street are only 450 feet apart. Both stops average up to one boarding per day.
- Along Dorchester Street, stops at 5th Street and at 6th Street are only 315 feet apart.

Summary

Route 10 provides important connections between South Boston, the Red Line, South Bay Center, Back Bay Station, and Copley Square. However, many of these connections provided by Route 10 are provided more effectively and frequently by other routes, which reduces ridership in South Boston. It is the lowest ridership route serving South Boston, aside from Route 5 City Point Terminal – McCormack Housing.

Route 47

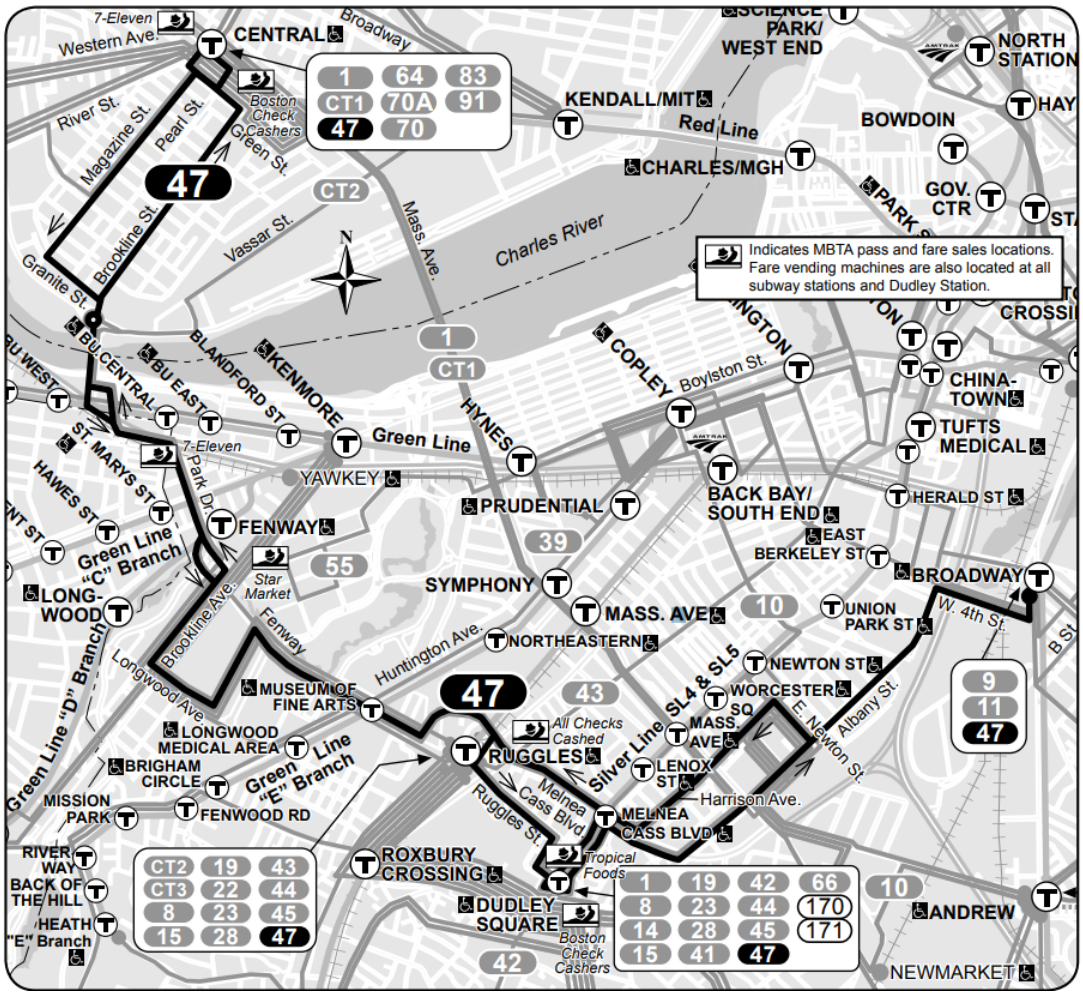
Central Square, Cambridge – Broadway Station

Route Overview

Route 47 is a Local route that provides crosstown service between Central Square in Cambridge and Broadway Station in South Boston (see Figure 1). Route 47 travels between Central Square and Broadway Station via Boston University (BU), the Fenway, the Longwood Medical Area (LMA), Ruggles Station, Dudley Square, and the Boston University Medical Campus.

Relatively little of Route 47's alignment is entirely unique (in that other routes operate along the same streets). However, the route does provide unique and important crosstown connections to major employment centers and several rapid transit stations.

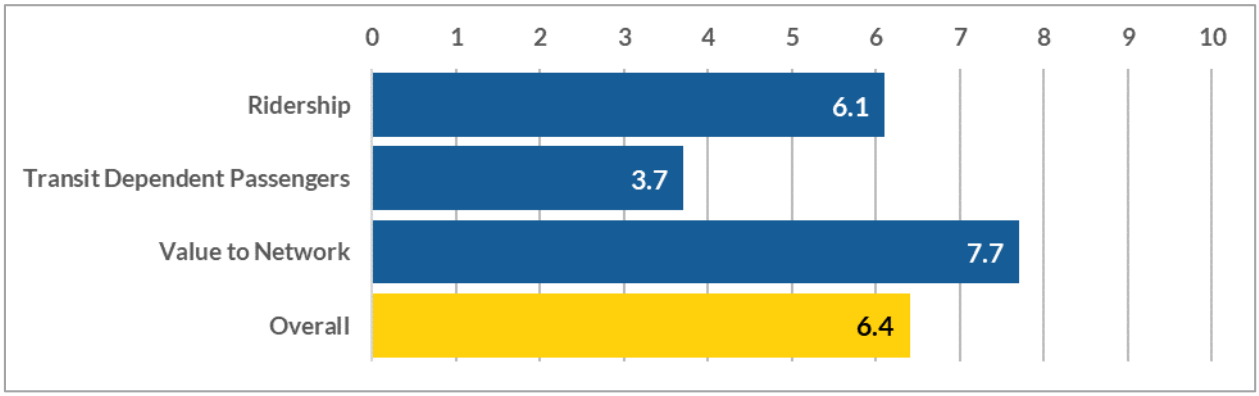
Figure 1 | Service Map



Network Importance

Route 47 is an important route within the MBTA's bus network (see Figure 2). On a relative scale of 0 to 10, the route rates 6.1 in terms of ridership, 3.7 in terms of transit dependent ridership, and 7.7 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score, which gives a 70% weight to overall ridership and a 15% weight to both other measures, is 6.4.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

Route 47 provides moderately frequent service on weekdays and Saturdays and infrequent service on Sundays (see Table 1). On weekdays, it operates from 5:15 AM to 1:24 AM, with trips every 10 to 25 minutes during peak periods, every 21 to 24 minutes during the midday, and every 25 to 45 minutes during the evening and at night.

Route 47 operates with a similar span of service on Saturdays, beginning fifteen minutes earlier in the morning and running every 20 to 45 minutes. Sunday service is more limited, with service from 7:30 AM to 1:04 AM, running every 40 to 60 minutes.

Route 47 meets the span of service and service frequency standards for Local Bus routes during all service days and periods.

Service Patterns

Nearly all service operates Pattern 47.8, which serves the full length of the route in both directions (see Table 2). The only exception is on Sundays, when the first two inbound (southbound) trips and first three outbound (northbound) trips are short-turns that operate between Central Square and the BU Medical Campus.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	**5:15 AM to 1:24 AM**			**49/51**
Sunrise	5:15 AM to 5:59 AM	-	-	0/3
Early AM	6:00 AM to 6:59 AM	20	20	3/3
AM Peak	7:00 AM to 8:59 AM	10 - 22	15	9/5
Midday Base	9:00 AM to 1:29 PM	21 - 24	21	12/13
Midday School	1:30 PM to 3:59 PM	20 - 24	21	7/7
PM Peak	4:00 PM to 6:29 PM	15 - 25	19	8/10
Evening	6:30 PM to 9:59 PM	25 - 45	42	5/6
Late Evening	10:00 PM to 11:59 PM	45	45	3/3
Night	12:00 AM to 1:24 AM	45	45	2/1
Saturday	**5:00 AM to 1:40 AM**	**20 - 45**	**31**	**38/38**
Sunday	**7:30 AM to 1:04 AM**	**40 - 60**	**54**	**22/24**

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				**49**	**38**	**22**
47.3	Central Square	BU Medical Campus	Early morning Sunday service	-	-	2
47.8	Central Square	Broadway Station	Primary pattern	49	38	20
OUTBOUND				**51**	**38**	**24**
47.3	BU Medical Campus	Central Square	Early morning Sunday service	-	-	3
47.8	Broadway Station	Central Square	Primary pattern	51	38	21

Ridership

Ridership on Route 47 is high, with 4,800 daily riders on weekdays, 1,800 riders on Saturdays, and 1,000 riders on Sundays.

Ridership by Stop

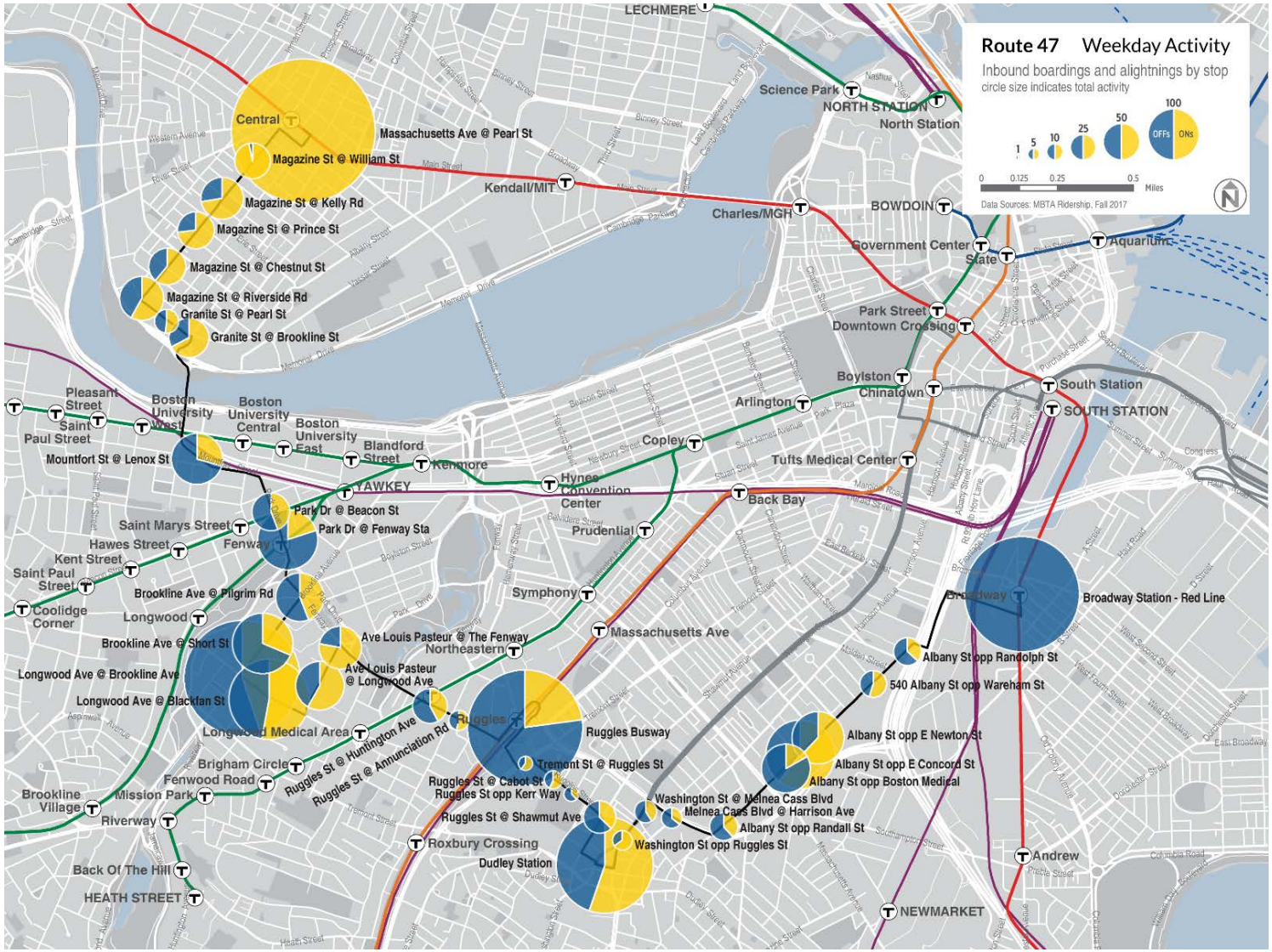
Route 47's ridership is high along the entire route, but higher on the northern end between Central Station and Ruggles Station than between Ruggles Station and Broadway Station (see Figure 3). Throughout the route, high activity stops are clustered around major activity centers and rapid transit stations, including Central Square, the LMA, Ruggles Station, Dudley Square, the Boston Medical Center area, and Broadway Station. Because Route 47 is a crosstown route, there is a high degree of turnover throughout the route.

On weekdays heading inbound from Central Square:

- The highest ridership stops are clustered around several major activity generators and transfer locations. 70% of all boardings and 66% of all alightings occur at the eight stops located at or near Central Station, the LMA, Ruggles Station, Dudley Station, and Broadway Station.
    - More than one-third of the route's inbound riders (800) board at Central Square, the stop with the most activity along the route. This is more than three times as many boardings as any other stop along the route.
    - 110 passengers alight and 30 board at Park Drive at the Fenway, where riders can connect to the Green Line at Fenway Station (B, C, and D Branches).
    - 600 passengers alight at the six stops in the LMA, which is equal to 50% of those who boarded between Central Square and the LMA.
    - Over 550 passengers board at stops in the LMA. The stop at Longwood Avenue at Brookline Avenue is the route's second highest activity stop, with over 230 boardings and 285 alightings.
    - 100 passengers board and 400 alight at Ruggles Station. Approximately 390 passengers ride through Ruggles Station.
    - 200 passengers board and 160 alight at Dudley Station.
    - 190 passengers board and 190 alight at the three stops that serve Boston Medical Center and the BU Medical Campus.
    - Broadway Station is the third most active stop along the route, with over 500 alightings.
- Ridership is relatively low along Ruggles Street, with no stop serving more than 50 passengers.
- In total, 60% of ridership activity is concentrated along the first half of the route between and within Cambridge, the LMA, and Ruggles Station, and 40% use the second half between Ruggles and Broadway.

Weekend ridership follows roughly the same ridership patterns inbound, with fewer but similarly distributed boardings and alightings.

Figure 2 | Weekday Inbound Ridership by Stop Map



Ridership by Trip

Unlike the majority of MBTA Local routes, for which peak period ridership is much higher in one direction than the other, ridership on Route 47 is bi-directional (see Figure 3 and Figure 4). This is typical of a crosstown route.

On weekdays:

- Inbound ridership is highest during the AM and PM peaks, with trips serving 50 to 90 passengers. Average maximum loads on AM peak trips are generally over 40, meaning that some riders must stand on these trips. During the PM peak, while overall ridership is high, average maximum loads do not exceed 35 passengers. Inbound ridership is significantly lower after 8:00 PM, with no trip serving more than 30 passengers.
- Outbound patterns are similar to inbound patterns, except that ridership per trip is highest between 3:00 PM and 4:00 PM, and most of these trips are overcrowded. This is likely related to the timing of shift changes at medical centers along the route and indicates that more frequent service is needed during this time period.
- Because turnover along the route is so high, maximum loads for both inbound and outbound trips are much lower than total ridership, generally fewer than 50 passengers during peak periods and fewer than 30 passengers during midday. The only regular overcrowding that occurs is on the outbound trips between 3:00 PM and 4:00 PM.

On weekends (see Figure 5 through Figure 8):

- Inbound ridership on Saturdays is higher from midday through 7:30 PM, with few passengers on morning and late night trips. No inbound trip exceeds 40 passengers and maximum loads do not exceed 20 passengers.
- Saturday outbound ridership is almost identical to inbound ridership, with the exception of the 4:24 PM trip, which serves 70 passengers and has a maximum load of 40 passengers. Outbound ridership is highest during the midday through 6:00 PM.
- Sunday ridership is relatively low throughout the service day. Inbound ridership is highest in the midday through 7:00 PM, with seven trips serving more than 30 riders. Outbound ridership is highest in the midday, although one PM peak trip at 6:10 PM serves close to 40 riders with a maximum load near 30 passengers.

No Saturday or Sunday trips have standing riders.

Figure 3 | Weekday Ridership by Trip: Inbound

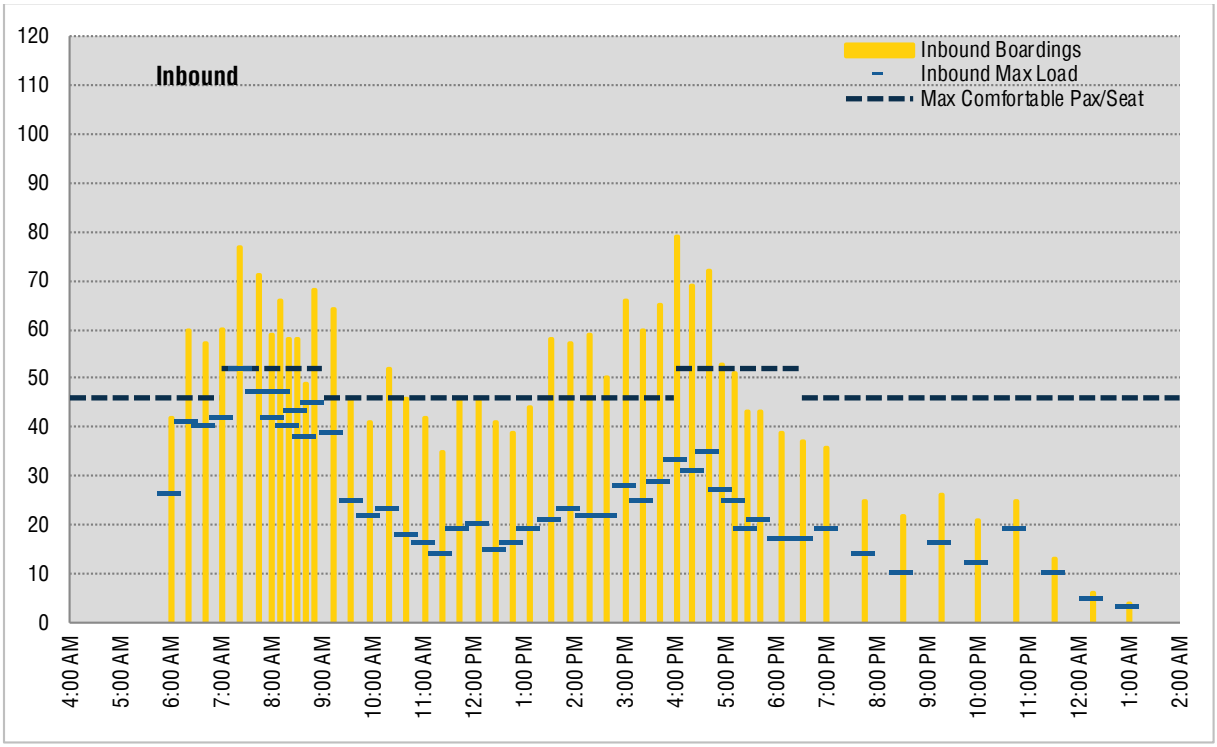


Figure 4 | Weekday Ridership by Trip: Outbound

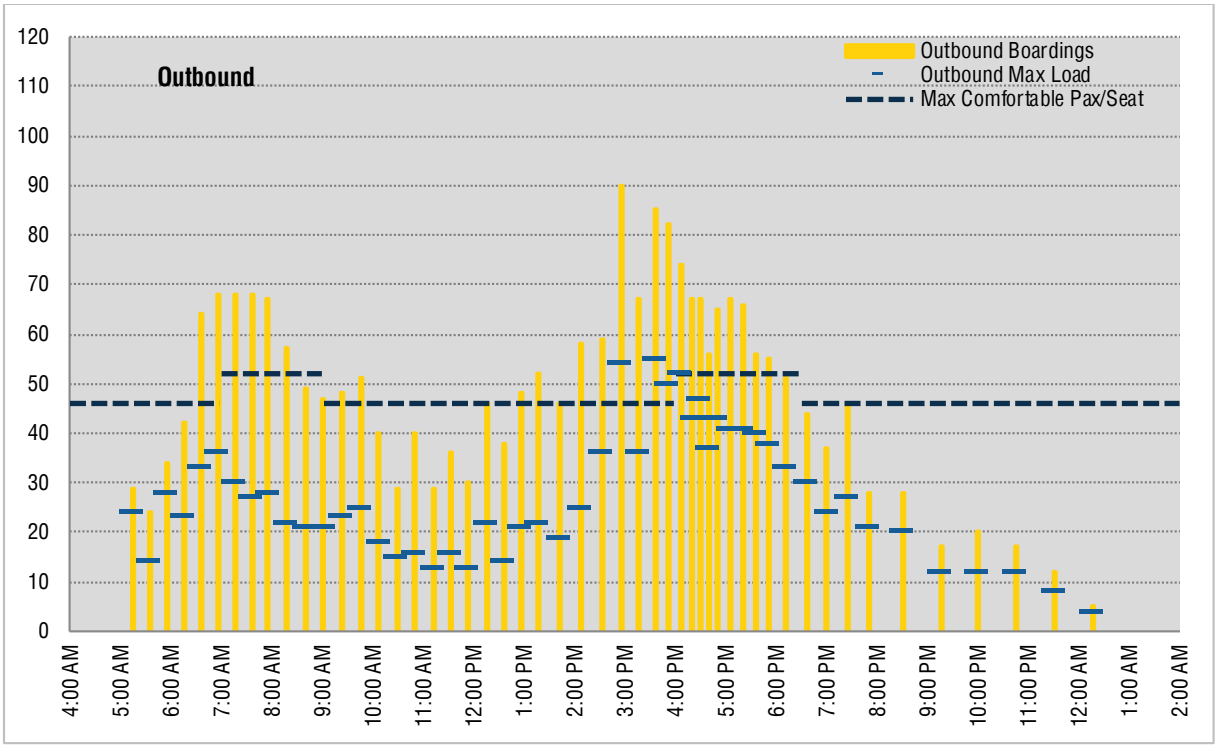


Figure 5 | Saturday Ridership by Trip: Inbound

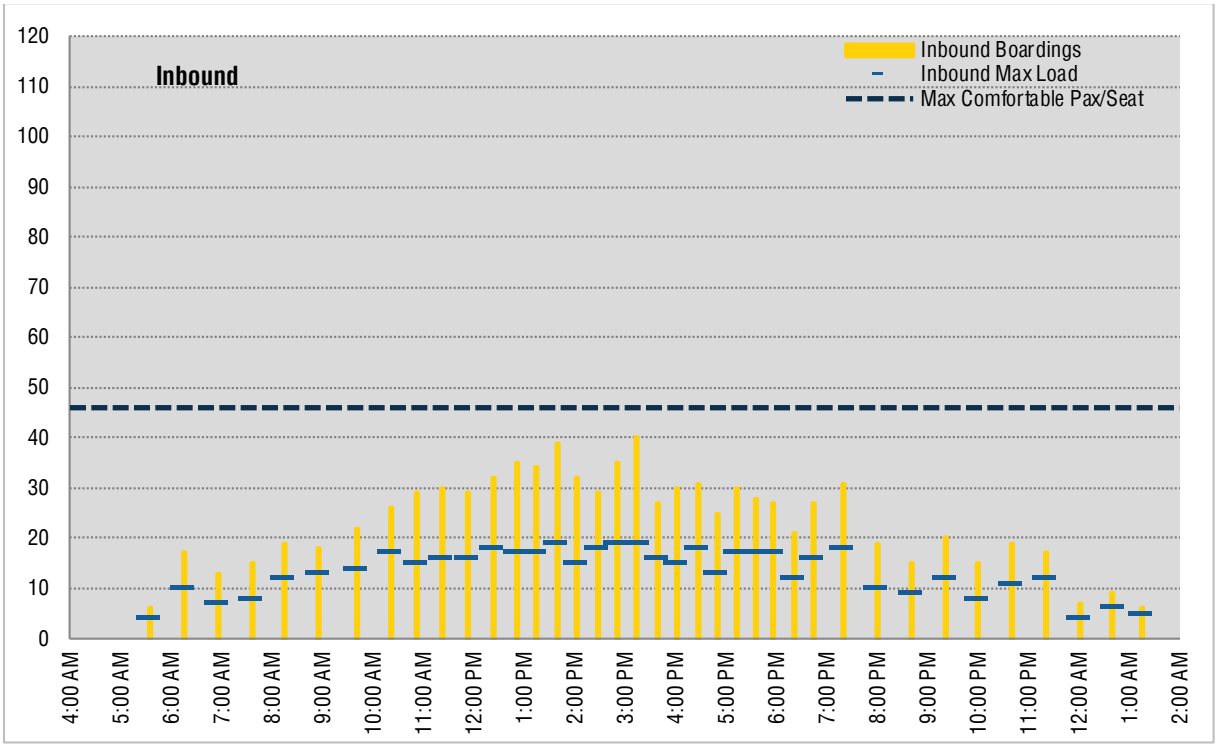


Figure 6 | Saturday Ridership by Trip: Outbound

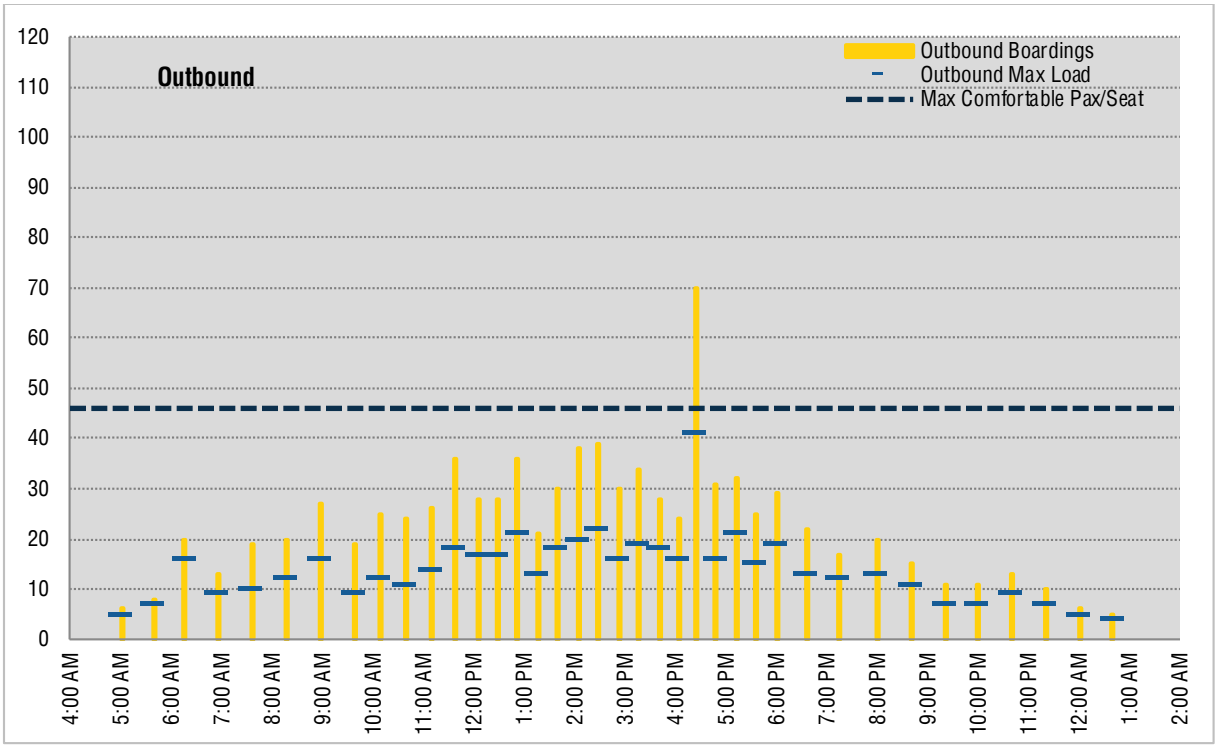


Figure 7 | Sunday Ridership by Trip: Inbound

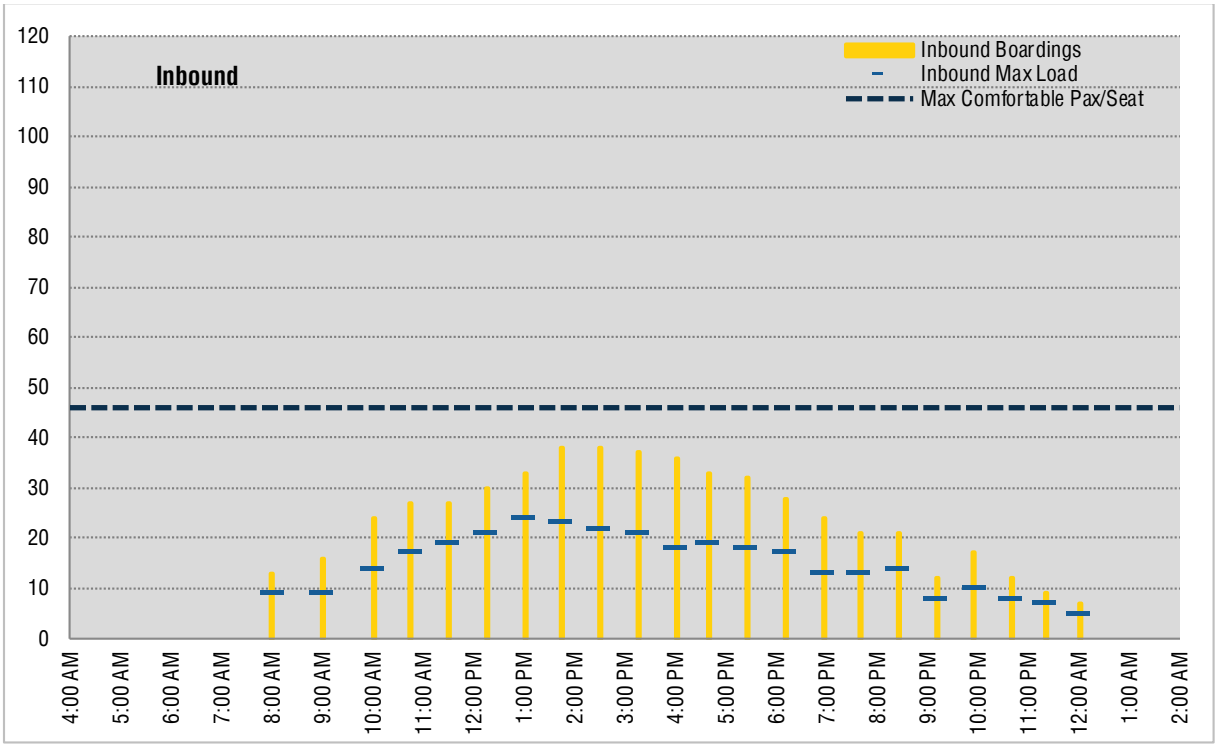
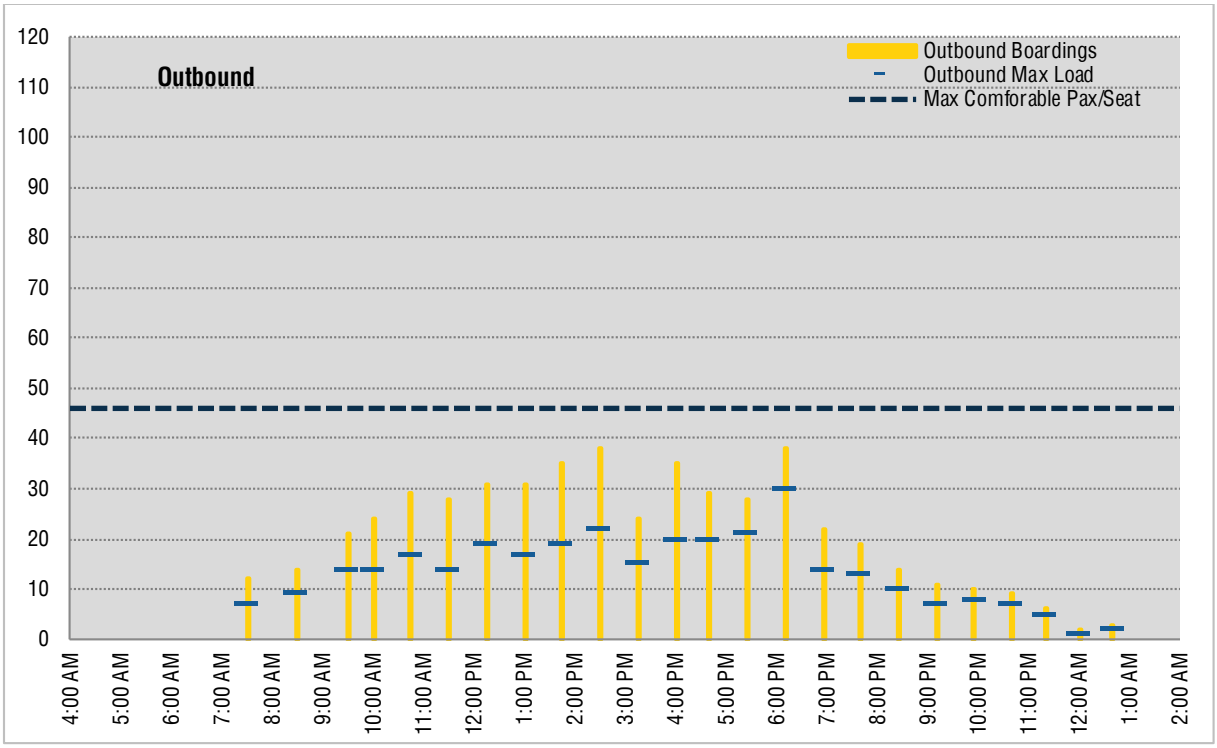


Figure 8 | Sunday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

On Route 47, 90% of passenger minutes are in comfortable conditions, which is below the minimum standard (see Table 3). As described above, on average, and except on outbound trips between 3:00 and 4:00 PM, loads are below the maximum desired levels. This indicates that crowding issues are caused by off-schedule performance.

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	89.7%	99.8%	100%

Reliability and Speed

Reliability

Route 47's service is unreliable, especially on weekdays (see Table 4). Only 50% of weekday trips are completed on-time, with service often running behind schedule and at uneven frequencies. Trips in both directions run an average of four to six minutes behind schedule during midday and evening service. Dropped trips are an issue on Route 47, with just over 1% of trips not operated in Fall 2017. This also contributes to overcrowding.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	53%	50%	53%	1.1%
Saturday	57%	55%	57%	-
Sunday	64%	62%	63%	-

Route 47's reliability is poor, in large part because actual running times routinely exceed scheduled times, especially during midday and evening service (see Figure 9 and Figure 10). Midday trips typically run about four to eight minutes behind schedule, and evening trips operate about five minutes behind schedule. Since this document was developed, the MBTA has adjusted Route 47 schedules to better reflect actual running times.

Figure 9 | Scheduled & Median Travel Time by Trip: Route 47 Inbound

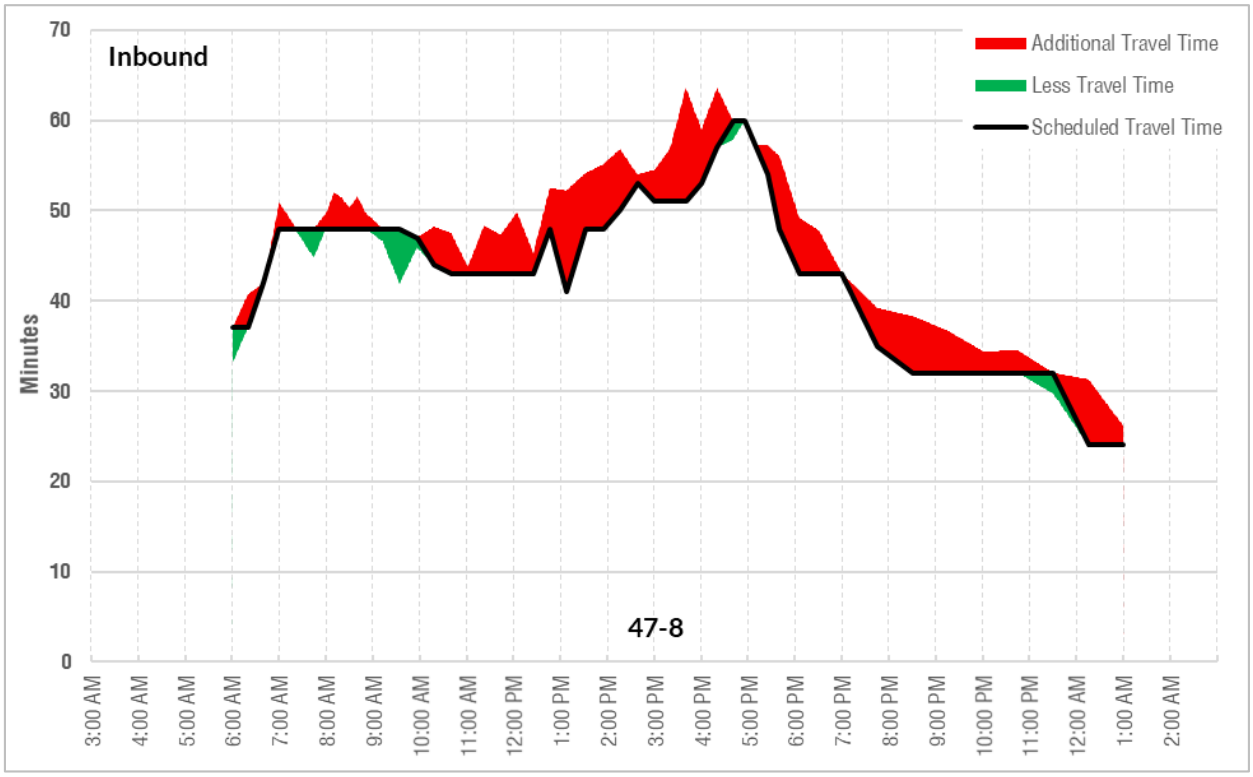
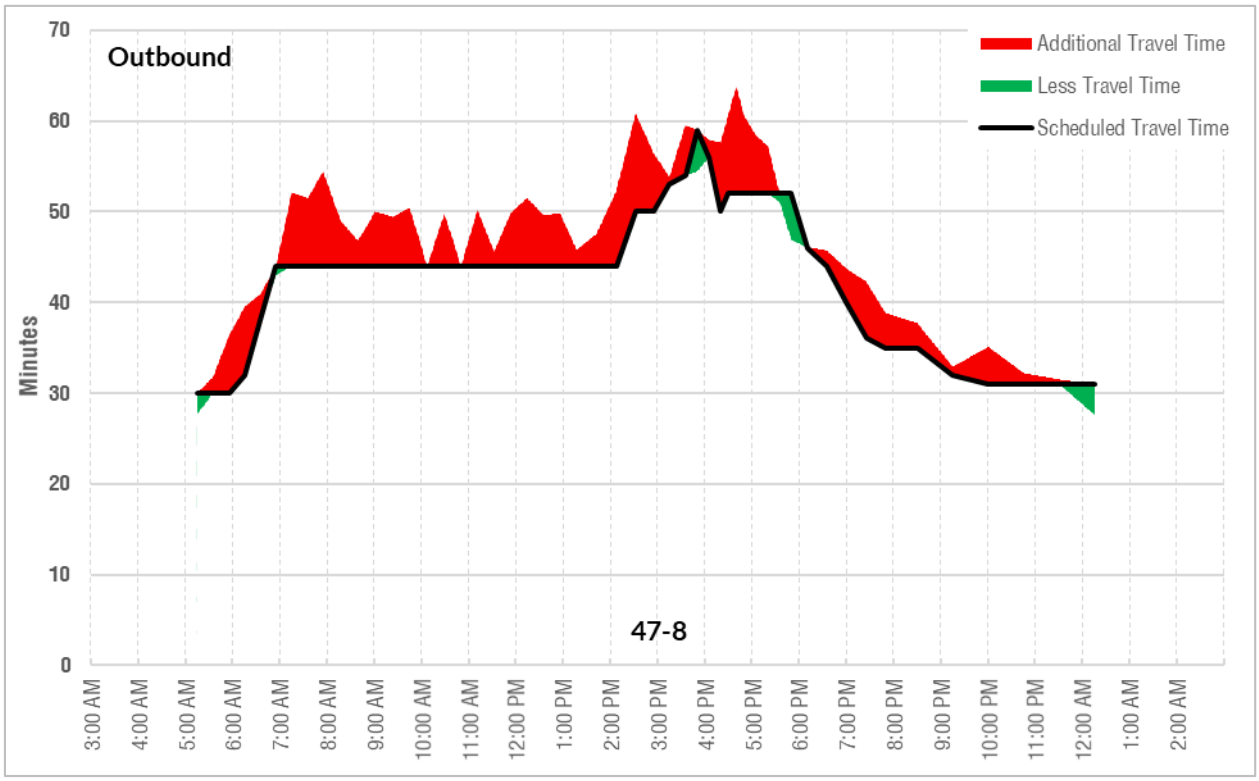


Figure 10 | Scheduled & Median Travel Time by Trip: Route 47 Outbound



Stop Spacing

Route 47 has an average of 5.4 stops per mile, which is consistent with the MBTA's standard of four to seven stops per mile for urban areas. There are only a few instances of closely spaced stops along the route, including on Ruggles Street and Albany Street by Boston Medical Center and the BU Medical Campus. The stops at Ruggles Street at Cabot Street, and at Ruggles Street opposite Kerr Way are only 400 feet apart, and are two of the lowest activity stops on the route.

Summary

Route 47 is a very high ridership route that provides important crosstown service to major employment centers, and connects to the Red Line, Green Line (multiple branches), Silver Line, and Orange Line, and the many bus routes that serve these rapid transit stations. A major issue is that service is unreliable, particularly on weekdays. Service is also relatively infrequent considering the route's high ridership.

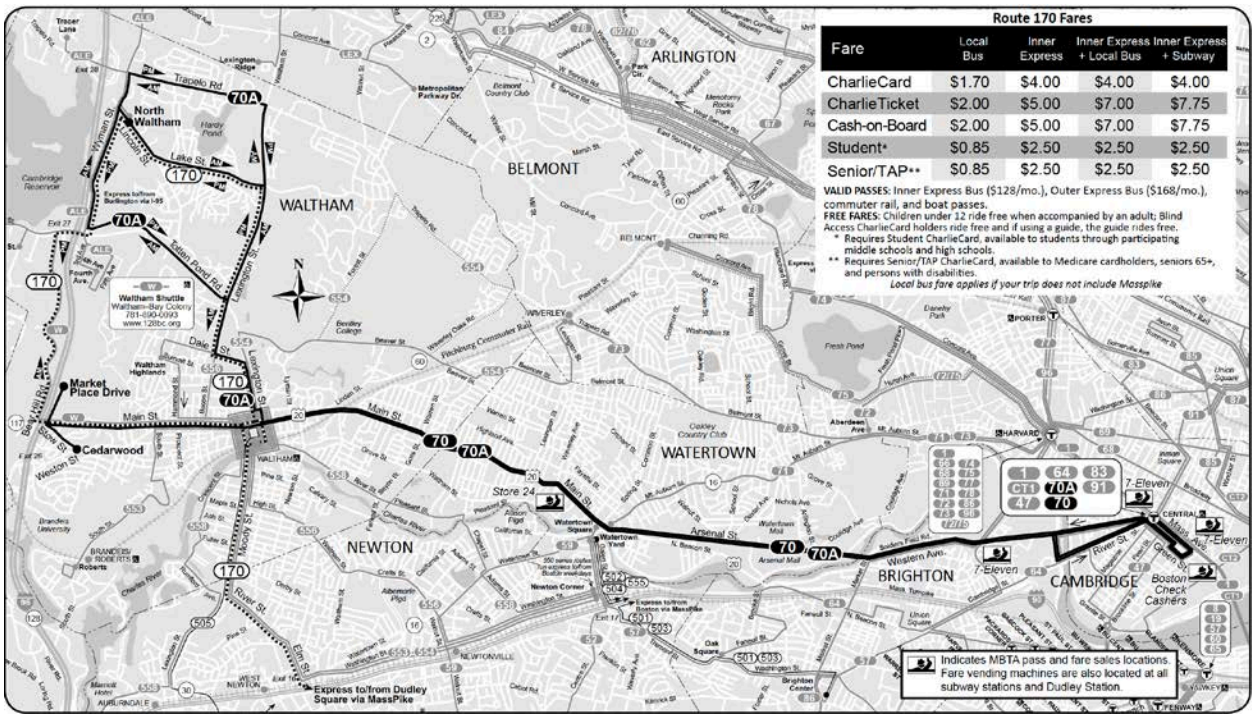
Route 170

Central Square, Waltham – Dudley Square

Route Overview

Route 170 Central Square, Waltham – Dudley Square is a Commuter route that provides reverse commute service (AM outbound and PM inbound) between Dudley Square and Waltham via Copley Square.

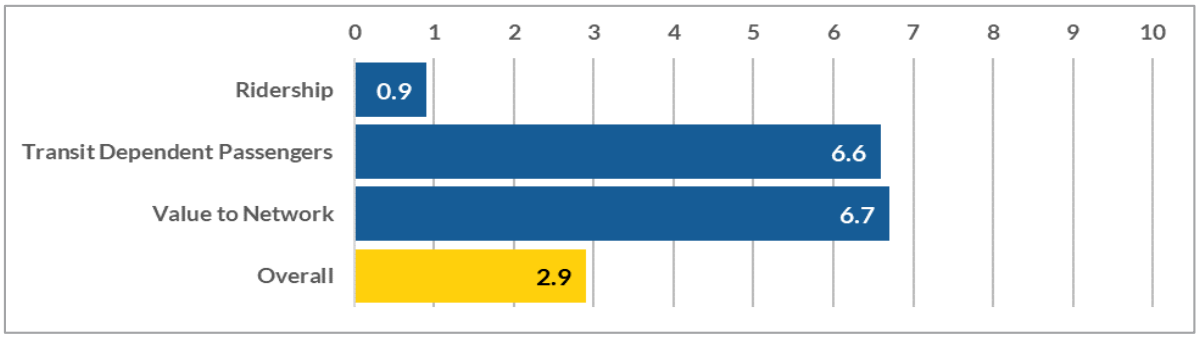
Figure 1 | Service Map



Network Importance

Route 170 has a low importance within the MBTA bus network (see Figure 2). On a relative scale of 0 to 10, Route 170 rates 0.9 in terms of ridership, 6.6 in terms of transit dependent ridership, and 6.7 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score, which gives a 70% weighting to overall ridership and a 15% weight to both other measures, is 2.9.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

Route 170 operates only on weekdays and provides two AM outbound trips and two PM outbound trips. The AM peak inbound trips depart at 6:15 AM and 6:40 AM, and two PM peak inbound trips depart at 3:55 PM and 4:55 PM (see Table 1).

Route 170 does not meet the MBTA's Frequency Standards that specify that commuter routes should provide at least three trips in each direction.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	**6:15 AM to 6:40 AM 3:55 PM to 6:11 PM**			**2/2**
Sunrise	-	-	-	-
Early AM	6:15 AM to 6:40 AM	2 Trips	2 Trips	0/2
AM Peak	-	-	-	-
Midday Base	-	-	-	-
Midday School	3:55 PM to 3:59 PM	1 Trip	1 Trip	1/0
PM Peak	4:00 PM to 6:11 PM	1 Trip	1 Trip	1/0
Evening	-	-	-	-
Late Evening	-	-	-	-
Night	-	-	-	-
Saturday	-	-	-	-
Sunday	-	-	-	-

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Service Patterns

All service operates consistently as described above in the Alignment section, with a single inbound and outbound service pattern (see Table 2).

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				**2**	**-**	**-**
170.3	Waltham Commuter Rail Station	Dudley Station	Counter-clockwise around North Waltham loop	2	-	-
OUTBOUND				**2**	**-**	**-**
170.0	Dudley Station	Waltham Commuter Rail Station	Clockwise around North Waltham loop	2	-	-

Ridership

Route 170 carries 110 passengers per weekday.

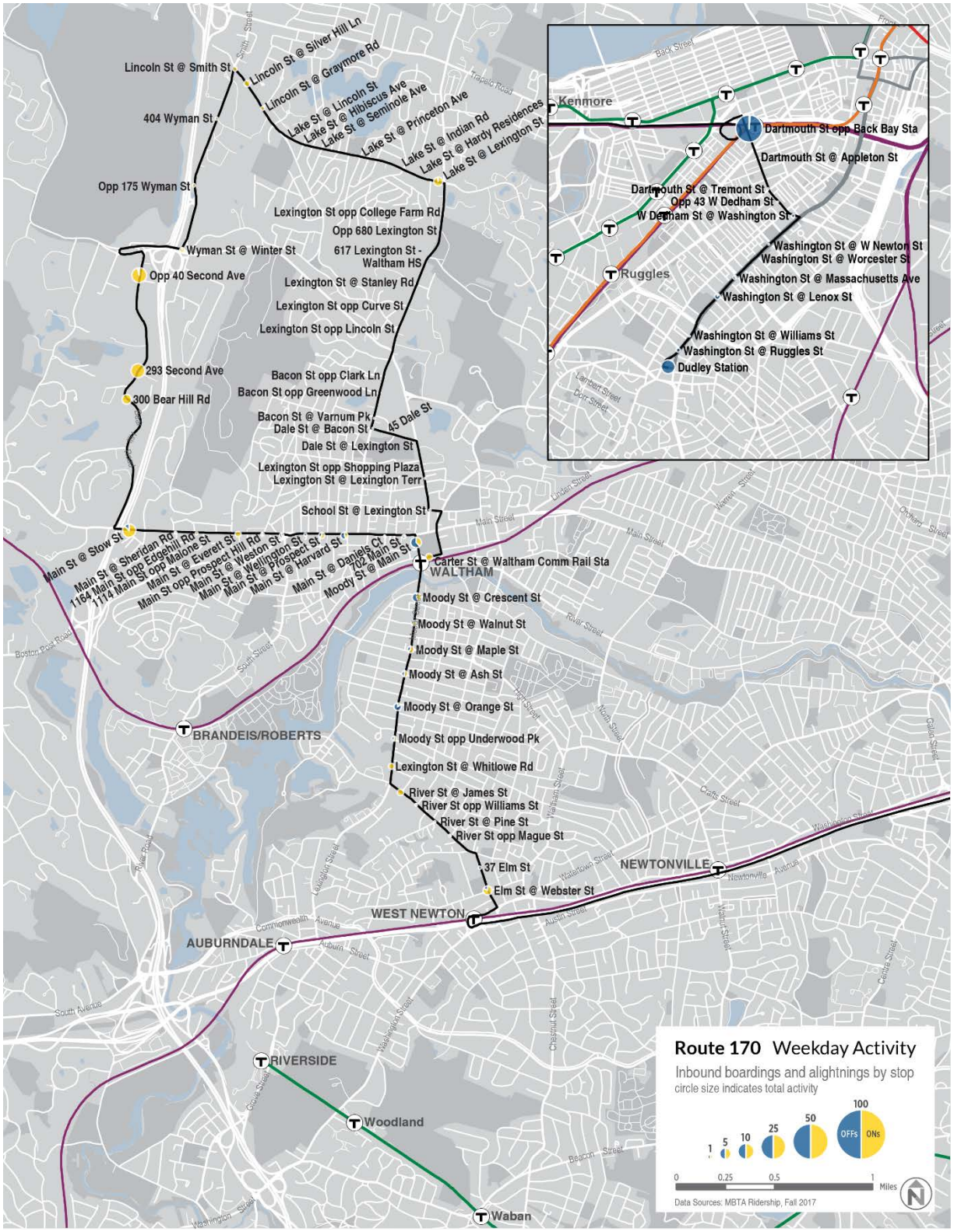
Ridership by Stop

Ridership is low at all stops along Route 170. On PM peak inbound trips (see Figure 3):

- Two passengers board at the first stop at Waltham Commuter Rail Station.
- Eight passengers board at the 28 stops on the North Waltham loop east of Route 128 before Second Avenue.
- 21 passengers board at the three stops on Second Avenue and Bear Hill Road west of Route 128. This is the only segment where Route 170 provides unique service.
- 11 passengers board and five alight along Main Street between Bear Hill Road and Central Square, Waltham.
- 13 passengers board and 10 alight at the 15 stops along Moody Street, Lexington Street, River Street and Elm Street between Central Square and the Mass Pike.
- 30 passengers alight at Back Bay Station.
- Only one passenger alights at the four stops between Back Bay Station and Washington Street.
- Only two passengers alight at the six stops along Washington Street before Dudley Station.
- Eight passengers alight at Dudley Station.

Ridership by stop patterns on AM outbound trips are essentially the reverse of PM inbound patterns.

Figure 3 | Weekday Inbound Ridership by Stop Map



Ridership by Trip

Route 170's two AM inbound trips carry 24 and 30 passengers (see Figure 4) and its two PM outbound trips carry 35 and 21 passengers (see Figure 5).

Figure 4 | Weekday Ridership by Trip: Inbound

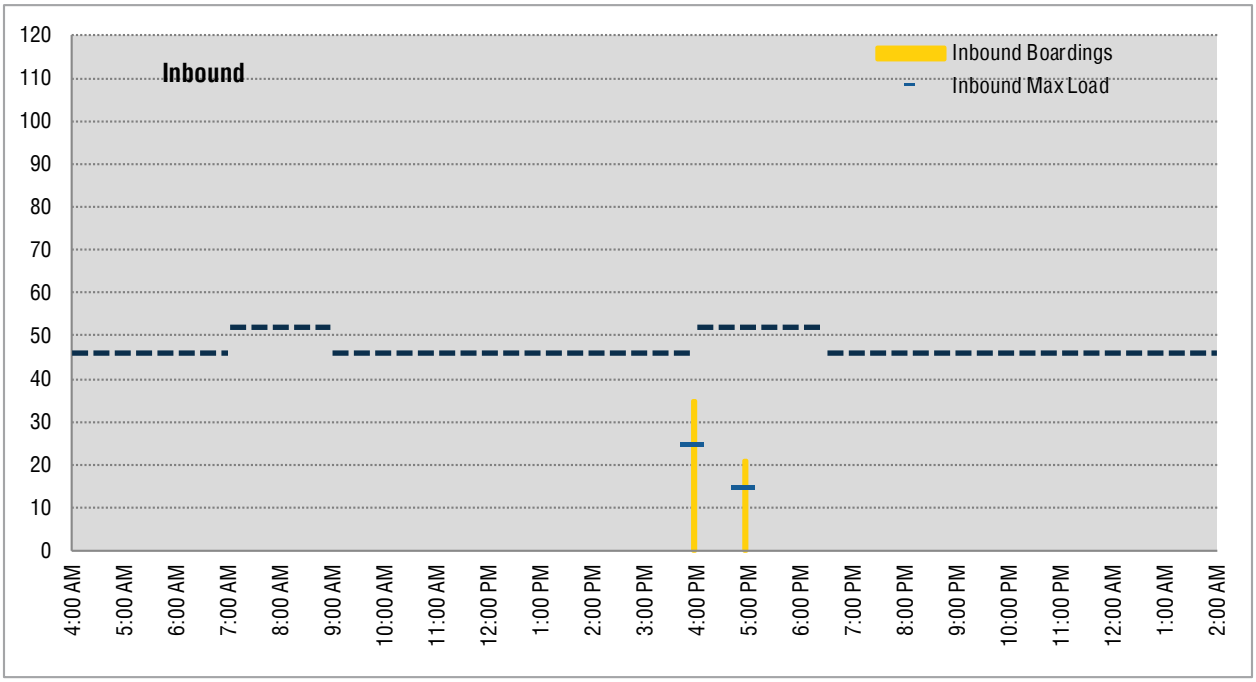
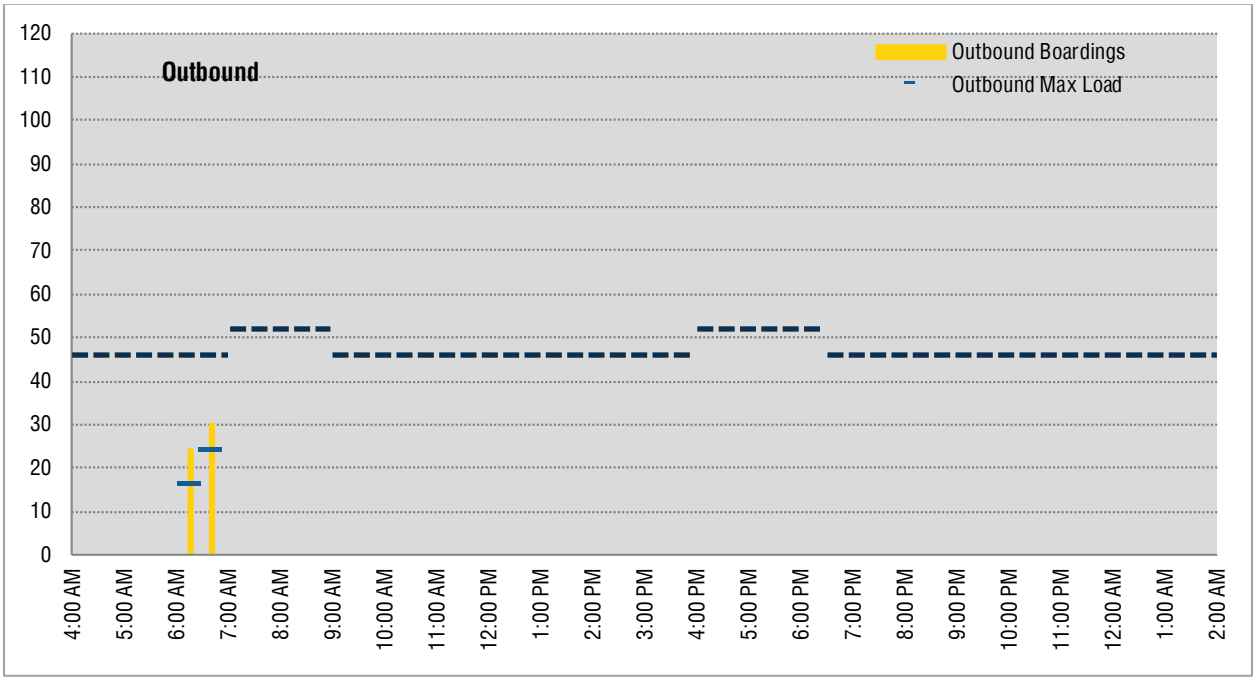


Figure 5 | Weekday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

On Route 170, 100% of passenger minutes are in comfortable conditions (see Table 3).

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	100%	-	-

Reliability and Speed

Reliability

Route 170's overall reliability is very poor at only 52% (see Table 4). This is due to delays that are incurred along many parts of Route 170, including between Dudley Square and Copley Square, along the Mass Pike, and along Bear Hill Road.

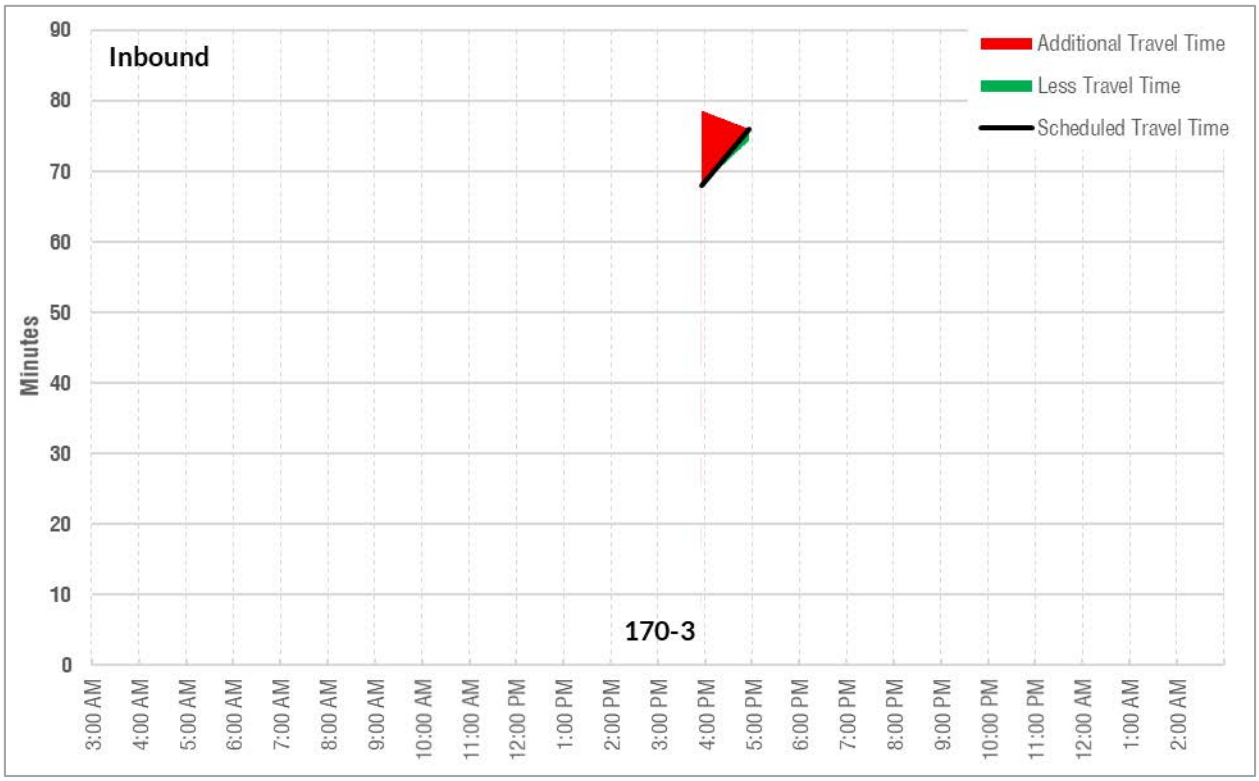
Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	53%	46%	52%	0.0%
Saturday	-	-	-	-
Sunday	-	-	-	-

Running Times

A major cause of on-time performance is that Route 170's scheduled running times are up to 10 minutes longer than scheduled times (see Figure 6).

Figure 6 | Scheduled & Median Travel Time by Trip: Route 170 Inbound



Stop Spacing

West of the Mass Pike, Route 170 has 5.7 stops per mile, which is slightly above the MBTA's guideline of four to five stops per mile in suburban areas.

Summary

Route 170 is a niche route that provides reverse commute service between Dudley Square and the Back Bay to Waltham, that carries moderate ridership. Its major issue is very poor on-time performance. It also does not meet the MBTA's service frequency guidelines for commuter routes of at least three trips in each direction.

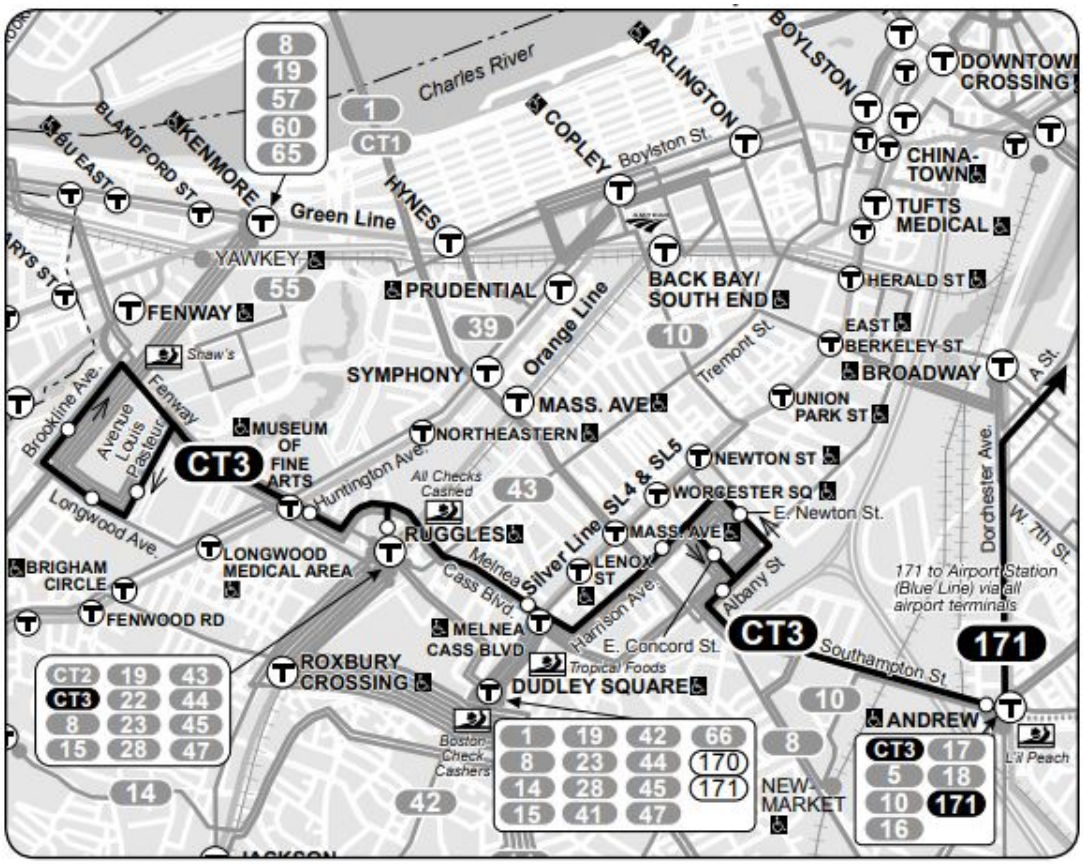
Route 171

Dudley Square – Logan Airport

Route Overview

Route 171 Dudley Square – Logan Airport is a supplemental route that provides early morning service from Dudley Square to Logan Airport via Andrew Station on weekdays, Saturdays, and Sundays. This route is fed at Dudley Square by the high-ridership routes of Route 28 Mattapan – Ruggles and Route 15 Fields Corner - Ruggles.

Figure 1 | Service Map

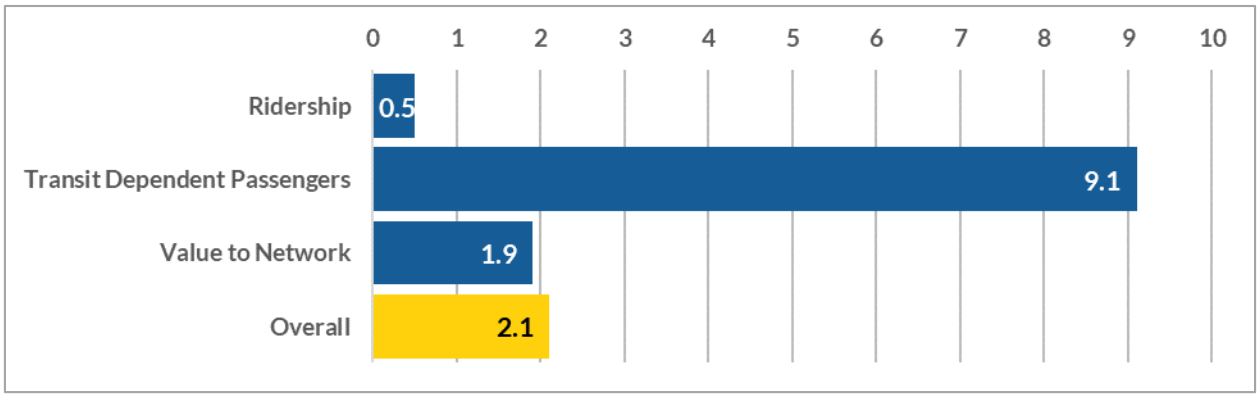


Network Importance

Route 171 is of comparatively low importance within the MBTA bus network (see Figure 2). On a relative scale of 0 to 10, Route 171 rates 0.5 in terms of ridership, 9.1 in terms of transit dependent ridership, and 1.9 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important

destinations, and the number of transferring passengers). Its overall score, which gives a 70% weighting to overall ridership and a 15% weight to both other measures, is 2.1.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Patterns

Schedule

Route 171 operates two trips on each day of service solely in the outbound direction – from Dudley Square to Logan Airport. These trips leave Dudley Square at 3:50 AM and 4:20 AM (see Table 1). As a supplemental route, Route 171 is not subject to any Span of Service or Frequency Standards within the MBTA's 2017 Service Delivery Policy.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	**3:50 AM to 5:00 AM**			**0/2**
Sunrise	3:50 AM to 5:00 AM	2 trips	-	0/2
Early AM	-	-	-	-
AM Peak	-	-	-	-
Midday Base	-	-	-	-
Midday School	-	-	-	-
PM Peak	-	-	-	-
Evening	-	-	-	-
Late Evening	-	-	-	-
Night	-	-	-	-
Saturday	**3:50 AM to 5:00 AM**	**2 trips**	**-**	**0/2**
Sunday	**3:50 AM to 5:00 AM**	**2 trips**	**-**	**0/2**

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Service Patterns

Route 171 has a single service pattern (see Table 2). Departing from Dudley Square, Route 171 travels down Washington Street to Harrison Avenue where it serves Boston University School of Medicine before accessing Massachusetts Avenue. From there the bus connects to Southampton Street and serves Andrew Station, travels north along Dorchester Avenue, through Fort Point and the Seaport District, and connects to Logan Airport by way of the Ted Williams Tunnel.

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				**-**	**-**	**-**
-	-	-	-	-	-	-
OUTBOUND				**2**	**2**	**2**
171.0	Dudley Square	Logan Airport	Via Andrew Station	2	2	2

Ridership

Route 171 serves 36 riders per weekday, 22 riders per Saturday, and 23 riders per Sunday.

Ridership by Stop

Ridership activity along Route 171 is highest at either terminus and at Andrew Station (see Figure 3). On weekdays:

- About 30 passengers board at Dudley Station.
- Zero boardings or alightings at the three stops after Dudley Station.
- Zero boardings and five alightings at the two BU Medical Center stops.
- Zero boardings and two alightings each at the two stops after BU Medical Center.
- Zero boardings and two alightings at Southampton Street at Newmarket Street.
- Six boardings and one alights at Andrew Station.
- Zero boarding and seven alightings (primarily at Terminal E) at Logan Airport.

Saturday and Sunday ridership patterns mirror those of weekdays, but at lesser volumes.

Ridership by Trip

On weekdays, Route 171's first AM outbound trip carries 15 passengers, and its second AM outbound trip carries 21 passengers (see Figure 4). On Saturday, the first trip carries 10 passengers while the second carries 14 passengers (see Figure 5). Sunday trips host 11 and 12 passengers, respectively (see Figure 6).

Figure 3 | Weekday Inbound Ridership by Stop Map

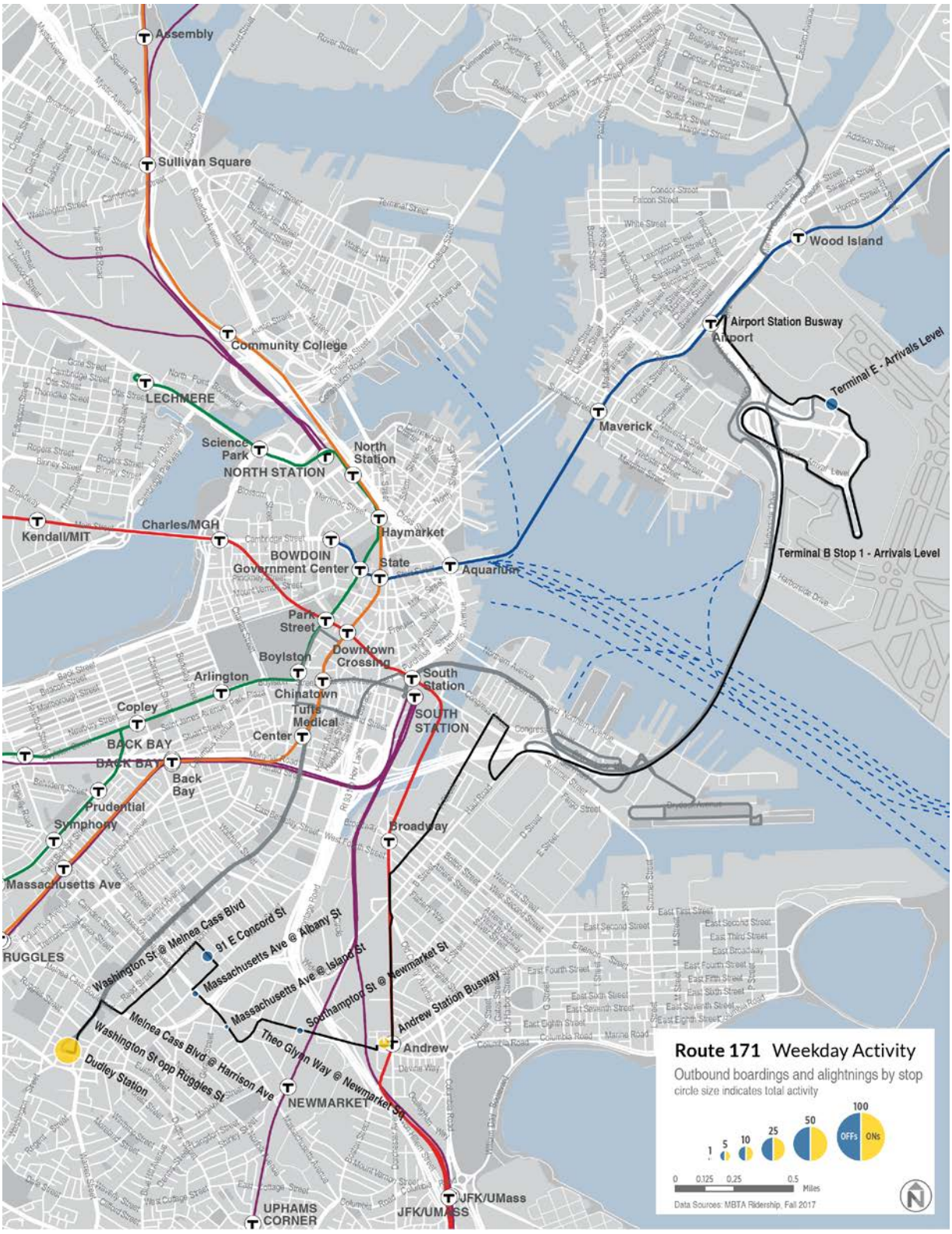


Figure 4 | Weekday Ridership by Trip: Outbound

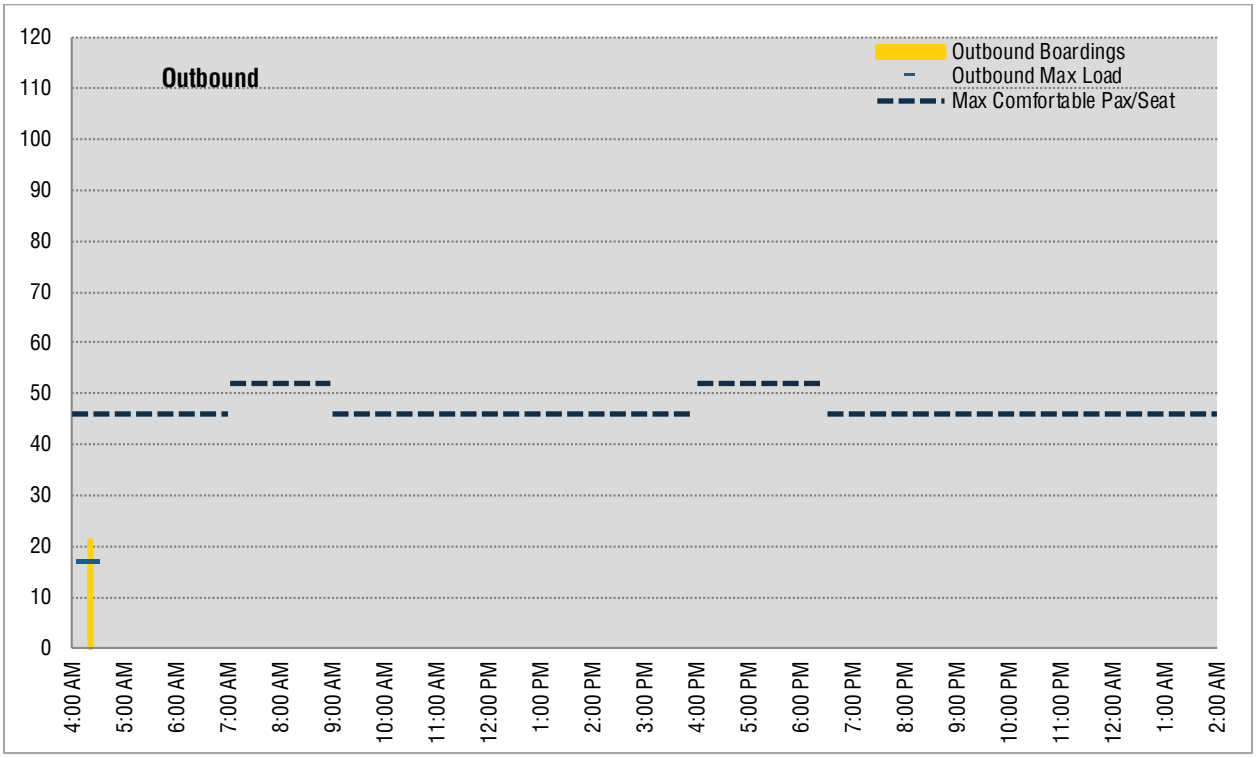


Figure 5 | Saturday Ridership by Trip: Outbound

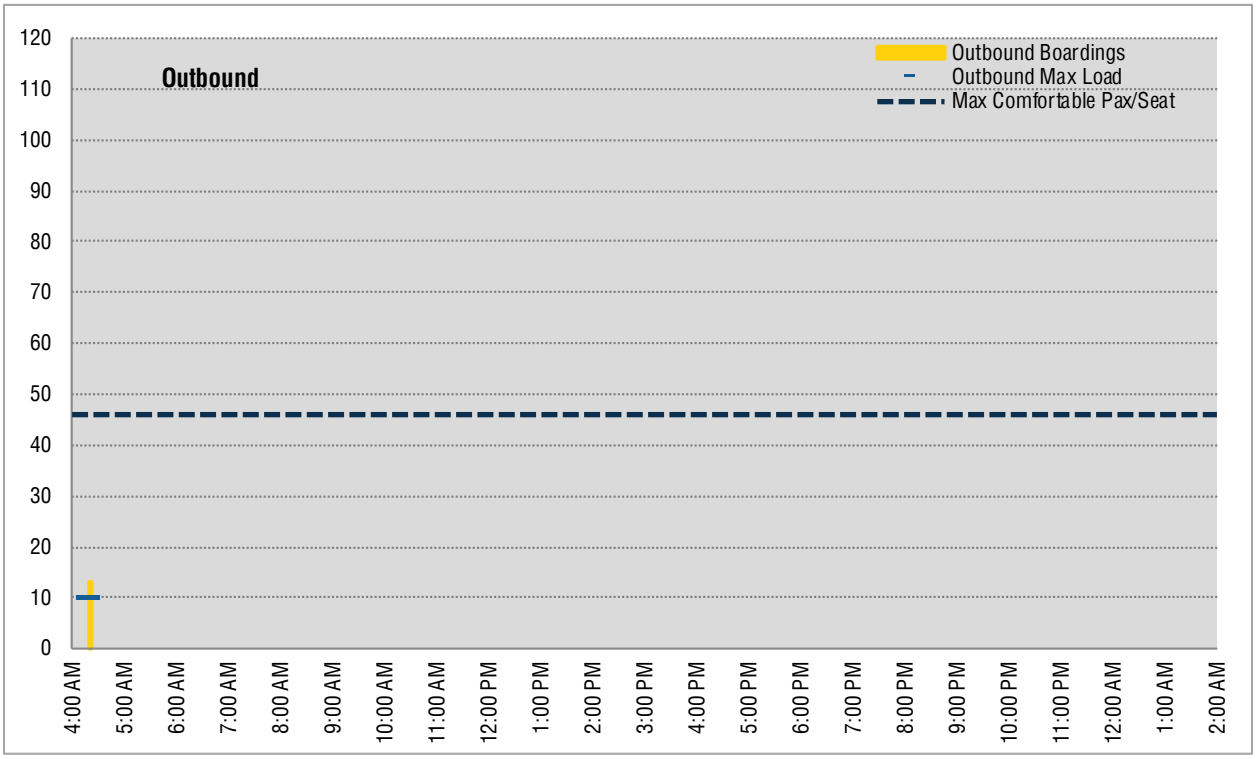
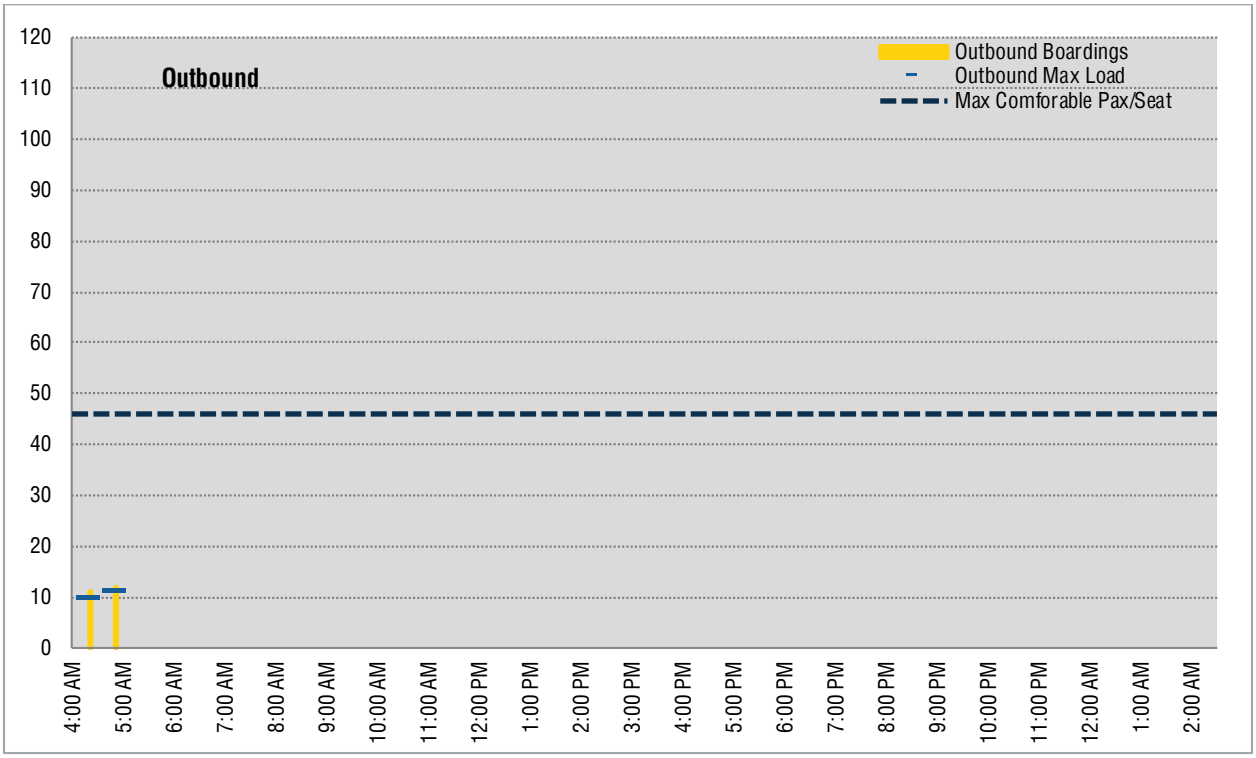


Figure 6 | Sunday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

On Route 171, 100% of passenger minutes are in comfortable conditions (see Table 3).

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	100%	100%	100%

Reliability and Speed

Reliability

Reliability data for Route 171 is not available (see Table 4).

Stop Spacing

Route 171 stops range from one stop every 400 feet to one stop every 4.7 miles. Excluding the 4.7 mile segment between Andrew Station and Logan Airport along which no stops are made, Route 171 hosts an average stop spacing of 700 feet. This equates to roughly 7.5 stops per mile. Stops closer than 700 feet apart are concentrated around Dudley Station and the BU Medical Center, while Route 171's largest distances between stops occur around Andrew Station. This stop spacing is slightly higher than the MBTA's standard of four to seven stops per mile for routes serving urban areas, and it may contribute to slow service or on-time performance issues.

Summary

Route 171 provides early morning service from the transit hubs of Dudley Station and Andrew Station to Logan Airport. A high proportion of Route 171's riders are transit dependent, and likely use Route 171 to access their place of employment at Logan Airport.

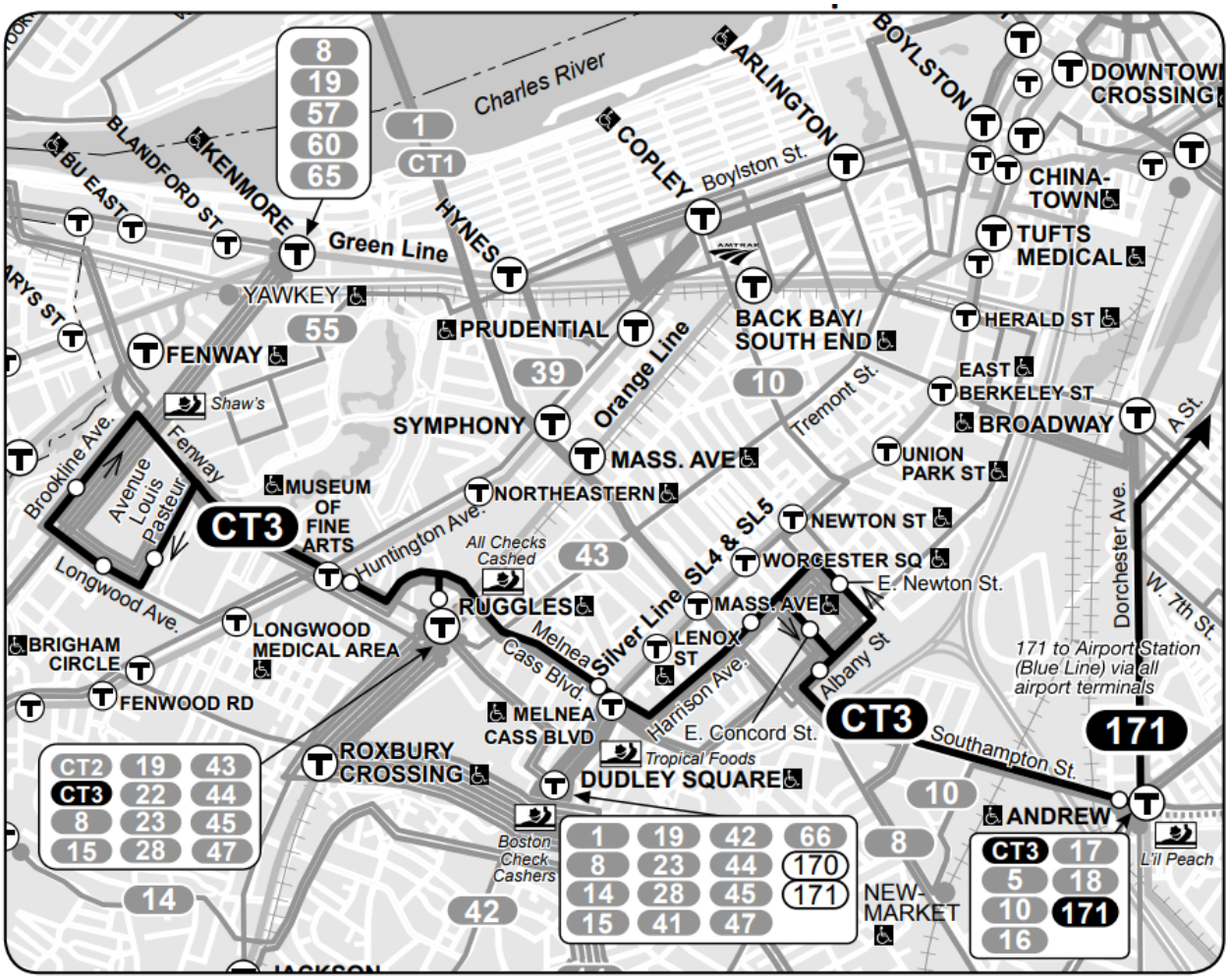
Route CT3

Beth Israel Deaconess or BU Medical Campus-Andrew Station

Route Overview

Route CT3 Beth Israel Deaconess or BU Medical Campus-Andrew Station is a crosstown Local route that operates between the Longwood Medical Area and Andrew Station via Northeastern University, Ruggles Station, and the Boston University (BU) Medical Campus (see Figure 1). Its alignment duplicates parts of many other routes, but most directly Route 47 Central Square, Cambridge - Broadway Station between the Longwood Medical Area and the BU Medical Campus. Its major feature is that it provides true limited stop service, including the most direct connections between the southern end of the Red Line, the BU Medical Campus, and the Longwood Medical Area.

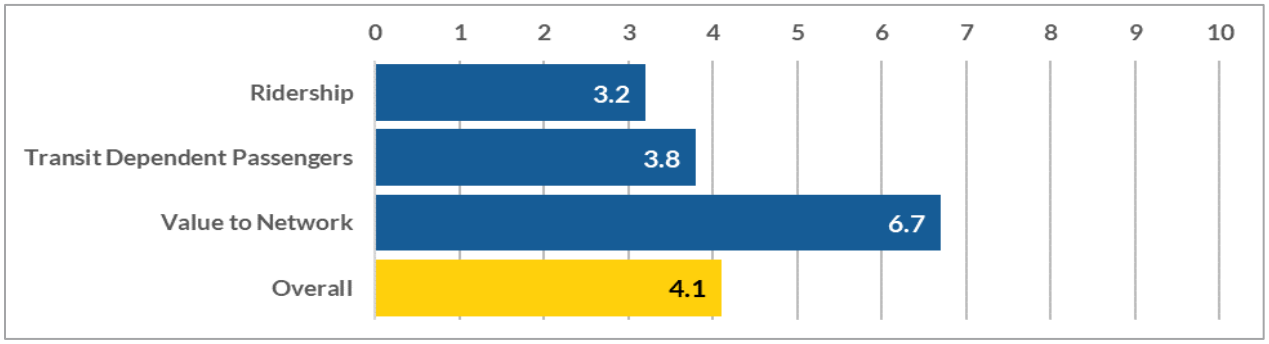
Figure 1 | Service Map



Network Importance

Route CT3 is of moderate importance within the overall system (see Figure 2). On a scale of 0 to 10, the route rates 3.2 in terms of ridership, 3.8 in terms of transit dependent ridership, and 6.7 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score, which gives a 70% weight to overall ridership and a 15% weight to both other measures, is 4.1.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

Route CT3 operates on weekdays from 6:15 AM to 8:36 PM. It provides fairly frequent service during peak periods and shoulders of the peaks and infrequent service during the midday and evening. Route CT3 operates with a combination of full-length service between the Longwood Medical Area and Andrew Station and short turns between the BU Medical Campus and Andrew Station. Full-length service operates (see Table 1):

- Every 20 minutes from the beginning of service until 9:25 AM inbound and until 8:55 AM outbound.
- With the exception of one trip, every 60 minutes between those times and 1:55 PM inbound and 1:25 PM outbound.
- Every 25 to 30 minutes between those times and 6:10 PM inbound and 4:25 PM outbound from Avenue Louis Pasteur (mostly every 25 minutes), and every one to 20 minutes from BU Medical Campus.
- Every 35 to 50 minutes after those times through the end of service.

Short-turns operate between the BU Medical Campus and Andrew Station between 3:06 PM and 5:53 PM inbound and between 6:05 AM and 8:54 AM outbound. With only a few exceptions, those trips alternate with full-length trips. AM outbound service between Andrew Station and the BU Medical Center operates regularly every 10 minutes. In the PM inbound, service is not as regular, but averages 13 minutes.

Since the completion of this document, the MBTA has made minor adjustments to the Route CT3 schedule.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Full Length Trips				
Monday-Friday	**6:15 AM to 8:36 PM**			**26/27**
Early AM	6:15 AM to 6:59 AM	20	20	1/2
AM Peak	7:00 AM to 8:59 AM	20	20	6/6
Midday Base	9:00 AM to 1:29 PM	20 - 60	49	6/5
Midday School	1:30 PM to 3:59 PM	25 - 35	30	5/5
PM Peak	4:00 PM to 6:29 PM	1 - 35	25	6/6
Evening	6:30 PM to 7:29 PM	35 - 55	24	3/2
Late Evening	7:30 PM to 8:36 PM	55 - 50	58	1/1
Night	-	-	-	-
Saturday	-	-	-	-
Sunday	-	-	-	-
BU Medical Center-Andrew Station				
Monday-Friday	**6:05 AM to 5:53 PM**			**9/9**
Early AM	6:00 AM to 6:59 AM	20	20	0/3
AM Peak	7:00 AM to 8:54 AM	20	20	0/6
Midday Base	-	-	-	-
Midday School	1:30 PM to 3:59 PM	20	20	3/0
PM Peak	4:00 PM to 5:53 PM	1 - 20	25	6/0
Evening	-	-	-	-
Night	-	-	-	-
Saturday	-	-	-	-
Sunday	-	-	-	-

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Route CT3 meets the service span and frequency standards on weekdays. However, it does not meet the standards for weekends, which specify that routes in urban areas should operate seven days a week. The justification for not providing weekend service is that the route is largely a limited service supplement to other routes that do operate on weekends.

Service Patterns

Route CT3 operates with three service patterns (see Table 2). Two operate between the Longwood Medical Area and Andrew Station and differ in terms of how they serve the terminal loop in the Longwood Medical Area, and the third provides short-turn service

between the BU Medical Area and Andrew Station. Short-turn trips were added to the Route CT3 schedule as part of a mitigation package for Fairmount Line construction delays. These patterns operate as follows:

Inbound

- From the beginning of service until 1:55 PM, full-length service starts at the Beth Israel Deaconess Medical Center on Longwood Avenue and operates to Andrew Station via the Fenway without serving the Longwood loop (Pattern CT3.0).
- From 2:25 PM on, full-length service operates from Avenue Louis Pasteur to Andrew Station (Pattern CT3.1). This pattern serves the loop in the peak direction.
- From 3:06 PM to 5:46 PM, most full-length trips alternate with short-turns from the BU Medical Campus to Andrew Station (Pattern CT3.2). The only exceptions are between 3:40 PM and 4:05 PM and between 5:29 PM and 5:48 PM, when there are two short-turns between full-length trips.

Outbound

- Until 1:25 PM, full-length trips operate from Andrew Station to the Longwood Medical Area. In the Longwood Medical Area, it operates three-quarters around the Avenue Louis Pasteur/Longwood Avenue/Brookline Avenue loop, terminating at Beth Israel Deaconess Medical Center on Longwood Avenue (Pattern CT3.0). This pattern serves the loop in peak direction (which is outbound in the AM peak).
- Until 8:05 AM, full-length trips alternate with short-turns between Andrew Station and the BU Medical Campus (Pattern CT3.2)
- From 1:25 PM on, all service operates from Andrew Station to Avenue Louis Pasteur, which is the first stop on the Avenue Louis Pasteur/Longwood Avenue/Brookline Avenue loop (Pattern CT3.1).

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				**36**	**-**	**-**
CT3.0	Beth Israel	Andrew Station	AM service that operates to beginning of Longwood loop	14	-	-
CT3.1	Avenue Louis Pasteur	Andrew Station	PM inbound service that serves Longwood loop	13	-	-
CT3.2	BU Medical Campus	Andrew Station	Short turn	19	-	-
OUTBOUND				**36**	**-**	**-**
CT3.0	Andrew Station	Beth Israel	PM service that operates to beginning of Longwood loop	14	-	-

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
CT3.1	Andrew Station	Avenue Louis Pasteur	AM inbound service that serves Longwood loop	13	-	-
CT3.2	Andrew Station	BU Medical Campus	Short turn	9	-	-

Ridership

Route CT3 serves approximately 1,280 riders per weekday.

Ridership by Stop

Ridership is concentrated at four primary locations: the Longwood Medical Area, BU Medical Campus, Ruggles Station, and Andrew Station. On inbound trips (see Figure 3):

- 110 passengers board at the three stops along the Longwood Medical Area loop along Avenue Louis Pasteur, Longwood Avenue, and Brookline Avenue.
- 20 passengers board and 100 alight at Ruggles Street at Huntington Avenue.
- 30 passengers alight at Ruggles Station at the stop on the upper busway and 70 passengers board at the stop on the lower busway.
- 210 passengers board and 40 alight at the two stops serving BU Medical Campus.
- 130 passengers board and 40 alight at Massachusetts Avenue at Albany Street.
- 370 passengers, or 67% of all inbound passengers, alight at Andrew Station.

Outbound patterns are largely the reverse of inbound patterns.

Ridership by Trip

Route CT3's ridership is commute oriented, with high ridership from Andrew Station in the early morning and AM peak and back in the PM peak. On inbound trips (see Figure 4):

- Ridership before 2:25 PM is very low, at around 10 passengers per trip.
- From 2:30 PM to 6:00 PM, full-length trips carry 20 to 40 passengers, with maximum loads of 30 or less. Short-turn trips between the BU Medical Campus and Andrew Station carry 20 or fewer passengers, with maximum loads of 20 or less.
- Ridership after 6:00 PM is 10 passengers per trip or less.

On outbound trips (See Figure 5):

- The short-turn trip at 6:05 AM carries only six passengers, and the first full-length trip at 6:15 AM carries 25 passengers.

- Between 6:15 AM and 8:00 AM, full-length trips carry 40 to 50 passengers, with maximum loads of around 30 passengers. The short-turn trips carry 21 or fewer passengers with maximum loads generally between 10 and 20 passengers.
- Trips after 8:00 AM generally carry around 20 passengers through 4:50 PM.
- Most trips after 4:50 PM carry fewer than 10 passengers.

Figure 3 | Weekday Inbound Ridership by Stop Map

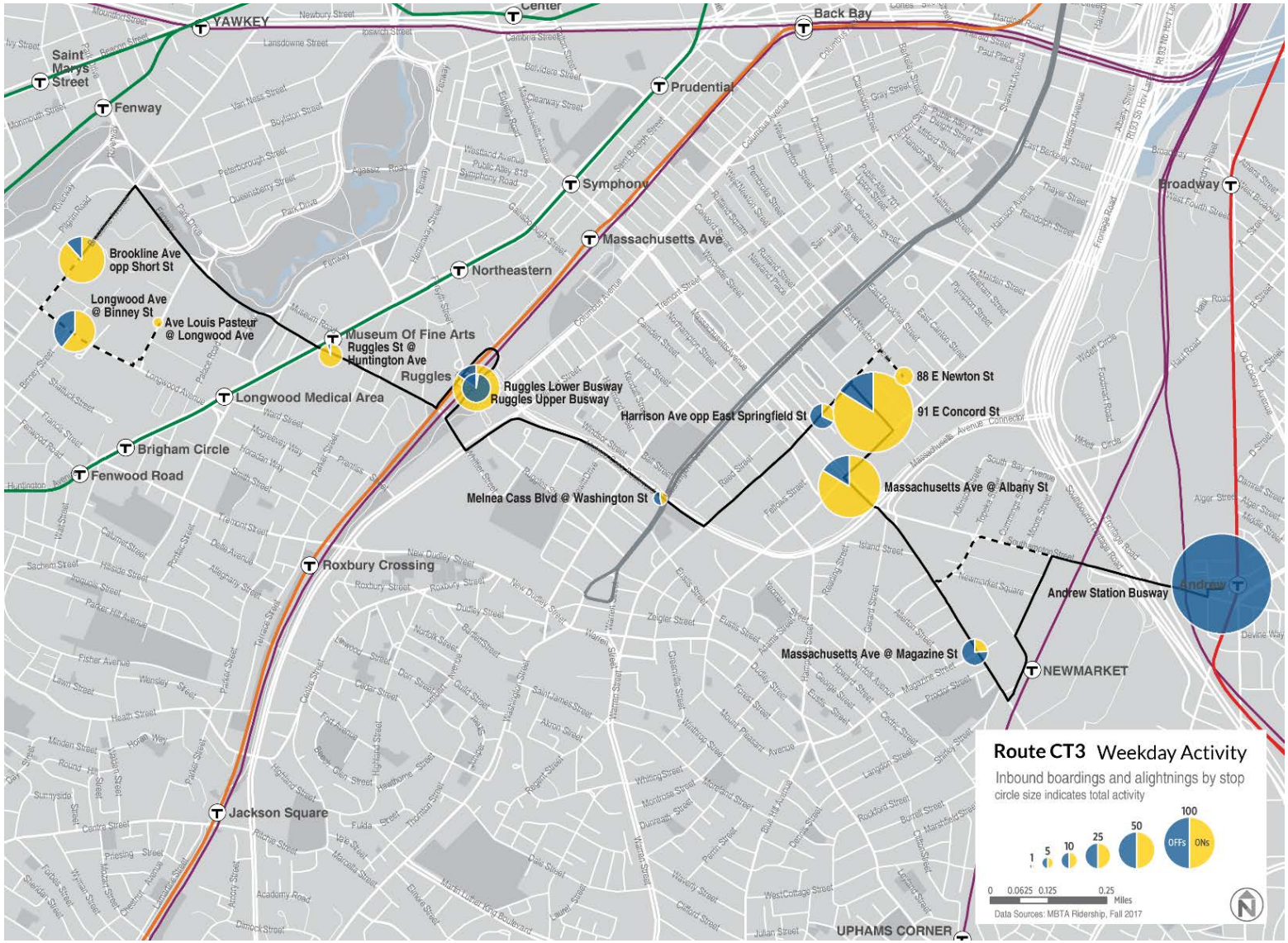


Figure 4 | Weekday Ridership by Trip: Inbound

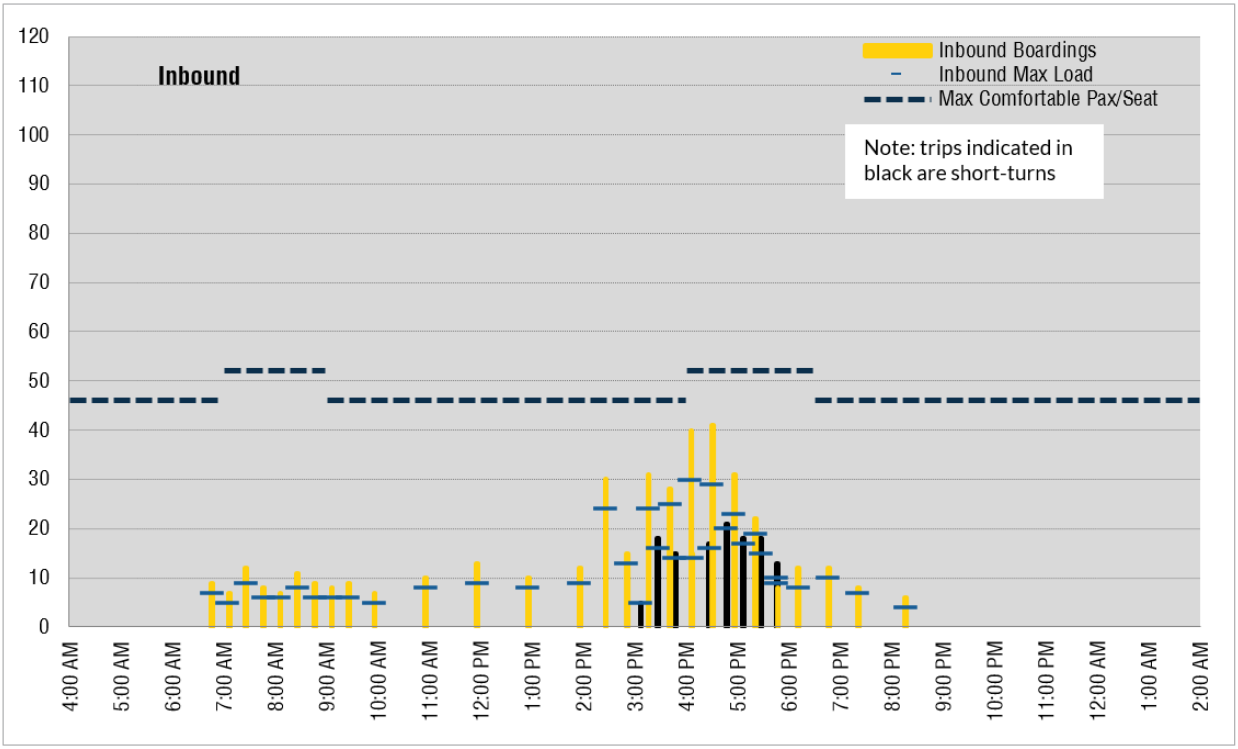
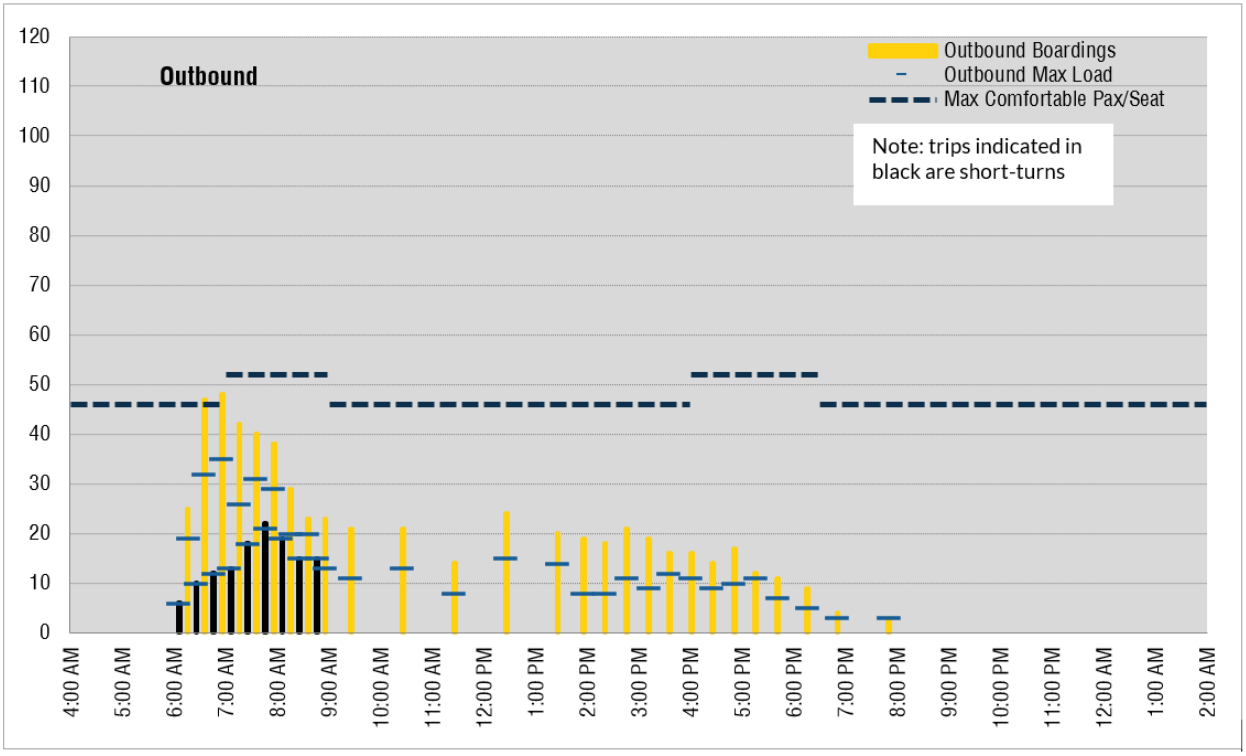


Figure 5 | Weekday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

On Route CT3, 94.7% of passenger minutes are in comfortable conditions, which is above the minimum standard of 92%, but below the target of 96% (see Table 3). All overcrowding occurs due to off-schedule service.

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	94.7%	-	-

Reliability and Speed

Reliability

At 43%, Route CT3's reliability is very poor and among the worst of any MBTA bus route (see Table 4). As described in the next section, this is due to actual running times that exceed schedule times for most of the day. This is compounded by dropped trips, which accounted for 1% of all trips in Fall 2017.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	42%	49%	43%	1%
Saturday	-	-	-	-
Sunday	-	-	-	-

Running Times

Actual running times are longer than scheduled running times for most of the day. On full length trips, trips run up to seven minutes longer than scheduled (see Figure 6 and Figure 7). On short-turn trips, they are up to four minutes longer than scheduled, which is very high considering that these trips are scheduled to take 10 minutes or less (see Figure 8 and Figure 9).

Figure 6 | Scheduled & Median Travel Time by Trip: Full-Length Trips Inbound

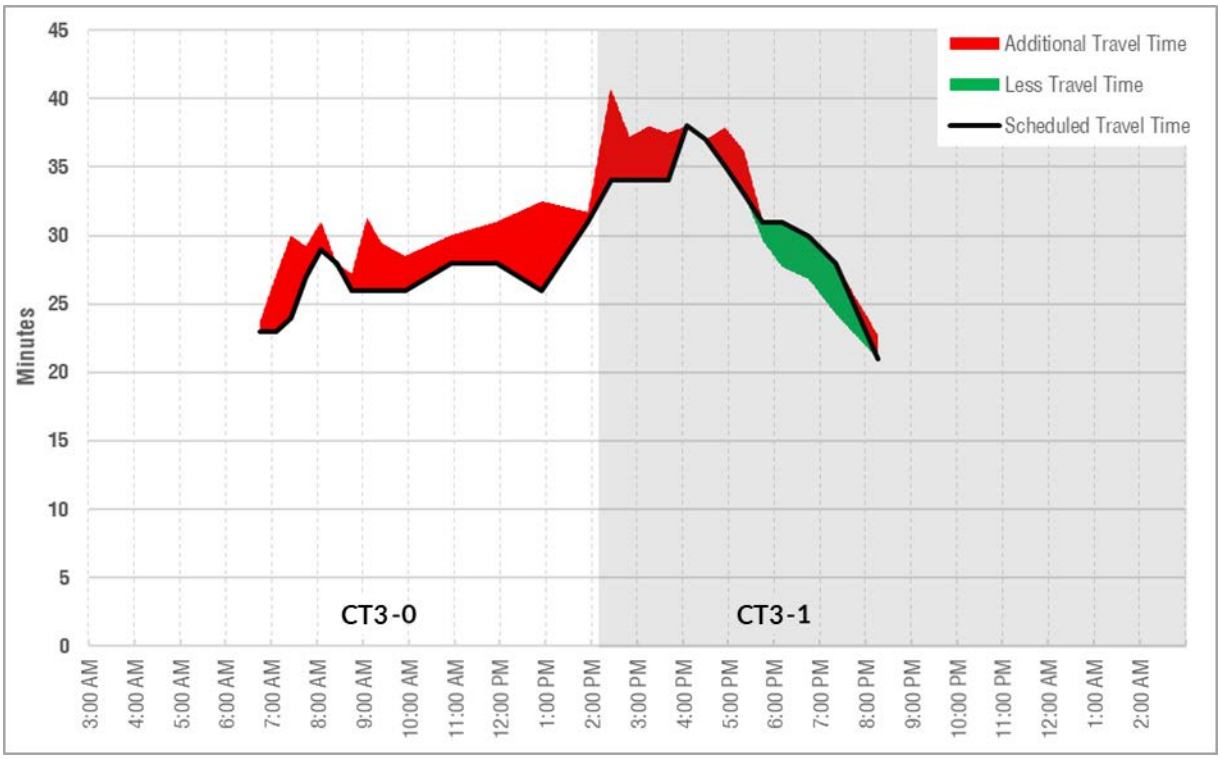


Figure 7 | Scheduled & Median Travel Time by Trip: Full-Length Trips Outbound

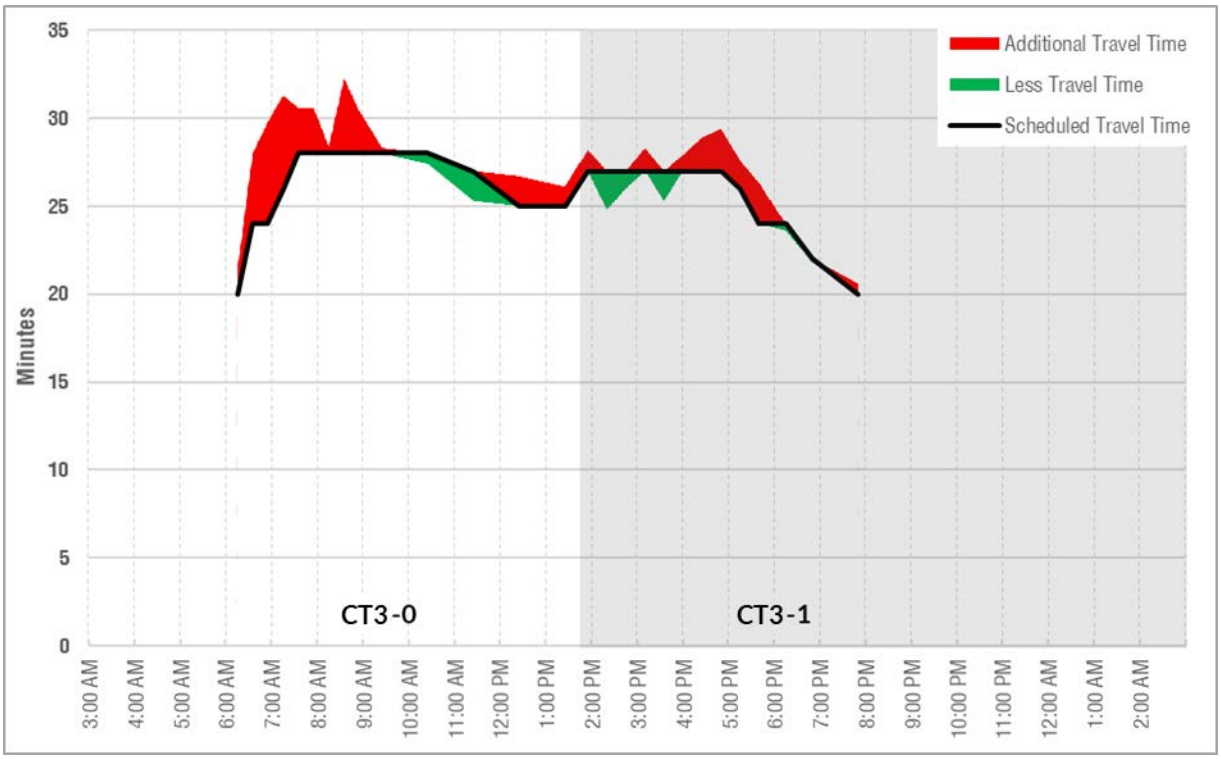


Figure 8 | Scheduled & Median Travel Time by Trip: Short-Turn Trips Inbound

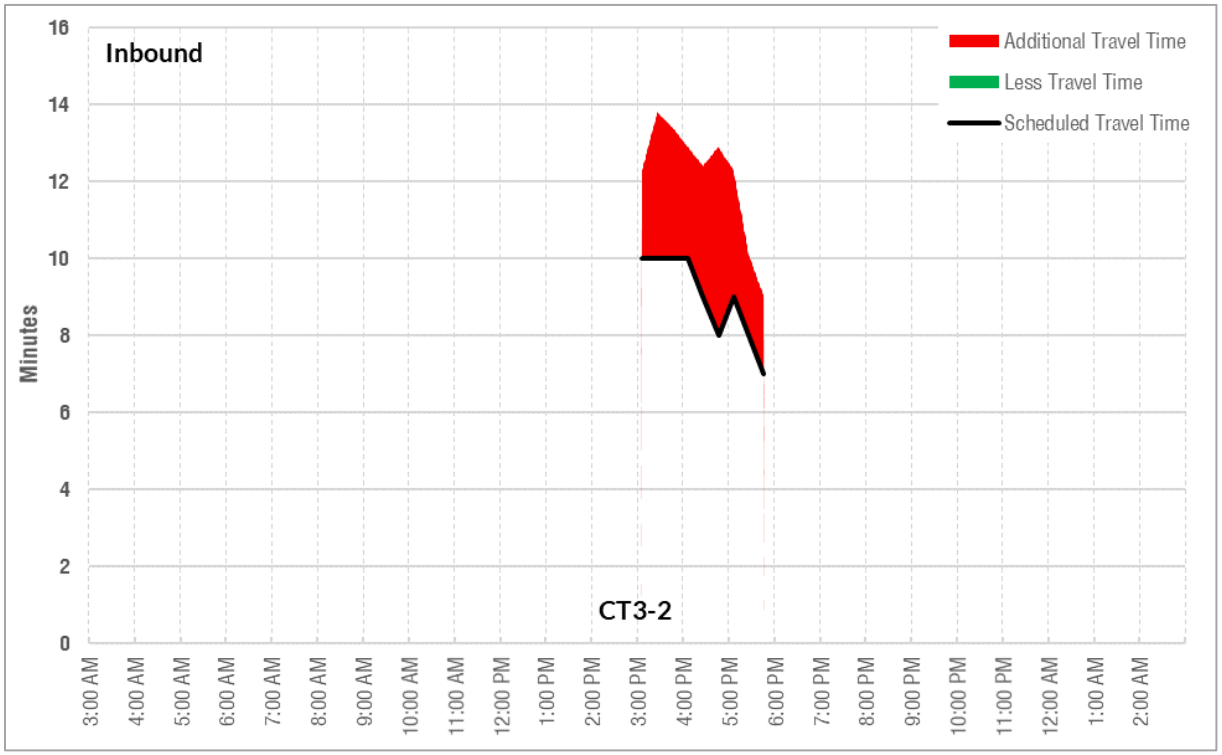
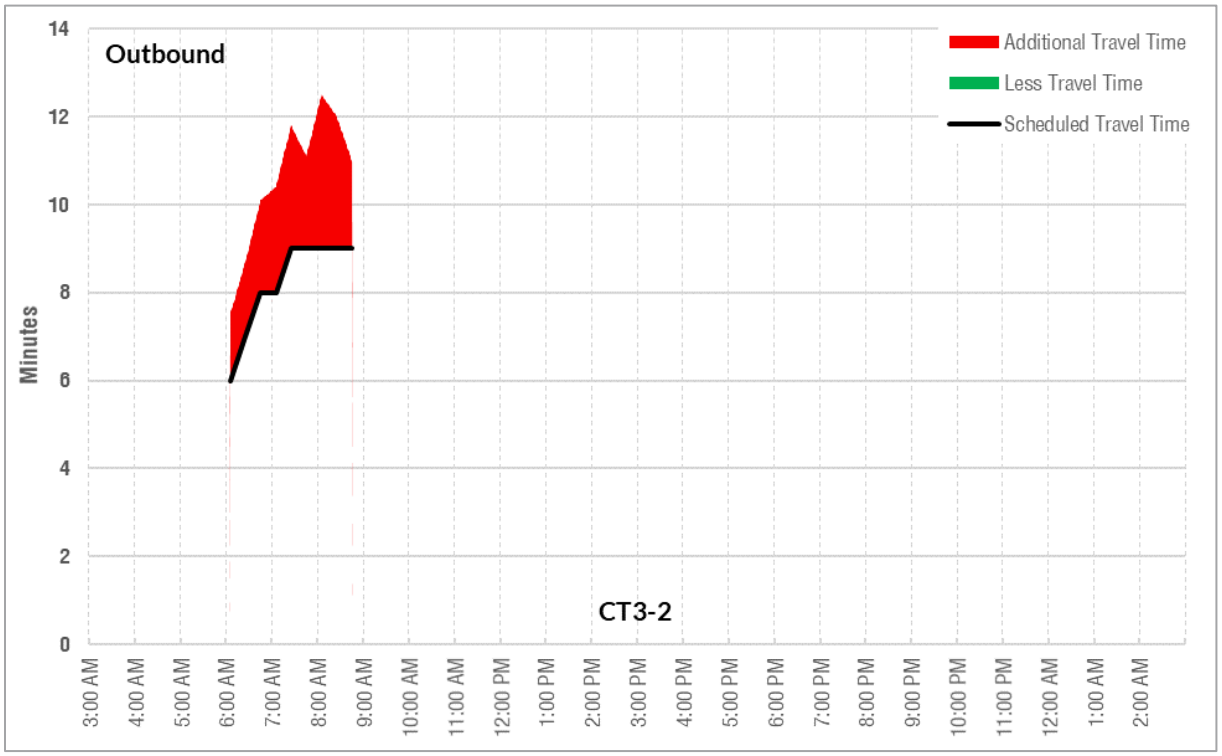


Figure 9 | Scheduled & Median Travel Time by Trip: Short-Turn Trips Outbound



Stop Spacing

Route CT3 has an average of four stops per mile, which is within the MBTA's stop spacing guideline of two to four stops per mile for limited-stop routes.

Summary

Route CT3 is a niche route designed to provide limited-stop service between the southern branch of the Red Line and the BU Medical Campus and the Longwood Medical Area. Its ridership is relatively good on full-length trips during peak periods, but low at other times. Ridership on the peak period short-turns between Andrew Station and the BU Medical Campus is also low. The route's on-time performance is also extremely poor.

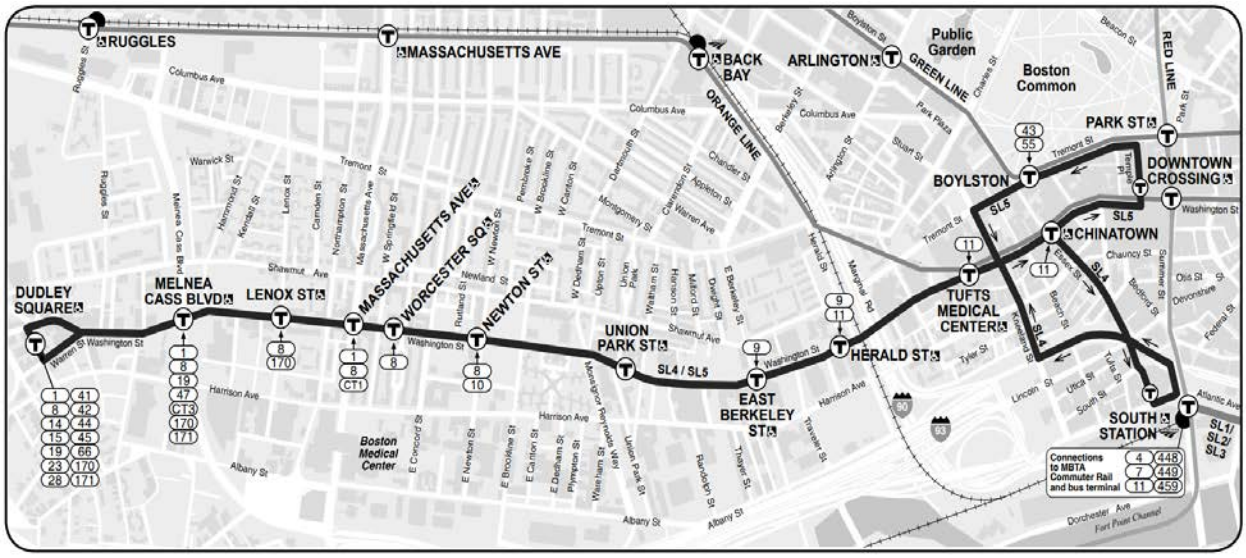
Route SL4

Dudley Station – South Station at Essex Street

Route Overview

The SL4 Dudley Station – South Station at Essex Street is a Silver Line Bus Rapid Transit (BRT) route that operates between Dudley Station and South Station (see Figure 1). It is very similar to SL5 Dudley Station-Downtown Crossing, which uses the same alignment between Dudley Station and Chinatown and then operates to Temple Place in Downtown Crossing.

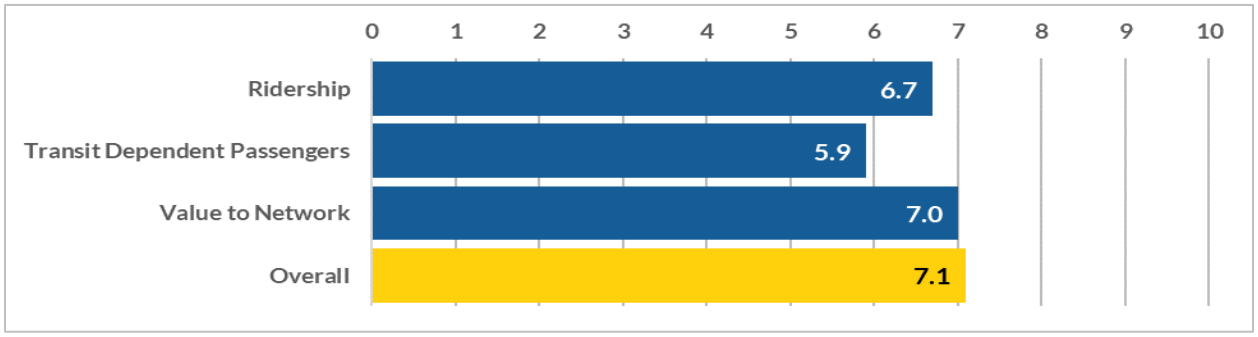
Figure 1 | Service Map



Network Importance

Route SL4 is an important route within the MBTA bus network (see Figure 2). On a relative scale of 0 to 10, the route rates 6.7 in terms of ridership, 5.9 in terms of transit dependent ridership, and 7.0 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score, which gives a 70% weighting to overall ridership and a 15% weight to both other measure, is 7.1.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

Route SL4 provides frequent service from early morning until midnight on weekdays, Saturdays, and Sundays (see Table 1). On weekdays, it operates from 5:20 AM to 12:52 AM, with trips every 12 to 19 minutes all day. As described above, SL5 Dudley Station-Downtown Crossing also operates along most of the same alignment. Route SL5 operates more frequently and thus the schedules of the two routes are not coordinated.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	**5:20 AM to 12:52 AM**			**217/218**
Sunrise	5:20 AM to 5:59 AM	12 – 18	16	3/2
Early AM	6:00 AM to 6:59 AM	12 – 18	12	5/5
AM Peak	7:00 AM to 8:59 AM	12 - 14	12	10/9
Midday Base	9:00 AM to 1:29 PM	12 – 17	15	18/18
Midday School	1:30 PM to 3:59 PM	14 – 16	15	10/10
PM Peak	4:00 PM to 6:29 PM	12 – 14	13	11/12
Evening	6:30 PM to 9:59 PM	12 – 18	12	18/17
Late Evening	10:00 PM to 11:59 PM	13 – 19	19	6/6
Night	12:00 AM to 12:52 AM	19	19	2/3
Saturday	**5:23 AM to 12:55 AM**	**15 – 20**	**16**	**72/72**
Sunday	**6:02 AM to 12:55 AM**	**14 – 20**	**16**	**70/70**

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

On Saturdays, Route SL4 operates with a similar span of service as on weekdays, with service every 14 to 20 minutes. On Sundays, service operates from 6:02 AM to 12:40 AM, also every 14 to 20 minutes.

On weekdays during peak periods, when Route SL4 operates every 12 to 14 minutes, it does not meet the Service Delivery Policy (SDP) standards for Silver Line services that

specify that service should operate every 10 minutes. It does meet the minimum service frequency standards during other times on weekdays, and on weekends. It meets the service span standards on all days.

Service Patterns

Route SL4 operates with a single inbound and outbound service pattern, with all service operating as indicated in Figure 1. Note that service operates very circuitously between Washington Street and South Station, primarily due to one-way street restrictions between Chinatown and South Station.

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS PER WKD	TRIPS PER SAT	TRIPS PER SUN
INBOUND				**217**	**72**	**70**
SL4.0	Dudley Station	South Station	Via Washington Street	217	72	70
OUTBOUND				**218**	**72**	**70**
SL4.0	South Station	Dudley Station	Via Washington Street	218	72	70

Ridership

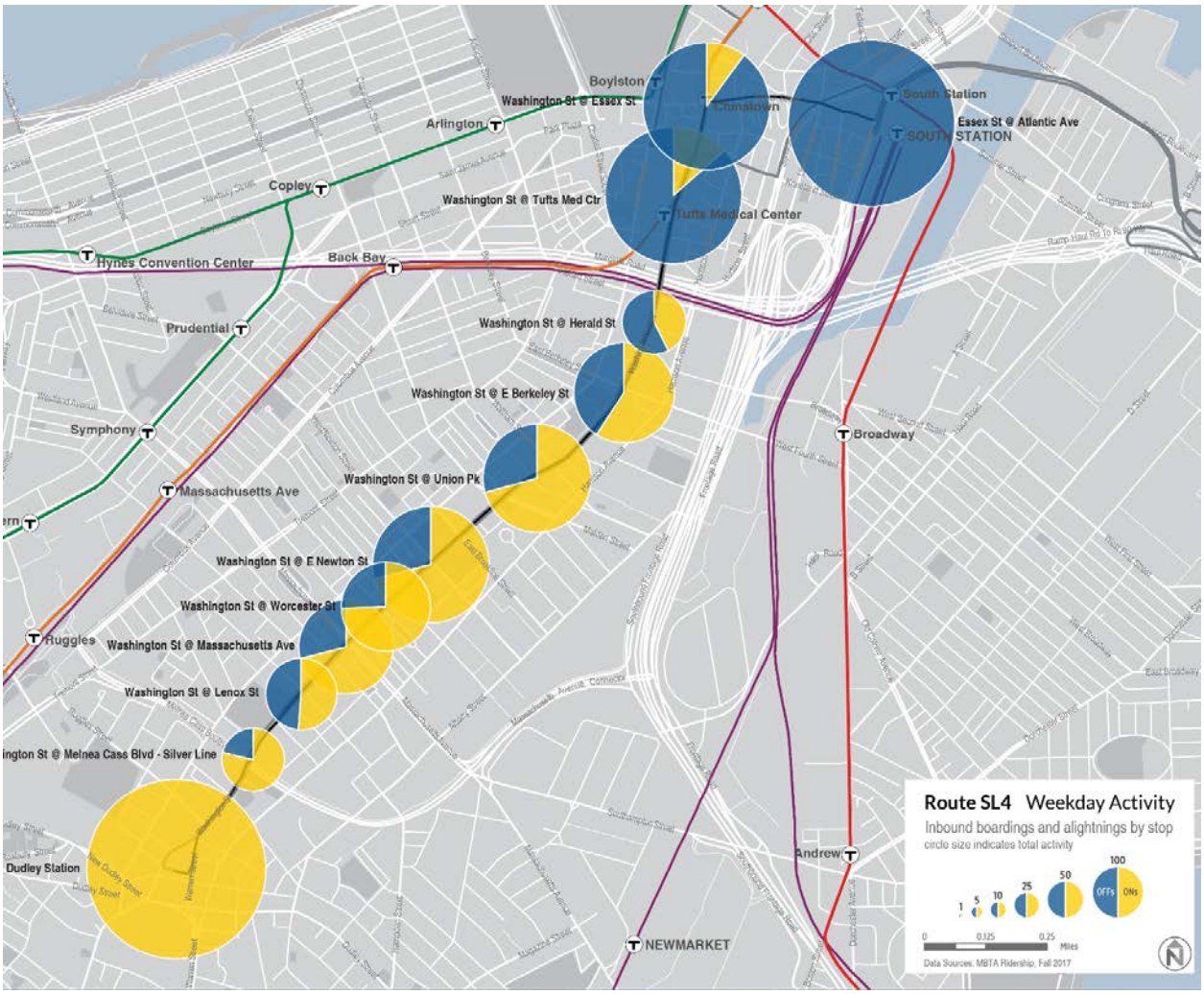
Route SL4 carries 5,800 riders per weekday, 3,100 riders per Saturday, and 2,500 riders per Sunday. While Route SL4 ranks among the top twenty highest ridership routes on weekends, it carries only about 55% of Route SL5's weekday ridership. Because most riders can use Route SL4 and Route SL5 interchangeably, this ridership is directly proportional to the differences in service levels (Route SL4 provides 56% as much service as Route SL5).

Ridership by Stop

Route SL4 has strong ridership at most stops. On inbound trips (see Figure 3):

- Close to 40% (1,220 passengers) of all daily boardings occur at Dudley Station, which serves Dudley Square and is a major transit hub.
- Most stops south of the Mass Pike serve more boardings than alightings. However, alightings are also high, indicating that there are large volumes of travel within the

Figure 3 | Weekday Inbound Ridership by Stop Map



corridor and not just to downtown Boston. After Dudley Station, the bus stops with highest boardings are:

- Mass Ave, with 240 boardings and 100 alightings
- Worcester Street, with 220 boardings and 80 alightings
- East Newton Street, with 370 boardings and 150 alightings
- East Berkeley Street, with 230 boardings and 160 alightings.

- Approximately 20% of all riders, or 610, alight at Tufts Medical Center, which is the first opportunity to transfer to the Orange Line.
- Approximately 18% of all riders, or 550, alight at Essex, which is the stop closest to Downtown Crossing and the last stop shared with Route SL5.

- Nearly 35% of all riders, or 1,050 alight at South Station. This compares to 1,710 who alight at Temple Place on Route SL5.

Outbound ridership is close to the reverse of inbound ridership on weekdays, with fewer boardings in the Leather District and more boardings along E. Berkeley Street. Weekend ridership patterns are also similar.

Ridership by Trip

Route SL4's weekday ridership is strong throughout the day. It also exhibits typical commuting patterns, with higher ridership inbound during the AM peak and outbound during the PM peak (see Figure 4 and Figure 5).

Many AM peak inbound trips carry over 80 passengers, and many PM peak outbound trips carry over 60 passengers. However, due to the use of 60' articulated coaches and significant levels of ridership turnover along the route, on average, all trips operate within maximum crowding levels. Midday ridership is strong inbound, with trips serving more than 50 passengers. Outbound ridership is lower, generally at 30 to 40 passengers per trip. After 5:30 PM inbound and 6:00 PM outbound, ridership per trip falls to 20 passengers or less. Late night trips serve few riders.

On Saturdays, ridership fluctuates between 20 passengers to up to 40 per trip in both directions between approximately 6:00 AM and 6:00 PM, and with fewer than 15 passengers on trips after 7:00 PM inbound (see Figure 6 and Figure 7).

Figure 4 | Weekday Ridership by Trip: Inbound

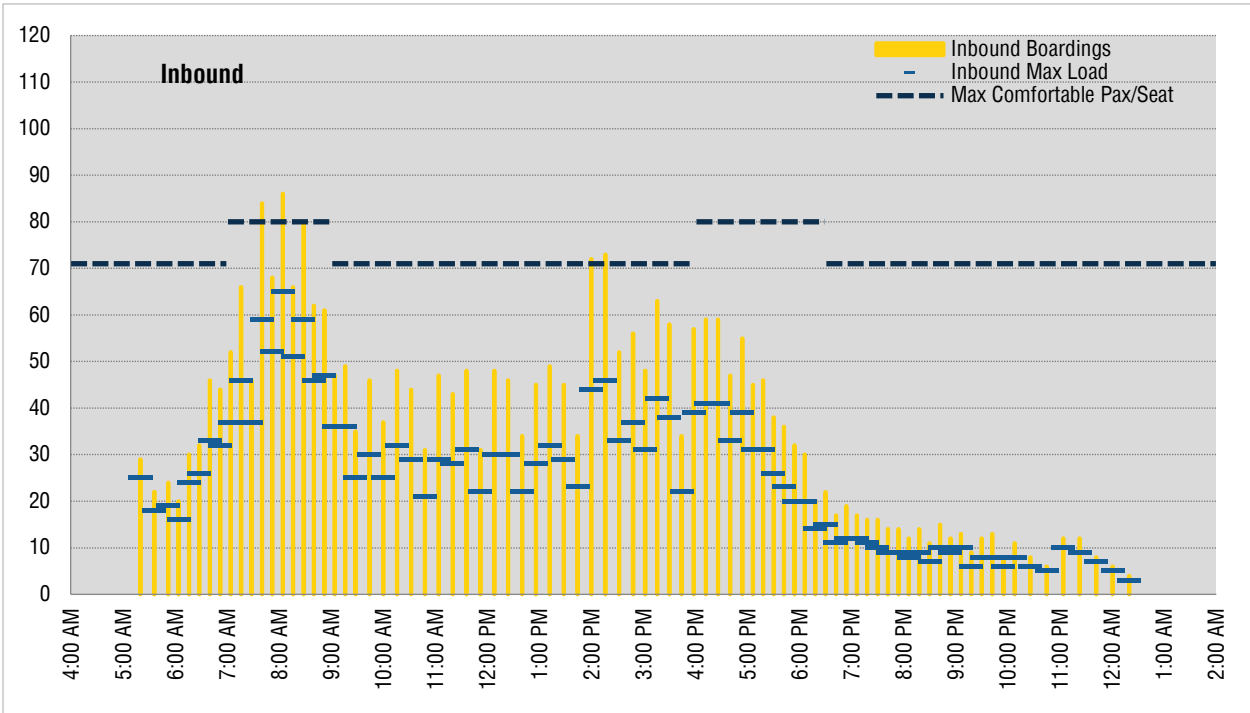


Figure 5 | Weekday Ridership by Trip: Outbound

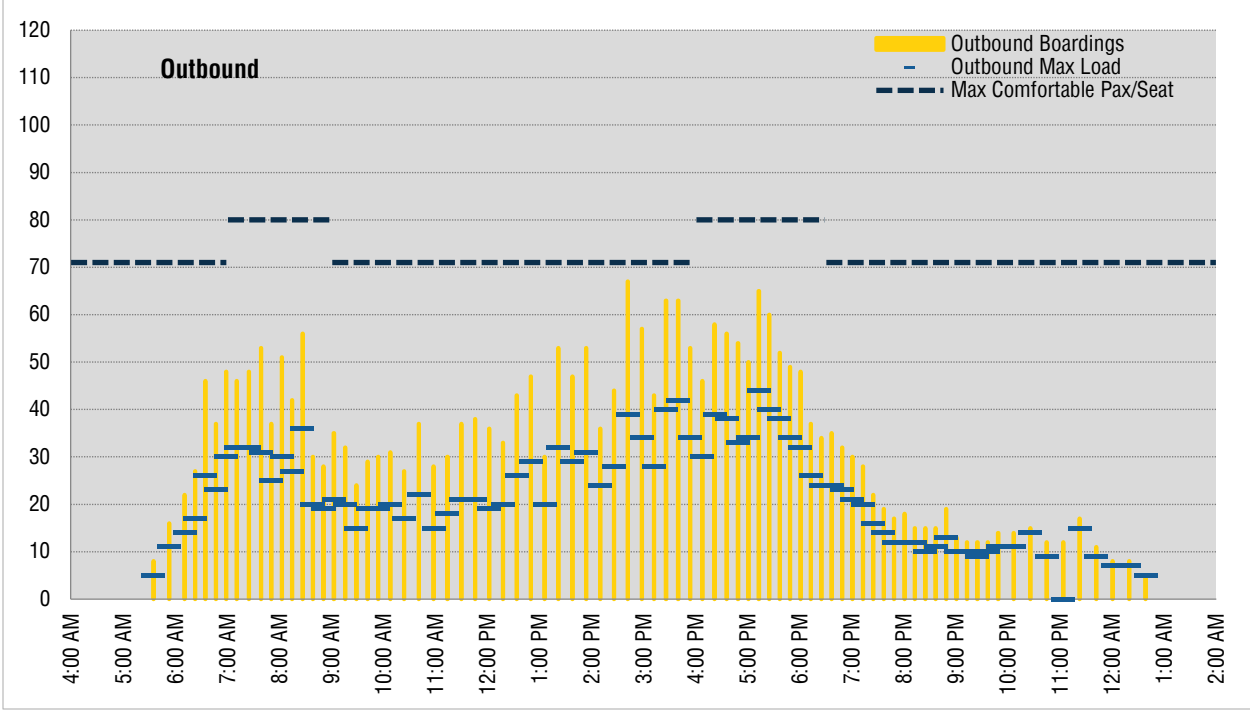


Figure 6 | Saturday Ridership by Trip: Inbound

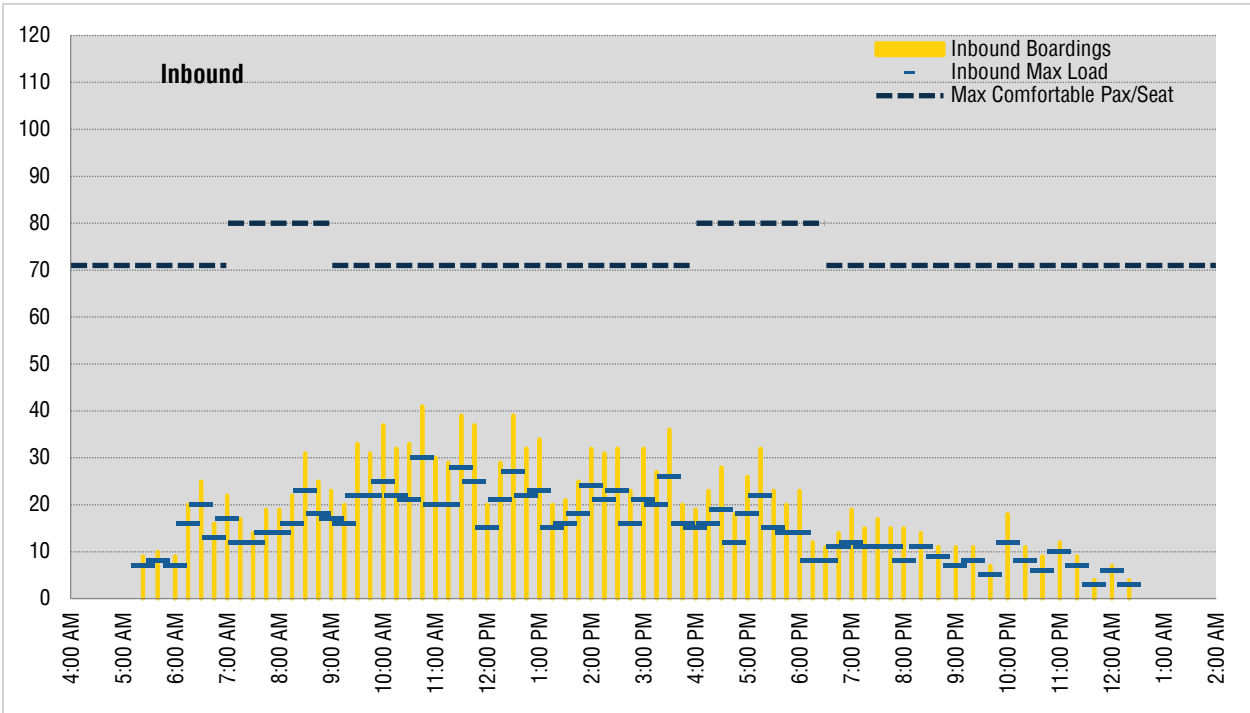
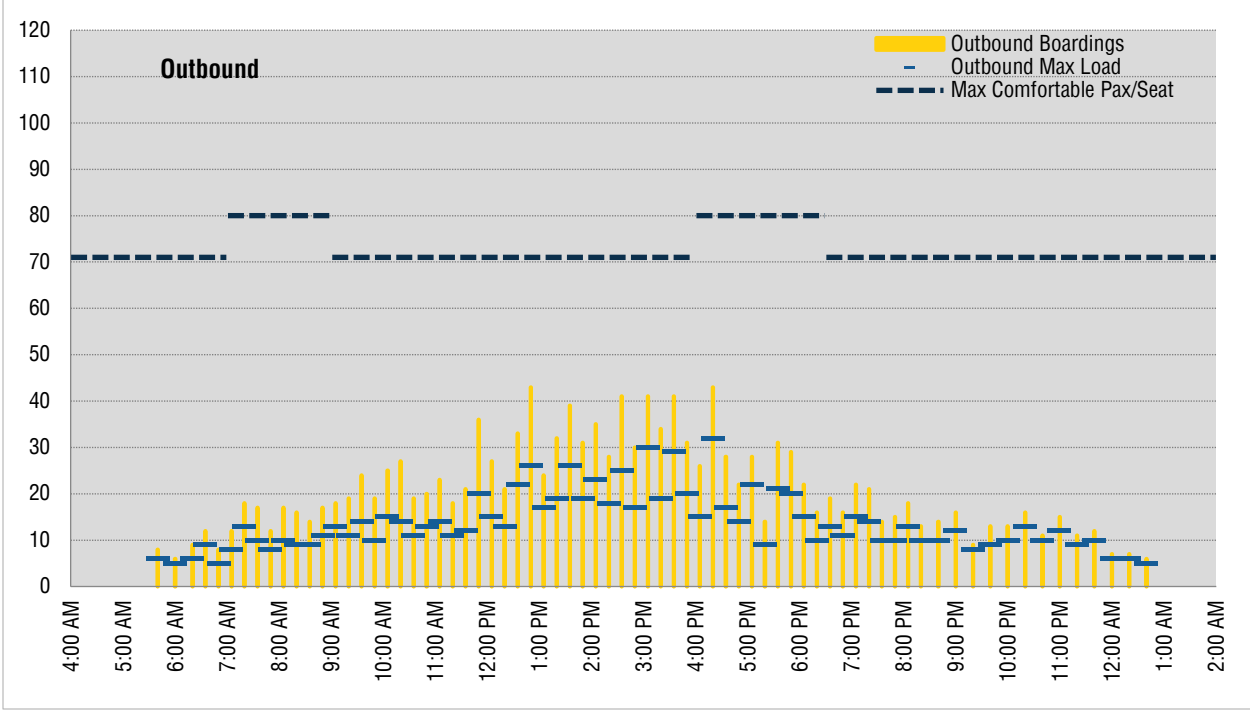


Figure 7 | Saturday Ridership by Trip: Outbound



Sunday patterns are similar but with ridership per trip that is approximately 20% lower (see Figure 8 and Figure 9).

Figure 8 | Sunday Ridership by Trip: Inbound

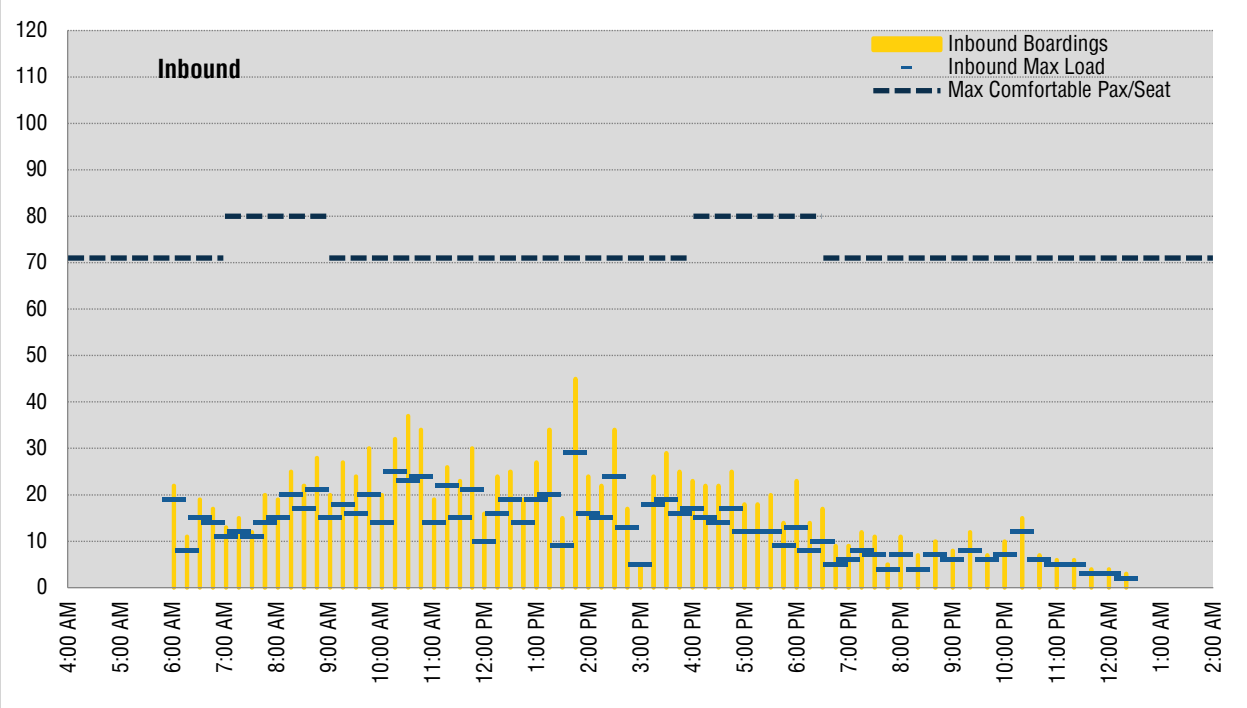
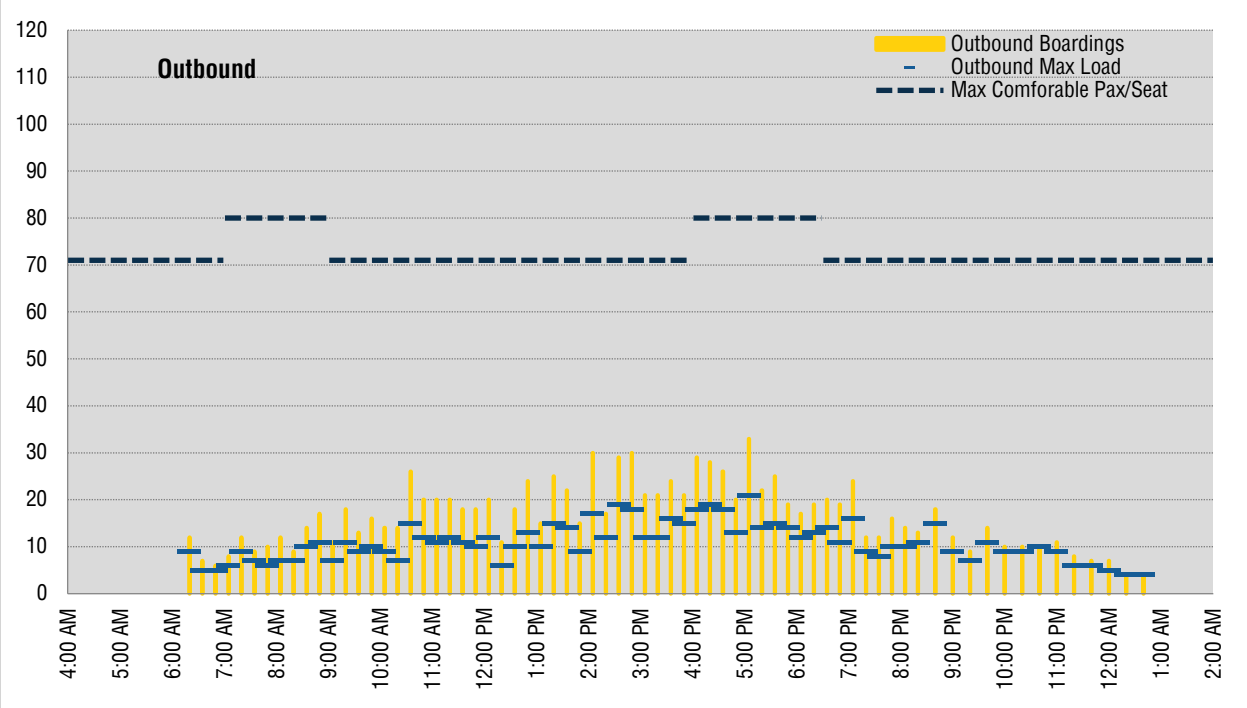


Figure 9 | Sunday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. At the same time, the MBTA's definition of comfort reflects the very high volume environment in which the MBTA operates, and that some passengers may have to stand for a portion of their trip. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods. On Route SL4, 97% of passenger minutes are in comfortable conditions, which is above the target of 96% (see Table 3).

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	97.4%	100%	100%

Reliability and Speed

Reliability

Passengers using higher frequency services like Route SL4 expect buses to arrive on a regular basis, and typically do not rely on published schedules. Route SL4's weekday reliability of 78% is above the MBTA's minimum standard of 70% despite a relatively high percentage of dropped trips (2.2%). However, given that Route SL4 operates in dedicated bus lanes for most of its length, this on-time performance is lower than would be expected. Saturday and Sunday reliability, at 74% and 81%, exceed and meet the target of 75% reliability on the weekends, but are not a marked improvement over weekday on-time performance.

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	78%	83%	78%	2.2%
Saturday	74%	77%	74%	-
Sunday	81%	78%	81%	-

Running Times

Off-schedule performance is caused in large part by actual running times that differ from scheduled running times. During the morning peak period, midday, and evening, trips

routinely run five minutes late (see Figure 10). Conversely, most outbound service after 10:00 AM runs up to eight minutes early (see Figure 11).

Figure 10 | Scheduled & Median Travel Time by Trip: SL4 Inbound

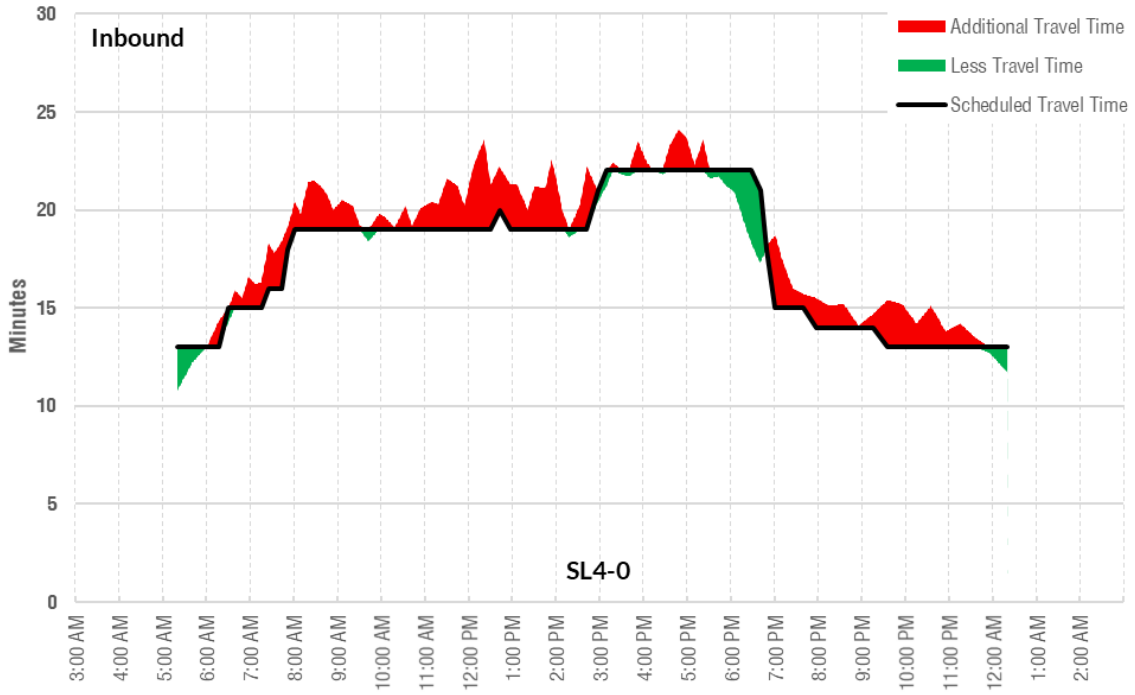
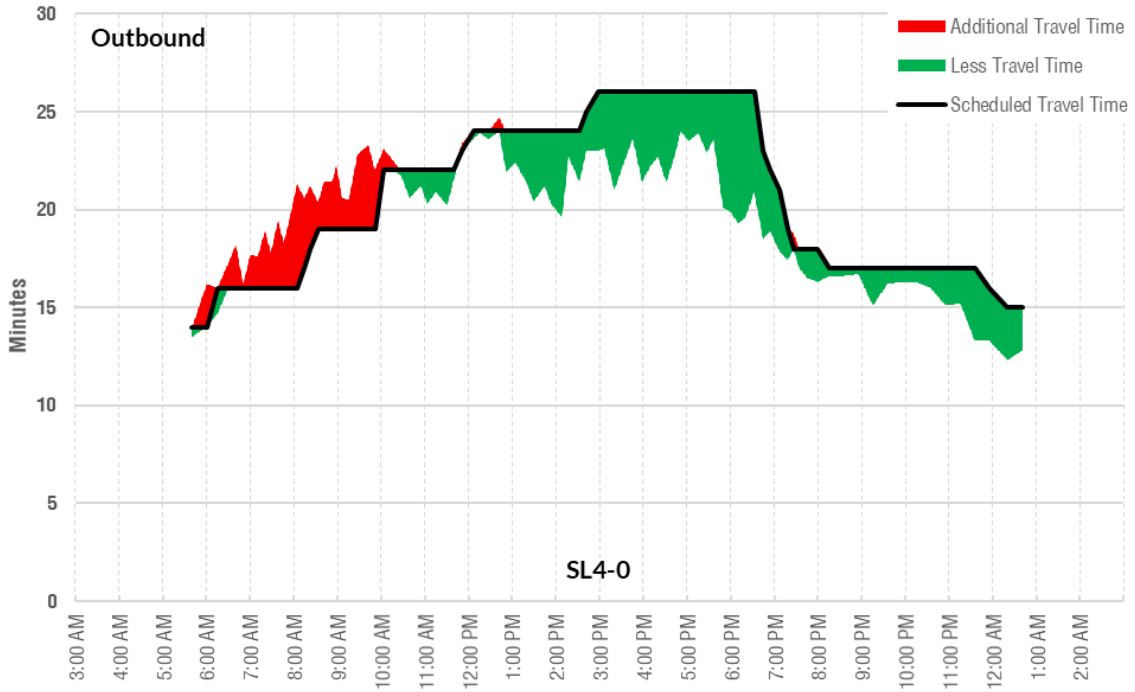


Figure 11 | Scheduled & Median Travel Time by Trip: SL4 Outbound



Stop Spacing

Route SL4 has 12 stops over its 2.4 mile length or an average of five per mile. This overall spacing exceeds the MBTA's guidelines of two to four stops per mile for BRT routes, and some stops, particularly between Newton Street and Melnea Cass Boulevard are much closer (see Figure 1). In particular, the Worcester Square and Lenox Street stops are not transfer points with other routes and are very close to other stops.

Summary

Route SL4 is essentially a supplement to Route SL5 Dudley Station-Downtown Crossing that provides direct service to and from South Station. Most of its riders use it interchangeably with Route SL5, but a large number – over 2,000 total passengers per weekday – use the service to South Station . There are two major issues with the route:

1. Its lack of coordination with Route SL5, which produces very irregular schedules along Washington Street between Dudley Square and Chinatown.
2. It's very slow and circuitous alignment between Chinatown and South Station.

In addition, some stations are spaced very close together for an arterial BRT route, which contributes to the route's slow speed.

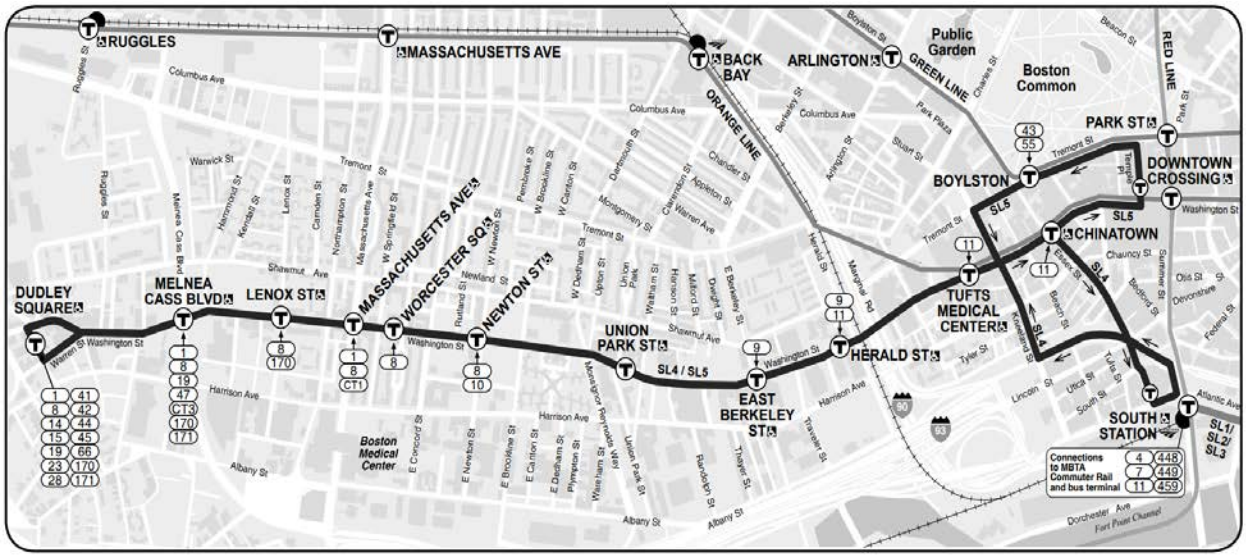
Route SL5

Dudley Station – Downtown Crossing at Temple Place

Route Overview

Route SL5 Dudley Station – Downtown Crossing at Temple Place is a Silver Line Bus Rapid Transit (BRT) route that operates between Dudley Square and downtown Boston (see Figure 1). It is very similar to Route SL4 Dudley Station-South Station, which uses the same alignment between Dudley Station and Chinatown and then operates to South Station.

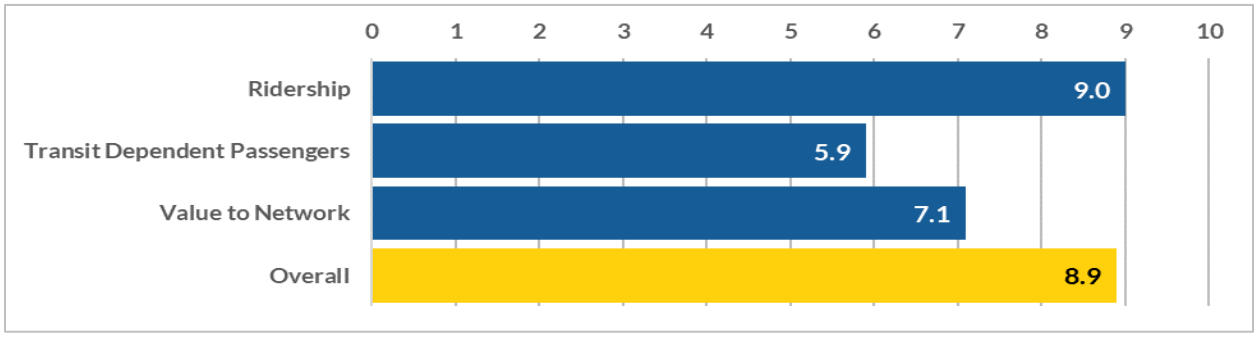
Figure 1 | Service Map



Network Importance

Route SL5 is a very important route within the MBTA bus network overall (see Figure 2). On a relative scale of 0 to 10, it rates 9.0 in terms of ridership, 5.9 in terms of transit dependent ridership, and 7.1 in terms of its value to the network (which reflects the number of people who are uniquely served, the number of jobs and other important destinations, and the number of transferring passengers). Its overall score is 8.9, which reflects the measure's strong weighting to overall ridership.

Figure 2 | Relative Importance within MBTA Bus Network (on a scale of 0 to 10)



Service Overview

Schedule

Route SL5 provides frequent service throughout the day on weekdays, Saturdays, and Sundays (see Table 1). On weekdays, it operates from 5:15 AM to 1:18 AM, with trips every 7.5 to 10 minutes before 10:00 PM and every 10 to 17 minutes thereafter. As described above, Route SL4 Dudley Station-South Station also operates along most of the same alignment. However, Route SL4 operates less frequently and thus the schedules of the two routes are not coordinated.

Table 1 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (RANGE)	FREQUENCY (AVERAGE)	DAILY TRIPS (INBOUND/OUTBOUND)
Monday-Friday	**5:15 AM to 1:18 AM**			**131/133**
Sunrise	5:15 AM to 5:59 AM	8 – 10	9	6/3
Early AM	6:00 AM to 6:59 AM	8 -9	8	7/8
AM Peak	7:00 AM to 8:59 AM	7 – 9	8	15/15
Midday Base	9:00 AM to 1:29 PM	8 – 10	10	28/28
Midday School	1:30 PM to 3:59 PM	6 – 9	8	18/19
PM Peak	4:00 PM to 6:29 PM	5 – 10	8	19/20
Evening	6:30 PM to 9:59 PM	7 – 10	8	25/25
Late Evening	10:00 PM to 11:59 PM	10 – 17	12	9/10
Night	12:00 AM to 1:07 AM	15 - 17	17	4/5
Saturday	**5:19 AM to 1:13 AM**	**4 – 12**	**8**	**144/144**
Sunday	**6:00 AM to 12:58 AM**	**7 – 15**	**9**	**125/125**

Note: Span of service reflects the time the first bus begins service until the time the last bus finishes service.

Saturday service is similar to weekday service, with trips every eight minutes throughout most of the day. On Sundays, Route SL5 operates with a slightly shorter service span and with marginally longer frequencies, with trips every nine minutes (on average) until 12:58 AM.

Route SL5 meets the MBTA's Service Delivery Policy (SDP) span of service and service frequency standards for Key Bus routes throughout the day on all days.

Service Patterns

All Route SL5 operates with a single inbound and outbound service pattern, with all service operating as indicated in Table 2.

Table 2 | Service Patterns

PATTERN	ORIGIN	DESTINATION	UNIQUE FEATURE	TRIPS per WKD	TRIPS per SAT	TRIPS per SUN
INBOUND				**131**	**144**	**125**
SL5.0	Dudley Station	Temple Place @ Washington Street	Via Washington Street	131	144	125
OUTBOUND				**133**	**144**	**125**
SL5.0	Temple Place @ Washington Street	Dudley Station	Via Washington Street	133	144	125

Ridership

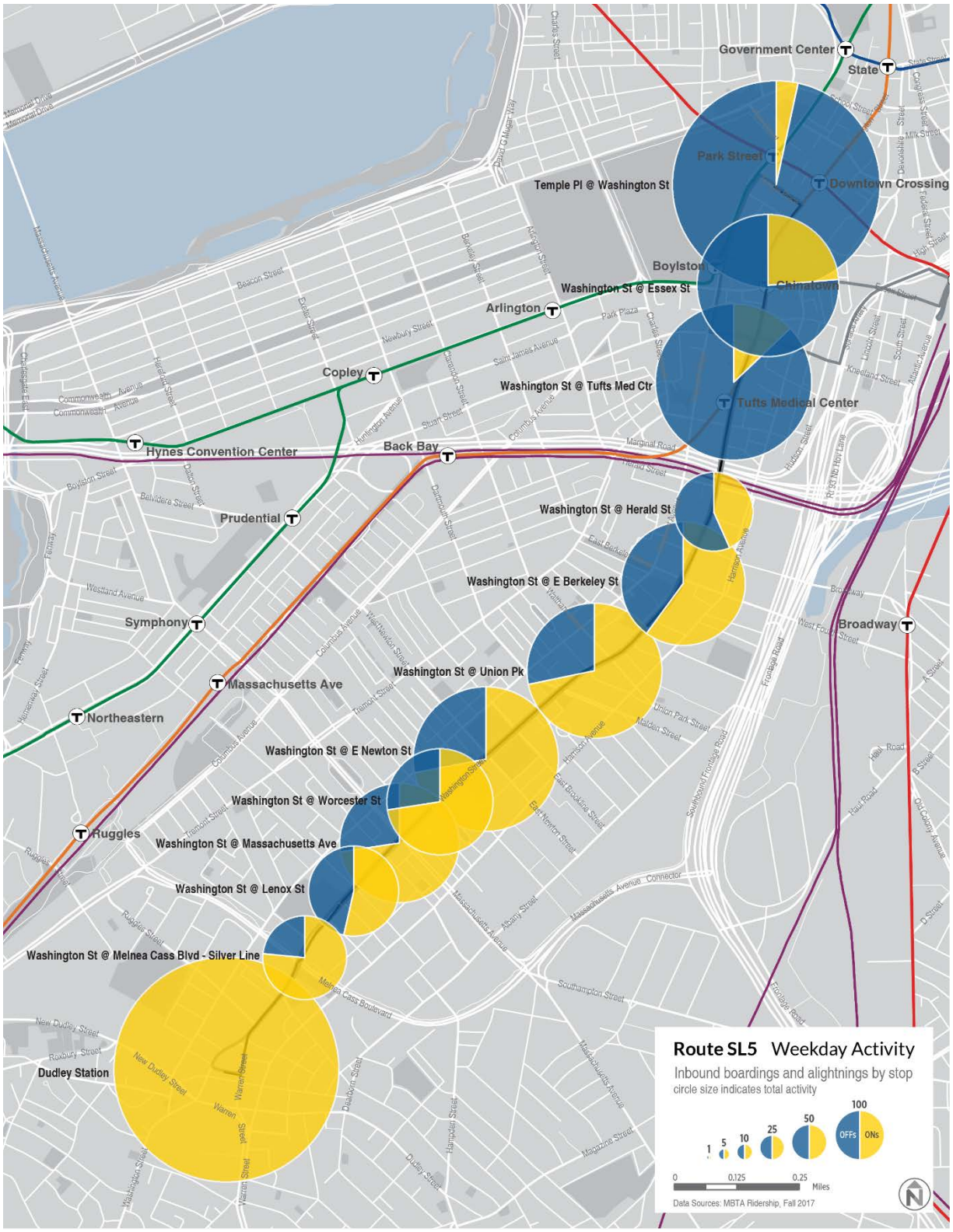
Route SL5 carries 10,300 riders per weekday, 6,900 riders per Saturday, and 5,200 riders per Sunday. These ridership levels make it one of the 10 highest ridership routes in the MBTA system.

Ridership by Stop

Route SL5 has very strong ridership along its entire length. Each of the 12 inbound stops serves more than 250 boardings or alightings daily, and five serve more than 825 passengers (see Figure 3):

- Close to 40% (2,073 passengers) of all daily boardings occur at Dudley Station, which serves Dudley Square and is a major transit hub.
- After Dudley Station, the bus stops with highest boardings are East Newton Street (621 daily) and Union Park (537 daily) in the South End.

Figure 3 | Weekday Inbound Ridership by Stop Map



- Most stops south of the Mass Pike serve more boardings than alightings. However, alightings are also high, indicating that there are large volumes of travel within the corridor and not just to downtown Boston.
- Approximately 30% of all riders alight at Tufts Medical Center.
- Just over half of all riders alight at the last stop on Temple Place.

Outbound weekday ridership is roughly the reverse of inbound ridership.

On weekends, there are fewer boardings and alightings overall. In addition, there are proportionally fewer boardings and alightings at Tufts Medical Center.

Ridership by Trip

Route SL5's weekday ridership is strong throughout the day. It also exhibits typical commuting patterns, with higher ridership inbound during the AM peak and outbound during the PM peak (see Figure 4 and Figure 5).

Many AM peak inbound trips carry over 80 passengers, and many PM peak outbound trips carry 70 passengers. However, due to the use of 60' articulated coaches and significant levels of ridership turnover along the route, on average, all trips operate within maximum crowding levels. Midday ridership is strong in both directions, with trips serving more than 50 passengers inbound and more than 45 passengers outbound and maximum loads of over 30 riders. After 5:30 PM inbound and 6:00 PM outbound, ridership per trip falls to 30 passengers or less. Late night trips serve few riders.

On Saturdays, ridership fluctuates between 20 passengers to over 40 per trip in both directions between approximately 9:00 AM and 6:00 PM, and with fewer than 15 passengers on trips after 7:00 PM inbound (see Figure 6 and Figure 7). Outbound ridership is slightly stronger during the midday and evening. Sunday patterns are similar but with ridership per trip that is approximately 25% lower (see Figure 8 and Figure 9).

Figure 4 | Weekday Ridership by Trip: Inbound

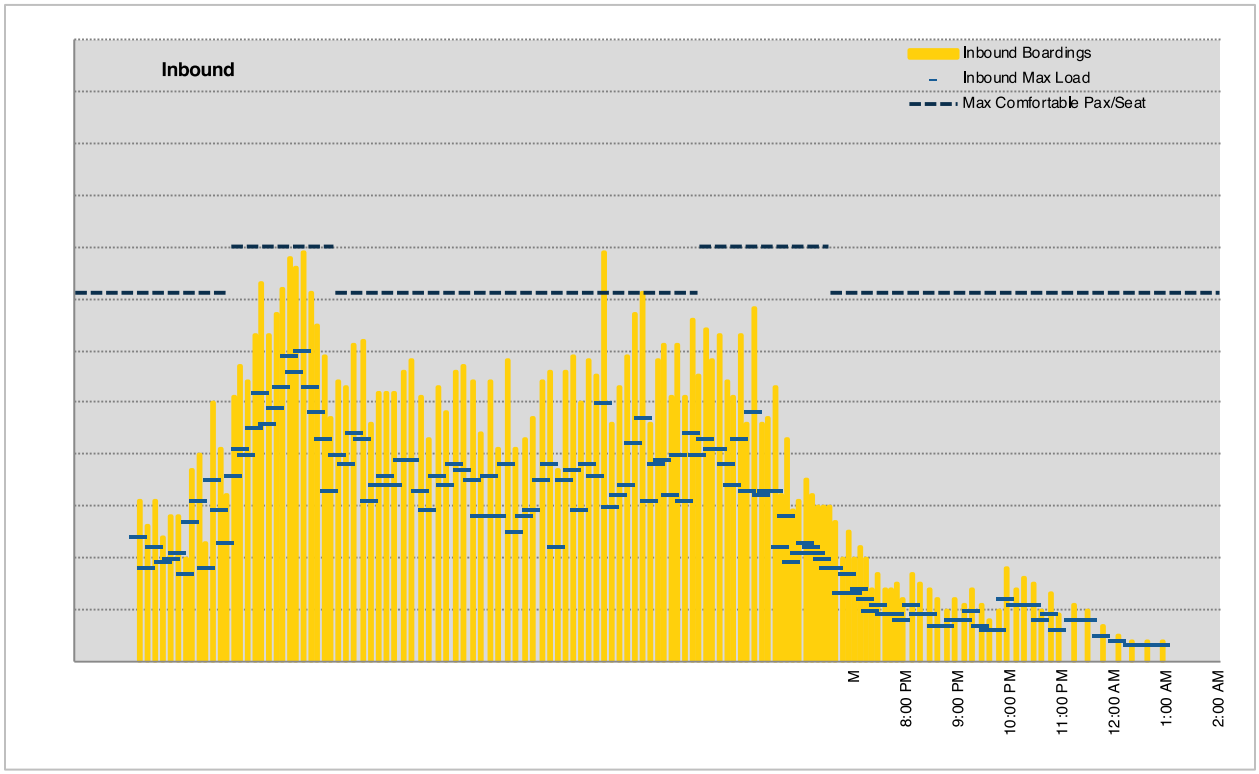


Figure 5 | Weekday Ridership by Trip: Outbound

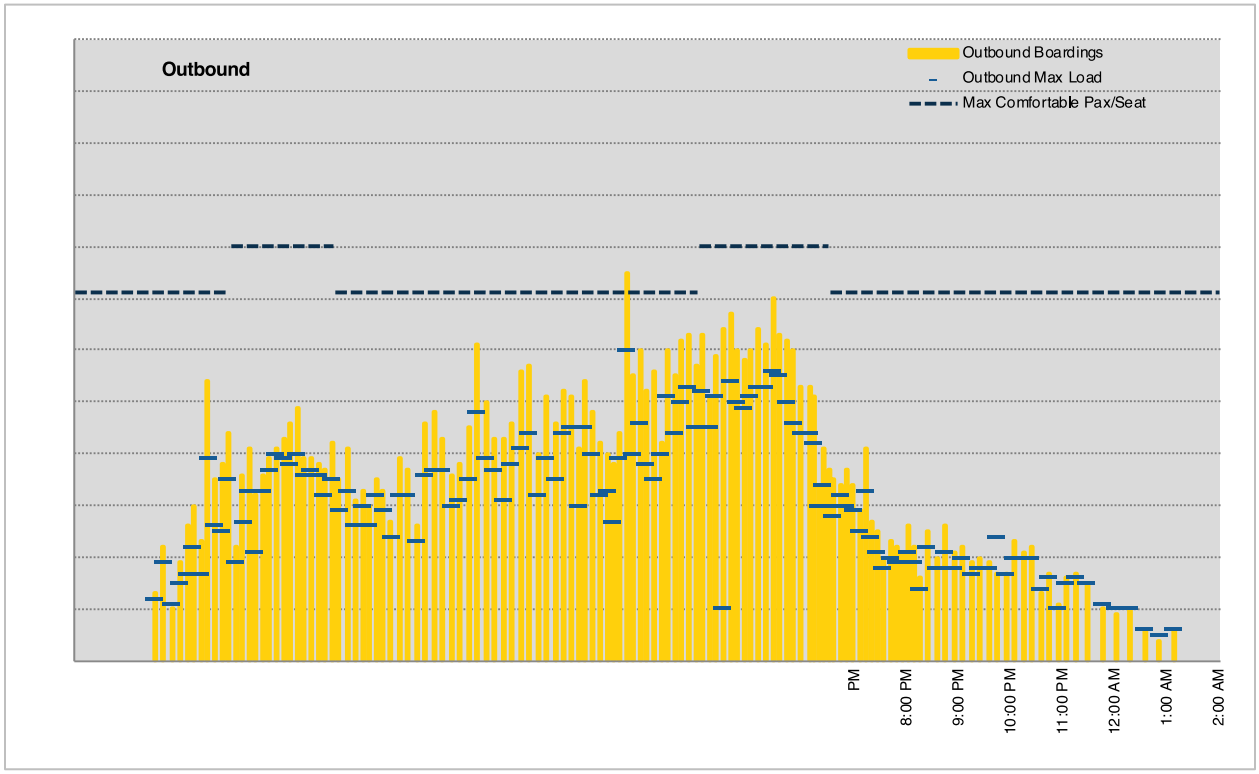


Figure 6 | Saturday Ridership by Trip: Inbound

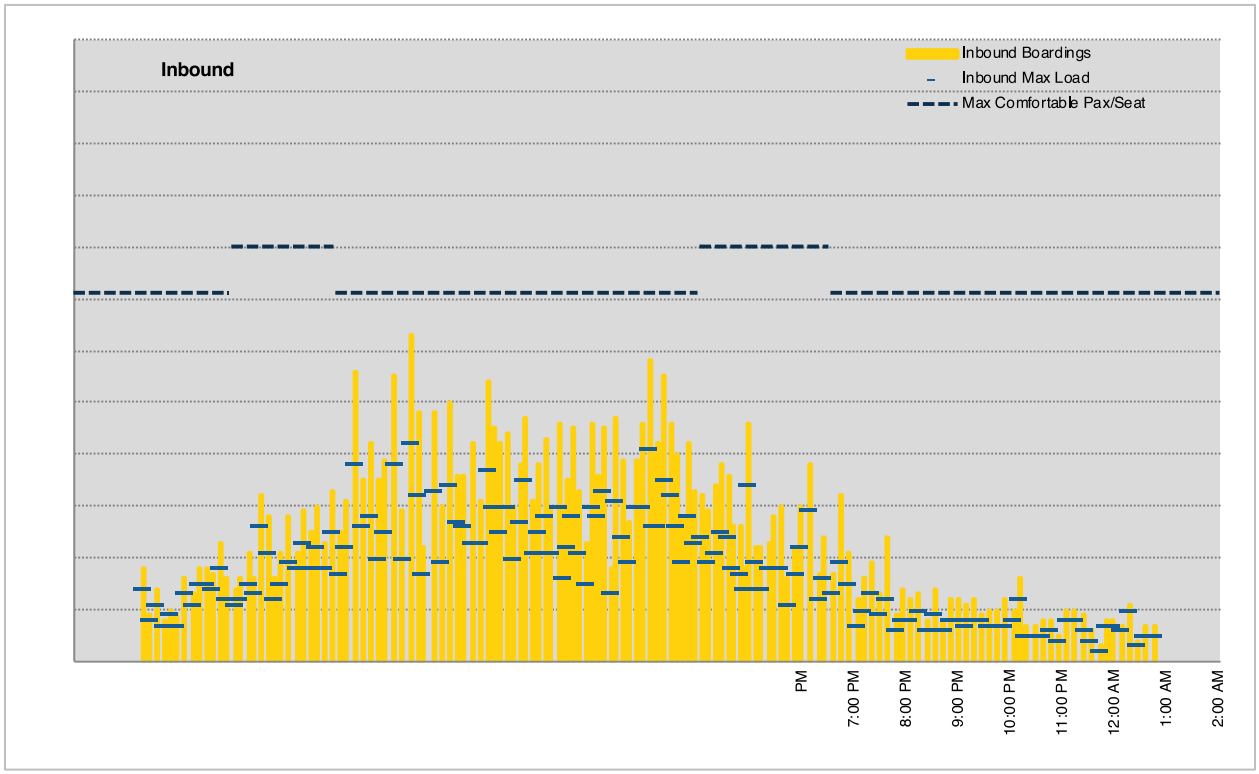


Figure 7 | Saturday Ridership by Trip: Outbound

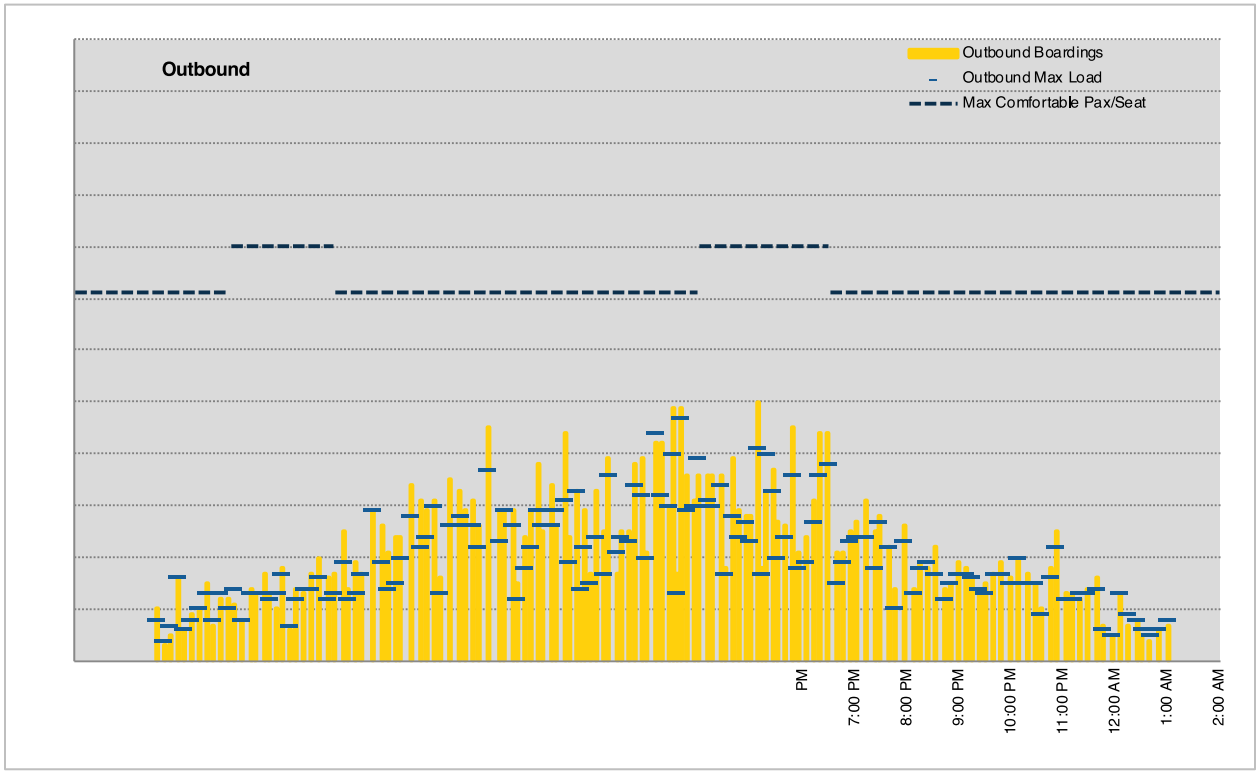


Figure 8 | Sunday Ridership by Trip: Inbound

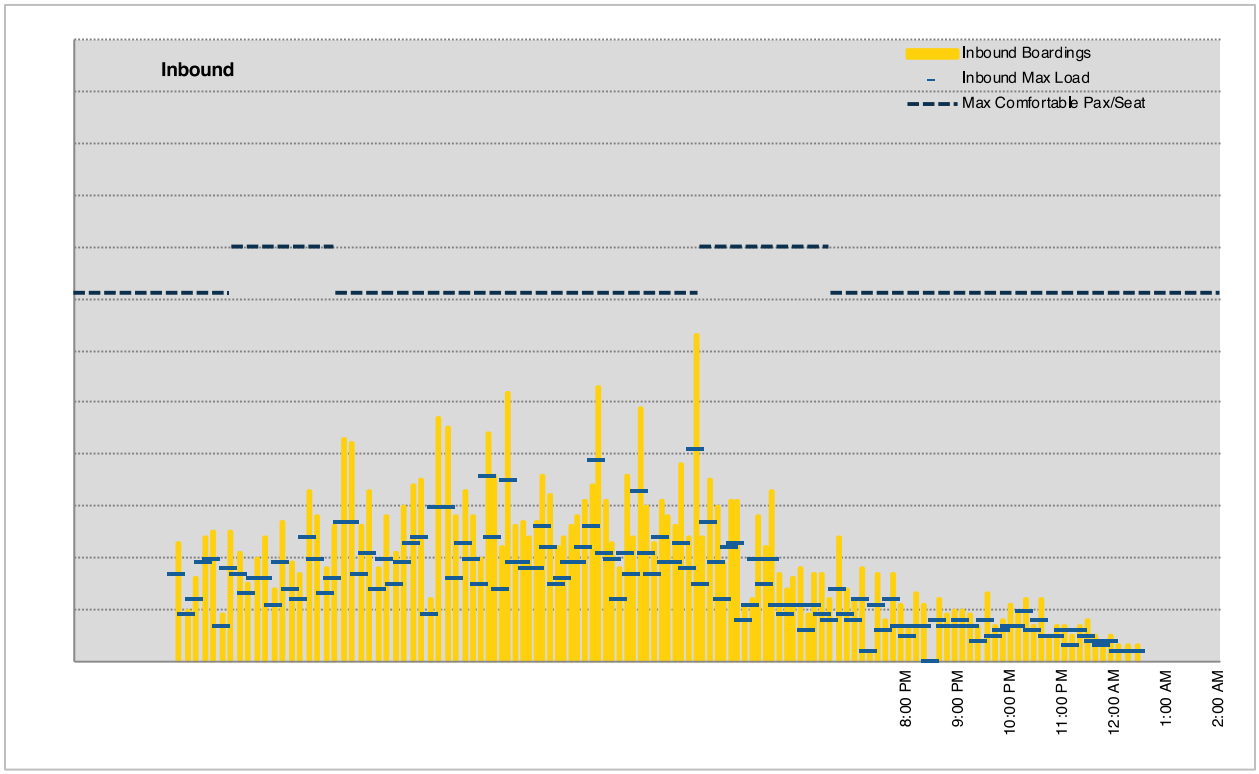
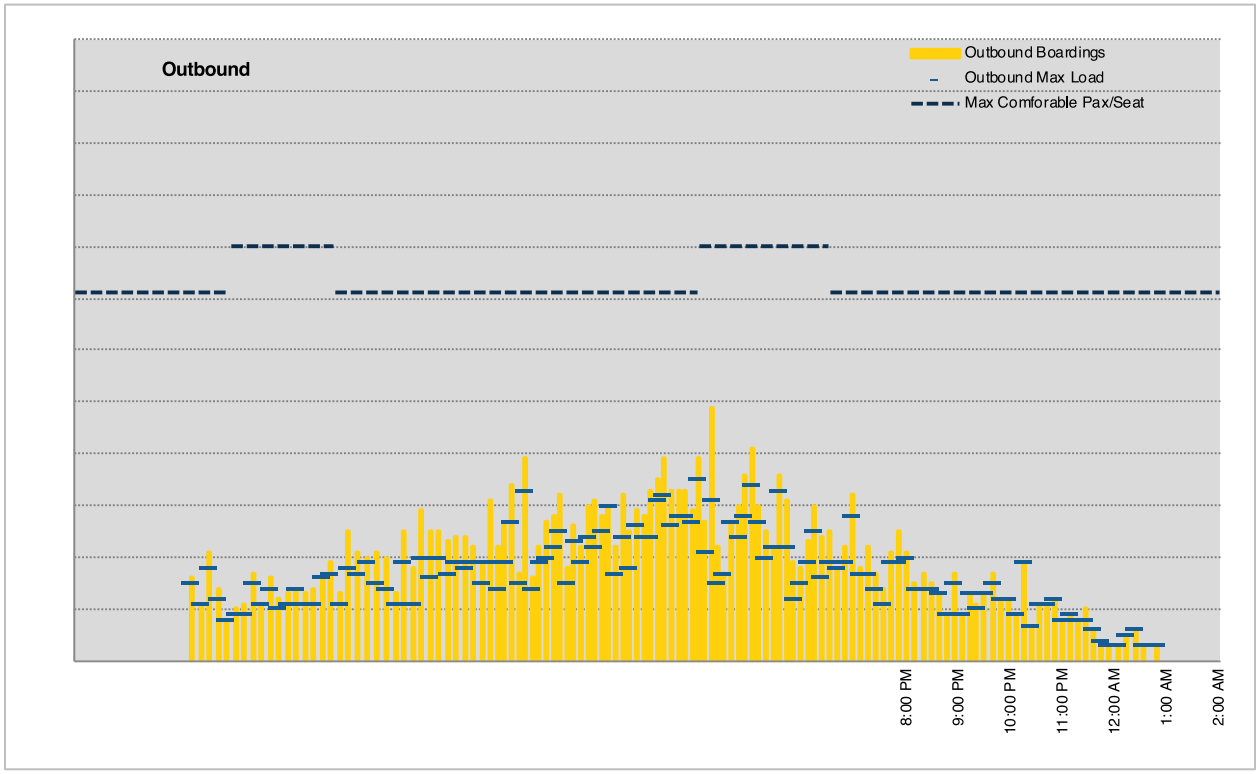


Figure 9 | Sunday Ridership by Trip: Outbound



Passenger Comfort

The MBTA desires that passengers travel in relatively comfortable conditions. More specifically, at least 92% of passengers' travel times should be in comfortable conditions, and ideally, at least 96% of travel times should be in comfortable conditions. Comfortable conditions are considered to be 140% or less of seated capacity during high volume periods and 125% or less during other periods.

Over 97% of passenger minutes are in comfortable conditions, which is above the minimum and target standards of 92% and 96% (see Table 3).

Table 3 | Passenger Time Spent Traveling in Comfortable Conditions

	WEEKDAYS	SATURDAYS	SUNDAYS
Minimum Standard	92%	92%	92%
Target	96%	96%	96%
Actual	97.3%	99.4%	99.9%

Reliability and Speed

Reliability

Passengers using high frequency services like Route SL5 expect buses to arrive on a regular basis, and typically do not rely on published schedules. Route SL5's weekday reliability is 77%, which is above the MBTA's minimum standard of 70%. However, given that Route SL5 operates in dedicated bus lanes for most of its length, this on-time performance is lower than would be expected. The route also suffers from a relatively high percentage of dropped trips, with an average of 2.5%. Saturday and Sunday reliability, 75% and 78% exceed and meet the target of 75% reliability on the weekends but are not a marked improvement over weekday on-time performance. (see Table 4)

Table 4 | Reliability

SERVICE DAY	ORIGIN/MID-ROUTE ON-TIME PERFORMANCE	DESTINATION ON-TIME PERFORMANCE	OVERALL RELIABILITY	DROPPED TRIPS
Monday-Friday	81%	85%	77%	2.5%
Saturday	76%	63%	75%	-
Sunday	75%	89%	78%	-

Running Times

Off-schedule performance is caused in large part by actual running times that differ from scheduled running times, which are sometimes longer and sometimes shorter. In general, trips fall behind schedule during the morning peak period, midday, and evening trips when

trips routinely run five minutes late. Mid-afternoon inbound and PM peak period trips actually run faster than scheduled. (see Figure 10 and 11)

Figure 10 | Scheduled & Median Travel Time by Trip: SL5 Inbound

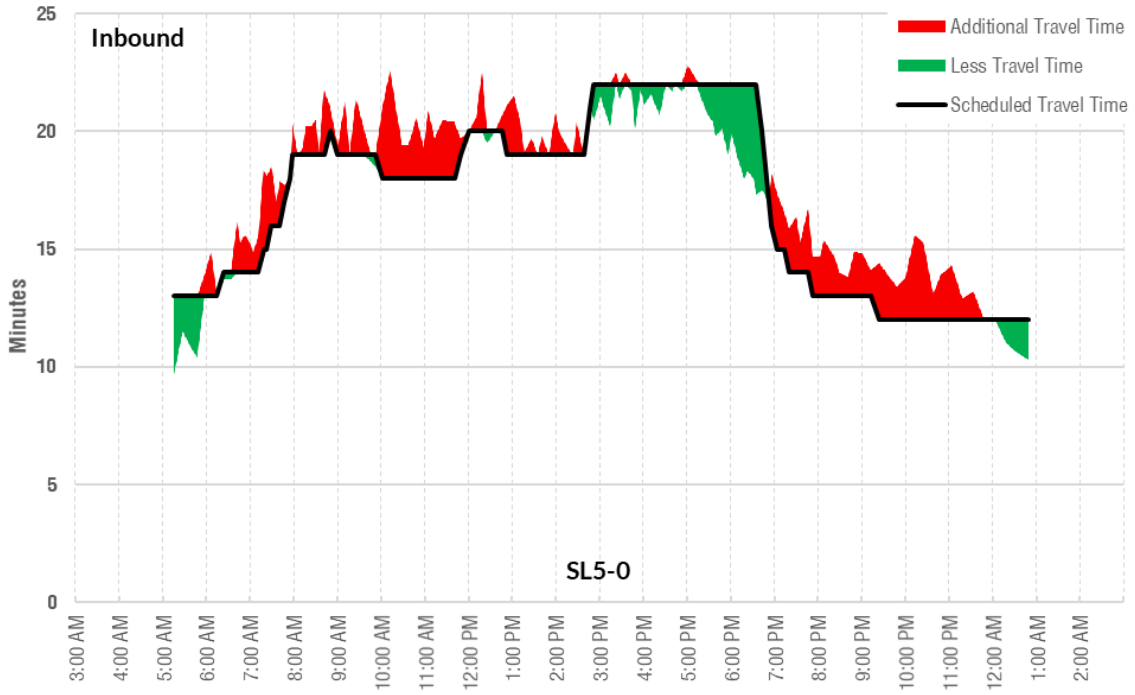
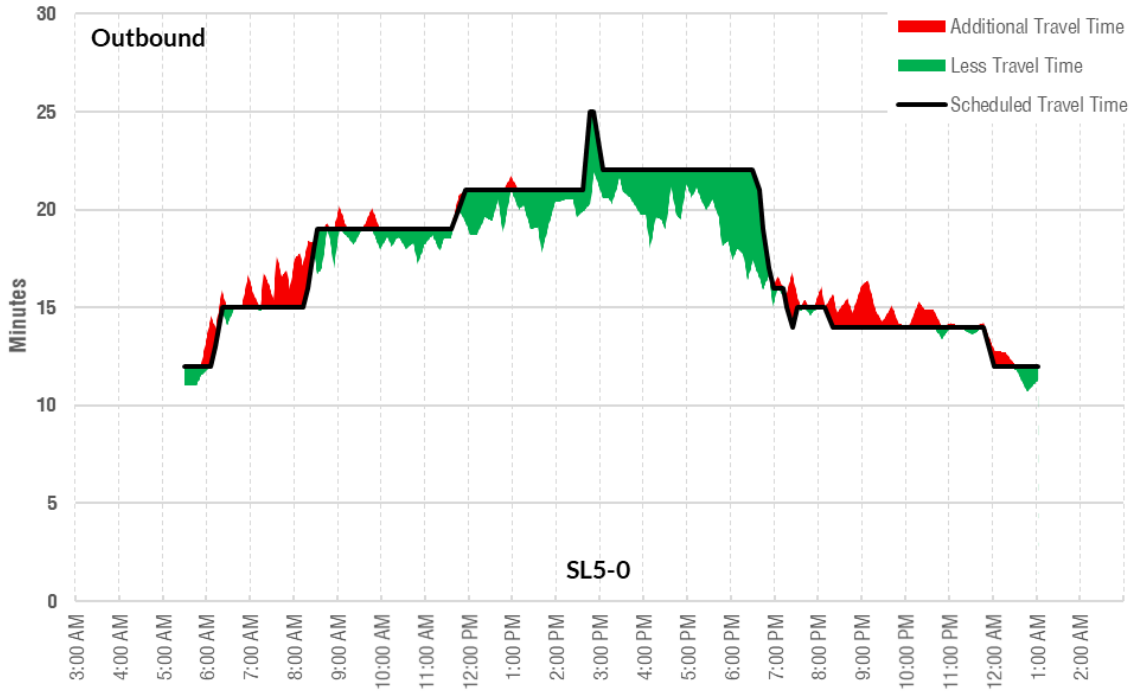


Figure 11 | Scheduled & Median Travel Time by Trip: SL5 Outbound



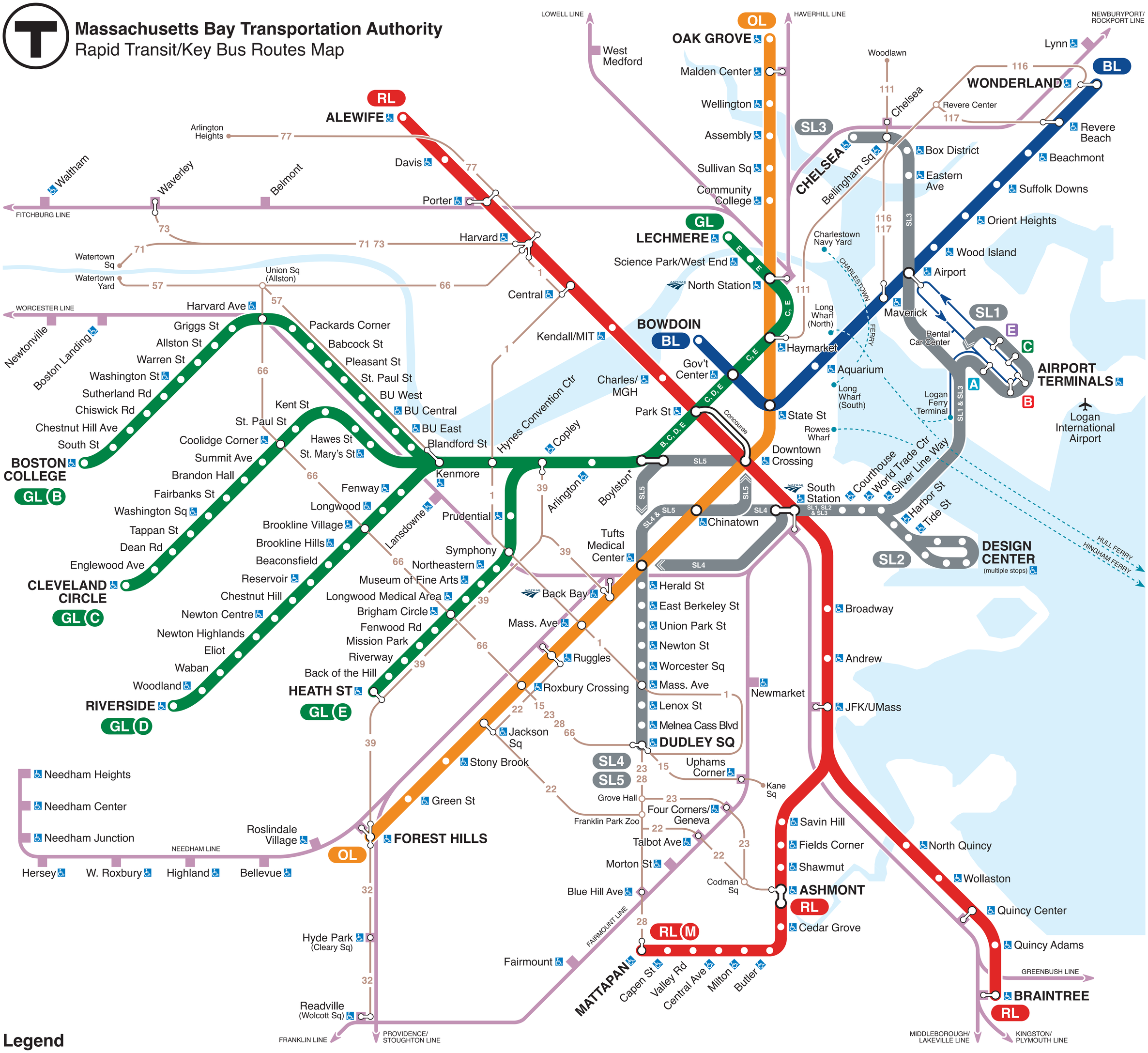
Stop Spacing

Route SL5 has 12 stops over its 2.3 mile length or an average of five per mile. This overall spacing exceeds the MBTA's guidelines of two to four stops per mile for BRT routes, and some stops, particularly between Newton Street and Melnea Cass Boulevard are much closer. In particular, the Worchester Square and Lenox Street stops are not transfer points with other routes and are very close to other stop.

Summary

Overall, Route SL5 is one of the MBTA's strongest bus routes and provides BRT service to one of Greater Boston's highest demand corridors. Its weaknesses are that it is slow and its on-time performance is slow for a BRT route, and that service is not coordinated with Route SL4, which operates along most of the same alignment.

Massachusetts Bay Transportation Authority
Rapid Transit/Key Bus Routes Map



Legend

- RL RED LINE
- M MATTAPAN LINE
- OL ORANGE LINE
- BL BLUE LINE
- SL SILVER LINE and branches (SL1, SL3, SL2, SL4, SL5)
- GL GREEN LINE and branches
  - B Terminates at Park St
  - C Terminates at N. Station
  - D Terminates at Gov't Center
  - E Terminates at Lechmere
- COMMUTER RAIL
- 000 KEY BUS ROUTE — Frequent service
- FERRY
- Accessible station — All MBTA and Massport bus and ferry services are accessible
- Rapid Transit transfer station
- Commuter Rail transfer station
- Free Logan Airport shuttle bus
- Amtrak service — Back Bay, North & South stations

*Boylston: Accessible for Silver Line only

Customer Communications & Travel Info
617-222-3200, 800-392-6100,
TTY 617-222-5146, www.mbta.com

MBTA Transit Police: **911**
TTY 617-222-1200

Elevator/escalator/lift updates: 800-392-6100

Not to scale

Background Developments

Background Developments

Project Name: Boston Medical Center IMP
Project No: 14645.00

		BACKGROUND DEVELOPMENTS																	
		Harrison Albany Block		Hotel Alexandria		Exchange South End		One Newcomb Place		771 Harrison Avenue		1950 Washington Street		BU Medical Center		Shattuck Hospital		TOTAL BACKGROUND DEVELOPMENTS		BIOSQUARE DRIVE / FRONTAGE ROAD CONNECTION	
INTERSECTION	MOVEMENT	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. ALBANY ST AT NORTHAMPTON ST/CROSSTOWN DR																					
Albany Street	EB L																				
	EB T	1	1			72	20									27	14	100	35		
	EB R																				
	WB U																				
Albany Street	WB L																				
	WB T					24	97									10	21	34	118		
	WB R																				
Crosstown Drive	NB L																				
	NB T																				
	NB R																				
Northampton Street	SB L					31	9											31	9		
	SB T																				
	SB R																				
2. ALBANY STREET AT MASSACHUSETTS AVENUE																					
Albany Street	EB U																				
	EB L	1	1															1	1		
	EB T					103	29									27	14	130	43	5	5
	EB R																			-5	-5
Albany Street	WB U																				
	WB L					12	50									6	10	18	60	-7	-20
	WB T					24	97									10	21	34	118		
	WB R					12	50											12	50	29	21
Massachusetts Avenue	NB U																				
	NB L																				
	NB T	12	11	8	8			1	4	2	4	6	6					29	33	-29	-21
	NB R					103	29									25	11	128	40	-76	-7
Massachusetts Avenue	SB L					51	13									2		53	13	27	23
	SB T	7	6	4	7			1	1	2	2	6	6					20	22	-27	-23
	SB R																				
3. ALBANY STREET AT SHAPIRO DR/ POWER PLANT DWY																					
Albany Street	EB U																				
	EB L																				
	EB T					257	71									54	25	311	96	-44	21
	EB R																				
Albany Street	WB U																				
	WB L																				
	WB T					48	197									16	31	64	228	22	1
	WB R																				
Power Plant Driveway	NB U																				
	NB L																				
	NB T																				
	NB R																				
Shapiro Drive	SB L																				
	SB T																				
	SB R																				
4. ALBANY STREET AT EAST CONCORD STREET																					
Albany Street	EB L																				
	EB T					257	71									29	14	286	85	-70	-73
	EB R															25	11	25	11	26	94
Albany Street	WB L															21	10	21	10	-50	-10
	WB T					48	197									16	31	64	228	22	1
	WB R																				
East Concord Street	NB U																				
	NB L																				
	NB T																				
	NB R																				
East Concord Street	SB L																				
	SB T																				
	SB R																				
5. ALBANY ST AT STOUGHTON ST/ EAST STOUGHTON ST																					
Albany Street	EB U																				
	EB L																				
	EB T					257	71									29	14	286	85	-70	-73
	EB R																				
Albany Street	WB U																				
	WB L																				
	WB T					48	197									25	19	73	216	-40	-5
	WB R																				
East Stoughton Street	NB L															12	22	12	22	12	-4
	NB T																				
	NB R															10	22	10	22	-79	-49
Stoughton Street	SB L																				
	SB T																				
	SB R																				
6. ALBANY STREET AT EAST NEWTON STREET																					
Albany Street	EB L															20	10	20	10		
	EB T					257	71									19	26	276	97	-149	-122
	EB R																				
Albany Street	WB L																				
	WB T					48	197									25	19	73	216	-80	-49
	WB R															7	3	7	3	-7	-8
East Newton Street	NB L																			40	44
	NB T																			7	8
	NB R																			-3	-143
East Newton Street	SB L																				
	SB T																				
	SB R																				

Background Developments

Project Name: Boston Medical Center IMP
Project No: 14645.00

		BACKGROUND DEVELOPMENTS																			
		Harrison Albany Block		Hotel Alexandria		Exchange South End		One Newcomb Place		771 Harrison Avenue		1950 Washington Street		BU Medical Center		Shattuck Hospital		TOTAL BACKGROUND DEVELOPMENTS		BIOSQUARE DRIVE / FRONTAGE ROAD CONNECTION	
INTERSECTION	MOVEMENT	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
7. HARRISON AVENUE AT MASSACHUSETTS AVENUE																					
Harrison Avenue	EB L																				
	EB T	10	12					2	1	2	3					43	22	57	38		
	EB R					3	1	1	1									4	2		
Harrison Avenue	WB L	7	6							2	2							9	8		
	WB T	15	21						1	7	2					23	54	45	78		
	WB R	4	3							1		2	2			7	9	14	14		
	NB U																				
Massachusetts Avenue	NB L					1	6	1	4									2	10		
	NB T			8	8	11	44					6	6					25	58		
	NB R	13	12							2	4							15	16		
Massachusetts Avenue	SB U																				
	SB L	3	1									2	2			12	3	17	6		
	SB T			4	7	48	12					6	6			2		60	25		
	SB R			1	2													1	2		
8. HARRISON AVE AT BMC PLACE/ E. SPRINGFIELD ST																					
Harrison Avenue	EB U																				
	EB L																				
	EB T	26	25					2	1	4	7	2	2			55	25	89	60		
	EB R																				
Harrison Avenue	WB U																				
	WB L																				
	WB T	26	30						1	10	4	2	2			30	63	68	100		
	WB R																				
BMC Place	NB L																				
	NB T																				
	NB R																				
East Springfield Street	SB L	1	1															1	1		
	SB T																				
	SB R																				
9. HARRISON AVE AT EAST CONCORD STREET																					
Harrison Avenue	EB U																				
	EB L																				
	EB T	27	26					2	1	4	7	2	2			55	25	90	61		
	EB R																				
Harrison Avenue	WB U																				
	WB L																				
	WB T	26	30						1			2	2			30	63	58	96		
	WB R																				
East Concord Street	NB L																				
	NB T																				
	NB R																				
East Concord Street	SB L	2	2							6	7							8	9		
	SB T																				
	SB R									10	4							10	4		
10. HARRISON AVENUE AT EAST NEWTON STREET																					
Harrison Avenue	EB U																				
	EB L									4	7							4	7		
	EB T	29	28					2	1	6	7	2	2			55	25	94	63		
	EB R																				
Harrison Avenue	WB L																				
	WB T	26	30						1			2	2			26	53	54	86		
	WB R									2	10							2	10		
East Newton Street	NB L															4	10	4	10		
	NB T															7	13	7	13		
	NB R															2	4	2	4		
East Newton Street	SB L																				
	SB T																				
	SB R																				
11. EAST CONCORD ST AT WALKWAY/BMC PLACE																					
BMC Place	EB L																				
	EB T																				
	EB R																				
Walkway	WB L																				
	WB T																				
	WB R																				
East Concord Street	NB L																				
	NB T																				
	NB R																				
East Concord Street	SB L																				
	SB T																				
	SB R																				
12. EAST CONCORD ST AT DRIVEWAY/SHAPIRO DRIVE																					
Shapiro Drive	EB L																				
	EB T																				
	EB R																				
Driveway	WB L																				
	WB T																				
	WB R																				
East Concord Street	NB L																				
	NB T																				
	NB R																				
East Concord Street	SB L																				
	SB T																				
	SB R																				
13. MELNEA CASS BLVD AT NORTHAMPTON STREET																					
Melnea Cass Blvd	EB L																				
	EB T																				
Melnea Cass Blvd	WB T																				
	WB R																				
Northampton Street	SB L																				
	SB R																				

Background Developments

Project Name: Boston Medical Center IMP
Project No: 14645.00

		BACKGROUND DEVELOPMENTS																	
		Harrison Albany Block		Hotel Alexandria		Exchange South End		One Newcomb Place		771 Harrison Avenue		1950 Washington Street		BU Medical Center		Shattuck Hospital		TOTAL BACKGROUND DEVELOPMENTS		BIOSQUARE DRIVE / FRONTAGE ROAD CONNECTION	
INTERSECTION	MOVEMENT	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
14. MELNEA CASS BLVD AT SOUTHAMPTON ST/ MASS AVE																					
Melnea Cass Blvd	EB U																				
	EB L																				
	EB T																				
	EB R																				
Melnea Cass Blvd	WB U																				
	WB L																				
	WB T																				
	WB R	6	5	4	4	52	14	1	2	1	2	3	3			15	5	82	35	-105	-28
Southampton Street	NB U																				
	NB L																				
	NB T	6	6	4	4	51	15		2	1	2	3	3			10	6	75	38		
	NB R																				
Massachusetts Avenue	SB U																				
	SB L	3	2	2	2	12	50	1	1	1	1	3	3			3	5	25	64	-39	-48
	SB T	4	4	2	3					1	1	3	3			3	5	13	16		
	SB R																				
15. I-93 SB FRONTAGE ROAD AT BIOSQUARE DRIVE																					
I-93 SB Frontage Road	SB T																				
	SB R					549	102											549	102	192	85
Biosquare Drive	EB R					84	344											84	344	191	313

Trip Generation

ITE TRIP GENERATION WORKSHEET
(10th Edition, Updated 2017)

***Baseline 2020 SF ***
Existing SF

LANDUSE: Hospital
LANDUSE CODE: 610
SETTING/LOCATION: General Urban/Suburban
JOB NAME:
JOB NUMBER:

Independent Variable --- 1,000 Sq. Feet Gross Floor Area

FLOOR AREA (KSF): 1946.293

WEEKDAY

RATES:

	# Studies	R^2	Total Trip Ends Average	Total Trip Ends Low	Total Trip Ends High	Independent Variable Range Average	Independent Variable Range Low	Independent Variable Range High	Directional Distribution Enter	Directional Distribution Exit
DAILY	8	0.67	10.72	6.12	67.52	563	69	1,778	50%	50%
AM PEAK (ADJACENT ST)	20	0.86	0.89	0.52	5.45	820	69	3,842	68%	32%
PM PEAK (ADJACENT ST)	19	0.88	0.97	0.44	6.94	773	69	3,842	32%	68%

TRIPS:

	BY AVERAGE Total	BY AVERAGE Enter	BY AVERAGE Exit	BY REGRESSION Total	BY REGRESSION Enter	BY REGRESSION Exit
DAILY	20,864	10,432	10,432	14,168	7,084	7,084
AM PEAK (ADJACENT ST)	1,732	1,178	554	1,567	1,065	501
PM PEAK (ADJACENT ST)	1,888	604	1,284	1735	555	1180

SATURDAY AND SUNDAY NOT UPDATED

SATURDAY

RATES:

	# Studies	R^2	Total Trip Ends Average	Total Trip Ends Low	Total Trip Ends High	Independent Variable Range Average	Independent Variable Range Low	Independent Variable Range High	Directional Distribution Enter	Directional Distribution Exit
DAILY	2	--	--	--	--	--	--	--	--	--
PEAK OF GENERATOR	2	--	--	--	--	--	--	--	--	--

TRIPS:

	BY AVERAGE Total	BY AVERAGE Enter	BY AVERAGE Exit	BY REGRESSION Total	BY REGRESSION Enter	BY REGRESSION Exit
DAILY	--	--	--	--	--	--
PEAK OF GENERATOR	--	--	--	--	--	--

SUNDAY

RATES:

	# Studies	R^2	Total Trip Ends Average	Total Trip Ends Low	Total Trip Ends High	Independent Variable Range Average	Independent Variable Range Low	Independent Variable Range High	Directional Distribution Enter	Directional Distribution Exit
DAILY	2	--	--	--	--	--	--	--	--	--
PEAK OF GENERATOR	1	--	--	--	--	--	--	--	--	--

TRIPS:

	BY AVERAGE Total	BY AVERAGE Enter	BY AVERAGE Exit	BY REGRESSION Total	BY REGRESSION Enter	BY REGRESSION Exit
DAILY	--	--	--	--	--	--
PEAK OF GENERATOR	--	--	--	--	--	--

ITE TRIP GENERATION WORKSHEET
(10th Edition, Updated 2017)

Proposed SF with Five, and Ten-Year Projects (2031)
(not including Collamore / Old Evans Buildings)

LANDUSE: Hospital
LANDUSE CODE: 610
SETTING/LOCATION: General Urban/Suburban
JOB NAME:
JOB NUMBER:

Independent Variable --- 1,000 Sq. Feet Gross Floor Area

FLOOR AREA (KSF): 2255.775

WEEKDAY

RATES:

	# Studies	R^2	Total Trip Ends: Average	Low	High	Independent Variable Range: Average	Low	High	Directional Distribution: Enter	Exit
DAILY	8	0.67	10.72	6.12	67.52	563	69	1,778	50%	50%
AM PEAK (ADJACENT ST)	20	0.86	0.89	0.52	5.45	820	69	3,842	68%	32%
PM PEAK (ADJACENT ST)	19	0.88	0.97	0.44	6.94	773	69	3,842	32%	68%

TRIPS:

	BY AVERAGE: Total	Enter	Exit	BY REGRESSION: Total	Enter	Exit
DAILY	24,182	12,091	12,091	15,988	7,994	7,994
AM PEAK (ADJACENT ST)	2,008	1,365	642	1,796	1,221	575
PM PEAK (ADJACENT ST)	2,188	700	1,488	1995	639	1357

SATURDAY AND SUNDAY NOT UPDATED

SATURDAY

RATES:

	# Studies	R^2	Total Trip Ends: Average	Low	High	Independent Variable Range: Average	Low	High	Directional Distribution: Enter	Exit
DAILY	2	--	--	--	--	--	--	--	--	--
PEAK OF GENERATOR	2	--	--	--	--	--	--	--	--	--

TRIPS:

	BY AVERAGE: Total	Enter	Exit	BY REGRESSION: Total	Enter	Exit
DAILY	--	--	--	--	--	--
PEAK OF GENERATOR	--	--	--	--	--	--

SUNDAY

RATES:

	# Studies	R^2	Total Trip Ends: Average	Low	High	Independent Variable Range: Average	Low	High	Directional Distribution: Enter	Exit
DAILY	2	--	--	--	--	--	--	--	--	--
PEAK OF GENERATOR	1	--	--	--	--	--	--	--	--	--

TRIPS:

	BY AVERAGE: Total	Enter	Exit	BY REGRESSION: Total	Enter	Exit
DAILY	--	--	--	--	--	--
PEAK OF GENERATOR	--	--	--	--	--	--

ITE TRIP GENERATION WORKSHEET
(10th Edition, Updated 2017)

****Proposed Residential in Collamore / Old Evans Building****

LANDUSE: Mid-Rise Residential
LANDUSE CODE: 221
SETTING/LOCATION: General Urban/Suburban
JOB NAME:
JOB NUMBER:

Independent Variable --- Number of Units

130 units

WEEKDAY

RATES:

			Total Trip Ends			Independent Variable Range			Directional Distribution	
	# Studies	R^2	Average	Low	High	Average	Low	High	Enter	Exit
DAILY	27	0.77	5.44	1.27	12.50	205	21	494	50%	50%
AM PEAK (ADJACENT ST)	53	0.67	0.36	0.06	1.61	207	26	703	26%	74%
PM PEAK (ADJACENT ST)	60	0.72	0.44	0.15	1.11	208	26	703	61%	39%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	707	354	354	707	353	353
AM PEAK (ADJACENT ST)	47	12	35	44	12	33
PM PEAK (ADJACENT ST)	57	35	22	57	35	22

SATURDAY

RATES:

			Total Trip Ends			Independent Variable Range			Directional Distribution	
	# Studies	R^2	Average	Low	High	Average	Low	High	Enter	Exit
DAILY	6	0.73	4.91	4.03	8.51	224	111	336	50%	50%
PEAK OF GENERATOR	8	0.89	0.44	0.34	0.73	264	111	462	49%	51%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	638	319	319	812	406	406
PEAK OF GENERATOR	57	28	29	61	30	31

SUNDAY

RATES:

			Total Trip Ends			Independent Variable Range			Directional Distribution	
	# Studies	R^2	Average	Low	High	Average	Low	High	Enter	Exit
DAILY	6	--	4.09	3.06	8.41	224	111	336	50%	50%
PEAK OF GENERATOR	6	--	0.39	0.26	1.07	224	111	336	62%	38%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	532	266	266	N/A	N/A	N/A
PEAK OF GENERATOR	51	31	19	N/A	N/A	N/A

TRIP GENERATION SUMMARY - BMC IMP - EXISTING CONDITIONS

	2021 Existing Conditions											
		Employees [2]				Patients / Visitors [2]				Total		
	Gross Trips [1]	Person Trips [3]	Vehicle Trips [4]	Transit Trips [4]	Walk/Bike Trips [4]	Person Trips [5]	Vehicle Trips [6]	Transit Trips [6]	Walk/Bike Trips [6]	Vehicle Trips	Transit Trips	Walk/Bike Trips
Weekday Daily												
Enter	7,084	5,578	1,371	2,901	1,060	4,289	1,320	729	1,158	2,691	3,630	2,218
Exit	7,084	5,578	1,371	2,901	1,060	4,289	1,320	729	1,158	2,691	3,630	2,218
Total	14,168	11,156	2,742	5,802	2,120	8,578	2,640	1,458	2,316	5,382	7,260	4,436
Weekday Morning Peak Hour												
Enter	1,065	839	206	436	159	645	198	110	174	404	546	333
Exit	501	395	97	205	75	304	94	52	82	191	257	157
Total	1,567	1,234	303	641	234	949	292	162	256	595	803	490
Weekday Evening Peak Hour												
Enter	555	437	107	227	83	336	103	57	91	210	284	174
Exit	1,180	929	228	483	177	715	220	122	193	448	605	370
Total	1,735	1,366	335	710	260	1,051	323	179	284	658	889	544

1 Trip generation estimate based on ITE LUC 610 (Hospital) for 1,946,293 sf, using regression equations.

2 Breakdown of employee vs patient/visitor trips based on proportion of employee assigned parking spaces vs patient parking spaces

3 VOR based on Summary of Travel Trends, 2017 National Household Travel Survey, USDOT FHA (Table 16). "To/from work" VOR of 1.18 applied to employee trips.

4 Mode Share based on 2018 rideshare survey for BMC employees.

5 VOR based on Summary of Travel Trends, 2017 National Household Travel Survey, USDOT FHA (Table 16). "Personal Errands" VOR of 1.82 applied to patient/visitor trips.

6 Mode Shares based on BTD mode split data for the Medical Area (BTD Area 15) under the "All Purposes" category. Daily average mode shares used to be conservative.

TRIP GENERATION SUMMARY - BMC IMP - 2031 BUILD CONDITIONS

	2031 Proposed Conditions (Ten-Year Build Out)																		
	Proposed Total Hospital												Proposed Housing (at Collamore / Old Evans)					Total Adjusted Trips (All SF)		
		Employees [2]				Patients / Visitors [2]				Total (Non-Housing)				Residential						
	Gross Trips [1]	Person Trips [3]	Vehicle Trips [4]	Transit Trips [4]	Walk/Bike Trips [4]	Person Trips [5]	Vehicle Trips [6]	Transit Trips [6]	Walk/Bike Trips [6]	*Vehicle Trips*	*Transit Trips*	*Walk/Bike Trips*	Gross Trips [7]	Person Trips [3]	Vehicle Trips [8]	Transit Trips [8]	Walk/Bike Trips [8]	Vehicle Trips	Transit Trips	Walk/Bike Trips
Weekday Daily																				
Enter	7,994	6,295	1,547	3,273	1,196	4,840	1,489	823	1,307	*3,036*	*4,096*	*2,503*	353	417	85	129	188	3,121	4,225	2,691
Exit	7,994	6,295	1,547	3,273	1,196	4,840	1,489	823	1,307	*3,036*	*4,096*	*2,503*	353	417	85	129	188	3,121	4,225	2,691
Total	15,988	12,590	3,094	6,546	2,392	9,680	2,978	1,646	2,614	*6,072*	*8,192*	*5,006*	707	834	170	258	376	6,242	8,450	5,382
Weekday Morning Peak Hour																				
Enter	1,221	961	236	500	183	739	227	126	200	*463*	*626*	*383*	12	14	3	4	6	466	630	389
Exit	575	452	111	235	86	348	107	59	94	*218*	*294*	*180*	33	39	8	12	18	226	306	198
Total	1,796	1,413	347	735	269	1,087	334	185	294	*681*	*920*	*563*	44	53	11	16	24	692	936	587
Weekday Evening Peak Hour																				
Enter	639	503	124	262	96	387	119	66	104	*243*	*328*	*200*	35	41	8	13	18	251	341	218
Exit	1,357	1,068	262	555	203	822	253	140	222	*515*	*695*	*425*	22	26	5	8	12	520	703	437
Total	1,995	1,571	386	817	299	1,209	372	206	326	*758*	*1,023*	*625*	57	67	13	21	30	771	1,044	655

1 Trip generation estimate based on ITE LUC 610 (Hospital) for 2,255,775 sf, using regression equations (does not include square footage at Collamore / Old Evans buildings).
2 Breakdown of employee vs patient/visitor trips based on proportion of employee assigned parking spaces vs patient parking spaces
3 VOR based on Summary of Travel Trends, 2017 National Household Travel Survey, USDOT FHA (Table 16). "To/from work" VOR of 1.18 applied to employee and residential trips.
4 Mode Share based on 2018 rideshare survey for BMC employees.
5 VOR based on Summary of Travel Trends, 2017 National Household Travel Survey, USDOT FHA (Table 16). "Personal Errands" VOR of 1.82 applied to patient/visitor trips.
6 Mode Shares based on BTD mode split data for the Medical Area (BTD Area 15) under the "All Purposes" category. Daily average mode shares used to be conservative.
7 Trip generation estimate based on ITE LUC 221 (Mid-Rise Residential) for 130 units, using regression equations.
8 Mode Share based on US Census Data (2019 ACS 5-Year Estimates) for Census Tract 711.01

TRIP GENERATION SUMMARY - BMC IMP - NET NEW TRIPS

	Change from 2021 Existing Conditions to 2031 Build Conditions											
	Total Adjusted New Trips											
	Employees			Patients / Visitors			Residential			Total		
	Vehicle Trips	Transit Trips	Walk/Bike Trips	Vehicle Trips	Transit Trips	Walk/Bike Trips	Vehicle Trips	Transit Trips	Walk/Bike Trips	Vehicle Trips	Transit Trips	Walk/Bike Trips
Weekday Daily												
Enter	176	372	136	169	94	149	85	129	188	**430**	**595**	**473**
Exit	176	372	136	169	94	149	85	129	188	**430**	**595**	**473**
Total	352	744	272	338	188	298	170	258	376	**860**	**1,190**	**946**
Weekday Morning Peak Hour												
Enter	30	64	24	29	16	26	3	4	6	**62**	**84**	**56**
Exit	14	30	11	13	7	12	8	12	18	**35**	**49**	**41**
Total	44	94	35	42	23	38	11	16	24	**97**	**133**	**97**
Weekday Evening Peak Hour												
Enter	17	35	13	16	9	13	8	13	18	**41**	**57**	**44**
Exit	34	72	26	33	18	29	5	8	12	**72**	**98**	**67**
Total	51	107	39	49	27	42	13	21	30	**113**	**155**	**111**

Note: Total Adjusted Trips refrences net new trips between 2021 Existing Conditions and 2031 Build Conditions

Trip Distribution Calculations

Employee

Trip Distribution - Office Entering

Residence						Total of Workplace								Cumulative Total						
State/U.S. Island Area/Foreign Country/County/MCD	Count	Adjustment Percentage[1]	Adjusted Count	Percent of Total	Cumulative Total	Massachusetts Avenue to/from south	Massachusetts Avenue to/from north	I-93 to/from north	I-93 to/from south	East Springfield Street	Harrison Avenue/Albany Street to/from west	Total	CHECK	Massachusetts Avenue to/from south	Massachusetts Avenue to/from north	I-93 to/from north	I-93 to/from south	East Springfield Street	Harrison Avenue/Albany Street to/from west	Total
Dorchester, Massachusetts	97	0.5	49	7.2%	7.2%	50%					50%	100%		3.58%	0.00%	0.00%	0.00%	0.00%	3.58%	7.16%
Quincy, Massachusetts	72	0.8	58	5.3%	12.5%	10%			90%			100%		0.53%	0.00%	0.00%	4.79%	0.00%	0.00%	5.32%
Cambridge, Massachusetts	56	0.4	22	4.1%	16.6%		50%			50%		100%		0.00%	2.07%	0.00%	0.00%	2.07%	0.00%	4.14%
South End, Massachusetts	55	0.2	11	4.1%	20.7%		50%			50%		100%		0.00%	2.03%	0.00%	0.00%	2.03%	0.00%	4.06%
Jamaica Plain, Massachusetts	53	0.7	37	3.9%	24.6%		20%				80%	100%		0.00%	0.78%	0.00%	0.00%	0.00%	3.13%	3.91%
Brookline, Massachusetts	48	0.6	29	3.5%	28.1%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	3.55%	3.55%
South Boston, Massachusetts	34	0.4	14	2.5%	30.6%	40%		60%				100%		1.00%	0.00%	1.51%	0.00%	0.00%	0.00%	2.51%
Brockton, Massachusetts	33	1	33	2.4%	33.1%				100%			100%		0.00%	0.00%	0.00%	2.44%	0.00%	0.00%	2.44%
Roslindale, Massachusetts	32	0.7	22	2.4%	35.5%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	2.36%	2.36%
Brighton, Massachusetts	30	0.9	27	2.2%	37.7%			100%				100%		0.00%	0.00%	2.22%	0.00%	0.00%	0.00%	2.22%
Somerville, Massachusetts	29	0.5	15	2.1%	39.8%			100%				100%		0.00%	0.00%	2.14%	0.00%	0.00%	0.00%	2.14%
Weymouth, Massachusetts	29	1	29	2.1%	41.9%				100%			100%		0.00%	0.00%	0.00%	2.14%	0.00%	0.00%	2.14%
Randolph, Massachusetts	28	1	28	2.1%	44.0%				100%			100%		0.00%	0.00%	0.00%	2.07%	0.00%	0.00%	2.07%
Fenway, Massachusetts	27	0.5	14	2.0%	46.0%		50%			50%		100%		0.00%	1.00%	0.00%	0.00%	1.00%	0.00%	1.99%
Roxbury, Massachusetts	26	0.5	13	1.9%	47.9%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	1.92%	1.92%
Braintree, Massachusetts	24	1	24	1.8%	49.7%				100%			100%		0.00%	0.00%	0.00%	1.77%	0.00%	0.00%	1.77%
Hyde Park, Massachusetts	24	0.7	17	1.8%	51.5%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	1.77%	1.77%
Malden, Massachusetts	24	0.9	22	1.8%	53.2%			100%				100%		0.00%	0.00%	1.77%	0.00%	0.00%	0.00%	1.77%
Medford, Massachusetts	21	1	21	1.6%	54.8%			100%				100%		0.00%	0.00%	1.55%	0.00%	0.00%	0.00%	1.55%
Milton, Massachusetts	20	1	20	1.5%	56.3%				80%		20%	100%		0.00%	0.00%	0.00%	1.18%	0.00%	0.30%	1.48%
Melrose, Massachusetts	19	1	19	1.4%	57.7%			100%				100%		0.00%	0.00%	1.40%	0.00%	0.00%	0.00%	1.40%
West Roxbury, Massachusetts	18	0.8	14	1.3%	59.0%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	1.33%	1.33%
Back Bay, Massachusetts	17	0.3	5	1.3%	60.3%		50%			50%		100%		0.00%	0.63%	0.00%	0.00%	0.63%	0.00%	1.26%
Mattapan, Massachusetts	17	0.7	12	1.3%	61.5%				10%		90%	100%		0.00%	0.00%	0.00%	0.13%	0.00%	1.13%	1.26%
Watertown, Massachusetts	16	0.9	14	1.2%	62.7%			100%				100%		0.00%	0.00%	1.18%	0.00%	0.00%	0.00%	1.18%
Revere, Massachusetts	15	0.9	14	1.1%	63.8%			100%				100%		0.00%	0.00%	1.11%	0.00%	0.00%	0.00%	1.11%
Waltham, Massachusetts	15	0.9	14	1.1%	64.9%			100%				100%		0.00%	0.00%	1.11%	0.00%	0.00%	0.00%	1.11%
Dedham, Massachusetts	13	0.9	12	1.0%	65.9%				30%		70%	100%		0.00%	0.00%	0.00%	0.29%	0.00%	0.67%	0.96%
Newton, Massachusetts	13	0.8	10	1.0%	66.8%			100%				100%		0.00%	0.00%	0.96%	0.00%	0.00%	0.00%	0.96%
Canton, Massachusetts	12	1	12	0.9%	67.7%				100%			100%		0.00%	0.00%	0.00%	0.89%	0.00%	0.00%	0.89%
Hingham, Massachusetts	12	1	12	0.9%	68.6%				100%			100%		0.00%	0.00%	0.00%	0.89%	0.00%	0.00%	0.89%
Marshfield, Massachusetts	12	1	12	0.9%	69.5%				100%			100%		0.00%	0.00%	0.00%	0.89%	0.00%	0.00%	0.89%
Mission Hill, Massachusetts	11	0.5	6	0.8%	70.3%		20%				80%	100%		0.00%	0.16%	0.00%	0.00%	0.00%	0.65%	0.81%
Scituate, Massachusetts	11	1	11	0.8%	71.1%				100%			100%		0.00%	0.00%	0.00%	0.81%	0.00%	0.00%	0.81%
Stoughton, Massachusetts	11	1	11	0.8%	71.9%				100%			100%		0.00%	0.00%	0.00%	0.81%	0.00%	0.00%	0.81%
Allston, Massachusetts	10	0.6	6	0.7%	72.7%		10%	80%		10%		100%		0.00%	0.07%	0.59%	0.00%	0.07%	0.00%	0.74%
Norwood, Massachusetts	10	1	10	0.7%	73.4%			10%	90%			100%		0.00%	0.00%	0.07%	0.66%	0.00%	0.00%	0.74%
East Boston, Massachusetts	9	0.6	5	0.7%	74.1%			100%				100%		0.00%	0.00%	0.66%	0.00%	0.00%	0.00%	0.66%
Lexington, Massachusetts	9	1	9	0.7%	74.7%			100%				100%		0.00%	0.00%	0.66%	0.00%	0.00%	0.00%	0.66%
Arlington, Massachusetts	8	1	8	0.6%	75.3%			100%				100%		0.00%	0.00%	0.59%	0.00%	0.00%	0.00%	0.59%
Bridgewater, Massachusetts	8	1	8	0.6%	75.9%				100%			100%		0.00%	0.00%	0.00%	0.59%	0.00%	0.00%	0.59%
Charlestown, Massachusetts	8	0.6	5	0.6%	76.5%			100%				100%		0.00%	0.00%	0.59%	0.00%	0.00%	0.00%	0.59%
Chelsea, Massachusetts	8	0.9	7	0.6%	77.1%			100%				100%		0.00%	0.00%	0.59%	0.00%	0.00%	0.00%	0.59%
Everett, Massachusetts	8	0.9	7	0.6%	77.7%			100%				100%		0.00%	0.00%	0.59%	0.00%	0.00%	0.00%	0.59%
Framingham, Massachusetts	8	1	8	0.6%	78.3%			100%				100%		0.00%	0.00%	0.59%	0.00%	0.00%	0.00%	0.59%
Hull, Massachusetts	8	1	8	0.6%	78.9%				100%			100%		0.00%	0.00%	0.00%	0.59%	0.00%	0.00%	0.59%
Peabody, Massachusetts	8	1	8	0.6%	79.5%			100%				100%		0.00%	0.00%	0.59%	0.00%	0.00%	0.00%	0.59%
Wakefield, Massachusetts	8	1	8	0.6%	80.1%			100%				100%		0.00%	0.00%	0.59%	0.00%	0.00%	0.00%	0.59%
Norton, Massachusetts	7	1	7	0.5%	80.6%				100%			100%		0.00%	0.00%	0.00%	0.52%	0.00%	0.00%	0.52%
Reading, Massachusetts	7	1	7	0.5%	81.1%			100%				100%		0.00%	0.00%	0.52%	0.00%	0.00%	0.00%	0.52%
Stoneham, Massachusetts	7	1	7	0.5%	81.6%			100%				100%		0.00%	0.00%	0.52%	0.00%	0.00%	0.00%	0.52%
Easton, Massachusetts	6	1	6	0.4%	82.1%				100%			100%		0.00%	0.00%	0.00%	0.44%	0.00%	0.00%	0.44%
Hanover, Massachusetts	6	1	6	0.4%	82.5%				100%			100%		0.00%	0.00%	0.00%	0.44%	0.00%	0.00%	0.44%
Hanson, Massachusetts	6	1	6	0.4%	82.9%				100%			100%		0.00%	0.00%	0.00%	0.44%	0.00%	0.00%	0.44%
Lowell, Massachusetts	6	1	6	0.4%	83.4%			100%				100%		0.00%	0.00%	0.44%	0.00%	0.00%	0.00%	0.44%
Natick, Massachusetts	6	1	6	0.4%	83.8%			100%				100%		0.00%	0.00%	0.44%	0.00%	0.00%	0.00%	0.44%
Needham, Massachusetts	6	1	6	0.4%	84.3%			100%				100%		0.00%	0.00%	0.44%	0.00%	0.00%	0.00%	0.44%
Plymouth, Massachusetts	6	1	6	0.4%	84.7%				100%			100%		0.00%	0.00%	0.00%	0.44%	0.00%	0.00%	0.44%
Walpole, Massachusetts	6	1	6	0.4%	85.2%				100%			100%		0.00%	0.00%	0.00%	0.44%	0.00%	0.00%	0.44%
Whitman, Massachusetts	6	1	6	0.4%	85.6%				100%			100%		0.00%	0.00%	0.00%	0.44%	0.00%	0.00%	0.44%
Winthrop, Massachusetts	6	1	6	0.4%	86.0%			100%				100%		0.00%	0.00%	0.44%	0.00%	0.00%	0.00%	0.44%
Woburn, Massachusetts	6	1	6	0.4%	86.5%			100%				100%		0.00%	0.00%	0.44%	0.00%	0.00%	0.00%	0.44%
Andover, Massachusetts	5	1	5	0.4%	86.9%			100%				100%		0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.37%
Attleboro, Massachusetts	5	1	5	0.4%	87.2%				100%			100%		0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.37%
Belmont, Massachusetts	5	1	5	0.4%	87.6%			100%				100%		0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.37%
Beverly, Massachusetts	5	1	5	0.4%	88.0%			100%				100%		0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.37%
Danvers, Massachusetts	5	1	5	0.4%	88.3%			100%				100%		0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.37%
Foxborough, Massachusetts	5	1	5	0.4%	88.7%				100%			100%		0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.37%
Franklin, Massachusetts	5	1	5	0.4%	89.1%				100%			100%		0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.37%
Holbrook, Massachusetts	5	1	5	0.4%	89.4%				100%			100%		0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.37%

Lynnfield, Massachusetts	5	1	5	0.4%	89.8%		100%			100%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.37%
Raynham, Massachusetts	5	1	5	0.4%	90.2%			100%		100%	0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.37%
Salem, Massachusetts	5	1	5	0.4%	90.5%		100%			100%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.37%
Saugus, Massachusetts	5	1	5	0.4%	90.9%		100%			100%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.37%
Southborough, Massachusetts	5	1	5	0.4%	91.3%		100%			100%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.37%
Taunton, Massachusetts	5	1	5	0.4%	91.7%			100%		100%	0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.37%
Ashland, Massachusetts	4	1	4	0.3%	91.9%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
Beacon Hill, Massachusetts	4	0.3	1	0.3%	92.2%	50%			50%	100%	0.00%	0.15%	0.00%	0.00%	0.15%	0.00%	0.30%
Burlington, Massachusetts	4	1	4	0.3%	92.5%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
Derry, New Hampshire	4	1	4	0.3%	92.8%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
East Bridgewater, Massachusetts	4	1	4	0.3%	93.1%			100%		100%	0.00%	0.00%	0.00%	0.30%	0.00%	0.00%	0.30%
Methuen, Massachusetts	4	1	4	0.3%	93.4%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
North End, Massachusetts	4	0.2	1	0.3%	93.7%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
Pembroke, Massachusetts	4	1	4	0.3%	94.0%			100%		100%	0.00%	0.00%	0.00%	0.30%	0.00%	0.00%	0.30%
Rockland, Massachusetts	4	1	4	0.3%	94.3%			100%		100%	0.00%	0.00%	0.00%	0.30%	0.00%	0.00%	0.30%
Sharon, Massachusetts	4	1	4	0.3%	94.6%			100%		100%	0.00%	0.00%	0.00%	0.30%	0.00%	0.00%	0.30%
Wellesley, Massachusetts	4	1	4	0.3%	94.9%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
Weston, Massachusetts	4	1	4	0.3%	95.2%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
Wilmington, Massachusetts	4	1	4	0.3%	95.5%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
Winchester, Massachusetts	4	1	4	0.3%	95.8%		100%			100%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.30%
Abington, Massachusetts	3	1	3	0.2%	96.0%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
Avon, Massachusetts	3	1	3	0.2%	96.2%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
Billerica, Massachusetts	3	1	3	0.2%	96.5%		100%			100%	0.00%	0.00%	0.22%	0.00%	0.00%	0.00%	0.22%
Duxbury, Massachusetts	3	1	3	0.2%	96.7%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
Lynn, Massachusetts	3	1	3	0.2%	96.9%		100%			100%	0.00%	0.00%	0.22%	0.00%	0.00%	0.00%	0.22%
Mansfield, Massachusetts	3	1	3	0.2%	97.1%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
Marlborough, Massachusetts	3	1	3	0.2%	97.3%		100%			100%	0.00%	0.00%	0.22%	0.00%	0.00%	0.00%	0.22%
Middleborough, Massachusetts	3	1	3	0.2%	97.6%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
North Attleborough, Massachusetts	3	1	3	0.2%	97.8%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
Norwell, Massachusetts	3	1	3	0.2%	98.0%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
Rochester, Massachusetts	3	1	3	0.2%	98.2%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
Westwood, Massachusetts	3	1	3	0.2%	98.4%		20%	80%		100%	0.00%	0.00%	0.04%	0.18%	0.00%	0.00%	0.22%
Wrentham, Massachusetts	3	1	3	0.2%	98.7%			100%		100%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.22%
Downtown Boston, Massachusetts	2	0.2	0	0.1%	98.8%		50%		50%	100%	0.00%	0.00%	0.07%	0.00%	0.07%	0.00%	0.15%
Holliston, Massachusetts	2	1	2	0.1%	99.0%		100%			100%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
Leominster, Massachusetts	2	1	2	0.1%	99.1%		100%			100%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
Marblehead, Massachusetts	2	1	2	0.1%	99.3%		100%			100%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
Milford, Massachusetts	2	1	2	0.1%	99.4%		100%			100%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
Nahant, Massachusetts	2	1	2	0.1%	99.6%		100%			100%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
Rowley, Massachusetts	2	1	2	0.1%	99.7%		100%			100%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
Tewksbury, Massachusetts	2	1	2	0.1%	99.9%		100%			100%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
Westborough, Massachusetts	2	1	2	0.1%	100.0%		100%			100%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
Totals	1,354		294	100.0%							5.12%	6.89%	31.91%	29.68%	6.02%	20.39%	100.00%
											5.0%	**7.0%**	**32.0%**	**30.0%**	**6.0%**	**20.0%**	**100.0%**

1 Adjustments were made to some communities based on the likelihood that people who work in those communities would opt to live closer to their place of employment or closer to transit opportunities.

Patient

Trip Distribution - Office Entering

Residence						Total of Workplace								Cumulative Total						
State/U.S. Island Area/Foreign Country/County/MCD	Count	Adjustment Percentage[1]	Adjusted Count	Percent of Total	Cumulative Total	Massachusetts Avenue to/from south	Massachusetts Avenue to/from north	I-93 to/from north	I-93 to/from south	East Springfield Street	Harrison Avenue/Albany Street to/from west	Total	CHECK	Massachusetts Avenue to/from south	Massachusetts Avenue to/from north	I-93 to/from north	I-93 to/from south	East Springfield Street	Harrison Avenue/Albany Street to/from west	Total
Dorchester, Massachusetts	227062	0.5	113,531	23.2%	23.2%	50%					50%	100%		11.62%	0.00%	0.00%	0.00%	0.00%	11.62%	23.23%
Roxbury, Massachusetts	69151	0.5	34,576	7.1%	30.3%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	7.08%	7.08%
South End, Massachusetts	66317	0.2	13,263	6.8%	37.1%		50%			50%		100%		0.00%	3.39%	0.00%	0.00%	3.39%	0.00%	6.79%
Mattapan, Massachusetts	43805	0.7	30,664	4.5%	41.6%				10%		90%	100%		0.00%	0.00%	0.00%	0.45%	0.00%	4.03%	4.48%
East Boston, Massachusetts	38374	0.6	23,024	3.9%	45.5%			100%				100%		0.00%	1.96%	0.00%	0.00%	1.96%	0.00%	3.93%
Brockton, Massachusetts	37733	1	37,733	3.9%	49.4%				100%			100%		0.00%	0.00%	0.00%	3.86%	0.00%	0.00%	3.86%
Hyde Park, Massachusetts	37515	0.7	26,261	3.8%	53.2%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	3.84%	3.84%
Quincy, Massachusetts	29806	0.8	23,845	3.0%	56.3%	10%			90%			100%		0.30%	0.00%	0.00%	2.74%	0.00%	0.00%	3.05%
South Boston, Massachusetts	28656	0.4	11,462	2.9%	59.2%	40%		60%				100%		1.17%	0.00%	1.76%	0.00%	0.00%	0.00%	2.93%
Revere, Massachusetts	26899	0.9	24,209	2.8%	61.9%			100%				100%		0.00%	0.00%	2.75%	0.00%	0.00%	0.00%	2.75%
Chelsea, Massachusetts	22309	0.9	20,078	2.3%	64.2%			100%				100%		0.00%	0.00%	2.28%	0.00%	0.00%	0.00%	2.28%
Randolph, Massachusetts	22143	1	22,143	2.3%	66.5%				100%			100%		0.00%	0.00%	0.00%	2.27%	0.00%	0.00%	2.27%
Roslindale, Massachusetts	21814	0.7	15,270	2.2%	68.7%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	2.23%	2.23%
Lynn, Massachusetts	21332	1	21,332	2.2%	70.9%			100%				100%		0.00%	0.00%	2.18%	0.00%	0.00%	0.00%	2.18%
Jamaica Plain, Massachusetts	20419	0.7	14,293	2.1%	73.0%		20%				80%	100%		0.00%	0.42%	0.00%	0.00%	0.00%	1.67%	2.09%
Cambridge, Massachusetts	15909	0.4	6,364	1.6%	74.6%		50%			50%		100%		0.00%	0.81%	0.00%	0.00%	0.81%	0.00%	1.63%
Malden, Massachusetts	15465	0.9	13,919	1.6%	76.2%			100%				100%		0.00%	0.00%	1.58%	0.00%	0.00%	0.00%	1.58%
Everett, Massachusetts	14502	0.9	13,052	1.5%	77.7%			100%				100%		0.00%	0.00%	1.48%	0.00%	0.00%	0.00%	1.48%
Mission Hill, Massachusetts	13229	0.5	6,615	1.4%	79.0%		20%				80%	100%		0.00%	0.27%	0.00%	0.00%	0.00%	1.08%	1.35%
Fenway, Massachusetts	13017	0.5	6,509	1.3%	80.4%		50%			50%		100%		0.00%	0.67%	0.00%	0.00%	0.67%	0.00%	1.33%
Weymouth, Massachusetts	10158	1	10,158	1.0%	81.4%				100%			100%		0.00%	0.00%	0.00%	1.04%	0.00%	0.00%	1.04%
Somerville, Massachusetts	9023	0.5	4,512	0.9%	82.3%			100%				100%		0.00%	0.00%	0.92%	0.00%	0.00%	0.00%	0.92%
Back Bay, Massachusetts	8437	0.3	2,531	0.9%	83.2%		50%			50%		100%		0.00%	0.43%	0.00%	0.00%	0.43%	0.00%	0.86%
Waltham, Massachusetts	7834	0.9	7,051	0.8%	84.0%			100%				100%		0.00%	0.00%	0.80%	0.00%	0.00%	0.00%	0.80%
Brighton, Massachusetts	7832	0.9	7,049	0.8%	84.8%			100%				100%		0.00%	0.00%	0.80%	0.00%	0.00%	0.00%	0.80%
Lawrence, Massachusetts	7272	1	7,272	0.7%	85.5%			100%				100%		0.00%	0.00%	0.74%	0.00%	0.00%	0.00%	0.74%
Stoughton, Massachusetts	7048	1	7,048	0.7%	86.3%				100%			100%		0.00%	0.00%	0.00%	0.72%	0.00%	0.00%	0.72%
West Roxbury, Massachusetts	6996	0.8	5,597	0.7%	87.0%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	0.72%	0.72%
Brookline, Massachusetts	6946	0.6	4,168	0.7%	87.7%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	0.71%	0.71%
Medford, Massachusetts	6606	1	6,606	0.7%	88.4%			100%				100%		0.00%	0.00%	0.68%	0.00%	0.00%	0.00%	0.68%
Winthrop, Massachusetts	6600	1	6,600	0.7%	89.0%			100%				100%		0.00%	0.00%	0.68%	0.00%	0.00%	0.00%	0.68%
Braintree, Massachusetts	6373	1	6,373	0.7%	89.7%				100%			100%		0.00%	0.00%	0.00%	0.65%	0.00%	0.00%	0.65%
Milton, Massachusetts	6297	1	6,297	0.6%	90.3%			80%			20%	100%		0.00%	0.00%	0.52%	0.00%	0.00%	0.13%	0.64%
Charlestown, Massachusetts	5952	0.6	3,571	0.6%	90.9%			100%				100%		0.00%	0.00%	0.61%	0.00%	0.00%	0.00%	0.61%
Lowell, Massachusetts	4827	1	4,827	0.5%	91.4%			100%				100%		0.00%	0.00%	0.49%	0.00%	0.00%	0.00%	0.49%
Taunton, Massachusetts	4718	1	4,718	0.5%	91.9%				100%			100%		0.00%	0.00%	0.00%	0.48%	0.00%	0.00%	0.48%
Dedham, Massachusetts	4710	0.9	4,239	0.5%	92.4%						100%	100%		0.00%	0.00%	0.00%	0.00%	0.00%	0.48%	0.48%
Framingham, Massachusetts	4696	1	4,696	0.5%	92.9%			100%				100%		0.00%	0.00%	0.48%	0.00%	0.00%	0.00%	0.48%
Norwood, Massachusetts	4354	1	4,354	0.4%	93.3%			10%	90%			100%		0.00%	0.00%	0.04%	0.40%	0.00%	0.00%	0.45%
Allston, Massachusetts	4176	0.6	2,506	0.4%	93.8%		10%	80%		10%		100%		0.00%	0.04%	0.34%	0.00%	0.04%	0.00%	0.43%
New Bedford, Massachusetts	3936	1	3,936	0.4%	94.2%				100%			100%		0.00%	0.00%	0.00%	0.40%	0.00%	0.00%	0.40%
Fall River, Massachusetts	3795	1	3,795	0.4%	94.6%				100%			100%		0.00%	0.00%	0.00%	0.39%	0.00%	0.00%	0.39%
Attleborough, Massachusetts	3457	1	3,457	0.4%	94.9%				100%			100%		0.00%	0.00%	0.00%	0.35%	0.00%	0.00%	0.35%
Watertown, Massachusetts	3342	0.9	3,008	0.3%	95.2%			100%				100%		0.00%	0.00%	0.34%	0.00%	0.00%	0.00%	0.34%
Saugus, Massachusetts	3263	1	3,263	0.3%	95.6%			100%				100%		0.00%	0.00%	0.33%	0.00%	0.00%	0.00%	0.33%
Methuen, Massachusetts	3169	1	3,169	0.3%	95.9%			100%				100%		0.00%	0.00%	0.32%	0.00%	0.00%	0.00%	0.32%
Woburn, Massachusetts	3056	1	3,056	0.3%	96.2%			100%				100%		0.00%	0.00%	0.31%	0.00%	0.00%	0.00%	0.31%
Plymouth, Massachusetts	2865	1	2,865	0.3%	96.5%				100%			100%		0.00%	0.00%	0.00%	0.29%	0.00%	0.00%	0.29%
Beacon Hill, Massachusetts	2638	0.3	791	0.3%	96.8%		50%			50%		100%		0.00%	0.13%	0.00%	0.00%	0.13%	0.00%	0.27%
Melrose, Massachusetts	2535	1	2,535	0.3%	97.0%			100%				100%		0.00%	0.00%	0.26%	0.00%	0.00%	0.00%	0.26%
Holbrook, Massachusetts	2406	1	2,406	0.2%	97.3%				100%			100%		0.00%	0.00%	0.00%	0.25%	0.00%	0.00%	0.25%
Peabody, Massachusetts	2329	1	2,329	0.2%	97.5%			100%				100%		0.00%	0.00%	0.24%	0.00%	0.00%	0.00%	0.24%
Salem, Massachusetts	2221	1	2,221	0.2%	97.8%			100%				100%		0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.23%
Bridgewater, Massachusetts	1893	1	1,893	0.2%	97.9%				100%			100%		0.00%	0.00%	0.00%	0.19%	0.00%	0.00%	0.19%
Downtown Boston, Massachusetts	1882	0.2	376	0.2%	98.1%			100%				100%		0.00%	0.00%	0.19%	0.00%	0.00%	0.00%	0.19%
Rockland, Massachusetts	1881	1	1,881	0.2%	98.3%				100%			100%		0.00%	0.00%	0.00%	0.19%	0.00%	0.00%	0.19%
Barnstable, Massachusetts	1683	1	1,683	0.2%	98.5%				100%			100%		0.00%	0.00%	0.00%	0.17%	0.00%	0.00%	0.17%
Abington, Massachusetts	1641	1	1,641	0.2%	98.7%				100%			100%		0.00%	0.00%	0.00%	0.17%	0.00%	0.00%	0.17%
Burlington, Massachusetts	1561	1	1,561	0.2%	98.8%			100%				100%		0.00%	0.00%	0.16%	0.00%	0.00%	0.00%	0.16%
Arlington, Massachusetts	1386	1	1,386	0.1%	99.0%			100%				100%		0.00%	0.00%	0.14%	0.00%	0.00%	0.00%	0.14%
Stoneham, Massachusetts	1331	1	1,331	0.1%	99.1%			100%				100%		0.00%	0.00%	0.14%	0.00%	0.00%	0.00%	0.14%
Belmont, Massachusetts	1321	1	1,321	0.1%	99.2%			100%				100%		0.00%	0.00%	0.14%	0.00%	0.00%	0.00%	0.14%
Walpole, Massachusetts	1299	1	1,299	0.1%	99.4%				100%			100%		0.00%	0.00%	0.00%	0.13%	0.00%	0.00%	0.13%
Natick, Massachusetts	1240	1	1,240	0.1%	99.5%			100%				100%		0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.13%
North Attleborough, Massachusetts	1217	1	1,217	0.1%	99.6%				100%			100%		0.00%	0.00%	0.00%	0.12%	0.00%	0.00%	0.12%
Foxborough, Massachusetts	1215	1	1,215	0.1%	99.8%				100%			100%		0.00%	0.00%	0.00%	0.12%	0.00%	0.00%	0.12%
Beverly, Massachusetts	1202	1	1,202	0.1%	99.9%			100%				100%		0.00%	0.00%	0.12%	0.00%	0.00%	0.00%	0.12%
Hull, Massachusetts	1199	1	1,199	0.1%	100.0%				100%			100%		0.00%	0.00%	0.00%	0.12%	0.00%	0.00%	0.12%
Totals	977,275		43,080	100%	CHECK									13.09%	8.13%	22.20%	15.53%	7.45%	33.59%	100.00%
														13.0%	**8.0%**	**22.0%**	**16.0%**	**7.0%**	**34.0%**	**100.0%**

1 Adjustments were made to some communities based on the likelihood that people who work in those communities would opt to live closer to their place of employment or closer to transit opportunities.

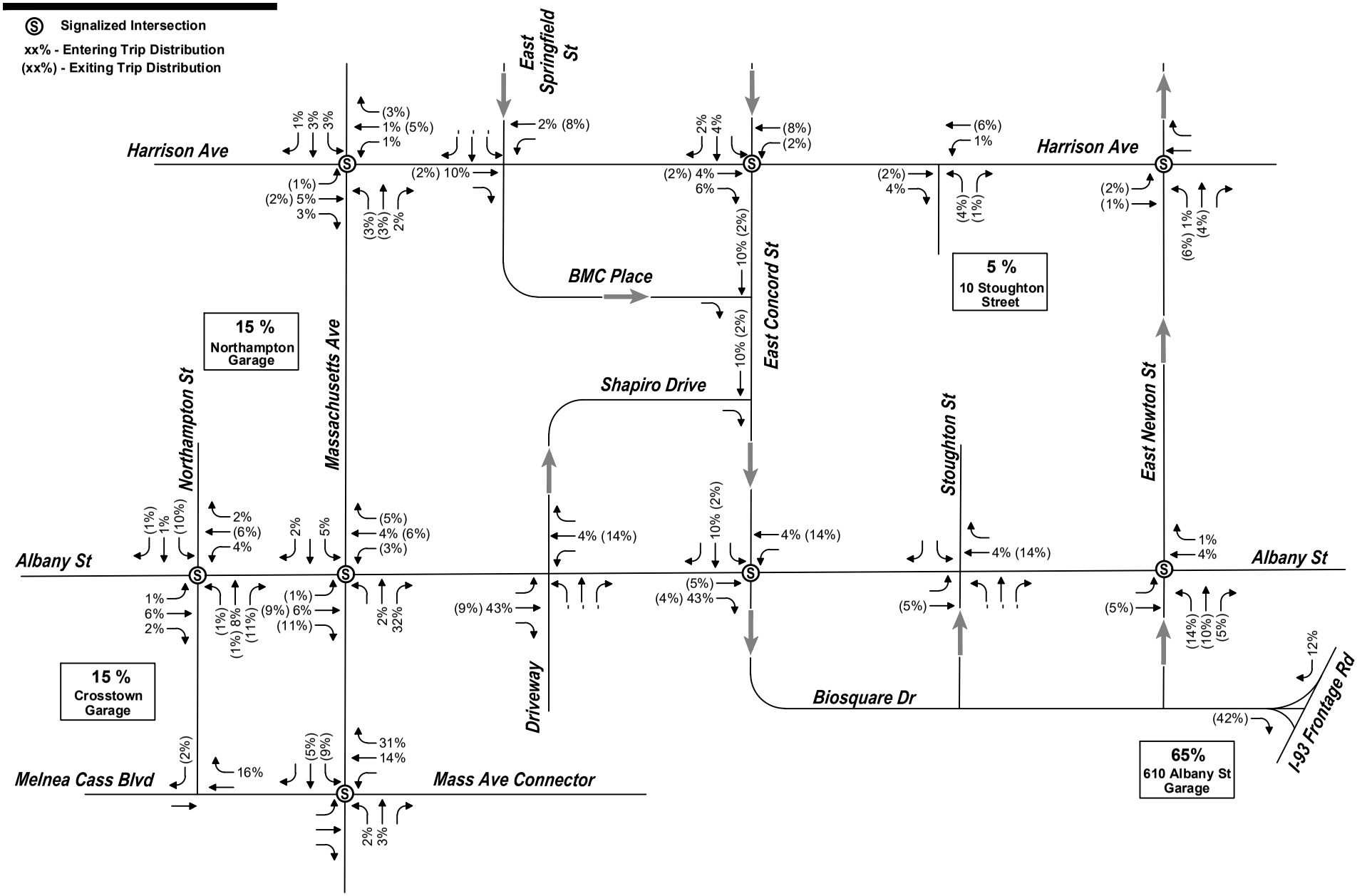
Residential

Trip Distribution - (to Workplace)

Residence				Total of Workplace								Cumulative Total						
Zone #	Neighborhood / Municipality	Percent of Total [1]	Cumulative Total	Mass Ave to/from north	Mass Ave to/from south	I-93 to/from north	I-93 to/from south	East Springfield Street to/from north	Harrison Ave / Albany Street to/from west	Total	CHECK	Mass Ave to/from north	Mass Ave to/from south	I-93 to/from north	I-93 to/from south	East Springfield Street to/from north	Harrison Ave / Albany Street to/from west	Total
1	North End / West End	1.0%	1.0%			60%		40%		100%		0.0%	0.0%	0.6%	0.0%	0.4%	0.0%	1.0%
2	Downtown	2.0%	3.0%			60%		40%		100%		0.0%	0.0%	1.2%	0.0%	0.8%	0.0%	2.0%
3	Chinatown	1.2%	4.2%					100%		100%		0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	1.2%
4	Back Bay / Fenway	5.7%	9.9%	60%				40%		100%		3.4%	0.0%	0.0%	0.0%	2.3%	0.0%	5.7%
5	Longwood / Mission Hill	3.9%	13.8%	20%					80%	100%		0.8%	0.0%	0.0%	0.0%	0.0%	3.1%	3.9%
6	Jamaica Plain	4.1%	17.9%						100%	100%		0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	4.1%
7	East Boston	0.5%	18.4%			100%				100%		0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.5%
8	Broadway / Andrew / Savin Hill	4.8%	23.2%		100%					100%		0.0%	4.8%	0.0%	0.0%	0.0%	0.0%	4.8%
9	South Dorchester	4.9%	28.1%		30%		70%			100%		0.0%	1.5%	0.0%	3.4%	0.0%	0.0%	4.9%
10	Brighton	2.0%	30.1%	20%		60%			20%	100%		0.4%	0.0%	1.2%	0.0%	0.0%	0.4%	2.0%
11	Charlestown	0.4%	30.5%			100%				100%		0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.4%
12	Hyde Park	0.9%	31.4%				25%		75%	100%		0.0%	0.0%	0.0%	0.2%	0.0%	0.7%	0.9%
13	South Boston / Seaport	1.6%	33.0%		70%	30%				100%		0.0%	1.1%	0.5%	0.0%	0.0%	0.0%	1.6%
14	Central Dorchester / Mattapan	5.5%	38.5%		25%				75%	100%		0.0%	1.4%	0.0%	0.0%	0.0%	4.1%	5.5%
15	South End / Roxbury	18.4%	56.9%	25%	10%			25%	40%	100%		4.6%	1.8%	0.0%	0.0%	4.6%	7.4%	18.4%
16	Roslindale	0.7%	57.6%						100%	100%		0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.7%
17	Allston	0.9%	58.5%	10%		90%				100%		0.1%	0.0%	0.8%	0.0%	0.0%	0.0%	0.9%
18	Neponset	1.6%	60.1%				100%			100%		0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	1.6%
19	West Roxbury	1.7%	61.8%						100%	100%		0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	1.7%
20	Logan Airport	0.3%	62.1%			100%				100%		0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.3%
RBO	Chelsea / Revere / Medford / Everett / Malden	5.5%	67.6%			100%				100%		0.0%	0.0%	5.5%	0.0%	0.0%	0.0%	5.5%
RGR	Somerville / Cambridge	6.4%	74.0%	25%		75%				100%		1.6%	0.0%	4.8%	0.0%	0.0%	0.0%	6.4%
RCD	Brookline / Newton	5.8%	79.8%	20%		60%			20%	100%		1.2%	0.0%	3.5%	0.0%	0.0%	1.2%	5.8%
RMR	Quincy / Milton / Braintree	3.3%	83.1%				100%			100%		0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	3.3%
BNE	Saugus / Lynn / Salem / Swampscott / Marblehead	0.8%	83.9%			100%				100%		0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.8%
BNO	Burlington / Woburn / Winchester / Stoneham ...	1.0%	84.9%			100%				100%		0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	1.0%
BNW	Watertown / Belmont / Arlington / Waltham	1.7%	86.6%			100%				100%		0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	1.7%
CN	Points North (I-95, I-93, Route 3)	3.1%	89.7%			100%				100%		0.0%	0.0%	3.1%	0.0%	0.0%	0.0%	3.1%
CW	Points West (Route 2, I-90)	3.1%	92.8%			100%				100%		0.0%	0.0%	3.1%	0.0%	0.0%	0.0%	3.1%
CSW	Points Southwest (Dedham, I-95)	3.9%	96.7%				100%			100%		0.0%	0.0%	0.0%	3.9%	0.0%	0.0%	3.9%
CSE	Points Southeast (Route 24, Route 3)	3.3%	100.0%				100%			100%		0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	3.3%
	Totals	100.0%										12.1%	10.6%	29.0%	15.8%	9.3%	23.3%	100.0%
												12.0%	**11.0%**	**29.0%**	**16.0%**	**9.0%**	**23.0%**	**100.0%**

1 - Based on Access Boston Data for Zone 15 (Daily Geographic Distribution Trips for Auto uses)

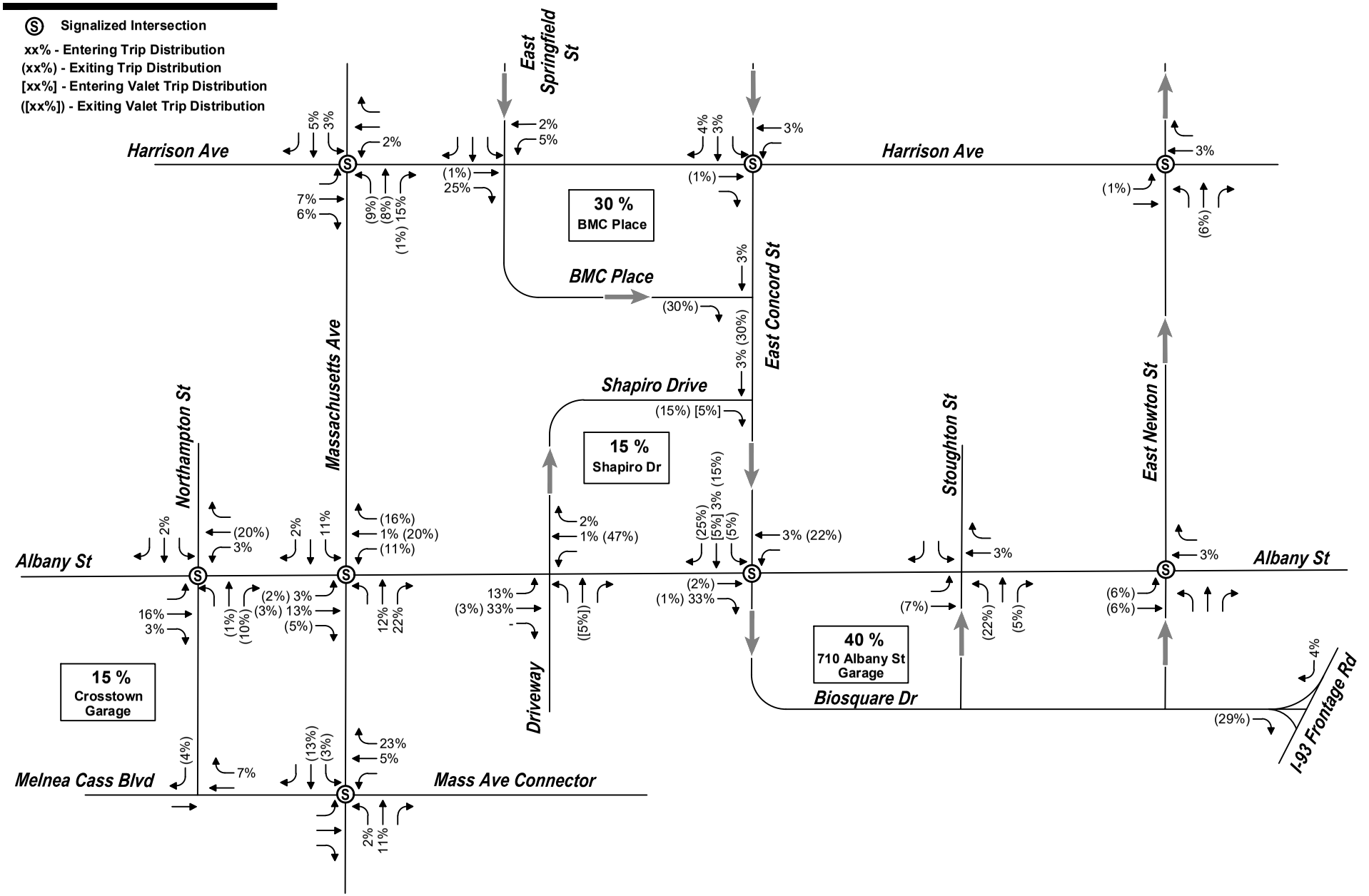
Internal Trip Distribution Graphics



Not to Scale

Figure A-1
Internal Employee Trip Distribution

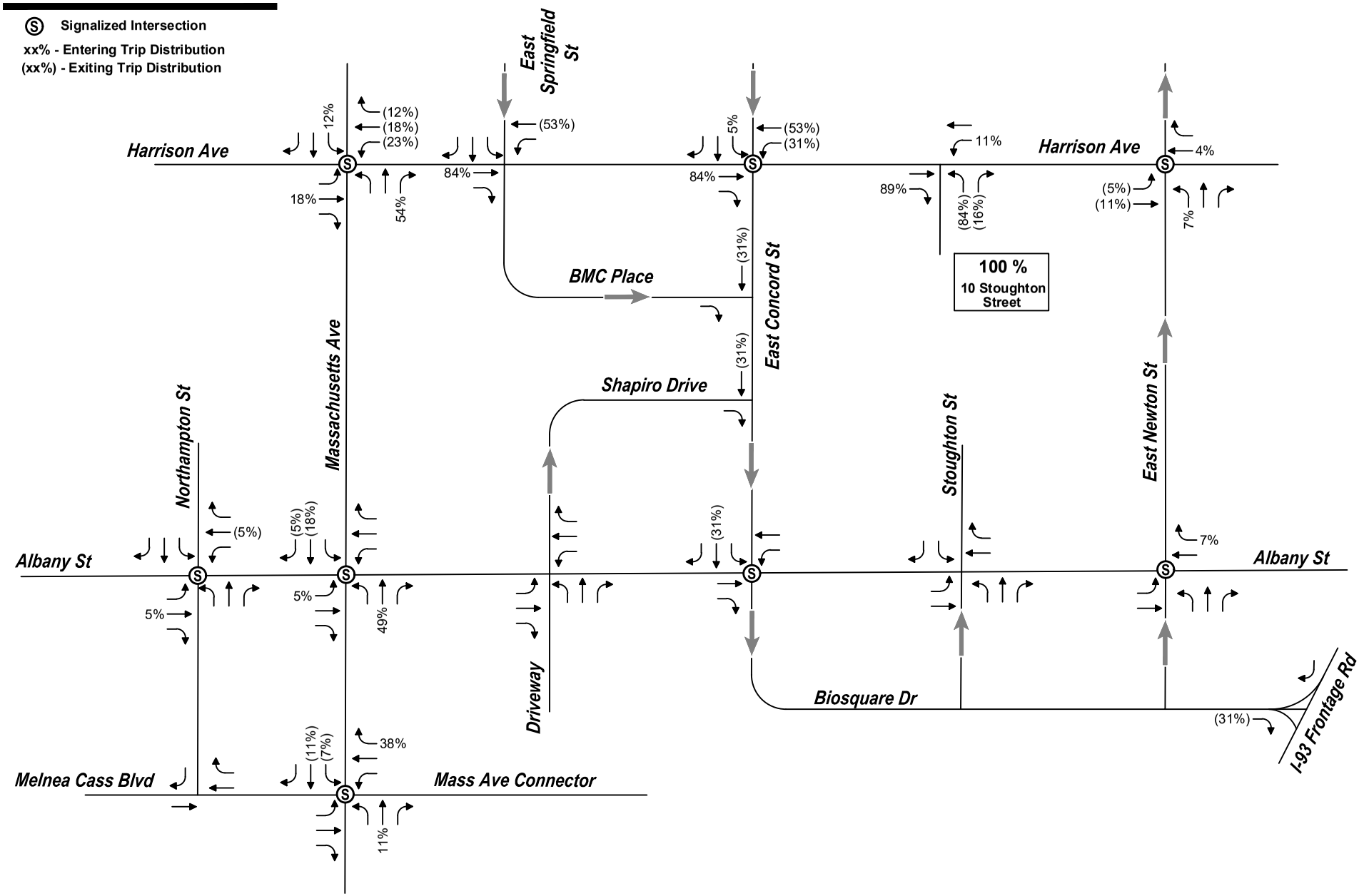
Boston Medical Center IMP
Boston, Massachusetts



Not to Scale

Figure A-2
Internal Patient Trip Distribution

Boston Medical Center IMP
Boston, Massachusetts



Not to Scale

Figure A-3
Internal Residential Trip Distribution

Boston Medical Center IMP
Boston, Massachusetts

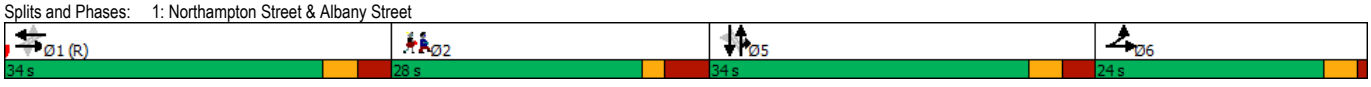
Synchro Capacity Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	210	360	85	40	200	40	20	125	50	75	35	90	
Future Volume (vph)	210	360	85	40	200	40	20	125	50	75	35	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0	0		40	0		0	
Storage Lanes	0		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3211	0	0	3154	0	0	1801	1553	0	1603	0	
Flt Permitted		0.706			0.673			0.923			0.679		
Satd. Flow (perm)	0	2258	0	0	2133	0	0	1668	1553	0	1059	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		17			14				118		32		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		319			394			455			429		
Travel Time (s)		7.3			9.0			10.3			9.8		
Confl. Peds. (#/hr)	80		24	24		80	35		122	122		35	
Confl. Bikes (#/hr)												2	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.89	0.89	0.89	0.96	0.96	0.96	
Heavy Vehicles (%)	5%	9%	10%	3%	10%	5%	16%	3%	4%	10%	0%	6%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	711	0	0	317	0	0	162	56	0	208	0	
Turn Type	D.P+P	NA		Perm	NA		Perm	NA	Prot	Perm	NA		
Protected Phases	6	6 1			1			5	5		5		2
Permitted Phases	1			1			5			5			
Detector Phase	6	6 1		1	1		5	5	5	5	5		
Switch Phase													
Minimum Initial (s)	4.0			8.0	8.0		8.0	8.0	8.0	8.0	8.0		7.0
Minimum Split (s)	8.0			14.0	14.0		14.0	14.0	14.0	14.0	14.0		28.0
Total Split (s)	24.0			34.0	34.0		34.0	34.0	34.0	34.0	34.0		28.0
Total Split (%)	20.0%			28.3%	28.3%		28.3%	28.3%	28.3%	28.3%	28.3%		23%
Yellow Time (s)	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		2.0
All-Red Time (s)	1.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		4.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0		
Total Lost Time (s)					6.0			6.0	6.0		6.0		
Lead/Lag	Lag			Lead	Lead		Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?													
Recall Mode	None			C-Max	C-Max		None	None	None	None	None		None
Act Effct Green (s)		55.3			32.7			22.7	22.7		22.7		
Actuated g/C Ratio		0.46			0.27			0.19	0.19		0.19		
v/c Ratio		0.59			0.54			0.51	0.14		0.92		
Control Delay		22.7			33.0			65.0	7.5		82.4		
Queue Delay		0.0			0.0			0.0	0.0		0.0		
Total Delay		22.7			33.0			65.0	7.5		82.4		
LOS		C			C			E	A		F		
Approach Delay		22.7			33.0			50.2			82.4		
Approach LOS		C			C			D			F		
Queue Length 50th (ft)		182			110			134	1		135		
Queue Length 95th (ft)		250			158			m164	m3		#252		
Internal Link Dist (ft)		239			314			375			349		
Turn Bay Length (ft)									40				
Base Capacity (vph)		1229			591			389	452		271		
Starvation Cap Reductn		0			0			0	0		0		
Spillback Cap Reductn		0			0			0	0		0		
Storage Cap Reductn		0			0			0	0		0		
Reduced v/c Ratio		0.58			0.54			0.42	0.12		0.77		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 37 (31%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 37.6		Intersection LOS: D	
Intersection Capacity Utilization 66.7%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Northampton Street & Albany Street



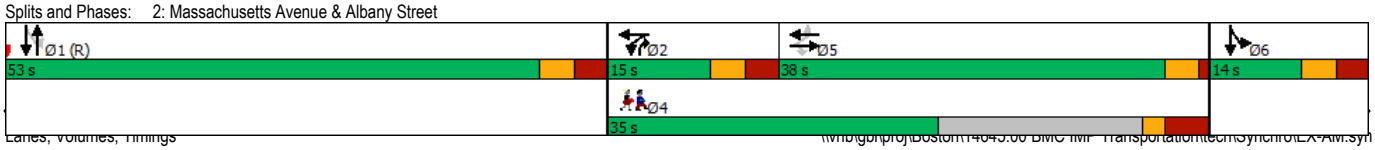
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	80	285	120	115	225	80	0	855	400	65	535	55	
Future Volume (vph)	80	285	120	115	225	80	0	855	400	65	535	55	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		150	150		0	0		0	200		350	
Storage Lanes	0		1	1		0	0		1	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3280	1524	1597	3116	0	0	3374	1538	1530	4560	0	
Flt Permitted		0.774		0.950						0.173			
Satd. Flow (perm)	0	2516	1204	1416	3116	0	0	3374	1016	264	4560	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			136		50				141		21		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		394			343			477			693		
Travel Time (s)		9.0			7.8			10.8			15.8		
Confl. Peds. (#/hr)	127		174	174		127	221		301	301		221	
Confl. Bikes (#/hr)												5	
Peak Hour Factor	0.88	0.88	0.88	0.86	0.86	0.86	0.93	0.93	0.93	0.86	0.86	0.86	
Heavy Vehicles (%)	19%	6%	6%	13%	6%	9%	0%	7%	5%	18%	8%	17%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	415	136	134	355	0	0	919	430	76	686	0	
Turn Type	Perm	NA	Perm	Prot	NA			NA	pm+ov	D.P+P	NA		
Protected Phases		5		2	5 2			1	2	6	1 6		4
Permitted Phases	5		5						1	1			
Detector Phase	5	5	5	2	5 2			1	2	6	1 6		
Switch Phase													
Minimum Initial (s)	7.0	7.0	7.0	5.0				8.0	5.0	7.0			7.0
Minimum Split (s)	35.0	35.0	35.0	11.0				29.0	11.0	13.0			35.0
Total Split (s)	38.0	38.0	38.0	15.0				53.0	15.0	14.0			35.0
Total Split (%)	31.7%	31.7%	31.7%	12.5%				44.2%	12.5%	11.7%			29%
Yellow Time (s)	3.0	3.0	3.0	3.0				3.0	3.0	3.0			2.0
All-Red Time (s)	1.0	1.0	1.0	3.0				3.0	3.0	3.0			4.0
Lost Time Adjust (s)		0.0	0.0	0.0				0.0	0.0	0.0			
Total Lost Time (s)		4.0	4.0	6.0				6.0	6.0	6.0			
Lead/Lag	Lag	Lag	Lag	Lead					Lead				
Lead-Lag Optimize?													
Recall Mode	None	None	None	None				C-Max	None	None			None
Act Effct Green (s)		31.6	31.6	9.0	46.6			47.0	56.0	57.4	63.4		
Actuated g/C Ratio		0.26	0.26	0.08	0.39			0.39	0.47	0.48	0.53		
v/c Ratio		0.63	0.33	1.13	0.29			0.70	0.73	0.32	0.28		
Control Delay		29.4	6.5	171.5	14.3			27.1	16.2	21.1	11.0		
Queue Delay		0.0	0.0	0.0	0.0			3.0	0.2	0.0	0.0		
Total Delay		29.4	6.5	171.5	14.3			30.1	16.4	21.1	11.0		
LOS		C	A	F	B			C	B	C	B		
Approach Delay		23.8			57.4			25.7			12.0		
Approach LOS		C			E			C			B		
Queue Length 50th (ft)		156	37	~122	55			320	127	13	44		
Queue Length 95th (ft)		195	m56	m#237	92			396	m274	m51	80		
Internal Link Dist (ft)		314			263			397			613		
Turn Bay Length (ft)			150	150						200			
Base Capacity (vph)		712	438	119	1301			1321	588	235	2418		
Starvation Cap Reductn		0	0	0	0			290	8	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		0.58	0.31	1.13	0.27			0.89	0.74	0.32	0.28		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 92 (77%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 27.0 Intersection LOS: C
Intersection Capacity Utilization 97.5% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & Albany Street



Intersection	
Int Delay, s/veh	0.9

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	10	50	665	5	1	400	15	5	0	5	0	0	0
Future Vol, veh/h	10	50	665	5	1	400	15	5	0	5	0	0	0
Conflicting Peds, #/hr	0	293	0	47	47	0	293	186	0	4	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	84	84	84	75	75	75	92	92	92
Heavy Vehicles, %	0	13	5	50	100	9	0	50	2	60	2	2	2
Mvmt Flow	11	57	764	6	1	476	18	7	0	7	0	0	0

Major/Minor	Major1				Major2			Minor1		
Conflicting Flow All	494	787	0	0	817	0	0	1376	1739	436
Stage 1	-	-	-	-	-	-	-	950	950	-
Stage 2	-	-	-	-	-	-	-	426	789	-
Critical Hdwy	6.4	4.36	-	-	6.1	-	-	7.8	6.54	8.1
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.8	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.8	5.54	-
Follow-up Hdwy	2.5	2.33	-	-	3.2	-	-	4	4.02	3.9
Pot Cap-1 Maneuver	707	760	-	-	396	-	-	89	86	434
Stage 1	-	-	-	-	-	-	-	242	337	-
Stage 2	-	-	-	-	-	-	-	505	400	-
Platoon blocked, %			-	-		-	-			
Mov Cap-1 Maneuver	751	751	-	-	378	-	-	63	0	413
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	63	0	-
Stage 1	-	-	-	-	-	-	-	210	0	-
Stage 2	-	-	-	-	-	-	-	414	0	-

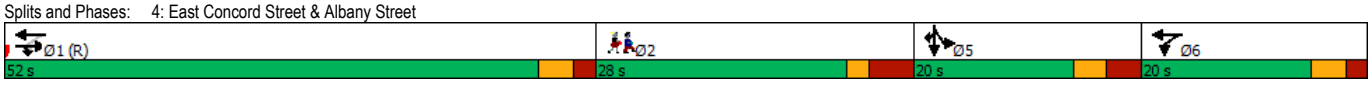
Approach	EB	WB	NB
HCM Control Delay, s	0.8	0	42.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	109	751	-	-	378	-	-
HCM Lane V/C Ratio	0.122	0.092	-	-	0.003	-	-
HCM Control Delay (s)	42.6	10.3	-	-	14.6	0	-
HCM Lane LOS	E	B	-	-	B	A	-
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	290	380	95	250	0	0	0	0	120	105	165	
Future Volume (vph)	0	290	380	95	250	0	0	0	0	120	105	165	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	90		0	0		0	105		0	
Storage Lanes	0		1	1		0	0		0	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	1681	1615	1787	1759	0	0	0	0	1736	1900	1482	
Flt Permitted				0.445						0.950			
Satd. Flow (perm)	0	1681	1615	657	1759	0	0	0	0	632	1900	1482	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			427									181	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		258			240			195			225		
Travel Time (s)		5.9			5.5			4.4			5.1		
Confl. Peds. (#/hr)			172	172						275		91	
Confl. Bikes (#/hr)			3									3	
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	13%	0%	1%	8%	2%	2%	2%	2%	4%	0%	9%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	326	427	112	294	0	0	0	0	132	115	181	
Turn Type		NA	Prot	D.P+P	NA					Split	NA	Prot	
Protected Phases		1	1	6	6 1					5	5	5	2
Permitted Phases				1									
Detector Phase		1	1	6	6 1					5	5	5	
Switch Phase													
Minimum Initial (s)		10.0	10.0	5.0						8.0	8.0	8.0	7.0
Minimum Split (s)		20.0	20.0	20.0						14.0	14.0	14.0	26.0
Total Split (s)		52.0	52.0	20.0						20.0	20.0	20.0	28.0
Total Split (%)		43.3%	43.3%	16.7%						16.7%	16.7%	16.7%	23%
Yellow Time (s)		3.0	3.0	3.0						3.0	3.0	3.0	2.0
All-Red Time (s)		2.0	2.0	2.0						3.0	3.0	3.0	4.0
Lost Time Adjust (s)		0.0	0.0	0.0						0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0						6.0	6.0	6.0	
Lead/Lag		Lead	Lead	Lag						Lead	Lead	Lead	Lag
Lead-Lag Optimize?													
Recall Mode		C-Max	C-Max	None						None	None	None	None
Act Effct Green (s)		50.0	50.0	65.0	70.0					13.0	13.0	13.0	
Actuated g/C Ratio		0.42	0.42	0.54	0.58					0.11	0.11	0.11	
v/c Ratio		0.47	0.46	0.23	0.29					0.71	0.56	0.56	
Control Delay		24.2	3.9	6.2	6.0					71.2	60.8	14.0	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0	
Total Delay		24.2	3.9	6.2	6.0					71.2	60.8	14.0	
LOS		C	A	A	A					E	E	B	
Approach Delay		12.7			6.0						44.2		
Approach LOS		B			A						D		
Queue Length 50th (ft)		157	16	17	46					100	85	0	
Queue Length 95th (ft)		245	38	27	62					164	145	67	
Internal Link Dist (ft)		178			160			115			145		
Turn Bay Length (ft)				90						105			
Base Capacity (vph)		700	921	497	1026					213	233	340	
Starvation Cap Reductn		0	0	0	0					0	0	0	
Spillback Cap Reductn		0	0	0	0					0	0	0	
Storage Cap Reductn		0	0	0	0					0	0	0	
Reduced v/c Ratio		0.47	0.46	0.23	0.29					0.62	0.49	0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 24 (20%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 56.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: East Concord Street & Albany Street



Intersection	
Int Delay, s/veh	16.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	385	0	0	250	5	80	0	170	2	0	15
Future Vol, veh/h	25	385	0	0	250	5	80	0	170	2	0	15
Conflicting Peds, #/hr	231	0	0	0	0	231	43	0	202	202	0	43
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	55	55	55	54	54	54
Heavy Vehicles, %	0	11	2	2	8	17	3	2	0	0	2	0
Mvmt Flow	28	438	0	0	284	6	145	0	309	4	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	521	0	-	-	-	0	838	1015	640	1369	1012	561
Stage 1	-	-	-	-	-	-	494	494	-	518	518	-
Stage 2	-	-	-	-	-	-	344	521	-	851	494	-
Critical Hdwy	4.1	-	-	-	-	-	7.13	6.52	6.2	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.527	4.018	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	1056	-	0	0	-	-	285	238	479	125	239	531
Stage 1	-	-	0	0	-	-	555	546	-	544	533	-
Stage 2	-	-	0	0	-	-	669	532	-	358	546	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	824	-	-	-	-	-	248	179	387	16	180	397
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	179	-	16	180	-
Stage 1	-	-	-	-	-	-	536	527	-	410	416	-
Stage 2	-	-	-	-	-	-	597	415	-	56	527	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	41.1	54
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	248	387	824	-	-	-	104
HCM Lane V/C Ratio	0.587	0.799	0.034	-	-	-	0.303
HCM Control Delay (s)	38.2	42.5	9.5	-	-	-	54
HCM Lane LOS	E	E	A	-	-	-	F
HCM 95th %tile Q(veh)	3.4	6.9	0.1	-	-	-	1.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	125	430	0	0	250	45	5	1	5	0	0	0	
Future Volume (vph)	125	430	0	0	250	45	5	1	5	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	80		0	0		0	0		0	0		0	
Storage Lanes	1		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	1570	1810	0	0	1615	0	0	1393	1615	0	0	0	
Flt Permitted	0.391							0.962					
Satd. Flow (perm)	539	1810	0	0	1615	0	0	1044	1017	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					8				118				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		272			593			402			739		
Travel Time (s)		6.2			13.5			9.1			16.8		
Confl. Peds. (#/hr)	138					138	115		131				
Confl. Bikes (#/hr)						2							
Peak Hour Factor	0.73	0.73	0.73	0.92	0.92	0.92	0.65	0.65	0.65	0.92	0.92	0.92	
Heavy Vehicles (%)	15%	5%	2%	2%	8%	10%	14%	100%	0%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	171	589	0	0	321	0	0	10	8	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Perm				
Protected Phases	4	4 1			1		3	3					2
Permitted Phases	1								3				
Detector Phase	4	4 1			1		3	3	3				
Switch Phase													
Minimum Initial (s)	8.0				8.0		8.0	8.0	8.0				7.0
Minimum Split (s)	13.0				27.0		28.0	28.0	28.0				26.0
Total Split (s)	26.0				39.0		29.0	29.0	29.0				26.0
Total Split (%)	21.7%				32.5%		24.2%	24.2%	24.2%				22%
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				2.0
All-Red Time (s)	2.0				2.0		3.0	3.0	3.0				4.0
Lost Time Adjust (s)	0.0				0.0			0.0	0.0				
Total Lost Time (s)	5.0				5.0			6.0	6.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Recall Mode	None				C-Max		None	None	None				None
Act Effct Green (s)	61.6	66.6			41.2			19.2	19.2				
Actuated g/C Ratio	0.51	0.56			0.34			0.16	0.16				
v/c Ratio	0.38	0.59			0.57			0.05	0.03				
Control Delay	15.7	19.3			39.7			41.2	0.2				
Queue Delay	0.0	0.7			0.0			0.0	0.0				
Total Delay	15.7	20.0			39.7			41.2	0.2				
LOS	B	B			D			D	A				
Approach Delay		19.0			39.7			23.0					
Approach LOS		B			D			C					
Queue Length 50th (ft)	50	285			217			7	0				
Queue Length 95th (ft)	68	304			323			16	0				
Internal Link Dist (ft)		192			513			322			659		
Turn Bay Length (ft)	80												
Base Capacity (vph)	468	1004			560			266	290				
Starvation Cap Reductn	0	157			0			0	0				
Spillback Cap Reductn	0	0			0			0	0				
Storage Cap Reductn	0	0			0			0	0				
Reduced v/c Ratio	0.37	0.70			0.57			0.04	0.03				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 25.1		Intersection LOS: C	
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: East Newton Street & Albany Street

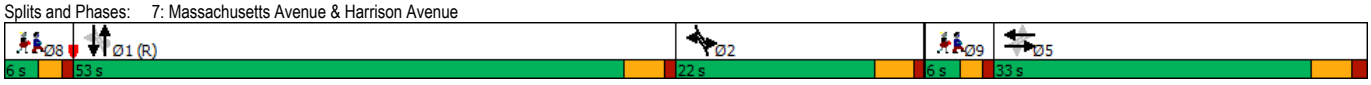
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø8	Ø9
Lane Configurations														
Traffic Volume (vph)	20	250	35	55	125	35	85	630	300	75	565	100		
Future Volume (vph)	20	250	35	55	125	35	85	630	300	75	565	100		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0		0	0		0	125		0	135		0		
Storage Lanes	0		0	0		0	1		0	1		0		
Taper Length (ft)	25			25			25			25				
Satd. Flow (prot)	0	1737	0	0	1641	0	1752	2791	0	1787	3065	0		
Flt Permitted		0.969			0.713		0.263			0.130				
Satd. Flow (perm)	0	1682	0	0	1160	0	454	2791	0	245	3065	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		5			8			80			20			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		317			228			693			556			
Travel Time (s)		7.2			5.2			15.8			12.6			
Confl. Peds. (#/hr)	76		153	153		76	99		110	110		99		
Confl. Bikes (#/hr)			7						8			2		
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92		
Heavy Vehicles (%)	0%	5%	3%	8%	12%	3%	3%	14%	3%	1%	11%	5%		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	350	0	0	234	0	93	1022	0	82	723	0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA			
Protected Phases		5			5		2	1		2	1		8	9
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		2	1		2	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0		8.0	10.0		3.0	3.0
Minimum Split (s)	29.0	29.0		29.0	29.0		12.5	26.5		12.5	26.5		6.0	6.0
Total Split (s)	33.0	33.0		33.0	33.0		22.0	53.0		22.0	53.0		6.0	6.0
Total Split (%)	27.5%	27.5%		27.5%	27.5%		18.3%	44.2%		18.3%	44.2%		5%	5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	1.5	1.5		1.5	1.5		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			
Total Lost Time (s)		5.0			5.0		4.5	4.5		4.5	4.5			
Lead/Lag	Lag	Lag		Lag	Lag			Lag			Lag		Lead	Lead
Lead-Lag Optimize?														
Recall Mode	Ped	Ped		Ped	Ped		None	C-Max		None	C-Max		Ped	Ped
Act Effct Green (s)		36.0			36.0		56.5	48.5		56.5	48.5			
Actuated g/C Ratio		0.30			0.30		0.47	0.40		0.47	0.40			
v/c Ratio		0.69			0.66		0.31	0.87		0.38	0.58			
Control Delay		44.7			45.9		8.5	17.3		31.2	29.2			
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0			
Total Delay		44.7			45.9		8.5	17.3		31.2	29.2			
LOS		D			D		A	B		C	C			
Approach Delay		44.7			45.9			16.6			29.4			
Approach LOS		D			D			B			C			
Queue Length 50th (ft)		236			153		12	78		32	220			
Queue Length 95th (ft)		331			249		m19	#90		59	283			
Internal Link Dist (ft)		237			148			613			476			
Turn Bay Length (ft)							125			135				
Base Capacity (vph)		508			353		438	1175		359	1250			
Starvation Cap Reductn		0			0		0	0		0	0			
Spillback Cap Reductn		0			0		0	0		0	0			
Storage Cap Reductn		0			0		0	0		0	0			
Reduced v/c Ratio		0.69			0.66		0.21	0.87		0.23	0.58			

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 100 (83%), Referenced to phase 1:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 27.4		Intersection LOS: C	
Intersection Capacity Utilization 76.1%		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.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Massachusetts Avenue & Harrison Avenue



Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	495	130	20	185	0	0	0	0	20	15	25
Future Vol, veh/h	0	495	130	20	185	0	0	0	0	20	15	25
Conflicting Peds, #/hr	0	0	115	115	0	0	0	0	0	95	0	29
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	88	88	88	92	92	92	71	71	71
Heavy Vehicles, %	2	4	2	6	10	2	2	2	2	0	0	8
Mvmt Flow	0	532	140	23	210	0	0	0	0	28	21	35

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	0	787	0	0				953	1043	239
Stage 1	-	-	-	-	-	-				256	256	-
Stage 2	-	-	-	-	-	-				697	787	-
Critical Hdwy	-	-	-	4.16	-	-				6.4	6.5	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-				5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.4	5.5	-
Follow-up Hdwy	-	-	-	2.254	-	-				3.5	4	3.372
Pot Cap-1 Maneuver	0	-	-	815	-	0				290	231	785
Stage 1	0	-	-	-	-	0				791	699	-
Stage 2	0	-	-	-	-	0				498	406	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	815	-	-				281	0	763
Mov Cap-2 Maneuver	-	-	-	-	-	-				281	0	-
Stage 1	-	-	-	-	-	-				791	0	-
Stage 2	-	-	-	-	-	-				482	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.9	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	815	-	433
HCM Lane V/C Ratio	-	-	0.028	-	0.195
HCM Control Delay (s)	-	-	9.5	0	15.3
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.1	-	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	265	100	45	185	0	0	0	0	20	50	20	
Future Volume (vph)	0	265	100	45	185	0	0	0	0	20	50	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1618	0	0	1692	0	0	0	0	0	1663	0	
Flt Permitted					0.872						0.989		
Satd. Flow (perm)	0	1618	0	0	1454	0	0	0	0	0	1593	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		34									15		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		512			500			314			458		
Travel Time (s)		11.6			11.4			7.1			10.4		
Confl. Peds. (#/hr)			90	90						47		78	
Confl. Bikes (#/hr)			3									5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.92	0.92	0.92	0.78	0.78	0.78	
Heavy Vehicles (%)	2%	4%	4%	16%	10%	2%	2%	2%	2%	0%	0%	6%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	393	0	0	265	0	0	0	0	0	116	0	
Turn Type		NA		Perm	NA					Split	NA		
Protected Phases		1			1					5	5		2
Permitted Phases				1									
Detector Phase		1		1	1					5	5		
Switch Phase													
Minimum Initial (s)		8.0		8.0	8.0					8.0	8.0		7.0
Minimum Split (s)		18.0		18.0	18.0					13.0	13.0		20.0
Total Split (s)		45.0		45.0	45.0					15.0	15.0		20.0
Total Split (%)		56.3%		56.3%	56.3%					18.8%	18.8%		25%
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5		2.0
All-Red Time (s)		1.5		1.5	1.5					1.5	1.5		4.0
Lost Time Adjust (s)		0.0			0.0						0.0		
Total Lost Time (s)		5.0			5.0						5.0		
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?													
Recall Mode		C-Max		C-Max	C-Max					Max	Max		None
Act Effct Green (s)		40.0			40.0						14.0		
Actuated g/C Ratio		0.50			0.50						0.18		
v/c Ratio		0.48			0.36						0.38		
Control Delay		14.2			5.8						32.6		
Queue Delay		0.0			0.0						0.0		
Total Delay		14.2			5.8						32.6		
LOS		B			A						C		
Approach Delay		14.2			5.8						32.6		
Approach LOS		B			A						C		
Queue Length 50th (ft)		110			38						48		
Queue Length 95th (ft)		183			54						83		
Internal Link Dist (ft)		432			420			234			378		
Turn Bay Length (ft)													
Base Capacity (vph)		826			727						303		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.48			0.36						0.38		

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 7 (9%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 14.1		Intersection LOS: B	
Intersection Capacity Utilization 53.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: East Concord Street & Harrison Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	40	245	0	0	180	60	50	90	30	0	0	0	
Future Volume (vph)	40	245	0	0	180	60	50	90	30	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1817	0	0	1622	0	0	1550	0	0	0	0	
Flt Permitted		0.923						0.985					
Satd. Flow (perm)	0	1668	0	0	1622	0	0	1417	0	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					23			13					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		500			420			739			311		
Travel Time (s)		11.4			9.5			16.8			7.1		
Confl. Peds. (#/hr)	43					43	160		72				
Confl. Bikes (#/hr)						4							
Peak Hour Factor	0.87	0.87	0.87	0.96	0.96	0.96	0.88	0.88	0.88	0.92	0.92	0.92	
Heavy Vehicles (%)	3%	4%	2%	2%	9%	7%	19%	14%	10%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	328	0	0	251	0	0	193	0	0	0	0	
Turn Type	Perm	NA			NA		Split	NA					
Protected Phases		1			1		5	5					2
Permitted Phases	1												
Detector Phase	1	1			1		5	5					
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0					7.0
Minimum Split (s)	17.0	17.0			17.0		13.0	13.0					20.0
Total Split (s)	33.0	33.0			33.0		27.0	27.0					20.0
Total Split (%)	41.3%	41.3%			41.3%		33.8%	33.8%					25%
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5					2.0
All-Red Time (s)	1.5	1.5			1.5		1.5	1.5					4.0
Lost Time Adjust (s)		0.0			0.0			0.0					
Total Lost Time (s)		5.0			5.0			5.0					
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?													
Recall Mode	C-Max	C-Max			C-Max		Max	Max					None
Act Effct Green (s)		28.0			28.0			26.0					
Actuated g/C Ratio		0.35			0.35			0.32					
v/c Ratio		0.56			0.43			0.38					
Control Delay		18.6			20.8			24.2					
Queue Delay		0.0			0.0			0.0					
Total Delay		18.6			20.8			24.2					
LOS		B			C			C					
Approach Delay		18.6			20.8			24.2					
Approach LOS		B			C			C					
Queue Length 50th (ft)		67			85			74					
Queue Length 95th (ft)		121			150			130					
Internal Link Dist (ft)		420			340			659			231		
Turn Bay Length (ft)													
Base Capacity (vph)		583			582			512					
Starvation Cap Reductn		0			0			0					
Spillback Cap Reductn		0			0			0					
Storage Cap Reductn		0			0			0					
Reduced v/c Ratio		0.56			0.43			0.38					

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 6 (8%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 51.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: East Newton Street & Harrison Avenue

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑	
Traffic Vol, veh/h	0	135	0	0	195	0
Future Vol, veh/h	0	135	0	0	195	0
Conflicting Peds, #/hr	0	366	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	92	92	83	83
Heavy Vehicles, %	2	2	2	2	6	2
Mvmt Flow	0	155	0	0	235	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	601		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	500		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	500		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	15.4	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	500	-
HCM Lane V/C Ratio	0.31	-
HCM Control Delay (s)	15.4	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	1.3	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	60	0	0	330	0
Future Vol, veh/h	0	60	0	0	330	0
Conflicting Peds, #/hr	0	10	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	92	92	87	87
Heavy Vehicles, %	2	10	2	2	4	2
Mvmt Flow	0	71	0	0	379	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	200		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	7.1		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.4		-	-
Pot Cap-1 Maneuver	0	783		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	783		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	10.1	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	783	-
HCM Lane V/C Ratio	0.09	-
HCM Control Delay (s)	10.1	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.3	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1240	1275	280	0	20
Future Vol, veh/h	0	1240	1275	280	0	20
Conflicting Peds, #/hr	0	0	0	9	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	140	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	56	56
Heavy Vehicles, %	2	2	5	3	2	33
Mvmt Flow	0	1348	1386	304	0	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	706
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.56
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.63
Pot Cap-1 Maneuver	0	-	-	-	0	315
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	311
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	311
HCM Lane V/C Ratio	-	-	-	0.115
HCM Control Delay (s)	-	-	-	18.1
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.4

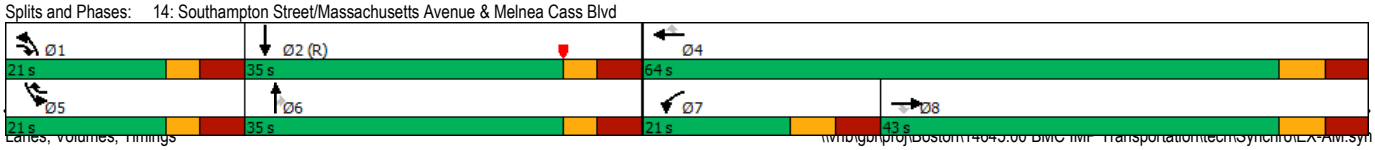
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	985	255	285	1115	670	430	585	515	330	430	10
Future Volume (vph)	0	985	255	285	1115	670	430	585	515	330	430	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	300		0	125		0	0		0
Storage Lanes	0		1	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3438	1455	3183	3406	1538	3242	3312	1482	3127	3184	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	3438	1307	3110	3406	1490	2905	3312	1017	2718	3184	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			36			236		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		373			984			749			477	
Travel Time (s)		8.5			22.4			17.0			10.8	
Confl. Peds. (#/hr)			66	66		14	82		224	224		82
Confl. Bikes (#/hr)									7			6
Peak Hour Factor	0.99	0.99	0.99	0.98	0.98	0.98	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	5%	11%	10%	6%	5%	8%	9%	9%	12%	13%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	995	258	291	1138	684	448	609	536	344	458	0
Turn Type		NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8	1	7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase		8	1	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)		10.0	8.0	8.0	10.0	8.0	8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)		34.0	15.0	16.0	34.0	15.0	15.0	32.0	32.0	15.0	32.0	
Total Split (s)		43.0	21.0	21.0	64.0	21.0	21.0	35.0	35.0	21.0	35.0	
Total Split (%)		35.8%	17.5%	17.5%	53.3%	17.5%	17.5%	29.2%	29.2%	17.5%	29.2%	
Yellow Time (s)		4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lead/Lag		Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode		None	None	Max	None	None	None	None	None	None	C-Max	
Act Effct Green (s)		35.0	50.0	13.0	56.0	71.0	14.0	28.0	28.0	14.0	28.0	
Actuated g/C Ratio		0.29	0.42	0.11	0.47	0.59	0.12	0.23	0.23	0.12	0.23	
v/c Ratio		0.99	0.41	0.85	0.72	0.76	1.19	0.79	1.28	0.95	0.62	
Control Delay		69.4	13.5	74.7	28.8	19.6	152.7	51.7	166.8	82.0	43.5	
Queue Delay		0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.0	
Total Delay		69.4	13.5	74.7	28.8	19.8	152.7	52.0	166.8	82.0	43.5	
LOS		E	B	E	C	B	F	D	F	F	D	
Approach Delay		57.9			32.2			118.9			60.0	
Approach LOS		E			C			F			E	
Queue Length 50th (ft)		404	66	115	362	289	~214	234	~379	146	153	
Queue Length 95th (ft)		#551	128	#189	445	426	#320	303	#601	m#217	m177	
Internal Link Dist (ft)		293			904			669			397	
Turn Bay Length (ft)				300			125					
Base Capacity (vph)		1002	625	344	1589	901	378	772	418	364	744	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	17	0	14	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.99	0.41	0.85	0.72	0.77	1.19	0.80	1.28	0.95	0.62	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 2:SBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 65.7 Intersection LOS: E
Intersection Capacity Utilization 94.9% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Southampton Street/Massachusetts Avenue & Melnea Cass Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	155	180	25	20	375	35	70	80	155	75	20	285	
Future Volume (vph)	155	180	25	20	375	35	70	80	155	75	20	285	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0	0		40	0		0	
Storage Lanes	0		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3211	0	0	3299	0	0	1846	1599	0	1600	0	
Flt Permitted		0.572			0.915			0.449			0.812		
Satd. Flow (perm)	0	1836	0	0	3022	0	0	844	1599	0	1289	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		7			8				118		123		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		319			394			455			429		
Travel Time (s)		7.3			9.0			10.3			9.8		
Confl. Peds. (#/hr)	83		19	19		83	36		103	103		36	
Confl. Bikes (#/hr)			3			2			3			1	
Peak Hour Factor	0.86	0.86	0.86	0.83	0.83	0.83	0.92	0.92	0.92	0.77	0.77	0.77	
Heavy Vehicles (%)	2%	12%	25%	6%	6%	11%	0%	1%	1%	1%	11%	1%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	418	0	0	518	0	0	163	168	0	493	0	
Turn Type	D.P+P	NA		Perm	NA		Perm	NA	Prot	Perm	NA		
Protected Phases	6	6 1			1			5	5		5		2
Permitted Phases	1			1			5			5			
Detector Phase	6	6 1		1	1		5	5	5	5	5		
Switch Phase													
Minimum Initial (s)	4.0			8.0	8.0		8.0	8.0	8.0	8.0	8.0		7.0
Minimum Split (s)	8.0			14.0	14.0		14.0	14.0	14.0	14.0	14.0		28.0
Total Split (s)	15.0			39.0	39.0		38.0	38.0	38.0	38.0	38.0		28.0
Total Split (%)	12.5%			32.5%	32.5%		31.7%	31.7%	31.7%	31.7%	31.7%		23%
Yellow Time (s)	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		2.0
All-Red Time (s)	1.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		4.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0		
Total Lost Time (s)					6.0			6.0	6.0		6.0		
Lead/Lag	Lag			Lead	Lead		Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?													
Recall Mode	None			C-Max	C-Max		None	None	None	None	None		None
Act Effct Green (s)		46.0			33.0			32.0	32.0		32.0		
Actuated g/C Ratio		0.38			0.28			0.27	0.27		0.27		
v/c Ratio		0.50			0.62			0.72	0.33		1.14		
Control Delay		25.8			29.6			57.5	12.0		117.8		
Queue Delay		0.0			0.7			0.0	0.0		0.0		
Total Delay		25.8			30.3			57.5	12.0		117.8		
LOS		C			C			E	B		F		
Approach Delay		25.8			30.3			34.4			117.8		
Approach LOS		C			C			C			F		
Queue Length 50th (ft)		110			163			111	20		~371		
Queue Length 95th (ft)		142			197			m#220	m69		#439		
Internal Link Dist (ft)		239			314			375			349		
Turn Bay Length (ft)									40				
Base Capacity (vph)		834			836			225	512		433		
Starvation Cap Reductn		0			104			0	0		0		
Spillback Cap Reductn		0			0			0	0		0		
Storage Cap Reductn		0			0			0	0		0		
Reduced v/c Ratio		0.50			0.71			0.72	0.33		1.14		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 16 (13%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay: 54.5		Intersection LOS: D	
Intersection Capacity Utilization 68.0%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

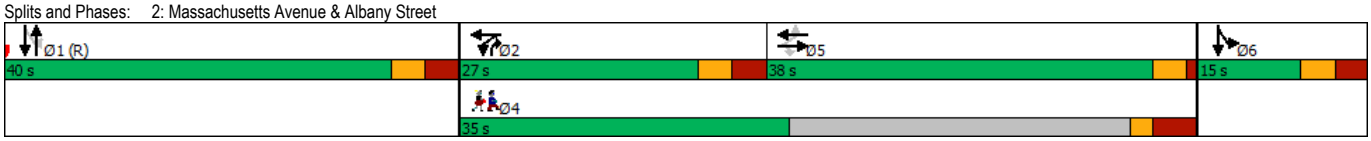
Splits and Phases: 1: Northampton Street & Albany Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	85	170	155	195	380	105	0	755	175	45	710	50	
Future Volume (vph)	85	170	155	195	380	105	0	755	175	45	710	50	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		150	150		0	0		0	200		350	
Storage Lanes	0		1	1		0	0		1	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3239	1599	1719	3193	0	0	3574	1495	1530	4779	0	
Flt Permitted		0.674		0.950						0.151			
Satd. Flow (perm)	0	2153	1238	1470	3193	0	0	3574	973	228	4779	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			136		42				186		11		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		394			343			477			693		
Travel Time (s)		9.0			7.8			10.8			15.8		
Confl. Peds. (#/hr)	154		187	187		154			333	333		255	
Confl. Bikes (#/hr)			2			2			1			3	
Peak Hour Factor	0.88	0.88	0.88	0.96	0.96	0.96	0.94	0.94	0.94	0.90	0.90	0.90	
Heavy Vehicles (%)	11%	9%	1%	5%	5%	5%	2%	1%	8%	18%	4%	21%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	290	176	203	505	0	0	803	186	50	845	0	
Turn Type	Perm	NA	Perm	Prot	NA			NA	pm+ov	D.P+P	NA		
Protected Phases		5		2	5 2			1	2	6	1 6		4
Permitted Phases	5		5						1	1			
Detector Phase	5	5	5	2	5 2			1	2	6	1 6		
Switch Phase													
Minimum Initial (s)	7.0	7.0	7.0	5.0				8.0	5.0	7.0			7.0
Minimum Split (s)	35.0	35.0	35.0	11.0				29.0	11.0	13.0			35.0
Total Split (s)	38.0	38.0	38.0	27.0				40.0	27.0	15.0			35.0
Total Split (%)	31.7%	31.7%	31.7%	22.5%				33.3%	22.5%	12.5%			29%
Yellow Time (s)	3.0	3.0	3.0	3.0				3.0	3.0	3.0			2.0
All-Red Time (s)	1.0	1.0	1.0	3.0				3.0	3.0	3.0			4.0
Lost Time Adjust (s)		0.0	0.0	0.0				0.0	0.0	0.0			
Total Lost Time (s)		4.0	4.0	6.0				6.0	6.0	6.0			
Lead/Lag	Lag	Lag	Lag	Lead					Lead				
Lead-Lag Optimize?													
Recall Mode	None	None	None	None				C-Max	None	None			None
Act Effct Green (s)		31.0	31.0	18.2	55.2			35.3	53.5	48.8	54.8		
Actuated g/C Ratio		0.26	0.26	0.15	0.46			0.29	0.45	0.41	0.46		
v/c Ratio		0.52	0.42	0.78	0.34			0.76	0.30	0.21	0.39		
Control Delay		28.9	6.7	72.9	10.9			32.9	6.0	13.2	8.9		
Queue Delay		0.0	0.0	0.0	0.0			0.9	0.0	0.0	0.0		
Total Delay		28.9	6.7	72.9	10.9			33.7	6.0	13.2	8.9		
LOS		C	A	E	B			C	A	B	A		
Approach Delay		20.6			28.7			28.5			9.1		
Approach LOS		C			C			C			A		
Queue Length 50th (ft)		74	18	126	44			282	51	8	53		
Queue Length 95th (ft)		m98	m49	221	89			370	68	m14	81		
Internal Link Dist (ft)		314			263			397			613		
Turn Bay Length (ft)			150	150						200			
Base Capacity (vph)		610	448	300	1553			1050	646	239	2188		
Starvation Cap Reductn		0	0	0	0			75	0	0	0		
Spillback Cap Reductn		0	0	0	0			0	0	0	0		
Storage Cap Reductn		0	0	0	0			0	0	0	0		
Reduced v/c Ratio		0.48	0.39	0.68	0.33			0.82	0.29	0.21	0.39		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 57 (48%), Referenced to phase 1:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 21.7		Intersection LOS: C	
Intersection Capacity Utilization 94.9%		ICU Level of Service F	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & Albany Street



Intersection	
Int Delay, s/veh	0.7

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	5	40	340	5	3	640	40	5	0	5	0	0	0
Future Vol, veh/h	5	40	340	5	3	640	40	5	0	5	0	0	0
Conflicting Peds, #/hr	0	300	0	57	57	0	300	67	0	9	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	89	89	89	67	67	67	92	92	92
Heavy Vehicles, %	0	8	9	0	0	4	0	0	2	25	2	2	2
Mvmt Flow	5	43	366	5	3	719	45	7	0	7	0	0	0

Major/Minor	Major1				Major2			Minor1		
Conflicting Flow All	764	1064	0	0	428	0	0	955	1592	252
Stage 1	-	-	-	-	-	-	-	522	522	-
Stage 2	-	-	-	-	-	-	-	433	1070	-
Critical Hdwy	6.4	4.26	-	-	4.1	-	-	6.8	6.54	7.4
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.8	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.8	5.54	-
Follow-up Hdwy	2.5	2.28	-	-	2.2	-	-	3.5	4.02	3.55
Pot Cap-1 Maneuver	477	616	-	-	1142	-	-	260	106	682
Stage 1	-	-	-	-	-	-	-	566	529	-
Stage 2	-	-	-	-	-	-	-	627	296	-
Platoon blocked, %			-	-		-	-			
Mov Cap-1 Maneuver	597	597	-	-	1080	-	-	211	0	639
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	211	0	-
Stage 1	-	-	-	-	-	-	-	492	0	-
Stage 2	-	-	-	-	-	-	-	584	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.3	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	317	597	-	-	1080	-	-
HCM Lane V/C Ratio	0.047	0.081	-	-	0.003	-	-
HCM Control Delay (s)	16.9	11.6	-	-	8.3	0	-
HCM Lane LOS	C	B	-	-	A	A	-
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	310	35	20	445	0	0	0	0	150	25	240	
Future Volume (vph)	0	310	35	20	445	0	0	0	0	150	25	240	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	90		0	0		0	105		0	
Storage Lanes	0		1	1		0	0		0	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	1712	1615	1805	1827	0	0	0	0	1736	1900	1553	
Flt Permitted				0.409						0.950			
Satd. Flow (perm)	0	1712	1615	626	1827	0	0	0	0	824	1900	1553	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			127									267	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		258			240			195			225		
Travel Time (s)		5.9			5.5			4.4			5.1		
Confl. Peds. (#/hr)			168	168						302		95	
Confl. Bikes (#/hr)			3										
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	
Heavy Vehicles (%)	2%	11%	0%	0%	4%	2%	2%	2%	2%	4%	0%	4%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	333	38	22	494	0	0	0	0	167	28	267	
Turn Type		NA	Prot	D.P+P	NA					Split	NA	Prot	
Protected Phases		1	1	6	6 1					5	5	5	2
Permitted Phases				1									
Detector Phase		1	1	6	6 1					5	5	5	
Switch Phase													
Minimum Initial (s)		10.0	10.0	5.0						8.0	8.0	8.0	7.0
Minimum Split (s)		20.0	20.0	20.0						14.0	14.0	14.0	26.0
Total Split (s)		47.0	47.0	10.0						35.0	35.0	35.0	28.0
Total Split (%)		39.2%	39.2%	8.3%						29.2%	29.2%	29.2%	23%
Yellow Time (s)		3.0	3.0	3.0						3.0	3.0	3.0	2.0
All-Red Time (s)		2.0	2.0	2.0						3.0	3.0	3.0	4.0
Lost Time Adjust (s)		0.0	0.0	0.0						0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0						6.0	6.0	6.0	
Lead/Lag		Lead	Lead	Lag						Lead	Lead	Lead	Lag
Lead-Lag Optimize?													
Recall Mode		C-Max	C-Max	None						None	None	None	None
Act Effct Green (s)		44.8	44.8	61.9	66.9					16.1	16.1	16.1	
Actuated g/C Ratio		0.37	0.37	0.52	0.56					0.13	0.13	0.13	
v/c Ratio		0.52	0.06	0.04	0.49					0.72	0.11	0.61	
Control Delay		30.0	0.4	9.5	11.8					66.2	44.0	11.4	
Queue Delay		0.0	0.0	0.0	0.7					0.0	0.0	0.0	
Total Delay		30.0	0.4	9.5	12.5					66.2	44.0	11.4	
LOS		C	A	A	B					E	D	B	
Approach Delay		26.9			12.4						33.2		
Approach LOS		C			B						C		
Queue Length 50th (ft)		158	0	5	131					126	19	0	
Queue Length 95th (ft)		256	m1	m11	m177					189	45	74	
Internal Link Dist (ft)		178			160			115			145		
Turn Bay Length (ft)				90						105			
Base Capacity (vph)		638	681	490	1018					419	459	577	
Starvation Cap Reductn		0	0	0	243					0	0	0	
Spillback Cap Reductn		0	0	0	0					0	0	0	
Storage Cap Reductn		0	0	0	0					0	0	0	
Reduced v/c Ratio		0.52	0.06	0.04	0.64					0.40	0.06	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 113 (94%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 23.5		Intersection LOS: C	
Intersection Capacity Utilization 53.3%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: East Concord Street & Albany Street

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	435	0	0	360	5	95	2	105	5	0	10
Future Vol, veh/h	25	435	0	0	360	5	95	2	105	5	0	10
Conflicting Peds, #/hr	257	0	0	0	0	257	15	0	240	240	0	15
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	82	82	82	90	90	90	58	58	58
Heavy Vehicles, %	11	8	2	2	4	0	0	0	0	0	2	0
Mvmt Flow	26	458	0	0	439	6	106	2	117	9	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	702	0	-	-	-	0	976	1212	698	1509	1209	714
Stage 1	-	-	-	-	-	-	510	510	-	699	699	-
Stage 2	-	-	-	-	-	-	466	702	-	810	510	-
Critical Hdwy	4.21	-	-	-	-	-	7.1	6.5	6.2	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Follow-up Hdwy	2.299	-	-	-	-	-	3.5	4	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	855	-	0	0	-	-	232	184	444	100	183	435
Stage 1	-	-	0	0	-	-	550	541	-	434	442	-
Stage 2	-	-	0	0	-	-	581	443	-	377	538	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	646	-	-	-	-	-	210	133	343	37	133	324
Mov Cap-2 Maneuver	-	-	-	-	-	-	210	133	-	37	133	-
Stage 1	-	-	-	-	-	-	528	519	-	315	334	-
Stage 2	-	-	-	-	-	-	542	334	-	183	516	-

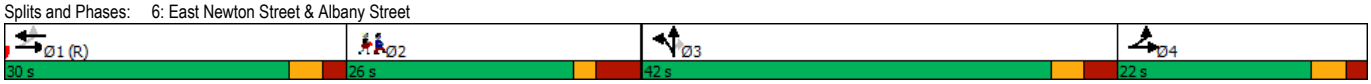
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	29.5	60.4
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	210	333	646	-	-	-	90
HCM Lane V/C Ratio	0.503	0.357	0.041	-	-	-	0.287
HCM Control Delay (s)	38.3	21.7	10.8	-	-	-	60.4
HCM Lane LOS	E	C	B	-	-	-	F
HCM 95th %tile Q(veh)	2.5	1.6	0.1	-	-	-	1.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	130	415	0	0	265	55	100	50	210	0	0	0	
Future Volume (vph)	130	415	0	0	265	55	100	50	210	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	80		0	0		0	0		0	0		0	
Storage Lanes	1		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	1583	1810	0	0	1592	0	0	1839	1615	0	0	0	
Flt Permitted	0.264							0.968					
Satd. Flow (perm)	375	1810	0	0	1592	0	0	1575	883	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					8				236				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		272			593			402			739		
Travel Time (s)		6.2			13.5			9.1			16.8		
Confl. Peds. (#/hr)	175					175	79		162				
Confl. Bikes (#/hr)						1							
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.89	0.89	0.89	0.92	0.92	0.92	
Heavy Vehicles (%)	14%	5%	2%	2%	6%	11%	0%	0%	0%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	135	432	0	0	385	0	0	168	236	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Perm				
Protected Phases	4	4 1			1		3	3					2
Permitted Phases	1								3				
Detector Phase	4	4 1			1		3	3	3				
Switch Phase													
Minimum Initial (s)	8.0				8.0		8.0	8.0	8.0				7.0
Minimum Split (s)	13.0				27.0		28.0	28.0	28.0				26.0
Total Split (s)	22.0				30.0		42.0	42.0	42.0				26.0
Total Split (%)	18.3%				25.0%		35.0%	35.0%	35.0%				22%
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				2.0
All-Red Time (s)	2.0				2.0		3.0	3.0	3.0				4.0
Lost Time Adjust (s)	0.0				0.0			0.0	0.0				
Total Lost Time (s)	5.0				5.0			6.0	6.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Recall Mode	None				C-Max		None	None	None				None
Act Effct Green (s)	57.8	62.8			35.7			20.2	20.2				
Actuated g/C Ratio	0.48	0.52			0.30			0.17	0.17				
v/c Ratio	0.33	0.46			0.81			0.54	0.69				
Control Delay	22.6	23.6			54.8			51.5	16.3				
Queue Delay	0.0	1.1			0.0			0.0	0.0				
Total Delay	22.6	24.7			54.8			51.5	16.3				
LOS	C	C			D			D	B				
Approach Delay		24.2			54.8			31.0					
Approach LOS		C			D			C					
Queue Length 50th (ft)	50	202			279			118	0				
Queue Length 95th (ft)	99	372			#477			181	80				
Internal Link Dist (ft)		192			513			322			659		
Turn Bay Length (ft)	80												
Base Capacity (vph)	414	944			478			551	430				
Starvation Cap Reductn	0	291			0			0	0				
Spillback Cap Reductn	0	0			0			0	0				
Storage Cap Reductn	0	0			0			0	0				
Reduced v/c Ratio	0.33	0.66			0.81			0.30	0.55				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 108 (90%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 34.9		Intersection LOS: C	
Intersection Capacity Utilization 57.4%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: East Newton Street & Albany Street

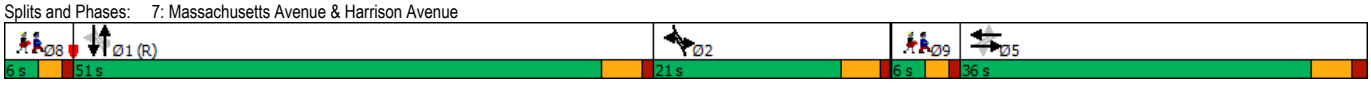


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø8	Ø9
Lane Configurations														
Traffic Volume (vph)	25	190	50	60	215	35	90	650	205	30	695	150		
Future Volume (vph)	25	190	50	60	215	35	90	650	205	30	695	150		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0		0	0		0	125		0	135		0		
Storage Lanes	0		0	0		0	1		0	1		0		
Taper Length (ft)	25			25			25			25				
Satd. Flow (prot)	0	1661	0	0	1686	0	1736	3028	0	1641	3156	0		
Flt Permitted		0.943			0.808		0.154			0.162				
Satd. Flow (perm)	0	1568	0	0	1349	0	281	3028	0	280	3156	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		9			5			41			25			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		317			228			693			556			
Travel Time (s)		7.2			5.2			15.8			12.6			
Confl. Peds. (#/hr)	72		152	152		72	102		158	158		102		
Confl. Bikes (#/hr)						4			15			4		
Peak Hour Factor	0.87	0.87	0.87	0.96	0.96	0.96	0.93	0.93	0.93	0.90	0.90	0.90		
Heavy Vehicles (%)	12%	5%	7%	6%	9%	9%	4%	3%	1%	10%	6%	3%		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	304	0	0	323	0	97	919	0	33	939	0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA			
Protected Phases		5			5		2	1		2	1		8	9
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		2	1		2	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0		8.0	10.0		3.0	3.0
Minimum Split (s)	29.0	29.0		29.0	29.0		12.5	26.5		12.5	26.5		6.0	6.0
Total Split (s)	36.0	36.0		36.0	36.0		21.0	51.0		21.0	51.0		6.0	6.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		17.5%	42.5%		17.5%	42.5%		5%	5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	1.5	1.5		1.5	1.5		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			
Total Lost Time (s)		5.0			5.0		4.5	4.5		4.5	4.5			
Lead/Lag	Lag	Lag		Lag	Lag			Lag			Lag		Lead	Lead
Lead-Lag Optimize?														
Recall Mode	Ped	Ped		Ped	Ped		None	C-Max		None	C-Max		Ped	Ped
Act Effct Green (s)		37.3			37.3		54.9	46.8		54.9	46.8			
Actuated g/C Ratio		0.31			0.31		0.46	0.39		0.46	0.39			
v/c Ratio		0.62			0.76		0.43	0.76		0.15	0.75			
Control Delay		40.3			49.9		20.0	40.7		20.7	35.5			
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0			
Total Delay		40.3			49.9		20.0	40.7		20.7	35.5			
LOS		D			D		B	D		C	D			
Approach Delay		40.3			49.9			38.7			35.0			
Approach LOS		D			D			D			C			
Queue Length 50th (ft)		193			220		21	251		13	320			
Queue Length 95th (ft)		279			#357		m39	317		31	403			
Internal Link Dist (ft)		237			148			613			476			
Turn Bay Length (ft)							125			135				
Base Capacity (vph)		493			423		348	1205		335	1246			
Starvation Cap Reductn		0			0		0	0		0	0			
Spillback Cap Reductn		0			0		0	0		0	0			
Storage Cap Reductn		0			0		0	0		0	0			
Reduced v/c Ratio		0.62			0.76		0.28	0.76		0.10	0.75			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 39 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 38.9 Intersection LOS: D
Intersection Capacity Utilization 74.2% 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Massachusetts Avenue & Harrison Avenue



Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	330	90	20	300	0	0	0	0	35	10	35
Future Vol, veh/h	0	330	90	20	300	0	0	0	0	35	10	35
Conflicting Peds, #/hr	0	0	112	112	0	0	0	0	0	68	0	37
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	88	88	88	92	92	92	79	79	79
Heavy Vehicles, %	2	4	0	10	9	2	2	2	2	3	0	0
Mvmt Flow	0	359	98	23	341	0	0	0	0	44	13	44

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	569	0	0			863	956	378
Stage 1	-	-	-	-	-	-			387	387	-
Stage 2	-	-	-	-	-	-			476	569	-
Critical Hdwy	-	-	-	4.2	-	-			6.43	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.43	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.43	5.5	-
Follow-up Hdwy	-	-	-	2.29	-	-			3.527	4	3.3
Pot Cap-1 Maneuver	0	-	-	965	-	0			324	260	673
Stage 1	0	-	-	-	-	0			684	613	-
Stage 2	0	-	-	-	-	0			623	509	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	965	-	-			315	0	649
Mov Cap-2 Maneuver	-	-	-	-	-	-			315	0	-
Stage 1	-	-	-	-	-	-			684	0	-
Stage 2	-	-	-	-	-	-			605	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	965	-	424
HCM Lane V/C Ratio	-	-	0.024	-	0.239
HCM Control Delay (s)	-	-	8.8	0	16.1
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.1	-	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	210	65	50	310	0	0	0	0	25	45	20	
Future Volume (vph)	0	210	65	50	310	0	0	0	0	25	45	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1572	0	0	1731	0	0	0	0	0	1580	0	
Flt Permitted					0.920						0.986		
Satd. Flow (perm)	0	1572	0	0	1543	0	0	0	0	0	1492	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		28									14		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		512			500			314			458		
Travel Time (s)		11.6			11.4			7.1			10.4		
Confl. Peds. (#/hr)			147	147						45		107	
Confl. Bikes (#/hr)												4	
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.92	0.92	0.92	0.90	0.90	0.90	
Heavy Vehicles (%)	2%	4%	5%	9%	9%	2%	2%	2%	2%	9%	0%	0%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	289	0	0	413	0	0	0	0	0	100	0	
Turn Type		NA		Perm	NA					Split	NA		
Protected Phases		1			1					5	5		2
Permitted Phases				1									
Detector Phase		1		1	1					5	5		
Switch Phase													
Minimum Initial (s)		8.0		8.0	8.0					8.0	8.0		7.0
Minimum Split (s)		18.0		18.0	18.0					13.0	13.0		20.0
Total Split (s)		46.0		46.0	46.0					14.0	14.0		20.0
Total Split (%)		57.5%		57.5%	57.5%					17.5%	17.5%		25%
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5		2.0
All-Red Time (s)		1.5		1.5	1.5					1.5	1.5		4.0
Lost Time Adjust (s)		0.0			0.0						0.0		
Total Lost Time (s)		5.0			5.0						5.0		
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?													
Recall Mode		C-Max		C-Max	C-Max					Max	Max		None
Act Effct Green (s)		41.0			41.0						13.0		
Actuated g/C Ratio		0.51			0.51						0.16		
v/c Ratio		0.35			0.52						0.37		
Control Delay		11.9			5.6						33.4		
Queue Delay		0.0			0.0						0.0		
Total Delay		11.9			5.6						33.4		
LOS		B			A						C		
Approach Delay		11.9			5.6						33.4		
Approach LOS		B			A						C		
Queue Length 50th (ft)		72			50						41		
Queue Length 95th (ft)		125			47						89		
Internal Link Dist (ft)		432			420			234			378		
Turn Bay Length (ft)													
Base Capacity (vph)		819			790						268		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.35			0.52						0.37		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 73 (91%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 11.3 Intersection LOS: B
Intersection Capacity Utilization 54.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: East Concord Street & Harrison Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	25	210	0	0	270	60	90	115	40	0	0	0	
Future Volume (vph)	25	210	0	0	270	60	90	115	40	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1824	0	0	1660	0	0	1582	0	0	0	0	
Flt Permitted		0.936						0.982					
Satd. Flow (perm)	0	1702	0	0	1660	0	0	1409	0	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					15			12					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		500			420			739			311		
Travel Time (s)		11.4			9.5			16.8			7.1		
Confl. Peds. (#/hr)	61					61	164		97				
Confl. Bikes (#/hr)						1			3				
Peak Hour Factor	0.88	0.88	0.88	0.89	0.89	0.89	0.85	0.85	0.85	0.92	0.92	0.92	
Heavy Vehicles (%)	9%	3%	2%	2%	8%	4%	15%	12%	3%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	267	0	0	370	0	0	288	0	0	0	0	
Turn Type	Perm	NA			NA		Split	NA					
Protected Phases		1			1		5	5					2
Permitted Phases	1												
Detector Phase	1	1			1		5	5					
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0					7.0
Minimum Split (s)	17.0	17.0			17.0		13.0	13.0					20.0
Total Split (s)	33.0	33.0			33.0		27.0	27.0					20.0
Total Split (%)	41.3%	41.3%			41.3%		33.8%	33.8%					25%
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5					2.0
All-Red Time (s)	1.5	1.5			1.5		1.5	1.5					4.0
Lost Time Adjust (s)		0.0			0.0			0.0					
Total Lost Time (s)		5.0			5.0			5.0					
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?													
Recall Mode	C-Max	C-Max			C-Max		Max	Max					None
Act Effct Green (s)		28.0			28.0			26.0					
Actuated g/C Ratio		0.35			0.35			0.32					
v/c Ratio		0.45			0.63			0.55					
Control Delay		14.3			26.4			28.3					
Queue Delay		0.0			0.0			0.0					
Total Delay		14.3			26.4			28.3					
LOS		B			C			C					
Approach Delay		14.3			26.4			28.3					
Approach LOS		B			C			C					
Queue Length 50th (ft)		55			145			121					
Queue Length 95th (ft)		80			233			189					
Internal Link Dist (ft)		420			340			659			231		
Turn Bay Length (ft)													
Base Capacity (vph)		595			590			522					
Starvation Cap Reductn		0			0			0					
Spillback Cap Reductn		0			0			0					
Storage Cap Reductn		0			0			0					
Reduced v/c Ratio		0.45			0.63			0.55					

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 78 (98%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 23.5		Intersection LOS: C	
Intersection Capacity Utilization 54.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: East Newton Street & Harrison Avenue

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑	
Traffic Vol, veh/h	0	165	0	0	175	0
Future Vol, veh/h	0	165	0	0	175	0
Conflicting Peds, #/hr	0	473	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	85	85
Heavy Vehicles, %	2	2	2	2	4	2
Mvmt Flow	0	172	0	0	206	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	679		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	452		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	452		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	17.8	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	452	-
HCM Lane V/C Ratio	0.38	-
HCM Control Delay (s)	17.8	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	1.8	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	75	0	0	340	0
Future Vol, veh/h	0	75	0	0	340	0
Conflicting Peds, #/hr	0	17	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	92	92	96	96
Heavy Vehicles, %	2	3	2	2	4	2
Mvmt Flow	0	109	0	0	354	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	194		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.96		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.33		-	-
Pot Cap-1 Maneuver	0	812		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	812		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	10.1	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	812	-
HCM Lane V/C Ratio	0.134	-
HCM Control Delay (s)	10.1	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.5	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1285	1015	75	0	55
Future Vol, veh/h	0	1285	1015	75	0	55
Conflicting Peds, #/hr	0	0	0	8	0	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	140	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	97	97	67	67
Heavy Vehicles, %	2	2	5	3	2	18
Mvmt Flow	0	1397	1046	77	0	82

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	541
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.26
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.48
Pot Cap-1 Maneuver	0	-	-	-	0	446
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	438
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

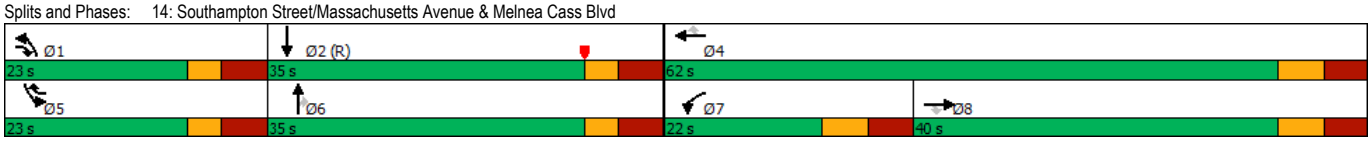
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	438
HCM Lane V/C Ratio	-	-	-	0.187
HCM Control Delay (s)	-	-	-	15.1
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	740	545	355	775	430	305	500	355	295	755	10
Future Volume (vph)	0	740	545	355	775	430	305	500	355	295	755	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	300		0	125		0	0		0
Storage Lanes	0		1	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3471	1583	3213	3505	1568	3400	3471	1568	3400	3495	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	3471	1423	3110	3505	1539	3264	3471	1115	2951	3495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			36			264		1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		373			984			749			477	
Travel Time (s)		8.5			22.4			17.0			10.8	
Confl. Peds. (#/hr)	5		66	66		5	52		192	192		52
Confl. Bikes (#/hr)									12			4
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	2%	9%	3%	3%	3%	4%	3%	3%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	755	556	370	807	448	324	532	378	317	823	0
Turn Type		NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8	1	7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase		8	1	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)		10.0	8.0	8.0	10.0	8.0	8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)		34.0	15.0	16.0	34.0	15.0	15.0	32.0	32.0	15.0	32.0	
Total Split (s)		40.0	23.0	22.0	62.0	23.0	23.0	35.0	35.0	23.0	35.0	
Total Split (%)		33.3%	19.2%	18.3%	51.7%	19.2%	19.2%	29.2%	29.2%	19.2%	29.2%	
Yellow Time (s)		4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lead/Lag		Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode		None	None	Max	None	None	None	None	None	None	C-Max	
Act Effct Green (s)		29.6	45.2	14.0	51.6	67.0	14.6	32.0	32.0	14.5	31.8	
Actuated g/C Ratio		0.25	0.38	0.12	0.43	0.56	0.12	0.27	0.27	0.12	0.26	
v/c Ratio		0.88	0.89	0.99	0.54	0.51	0.78	0.58	0.77	0.78	0.89	
Control Delay		56.2	42.2	97.1	26.6	13.3	65.1	42.1	25.0	61.8	63.6	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		56.2	42.2	97.1	26.6	13.3	65.1	42.1	25.0	61.8	63.6	
LOS		E	D	F	C	B	E	D	C	E	E	
Approach Delay		50.3			39.0			42.9			63.1	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)		291	276	149	232	147	125	194	85	131	304	
Queue Length 95th (ft)		365	#444	#250	288	211	175	258	#262	176	#461	
Internal Link Dist (ft)		293			904			669			397	
Turn Bay Length (ft)				300			125					
Base Capacity (vph)		925	640	374	1577	899	453	924	490	453	928	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	18	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.82	0.87	0.99	0.51	0.51	0.72	0.58	0.77	0.70	0.89	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 58 (48%), Referenced to phase 2:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 47.8 Intersection LOS: D
Intersection Capacity Utilization 88.2% 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: 14: Southampton Street/Massachusetts Avenue & Melnea Cass Blvd

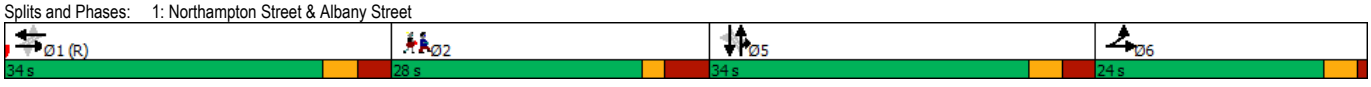


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	210	460	85	40	235	40	20	125	50	105	35	90	
Future Volume (vph)	210	460	85	40	235	40	20	125	50	105	35	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0	0		40	0		0	
Storage Lanes	0		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3222	0	0	3168	0	0	1800	1553	0	1609	0	
Flt Permitted		0.698			0.596			0.927			0.692		
Satd. Flow (perm)	0	2243	0	0	1897	0	0	1675	1553	0	1076	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		14			12				118		25		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		319			394			455			429		
Travel Time (s)		7.3			9.0			10.3			9.8		
Confl. Peds. (#/hr)	80		24	24		80	35		122	122		35	
Confl. Bikes (#/hr)												2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	5%	9%	10%	3%	10%	5%	16%	3%	4%	10%	0%	6%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	820	0	0	341	0	0	158	54	0	250	0	
Turn Type	D.P+P	NA		Perm	NA		Perm	NA	Prot	Perm	NA		
Protected Phases	6	6 1			1			5	5		5		2
Permitted Phases	1			1			5			5			
Detector Phase	6	6 1		1	1		5	5	5	5	5		
Switch Phase													
Minimum Initial (s)	4.0			8.0	8.0		8.0	8.0	8.0	8.0	8.0		7.0
Minimum Split (s)	8.0			14.0	14.0		14.0	14.0	14.0	14.0	14.0		28.0
Total Split (s)	24.0			34.0	34.0		34.0	34.0	34.0	34.0	34.0		28.0
Total Split (%)	20.0%			28.3%	28.3%		28.3%	28.3%	28.3%	28.3%	28.3%		23%
Yellow Time (s)	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		2.0
All-Red Time (s)	1.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		4.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0		
Total Lost Time (s)					6.0			6.0	6.0		6.0		
Lead/Lag	Lag			Lead	Lead		Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?													
Recall Mode	None			C-Max	C-Max		None	None	None	None	None		None
Act Effct Green (s)		51.1			28.6			26.9	26.9		26.9		
Actuated g/C Ratio		0.43			0.24			0.22	0.22		0.22		
v/c Ratio		0.73			0.74			0.42	0.12		0.96		
Control Delay		28.6			45.0			62.8	6.9		88.6		
Queue Delay		0.0			0.0			0.0	0.0		0.0		
Total Delay		28.6			45.0			62.8	6.9		88.6		
LOS		C			D			E	A		F		
Approach Delay		28.6			45.0			48.5			88.6		
Approach LOS		C			D			D			F		
Queue Length 50th (ft)		236			121			129	1		174		
Queue Length 95th (ft)		300			#178			m152	m2		#338		
Internal Link Dist (ft)		239			314			375			349		
Turn Bay Length (ft)									40				
Base Capacity (vph)		1130			461			390	452		270		
Starvation Cap Reductn		0			0			0	0		0		
Spillback Cap Reductn		0			0			0	0		0		
Storage Cap Reductn		0			0			0	0		0		
Reduced v/c Ratio		0.73			0.74			0.41	0.12		0.93		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 37 (31%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 43.9		Intersection LOS: D	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Northampton Street & Albany Street



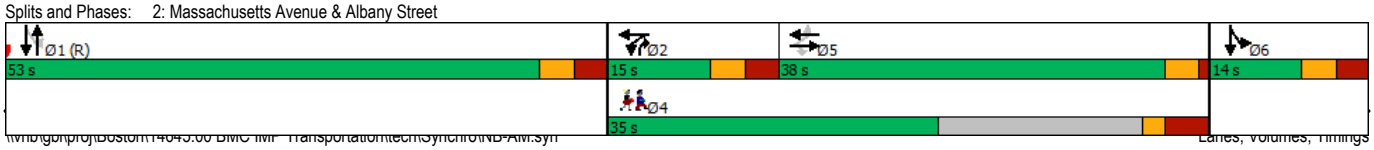
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	80	420	115	125	260	120	0	855	450	145	530	55	
Future Volume (vph)	80	420	115	125	260	120	0	855	450	145	530	55	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		150	150		0	0		0	200		350	
Storage Lanes	0		1	1		0	0		1	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3313	1524	1597	3058	0	0	3374	1538	1530	4559	0	
Flt Permitted		0.796		0.950						0.169			
Satd. Flow (perm)	0	2623	1204	1446	3058	0	0	3374	1016	259	4559	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			136		76				82		21		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		394			343			477			693		
Travel Time (s)		9.0			7.8			10.8			15.8		
Confl. Peds. (#/hr)	127		174	174		127	221		301	301		221	
Confl. Bikes (#/hr)												5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	19%	6%	6%	13%	6%	9%	0%	7%	5%	18%	8%	17%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	544	125	136	413	0	0	929	489	158	636	0	
Turn Type	Perm	NA	Perm	Prot	NA			NA	pm+ov	D.P+P	NA		
Protected Phases		5		2	5 2			1	2	6	1 6		4
Permitted Phases	5		5						1	1			
Detector Phase	5	5	5	2	5 2			1	2	6	1 6		
Switch Phase													
Minimum Initial (s)	7.0	7.0	7.0	5.0				8.0	5.0	7.0			7.0
Minimum Split (s)	35.0	35.0	35.0	11.0				29.0	11.0	13.0			35.0
Total Split (s)	38.0	38.0	38.0	15.0				53.0	15.0	14.0			35.0
Total Split (%)	31.7%	31.7%	31.7%	12.5%				44.2%	12.5%	11.7%			29%
Yellow Time (s)	3.0	3.0	3.0	3.0				3.0	3.0	3.0			2.0
All-Red Time (s)	1.0	1.0	1.0	3.0				3.0	3.0	3.0			4.0
Lost Time Adjust (s)		0.0	0.0	0.0				0.0	0.0	0.0			
Total Lost Time (s)		4.0	4.0	6.0				6.0	6.0	6.0			
Lead/Lag	Lag	Lag	Lag	Lead					Lead				
Lead-Lag Optimize?													
Recall Mode	None	None	None	None				C-Max	None	None			None
Act Effct Green (s)		32.3	32.3	9.0	47.3			47.1	56.1	56.7	62.7		
Actuated g/C Ratio		0.27	0.27	0.08	0.39			0.39	0.47	0.47	0.52		
v/c Ratio		0.77	0.30	1.14	0.33			0.70	0.88	0.71	0.27		
Control Delay		29.7	4.7	174.9	11.1			25.3	27.2	49.5	12.1		
Queue Delay		0.1	0.0	0.0	0.0			3.7	0.4	0.0	0.0		
Total Delay		29.8	4.7	174.9	11.1			29.0	27.6	49.5	12.1		
LOS		C	A	F	B			C	C	D	B		
Approach Delay		25.1			51.7			28.5			19.5		
Approach LOS		C			D			C			B		
Queue Length 50th (ft)		214	27	~125	57			331	242	75	32		
Queue Length 95th (ft)		m242	m30	#261	94			m390	m#234	m#166	m83		
Internal Link Dist (ft)		314			263			397			613		
Turn Bay Length (ft)			150	150						200			
Base Capacity (vph)		743	438	119	1293			1324	558	224	2392		
Starvation Cap Reductn		4	0	0	0			300	5	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		0.74	0.29	1.14	0.32			0.91	0.88	0.71	0.27		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 92 (77%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 29.5 Intersection LOS: C
Intersection Capacity Utilization 99.8% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & Albany Street



Intersection	
Int Delay, s/veh	0.8

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	10	50	930	5	1	490	15	5	0	5	0	0	0
Future Vol, veh/h	10	50	930	5	1	490	15	5	0	5	0	0	0
Conflicting Peds, #/hr	0	293	0	47	47	0	293	186	0	4	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	13	5	50	100	9	0	50	2	60	2	2	2
Mvmt Flow	11	54	1011	5	1	533	16	5	0	5	0	0	0

Major/Minor	Major1				Major2			Minor1		
Conflicting Flow All	549	842	0	0	1063	0	0	1646	2035	559
Stage 1	-	-	-	-	-	-	-	1191	1191	-
Stage 2	-	-	-	-	-	-	-	455	844	-
Critical Hdwy	6.4	4.36	-	-	6.1	-	-	7.8	6.54	8.1
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.8	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.8	5.54	-
Follow-up Hdwy	2.5	2.33	-	-	3.2	-	-	4	4.02	3.9
Pot Cap-1 Maneuver	653	723	-	-	287	-	-	55	56	350
Stage 1	-	-	-	-	-	-	-	171	259	-
Stage 2	-	-	-	-	-	-	-	485	377	-
Platoon blocked, %			-	-		-	-			
Mov Cap-1 Maneuver	710	710	-	-	274	-	-	39	0	333
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	39	0	-
Stage 1	-	-	-	-	-	-	-	148	0	-
Stage 2	-	-	-	-	-	-	-	397	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	65.7
HCM LOS			F

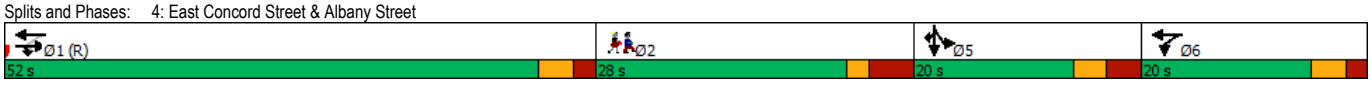
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	70	710	-	-	274	-	-
HCM Lane V/C Ratio	0.155	0.092	-	-	0.004	-	-
HCM Control Delay (s)	65.7	10.6	-	-	18.2	0	-
HCM Lane LOS	F	B	-	-	C	A	-
HCM 95th %tile Q(veh)	0.5	0.3	-	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	505	430	65	340	0	0	0	0	120	105	165	
Future Volume (vph)	0	505	430	65	340	0	0	0	0	120	105	165	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	90		0	0		0	105		0	
Storage Lanes	0		1	1		0	0		0	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	1681	1615	1787	1759	0	0	0	0	1736	1900	1482	
Flt Permitted				0.218						0.950			
Satd. Flow (perm)	0	1681	1615	410	1759	0	0	0	0	632	1900	1482	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			461									179	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		258			240			195			225		
Travel Time (s)		5.9			5.5			4.4			5.1		
Confl. Peds. (#/hr)			172	172						275		91	
Confl. Bikes (#/hr)			3									3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	13%	0%	1%	8%	2%	2%	2%	2%	4%	0%	9%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	549	467	71	370	0	0	0	0	130	114	179	
Turn Type		NA	Prot	D.P+P	NA					Split	NA	Prot	
Protected Phases		1	1	6	6 1					5	5	5	2
Permitted Phases				1									
Detector Phase		1	1	6	6 1					5	5	5	
Switch Phase													
Minimum Initial (s)		10.0	10.0	5.0						8.0	8.0	8.0	7.0
Minimum Split (s)		20.0	20.0	20.0						14.0	14.0	14.0	26.0
Total Split (s)		52.0	52.0	20.0						20.0	20.0	20.0	28.0
Total Split (%)		43.3%	43.3%	16.7%						16.7%	16.7%	16.7%	23%
Yellow Time (s)		3.0	3.0	3.0						3.0	3.0	3.0	2.0
All-Red Time (s)		2.0	2.0	2.0						3.0	3.0	3.0	4.0
Lost Time Adjust (s)		0.0	0.0	0.0						0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0						6.0	6.0	6.0	
Lead/Lag		Lead	Lead	Lag						Lead	Lead	Lead	Lag
Lead-Lag Optimize?													
Recall Mode		C-Max	C-Max	None						None	None	None	None
Act Effct Green (s)		49.6	49.6	65.1	70.1					12.9	12.9	12.9	
Actuated g/C Ratio		0.41	0.41	0.54	0.58					0.11	0.11	0.11	
v/c Ratio		0.79	0.50	0.18	0.36					0.70	0.56	0.56	
Control Delay		36.6	4.8	7.0	7.5					71.0	61.0	14.1	
Queue Delay		0.0	0.0	0.0	0.2					1.1	0.0	0.0	
Total Delay		36.6	4.8	7.0	7.8					72.1	61.0	14.1	
LOS		D	A	A	A					E	E	B	
Approach Delay		22.0			7.6						44.6		
Approach LOS		C			A						D		
Queue Length 50th (ft)		339	17	13	75					98	85	0	
Queue Length 95th (ft)		m#445	m57	m25	102					163	143	67	
Internal Link Dist (ft)		178			160			115			145		
Turn Bay Length (ft)				90						105			
Base Capacity (vph)		694	937	401	1028					213	233	339	
Starvation Cap Reductn		0	0	0	196					0	0	0	
Spillback Cap Reductn		0	0	0	0					14	0	0	
Storage Cap Reductn		0	0	0	0					0	0	0	
Reduced v/c Ratio		0.79	0.50	0.18	0.44					0.65	0.49	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 23.7 Intersection LOS: C
Intersection Capacity Utilization 58.2% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: East Concord Street & Albany Street



Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	600	0	0	285	5	105	0	100	2	0	15
Future Vol, veh/h	25	600	0	0	285	5	105	0	100	2	0	15
Conflicting Peds, #/hr	231	0	0	0	0	231	43	0	202	202	0	43
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	11	2	2	8	17	3	2	0	0	2	0
Mvmt Flow	27	652	0	0	310	5	114	0	109	2	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	546	0	-	-	-	0	1070	1252	854	1507	1250	587
Stage 1	-	-	-	-	-	-	706	706	-	544	544	-
Stage 2	-	-	-	-	-	-	364	546	-	963	706	-
Critical Hdwy	4.1	-	-	-	-	-	7.13	6.52	6.2	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.527	4.018	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	1033	-	0	0	-	-	198	172	361	100	173	513
Stage 1	-	-	0	0	-	-	425	439	-	527	519	-
Stage 2	-	-	0	0	-	-	653	518	-	310	439	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	806	-	-	-	-	-	177	130	292	39	130	384
Mov Cap-2 Maneuver	-	-	-	-	-	-	177	130	-	39	130	-
Stage 1	-	-	-	-	-	-	411	425	-	397	405	-
Stage 2	-	-	-	-	-	-	600	404	-	152	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	40.8	26.2
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	177	292	806	-	-	-	188
HCM Lane V/C Ratio	0.645	0.372	0.034	-	-	-	0.098
HCM Control Delay (s)	56.3	24.5	9.6	-	-	-	26.2
HCM Lane LOS	F	C	A	-	-	-	D
HCM 95th %tile Q(veh)	3.7	1.7	0.1	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	145	555	0	0	245	45	45	10	2	0	0	0	
Future Volume (vph)	145	555	0	0	245	45	45	10	2	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	80		0	0		0	0		0	0		0	
Storage Lanes	1		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	1570	1810	0	0	1613	0	0	1407	1615	0	0	0	
Flt Permitted	0.399							0.961					
Satd. Flow (perm)	547	1810	0	0	1613	0	0	1047	1017	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					8				118				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		272			593			402			739		
Travel Time (s)		6.2			13.5			9.1			16.8		
Confl. Peds. (#/hr)	138					138	115		131				
Confl. Bikes (#/hr)						2							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	15%	5%	2%	2%	8%	10%	14%	100%	0%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	158	603	0	0	315	0	0	60	2	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Perm				
Protected Phases	4	4 1			1		3	3					2
Permitted Phases	1								3				
Detector Phase	4	4 1			1		3	3	3				
Switch Phase													
Minimum Initial (s)	8.0				8.0		8.0	8.0	8.0				7.0
Minimum Split (s)	13.0				27.0		28.0	28.0	28.0				26.0
Total Split (s)	26.0				39.0		29.0	29.0	29.0				26.0
Total Split (%)	21.7%				32.5%		24.2%	24.2%	24.2%				22%
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				2.0
All-Red Time (s)	2.0				2.0		3.0	3.0	3.0				4.0
Lost Time Adjust (s)	0.0				0.0			0.0	0.0				
Total Lost Time (s)	5.0				5.0			6.0	6.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Recall Mode	None				C-Max		None	None	None				None
Act Effct Green (s)	61.6	66.6			41.2			19.2	19.2				
Actuated g/C Ratio	0.51	0.56			0.34			0.16	0.16				
v/c Ratio	0.35	0.60			0.56			0.27	0.01				
Control Delay	20.8	25.0			39.4			45.7	0.0				
Queue Delay	0.0	1.1			0.0			0.0	0.0				
Total Delay	20.8	26.1			39.4			45.7	0.0				
LOS	C	C			D			D	A				
Approach Delay		25.0			39.4			44.2					
Approach LOS		C			D			D					
Queue Length 50th (ft)	58	316			212			40	0				
Queue Length 95th (ft)	m92	428			317			82	0				
Internal Link Dist (ft)		192			513			322			659		
Turn Bay Length (ft)	80												
Base Capacity (vph)	470	1004			558			269	290				
Starvation Cap Reductn	0	195			0			0	0				
Spillback Cap Reductn	0	0			0			0	0				
Storage Cap Reductn	0	0			0			0	0				
Reduced v/c Ratio	0.34	0.75			0.56			0.22	0.01				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 30.0		Intersection LOS: C	
Intersection Capacity Utilization 57.9%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

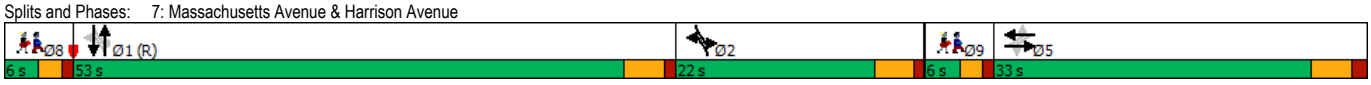
Splits and Phases: 6: East Newton Street & Albany Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø8	Ø9
Lane Configurations														
Traffic Volume (vph)	20	305	40	65	170	50	85	655	315	90	625	100		
Future Volume (vph)	20	305	40	65	170	50	85	655	315	90	625	100		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0		0	0		0	125		0	135		0		
Storage Lanes	0		0	0		0	1		0	1		0		
Taper Length (ft)	25			25			25			25				
Satd. Flow (prot)	0	1739	0	0	1639	0	1752	2787	0	1787	3081	0		
Flt Permitted		0.972			0.653		0.230			0.118				
Satd. Flow (perm)	0	1691	0	0	1064	0	401	2787	0	222	3081	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		5			8			81			18			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		317			228			693			556			
Travel Time (s)		7.2			5.2			15.8			12.6			
Confl. Peds. (#/hr)	76		153	153		76	99		110	110		99		
Confl. Bikes (#/hr)			7						8			2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	0%	5%	3%	8%	12%	3%	3%	14%	3%	1%	11%	5%		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	397	0	0	310	0	92	1054	0	98	788	0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA			
Protected Phases		5			5		2	1		2	1		8	9
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		2	1		2	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0		8.0	10.0		3.0	3.0
Minimum Split (s)	29.0	29.0		29.0	29.0		12.5	26.5		12.5	26.5		6.0	6.0
Total Split (s)	33.0	33.0		33.0	33.0		22.0	53.0		22.0	53.0		6.0	6.0
Total Split (%)	27.5%	27.5%		27.5%	27.5%		18.3%	44.2%		18.3%	44.2%		5%	5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	1.5	1.5		1.5	1.5		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			
Total Lost Time (s)		5.0			5.0		4.5	4.5		4.5	4.5			
Lead/Lag	Lag	Lag		Lag	Lag			Lag			Lag		Lead	Lead
Lead-Lag Optimize?														
Recall Mode	Ped	Ped		Ped	Ped		None	C-Max		None	C-Max		Ped	Ped
Act Effct Green (s)		35.7			35.7		56.8	48.5		56.8	48.5			
Actuated g/C Ratio		0.30			0.30		0.47	0.40		0.47	0.40			
v/c Ratio		0.78			0.97		0.33	0.90		0.46	0.63			
Control Delay		50.7			83.5		9.1	19.6		36.9	30.6			
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0			
Total Delay		50.7			83.5		9.1	19.6		36.9	30.6			
LOS		D			F		A	B		D	C			
Approach Delay		50.7			83.5			18.8			31.3			
Approach LOS		D			F			B			C			
Queue Length 50th (ft)		277			231		14	86		38	247			
Queue Length 95th (ft)		#441			#428		m19	#113		66	315			
Internal Link Dist (ft)		237			148			613			476			
Turn Bay Length (ft)							125			135				
Base Capacity (vph)		506			321		417	1174		350	1255			
Starvation Cap Reductn		0			0		0	0		0	0			
Spillback Cap Reductn		0			0		0	0		0	0			
Storage Cap Reductn		0			0		0	0		0	0			
Reduced v/c Ratio		0.78			0.97		0.22	0.90		0.28	0.63			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 34.8 Intersection LOS: C
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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Massachusetts Avenue & Harrison Avenue



Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	585	130	20	255	0	0	0	0	20	15	25
Future Vol, veh/h	0	585	130	20	255	0	0	0	0	20	15	25
Conflicting Peds, #/hr	0	0	115	115	0	0	0	0	0	95	0	29
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	2	6	10	2	2	2	2	0	0	8
Mvmt Flow	0	636	141	22	277	0	0	0	0	22	16	27

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	0	892	0	0				1123	1213	306
Stage 1	-	-	-	-	-	-				321	321	-
Stage 2	-	-	-	-	-	-				802	892	-
Critical Hdwy	-	-	-	4.16	-	-				6.4	6.5	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-				5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.4	5.5	-
Follow-up Hdwy	-	-	-	2.254	-	-				3.5	4	3.372
Pot Cap-1 Maneuver	0	-	-	744	-	0				230	183	720
Stage 1	0	-	-	-	-	0				740	655	-
Stage 2	0	-	-	-	-	0				445	363	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	744	-	-				222	0	700
Mov Cap-2 Maneuver	-	-	-	-	-	-				222	0	-
Stage 1	-	-	-	-	-	-				740	0	-
Stage 2	-	-	-	-	-	-				429	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.7	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	744	-	358
HCM Lane V/C Ratio	-	-	0.029	-	0.182
HCM Control Delay (s)	-	-	10	0	17.3
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.1	-	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	355	100	45	245	0	0	0	0	30	50	30	
Future Volume (vph)	0	355	100	45	245	0	0	0	0	30	50	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1658	0	0	1699	0	0	0	0	0	1611	0	
Flt Permitted					0.879						0.986		
Satd. Flow (perm)	0	1658	0	0	1486	0	0	0	0	0	1528	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		25									20		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		512			500			314			458		
Travel Time (s)		11.6			11.4			7.1			10.4		
Confl. Peds. (#/hr)			90	90						47		78	
Confl. Bikes (#/hr)			3									5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	4%	4%	16%	10%	2%	2%	2%	2%	0%	0%	6%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	495	0	0	315	0	0	0	0	0	120	0	
Turn Type		NA		Perm	NA					Split	NA		
Protected Phases		1			1					5	5		2
Permitted Phases				1									
Detector Phase		1		1	1					5	5		
Switch Phase													
Minimum Initial (s)		8.0		8.0	8.0					8.0	8.0		7.0
Minimum Split (s)		18.0		18.0	18.0					13.0	13.0		20.0
Total Split (s)		45.0		45.0	45.0					15.0	15.0		20.0
Total Split (%)		56.3%		56.3%	56.3%					18.8%	18.8%		25%
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5		2.0
All-Red Time (s)		1.5		1.5	1.5					1.5	1.5		4.0
Lost Time Adjust (s)		0.0			0.0						0.0		
Total Lost Time (s)		5.0			5.0						5.0		
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?													
Recall Mode		C-Max		C-Max	C-Max					Max	Max		None
Act Effct Green (s)		40.0			40.0						14.0		
Actuated g/C Ratio		0.50			0.50						0.18		
v/c Ratio		0.59			0.42						0.40		
Control Delay		16.9			4.5						31.9		
Queue Delay		0.0			0.0						0.0		
Total Delay		16.9			4.5						31.9		
LOS		B			A						C		
Approach Delay		16.9			4.5						31.9		
Approach LOS		B			A						C		
Queue Length 50th (ft)		157			33						47		
Queue Length 95th (ft)		252			48						100		
Internal Link Dist (ft)		432			420			234			378		
Turn Bay Length (ft)													
Base Capacity (vph)		841			743						298		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.59			0.42						0.40		

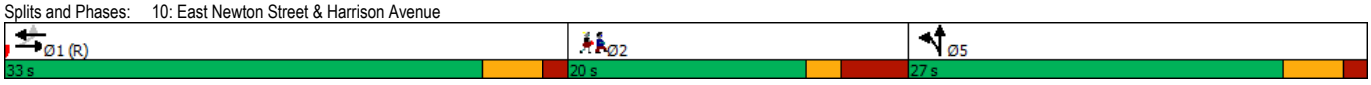
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 7 (9%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 9: East Concord Street & Harrison Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	45	340	0	0	235	60	55	95	30	0	0	0	
Future Volume (vph)	45	340	0	0	235	60	55	95	30	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1818	0	0	1646	0	0	1552	0	0	0	0	
Flt Permitted		0.901						0.985					
Satd. Flow (perm)	0	1635	0	0	1646	0	0	1414	0	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					18			13					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		500			420			739			311		
Travel Time (s)		11.4			9.5			16.8			7.1		
Confl. Peds. (#/hr)	43					43	160		72				
Confl. Bikes (#/hr)						4							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	3%	4%	2%	2%	9%	7%	19%	14%	10%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	419	0	0	320	0	0	196	0	0	0	0	
Turn Type	Perm	NA			NA		Split	NA					
Protected Phases		1			1		5	5					2
Permitted Phases	1												
Detector Phase	1	1			1		5	5					
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0					7.0
Minimum Split (s)	17.0	17.0			17.0		13.0	13.0					20.0
Total Split (s)	33.0	33.0			33.0		27.0	27.0					20.0
Total Split (%)	41.3%	41.3%			41.3%		33.8%	33.8%					25%
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5					2.0
All-Red Time (s)	1.5	1.5			1.5		1.5	1.5					4.0
Lost Time Adjust (s)		0.0			0.0			0.0					
Total Lost Time (s)		5.0			5.0			5.0					
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?													
Recall Mode	C-Max	C-Max			C-Max		Max	Max					None
Act Effct Green (s)		28.0			28.0			26.0					
Actuated g/C Ratio		0.35			0.35			0.32					
v/c Ratio		0.73			0.55			0.38					
Control Delay		25.3			23.9			24.3					
Queue Delay		0.0			0.0			0.0					
Total Delay		25.3			23.9			24.3					
LOS		C			C			C					
Approach Delay		25.3			23.9			24.3					
Approach LOS		C			C			C					
Queue Length 50th (ft)		89			119			75					
Queue Length 95th (ft)		#187			198			136					
Internal Link Dist (ft)		420			340			659			231		
Turn Bay Length (ft)													
Base Capacity (vph)		572			587			513					
Starvation Cap Reductn		0			0			0					
Spillback Cap Reductn		0			0			0					
Storage Cap Reductn		0			0			0					
Reduced v/c Ratio		0.73			0.55			0.38					

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 6 (8%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 24.6		Intersection LOS: C	
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 10: East Newton Street & Harrison Avenue



Intersection	
Int Delay, s/veh	6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑	
Traffic Vol, veh/h	0	135	0	0	195	0
Future Vol, veh/h	0	135	0	0	195	0
Conflicting Peds, #/hr	0	366	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	6	2
Mvmt Flow	0	147	0	0	212	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	578		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	516		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	516		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	14.7	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	516	-
HCM Lane V/C Ratio	0.284	-
HCM Control Delay (s)	14.7	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	1.2	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	60	0	0	330	0
Future Vol, veh/h	0	60	0	0	330	0
Conflicting Peds, #/hr	0	10	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	10	2	2	4	2
Mvmt Flow	0	65	0	0	359	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	190		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	7.1		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.4		-	-
Pot Cap-1 Maneuver	0	795		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	795		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

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

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	795	-
HCM Lane V/C Ratio	0.082	-
HCM Control Delay (s)	9.9	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0.3	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1240	1275	280	0	20
Future Vol, veh/h	0	1240	1275	280	0	20
Conflicting Peds, #/hr	0	0	0	9	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	140	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	3	2	33
Mvmt Flow	0	1348	1386	304	0	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	706
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.56
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.63
Pot Cap-1 Maneuver	0	-	-	-	0	315
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	311
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	311
HCM Lane V/C Ratio	-	-	-	0.07
HCM Control Delay (s)	-	-	-	17.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

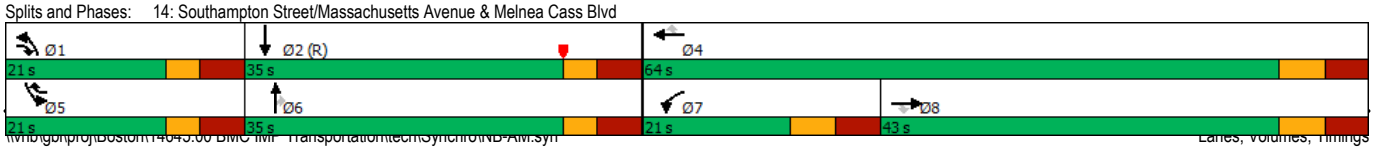
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	985	255	285	1115	645	430	660	515	315	445	10
Future Volume (vph)	0	985	255	285	1115	645	430	660	515	315	445	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	300		0	125		0	0		0
Storage Lanes	0		1	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3438	1455	3183	3406	1538	3242	3312	1482	3127	3184	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	3438	1307	3118	3406	1490	2921	3312	1017	2775	3184	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			36			235		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		373			984			749			477	
Travel Time (s)		8.5			22.4			17.0			10.8	
Confl. Peds. (#/hr)			66	66		14	82		224	224		82
Confl. Bikes (#/hr)									7			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	11%	10%	6%	5%	8%	9%	9%	12%	13%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1071	277	310	1212	701	467	717	560	342	495	0
Turn Type		NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8	1	7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase		8	1	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)		10.0	8.0	8.0	10.0	8.0	8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)		34.0	15.0	16.0	34.0	15.0	15.0	32.0	32.0	15.0	32.0	
Total Split (s)		43.0	21.0	21.0	64.0	21.0	21.0	35.0	35.0	21.0	35.0	
Total Split (%)		35.8%	17.5%	17.5%	53.3%	17.5%	17.5%	29.2%	29.2%	17.5%	29.2%	
Yellow Time (s)		4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lead/Lag		Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode		None	None	Max	None	None	None	None	None	None	C-Max	
Act Effct Green (s)		35.0	50.0	13.0	56.0	71.0	14.0	28.0	28.0	14.0	28.0	
Actuated g/C Ratio		0.29	0.42	0.11	0.47	0.59	0.12	0.23	0.23	0.12	0.23	
v/c Ratio		1.07	0.44	0.90	0.76	0.78	1.24	0.93	1.34	0.94	0.67	
Control Delay		89.6	14.6	82.1	30.4	20.6	170.8	64.4	192.2	80.2	44.9	
Queue Delay		0.0	0.0	0.0	0.0	0.2	0.0	2.9	0.0	0.0	0.0	
Total Delay		89.6	14.6	82.1	30.4	20.8	170.8	67.3	192.2	80.2	44.9	
LOS		F	B	F	C	C	F	E	F	F	D	
Approach Delay		74.2			34.6			135.1			59.3	
Approach LOS		E			C			F			E	
Queue Length 50th (ft)		~483	77	124	398	303	~230	287	~420	144	172	
Queue Length 95th (ft)		#617	142	#207	487	447	#338	#403	#643	m#213	m186	
Internal Link Dist (ft)		293			904			669			397	
Turn Bay Length (ft)				300			125					
Base Capacity (vph)		1002	625	344	1589	901	378	772	417	364	744	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	17	0	22	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		1.07	0.44	0.90	0.76	0.79	1.24	0.96	1.34	0.94	0.67	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 2:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.34
Intersection Signal Delay: 75.1 Intersection LOS: E
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Southampton Street/Massachusetts Avenue & Melnea Cass Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	155	215	25	20	495	35	70	80	155	85	20	285	
Future Volume (vph)	155	215	25	20	495	35	70	80	155	85	20	285	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0	0		40	0		0	
Storage Lanes	0		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3213	0	0	3319	0	0	1846	1599	0	1604	0	
Flt Permitted		0.548			0.923			0.506			0.803		
Satd. Flow (perm)	0	1765	0	0	3067	0	0	950	1599	0	1277	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		7			6				118		111		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		319			394			455			429		
Travel Time (s)		7.3			9.0			10.3			9.8		
Confl. Peds. (#/hr)	83		19	19		83	36		103	103		36	
Confl. Bikes (#/hr)			3			2			3			1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	12%	25%	6%	6%	11%	0%	1%	1%	1%	11%	1%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	429	0	0	598	0	0	163	168	0	424	0	
Turn Type	D.P+P	NA		Perm	NA		Perm	NA	Prot	Perm	NA		
Protected Phases	6	6 1			1			5	5		5		2
Permitted Phases	1			1			5			5			
Detector Phase	6	6 1		1	1		5	5	5	5	5		
Switch Phase													
Minimum Initial (s)	4.0			8.0	8.0		8.0	8.0	8.0	8.0	8.0		7.0
Minimum Split (s)	8.0			14.0	14.0		14.0	14.0	14.0	14.0	14.0		28.0
Total Split (s)	15.0			39.0	39.0		38.0	38.0	38.0	38.0	38.0		28.0
Total Split (%)	12.5%			32.5%	32.5%		31.7%	31.7%	31.7%	31.7%	31.7%		23%
Yellow Time (s)	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		2.0
All-Red Time (s)	1.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		4.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0		
Total Lost Time (s)					6.0			6.0	6.0		6.0		
Lead/Lag	Lag			Lead	Lead		Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?													
Recall Mode	None			C-Max	C-Max		None	None	None	None	None		None
Act Effct Green (s)		46.0			33.0			32.0	32.0		32.0		
Actuated g/C Ratio		0.38			0.28			0.27	0.27		0.27		
v/c Ratio		0.53			0.71			0.64	0.33		1.01		
Control Delay		26.3			27.8			49.6	11.8		78.6		
Queue Delay		0.0			1.4			0.0	0.0		0.0		
Total Delay		26.3			29.2			49.6	11.8		78.6		
LOS		C			C			D	B		E		
Approach Delay		26.3			29.2			30.4			78.6		
Approach LOS		C			C			C			E		
Queue Length 50th (ft)		113			193			106	20		~263		
Queue Length 95th (ft)		154			268			m187	m67		#481		
Internal Link Dist (ft)		239			314			375			349		
Turn Bay Length (ft)									40				
Base Capacity (vph)		813			847			253	512		421		
Starvation Cap Reductn		0			103			0	0		0		
Spillback Cap Reductn		0			0			0	0		0		
Storage Cap Reductn		0			0			0	0		0		
Reduced v/c Ratio		0.53			0.80			0.64	0.33		1.01		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 16 (13%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 40.5		Intersection LOS: D	
Intersection Capacity Utilization 72.7%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

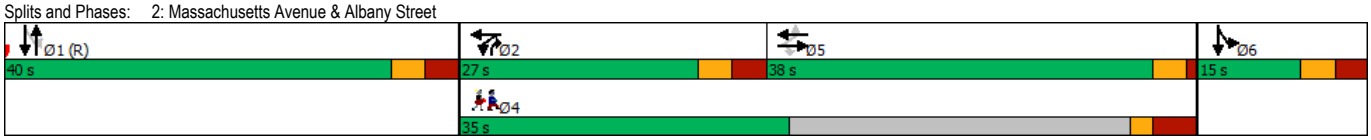
Splits and Phases: 1: Northampton Street & Albany Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	85	220	150	235	500	175	0	770	210	80	710	50	
Future Volume (vph)	85	220	150	235	500	175	0	770	210	80	710	50	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		150	150		0	0		0	200		350	
Storage Lanes	0		1	1		0	0		1	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3249	1599	1719	3143	0	0	3574	1495	1530	4781	0	
Flt Permitted		0.643		0.950						0.120			
Satd. Flow (perm)	0	2081	1238	1483	3143	0	0	3574	973	182	4781	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			136		59				132		11		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		394			343			477			693		
Travel Time (s)		9.0			7.8			10.8			15.8		
Confl. Peds. (#/hr)	154		187	187		154			333	333		255	
Confl. Bikes (#/hr)			2			2			1			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	11%	9%	1%	5%	5%	5%	2%	1%	8%	18%	4%	21%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	331	163	255	733	0	0	837	228	87	826	0	
Turn Type	Perm	NA	Perm	Prot	NA			NA	pm+ov	D.P+P	NA		
Protected Phases		5		2	5 2			1	2	6	1 6		4
Permitted Phases	5		5						1	1			
Detector Phase	5	5	5	2	5 2			1	2	6	1 6		
Switch Phase													
Minimum Initial (s)	7.0	7.0	7.0	5.0				8.0	5.0	7.0			7.0
Minimum Split (s)	35.0	35.0	35.0	11.0				29.0	11.0	13.0			35.0
Total Split (s)	38.0	38.0	38.0	27.0				40.0	27.0	15.0			35.0
Total Split (%)	31.7%	31.7%	31.7%	22.5%				33.3%	22.5%	12.5%			29%
Yellow Time (s)	3.0	3.0	3.0	3.0				3.0	3.0	3.0			2.0
All-Red Time (s)	1.0	1.0	1.0	3.0				3.0	3.0	3.0			4.0
Lost Time Adjust (s)		0.0	0.0	0.0				0.0	0.0	0.0			
Total Lost Time (s)		4.0	4.0	6.0				6.0	6.0	6.0			
Lead/Lag	Lag	Lag	Lag	Lead					Lead				
Lead-Lag Optimize?													
Recall Mode	None	None	None	None				C-Max	None	None			None
Act Effct Green (s)		31.6	31.6	20.5	58.1			34.0	54.5	45.9	51.9		
Actuated g/C Ratio		0.26	0.26	0.17	0.48			0.28	0.45	0.38	0.43		
v/c Ratio		0.61	0.38	0.87	0.47			0.83	0.38	0.43	0.40		
Control Delay		30.1	5.7	80.0	11.4			35.4	8.3	37.3	9.2		
Queue Delay		0.0	0.0	0.0	0.0			1.9	0.0	0.0	0.0		
Total Delay		30.1	5.7	80.0	11.4			37.3	8.3	37.3	9.2		
LOS		C	A	E	B			D	A	D	A		
Approach Delay		22.1			29.1			31.1			11.9		
Approach LOS		C			C			C			B		
Queue Length 50th (ft)		82	13	165	67			300	78	28	50		
Queue Length 95th (ft)		m125	m43	m#327	122			395	107	m50	m82		
Internal Link Dist (ft)		314			263			397			613		
Turn Bay Length (ft)			150	150						200			
Base Capacity (vph)		589	448	300	1605			1012	608	202	2072		
Starvation Cap Reductn		0	0	0	0			75	0	0	0		
Spillback Cap Reductn		0	0	0	17			0	0	0	0		
Storage Cap Reductn		0	0	0	0			0	0	0	0		
Reduced v/c Ratio		0.56	0.36	0.85	0.46			0.89	0.38	0.43	0.40		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 57 (48%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 24.2 Intersection LOS: C
Intersection Capacity Utilization 95.4% 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & Albany Street



Intersection	
Int Delay, s/veh	0.6

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	5	40	455	5	3	870	40	5	0	5	0	0	0
Future Vol, veh/h	5	40	455	5	3	870	40	5	0	5	0	0	0
Conflicting Peds, #/hr	0	300	0	57	57	0	300	67	0	9	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	4	0	0	2	25	2	2	2
Mvmt Flow	5	43	495	5	3	946	43	5	0	5	0	0	0

Major/Minor	Major1				Major2			Minor1		
Conflicting Flow All	989	1289	0	0	557	0	0	1197	1946	316
Stage 1	-	-	-	-	-	-	-	651	651	-
Stage 2	-	-	-	-	-	-	-	546	1295	-
Critical Hdwy	6.4	4.26	-	-	4.1	-	-	6.8	6.54	7.4
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.8	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.8	5.54	-
Follow-up Hdwy	2.5	2.28	-	-	2.2	-	-	3.5	4.02	3.55
Pot Cap-1 Maneuver	343	503	-	-	1024	-	-	181	64	616
Stage 1	-	-	-	-	-	-	-	486	463	-
Stage 2	-	-	-	-	-	-	-	550	231	-
Platoon blocked, %			-	-		-	-			
Mov Cap-1 Maneuver	478	478	-	-	968	-	-	143	0	578
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	143	0	-
Stage 1	-	-	-	-	-	-	-	413	0	-
Stage 2	-	-	-	-	-	-	-	512	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.2	0	21.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	229	478	-	-	968	-	-
HCM Lane V/C Ratio	0.047	0.102	-	-	0.003	-	-
HCM Control Delay (s)	21.5	13.4	-	-	8.7	0	-
HCM Lane LOS	C	B	-	-	A	A	-
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	320	140	20	675	0	0	0	0	150	25	240	
Future Volume (vph)	0	320	140	20	675	0	0	0	0	150	25	240	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	90		0	0		0	105		0	
Storage Lanes	0		1	1		0	0		0	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	1712	1615	1805	1827	0	0	0	0	1736	1900	1553	
Flt Permitted				0.372						0.950			
Satd. Flow (perm)	0	1712	1615	580	1827	0	0	0	0	824	1900	1553	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			152									261	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		258			240			195			225		
Travel Time (s)		5.9			5.5			4.4			5.1		
Confl. Peds. (#/hr)			168	168						302		95	
Confl. Bikes (#/hr)			3										
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	11%	0%	0%	4%	2%	2%	2%	2%	4%	0%	4%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	348	152	22	734	0	0	0	0	163	27	261	
Turn Type		NA	Prot	D.P+P	NA					Split	NA	Prot	
Protected Phases		1	1	6	6 1					5	5	5	2
Permitted Phases				1									
Detector Phase		1	1	6	6 1					5	5	5	
Switch Phase													
Minimum Initial (s)		10.0	10.0	5.0						8.0	8.0	8.0	7.0
Minimum Split (s)		20.0	20.0	20.0						14.0	14.0	14.0	26.0
Total Split (s)		47.0	47.0	10.0						35.0	35.0	35.0	28.0
Total Split (%)		39.2%	39.2%	8.3%						29.2%	29.2%	29.2%	23%
Yellow Time (s)		3.0	3.0	3.0						3.0	3.0	3.0	2.0
All-Red Time (s)		2.0	2.0	2.0						3.0	3.0	3.0	4.0
Lost Time Adjust (s)		0.0	0.0	0.0						0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0						6.0	6.0	6.0	
Lead/Lag		Lead	Lead	Lag						Lead	Lead	Lead	Lag
Lead-Lag Optimize?													
Recall Mode		C-Max	C-Max	None						None	None	None	None
Act Effct Green (s)		42.0	42.0	62.2	67.2					15.8	15.8	15.8	
Actuated g/C Ratio		0.35	0.35	0.52	0.56					0.13	0.13	0.13	
v/c Ratio		0.58	0.23	0.04	0.72					0.71	0.11	0.61	
Control Delay		35.6	8.5	8.3	15.9					66.3	44.2	11.5	
Queue Delay		0.0	0.0	0.0	3.1					0.0	0.0	0.0	
Total Delay		35.6	8.5	8.3	19.0					66.3	44.2	11.5	
LOS		D	A	A	B					E	D	B	
Approach Delay		27.4			18.7						33.3		
Approach LOS		C			B						C		
Queue Length 50th (ft)		186	10	5	185					123	19	0	
Queue Length 95th (ft)		288	57	m8	m201					185	44	73	
Internal Link Dist (ft)		178			160			115			145		
Turn Bay Length (ft)				90						105			
Base Capacity (vph)		599	664	506	1022					419	459	573	
Starvation Cap Reductn		0	0	0	190					0	0	0	
Spillback Cap Reductn		0	0	0	0					0	0	0	
Storage Cap Reductn		0	0	0	0					0	0	0	
Reduced v/c Ratio		0.58	0.23	0.04	0.88					0.39	0.06	0.46	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 113 (94%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 25.1 Intersection LOS: C
Intersection Capacity Utilization 65.4% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: East Concord Street & Albany Street

Intersection	
Int Delay, s/veh	10.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	445	0	0	570	5	115	2	80	5	0	10
Future Vol, veh/h	25	445	0	0	570	5	115	2	80	5	0	10
Conflicting Peds, #/hr	257	0	0	0	0	257	15	0	240	240	0	15
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	11	8	2	2	4	0	0	0	0	0	2	0
Mvmt Flow	27	484	0	0	620	5	125	2	87	5	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	882	0	-	-	-	0	1181	1420	724	1703	1418	895
Stage 1	-	-	-	-	-	-	538	538	-	880	880	-
Stage 2	-	-	-	-	-	-	643	882	-	823	538	-
Critical Hdwy	4.21	-	-	-	-	-	7.1	6.5	6.2	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Follow-up Hdwy	2.299	-	-	-	-	-	3.5	4	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	730	-	0	0	-	-	168	138	429	73	137	342
Stage 1	-	-	0	0	-	-	531	526	-	345	365	-
Stage 2	-	-	0	0	-	-	465	367	-	371	522	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	551	-	-	-	-	-	153	99	331	30	98	255
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	99	-	30	98	-
Stage 1	-	-	-	-	-	-	505	500	-	248	276	-
Stage 2	-	-	-	-	-	-	439	277	-	200	496	-

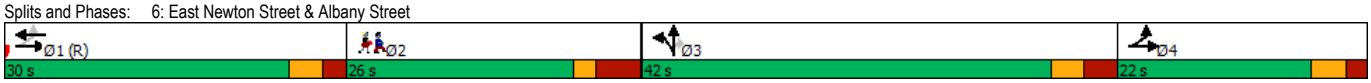
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	60.8	68
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	153	313	551	-	-	-	73
HCM Lane V/C Ratio	0.817	0.285	0.049	-	-	-	0.223
HCM Control Delay (s)	89.1	21	11.9	-	-	-	68
HCM Lane LOS	F	C	B	-	-	-	F
HCM 95th %tile Q(veh)	5.3	1.1	0.2	-	-	-	0.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	140	390	0	0	430	50	145	60	65	0	0	0	
Future Volume (vph)	140	390	0	0	430	50	145	60	65	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	80		0	0		0	0		0	0		0	
Storage Lanes	1		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	1583	1810	0	0	1670	0	0	1835	1615	0	0	0	
Flt Permitted	0.113							0.966					
Satd. Flow (perm)	188	1810	0	0	1670	0	0	1555	883	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					4				118				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		272			593			402			739		
Travel Time (s)		6.2			13.5			9.1			16.8		
Confl. Peds. (#/hr)	175					175	79		162				
Confl. Bikes (#/hr)						1							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	14%	5%	2%	2%	6%	11%	0%	0%	0%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	152	424	0	0	521	0	0	223	71	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Perm				
Protected Phases	4	4 1			1		3	3					2
Permitted Phases	1								3				
Detector Phase	4	4 1			1		3	3	3				
Switch Phase													
Minimum Initial (s)	8.0				8.0		8.0	8.0	8.0				7.0
Minimum Split (s)	13.0				27.0		28.0	28.0	28.0				26.0
Total Split (s)	22.0				30.0		42.0	42.0	42.0				26.0
Total Split (%)	18.3%				25.0%		35.0%	35.0%	35.0%				22%
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				2.0
All-Red Time (s)	2.0				2.0		3.0	3.0	3.0				4.0
Lost Time Adjust (s)	0.0				0.0			0.0	0.0				
Total Lost Time (s)	5.0				5.0			6.0	6.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Recall Mode	None				C-Max		None	None	None				None
Act Effct Green (s)	57.2	62.2			35.3			20.8	20.8				
Actuated g/C Ratio	0.48	0.52			0.29			0.17	0.17				
v/c Ratio	0.44	0.45			1.05			0.70	0.28				
Control Delay	33.2	25.6			97.4			58.2	4.1				
Queue Delay	0.0	1.1			0.0			0.0	0.0				
Total Delay	33.2	26.7			97.4			58.2	4.1				
LOS	C	C			F			E	A				
Approach Delay		28.4			97.4			45.2					
Approach LOS		C			F			D					
Queue Length 50th (ft)	73	205			~461			162	0				
Queue Length 95th (ft)	139	372			#777			239	9				
Internal Link Dist (ft)		192			513			322			659		
Turn Bay Length (ft)	80												
Base Capacity (vph)	353	933			494			550	347				
Starvation Cap Reductn	0	292			0			0	0				
Spillback Cap Reductn	0	0			0			0	0				
Storage Cap Reductn	0	0			0			0	0				
Reduced v/c Ratio	0.43	0.66			1.05			0.41	0.20				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 108 (90%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 57.8		Intersection LOS: E	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: East Newton Street & Albany Street



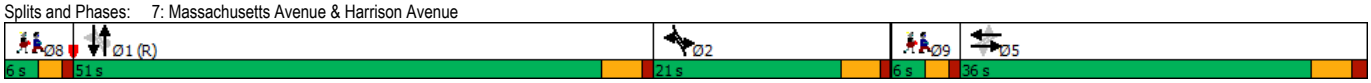
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø8	Ø9
Lane Configurations														
Traffic Volume (vph)	25	230	50	70	295	50	100	710	220	35	720	150		
Future Volume (vph)	25	230	50	70	295	50	100	710	220	35	720	150		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0		0	0		0	125		0	135		0		
Storage Lanes	0		0	0		0	1		0	1		0		
Taper Length (ft)	25			25			25			25				
Satd. Flow (prot)	0	1681	0	0	1685	0	1736	3036	0	1641	3164	0		
Flt Permitted		0.921			0.784		0.149			0.123				
Satd. Flow (perm)	0	1550	0	0	1311	0	272	3036	0	212	3164	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		8			6			40			24			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		317			228			693			556			
Travel Time (s)		7.2			5.2			15.8			12.6			
Confl. Peds. (#/hr)	72		152	152		72	102		158	158		102		
Confl. Bikes (#/hr)						4			15			4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	12%	5%	7%	6%	9%	9%	4%	3%	1%	10%	6%	3%		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	331	0	0	451	0	109	1011	0	38	946	0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA			
Protected Phases		5			5		2	1		2	1		8	9
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		2	1		2	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0		8.0	10.0		3.0	3.0
Minimum Split (s)	29.0	29.0		29.0	29.0		12.5	26.5		12.5	26.5		6.0	6.0
Total Split (s)	36.0	36.0		36.0	36.0		21.0	51.0		21.0	51.0		6.0	6.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		17.5%	42.5%		17.5%	42.5%		5%	5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	1.5	1.5		1.5	1.5		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			
Total Lost Time (s)		5.0			5.0		4.5	4.5		4.5	4.5			
Lead/Lag	Lag	Lag		Lag	Lag			Lag			Lag		Lead	Lead
Lead-Lag Optimize?														
Recall Mode	Ped	Ped		Ped	Ped		None	C-Max		None	C-Max		Ped	Ped
Act Effct Green (s)		37.7			37.7		54.8	46.5		54.8	46.5			
Actuated g/C Ratio		0.31			0.31		0.46	0.39		0.46	0.39			
v/c Ratio		0.67			1.09		0.48	0.84		0.19	0.76			
Control Delay		43.0			108.3		21.5	45.4		23.7	36.0			
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0			
Total Delay		43.0			108.3		21.5	45.4		23.7	36.0			
LOS		D			F		C	D		C	D			
Approach Delay		43.0			108.3			43.1			35.5			
Approach LOS		D			F			D			D			
Queue Length 50th (ft)		217			~387		24	291		15	323			
Queue Length 95th (ft)		331			#609		m40	360		33	406			
Internal Link Dist (ft)		237			148			613			476			
Turn Bay Length (ft)							125			135				
Base Capacity (vph)		492			415		344	1200		307	1240			
Starvation Cap Reductn		0			0		0	0		0	0			
Spillback Cap Reductn		0			0		0	0		0	0			
Storage Cap Reductn		0			0		0	0		0	0			
Reduced v/c Ratio		0.67			1.09		0.32	0.84		0.12	0.76			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 39 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 50.7 Intersection LOS: D
Intersection Capacity Utilization 85.5% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Massachusetts Avenue & Harrison Avenue



Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	390	90	20	400	0	0	0	0	35	10	35
Future Vol, veh/h	0	390	90	20	400	0	0	0	0	35	10	35
Conflicting Peds, #/hr	0	0	112	112	0	0	0	0	0	68	0	37
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	0	10	9	2	2	2	2	3	0	0
Mvmt Flow	0	424	98	22	435	0	0	0	0	38	11	38

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	634	0	0			1020	1113	472
Stage 1	-	-	-	-	-	-			479	479	-
Stage 2	-	-	-	-	-	-			541	634	-
Critical Hdwy	-	-	-	4.2	-	-			6.43	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.43	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.43	5.5	-
Follow-up Hdwy	-	-	-	2.29	-	-			3.527	4	3.3
Pot Cap-1 Maneuver	0	-	-	912	-	0			261	210	596
Stage 1	0	-	-	-	-	0			621	558	-
Stage 2	0	-	-	-	-	0			581	476	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	912	-	-			253	0	575
Mov Cap-2 Maneuver	-	-	-	-	-	-			253	0	-
Stage 1	-	-	-	-	-	-			621	0	-
Stage 2	-	-	-	-	-	-			562	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.4	18.6
HCM LOS			C

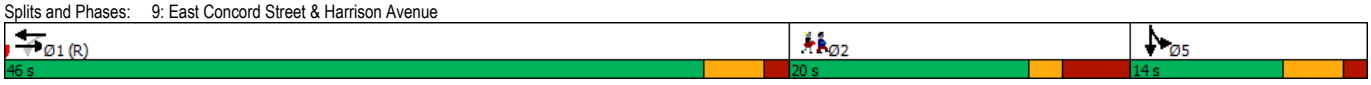
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	912	-	351
HCM Lane V/C Ratio	-	-	0.024	-	0.248
HCM Control Delay (s)	-	-	9	0	18.6
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.1	-	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	270	65	50	405	0	0	0	0	35	45	25	
Future Volume (vph)	0	270	65	50	405	0	0	0	0	35	45	25	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1616	0	0	1734	0	0	0	0	0	1552	0	
Flt Permitted					0.926						0.984		
Satd. Flow (perm)	0	1616	0	0	1575	0	0	0	0	0	1448	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		22									16		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		512			500			314			458		
Travel Time (s)		11.6			11.4			7.1			10.4		
Confl. Peds. (#/hr)			147	147						45		107	
Confl. Bikes (#/hr)												4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	4%	5%	9%	9%	2%	2%	2%	2%	9%	0%	0%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	364	0	0	494	0	0	0	0	0	114	0	
Turn Type		NA		Perm	NA					Split	NA		
Protected Phases		1			1					5	5		2
Permitted Phases				1									
Detector Phase		1		1	1					5	5		
Switch Phase													
Minimum Initial (s)		8.0		8.0	8.0					8.0	8.0		7.0
Minimum Split (s)		18.0		18.0	18.0					13.0	13.0		20.0
Total Split (s)		46.0		46.0	46.0					14.0	14.0		20.0
Total Split (%)		57.5%		57.5%	57.5%					17.5%	17.5%		25%
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5		2.0
All-Red Time (s)		1.5		1.5	1.5					1.5	1.5		4.0
Lost Time Adjust (s)		0.0			0.0						0.0		
Total Lost Time (s)		5.0			5.0						5.0		
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?													
Recall Mode		C-Max		C-Max	C-Max					Max	Max		None
Act Effct Green (s)		41.0			41.0						13.0		
Actuated g/C Ratio		0.51			0.51						0.16		
v/c Ratio		0.43			0.61						0.43		
Control Delay		13.4			6.3						35.3		
Queue Delay		0.0			0.0						0.0		
Total Delay		13.4			6.4						35.3		
LOS		B			A						D		
Approach Delay		13.4			6.4						35.3		
Approach LOS		B			A						D		
Queue Length 50th (ft)		100			50						47		
Queue Length 95th (ft)		166			m78						#114		
Internal Link Dist (ft)		432			420			234			378		
Turn Bay Length (ft)													
Base Capacity (vph)		838			807						265		
Starvation Cap Reductn		0			10						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.43			0.62						0.43		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 73 (91%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 12.4 Intersection LOS: B
Intersection Capacity Utilization 63.4% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

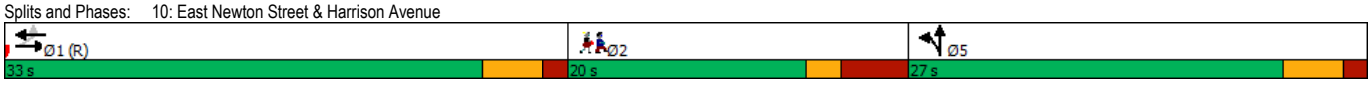
Splits and Phases: 9: East Concord Street & Harrison Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	30	275	0	0	355	70	100	130	45	0	0	0	
Future Volume (vph)	30	275	0	0	355	70	100	130	45	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1825	0	0	1668	0	0	1582	0	0	0	0	
Flt Permitted		0.753						0.982					
Satd. Flow (perm)	0	1381	0	0	1668	0	0	1410	0	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					14			12					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		500			420			739			311		
Travel Time (s)		11.4			9.5			16.8			7.1		
Confl. Peds. (#/hr)	61					61	164		97				
Confl. Bikes (#/hr)						1			3				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	9%	3%	2%	2%	8%	4%	15%	12%	3%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	332	0	0	462	0	0	299	0	0	0	0	
Turn Type	Perm	NA			NA		Split	NA					
Protected Phases		1			1		5	5					2
Permitted Phases	1												
Detector Phase	1	1			1		5	5					
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0					7.0
Minimum Split (s)	17.0	17.0			17.0		13.0	13.0					20.0
Total Split (s)	33.0	33.0			33.0		27.0	27.0					20.0
Total Split (%)	41.3%	41.3%			41.3%		33.8%	33.8%					25%
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5					2.0
All-Red Time (s)	1.5	1.5			1.5		1.5	1.5					4.0
Lost Time Adjust (s)		0.0			0.0			0.0					
Total Lost Time (s)		5.0			5.0			5.0					
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?													
Recall Mode	C-Max	C-Max			C-Max		Max	Max					None
Act Effct Green (s)		28.0			28.0			26.0					
Actuated g/C Ratio		0.35			0.35			0.32					
v/c Ratio		0.69			0.78			0.57					
Control Delay		19.6			33.7			28.9					
Queue Delay		0.0			0.0			0.0					
Total Delay		19.6			33.7			28.9					
LOS		B			C			C					
Approach Delay		19.6			33.7			28.9					
Approach LOS		B			C			C					
Queue Length 50th (ft)		64			197			127					
Queue Length 95th (ft)		92			#347			214					
Internal Link Dist (ft)		420			340			659			231		
Turn Bay Length (ft)													
Base Capacity (vph)		483			592			522					
Starvation Cap Reductn		0			0			0					
Spillback Cap Reductn		0			0			0					
Storage Cap Reductn		0			0			0					
Reduced v/c Ratio		0.69			0.78			0.57					

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 78 (98%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 10: East Newton Street & Harrison Avenue



Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	165	0	0	175	0
Future Vol, veh/h	0	165	0	0	175	0
Conflicting Peds, #/hr	0	473	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	4	2
Mvmt Flow	0	179	0	0	190	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	663		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	461		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	461		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	17.7	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	461	-
HCM Lane V/C Ratio	0.389	-
HCM Control Delay (s)	17.7	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	1.8	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	75	0	0	340	0
Future Vol, veh/h	0	75	0	0	340	0
Conflicting Peds, #/hr	0	17	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	3	2	2	4	2
Mvmt Flow	0	82	0	0	370	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	202		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.96		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.33		-	-
Pot Cap-1 Maneuver	0	802		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	802		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	10	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	802	-
HCM Lane V/C Ratio	0.102	-
HCM Control Delay (s)	10	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.3	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1285	1015	75	0	55
Future Vol, veh/h	0	1285	1015	75	0	55
Conflicting Peds, #/hr	0	0	0	8	0	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	140	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	3	2	18
Mvmt Flow	0	1397	1103	82	0	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	570
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.26
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.48
Pot Cap-1 Maneuver	0	-	-	-	0	426
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	419
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	419
HCM Lane V/C Ratio	-	-	-	0.143
HCM Control Delay (s)	-	-	-	15
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5

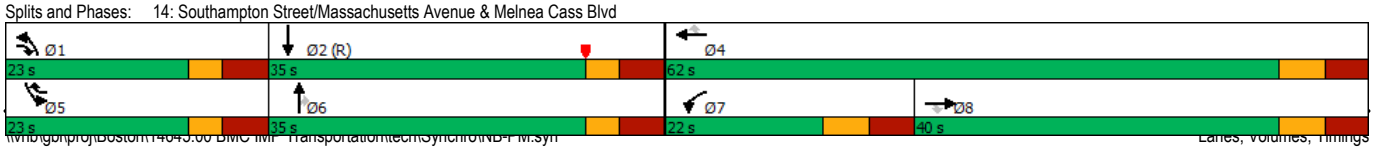
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	740	545	355	775	440	305	540	355	315	770	10
Future Volume (vph)	0	740	545	355	775	440	305	540	355	315	770	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	300		0	125		0	0		0
Storage Lanes	0		1	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3471	1583	3213	3505	1568	3400	3471	1568	3400	3495	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	3471	1423	3116	3505	1539	3269	3471	1115	2984	3495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			36			260		1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		373			984			749			477	
Travel Time (s)		8.5			22.4			17.0			10.8	
Confl. Peds. (#/hr)	5		66	66		5	52		192	192		52
Confl. Bikes (#/hr)									12			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	2%	9%	3%	3%	3%	4%	3%	3%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	804	592	386	842	478	332	587	386	342	848	0
Turn Type		NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8	1	7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase		8	1	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)		10.0	8.0	8.0	10.0	8.0	8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)		34.0	15.0	16.0	34.0	15.0	15.0	32.0	32.0	15.0	32.0	
Total Split (s)		40.0	23.0	22.0	62.0	23.0	23.0	35.0	35.0	23.0	35.0	
Total Split (%)		33.3%	19.2%	18.3%	51.7%	19.2%	19.2%	29.2%	29.2%	19.2%	29.2%	
Yellow Time (s)		4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lead/Lag		Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode		None	None	Max	None	None	None	None	None	None	C-Max	
Act Effct Green (s)		30.7	46.4	14.0	52.7	68.6	14.8	30.4	30.4	14.9	30.6	
Actuated g/C Ratio		0.26	0.39	0.12	0.44	0.57	0.12	0.25	0.25	0.12	0.26	
v/c Ratio		0.91	0.93	1.03	0.55	0.53	0.79	0.67	0.81	0.81	0.95	
Control Delay		58.0	47.4	106.8	26.3	13.2	65.6	45.4	28.9	62.2	72.6	
Queue Delay		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
Total Delay		58.0	47.4	106.8	26.3	13.3	65.6	45.4	28.9	62.2	72.6	
LOS		E	D	F	C	B	E	D	C	E	E	
Approach Delay		53.5			40.8			45.6			69.6	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)		313	304	~164	243	157	129	222	99	142	~381	
Queue Length 95th (ft)		#415	#554	#265	304	231	180	287	#282	m186	#474	
Internal Link Dist (ft)		293			904			669			397	
Turn Bay Length (ft)				300			125					
Base Capacity (vph)		925	652	374	1577	912	453	878	476	453	890	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	31	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.87	0.91	1.03	0.53	0.54	0.73	0.67	0.81	0.75	0.95	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 58 (48%), Referenced to phase 2:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 51.2 Intersection LOS: D
Intersection Capacity Utilization 88.6% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Southampton Street/Massachusetts Avenue & Melnea Cass Blvd

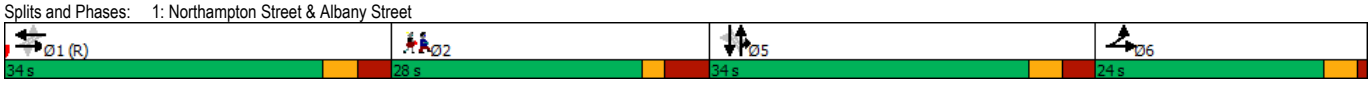


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	210	465	85	45	240	40	20	125	55	105	35	90	
Future Volume (vph)	210	465	85	45	240	40	20	125	55	105	35	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0	0		40	0		0	
Storage Lanes	0		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3222	0	0	3172	0	0	1800	1553	0	1609	0	
Flt Permitted		0.691			0.570			0.927			0.692		
Satd. Flow (perm)	0	2221	0	0	1818	0	0	1675	1553	0	1076	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		14			12				118		25		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		319			394			455			429		
Travel Time (s)		7.3			9.0			10.3			9.8		
Confl. Peds. (#/hr)	80		24	24		80	35		122	122		35	
Confl. Bikes (#/hr)												2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	5%	9%	10%	3%	10%	5%	16%	3%	4%	10%	0%	6%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	825	0	0	353	0	0	158	60	0	250	0	
Turn Type	D.P+P	NA		Perm	NA		Perm	NA	Prot	Perm	NA		
Protected Phases	6	6 1			1			5	5		5		2
Permitted Phases	1			1			5			5			
Detector Phase	6	6 1		1	1		5	5	5	5	5		
Switch Phase													
Minimum Initial (s)	4.0			8.0	8.0		8.0	8.0	8.0	8.0	8.0		7.0
Minimum Split (s)	8.0			14.0	14.0		14.0	14.0	14.0	14.0	14.0		28.0
Total Split (s)	24.0			34.0	34.0		34.0	34.0	34.0	34.0	34.0		28.0
Total Split (%)	20.0%			28.3%	28.3%		28.3%	28.3%	28.3%	28.3%	28.3%		23%
Yellow Time (s)	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		2.0
All-Red Time (s)	1.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		4.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0		
Total Lost Time (s)					6.0			6.0	6.0		6.0		
Lead/Lag	Lag			Lead	Lead		Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?													
Recall Mode	None			C-Max	C-Max		None	None	None	None	None		None
Act Effct Green (s)		51.1			28.6			26.9	26.9		26.9		
Actuated g/C Ratio		0.43			0.24			0.22	0.22		0.22		
v/c Ratio		0.73			0.80			0.42	0.14		0.96		
Control Delay		28.8			49.8			62.7	8.4		88.6		
Queue Delay		0.0			0.0			0.0	0.0		0.0		
Total Delay		28.8			49.8			62.7	8.4		88.6		
LOS		C			D			E	A		F		
Approach Delay		28.8			49.8			47.8			88.6		
Approach LOS		C			D			D			F		
Queue Length 50th (ft)		238			126			129	1		174		
Queue Length 95th (ft)		302			#207			m151	m3		#338		
Internal Link Dist (ft)		239			314			375			349		
Turn Bay Length (ft)									40				
Base Capacity (vph)		1125			442			390	452		270		
Starvation Cap Reductn		0			0			0	0		0		
Spillback Cap Reductn		0			0			0	0		0		
Storage Cap Reductn		0			0			0	0		0		
Reduced v/c Ratio		0.73			0.80			0.41	0.13		0.93		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 44.9 Intersection LOS: D
Intersection Capacity Utilization 72.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Northampton Street & Albany Street



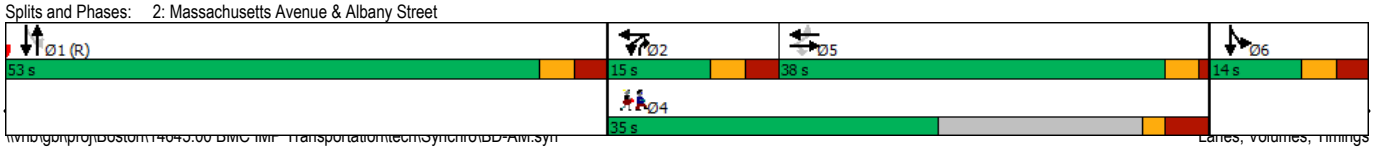
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	80	425	120	125	265	125	0	860	465	150	530	60	
Future Volume (vph)	80	425	120	125	265	125	0	860	465	150	530	60	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		150	150		0	0		0	200		350	
Storage Lanes	0		1	1		0	0		1	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3314	1524	1597	3052	0	0	3374	1538	1530	4541	0	
Flt Permitted		0.794		0.950						0.167			
Satd. Flow (perm)	0	2618	1204	1447	3052	0	0	3374	1016	256	4541	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			136		79				82		23		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		394			343			477			693		
Travel Time (s)		9.0			7.8			10.8			15.8		
Confl. Peds. (#/hr)	127		174	174		127	221		301	301		221	
Confl. Bikes (#/hr)												5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	19%	6%	6%	13%	6%	9%	0%	7%	5%	18%	8%	17%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	549	130	136	424	0	0	935	505	163	641	0	
Turn Type	Perm	NA	Perm	Prot	NA			NA	pm+ov	D.P+P	NA		
Protected Phases		5		2	5 2			1	2	6	1 6		4
Permitted Phases	5		5						1	1			
Detector Phase	5	5	5	2	5 2			1	2	6	1 6		
Switch Phase													
Minimum Initial (s)	7.0	7.0	7.0	5.0				8.0	5.0	7.0			7.0
Minimum Split (s)	35.0	35.0	35.0	11.0				29.0	11.0	13.0			35.0
Total Split (s)	38.0	38.0	38.0	15.0				53.0	15.0	14.0			35.0
Total Split (%)	31.7%	31.7%	31.7%	12.5%				44.2%	12.5%	11.7%			29%
Yellow Time (s)	3.0	3.0	3.0	3.0				3.0	3.0	3.0			2.0
All-Red Time (s)	1.0	1.0	1.0	3.0				3.0	3.0	3.0			4.0
Lost Time Adjust (s)		0.0	0.0	0.0				0.0	0.0	0.0			
Total Lost Time (s)		4.0	4.0	6.0				6.0	6.0	6.0			
Lead/Lag	Lag	Lag	Lag	Lead					Lead				
Lead-Lag Optimize?													
Recall Mode	None	None	None	None				C-Max	None	None			None
Act Effct Green (s)		32.3	32.3	9.0	47.3			47.1	56.1	56.7	62.7		
Actuated g/C Ratio		0.27	0.27	0.08	0.39			0.39	0.47	0.47	0.52		
v/c Ratio		0.78	0.31	1.14	0.34			0.71	0.91	0.73	0.27		
Control Delay		29.7	4.9	174.6	11.1			25.7	30.1	51.4	11.9		
Queue Delay		0.1	0.0	0.0	0.0			4.0	0.6	0.0	0.0		
Total Delay		29.8	4.9	174.6	11.1			29.7	30.8	51.4	11.9		
LOS		C	A	F	B			C	C	D	B		
Approach Delay		25.0			50.8			30.1			19.9		
Approach LOS		C			D			C			B		
Queue Length 50th (ft)		216	29	~124	57			334	254	78	32		
Queue Length 95th (ft)		m244	m32	#262	97			m392	m#269	m#142	m82		
Internal Link Dist (ft)		314			263			397			613		
Turn Bay Length (ft)			150	150						200			
Base Capacity (vph)		741	438	119	1292			1324	558	222	2382		
Starvation Cap Reductn		4	0	0	0			302	5	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		0.74	0.30	1.14	0.33			0.91	0.91	0.73	0.27		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 92 (77%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 30.1 Intersection LOS: C
Intersection Capacity Utilization 100.2% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & Albany Street



Intersection	
Int Delay, s/veh	1

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	10	55	955	5	1	505	15	5	1	5	0	0	0
Future Vol, veh/h	10	55	955	5	1	505	15	5	1	5	0	0	0
Conflicting Peds, #/hr	0	293	0	47	47	0	293	186	0	4	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	13	5	50	100	9	0	50	2	60	2	2	2
Mvmt Flow	11	60	1038	5	1	549	16	5	1	5	0	0	0

Major/Minor	Major1				Major2			Minor1		
Conflicting Flow All	565	858	0	0	1090	0	0	1693	2090	573
Stage 1	-	-	-	-	-	-	-	1230	1230	-
Stage 2	-	-	-	-	-	-	-	463	860	-
Critical Hdwy	6.4	4.36	-	-	6.1	-	-	7.8	6.54	8.1
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.8	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.8	5.54	-
Follow-up Hdwy	2.5	2.33	-	-	3.2	-	-	4	4.02	3.9
Pot Cap-1 Maneuver	638	712	-	-	277	-	-	51	52	341
Stage 1	-	-	-	-	-	-	-	162	248	-
Stage 2	-	-	-	-	-	-	-	480	371	-
Platoon blocked, %			-	-		-	-			
Mov Cap-1 Maneuver	700	700	-	-	265	-	-	36	0	324
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	36	0	-
Stage 1	-	-	-	-	-	-	-	139	0	-
Stage 2	-	-	-	-	-	-	-	393	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0.1	72.5
HCM LOS			F

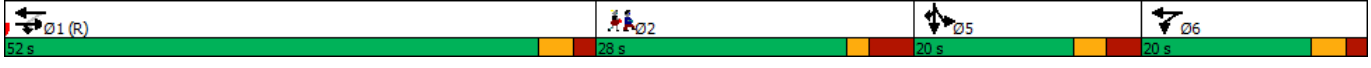
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	65	700	-	-	265	-	-
HCM Lane V/C Ratio	0.184	0.101	-	-	0.004	-	-
HCM Control Delay (s)	72.5	10.7	-	-	18.6	0.1	-
HCM Lane LOS	F	B	-	-	C	A	-
HCM 95th %tile Q(veh)	0.6	0.3	-	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	505	455	65	350	0	0	0	0	120	115	170	
Future Volume (vph)	0	505	455	65	350	0	0	0	0	120	115	170	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	90		0	0		0	105		0	
Storage Lanes	0		1	1		0	0		0	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	1681	1615	1787	1759	0	0	0	0	1736	1900	1482	
Flt Permitted				0.218						0.950			
Satd. Flow (perm)	0	1681	1615	410	1759	0	0	0	0	632	1900	1482	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			489									185	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		258			240			195			225		
Travel Time (s)		5.9			5.5			4.4			5.1		
Confl. Peds. (#/hr)			172	172						275		91	
Confl. Bikes (#/hr)			3									3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	13%	0%	1%	8%	2%	2%	2%	2%	4%	0%	9%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	549	495	71	380	0	0	0	0	130	125	185	
Turn Type		NA	Prot	D.P+P	NA					Split	NA	Prot	
Protected Phases		1	1	6	6 1					5	5	5	2
Permitted Phases				1									
Detector Phase		1	1	6	6 1					5	5	5	
Switch Phase													
Minimum Initial (s)		10.0	10.0	5.0						8.0	8.0	8.0	7.0
Minimum Split (s)		20.0	20.0	20.0						14.0	14.0	14.0	26.0
Total Split (s)		52.0	52.0	20.0						20.0	20.0	20.0	28.0
Total Split (%)		43.3%	43.3%	16.7%						16.7%	16.7%	16.7%	23%
Yellow Time (s)		3.0	3.0	3.0						3.0	3.0	3.0	2.0
All-Red Time (s)		2.0	2.0	2.0						3.0	3.0	3.0	4.0
Lost Time Adjust (s)		0.0	0.0	0.0						0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0						6.0	6.0	6.0	
Lead/Lag		Lead	Lead	Lag						Lead	Lead	Lead	Lag
Lead-Lag Optimize?													
Recall Mode		C-Max	C-Max	None						None	None	None	None
Act Effct Green (s)		49.5	49.5	65.1	70.1					12.9	12.9	12.9	
Actuated g/C Ratio		0.41	0.41	0.54	0.58					0.11	0.11	0.11	
v/c Ratio		0.79	0.52	0.18	0.37					0.70	0.62	0.57	
Control Delay		36.3	4.7	6.9	7.6					71.0	63.8	14.2	
Queue Delay		0.0	0.0	0.0	0.2					1.1	0.0	0.0	
Total Delay		36.3	4.7	6.9	7.8					72.1	63.8	14.2	
LOS		D	A	A	A					E	E	B	
Approach Delay		21.3			7.7						45.4		
Approach LOS		C			A						D		
Queue Length 50th (ft)		340	19	13	77					98	94	0	
Queue Length 95th (ft)		m442	m55	m25	105					163	155	68	
Internal Link Dist (ft)		178			160			115			145		
Turn Bay Length (ft)				90						105			
Base Capacity (vph)		693	953	401	1028					213	233	344	
Starvation Cap Reductn		0	0	0	193					0	0	0	
Spillback Cap Reductn		0	0	0	0					14	0	0	
Storage Cap Reductn		0	0	0	0					0	0	0	
Reduced v/c Ratio		0.79	0.52	0.18	0.46					0.65	0.54	0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 24 (20%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 23.6		Intersection LOS: C	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: East Concord Street & Albany Street



Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	600	0	0	290	5	110	0	100	2	0	15
Future Vol, veh/h	25	600	0	0	290	5	110	0	100	2	0	15
Conflicting Peds, #/hr	231	0	0	0	0	231	43	0	202	202	0	43
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	11	2	2	8	17	3	2	0	0	2	0
Mvmt Flow	27	652	0	0	315	5	120	0	109	2	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	551	0	-	-	-	0	1075	1257	854	1512	1255	592
Stage 1	-	-	-	-	-	-	706	706	-	549	549	-
Stage 2	-	-	-	-	-	-	369	551	-	963	706	-
Critical Hdwy	4.1	-	-	-	-	-	7.13	6.52	6.2	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.527	4.018	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	1029	-	0	0	-	-	196	171	361	100	172	510
Stage 1	-	-	0	0	-	-	425	439	-	524	516	-
Stage 2	-	-	0	0	-	-	649	515	-	310	439	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	803	-	-	-	-	-	175	129	292	39	130	382
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	129	-	39	130	-
Stage 1	-	-	-	-	-	-	411	424	-	395	402	-
Stage 2	-	-	-	-	-	-	596	402	-	152	424	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	43.7	26.2
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	175	292	803	-	-	-	188
HCM Lane V/C Ratio	0.683	0.372	0.034	-	-	-	0.098
HCM Control Delay (s)	61.1	24.5	9.6	-	-	-	26.2
HCM Lane LOS	F	C	A	-	-	-	D
HCM 95th %tile Q(veh)	4.1	1.7	0.1	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	145	555	0	0	250	45	45	10	5	0	0	0	
Future Volume (vph)	145	555	0	0	250	45	45	10	5	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	80		0	0		0	0		0	0		0	
Storage Lanes	1		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	1570	1810	0	0	1615	0	0	1407	1615	0	0	0	
Flt Permitted	0.391							0.961					
Satd. Flow (perm)	536	1810	0	0	1615	0	0	1047	1017	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					8				118				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		272			593			402			739		
Travel Time (s)		6.2			13.5			9.1			16.8		
Confl. Peds. (#/hr)	138					138	115		131				
Confl. Bikes (#/hr)						2							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	15%	5%	2%	2%	8%	10%	14%	100%	0%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	158	603	0	0	321	0	0	60	5	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Perm				
Protected Phases	4	4 1			1		3	3					2
Permitted Phases	1								3				
Detector Phase	4	4 1			1		3	3	3				
Switch Phase													
Minimum Initial (s)	8.0				8.0		8.0	8.0	8.0				7.0
Minimum Split (s)	13.0				27.0		28.0	28.0	28.0				26.0
Total Split (s)	26.0				39.0		29.0	29.0	29.0				26.0
Total Split (%)	21.7%				32.5%		24.2%	24.2%	24.2%				22%
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				2.0
All-Red Time (s)	2.0				2.0		3.0	3.0	3.0				4.0
Lost Time Adjust (s)	0.0				0.0			0.0	0.0				
Total Lost Time (s)	5.0				5.0			6.0	6.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Recall Mode	None				C-Max		None	None	None				None
Act Effct Green (s)	61.6	66.6			41.2			19.2	19.2				
Actuated g/C Ratio	0.51	0.56			0.34			0.16	0.16				
v/c Ratio	0.35	0.60			0.57			0.27	0.02				
Control Delay	21.0	25.1			39.7			45.7	0.2				
Queue Delay	0.0	1.1			0.0			0.0	0.0				
Total Delay	21.0	26.2			39.7			45.7	0.2				
LOS	C	C			D			D	A				
Approach Delay		25.1			39.7			42.2					
Approach LOS		C			D			D					
Queue Length 50th (ft)	58	315			217			40	0				
Queue Length 95th (ft)	m92	428			323			82	0				
Internal Link Dist (ft)		192			513			322			659		
Turn Bay Length (ft)	80												
Base Capacity (vph)	467	1004			559			269	290				
Starvation Cap Reductn	0	195			0			0	0				
Spillback Cap Reductn	0	0			0			0	0				
Storage Cap Reductn	0	0			0			0	0				
Reduced v/c Ratio	0.34	0.75			0.57			0.22	0.02				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 30.2		Intersection LOS: C	
Intersection Capacity Utilization 57.9%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: East Newton Street & Albany Street

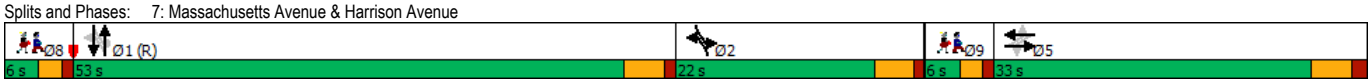
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø8	Ø9
Lane Configurations														
Traffic Volume (vph)	20	310	45	70	170	50	85	655	325	90	625	100		
Future Volume (vph)	20	310	45	70	170	50	85	655	325	90	625	100		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0		0	0		0	125		0	135		0		
Storage Lanes	0		0	0		0	1		0	1		0		
Taper Length (ft)	25			25			25			25				
Satd. Flow (prot)	0	1732	0	0	1640	0	1752	2779	0	1787	3081	0		
Flt Permitted		0.972			0.620		0.230			0.114				
Satd. Flow (perm)	0	1685	0	0	1011	0	401	2779	0	214	3081	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		5			8			85			18			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		317			228			693			556			
Travel Time (s)		7.2			5.2			15.8			12.6			
Confl. Peds. (#/hr)	76		153	153		76	99		110	110		99		
Confl. Bikes (#/hr)			7						8			2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	0%	5%	3%	8%	12%	3%	3%	14%	3%	1%	11%	5%		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	408	0	0	315	0	92	1065	0	98	788	0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA			
Protected Phases		5			5		2	1		2	1		8	9
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		2	1		2	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0		8.0	10.0		3.0	3.0
Minimum Split (s)	29.0	29.0		29.0	29.0		12.5	26.5		12.5	26.5		6.0	6.0
Total Split (s)	33.0	33.0		33.0	33.0		22.0	53.0		22.0	53.0		6.0	6.0
Total Split (%)	27.5%	27.5%		27.5%	27.5%		18.3%	44.2%		18.3%	44.2%		5%	5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	1.5	1.5		1.5	1.5		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			
Total Lost Time (s)		5.0			5.0		4.5	4.5		4.5	4.5			
Lead/Lag	Lag	Lag		Lag	Lag			Lag			Lag		Lead	Lead
Lead-Lag Optimize?														
Recall Mode	Ped	Ped		Ped	Ped		None	C-Max		None	C-Max		Ped	Ped
Act Effct Green (s)		35.6			35.6		56.9	48.5		56.9	48.5			
Actuated g/C Ratio		0.30			0.30		0.47	0.40		0.47	0.40			
v/c Ratio		0.81			1.03		0.33	0.91		0.47	0.63			
Control Delay		52.7			101.3		9.1	20.5		37.7	30.6			
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0			
Total Delay		52.7			101.3		9.1	20.5		37.7	30.6			
LOS		D			F		A	C		D	C			
Approach Delay		52.7			101.3			19.6			31.4			
Approach LOS		D			F			B			C			
Queue Length 50th (ft)		288			~254		14	87		38	247			
Queue Length 95th (ft)		#464			#452		m19	#121		66	315			
Internal Link Dist (ft)		237			148			613			476			
Turn Bay Length (ft)							125			135				
Base Capacity (vph)		504			305		417	1173		347	1255			
Starvation Cap Reductn		0			0		0	0		0	0			
Spillback Cap Reductn		0			0		0	0		0	0			
Storage Cap Reductn		0			0		0	0		0	0			
Reduced v/c Ratio		0.81			1.03		0.22	0.91		0.28	0.63			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 89.1% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Massachusetts Avenue & Harrison Avenue



Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	590	135	20	260	0	0	0	0	20	15	25
Future Vol, veh/h	0	590	135	20	260	0	0	0	0	20	15	25
Conflicting Peds, #/hr	0	0	115	115	0	0	0	0	0	95	0	29
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	2	6	10	2	2	2	2	0	0	8
Mvmt Flow	0	641	147	22	283	0	0	0	0	22	16	27

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	0	903	0	0				1137	1230	312
Stage 1	-	-	-	-	-	-				327	327	-
Stage 2	-	-	-	-	-	-				810	903	-
Critical Hdwy	-	-	-	4.16	-	-				6.4	6.5	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-				5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.4	5.5	-
Follow-up Hdwy	-	-	-	2.254	-	-				3.5	4	3.372
Pot Cap-1 Maneuver	0	-	-	737	-	0				225	179	714
Stage 1	0	-	-	-	-	0				735	651	-
Stage 2	0	-	-	-	-	0				441	359	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	737	-	-				217	0	694
Mov Cap-2 Maneuver	-	-	-	-	-	-				217	0	-
Stage 1	-	-	-	-	-	-				735	0	-
Stage 2	-	-	-	-	-	-				426	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.7	17.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	737	-	351
HCM Lane V/C Ratio	-	-	0.029	-	0.186
HCM Control Delay (s)	-	-	10	0	17.6
HCM Lane LOS	-	-	B	A	C
HCM 95th %tile Q(veh)	-	-	0.1	-	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	360	100	50	250	0	0	0	0	30	50	30	
Future Volume (vph)	0	360	100	50	250	0	0	0	0	30	50	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1661	0	0	1698	0	0	0	0	0	1611	0	
Flt Permitted					0.845						0.986		
Satd. Flow (perm)	0	1661	0	0	1427	0	0	0	0	0	1528	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		25									20		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		512			233			314			458		
Travel Time (s)		11.6			5.3			7.1			10.4		
Confl. Peds. (#/hr)			90	90						47		78	
Confl. Bikes (#/hr)			3									5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	4%	4%	16%	10%	2%	2%	2%	2%	0%	0%	6%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	500	0	0	326	0	0	0	0	0	120	0	
Turn Type		NA		Perm	NA					Split	NA		
Protected Phases		1			1					5	5		2
Permitted Phases				1									
Detector Phase		1		1	1					5	5		
Switch Phase													
Minimum Initial (s)		8.0		8.0	8.0					8.0	8.0		7.0
Minimum Split (s)		18.0		18.0	18.0					13.0	13.0		20.0
Total Split (s)		45.0		45.0	45.0					15.0	15.0		20.0
Total Split (%)		56.3%		56.3%	56.3%					18.8%	18.8%		25%
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5		2.0
All-Red Time (s)		1.5		1.5	1.5					1.5	1.5		4.0
Lost Time Adjust (s)		0.0			0.0						0.0		
Total Lost Time (s)		5.0			5.0						5.0		
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?													
Recall Mode		C-Max		C-Max	C-Max					Max	Max		None
Act Effct Green (s)		40.0			40.0						14.0		
Actuated g/C Ratio		0.50			0.50						0.18		
v/c Ratio		0.59			0.46						0.40		
Control Delay		17.0			5.2						31.9		
Queue Delay		0.0			0.0						0.0		
Total Delay		17.0			5.2						31.9		
LOS		B			A						C		
Approach Delay		17.0			5.2						31.9		
Approach LOS		B			A						C		
Queue Length 50th (ft)		159			36						47		
Queue Length 95th (ft)		255			52						100		
Internal Link Dist (ft)		432			153			234			378		
Turn Bay Length (ft)													
Base Capacity (vph)		843			713						298		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.59			0.46						0.40		

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 7 (9%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 62.2%		ICU Level of Service B	
Analysis Period (min) 15			

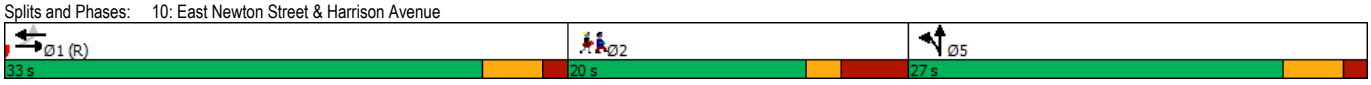
Splits and Phases: 9: East Concord Street & Harrison Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	45	340	0	0	235	60	55	95	30	0	0	0	
Future Volume (vph)	45	340	0	0	235	60	55	95	30	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1818	0	0	1646	0	0	1552	0	0	0	0	
Flt Permitted		0.901						0.985					
Satd. Flow (perm)	0	1635	0	0	1646	0	0	1414	0	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					18			13					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		267			420			739			311		
Travel Time (s)		6.1			9.5			16.8			7.1		
Confl. Peds. (#/hr)	43					43	160		72				
Confl. Bikes (#/hr)						4							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	3%	4%	2%	2%	9%	7%	19%	14%	10%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	419	0	0	320	0	0	196	0	0	0	0	
Turn Type	Perm	NA			NA		Split	NA					
Protected Phases		1			1		5	5					2
Permitted Phases	1												
Detector Phase	1	1			1		5	5					
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0					7.0
Minimum Split (s)	17.0	17.0			17.0		13.0	13.0					20.0
Total Split (s)	33.0	33.0			33.0		27.0	27.0					20.0
Total Split (%)	41.3%	41.3%			41.3%		33.8%	33.8%					25%
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5					2.0
All-Red Time (s)	1.5	1.5			1.5		1.5	1.5					4.0
Lost Time Adjust (s)		0.0			0.0			0.0					
Total Lost Time (s)		5.0			5.0			5.0					
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?													
Recall Mode	C-Max	C-Max			C-Max		Max	Max					None
Act Effct Green (s)		28.0			28.0			26.0					
Actuated g/C Ratio		0.35			0.35			0.32					
v/c Ratio		0.73			0.55			0.38					
Control Delay		25.4			23.9			24.3					
Queue Delay		0.0			0.0			0.0					
Total Delay		25.4			23.9			24.3					
LOS		C			C			C					
Approach Delay		25.4			23.9			24.3					
Approach LOS		C			C			C					
Queue Length 50th (ft)		90			119			75					
Queue Length 95th (ft)		#187			198			136					
Internal Link Dist (ft)		187			340			659			231		
Turn Bay Length (ft)													
Base Capacity (vph)		572			587			513					
Starvation Cap Reductn		0			0			0					
Spillback Cap Reductn		0			0			0					
Storage Cap Reductn		0			0			0					
Reduced v/c Ratio		0.73			0.55			0.38					

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 6 (8%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 24.7 Intersection LOS: C
Intersection Capacity Utilization 60.3% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: East Newton Street & Harrison Avenue



Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑	
Traffic Vol, veh/h	0	140	0	0	200	0
Future Vol, veh/h	0	140	0	0	200	0
Conflicting Peds, #/hr	0	366	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	6	2
Mvmt Flow	0	152	0	0	217	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	583		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	512		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	512		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	15	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	512	-
HCM Lane V/C Ratio	0.297	-
HCM Control Delay (s)	15	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	1.2	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	65	0	0	340	0
Future Vol, veh/h	0	65	0	0	340	0
Conflicting Peds, #/hr	0	10	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	10	2	2	4	2
Mvmt Flow	0	71	0	0	370	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	195		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	7.1		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.4		-	-
Pot Cap-1 Maneuver	0	789		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	789		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	10	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	789	-
HCM Lane V/C Ratio	0.09	-
HCM Control Delay (s)	10	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.3	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1240	1275	285	0	20
Future Vol, veh/h	0	1240	1275	285	0	20
Conflicting Peds, #/hr	0	0	0	9	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	140	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	3	2	33
Mvmt Flow	0	1348	1386	310	0	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	706
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.56
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.63
Pot Cap-1 Maneuver	0	-	-	-	0	315
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	311
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.4
HCM LOS			C

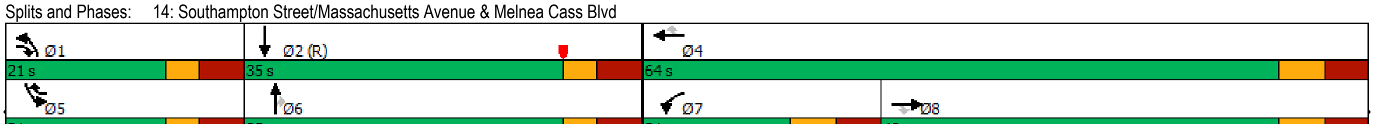
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	311
HCM Lane V/C Ratio	-	-	-	0.07
HCM Control Delay (s)	-	-	-	17.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑	↱	↰↰	↑↱	
Traffic Volume (vph)	0	985	255	285	1120	660	430	665	515	315	450	10
Future Volume (vph)	0	985	255	285	1120	660	430	665	515	315	450	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	300		0	125		0	0		0
Storage Lanes	0		1	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3438	1455	3183	3406	1538	3242	3312	1482	3127	3184	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	3438	1307	3118	3406	1490	2924	3312	1017	2778	3184	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			36			235		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		373			984			749			477	
Travel Time (s)		8.5			22.4			17.0			10.8	
Confl. Peds. (#/hr)			66	66		14	82		224	224		82
Confl. Bikes (#/hr)									7			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	11%	10%	6%	5%	8%	9%	9%	12%	13%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1071	277	310	1217	717	467	723	560	342	500	0
Turn Type		NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8	1	7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase		8	1	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)		10.0	8.0	8.0	10.0	8.0	8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)		34.0	15.0	16.0	34.0	15.0	15.0	32.0	32.0	15.0	32.0	
Total Split (s)		43.0	21.0	21.0	64.0	21.0	21.0	35.0	35.0	21.0	35.0	
Total Split (%)		35.8%	17.5%	17.5%	53.3%	17.5%	17.5%	29.2%	29.2%	17.5%	29.2%	
Yellow Time (s)		4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lead/Lag		Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode		None	None	Max	None	None	None	None	None	None	C-Max	
Act Effct Green (s)		35.0	50.0	13.0	56.0	71.0	14.0	28.0	28.0	14.0	28.0	
Actuated g/C Ratio		0.29	0.42	0.11	0.47	0.59	0.12	0.23	0.23	0.12	0.23	
v/c Ratio		1.07	0.44	0.90	0.77	0.80	1.24	0.94	1.34	0.94	0.67	
Control Delay		89.6	14.6	82.1	30.6	21.7	170.8	65.6	192.2	80.3	45.0	
Queue Delay		0.0	0.0	0.0	0.0	0.3	0.0	3.7	0.0	0.0	0.0	
Total Delay		89.6	14.6	82.1	30.6	21.9	170.8	69.3	192.2	80.3	45.0	
LOS		F	B	F	C	C	F	E	F	F	D	
Approach Delay		74.2			34.9			135.7			59.3	
Approach LOS		E			C			F			E	
Queue Length 50th (ft)		~483	77	124	401	316	~230	290	~420	144	174	
Queue Length 95th (ft)		#617	142	#207	491	468	#338	#409	#643	m#214	m188	
Internal Link Dist (ft)		293			904			669			397	
Turn Bay Length (ft)				300			125					
Base Capacity (vph)		1002	625	344	1589	901	378	772	417	364	744	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	17	0	24	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		1.07	0.44	0.90	0.77	0.81	1.24	0.97	1.34	0.94	0.67	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 2:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.34
Intersection Signal Delay: 75.3 Intersection LOS: E
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Southampton Street/Massachusetts Avenue & Melnea Cass Blvd



Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	385	5	0	290	10	1
Future Vol, veh/h	385	5	0	290	10	1
Conflicting Peds, #/hr	0	90	90	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	2	2	10	2	2
Mvmt Flow	418	5	0	315	11	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	513	0	826	511
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	315	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1052	-	342	563
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	740	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	962	-	313	515
Mov Cap-2 Maneuver	-	-	-	-	313	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	740	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	325	-	-	962	-
HCM Lane V/C Ratio	0.037	-	-	-	-
HCM Control Delay (s)	16.5	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	155	220	25	20	505	35	70	80	160	90	20	285	
Future Volume (vph)	155	220	25	20	505	35	70	80	160	90	20	285	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0	0		40	0		0	
Storage Lanes	0		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3212	0	0	3323	0	0	1846	1599	0	1608	0	
Flt Permitted		0.545			0.923			0.509			0.798		
Satd. Flow (perm)	0	1756	0	0	3071	0	0	955	1599	0	1272	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		7			6				118		106		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		319			394			455			429		
Travel Time (s)		7.3			9.0			10.3			9.8		
Confl. Peds. (#/hr)	83		19	19		83	36		103	103		36	
Confl. Bikes (#/hr)			3			2			3			1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	12%	25%	6%	6%	11%	0%	1%	1%	1%	11%	1%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	434	0	0	609	0	0	163	174	0	430	0	
Turn Type	D.P+P	NA		Perm	NA		Perm	NA	Prot	Perm	NA		
Protected Phases	6	6 1			1			5	5		5		2
Permitted Phases	1			1			5			5			
Detector Phase	6	6 1		1	1		5	5	5	5	5		
Switch Phase													
Minimum Initial (s)	4.0			8.0	8.0		8.0	8.0	8.0	8.0	8.0		7.0
Minimum Split (s)	8.0			14.0	14.0		14.0	14.0	14.0	14.0	14.0		28.0
Total Split (s)	15.0			39.0	39.0		38.0	38.0	38.0	38.0	38.0		28.0
Total Split (%)	12.5%			32.5%	32.5%		31.7%	31.7%	31.7%	31.7%	31.7%		23%
Yellow Time (s)	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		2.0
All-Red Time (s)	1.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0		4.0
Lost Time Adjust (s)					0.0			0.0	0.0		0.0		
Total Lost Time (s)					6.0			6.0	6.0		6.0		
Lead/Lag	Lag			Lead	Lead		Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?													
Recall Mode	None			C-Max	C-Max		None	None	None	None	None		None
Act Effct Green (s)		46.0			33.0			32.0	32.0		32.0		
Actuated g/C Ratio		0.38			0.28			0.27	0.27		0.27		
v/c Ratio		0.54			0.72			0.64	0.34		1.03		
Control Delay		26.5			28.1			49.3	12.4		86.1		
Queue Delay		0.0			1.6			0.0	0.0		0.0		
Total Delay		26.5			29.7			49.3	12.4		86.1		
LOS		C			C			D	B		F		
Approach Delay		26.5			29.7			30.3			86.1		
Approach LOS		C			C			C			F		
Queue Length 50th (ft)		115			195			105	22		~293		
Queue Length 95th (ft)		156			274			m186	m71		#498		
Internal Link Dist (ft)		239			314			375			349		
Turn Bay Length (ft)									40				
Base Capacity (vph)		810			848			254	512		416		
Starvation Cap Reductn		0			104			0	0		0		
Spillback Cap Reductn		0			0			0	0		0		
Storage Cap Reductn		0			0			0	0		0		
Reduced v/c Ratio		0.54			0.82			0.64	0.34		1.03		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 16 (13%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 42.4		Intersection LOS: D	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

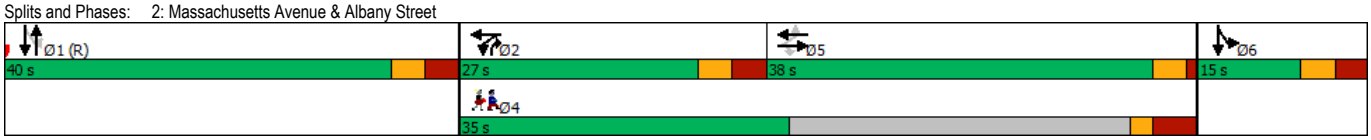
Splits and Phases: 1: Northampton Street & Albany Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations													
Traffic Volume (vph)	90	225	155	240	510	180	0	775	220	85	710	50	
Future Volume (vph)	90	225	155	240	510	180	0	775	220	85	710	50	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		150	150		0	0		0	200		350	
Storage Lanes	0		1	1		0	0		1	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	3249	1599	1719	3142	0	0	3574	1495	1530	4781	0	
Flt Permitted		0.631		0.950						0.118			
Satd. Flow (perm)	0	2041	1238	1487	3142	0	0	3574	973	179	4781	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			136		60				125		11		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		394			343			477			693		
Travel Time (s)		9.0			7.8			10.8			15.8		
Confl. Peds. (#/hr)	154		187	187		154			333	333		255	
Confl. Bikes (#/hr)			2			2			1			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	11%	9%	1%	5%	5%	5%	2%	1%	8%	18%	4%	21%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	343	168	261	750	0	0	842	239	92	826	0	
Turn Type	Perm	NA	Perm	Prot	NA			NA	pm+ov	D.P+P	NA		
Protected Phases		5		2	5 2			1	2	6	1 6		4
Permitted Phases	5		5						1	1			
Detector Phase	5	5	5	2	5 2			1	2	6	1 6		
Switch Phase													
Minimum Initial (s)	7.0	7.0	7.0	5.0				8.0	5.0	7.0			7.0
Minimum Split (s)	35.0	35.0	35.0	11.0				29.0	11.0	13.0			35.0
Total Split (s)	38.0	38.0	38.0	27.0				40.0	27.0	15.0			35.0
Total Split (%)	31.7%	31.7%	31.7%	22.5%				33.3%	22.5%	12.5%			29%
Yellow Time (s)	3.0	3.0	3.0	3.0				3.0	3.0	3.0			2.0
All-Red Time (s)	1.0	1.0	1.0	3.0				3.0	3.0	3.0			4.0
Lost Time Adjust (s)		0.0	0.0	0.0				0.0	0.0	0.0			
Total Lost Time (s)		4.0	4.0	6.0				6.0	6.0	6.0			
Lead/Lag	Lag	Lag	Lag	Lead					Lead				
Lead-Lag Optimize?													
Recall Mode	None	None	None	None				C-Max	None	None			None
Act Effct Green (s)		31.8	31.8	20.6	58.4			34.0	54.6	45.6	51.6		
Actuated g/C Ratio		0.26	0.26	0.17	0.49			0.28	0.46	0.38	0.43		
v/c Ratio		0.63	0.39	0.89	0.48			0.83	0.40	0.46	0.40		
Control Delay		30.8	6.1	81.8	11.4			35.9	8.8	40.1	9.3		
Queue Delay		0.0	0.0	0.0	0.0			2.1	0.0	0.0	0.0		
Total Delay		30.8	6.1	81.8	11.4			38.0	8.8	40.1	9.3		
LOS		C	A	F	B			D	A	D	A		
Approach Delay		22.7			29.6			31.6			12.4		
Approach LOS		C			C			C			B		
Queue Length 50th (ft)		86	15	172	70			302	86	32	50		
Queue Length 95th (ft)		m139	m47	m#332	125			398	121	m55	m83		
Internal Link Dist (ft)		314			263			397			613		
Turn Bay Length (ft)			150	150						200			
Base Capacity (vph)		578	448	300	1605			1012	605	198	2060		
Starvation Cap Reductn		0	0	0	0			76	0	0	0		
Spillback Cap Reductn		0	0	0	26			0	0	0	0		
Storage Cap Reductn		0	0	0	0			0	0	0	0		
Reduced v/c Ratio		0.59	0.38	0.87	0.47			0.90	0.40	0.46	0.40		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 57 (48%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 24.7 Intersection LOS: C
Intersection Capacity Utilization 95.5% 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & Albany Street



Intersection	
Int Delay, s/veh	0.6

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	5	40	475	5	3	895	40	5	2	5	0	0	0
Future Vol, veh/h	5	40	475	5	3	895	40	5	2	5	0	0	0
Conflicting Peds, #/hr	0	300	0	57	57	0	300	67	0	9	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	4	0	0	2	25	2	2	2
Mvmt Flow	5	43	516	5	3	973	43	5	2	5	0	0	0

Major/Minor	Major1				Major2			Minor1		
Conflicting Flow All	1016	1316	0	0	578	0	0	1232	1994	327
Stage 1	-	-	-	-	-	-	-	672	672	-
Stage 2	-	-	-	-	-	-	-	560	1322	-
Critical Hdwy	6.4	4.26	-	-	4.1	-	-	6.8	6.54	7.4
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.8	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.8	5.54	-
Follow-up Hdwy	2.5	2.28	-	-	2.2	-	-	3.5	4.02	3.55
Pot Cap-1 Maneuver	330	490	-	-	1006	-	-	172	60	606
Stage 1	-	-	-	-	-	-	-	474	453	-
Stage 2	-	-	-	-	-	-	-	541	224	-
Platoon blocked, %			-	-		-	-			
Mov Cap-1 Maneuver	465	465	-	-	951	-	-	135	0	568
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	135	0	-
Stage 1	-	-	-	-	-	-	-	401	0	-
Stage 2	-	-	-	-	-	-	-	503	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.2	0	22.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	218	465	-	-	951	-	-
HCM Lane V/C Ratio	0.06	0.105	-	-	0.003	-	-
HCM Control Delay (s)	22.6	13.7	-	-	8.8	0	-
HCM Lane LOS	C	B	-	-	A	A	-
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	325	155	20	690	0	0	0	0	150	35	250	
Future Volume (vph)	0	325	155	20	690	0	0	0	0	150	35	250	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	90		0	0		0	105		0	
Storage Lanes	0		1	1		0	0		0	1		1	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	0	1712	1615	1805	1827	0	0	0	0	1736	1900	1553	
Flt Permitted				0.366						0.950			
Satd. Flow (perm)	0	1712	1615	574	1827	0	0	0	0	824	1900	1553	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			168									272	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		258			240			195			225		
Travel Time (s)		5.9			5.5			4.4			5.1		
Confl. Peds. (#/hr)			168	168						302		95	
Confl. Bikes (#/hr)			3										
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	11%	0%	0%	4%	2%	2%	2%	2%	4%	0%	4%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	353	168	22	750	0	0	0	0	163	38	272	
Turn Type		NA	Prot	D.P+P	NA					Split	NA	Prot	
Protected Phases		1	1	6	6 1					5	5	5	2
Permitted Phases				1									
Detector Phase		1	1	6	6 1					5	5	5	
Switch Phase													
Minimum Initial (s)		10.0	10.0	5.0						8.0	8.0	8.0	7.0
Minimum Split (s)		20.0	20.0	20.0						14.0	14.0	14.0	26.0
Total Split (s)		47.0	47.0	10.0						35.0	35.0	35.0	28.0
Total Split (%)		39.2%	39.2%	8.3%						29.2%	29.2%	29.2%	23%
Yellow Time (s)		3.0	3.0	3.0						3.0	3.0	3.0	2.0
All-Red Time (s)		2.0	2.0	2.0						3.0	3.0	3.0	4.0
Lost Time Adjust (s)		0.0	0.0	0.0						0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0						6.0	6.0	6.0	
Lead/Lag		Lead	Lead	Lag						Lead	Lead	Lead	Lag
Lead-Lag Optimize?													
Recall Mode		C-Max	C-Max	None						None	None	None	None
Act Effct Green (s)		42.0	42.0	62.2	67.2					15.8	15.8	15.8	
Actuated g/C Ratio		0.35	0.35	0.52	0.56					0.13	0.13	0.13	
v/c Ratio		0.59	0.25	0.04	0.73					0.71	0.15	0.62	
Control Delay		36.7	8.7	8.4	16.3					66.3	45.1	11.6	
Queue Delay		0.0	0.0	0.0	3.6					0.0	0.0	0.0	
Total Delay		36.7	8.7	8.4	20.0					66.3	45.1	11.6	
LOS		D	A	A	B					E	D	B	
Approach Delay		27.7			19.6						33.2		
Approach LOS		C			B						C		
Queue Length 50th (ft)		195	11	5	195					123	27	0	
Queue Length 95th (ft)		298	62	m8	m211					185	56	75	
Internal Link Dist (ft)		178			160			115			145		
Turn Bay Length (ft)				90						105			
Base Capacity (vph)		599	674	504	1022					419	459	581	
Starvation Cap Reductn		0	0	0	186					0	0	0	
Spillback Cap Reductn		0	0	0	0					0	0	0	
Storage Cap Reductn		0	0	0	0					0	0	0	
Reduced v/c Ratio		0.59	0.25	0.04	0.90					0.39	0.08	0.47	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 113 (94%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 25.6 Intersection LOS: C
Intersection Capacity Utilization 66.8% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: East Concord Street & Albany Street

Intersection	
Int Delay, s/veh	12.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	450	0	0	575	5	125	2	80	5	0	10
Future Vol, veh/h	25	450	0	0	575	5	125	2	80	5	0	10
Conflicting Peds, #/hr	257	0	0	0	0	257	15	0	240	240	0	15
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	11	8	2	2	4	0	0	0	0	0	2	0
Mvmt Flow	27	489	0	0	625	5	136	2	87	5	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	887	0	-	-	-	0	1191	1430	729	1713	1428	900
Stage 1	-	-	-	-	-	-	543	543	-	885	885	-
Stage 2	-	-	-	-	-	-	648	887	-	828	543	-
Critical Hdwy	4.21	-	-	-	-	-	7.1	6.5	6.2	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Follow-up Hdwy	2.299	-	-	-	-	-	3.5	4	3.3	3.5	4.018	3.3
Pot Cap-1 Maneuver	727	-	0	0	-	-	166	136	426	72	135	340
Stage 1	-	-	0	0	-	-	528	523	-	342	363	-
Stage 2	-	-	0	0	-	-	462	365	-	368	520	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	549	-	-	-	-	-	151	98	329	29	97	253
Mov Cap-2 Maneuver	-	-	-	-	-	-	151	98	-	29	97	-
Stage 1	-	-	-	-	-	-	502	497	-	246	274	-
Stage 2	-	-	-	-	-	-	436	276	-	198	495	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	73.1	70.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	151	311	549	-	-	-	71
HCM Lane V/C Ratio	0.9	0.287	0.049	-	-	-	0.23
HCM Control Delay (s)	107.1	21.2	11.9	-	-	-	70.2
HCM Lane LOS	F	C	B	-	-	-	F
HCM 95th %tile Q(veh)	6.3	1.2	0.2	-	-	-	0.8

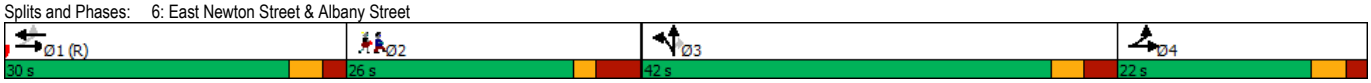
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	140	395	0	0	430	50	150	65	65	0	0	0	
Future Volume (vph)	140	395	0	0	430	50	150	65	65	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	80		0	0		0	0		0	0		0	
Storage Lanes	1		0	0		0	0		1	0		0	
Taper Length (ft)	25			25			25			25			
Satd. Flow (prot)	1583	1810	0	0	1670	0	0	1835	1615	0	0	0	
Flt Permitted	0.115							0.966					
Satd. Flow (perm)	192	1810	0	0	1670	0	0	1560	883	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					4				118				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		272			593			402			739		
Travel Time (s)		6.2			13.5			9.1			16.8		
Confl. Peds. (#/hr)	175					175	79		162				
Confl. Bikes (#/hr)						1							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	14%	5%	2%	2%	6%	11%	0%	0%	0%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	152	429	0	0	521	0	0	234	71	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Perm				
Protected Phases	4	4 1			1		3	3					2
Permitted Phases	1								3				
Detector Phase	4	4 1			1		3	3	3				
Switch Phase													
Minimum Initial (s)	8.0				8.0		8.0	8.0	8.0				7.0
Minimum Split (s)	13.0				27.0		28.0	28.0	28.0				26.0
Total Split (s)	22.0				30.0		42.0	42.0	42.0				26.0
Total Split (%)	18.3%				25.0%		35.0%	35.0%	35.0%				22%
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				2.0
All-Red Time (s)	2.0				2.0		3.0	3.0	3.0				4.0
Lost Time Adjust (s)	0.0				0.0			0.0	0.0				
Total Lost Time (s)	5.0				5.0			6.0	6.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Recall Mode	None				C-Max		None	None	None				None
Act Effct Green (s)	56.8	61.8			34.7			21.2	21.2				
Actuated g/C Ratio	0.47	0.52			0.29			0.18	0.18				
v/c Ratio	0.44	0.46			1.07			0.72	0.28				
Control Delay	33.7	26.5			103.7			59.2	4.0				
Queue Delay	0.0	1.2			0.0			0.0	0.0				
Total Delay	33.7	27.7			103.7			59.2	4.0				
LOS	C	C			F			E	A				
Approach Delay		29.2			103.7			46.3					
Approach LOS		C			F			D					
Queue Length 50th (ft)	73	219			~476			171	0				
Queue Length 95th (ft)	142	378			#777			248	9				
Internal Link Dist (ft)		192			513			322			659		
Turn Bay Length (ft)	80												
Base Capacity (vph)	355	927			485			550	347				
Starvation Cap Reductn	0	287			0			0	0				
Spillback Cap Reductn	0	0			0			0	0				
Storage Cap Reductn	0	0			0			0	0				
Reduced v/c Ratio	0.43	0.67			1.07			0.43	0.20				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 108 (90%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 60.5		Intersection LOS: E	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: East Newton Street & Albany Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø8	Ø9
Lane Configurations														
Traffic Volume (vph)	25	235	50	70	300	50	105	715	225	35	725	150		
Future Volume (vph)	25	235	50	70	300	50	105	715	225	35	725	150		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0		0	0		0	125		0	135		0		
Storage Lanes	0		0	0		0	1		0	1		0		
Taper Length (ft)	25			25			25			25				
Satd. Flow (prot)	0	1682	0	0	1685	0	1736	3028	0	1641	3165	0		
Flt Permitted		0.920			0.780		0.147			0.119				
Satd. Flow (perm)	0	1550	0	0	1305	0	269	3028	0	206	3165	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		8			5			41			24			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		317			228			693			556			
Travel Time (s)		7.2			5.2			15.8			12.6			
Confl. Peds. (#/hr)	72		152	152		72	102		158	158		102		
Confl. Bikes (#/hr)						4			15			4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	12%	5%	7%	6%	9%	9%	4%	3%	1%	10%	6%	3%		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	336	0	0	456	0	114	1022	0	38	951	0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA			
Protected Phases		5			5		2	1		2	1		8	9
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		2	1		2	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	10.0		8.0	10.0		3.0	3.0
Minimum Split (s)	29.0	29.0		29.0	29.0		12.5	26.5		12.5	26.5		6.0	6.0
Total Split (s)	36.0	36.0		36.0	36.0		21.0	51.0		21.0	51.0		6.0	6.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		17.5%	42.5%		17.5%	42.5%		5%	5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	1.5	1.5		1.5	1.5		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			
Total Lost Time (s)		5.0			5.0		4.5	4.5		4.5	4.5			
Lead/Lag	Lag	Lag		Lag	Lag			Lag			Lag		Lead	Lead
Lead-Lag Optimize?														
Recall Mode	Ped	Ped		Ped	Ped		None	C-Max		None	C-Max		Ped	Ped
Act Effct Green (s)		37.6			37.6		54.9	46.5		54.9	46.5			
Actuated g/C Ratio		0.31			0.31		0.46	0.39		0.46	0.39			
v/c Ratio		0.68			1.11		0.51	0.85		0.19	0.77			
Control Delay		43.7			115.8		22.1	45.7		23.8	36.2			
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0			
Total Delay		43.7			115.8		22.1	45.7		23.8	36.2			
LOS		D			F		C	D		C	D			
Approach Delay		43.7			115.8			43.4			35.7			
Approach LOS		D			F			D			D			
Queue Length 50th (ft)		221			~397		26	296		15	326			
Queue Length 95th (ft)		338			#624		m41	365		33	410			
Internal Link Dist (ft)		237			148			613			476			
Turn Bay Length (ft)							125			135				
Base Capacity (vph)		491			411		342	1198		305	1241			
Starvation Cap Reductn		0			0		0	0		0	0			
Spillback Cap Reductn		0			0		0	0		0	0			
Storage Cap Reductn		0			0		0	0		0	0			
Reduced v/c Ratio		0.68			1.11		0.33	0.85		0.12	0.77			

Intersection Summary

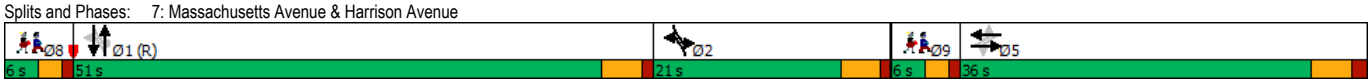
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 39 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 52.1 Intersection LOS: D
Intersection Capacity Utilization 86.3% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Massachusetts Avenue & Harrison Avenue



Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	400	95	20	405	0	0	0	0	35	10	35
Future Vol, veh/h	0	400	95	20	405	0	0	0	0	35	10	35
Conflicting Peds, #/hr	0	0	112	112	0	0	0	0	0	68	0	37
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	0	10	9	2	2	2	2	3	0	0
Mvmt Flow	0	435	103	22	440	0	0	0	0	38	11	38

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	0	650	0	0				1039	1134	477
Stage 1	-	-	-	-	-	-				484	484	-
Stage 2	-	-	-	-	-	-				555	650	-
Critical Hdwy	-	-	-	4.2	-	-				6.43	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-				5.43	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.43	5.5	-
Follow-up Hdwy	-	-	-	2.29	-	-				3.527	4	3.3
Pot Cap-1 Maneuver	0	-	-	899	-	0				254	204	592
Stage 1	0	-	-	-	-	0				618	555	-
Stage 2	0	-	-	-	-	0				573	468	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	899	-	-				246	0	571
Mov Cap-2 Maneuver	-	-	-	-	-	-				246	0	-
Stage 1	-	-	-	-	-	-				618	0	-
Stage 2	-	-	-	-	-	-				555	0	-

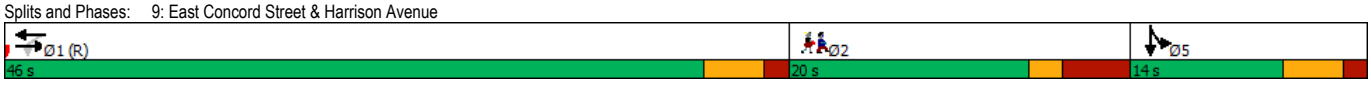
Approach	EB	WB	SB
HCM Control Delay, s	0	0.4	19
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	899	-	344
HCM Lane V/C Ratio	-	-	0.024	-	0.253
HCM Control Delay (s)	-	-	9.1	0	19
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.1	-	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	280	65	55	410	0	0	0	0	35	45	25	
Future Volume (vph)	0	280	65	55	410	0	0	0	0	35	45	25	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1620	0	0	1733	0	0	0	0	0	1552	0	
Flt Permitted					0.916						0.984		
Satd. Flow (perm)	0	1620	0	0	1556	0	0	0	0	0	1448	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		22									16		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		512			240			314			458		
Travel Time (s)		11.6			5.5			7.1			10.4		
Confl. Peds. (#/hr)			147	147						45		107	
Confl. Bikes (#/hr)												4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	4%	5%	9%	9%	2%	2%	2%	2%	9%	0%	0%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	375	0	0	506	0	0	0	0	0	114	0	
Turn Type		NA		Perm	NA					Split	NA		
Protected Phases		1			1					5	5		2
Permitted Phases				1									
Detector Phase		1		1	1					5	5		
Switch Phase													
Minimum Initial (s)		8.0		8.0	8.0					8.0	8.0		7.0
Minimum Split (s)		18.0		18.0	18.0					13.0	13.0		20.0
Total Split (s)		46.0		46.0	46.0					14.0	14.0		20.0
Total Split (%)		57.5%		57.5%	57.5%					17.5%	17.5%		25%
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5		2.0
All-Red Time (s)		1.5		1.5	1.5					1.5	1.5		4.0
Lost Time Adjust (s)		0.0			0.0						0.0		
Total Lost Time (s)		5.0			5.0						5.0		
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?													
Recall Mode		C-Max		C-Max	C-Max					Max	Max		None
Act Effct Green (s)		41.0			41.0						13.0		
Actuated g/C Ratio		0.51			0.51						0.16		
v/c Ratio		0.45			0.63						0.43		
Control Delay		13.6			6.8						35.3		
Queue Delay		0.0			0.0						0.0		
Total Delay		13.6			6.9						35.3		
LOS		B			A						D		
Approach Delay		13.6			6.9						35.3		
Approach LOS		B			A						D		
Queue Length 50th (ft)		104			53						47		
Queue Length 95th (ft)		172			m86						#114		
Internal Link Dist (ft)		432			160			234			378		
Turn Bay Length (ft)													
Base Capacity (vph)		840			797						265		
Starvation Cap Reductn		0			7						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.45			0.64						0.43		

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 73 (91%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 64.4%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

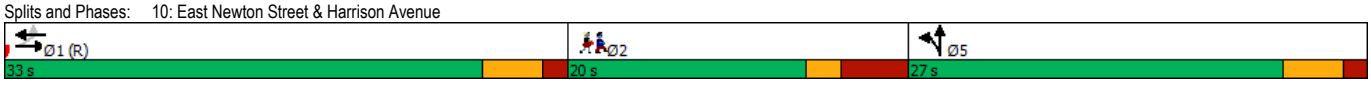
Splits and Phases: 9: East Concord Street & Harrison Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	30	275	0	0	355	70	105	135	45	0	0	0	
Future Volume (vph)	30	275	0	0	355	70	105	135	45	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Satd. Flow (prot)	0	1825	0	0	1668	0	0	1585	0	0	0	0	
Flt Permitted		0.753						0.982					
Satd. Flow (perm)	0	1381	0	0	1668	0	0	1411	0	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					14			12					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		260			420			739			311		
Travel Time (s)		5.9			9.5			16.8			7.1		
Confl. Peds. (#/hr)	61					61	164		97				
Confl. Bikes (#/hr)						1			3				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	9%	3%	2%	2%	8%	4%	15%	12%	3%	2%	2%	2%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	332	0	0	462	0	0	310	0	0	0	0	
Turn Type	Perm	NA			NA		Split	NA					
Protected Phases		1			1		5	5					2
Permitted Phases	1												
Detector Phase	1	1			1		5	5					
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0					7.0
Minimum Split (s)	17.0	17.0			17.0		13.0	13.0					20.0
Total Split (s)	33.0	33.0			33.0		27.0	27.0					20.0
Total Split (%)	41.3%	41.3%			41.3%		33.8%	33.8%					25%
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5					2.0
All-Red Time (s)	1.5	1.5			1.5		1.5	1.5					4.0
Lost Time Adjust (s)		0.0			0.0			0.0					
Total Lost Time (s)		5.0			5.0			5.0					
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?													
Recall Mode	C-Max	C-Max			C-Max		Max	Max					None
Act Effct Green (s)		28.0			28.0			26.0					
Actuated g/C Ratio		0.35			0.35			0.32					
v/c Ratio		0.69			0.78			0.59					
Control Delay		19.6			33.7			29.6					
Queue Delay		0.0			0.0			0.0					
Total Delay		19.6			33.7			29.6					
LOS		B			C			C					
Approach Delay		19.6			33.7			29.6					
Approach LOS		B			C			C					
Queue Length 50th (ft)		64			197			133					
Queue Length 95th (ft)		92			#347			#230					
Internal Link Dist (ft)		180			340			659			231		
Turn Bay Length (ft)													
Base Capacity (vph)		483			592			523					
Starvation Cap Reductn		0			0			0					
Spillback Cap Reductn		0			0			0					
Storage Cap Reductn		0			0			0					
Reduced v/c Ratio		0.69			0.78			0.59					

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 78 (98%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 64.4%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 10: East Newton Street & Harrison Avenue



Intersection	
Int Delay, s/veh	9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑	
Traffic Vol, veh/h	0	175	0	0	180	0
Future Vol, veh/h	0	175	0	0	180	0
Conflicting Peds, #/hr	0	473	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	4	2
Mvmt Flow	0	190	0	0	196	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	669		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	458		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	458		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	18.3	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	458	-
HCM Lane V/C Ratio	0.415	-
HCM Control Delay (s)	18.3	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	2	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	80	0	0	355	0
Future Vol, veh/h	0	80	0	0	355	0
Conflicting Peds, #/hr	0	17	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	3	2	2	4	2
Mvmt Flow	0	87	0	0	386	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	210		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.96		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.33		-	-
Pot Cap-1 Maneuver	0	793		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	793		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	10.1	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	793	-
HCM Lane V/C Ratio	0.11	-
HCM Control Delay (s)	10.1	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.4	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1285	1015	80	0	55
Future Vol, veh/h	0	1285	1015	80	0	55
Conflicting Peds, #/hr	0	0	0	8	0	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	140	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	3	2	18
Mvmt Flow	0	1397	1103	87	0	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	570
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.26
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.48
Pot Cap-1 Maneuver	0	-	-	-	0	426
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	419
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	419
HCM Lane V/C Ratio	-	-	-	0.143
HCM Control Delay (s)	-	-	-	15
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5

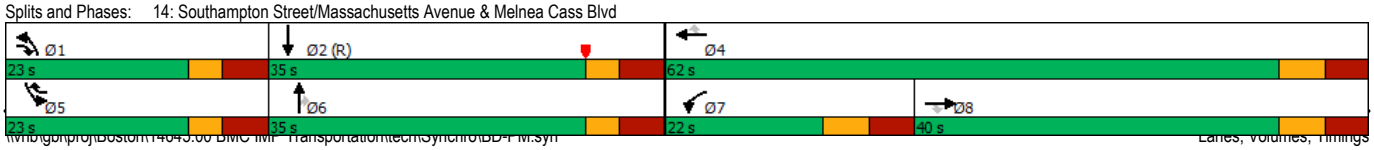
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	740	545	355	780	450	305	545	355	320	775	10
Future Volume (vph)	0	740	545	355	780	450	305	545	355	320	775	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	300		0	125		0	0		0
Storage Lanes	0		1	2		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3471	1583	3213	3505	1568	3400	3471	1568	3400	3495	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	3471	1423	3116	3505	1539	3277	3471	1115	2987	3495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			36			259		1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		373			984			749			477	
Travel Time (s)		8.5			22.4			17.0			10.8	
Confl. Peds. (#/hr)	5		66	66		5	52		192	192		52
Confl. Bikes (#/hr)									12			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	2%	9%	3%	3%	3%	4%	3%	3%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	804	592	386	848	489	332	592	386	348	853	0
Turn Type		NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8	1	7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase		8	1	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)		10.0	8.0	8.0	10.0	8.0	8.0	10.0	10.0	8.0	10.0	
Minimum Split (s)		34.0	15.0	16.0	34.0	15.0	15.0	32.0	32.0	15.0	32.0	
Total Split (s)		40.0	23.0	22.0	62.0	23.0	23.0	35.0	35.0	23.0	35.0	
Total Split (%)		33.3%	19.2%	18.3%	51.7%	19.2%	19.2%	29.2%	29.2%	19.2%	29.2%	
Yellow Time (s)		4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lead/Lag		Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Recall Mode		None	None	Max	None	None	None	None	None	None	C-Max	
Act Effct Green (s)		30.7	46.4	14.0	52.7	68.7	14.8	30.3	30.3	15.0	30.6	
Actuated g/C Ratio		0.26	0.39	0.12	0.44	0.57	0.12	0.25	0.25	0.12	0.26	
v/c Ratio		0.91	0.93	1.03	0.55	0.54	0.79	0.68	0.81	0.82	0.96	
Control Delay		58.0	47.4	106.8	26.4	13.4	65.6	45.6	29.3	62.5	73.2	
Queue Delay		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
Total Delay		58.0	47.4	106.8	26.4	13.5	65.6	45.6	29.3	62.5	73.2	
LOS		E	D	F	C	B	E	D	C	E	E	
Approach Delay		53.5			40.7			45.9			70.1	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)		313	304	~164	245	163	129	224	100	145	~385	
Queue Length 95th (ft)		#415	#554	#265	306	239	180	290	#283	m186	m#475	
Internal Link Dist (ft)		293			904			669			397	
Turn Bay Length (ft)				300			125					
Base Capacity (vph)		925	652	374	1577	912	453	876	474	453	890	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	32	0	1	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.87	0.91	1.03	0.54	0.56	0.73	0.68	0.81	0.77	0.96	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 58 (48%), Referenced to phase 2:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 51.4 Intersection LOS: D
Intersection Capacity Utilization 88.8% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Southampton Street/Massachusetts Avenue & Melnea Cass Blvd



Intersection	
Int Delay, s/veh	0.1

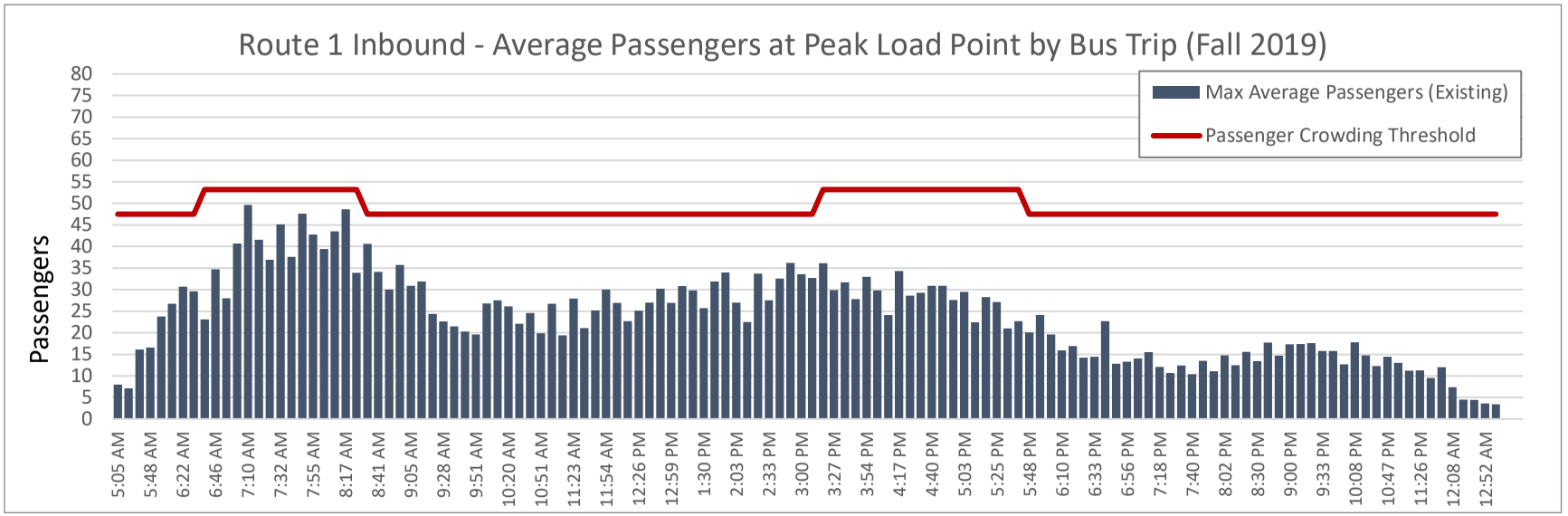
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	305	10	1	460	5	1
Future Vol, veh/h	305	10	1	460	5	1
Conflicting Peds, #/hr	0	147	147	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	2	2	9	2	2
Mvmt Flow	332	11	1	500	5	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	490	0	987	485
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	502	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1073	-	274	582
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	608	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	923	-	235	501
Mov Cap-2 Maneuver	-	-	-	-	235	-
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	607	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	258	-	-	923	-
HCM Lane V/C Ratio	0.025	-	-	0.001	-
HCM Control Delay (s)	19.3	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Transit Capacity Analysis


Route 1 Inbound - Average Passengers at Peak Load Point by Bus Trip (Fall 2019)
Passengers
Max Average Passengers (Existing)
Passenger Crowding Threshold
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
5:05 AM
5:48 AM
6:22 AM
6:46 AM
7:10 AM
7:32 AM
7:55 AM
8:17 AM
8:41 AM
9:05 AM
9:28 AM
9:51 AM
10:20 AM
10:51 AM
11:23 AM
11:54 AM
12:26 PM
12:59 PM
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2:03 PM
2:33 PM
3:00 PM
3:27 PM
3:54 PM
4:17 PM
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5:03 PM
5:25 PM
5:48 PM
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7:18 PM
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9:33 PM
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10:47 PM
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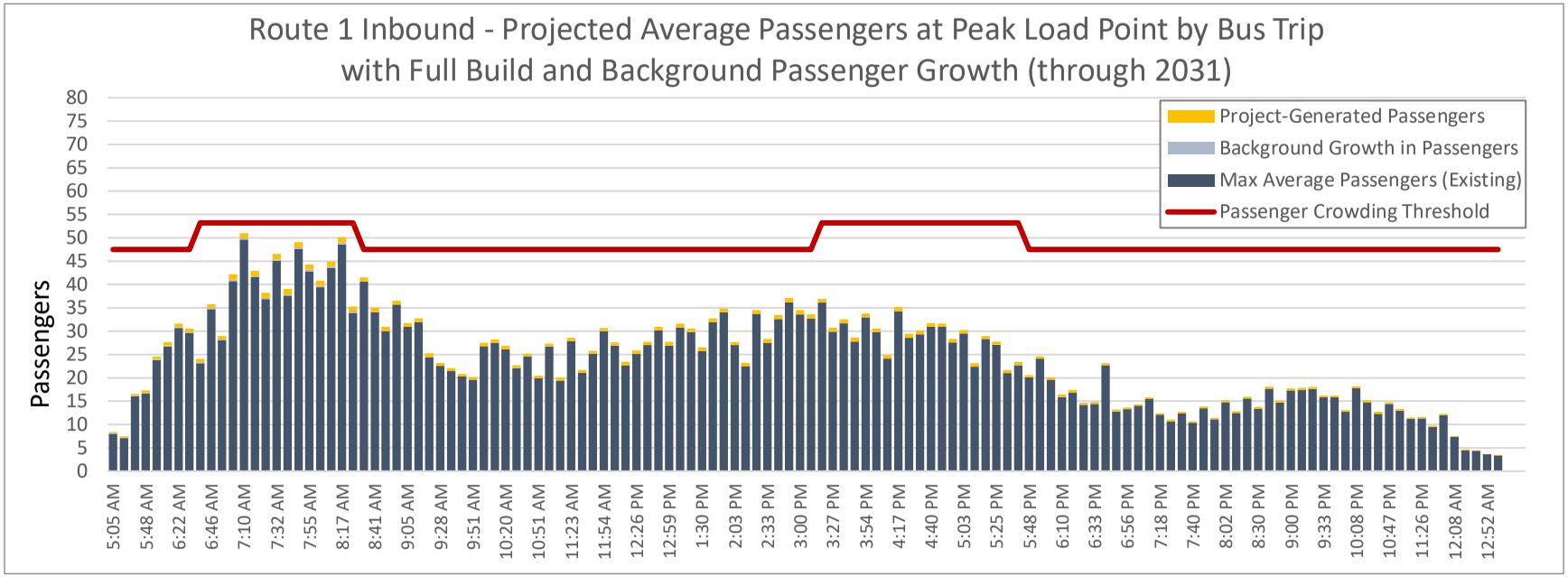
Route 1 Inbound - Projected Average Passengers at Peak Load Point by Bus Trip
with Full Build and Background Passenger Growth (through 2031)
Passengers
Project-Generated Passengers
Background Growth in Passengers
Max Average Passengers (Existing)
Passenger Crowding Threshold
0
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75
80
5:05 AM
5:48 AM
6:22 AM
6:46 AM
7:10 AM
7:32 AM
7:55 AM
8:17 AM
8:41 AM
9:05 AM
9:28 AM
9:51 AM
10:20 AM
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3:27 PM
3:54 PM
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5:03 PM
5:25 PM
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9:00 PM
9:33 PM
10:08 PM
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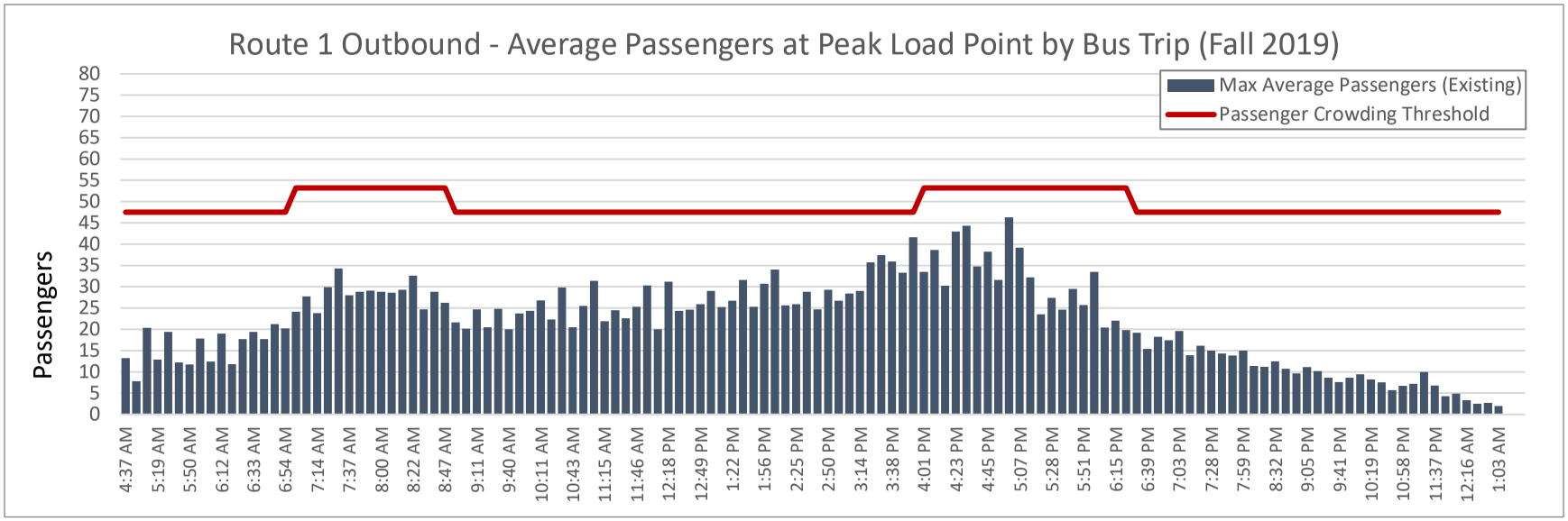
11:26 PM
12:08 AM
12:52 AM


Route 1 Outbound - Average Passengers at Peak Load Point by Bus Trip (Fall 2019)
Passengers
Max Average Passengers (Existing)
Passenger Crowding Threshold
0
5
10
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25
30
35
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60
65
70
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80
4:37 AM
5:19 AM
5:50 AM
6:12 AM
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7:14 AM
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5:51 PM
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7:03 PM
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8:32 PM
9:05 PM
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10:19 PM
10:58 PM
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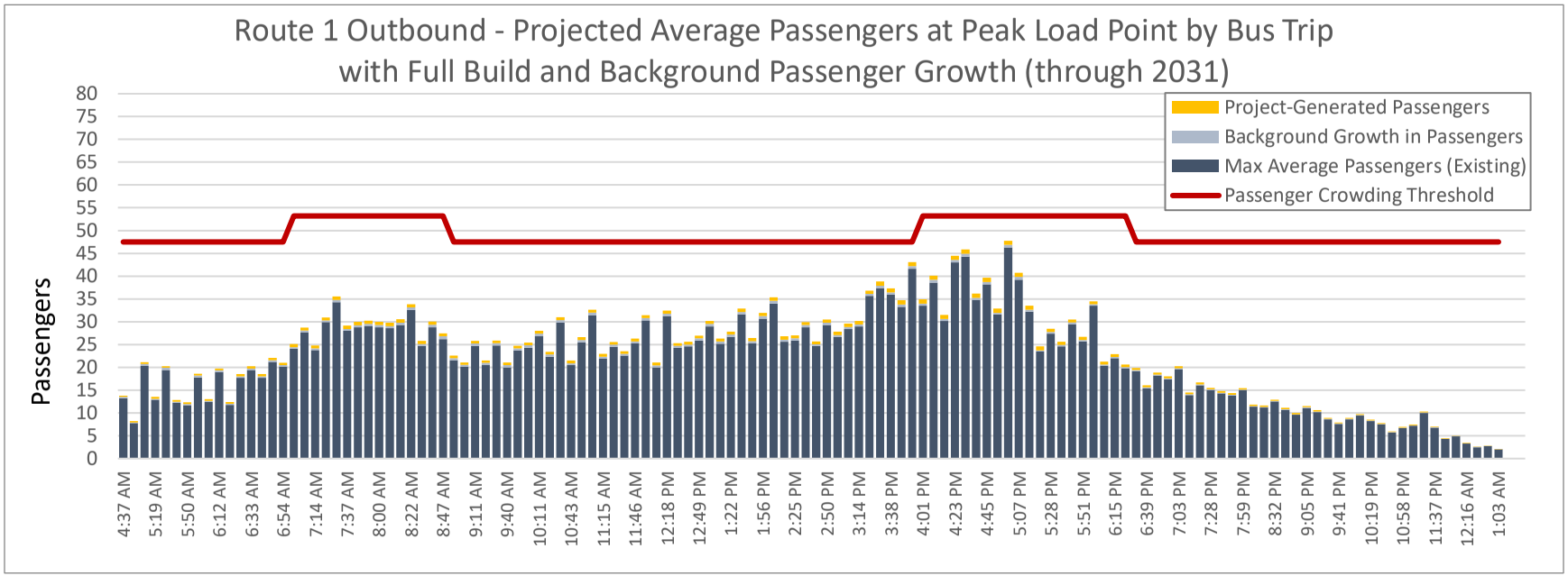
12:16 AM
1:03 AM


Route 1 Outbound - Projected Average Passengers at Peak Load Point by Bus Trip
with Full Build and Background Passenger Growth (through 2031)
Passengers
Project-Generated Passengers
Background Growth in Passengers
Max Average Passengers (Existing)
Passenger Crowding Threshold
0
5
10
15
20
25
30
35
40
45
50
55
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65
70
75
80
4:37 AM
5:19 AM
5:50 AM
6:12 AM
6:33 AM
6:54 AM
7:14 AM
7:37 AM
8:00 AM
8:22 AM
8:47 AM
9:11 AM
9:40 AM
10:11 AM
10:43 AM
11:15 AM
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1:56 PM
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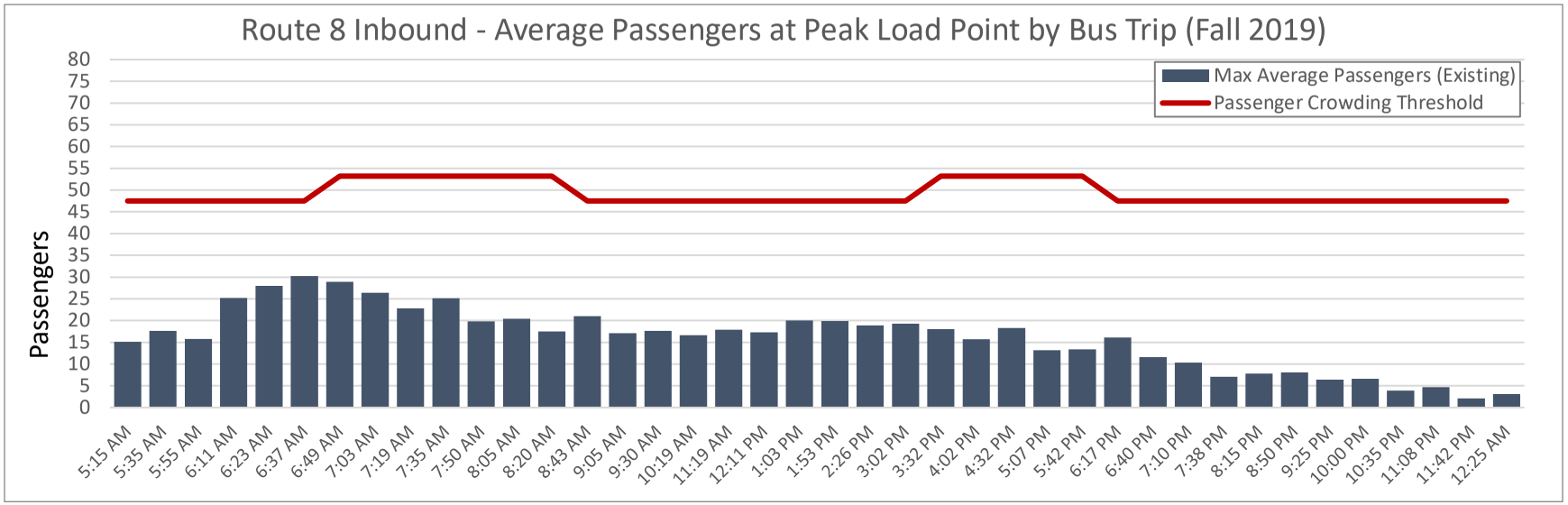
1:03 AM


Route 8 Inbound - Average Passengers at Peak Load Point by Bus Trip (Fall 2019)
Passengers
Max Average Passengers (Existing)
Passenger Crowding Threshold
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
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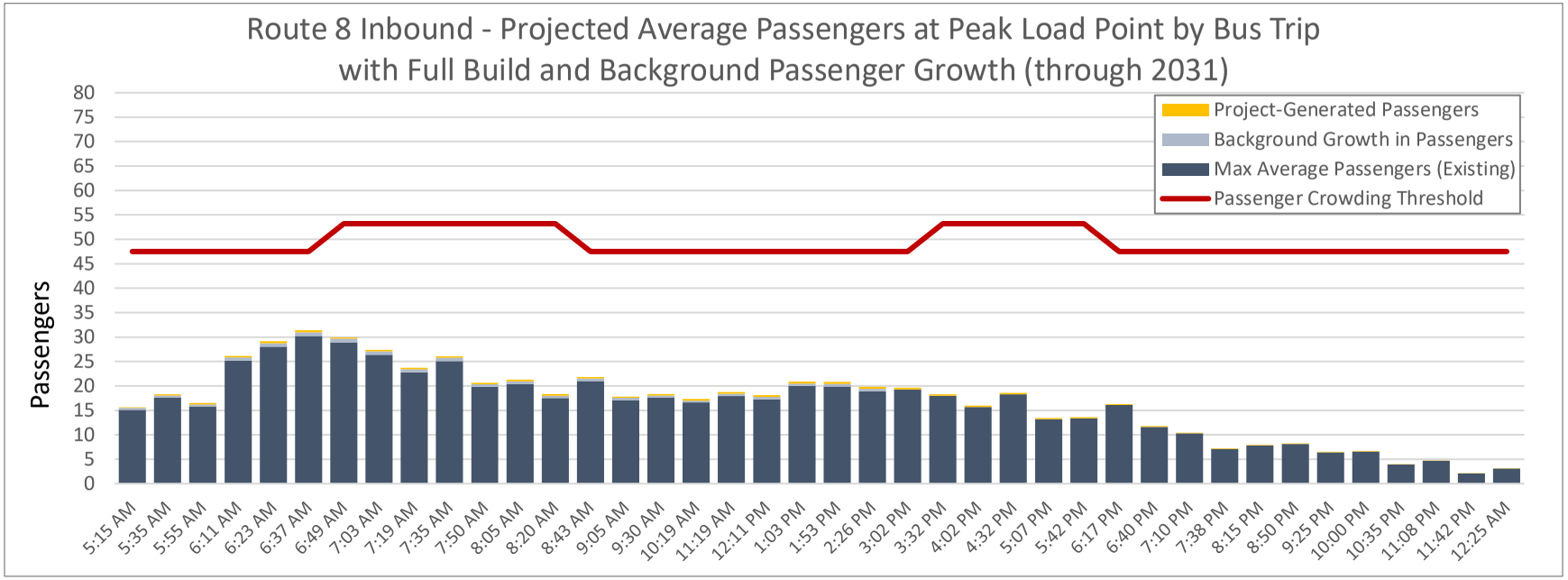
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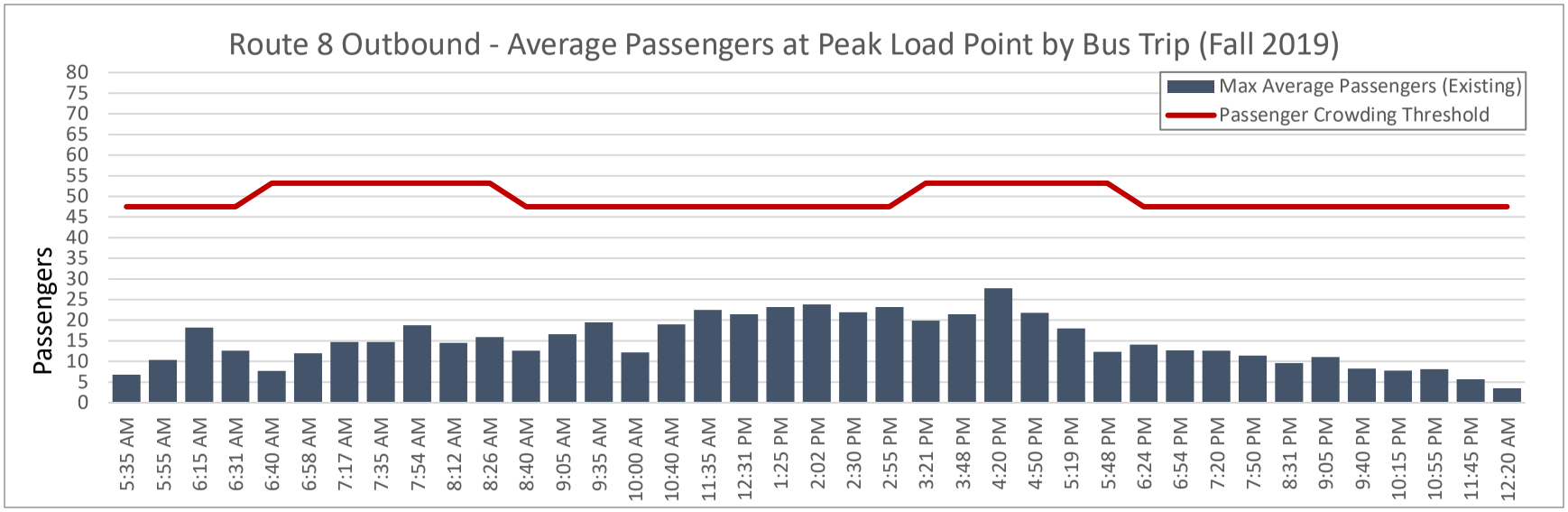
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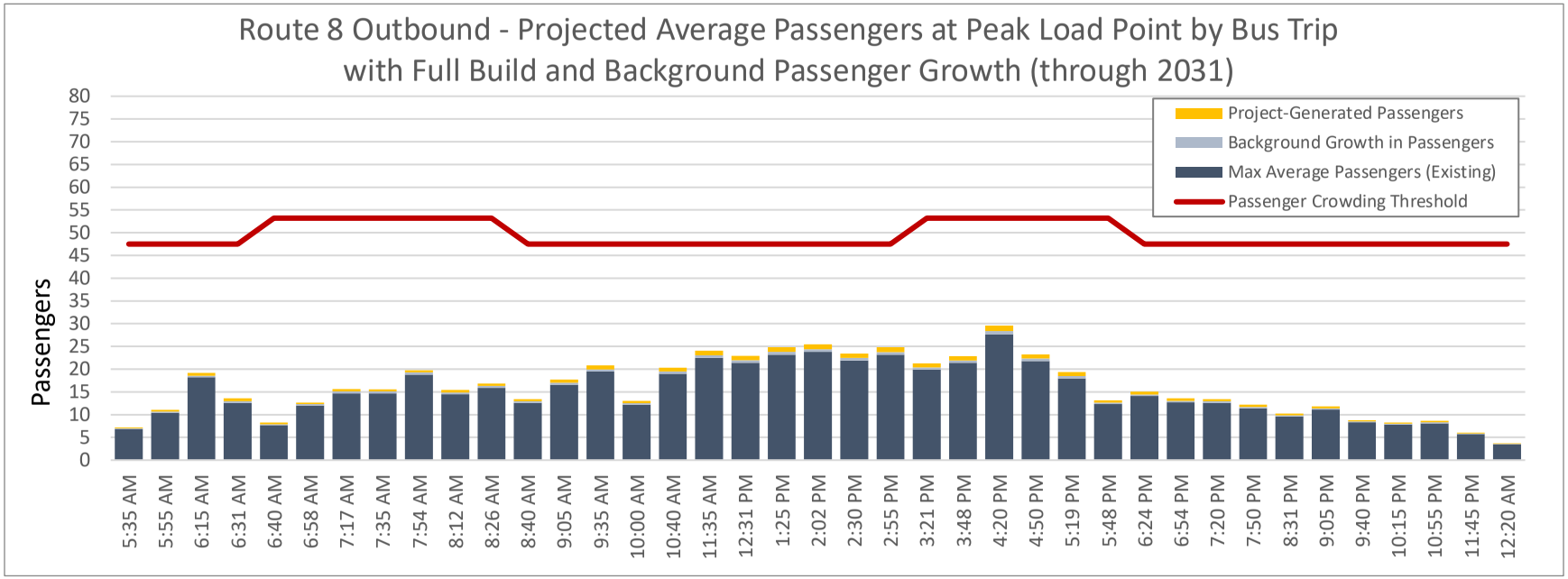
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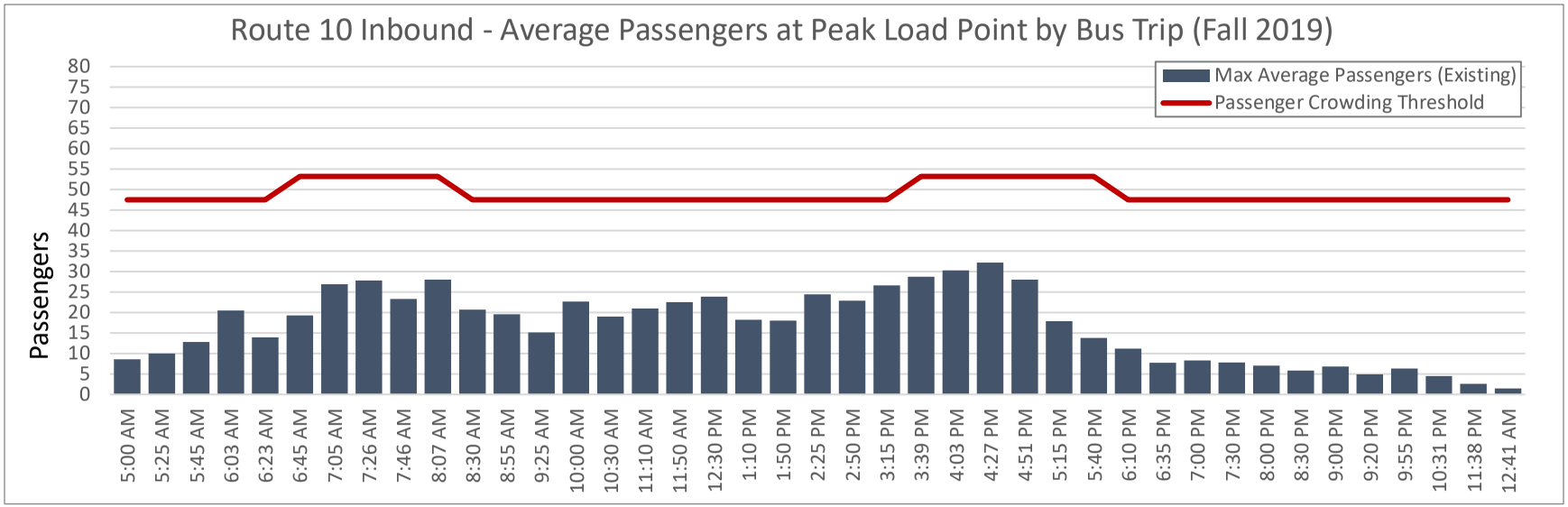
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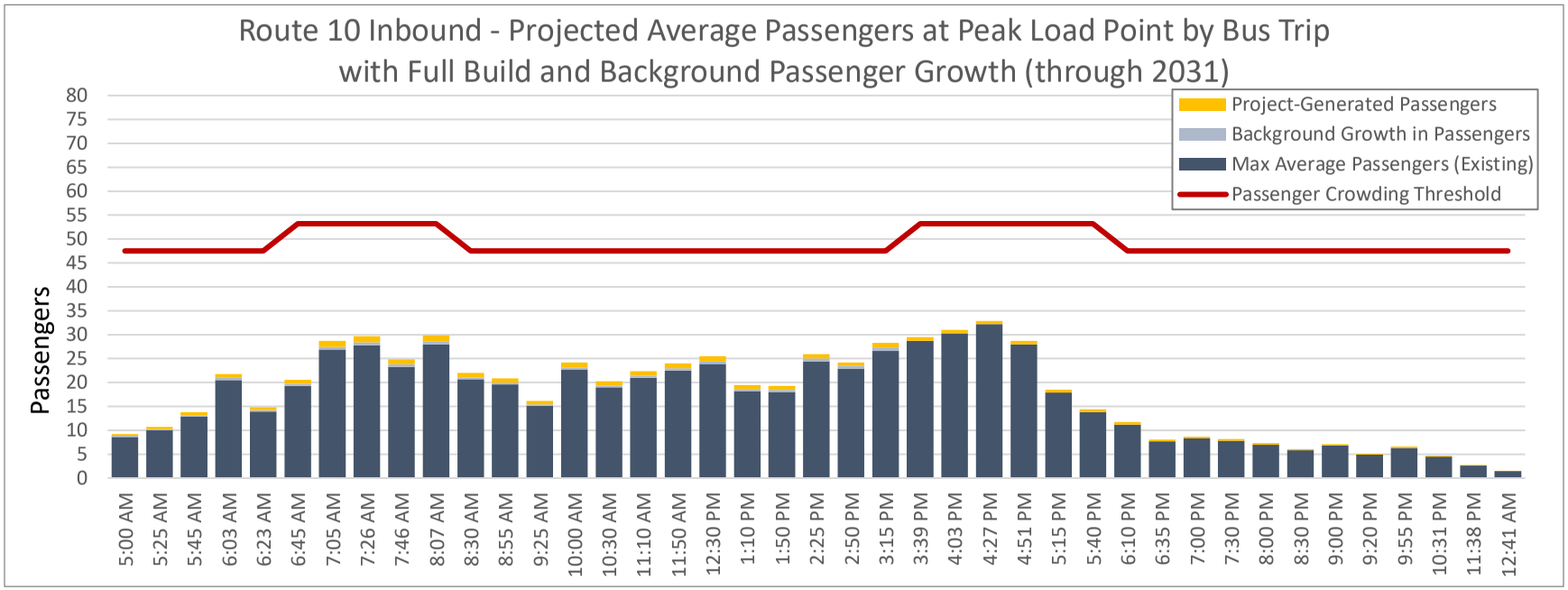
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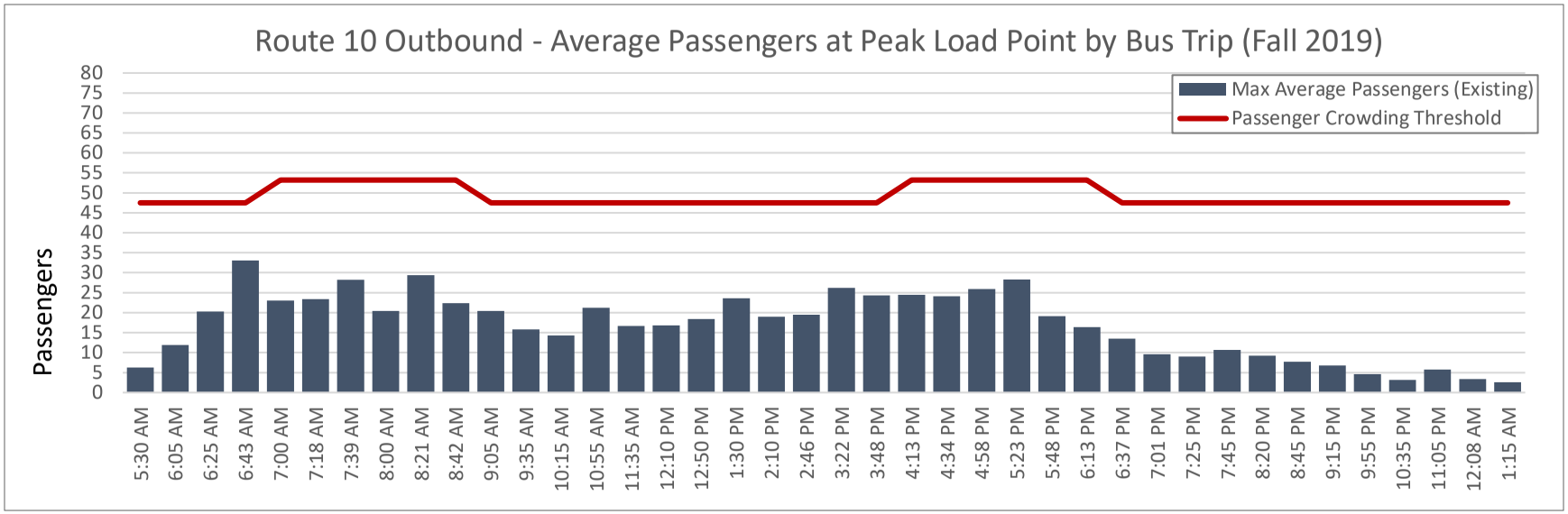
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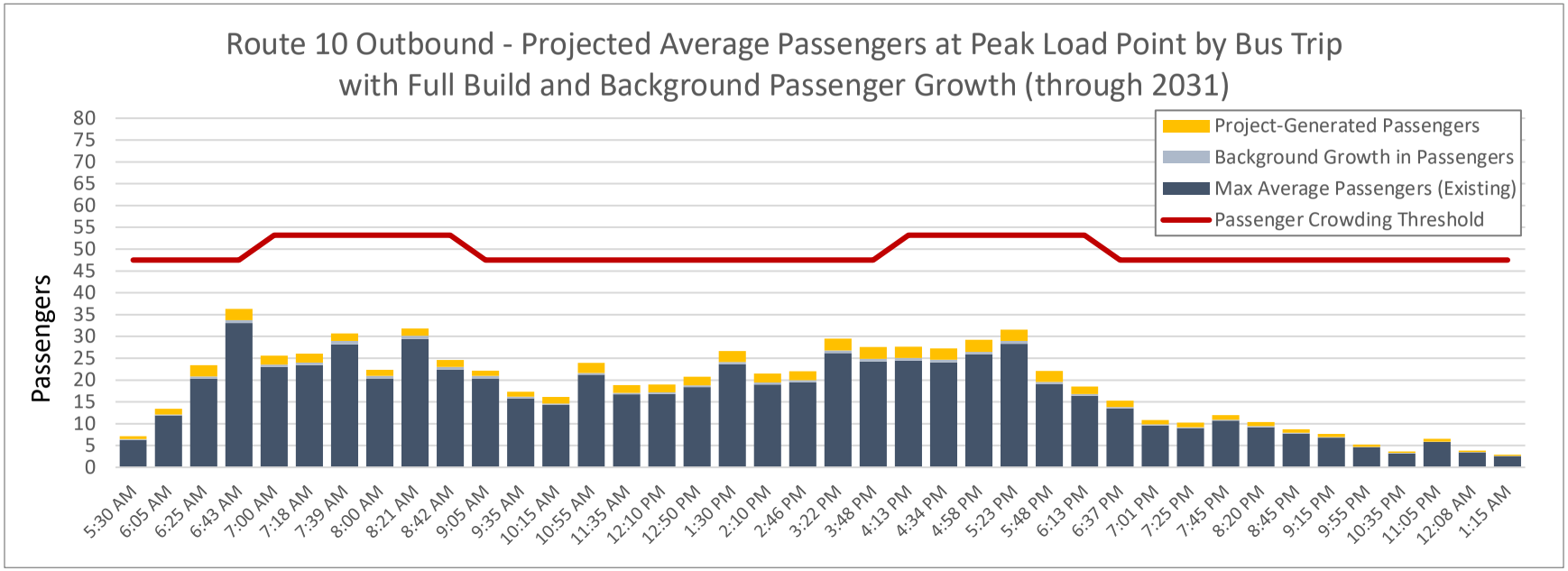
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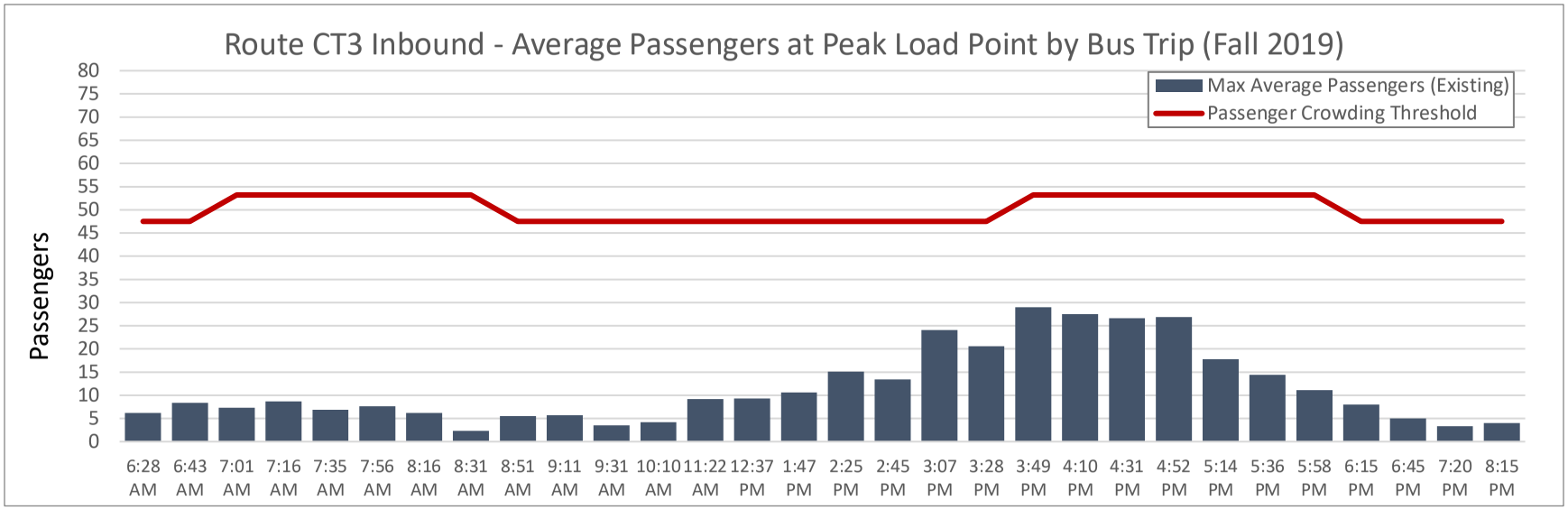
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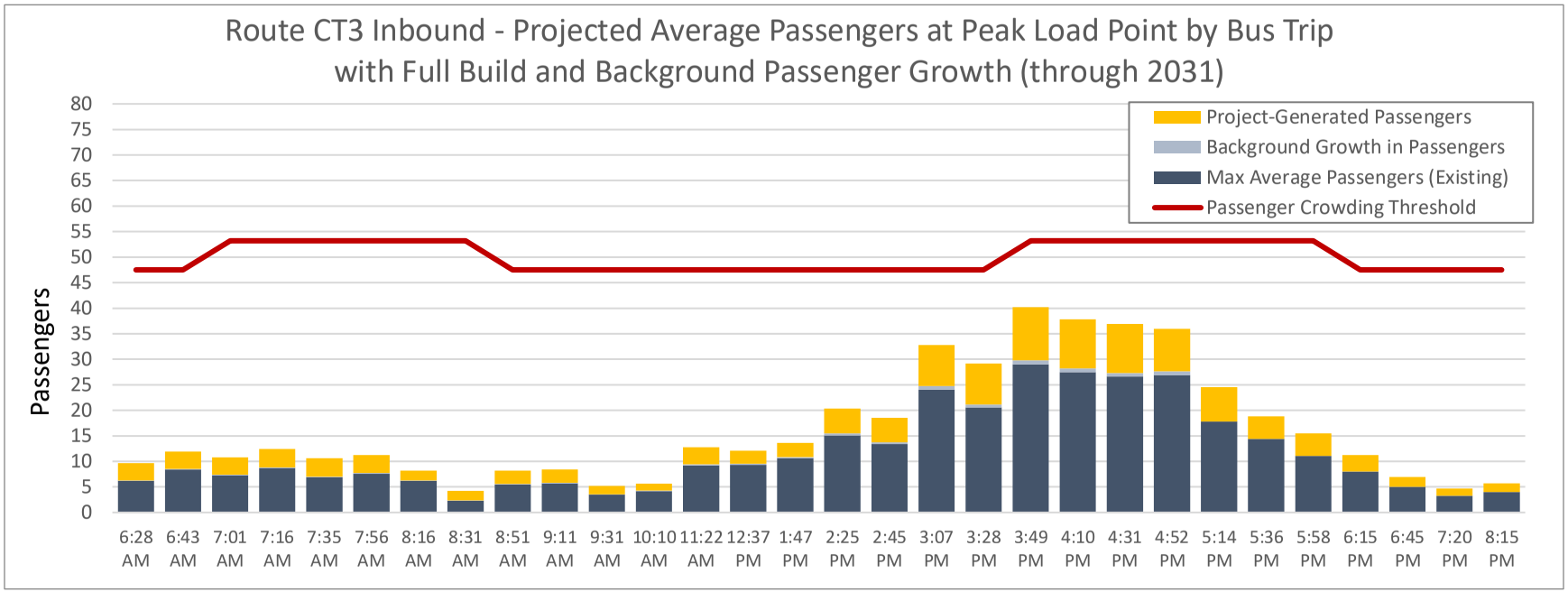
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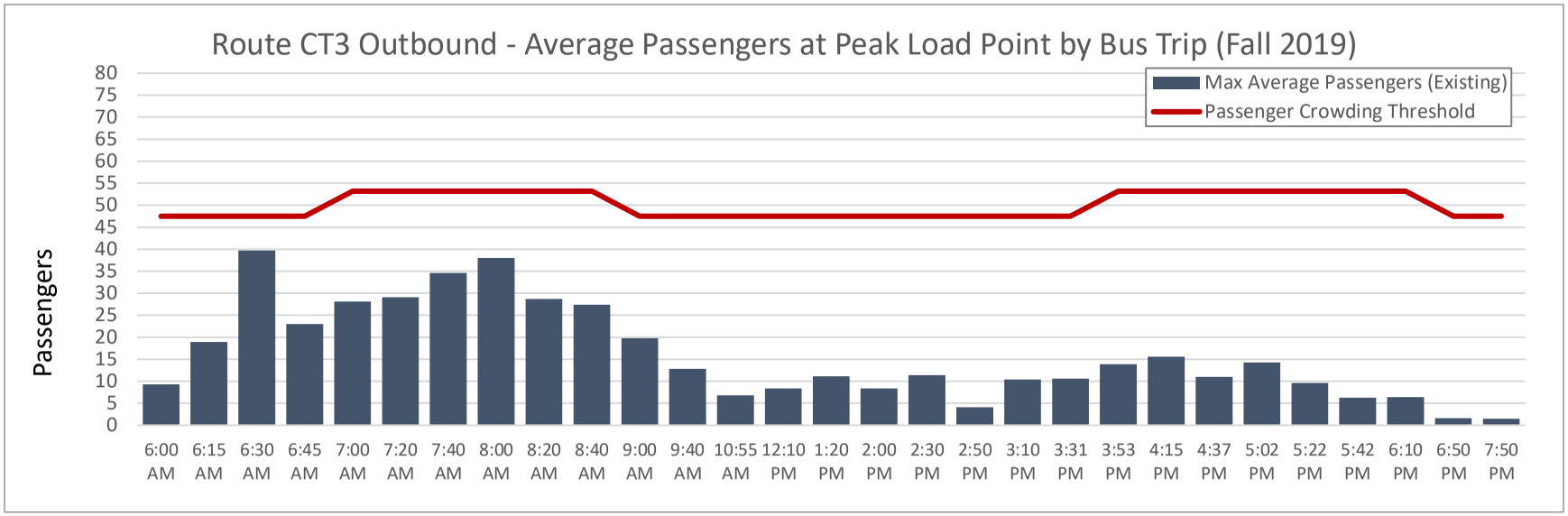
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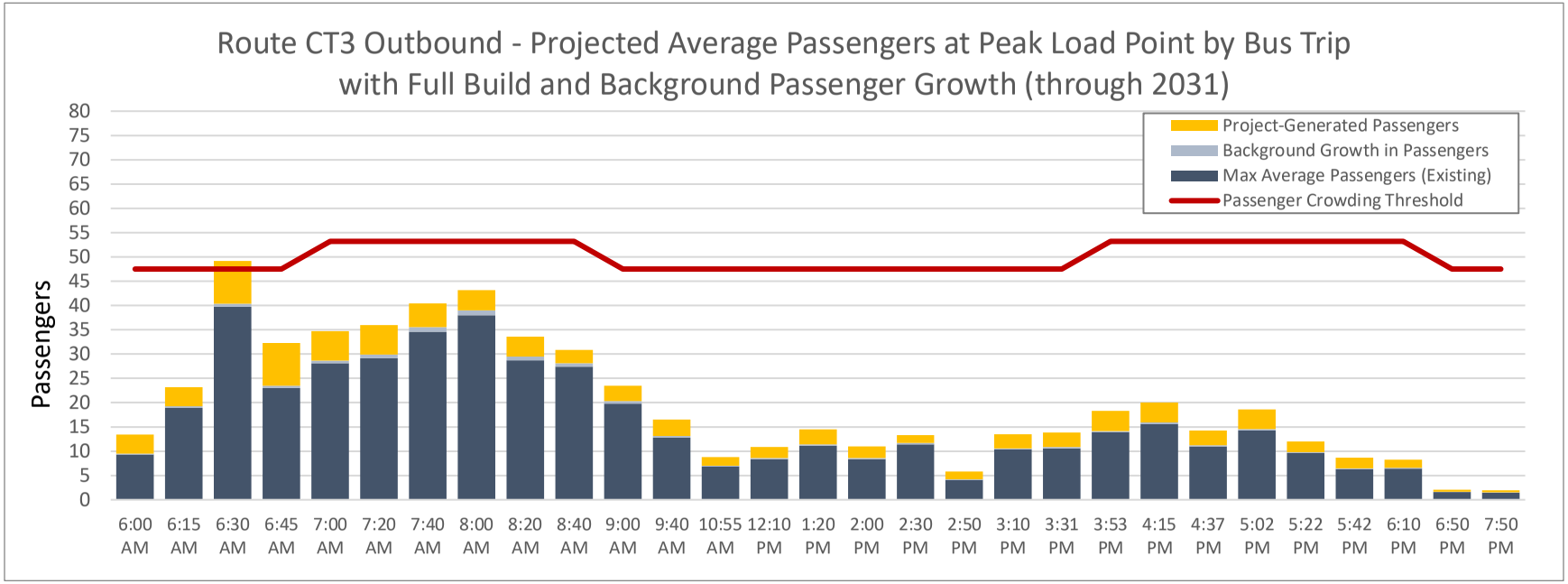
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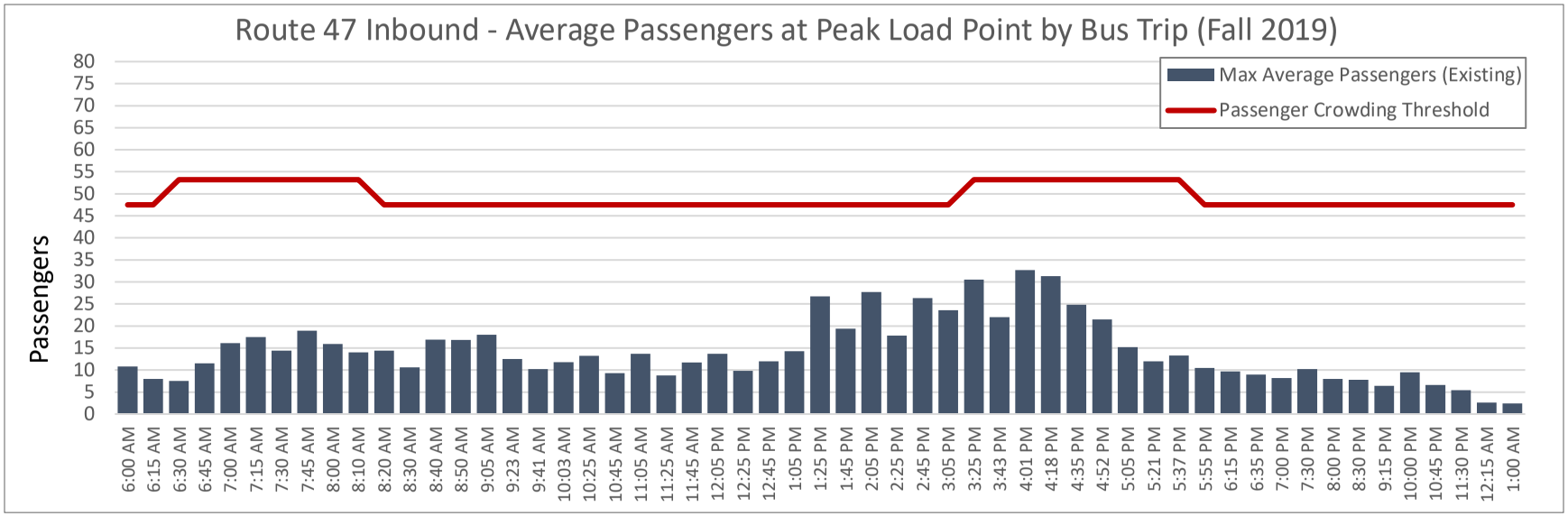
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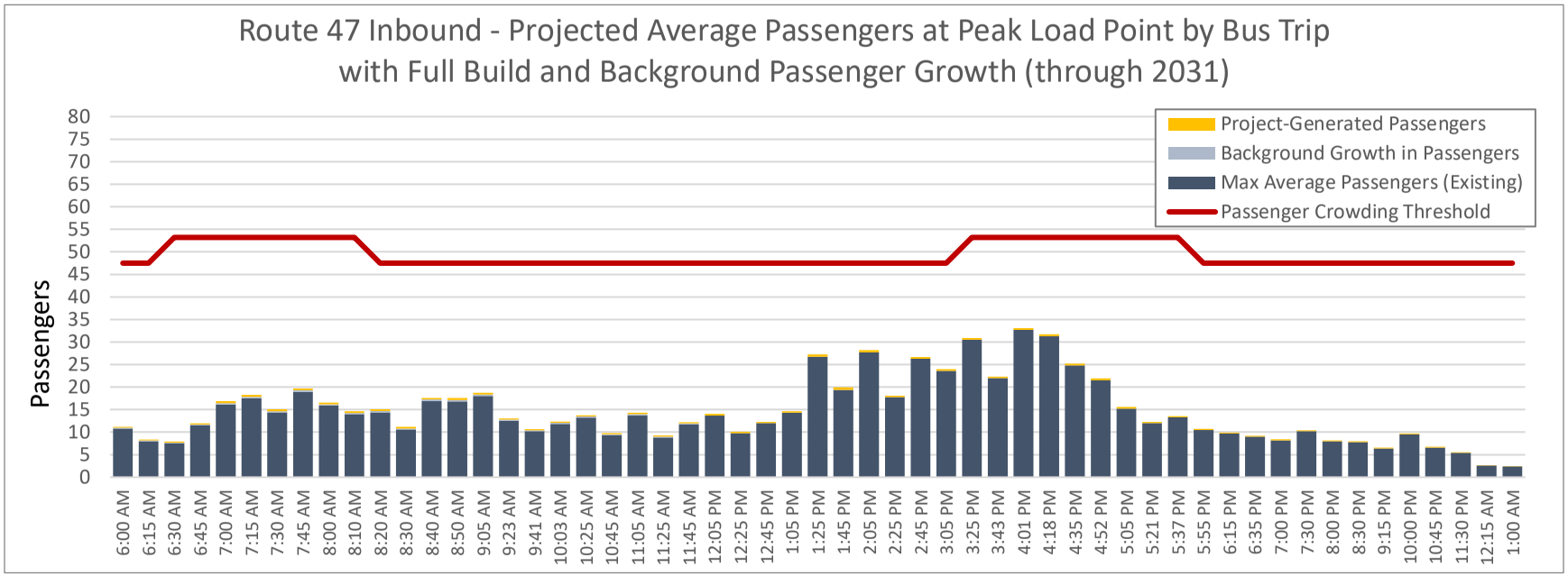
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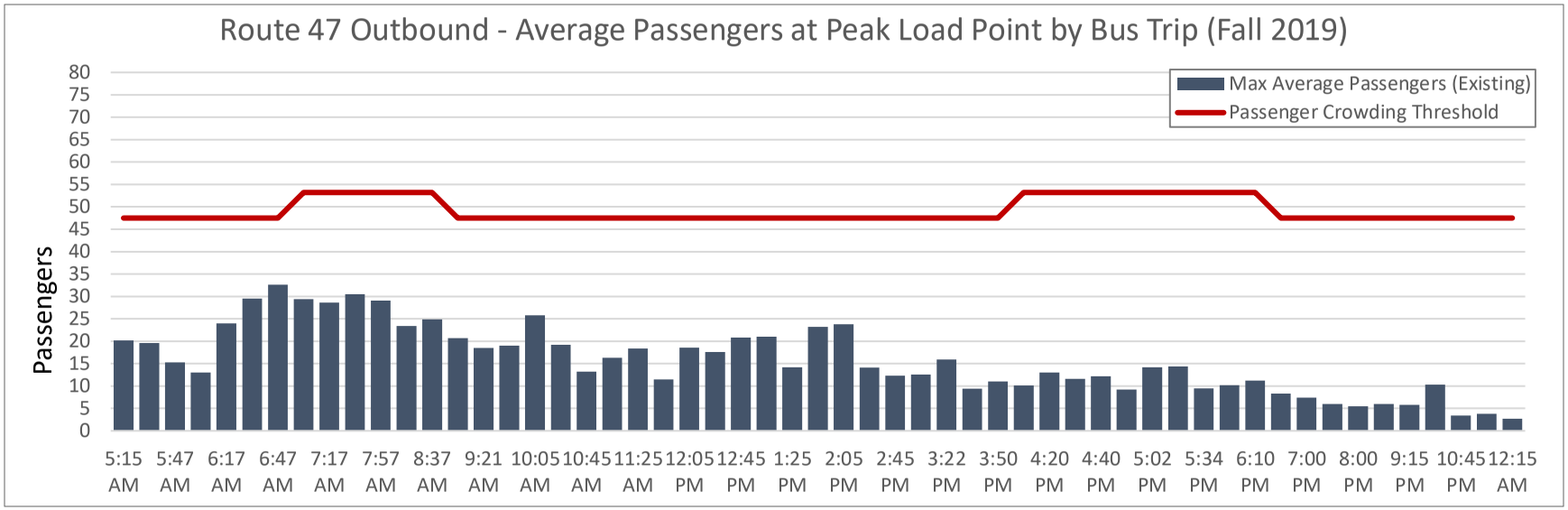
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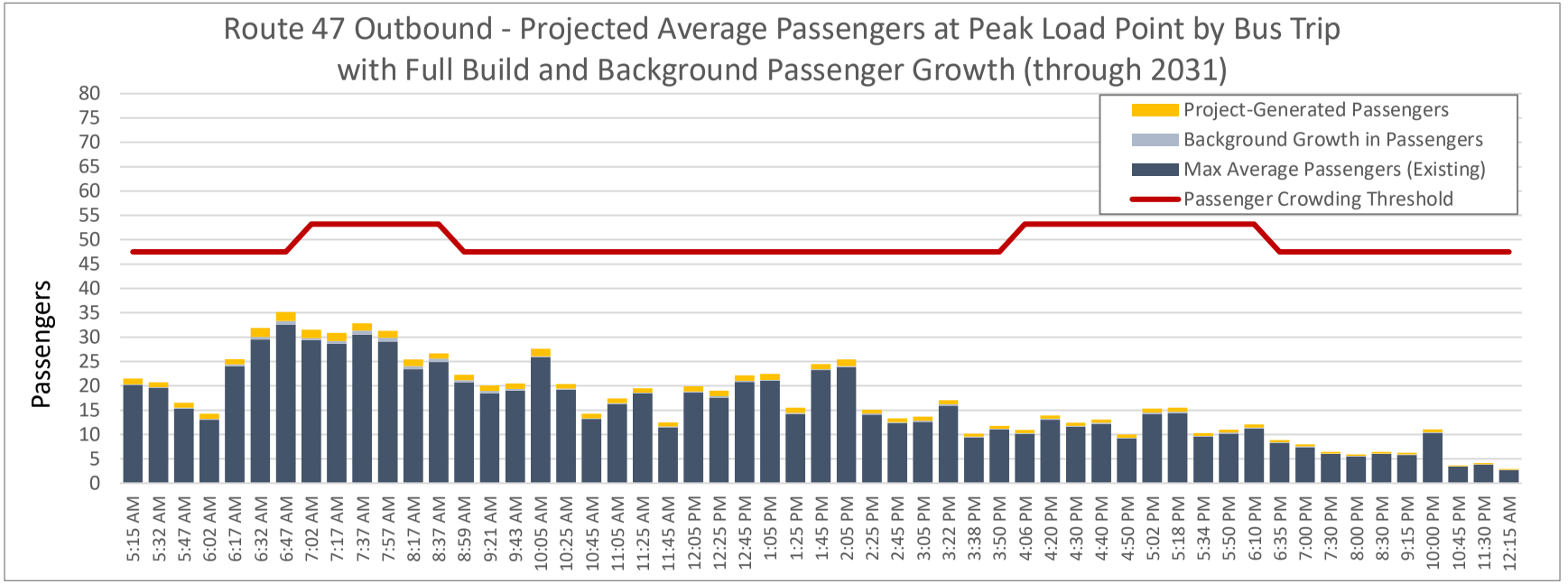
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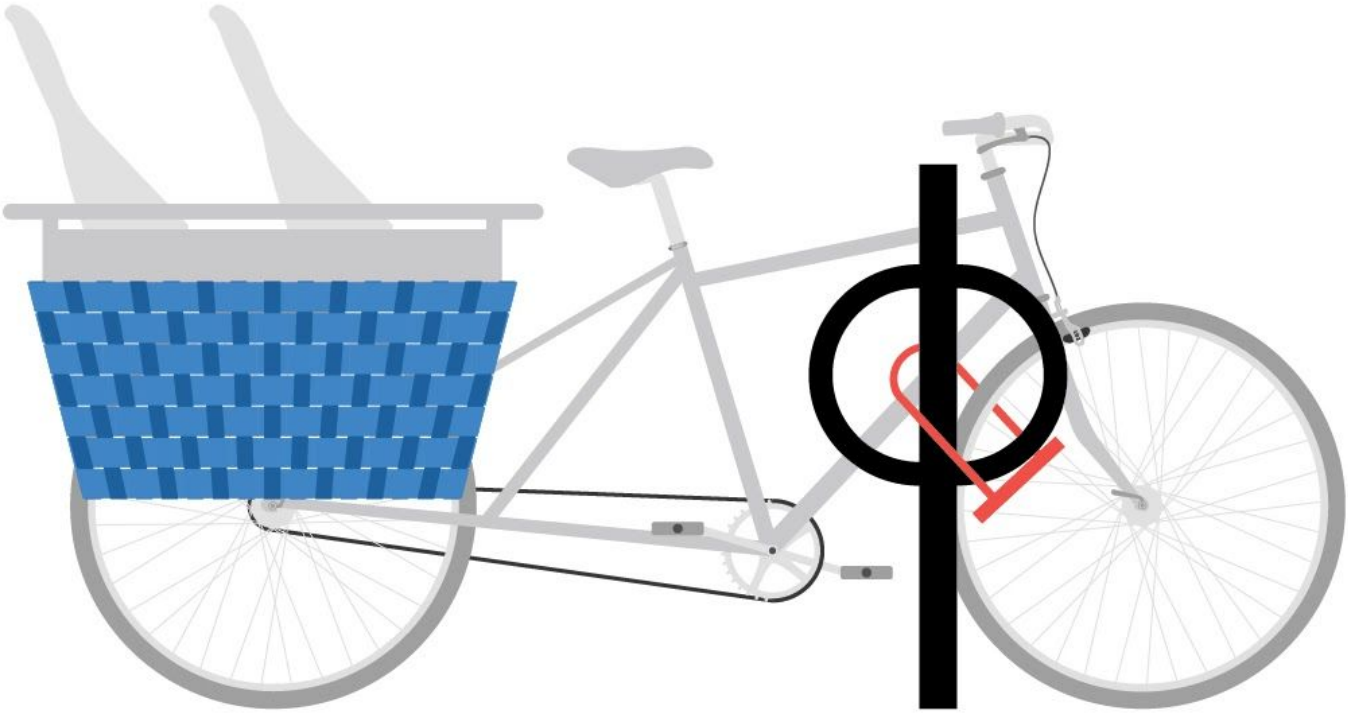
Transit Distribution/Assignment of Project Trips					
		Boardings	**Alightings**	**Boardings**	**Alightings**
1	Inbound	18.0	35.2	**13.7%**	**16.9%**
	Outbound	27.1	24.7	**20.7%**	**11.9%**
8	Inbound	2.1	15.2	**1.6%**	**7.3%**
	Outbound	13.4	8.3	**10.2%**	**4.0%**
10	Inbound	6.1	28.1	**4.6%**	**13.5%**
	Outbound	22.0	22.5	**16.8%**	**10.8%**
CT3	Inbound	28.3	8.6	**21.6%**	**4.1%**
	Outbound	1.6	35.0	**1.2%**	**16.9%**
47	Inbound	3.6	13.2	**2.8%**	**6.3%**
	Outbound	8.7	17.1	**6.6%**	**8.2%**
Total		130.7	207.7	100.0%	100.0%

Source: Based on MBTA Fall 2019 daily boarding/alighting data for stops at/near BMC campus.

Bike Parking Guidelines

BIKE PARKING GUIDELINES

January 2020
Version 2.0



CITY OF BOSTON
Martin J. Walsh, Mayor

BOSTON TRANSPORTATION DEPARTMENT
Greg Rooney, Acting Commissioner

CONTENTS

1. INTRODUCTION

I. PURPOSE

With these guidelines, we aim to ensure the provision of **adequate**, **secure**, and **convenient** bike parking for residents, workers, students, and visitors in the City of Boston.

To help support the growth in bike ridership called for in Go Boston 2030[1], people must have confidence that their journey will end with a safe and convenient place to park their bike—whether at their residence, place of employment, or other everyday destination. This includes shorter-term **visitor parking** as well as longer-term **employee/resident parking** in secure, indoor locations. Additionally, bike commuters need **showers and changing facilities** to bike year-round without sacrificing personal hygiene. Finally, a growing number of people rely on the convenience and affordability of Boston's **bikeshare** system.

Taken together, these accommodations reduce barriers to biking for transportation and recreation. Their provision will help us reach the City's goal of quadrupling the number of people who bike to work.

II. APPLICABILITY

Every building in the City of Boston should include these accommodations. They are required in all projects subject to Transportation Access Plan Agreements (TAPAs) and Site Plan Review administered by the Boston Transportation Department (BTD). They also are required for the Boston Planning and Development Agency (BPDA)'s Article 80 Small and Large Project Review. Proponents must provide a **bike parking plan** along with all project filings, including the Small Project Review Application, Project Notification Form, and Draft Project Impact Report. Bike parking plans should include the following:

- **Quantities**, **locations**, and **layouts** for proposed visitor bike parking, employee/resident bike parking, bikeshare stations, and showers and changing facilities
- **Specifications** for all proposed bike racks
- An identified **primary access route** to proposed employee/resident bike parking

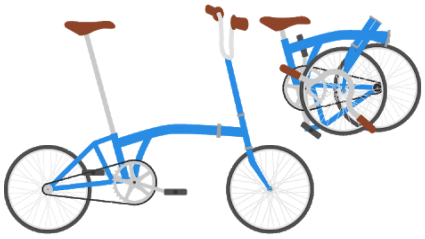
[1] Go Boston 2030: Vision and Action Plan. Accessed December 4, 2019. boston.gov/sites/default/files/file/document_files/2019/06/go_boston_2030_-_full_report.pdf.

III. BIKE STYLES AND ATTACHMENTS

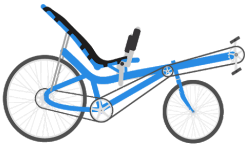
Bikes come in many shapes and sizes that serve a variety of **ages**, **abilities**, and **transportation needs**. We aim to accommodate the following common bike styles and attachments.

FIGURE 1: COMMON BIKE STYLES

TWO-WHEELED BIKE

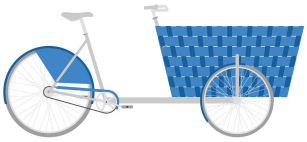


FOLDING BIKE



ADAPTIVE BIKE

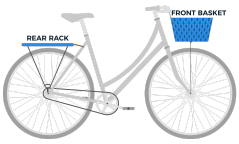
KID'S BIKE



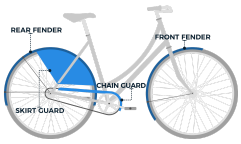
CARGO BIKE

LONG-TAILED BIKE

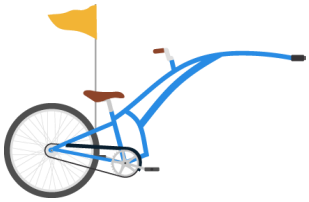
FIGURE 2: COMMON BIKE ATTACHMENTS



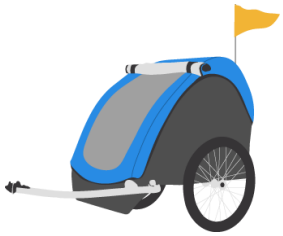
BASKETS AND RACKS



FENDERS AND GUARDS



TRAILER BIKE



TRAILER

BABY SEAT

2. RATES

Every building in the City of Boston should include bike accommodations at the rates detailed in Table 1. These rates are required in all projects subject to BTD's TAPAs and Site Plan Review as well as BPDA's Article 80 Small and Large Project Review. Each rate is tied to a direct and calculable indicator of cycling demand. Calculate rates proportional to the mix of uses. Always round up.

TABLE 1: REQUIRED RATES FOR DIFFERENT LAND USES

	BUILDING USE	VISITOR PARKING SPACES * (*short-term*)	EMPLOYEE/ RESIDENT PARKING SPACES † (*long-term*)	SHOWERS ‡	LOCKERS ‡	BIKESHARE STATIONS §	BIKESHARE CONTRIBUTION |
RESIDENTIAL	1 to 3-Unit	N/A	1 per unit	N/A	N/A	N/A	N/A
	Multi-Unit (*4 or more units*)	1 per 5 units (*4 minimum*)	1 per unit	N/A	N/A	Space for a 15-dock or 19-dock station	$275 per unit ($75K *or* $49K *minimum*)
	Institutional Housing (*College, university, and other*)	1 per 20 beds (*4 minimum*)	1 per 2 beds	N/A	N/A	Space for a 15-dock or 19-dock station	$137.50 per bed ($75K *or* $49K *minimum*)
NON-RESIDENTIAL	Office/Admin	1 per 20,000 sf (*6 minimum*)	1 per 2,500 sf	1 per 60,000 sf (*1 minimum*)	1 per 6,000 sf (*1 minimum*)	Space for a 15-dock or 19-dock station	$0.28 per sf ($75K *or* $49K *minimum*)
	Industrial	1 per 40,000 sf (*6 minimum*)	1 per 12,000 sf (*6 minimum*)	1 per 480,000 sf (*1 minimum*)	1 per 48,000 sf (*1 minimum*)	Space for a 15-dock or 19-dock station	$0.10 per sf ($75K *or* $49K *minimum*)
	Retail	1 per 5,000 sf	1 per 3,000 sf	1 per 60,000 sf (*1 minimum*)	1 per 6,000 sf (*1 minimum*)	Space for a 15-dock or 19-dock station	$0.37 per sf ($75K *or* $49K *minimum*)
	Institutional ¶	1 per 2,500 sf	1 per 2,500 sf	1 per 20,000 sf (*1 minimum*)	1 per 2,000 sf (*1 minimum*)	Space for a 15-dock or 19-dock station	$0.42 per sf ($75K *or* $49K *minimum*)
	Lodging (*Hotels, motels, inns, hostels*)	1 per 20,000 sf (*6 minimum*)	1 per 5,000 sf	1 per 20,000 sf (*1 minimum*)	1 per 2,000 sf (*1 minimum*)	Space for a 15-dock or 19-dock station	$75K *or* $49K *minimum*

* Each post-and-ring or U-rack provides 2 bike parking spaces.

† At least 20% of required spaces must be on-ground and secured with post-and-ring or inverted U racks. At least 5% of required spaces (no less than two) must be both on-ground and extra-wide. Each post-and-ring or inverted U rack provides 2 bike parking spaces. All other spaces may be secured via via two-tier racks, which provide a variable number of spaces.

‡ May be substituted with free access to showers and lockers at an on-site health club or gym that can be accessed without going outside.

§ The 19-dock requirement applies to projects located in the Downtown, West End, North End, Beacon Hill, Leather District, Chinatown, Bay Village, South End, Back Bay, Fenway, Longwood Medical Area, and South Boston Waterfront neighborhoods as well as the areas identified for neighborhood expansion in Imagine Boston 2030. The 19-dock requirement also applies to projects for which the calculated bikeshare contribution exceeds $75K. The 15-dock requirement applies to all other developments.

| The $75K minimum contribution applies to projects in same neighborhoods and neighborhood expansion areas identified above.

¶ Includes academic, medical, and civic buildings. Rates for these institutional uses and all others uses not listed should be determined in consultation with BTD.

3. RACK SELECTION

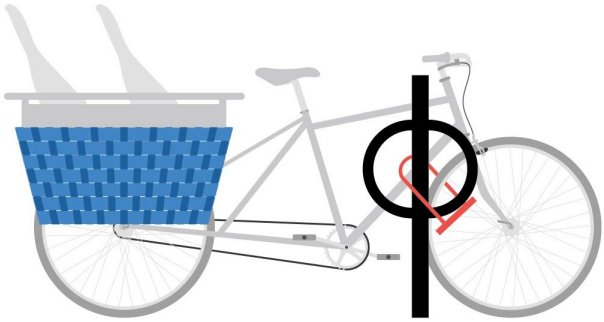
I. PERFORMANCE CRITERIA

All bike racks in the City of Boston must meet the performance criteria summarized in Table 2—whether they are designed for short-term or long-term use. Collectively, these criteria ensure that racks support bikes upright, allow users to lock their bikes securely, and are intuitive and accessible to use. In certain constrained situations, two-tier racks that do not meet criterion E may be approved.

TABLE 2: PERFORMANCE CRITERIA FOR RACK STYLES

CRITERIA		DETAILS
A	**Supports bike upright**	The rack provides two points of contact with the frame—at least 6" apart horizontally. Alternatively, if a rack cradles a bike's wheel, it also supports the frame securely at one point or more. The rack's highest point of contact is at least 2'8" off the ground.
B	**Allows locking of frame and at least one wheel with a U-lock**	A closed loop of the rack allows a single U-lock to capture one wheel and a closed section of the bike frame. The rack tube's cross section is no larger than 2"—allowing locking with smaller U-locks.
C	**Materials are durable and secure**	The rack is made from durable and difficult to cut materials, such as steel or stainless steel. Rack finish is appropriate to the location.
D	**Use is intuitive**	The rack is recognizable by first-time users and easily usable as intended without the need for written instructions.
E	**Accommodates a variety of bikes and attachments**	The rack serves common bike styles, including cargo bikes and accessible bikes. The rack does not restrict the length, height, or width of bikes, attachments (such as baskets), or wheels.

FIGURE 3: U-LOCK CAPTURING WHEEL AND BIKE FRAME



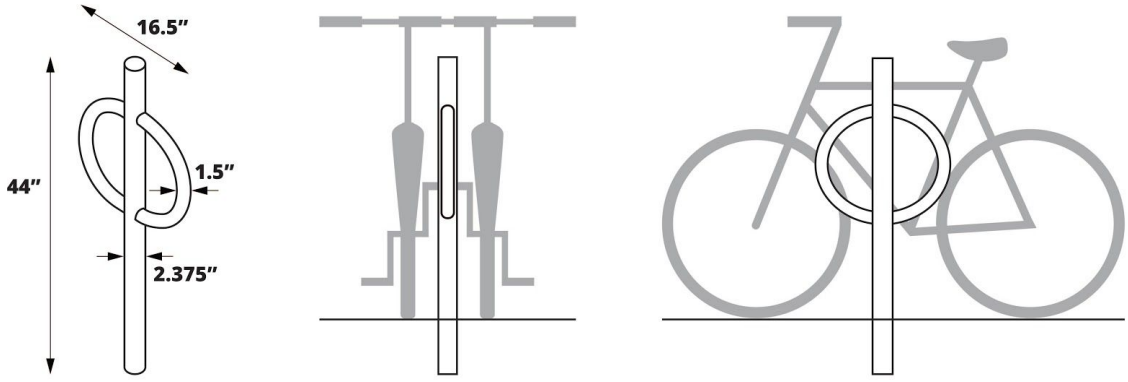
II. CITY OF BOSTON STANDARD RACK

The City of Boston's standard rack is a **black, powder-coated post-and-ring rack** (also called hitch rack) with an **in-ground mounting mechanism**. Post-and-ring racks meet all of the City's performance criteria. **They are the only racks approved for installation on city sidewalks, plazas, and other locations in the public right-of-way and are the only racks that can satisfy visitor parking requirements**. They are appropriate for all other applications, as well. Each post-and-ring rack provides two bike parking spaces. They may be installed in a series to create parking areas of variable quantities.

TABLE 3: PERFORMANCE OF POST-AND-RING RACKS

CRITERIA		A Supports bike upright	B Allows locking of frame and at least one wheel with a U-lock	C Materials are durable and secure	D Use is intuitive	E Accommodates a variety of bikes and attachments
POST-AND-RING *also called a hitch*		Y	Y	Y	Y	Y

FIGURE 4: SPECIFICATIONS FOR THE CITY OF BOSTON STANDARD RACK



III. INVERTED U RACKS

When properly designed and installed, inverted U racks meet all of the City's performance criteria. You may install inverted U racks for employee/resident bike parking. Each inverted U rack creates two bike parking spaces. They may be installed in a series to create parking areas of variable quantities.

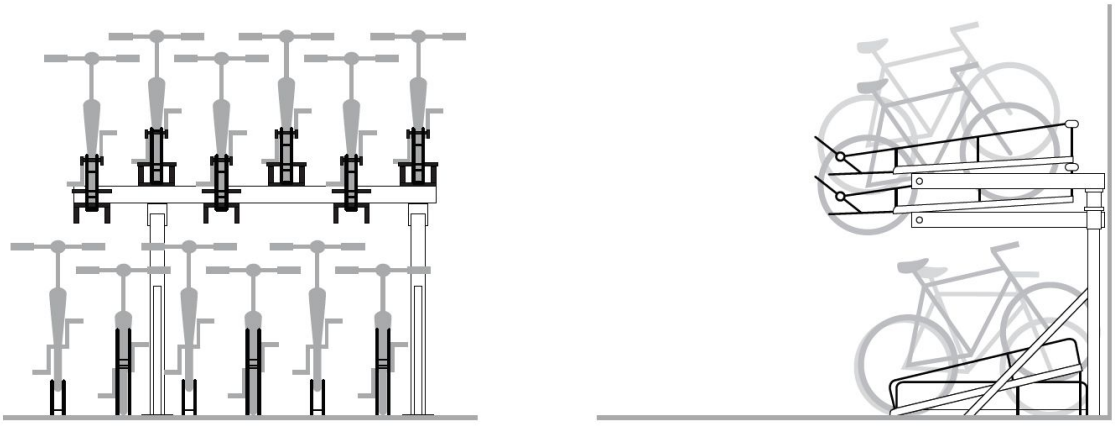
IV. TWO-TIER RACKS

You may also install two-tiered racks for employee/resident bike parking. Two-tier racks maximize the use of limited parking space by stacking a second row of bikes above the first. **A lift assist is required for the upper tier of parking**, as bikes can be heavy and challenging to maneuver overhead. Even with lift assists, two-tier racks do not work for all bike users and fail to accommodate common bike styles and attachments. For this reason, you must accompany two-tier racks with on-ground spaces secured by post-and-ring or inverted U racks.

Two-tier racks require maintenance for moving parts, and their design and performance varies by manufacturer. BTD must pre-approve all two-tier racks as satisfying the City's performance criteria[2].

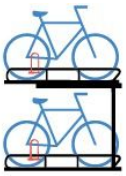
BTD will consider other high density racks, such as vertical racks, only for the retrofit of existing buildings—and on a case-by-case basis.

FIGURE 5: TWO-TIER RACKS



[2] This applies to installations in projects subject to Transportation Access Plan Agreements and Site Plan Review administered by BTD,, as well as all projects subject to BPDA's Article 80 Small and Large Project review process.

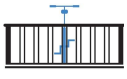
TABLE 4: PERFORMANCE OF INVERTED U AND TWO-TIER RACKS

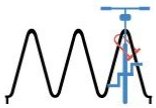
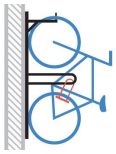
CRITERIA		A Supports bike upright	B Allows locking of frame and at least one wheel with a U-lock	C Materials are durable and secure	D Use is intuitive	E Accommodates a variety of bikes and attachments
INVERTED U *also called staple, loop, arc*		Y	Y	Y	Y	Y
TWO-TIER		Y	Y	Y	Y	N

V. PROHIBITED RACKS

Do not install the following rack styles. They do not satisfy the City's performance criteria and are never acceptable for installation. All other racks, including custom racks, must be pre-approved by BTD as satisfying the City's performance criteria.

TABLE 5: PERFORMANCE OF PROHIBITED RACKS

CRITERIA		A Supports bike upright	B Allows locking of frame and at least one wheel with a U-lock	C Materials are durable and secure	D Use is intuitive	E Accommodates a variety of bikes and attachments
WAVE *also called undulating, serpentine*			Y	Y	N	N
SCHOOLYARD *also called comb, grid*			N	N	N	N

CRITERIA		A Supports bike upright	B Allows locking of frame and at least one wheel with a U-lock	C Materials are durable and secure	D Use is intuitive	E Accommodates a variety of bikes and attachments
COATHANGER		Y	Y	Y	Y	N
WHEELWELL		N	N	N	Y	N
WHEELWELL-SECURE		N	Y	Y	Y	N
SPAR		N	N	Y	N	N
BOLLARD		N	Y	Y	Y	N
MONOLITH		N	Y	N	N	N
SPIRAL		N	Y	Y	N	N
SWING ARM SECURED		Y	Y	Y	N	N
VERTICAL		N	Y	Y	N	N

4. VISITOR PARKING

Visitor parking meets the needs of people visiting businesses, institutions, residences, and other destinations for **short periods of time**—generally no more than a few hours. Because users may be infrequent visitors to a location, parking must be **visible from the public right-of-way**, **conveniently located**, **legible as parking**, and **intuitive to use**.

I. LOCATION

Choose locations that are **visible and accessible** from the public right-of-way and **close to major building entrances**—ideally less than 25' away and never more than 50'. Ensure that the area is **well-lit** during both daytime and nighttime hours. Areas with a high incidence of bike theft may justify specific security measures such as active surveillance. Though not required, we encourage siting visitor parking in sheltered locations wherever possible. This facilitates year-round use, even during inclement weather.

I. RACK TYPE

The City of Boston's standard post-and-ring rack is the only rack approved for satisfying visitor parking requirements and for installation in the public right-of-way.

II. CLEARANCES

Racks installed on sidewalks, plazas, and other locations in the public right-of-way must **preserve accessibility** for people walking and using assistive mobility devices. You must leave at least 5' clearance along sidewalks and other lines of travel. When installing more than 4 racks, cluster them in groups of 3 or 4 to allow people to pass between clusters. Additionally, use the following table to site racks at appropriate distances from other objects.

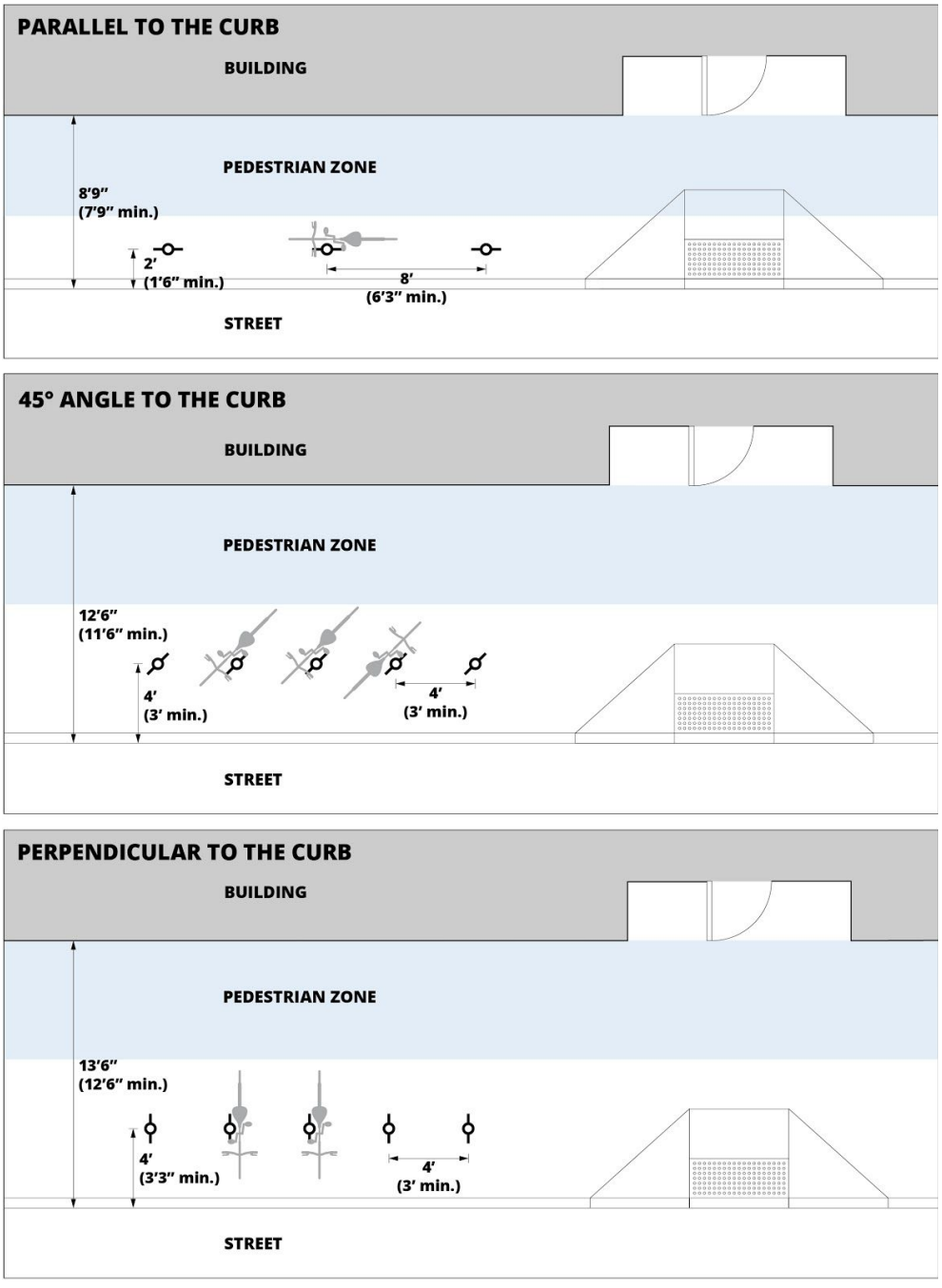
TABLE 6: CLEARANCES FROM RACKS TO OBJECTS

OBJECT	DISTANCE[3]
Curb ramps, fire hydrants	6' recommended (5' minimum)
Bus stops, bus shelters, commercial loading zones	5' recommended (4' minimum)
Accessible parking (HP-V) spaces, driveways (as measured from the face of the curb), and all other street furniture not already noted (e.g. light poles, sign posts, trash cans, edges of tree pits, mailboxes)	4' recommended (3' minimum)

[3]Measure from the center of the rack to the edge of the object.

Along narrow sidewalks, install racks parallel to the curb to maintain an accessible pedestrian path of travel. (Users park their bikes in the same orientation as the rack.) Along wider sidewalks and in plazas, you may install racks perpendicular to the curb or angled at 45 degrees, in consultation with BTD. The images below provide minimum sidewalk widths required for each orientation. Finally, try to position racks between vehicle parking spaces to avoid conflicts with car doors.

FIGURE 6: SIDEWALK CLEARANCES FOR 3 RACK ORIENTATIONS



5. EMPLOYEE/RESIDENT PARKING

Employee/resident bike parking meets the needs of people looking to store their bikes for **longer periods of time** at their workplace, school, or residence. Because long-term users leave their bikes unmonitored for a period of several hours or longer, their parking must be in a **secure and weather-protected location**[4]. It should also be **clean, well-lit, easy to move around, and easy to access from the street**.

I. LOCATION AND ACCESS

Bike parking should be **as convenient—or more convenient—than car parking**. Whenever possible, locate employee/resident bike parking **inside the same building** as the people it is intended to serve (e.g. in each building of a multi-building development) and **immediately adjacent to and at-grade** with the public right-of-way. If necessary, you may also site bike parking within 100' of a primary entrance, as measured by walking distance, and, preferably, no more than one level above or below grade. At least one route from the public right-of-way to the employee/resident bike parking must meet the following performance criteria[5].

TABLE 7: PERFORMANCE CRITERIA FOR ACCESS ROUTES

CRITERIA		DETAILS
A	**Route is free of obstructions**	Route is easily navigated with common bikes and bike accessories. Impermissible obstructions include objects, motor vehicle spaces, and loading areas.
B	**Route is at least 5' wide, with no more than two doors or other constriction points**	Constriction points are no narrower than 3' wide and extend no more than 1' of distance.
C	**Doorways along the route are accessible and self-opening**	Doors are manufactured to meet accessibility requirements and guidelines. They are self-opening, either automatically or triggered by a button or key fob.
D	**Route has no stairs, steep ramps, or small elevators**	Changes in grade require either a ramp or an elevator. Ramps have a slope less than 5%. Elevators are at least 6'8" long and 4'6" wide.
E	**Route is well-lit**	The route must be well-lit and include, as appropriate, motion-activated lighting.

[4] "Essentials of Bike Parking." Association of Pedestrian and bike Professionals. Revision 1.0, September 2015. Nathan Broom, lead author.
[5] Employee/resident bike parking may also be accessible secondarily by routes that do not meet these exact requirements, such as parking garage entrance ramps.

In certain constrained situations, you may provide employee/resident bike parking in a bike shed, bike lockers, a car parking garage, or another enclosed structure within 100' of a main pedestrian entrance to the building that the bike parking is intended to serve, as measured by walking distance. BTD must pre-approve such installations as properly located and adequately secure and protected. Bike parking in a car parking garage must be at grade or on the first level of car parking and both the bike parking and the primary access route must be physically separated from vehicles. Where there is a shared secondary access route, it must be delineated to safely accommodate people biking.

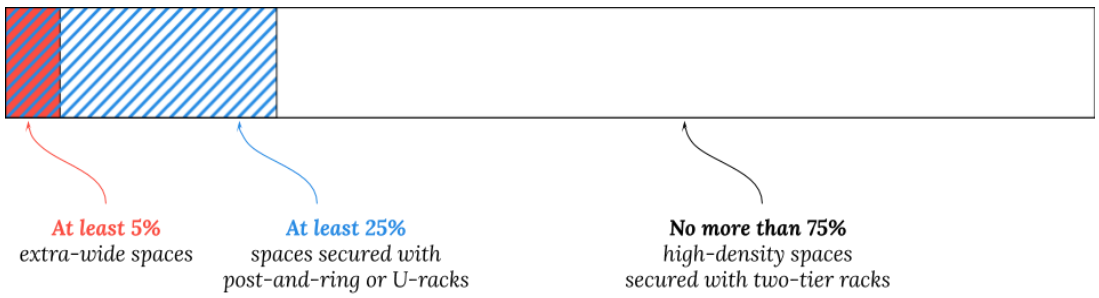
II. RACK TYPES

Use post-and-ring and inverted U racks to provide as many employee/resident bike parking spaces as possible. In constrained situations, it may be appropriate to include two-tier racks **with lift assists** for the upper tier of racks.

To avoid excluding people because of age, ability, or bicycle type, it's important to **accompany two-tier racks with on-ground spaces** secured by post-and-ring or inverted U racks. A portion of these on-ground spaces should be **extra-large** to accommodate wider and longer bikes and trailers. Clearly demarcate these spaces with text reading "big bikes only" on both the rack and the pavement. Figures 7 and 8 describe our requirements for extra-large spaces, on-ground spaces, and two-tier spaces.

BTD must pre-approve all installations of employee/resident bike parking to ensure compliance with our performance criteria.

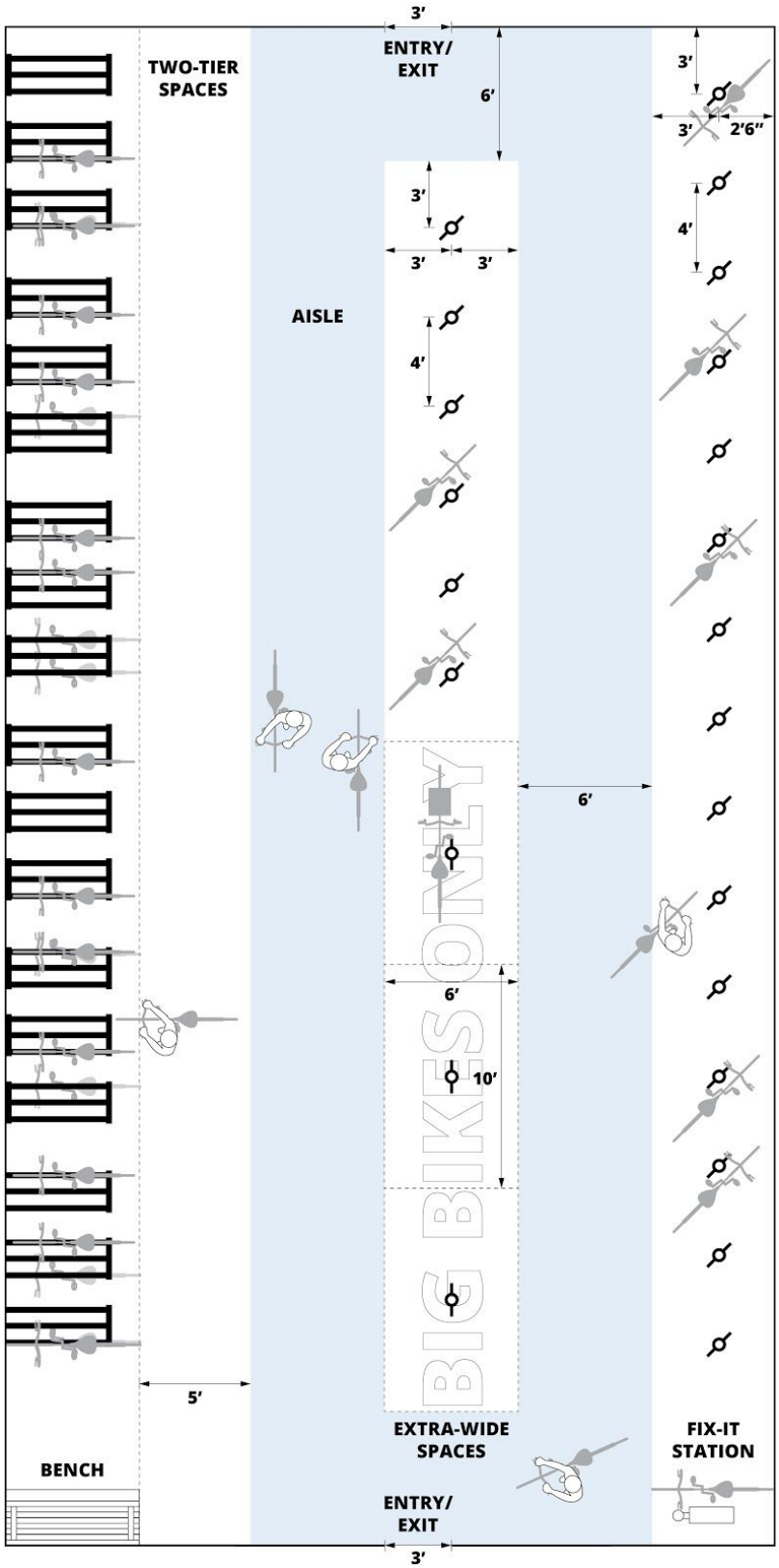
FIGURE 7: MANDATED PROPORTIONS OF REQUIRED BIKE PARKING SPACES



III. CLEARANCES

Design employee/resident bike parking to **allow comfortable maneuvering** of all common bike styles and attachments. For example, users should never have to move other people's bikes to access their own spaces. Aisles must be at least 6' wide and racks must be offset an adequate distance from walls, other fixed objects, and from each other. Figure 8 describes the clearances we require.

FIGURE 8: MINIMUM CLEARANCES IN BIKE PARKING ROOMS



WHAT'S DEPICTED

This is an example of an employee/resident bike parking room that satisfies requirements for any of the following developments.

- *120-unit residence*
- *240-bed dorm*
- *300,000 sf office building*
- *1,440,000 sf industrial site*
- *360,000 sf retail center*
- *600,000 sf hotel*

ACCOMMODATIONS

On-ground spaces*

Required: 30
Depicted: 48

Extra-wide spaces†

Required: 6
Depicted: 6

Two-tier spaces

Required: N/A
Depicted: 72

Compliant access route

Required: 1
Depicted: 2

OPTIONAL AMENITIES

- *Fix-it station with bike pump*
- *Bench*

* At least 25% of required spaces must be on the ground and secured with post-and-ring or U-racks (each post-and-ring or U-rack serves 2 bike parking spaces).

† At least 5% of required spaces (no less than two) must be extra-wide. These spaces must be on the ground and secured with post-and-ring or U-racks. As such, they also count towards the above requirement.

IV. SECURITY

Provide employee/resident bike parking behind **locked doors**, with access limited to authorized users (e.g. building employees, residents, and other regular occupants). Options for access control include keys, fobs, and smart cards. Install **motion-activated security lights in a tamper-proof cases** and, whenever possible, ensure that the entire area is **visible from the entry door** and **video surveillance cameras**.

V. SIGNAGE

Where employee/resident bike parking is not visible from the public right-of-way, **install directional signage**. Such signage must be visible from all adjacent on-street bike facilities. In building directories, describe the location of bike parking wherever you describe the location of car parking.

VI. PRICING

All required employee/resident bike parking should be provided **at no cost** to building employees, residents, and other regular building occupants.

VII. ELECTRIC BIKE CHARGING

Electric bikes make cycling a possibility for more people. To accomodate electric bikes with charging cords, install standard 120V electric outlets within 4' of the center of bike parking spaces. Electric bike parking helps fulfill Boston's Electric Vehicle Readiness Policy for New Developments[6].

6. SHOWERS AND CHANGING FACILITIES

Showers and changing facilities allow employees, residents, and other regular building occupants to **bike year-round** without sacrificing personal hygiene. Ensure that these facilities are **conveniently located** for people using the employee/resident bike parking areas and that they **follow all accessibility requirements** in the State Building Code (521 CMR).

[6] Electric Vehicle Readiness Policy for New Developments. Accessed December 4, 2019. www.boston.gov/recharge-boston

7. BIKESHARE

Bikeshare stations connect people to Boston's fastest-growing form of public transportation. Bikeshare makes biking accessible to more people by offering **affordably priced, one-time trips and memberships**—without the need to own or maintain a bicycle. Bikeshare is also a convenient option for people who wish to take one-way bike trips or combine biking with other travel modes like the MBTA.

I. STATION CONFIGURATIONS

The City of Boston's standard bikeshare station has at least **19 docks**, a kiosk for rental transactions, a solar panel, and a map panel. It measures, at a minimum, 52' by 6' and requires 8' of vertical clearance, as illustrated in Figure 9. There are a few additional configurations that can be helpful in constrained situations, which are illustrated in Figure 10. The exact station size must be determined with BTD during the Article 80 process and finalized during the TAPA process. In certain circumstances, BTD may accept other forms of bikeshare system infrastructure or equipment in lieu of space for a station.

II. LOCATION AND ACCESS

Bikeshare users may be infrequent visitors to a location. For this reason, it's important that stations are **conveniently located off-street**, often in the public right-of-way. If located on private property, they must be **visible** from the public right-of-way. They should have **good night-time lighting** and a few hours of **direct sunlight** every day. They also need to be **publicly accessible** at all times and relatively **easy to service** for bike rebalancing and general maintenance (bikeshare operation crews usually come by van or bike and need to stop nearby). Stations plates cannot cover utility access points such as sewer grates and manholes.

BTD must approve the selected location and reserves the right to place required stations at a distance from the project to ensure the viability of the bikeshare network.

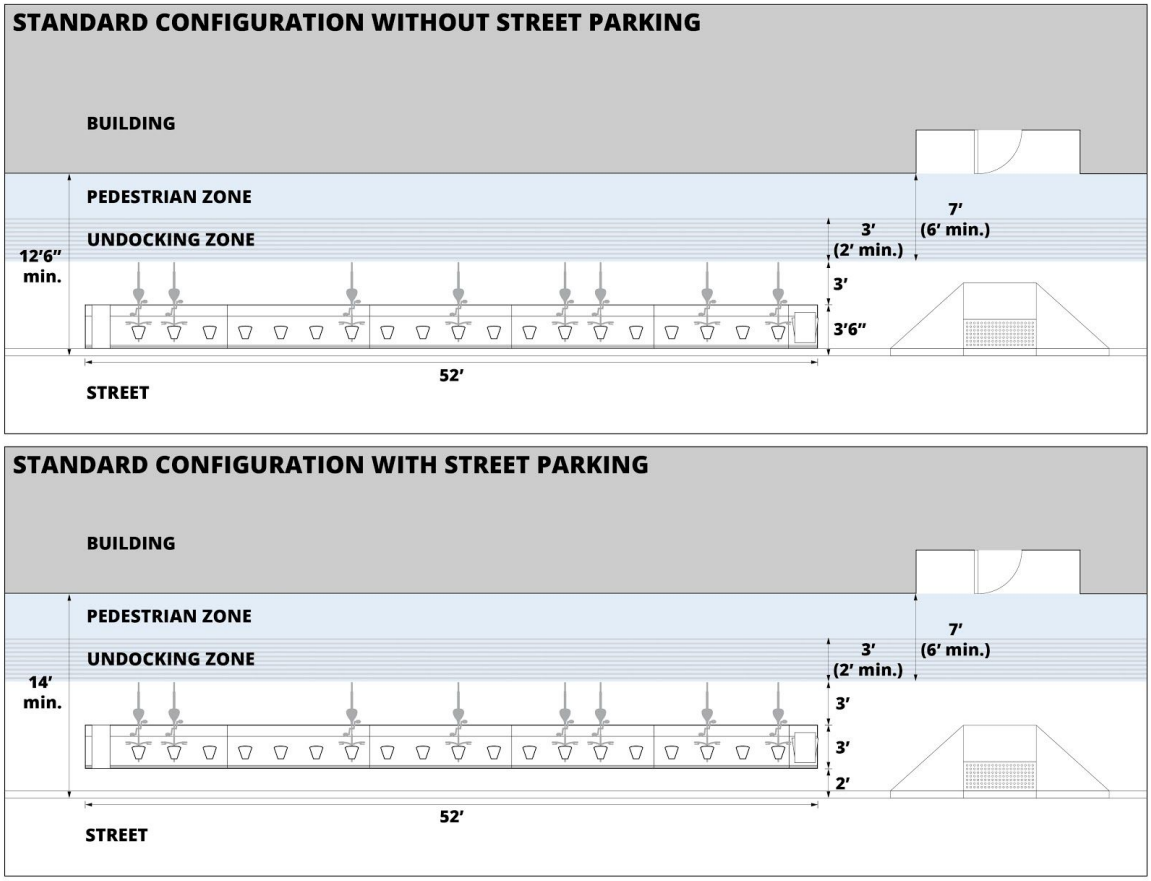
III. CLEARANCES

Stations must preserve at least 6' clearance for pedestrians in the public right-of-way. In busier areas, 7' is more appropriate. (This pedestrian clearance cannot include tree pits or other landscaping.) Use Table 8 and Figures 9 and 10 to site stations at appropriate distances from buildings, curbs, and other objects in the public right-of-way.

TABLE 8: CLEARANCES FROM STATIONS TO OBJECTS

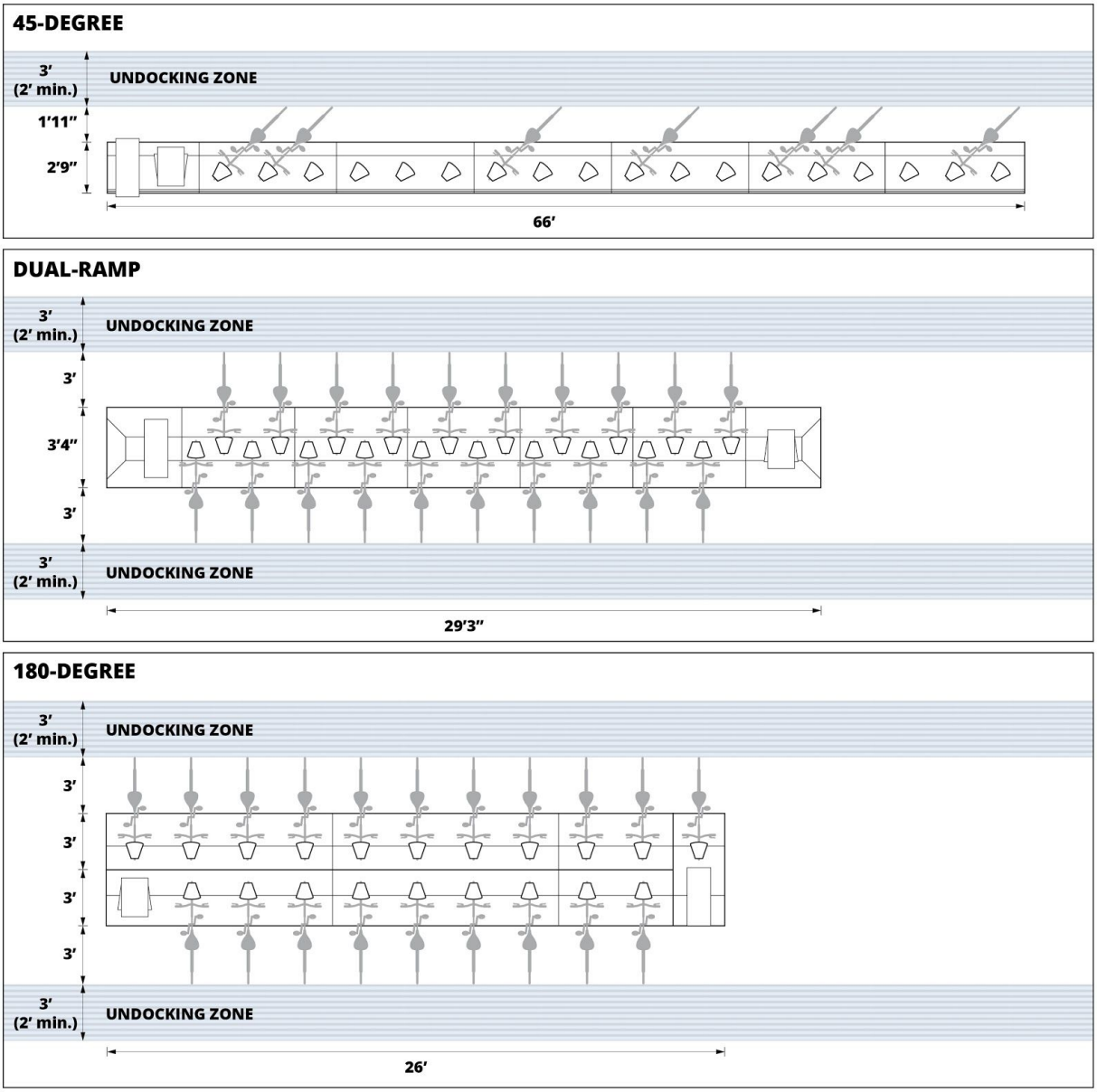
OBJECTS	CLEARANCE[7]
Fire hydrants	5’ recommended 3’ minimum
Curb ramps	4’ recommended 3’ minimum
Accessible parking (HP-V) spaces, driveways	3’ recommended 2’ minimum

FIGURE 9: STATION CLEARANCES ON A SIDEWALK



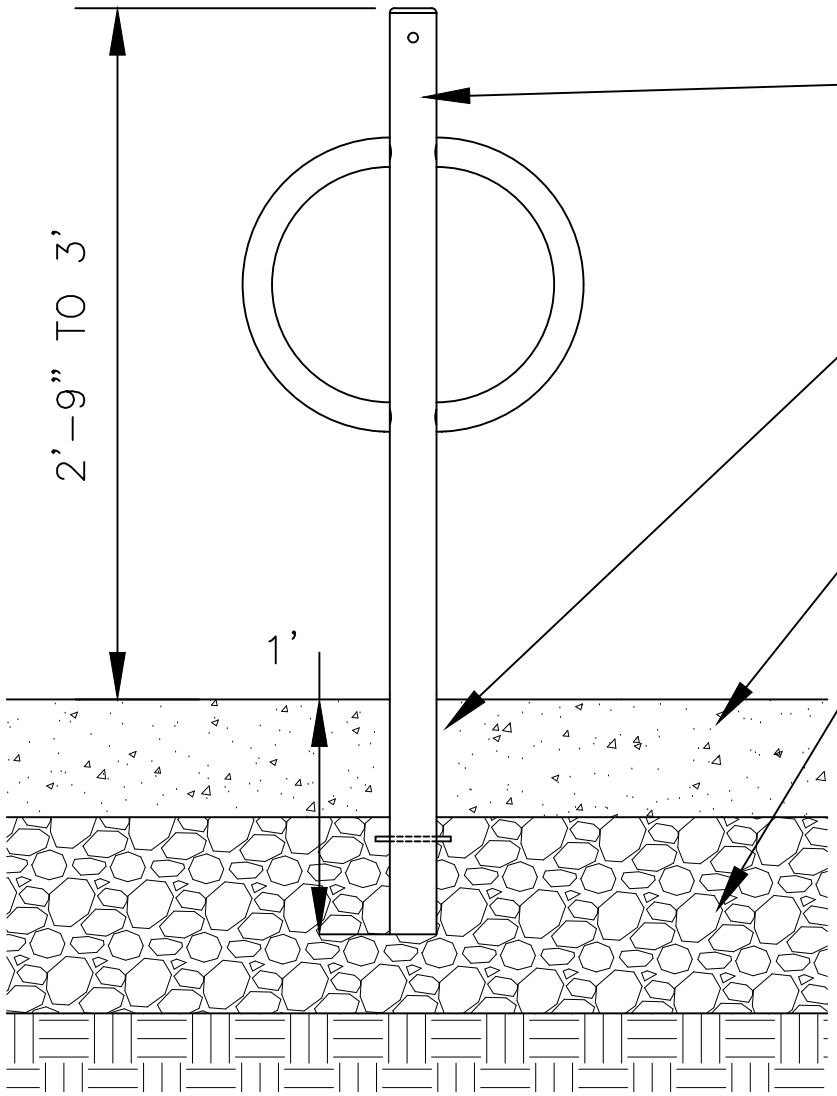
[7]Measure from the edge of the station to the edge of the object.

FIGURE 10: COMMON STATION CONFIGURATIONS



8. APPENDIX: INSTALLING RACKS

Install racks in-ground into an appropriate base material such as concrete, brick, or permeable pavers. Never install racks in organic matter such as grass, dirt, or mulch—or in asphalt. Follow manufacturers' instructions and the minimum standards in Figures 10, 11, and 12. Failure to do so may render racks unusable.



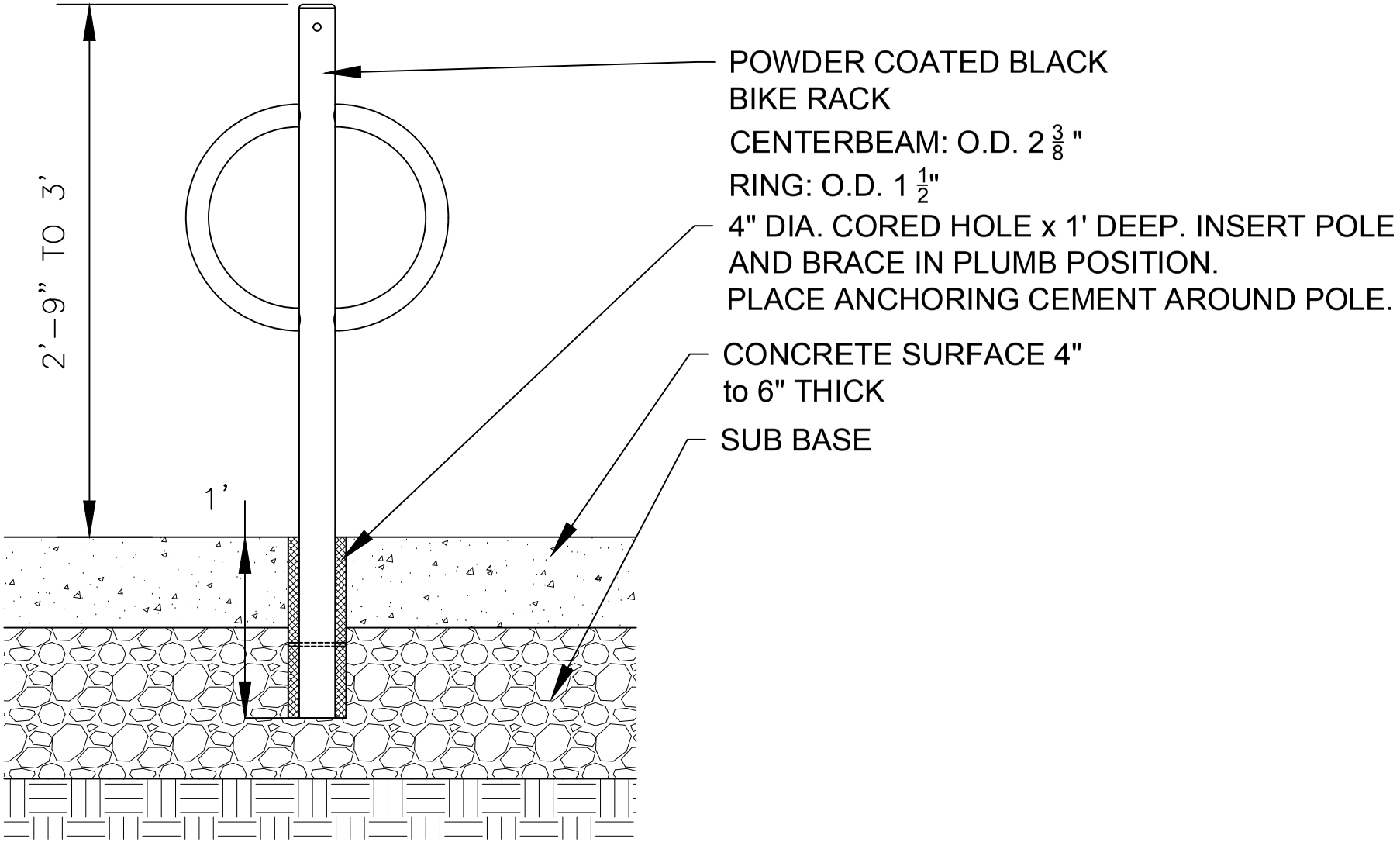
POWDER COATED BLACK
BIKE RACK
CENTERBEAM: O.D. $2\frac{3}{8}$ "
RING: O.D. $1\frac{1}{2}$"

HITCH SHALL EXTEND 1' BELOW THE SIDEWALK SURFACE. PRIOR TO PLACING CONCRETE, SET POLE IN GROUND AND BRACE IN PLUMB POSITION.

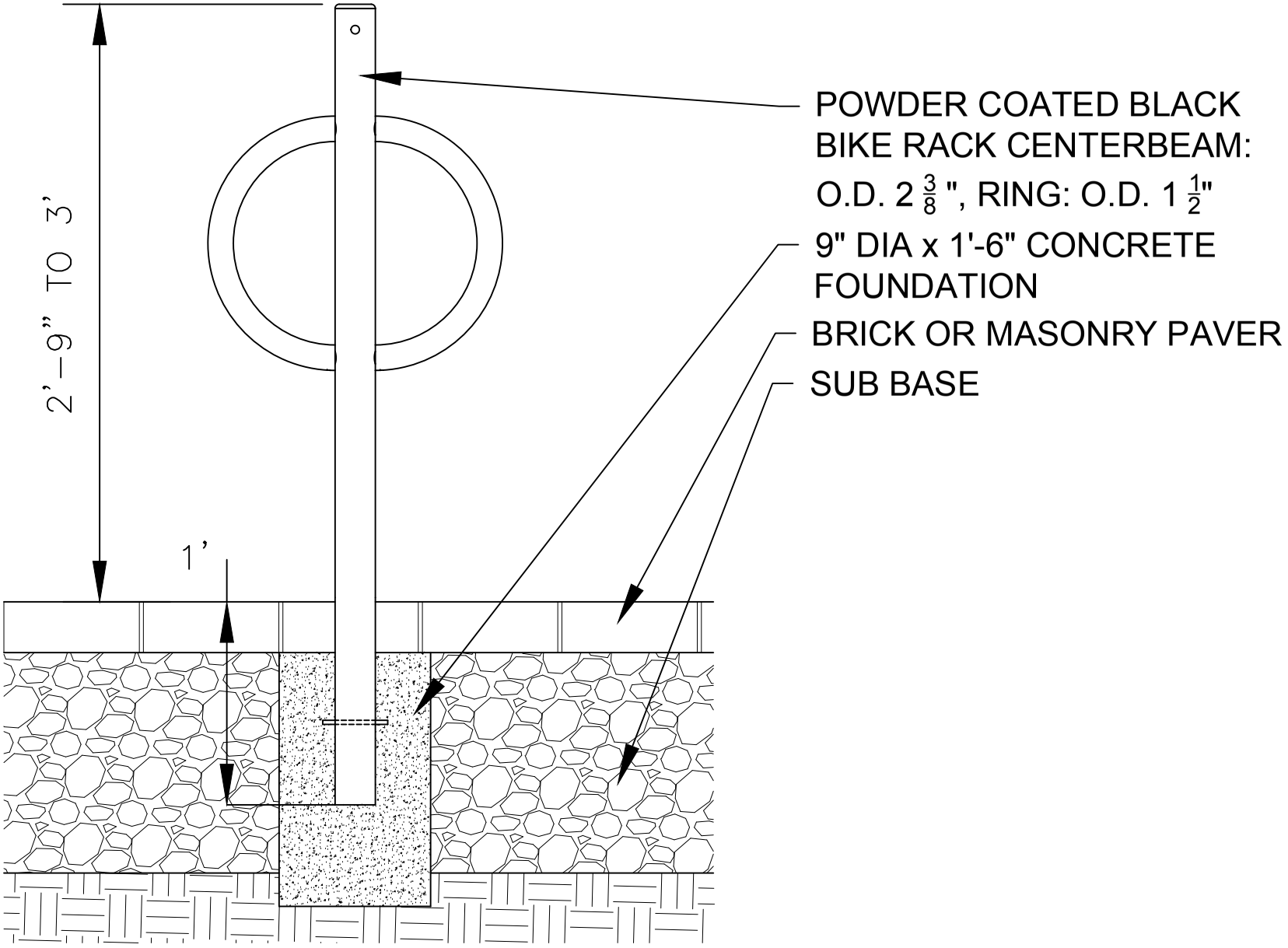
CONCRETE SURFACE 6" THICK

SUB BASE

NEW CONCRETE SIDEWALK IN GROUND MOUNT



EXISTING CONCRETE SIDEWALK IN GROUND MOUNT



BRICK OR MASONRY PAVER SURFACE

APPENDIX E
SHADOW STUDIES

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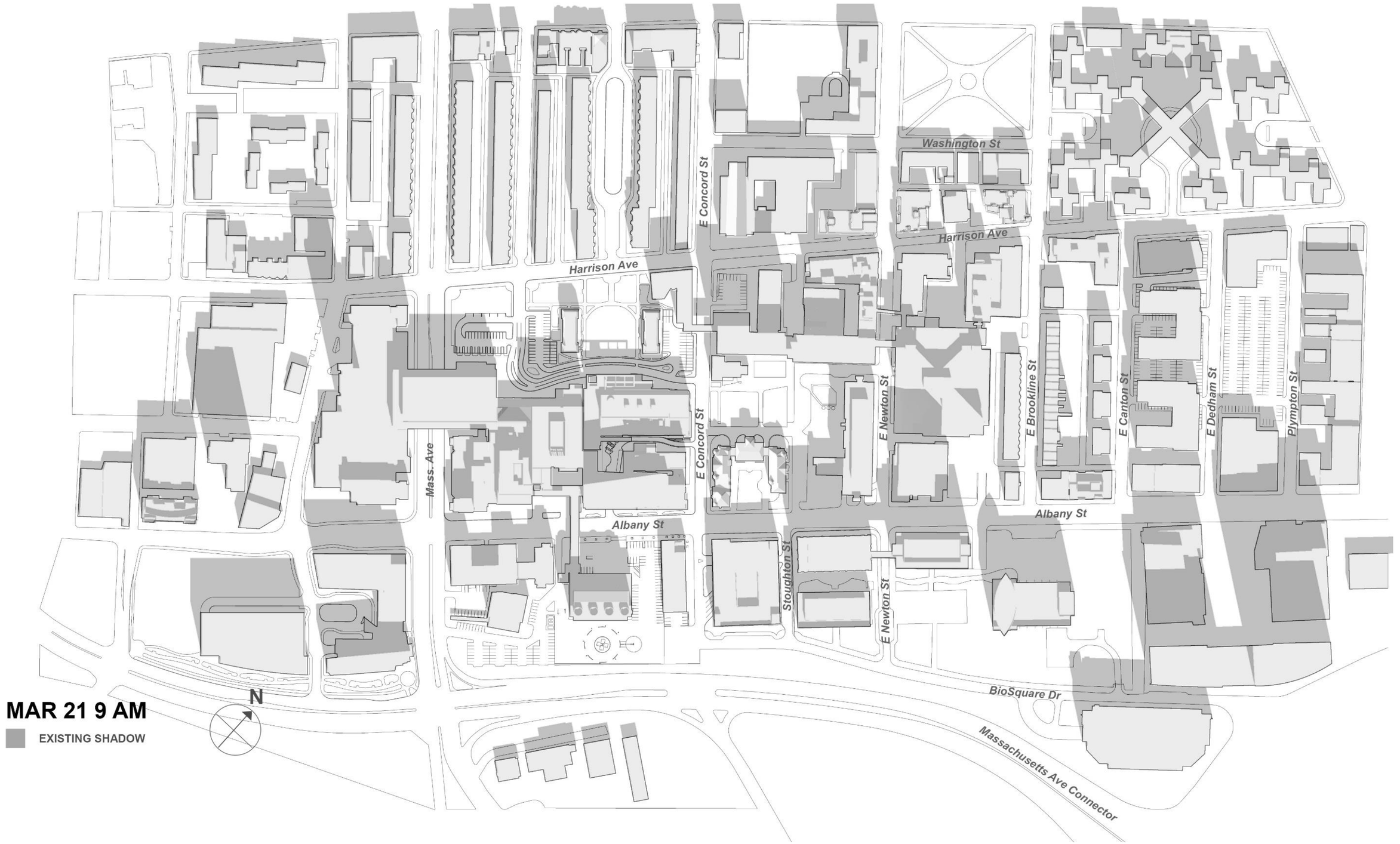
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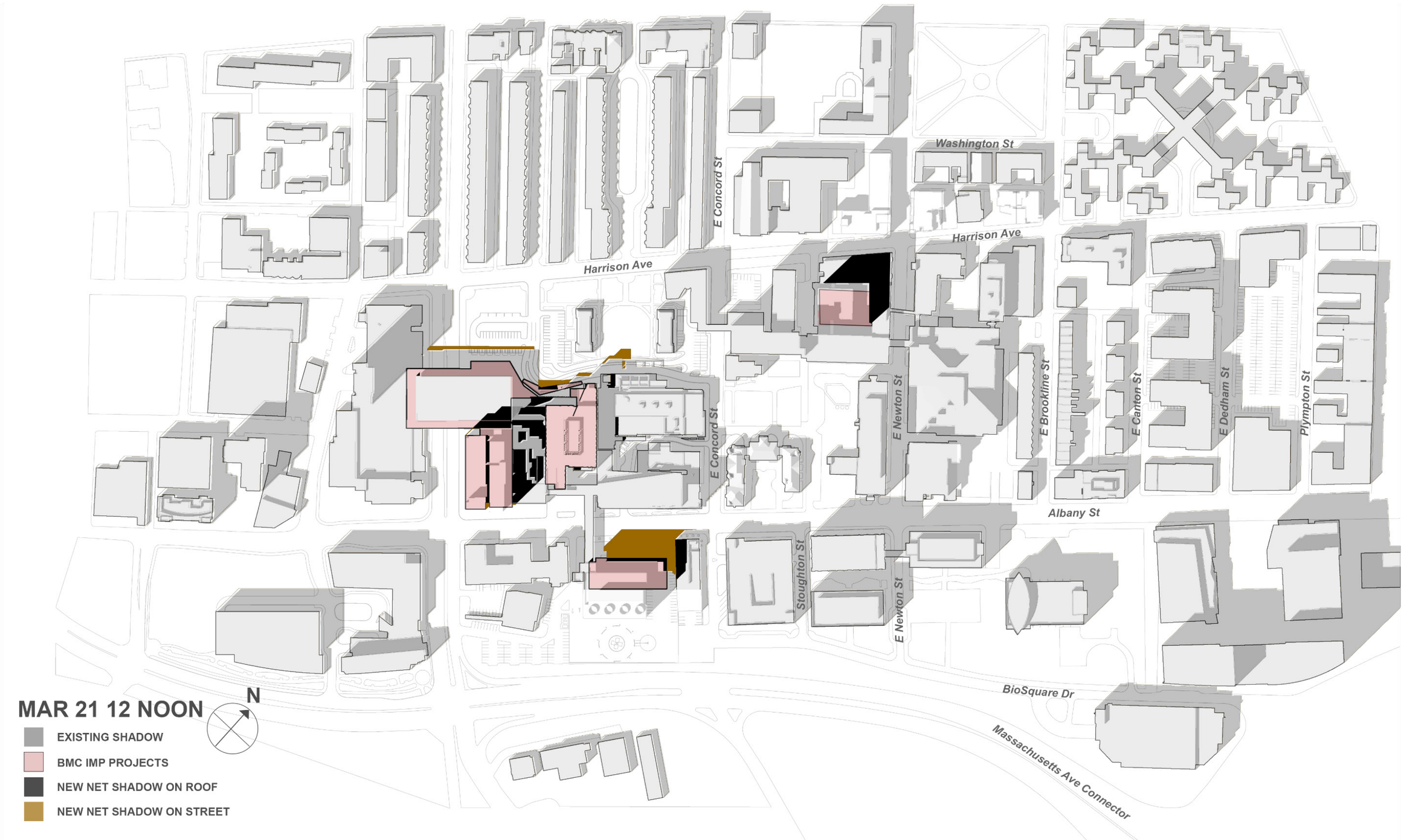
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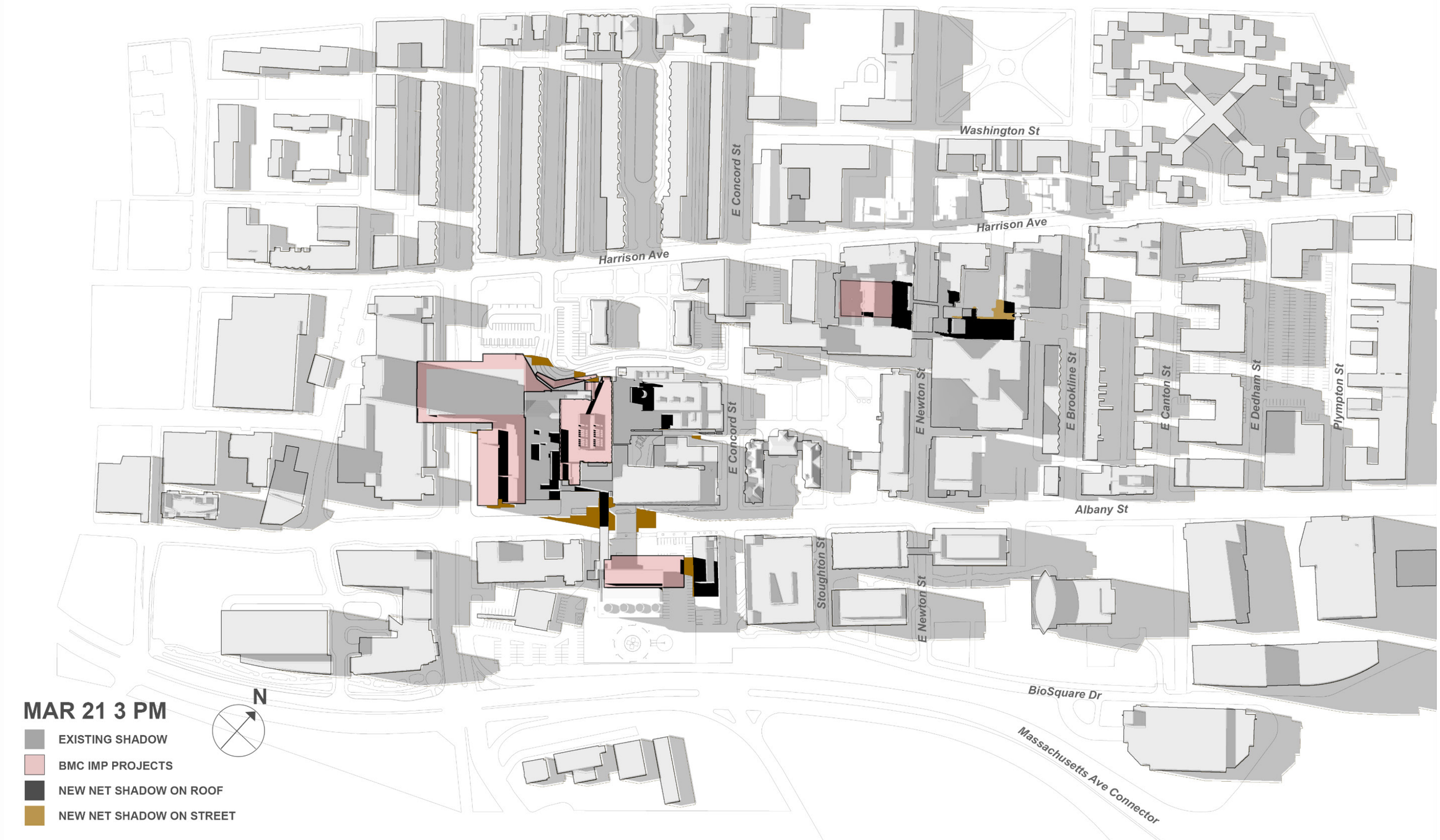
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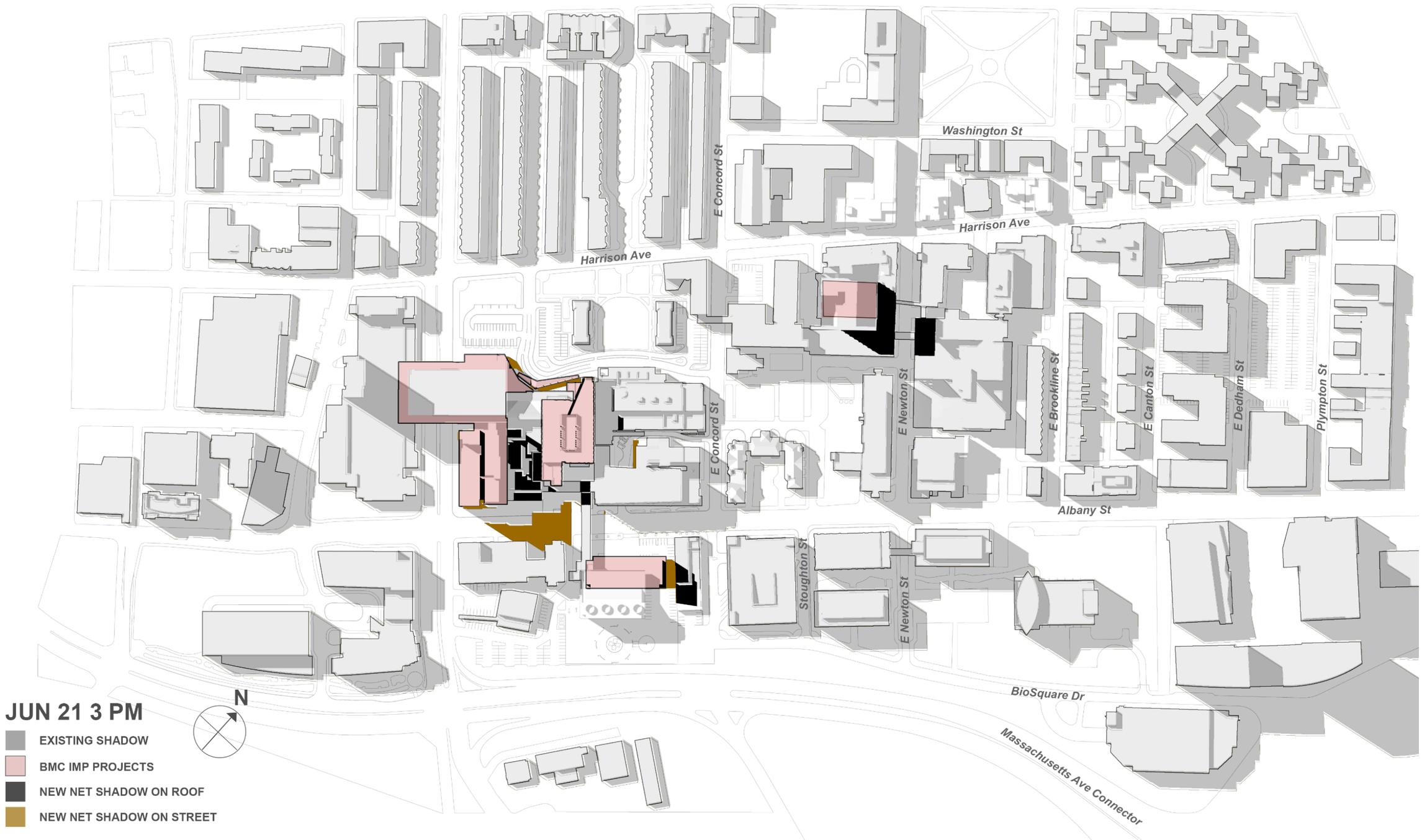
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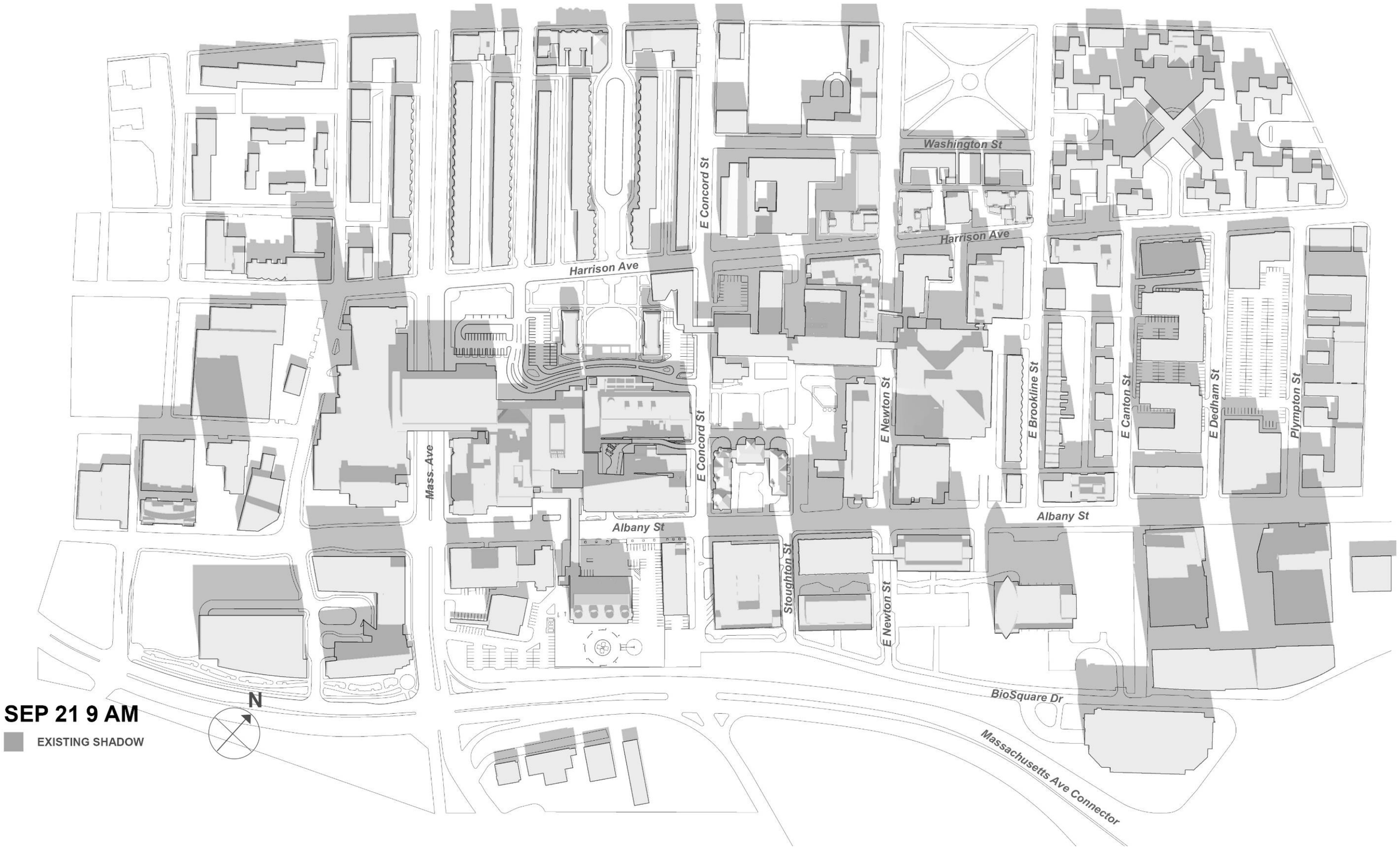
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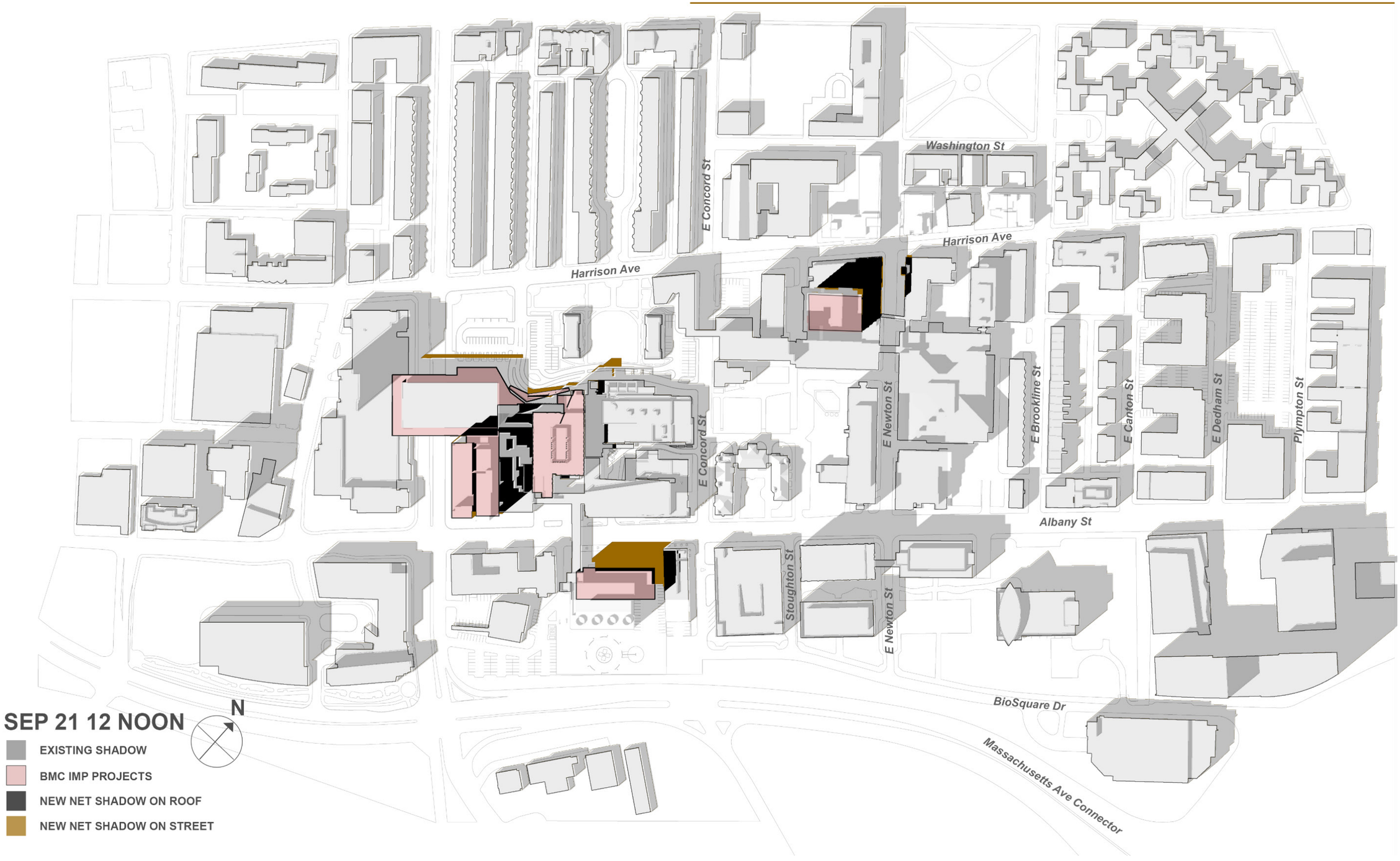
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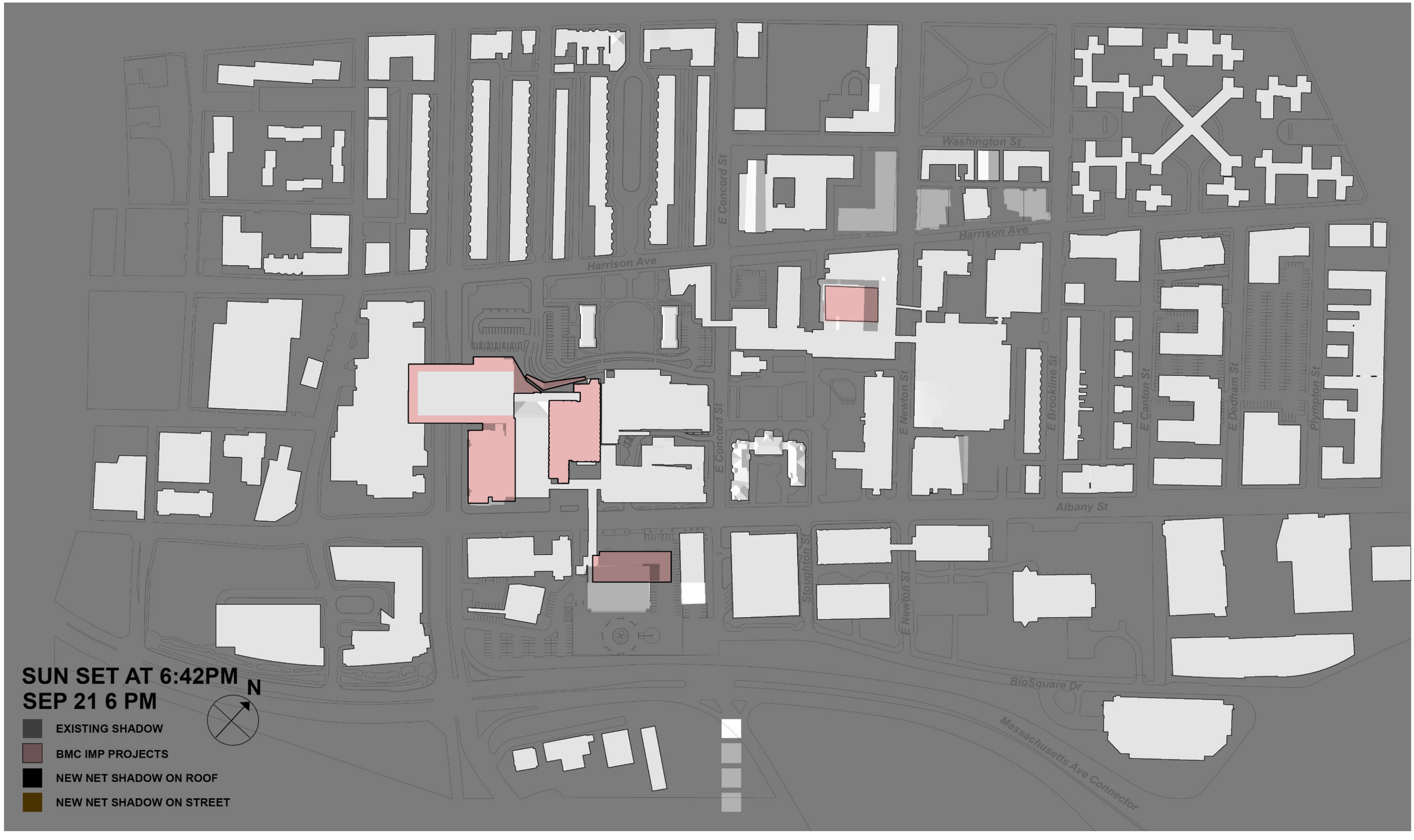
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