Project Notification Form

Submitted Pursuant to Article 80 of the Boston Zoning Code

April 17, 2013

Madison Tropical Parcel 10 Project

Submitted to:
BOSTON REDEVELOPMENT AUTHORITY
One City Hall Square
Boston, MA 02201

Submitted by:
Madison Tropical LLC
c/o Madison Park Development Corporation
184 Dudley Street, Suite 102
Roxbury, MA 02119

Prepared by:
Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

In Association with:
Affirmative Investments
DHK, Inc.
Howard /Stein-Hudson Associates, Inc.
Klein Hornig LLP
STV, Inc.
Geotechnical Partnership, Inc.
Goldman Environmental Consultants, Inc.
MacRostie Historic Advisors LLC

Expanded Project Notification Form

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Chapter 1.0

General Information and Project Description

1.0 GENERAL INFORMATION AND PROJECT DESCRIPTION

1.1 Project Summary

Located in Boston's Roxbury neighborhood, the Madison Tropical Parcel 10 Project (the Project or Parcel 10) proposed by Madison Tropical LLC, a joint venture of Madison Park Development Corporation (MPDC) and Tropical Foods International (the Proponent) comprises three buildings, including new construction and redevelopment, located on an approximately 2.75 acre site. The total development cost of the three-phased Project is approximately $44 million and includes the construction of a new supermarket (to relocate and expand the existing Tropical Foods grocery store), a newly constructed mixed-use building that will accommodate retail and office space, and the rehabilitation of an adjacent historic building into residential apartments and retail space. The Project site is bounded by Melnea Cass Boulevard to the north, Washington Street to the east, Williams Street to the south, and Shawmut Street to the west, as shown on Figures 1-1 and 1-2.

The Project is the result of a Request for Proposal (RFP) process initiated in May 2011 by the Boston Redevelopment Authority (BRA). The Proponents proposal received "Tentative Designation" for the Project Site from the BRA Board on May 15, 2012. Due to the Proponents' unique understanding of the Project Site and their long-standing history as active and important members of the Roxbury neighborhood, the Project has been designed in a respectful manner to help revitalize the surrounding community and become a neighborhood asset for years to come.

Founded in 1966, Madison Park Development Corporation (MPDC) is one the nation's first community-based, non-profit organizations to independently develop affordable housing for low and moderate income residents. MPDC created a model of resident-led community development, and has evolved to become a comprehensive agency promoting the revitalization and redevelopment of Roxbury. With resident leadership, MPDC has undertaken numerous programs to address the social and economic needs of the community and has endeavored to link all of its efforts into a sustainable, holistic approach to revitalizing the local community.

Local and affordable, Tropical Foods International (TFI) is an asset to the local community. TFI is the longtime neighborhood grocery store for Dudley Square in Boston, providing more than 13,000 customers per week with their grocery needs. It is also a destination for customers from all over New England who travel to TFI for its outstanding selection of ethnic produce, curries, rice, beans, and hard-to-find ethnic specialties from around the world. By maintaining and expanding its presence in Roxbury as part of the Project, TFI hopes to maintain and improve its service to the local community. In an area often underserved by fresh food options, TFI is an important member of the community and contributes to the overall health and well-being of local citizens.

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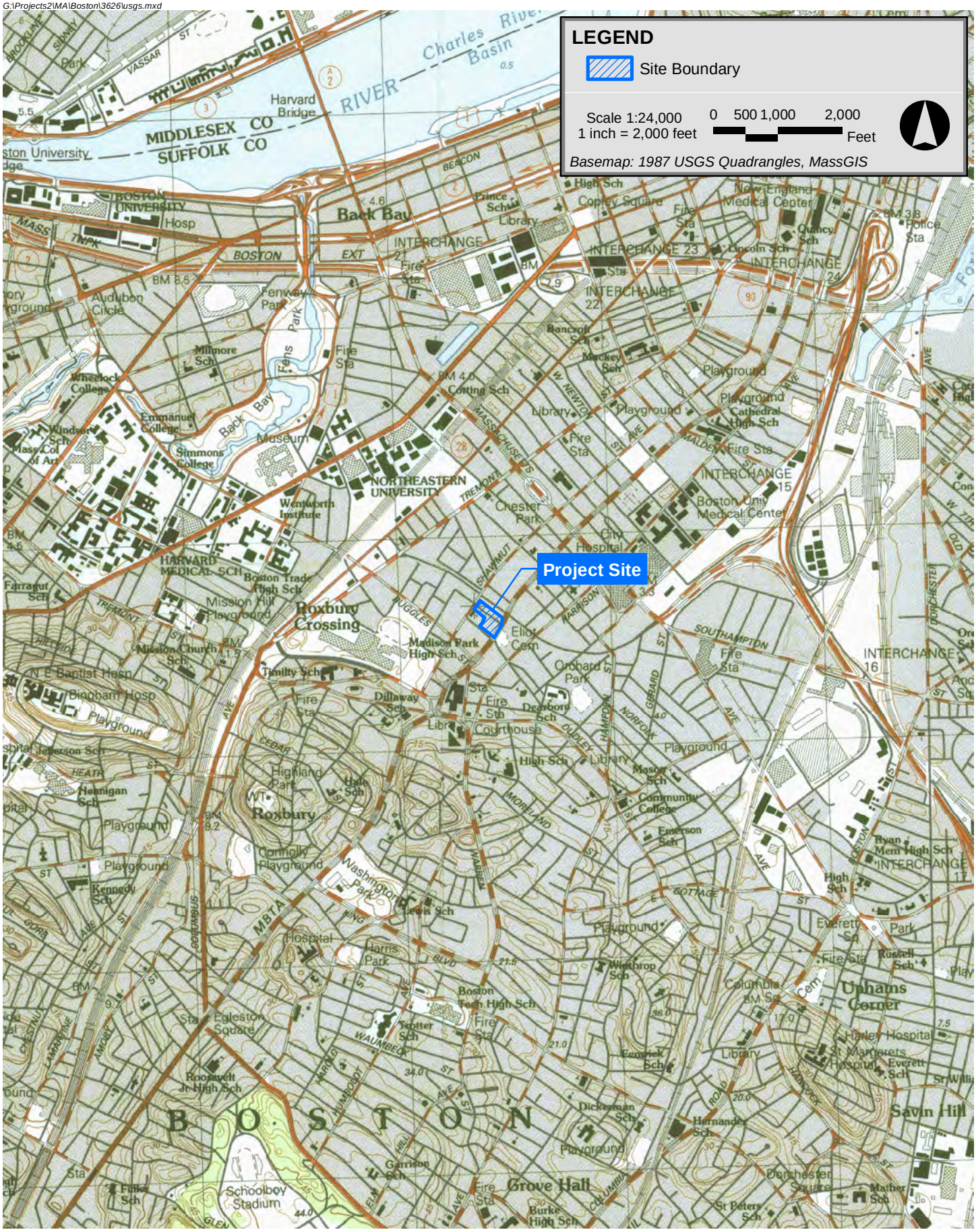

Parcel 10 Roxbury, MA

Epsilon Associates Inc.

Figure 1-1
USGS Locus Map

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Parcel 10 Roxbury, MA

Epsilon Associates Inc.

Figure 1-2
Aerial Locus Map

1.2 Development Team

Project Name:	Madison Tropical Parcel 10
Address/Location:	Boston Redevelopment Authority Parcel 10, bounded by Melnea Cass Boulevard, Washington Street, Williams Street, and Shawmut Avenue and abutting privately owned property at 2101 Washington Street
Developer:	Madison Tropical LLC c/o Madison Park Development Corporation 184 Dudley Street, Suite 102 Roxbury, MA 02119 617-541-3900 Russ Tanner Travis Lee
Developer:	Tropical Foods International 2101 Washington Street Boston, MA 02119 (617) 442-7439 Ronn Garry
Development and Financial Consultants to Tropical Foods	Affirmative Investments 33 Union Street Boston, MA 02108 (617) 367-4300 David Ennis Tara Mizrahi
Architect:	DHK, Inc. 54 Canal Street, 2nd Floor Boston, MA 02114 (617) 267-6408 Fernando Domenech
Permitting Consultant:	Epsilon Associates, Inc. 3 Clock Tower Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Laura Rome

Transportation and Parking Consultant:	Howard/Stein-Hudson Associates, Inc. 38 Chauncy Street, 9th floor Boston, MA 02111 (617) 482-7080 Joe SanClemente
Legal Counsel:	Klein Hornig LLP 101 Arch Street, Suite 1101 Boston, MA 02110 (617) 224-0600 John Achatz
Civil Engineer:	STV, Inc. 321 Summer Street Boston, MA 02110 (617) 303-1100 Paul Tyrell
Geotechnical Engineer:	Geotechnical Partnership, Inc. 350 Massachusetts Avenue, #149 Arlington, MA 02474 (781) 646-6982 Lisa R. Casselli
Hazardous Waste Consultant	Goldman Environmental Consultants, Inc. 60 Brooks Drive Braintree, MA 02184 (781) 356-9140 Samuel W. Butcher, LSP Catherine M. Dunning
Historic Consultant	MacRostie Historic Advisors LLC 263 Summer Street Boston, MA 02210 (617) 499-4009 Albert Rex

1.3 Project Description

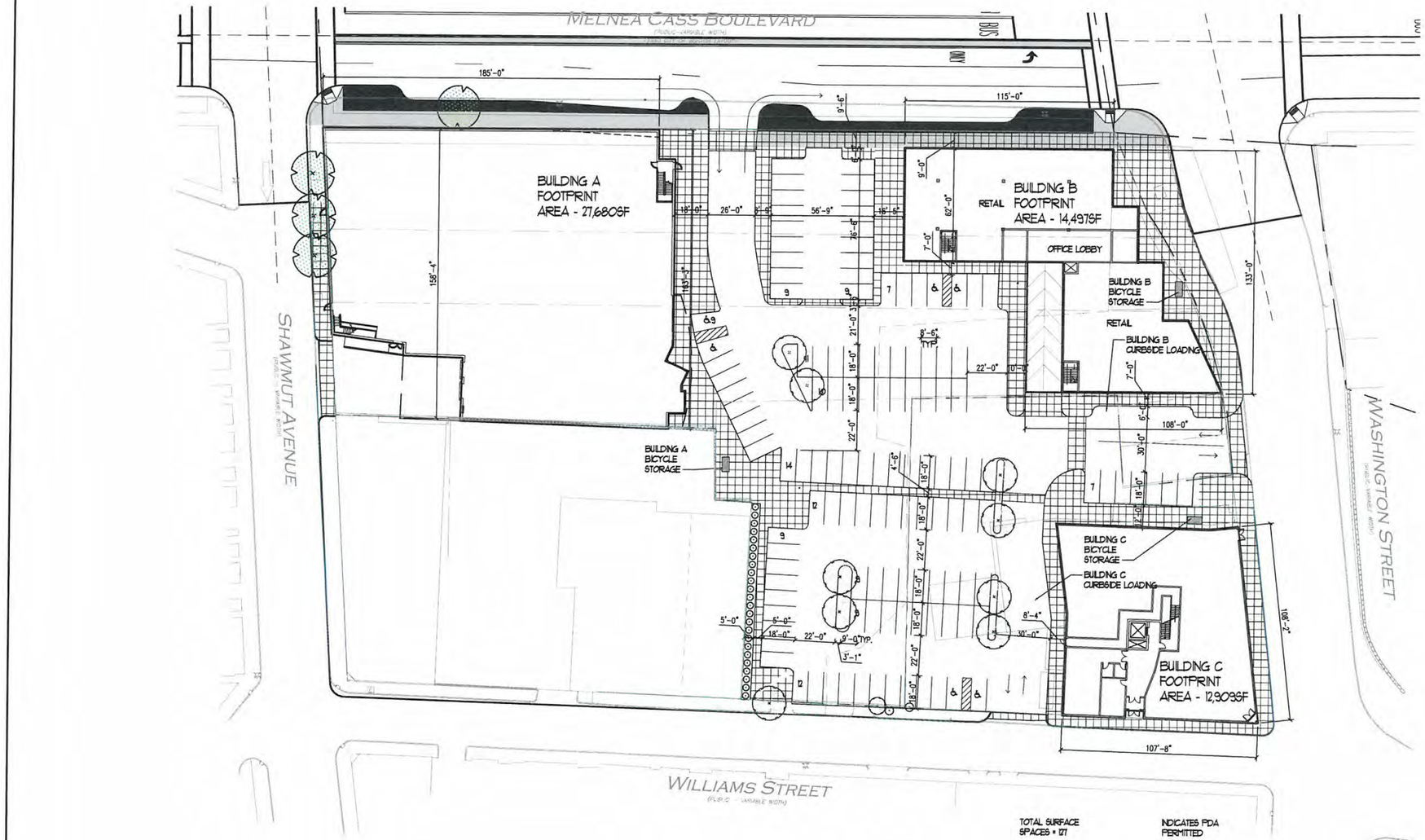
1.3.1 Building Program and Project Elements

The development program for the Project includes a variety of uses, building types, and affordability levels that aim to create a vibrant urban environment where individuals and families can work, live, and play. As shown on Figure 1-3, the buildings will consist of a new 44,308 square foot Tropical Foods Supermarket, a new 60,000 square foot mixed-use building for retail and office space, and rehabilitation of 2101 Washington Street, the existing Tropical Foods Supermarket, for 44,000 square feet of residential and retail uses. A total of approximately 173 off-street surface and below-grade parking spaces will be provided to support the Project.

As shown in Table 1-1, the gross floor area of the buildings will total approximately 148,308 sf.

Table 1-1 Building Program

Site Area	Approximately 2.75 acres or 119,000 sf
Proposed Project Uses (approximate)	
Building A: Supermarket	44,308 gsf
Building B: Retail/Office	59,142 gsf
Building C: Residential/Retail	42,648 gsf
Total	*146,098 gsf*
Residential Unit Breakdown	
One-Bedroom Units	12
Two-Bedroom Units	18
Total	*30 apartment units (40% at or below 60% AMI)*
Parking	
Tropical Foods	92
Ground Floor Retail	17
Building C Residential	18
Building B Below Grade	46
Total	*173 parking spaces*



Parcel 10 **Boston, Massachusetts**

Figure 1-3
Site Plan

Building A: Supermarket

Building A will house the relocated and expanded Tropical Foods supermarket. The building will consist of two stories: the ground floor will consist of the retail and loading and storage components of the Project, and the second floor will be home to warehousing and office space. The existing Tropical Foods store is a staple of the local neighborhood and the Proponent is excited about this opportunity to expand and improve service for the local community.

Building B: New Mixed-Use Building

Building B will be a mixed-use retail and office building located on the corner of Melnea Cass Boulevard and Washington Street. The ground floor will primarily consist of retail space while floors two through five will be used as office space.

Building C: Rehab of 2101 Washington Street

The Proponent will rehabilitate the building located at 2101 Washington Street, located near the intersection of Williams and Washington Streets. Building C has been designed to provide a pedestrian friendly experience along the Washington Street corridor by including approximately 7,729 sf of retail space on the ground floor. Floors two through four will be residential apartments, with 40 percent of the units designated to families at or below 60 percent of the Area Median Income (AMI) and the remaining units priced at market rate rents or "inclusionary units" as defined by the City of Boston.

Parking

The Project will provide approximately 127 surface spaces and an approximately 46-space below-grade parking garage for the office space. The Boston Transportation Department (BTD) has set parking space goals and guidelines throughout the City to establish the amount of parking supply to be provided with new developments. The Project's parking spaces are allocated as follows:

- Tropical Foods – 92 surface spaces;
- Additional retail space – 17 surface spaces;
- Office – 46 below-grade spaces; and
- Residential – 18 surface spaces.

BTD's maximum parking ratio guidelines in Roxbury near an MBTA Station is 0.75-1.25 spaces per dwelling unit and 0.75–1.0 parking spaces per 1,000 square feet of commercial space. The residential space ratio falls within this guideline at 0.60 spaces per unit. The

office and retail uses will have 155 spaces to serve approximately 114,000 sf of commercial space, for a ratio of 1.36 spaces per 1,000 sf, slightly above the BTD's guidelines. Because the major commercial use is a grocery store, the higher ratio is appropriate.

Access and Loading

Loading, trash pick-up, and move-in/move-out activities will occur on site in several loading areas, as shown in the Proposed Site Plan, in Chapter 2, Figure 2-1.

1.4 Project Phasing

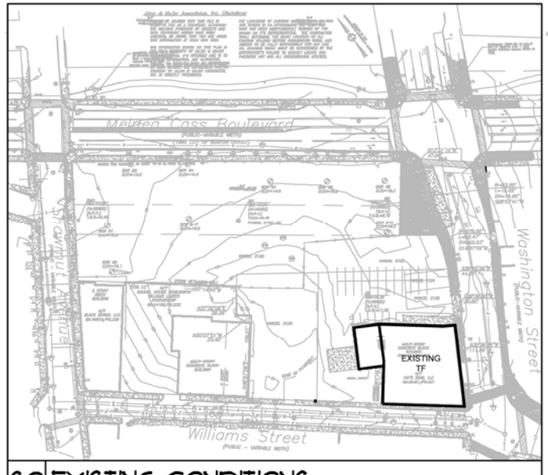
1.4.1 Phase 1

The Proponent is prioritizing the relocation of the Tropical Foods Supermarket into its newly constructed approximately 44,308 sf facility at the corner of Melnea Cass Boulevard and Shawmut Avenue as Phase 1 of the Project. The operation of the current Tropical Foods business will continue at 2101 Washington Street (Building C) until the completion of the new store, at which point a quick "transfer" will take place. As illustrated in A1 and A2 of the Phasing Diagram, the vast majority of the interior site improvements will be undertaken concurrently with the construction of the new supermarket. The site work will be sequenced to allow for continued off-street parking for the ongoing operation of the existing Tropical Foods. During this phase, temporary parking and pedestrian walkways will be established on and around the perimeter of the future Building B footprint to facilitate safe and convenient customer access for the new supermarket. Perimeter public sidewalks along Shawmut Avenue and a portion of Williams Street will be re-finished upon the completion of Phase 1. Temporary repairs to the Melnea Cass Boulevard sidewalk will be done to allow for safe customer access until the City's Melnea Cass Boulevard re-design is implemented.

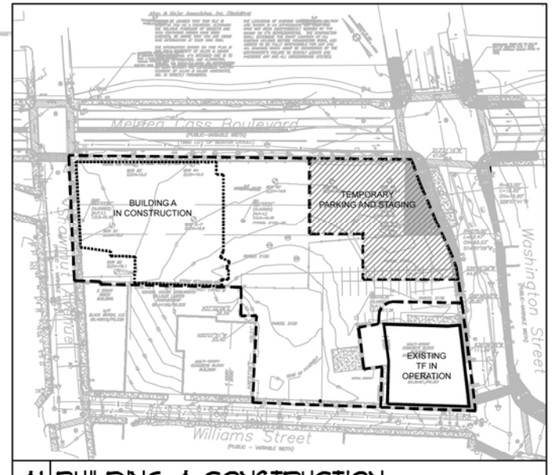
1.4.2 Phase 2

Phase 2 includes the construction of the approximately 59,142 sf retail and office building at the corner of Washington Street and Melnea Cass Boulevard (Building B). During this phase, the temporary parking shown as the shaded areas in A1 and A2 of the Phasing Diagram will be demolished as the construction of Building B and its underground parking commences (as illustrated in B1). It is expected that Phase 1 work will be complete and in operation by the time Building B begins construction; therefore, customers of the new Tropical Foods supermarket will have a substantial amount of finished sidewalks and parking in the interior of the Project Site. Temporary construction fencing will surround the construction zone of Phase 2 to separate the public away from the construction area. The remaining on-site surface parking lot abutting Melnea Cass Boulevard and perimeter public sidewalks along Washington Street (abutting Building B only) will be re-finished upon the completion of Phase 2.

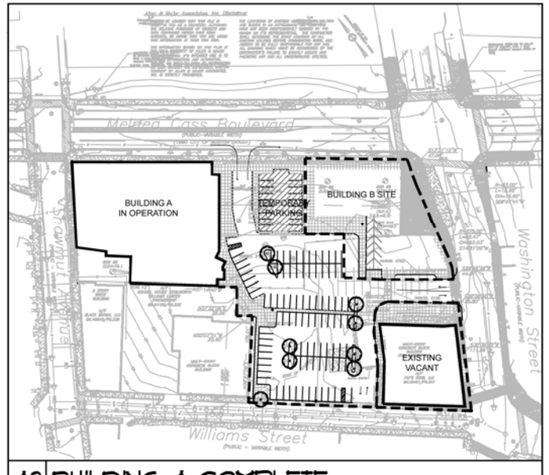
Project phasing is shown on Figure 1-4.



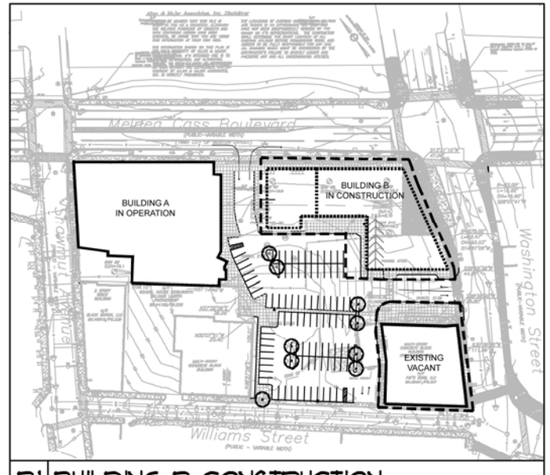
S0 EXISTING CONDITIONS



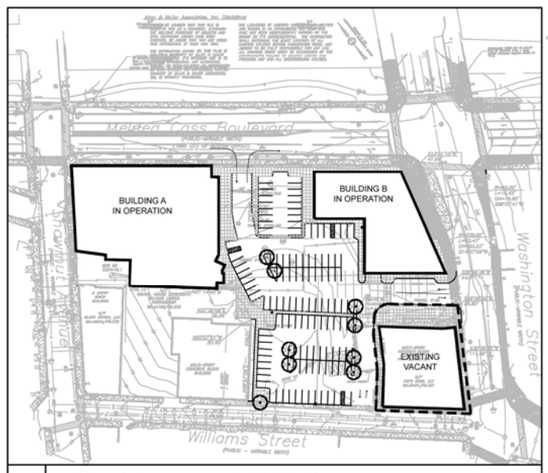
A1 BUILDING A CONSTRUCTION



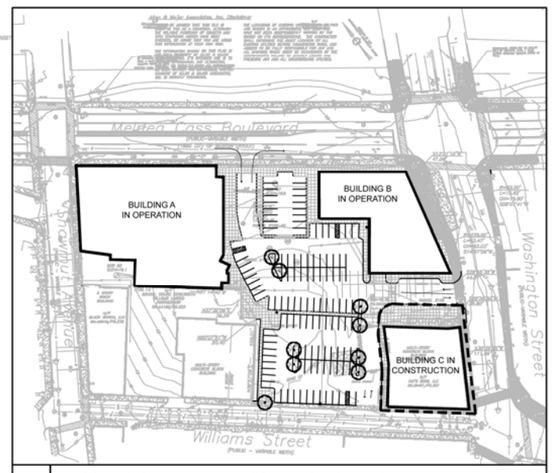
A2 BUILDING A COMPLETE



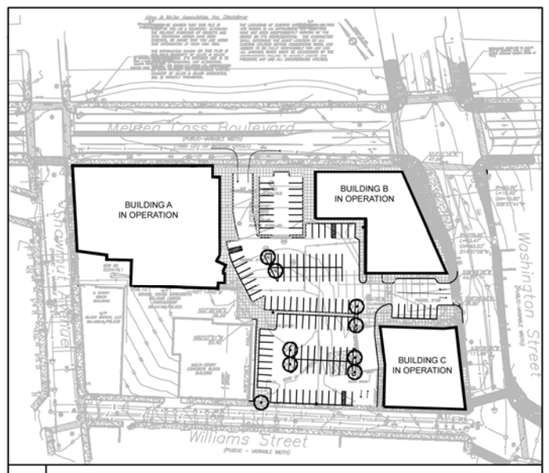
B1 BUILDING B CONSTRUCTION



B2 BUILDING B COMPLETE



C1 BUILDING C CONSTRUCTION



C2 BUILDING C COMPLETE

LEGEND

- CONSTRUCTION (SITE)
- CONSTRUCTION (BUILDING)
- COMPLETED BUILDING
- TEMPORARY PARKING AND STAGING

Figure 1-4
Phasing Plan

1.4.3 Phase 3

By the start of Phase 3, Buildings A and B, as well as 99% of the interior site area, will be complete and in full function. Phase 3 includes the rehabilitation of the historic 2101 Washington Street building into ground floor retail space and upper floor finished apartments (Building C). Upon completion of this phase, all sidewalks abutting Building C will be re-finished and the entire Project will be in full operation.

1.5 Preliminary Project Schedule

Construction of Phase 1 (site infrastructure and Building A) is estimated to last approximately 10 months, with initial site work expected to begin in September 2013. Construction of Phase 2 (Building B) is estimated to last approximately 18 months and begin in May of 2014. The rehabilitation work for Phase 3 (Building C) is anticipated to begin in May of 2015 and last for approximately 13 months.

The City of Boston allows construction work to occur from 7:00 a.m. to 6:00 p.m. Monday through Friday. Construction outside of these hours requires a permit. Typical construction hours for the Project will comply with the City's regulations, with no work anticipated on the weekends. In the event that weekend work is necessary, the Proponent will obtain required City approvals.

1.6 Community Outreach

The Proponent is committed to effective community outreach and will engage the community to ensure public input on the Project. It should be noted the Proponent was designated as developer of Parcel 10 by the Boston Redevelopment Authority following a public Request for Proposal process which included numerous public presentations and meetings.

1.7 Public Benefits

The Project will continue the ongoing redevelopment of the Roxbury neighborhood. The Project site will be transformed from an underutilized parcel into a modern mixed-use development with active ground floor uses.

Smart Growth/Transit-Oriented Development

By providing connections to the MBTA Silver Line and multiple nearby bus routes, the Project leverages the transportation-rich area to create a thriving urban space in the heart of Roxbury.

The Proponent is committed to implementing a Transportation Demand Management (TDM) program that supports the City's efforts to reduce dependence on the automobile by encouraging travelers to use alternatives to driving alone, especially during peak time

periods, and by reducing the residential parking supply. Other TDM measures will include providing orientation packets to residents regarding transit options, designating a transportation coordinator, and providing bicycle racks.

New Property Tax Revenue

The new housing and retail will generate increased property taxes to the City.

Increased Housing

An integral component of the Project will be the new 30 units of rental housing. The housing development planned for Building C will help promote the vital residential neighborhood that the City envisions for this area. Combined with users of the proposed ground floor retail space, the Building C residents will contribute to the vibrant mix that will help bring new life to the neighborhood.

Affordable Housing

The Project will comply with affordable housing requirements as described in the Request for Proposals and the Roxbury Strategic Master Plan, as well as the Mayor's Executive Order for affordable housing by providing approximately 40 percent of the residential units within Building C as affordable for families at or below 60 percent AMI, and potentially other units to be included in the City's inclusionary housing program.

Improved Street and Pedestrian Environment

With appropriate lighting and signage, ground floor retail, and attractive storefronts, the Project will foster an active pedestrian identity and contribute to the increased safety and vitality of the surrounding neighborhood.

Increased Employment

The Project will create approximately 440 construction jobs during the construction period. Approximately 75 permanent positions will be created to support the retail and supermarket operations. Building B will house approximately 168 office/non-profit jobs as part of the Project.

Sustainable Design/ Green Building

The Proponent will incorporate a number of sustainable design features into the Project to preserve and protect the local environment. Members of the Proponent's design team are Leadership in Energy and Environmental Design (LEED) accredited, and the design will include as many sustainable elements as feasible. The Project will comply with the requirements of Article 37 with each building being LEED certifiable and the entire development being certifiable under the LEED for Neighborhood Development rating system.

Section 3.12 of Chapter 3, Environmental Protection Component, provides additional information on the Project's approach to sustainable design.

1.8 Legal Information

1.8.1 Legal Judgments Adverse to the Proposed Project

There are no legal judgments adverse to the Project.

1.8.2 History of Tax Arrears on Property Owned in Boston by the Proponent

The Proponent does not have a history of tax arrears on property that it owns in the City of Boston.

1.8.3 Site Control

On June 4, 2012, the Proponent entered into a "Tentative Designation" agreement with the BRA for the redevelopment of Parcel 10 of the Southwest Corridor Development Plan. The Parcel 10 portion of the Project Site is currently owned by the City of Boston and the Massachusetts Department of Transportation (MassDOT) with the Proponent working toward "Final Designation". The additional parcel, 2101 Washington Street, is currently owned by an affiliate of Tropical Foods International and under agreement to Madison Park Development Corporation.

1.9 Regulatory Controls and Permits

1.9.1 State Review

Applicability of MEPA

The Project is subject to review under the Massachusetts Environmental Policy Act (MEPA).

Massachusetts Historical Commission

The Project will be filing a PNF with the MHC and applying for the upcoming Massachusetts Historic Rehabilitation Tax Credit round on April 30.

1.9.2 City Review

Because the Project exceeds 50,000 sf, it is subject to Large Project Review under Article 80 of the Boston Zoning Code. This expanded Project Notification Form (PNF) is being prepared to initiate that review, and the Proponent expects that it will facilitate a comprehensive public process.

1.9.3 Additional Permits, Reviews, and Approvals

Table 1-2 presents a preliminary list of federal, state, and local agencies from which permits or other actions may be required.

Table 1-2 Anticipated Permits, Reviews, and Approvals

AGENCY	PERMIT, REVIEW, OR APPROVAL
FEDERAL	
Federal Highway Administration	Section 106 Review (if necessary)
United States Environmental Protection Agency	National Pollution Discharge Elimination System
STATE	
Executive Office of Energy and Environmental Affairs	Massachusetts Environmental Policy Act Review
Executive Office of Transportation and Construction	Approvals under MGL Ch. 40 Section 54a
Massachusetts Historical Commission	Chapter 254 Review, Section 106 Review
Massachusetts Department of Transportation	Lease of land to the BRA
Department of Environmental Protection Division of Water Pollution Control	Sewer Extension/Connection Permit Groundwater/Surface Water Discharge Permits
Massachusetts Water Resource Authority	Sewer Use Discharge Permit Direct Connection Permit Temporary Construction Site Dewatering 8(m) Permit for construction within MWRA easements
CITY OF BOSTON	
Boston Redevelopment Authority	Article 80 Review
Boston Civic Design Commission	Design Approval
Boston Transportation Department	Construction Management Plan Transportation Access Plan Agreement
Boston Zoning Board of Appeal	Zoning Relief, including variances from dimensional requirements and permission for a common parking facility
Boston Landmarks Commission	Party to Section 106 Review
City of Boston Air Pollution Control Commission	Air Pollution Control Commission Review

Table 1-2 Anticipated Permits, Reviews, and Approvals (continued)

AGENCY	PERMIT, REVIEW, OR APPROVAL
Boston Licensing Commission	Permit to Operate Parking Garage Fuel Storage License (Auto and Emergency Generator)
Boston Parks and Recreation Commission	Approval for building within 100 feet of a park
Boston Public Improvement Commission	Sidewalk and Street Related Permitting
Boston Water and Sewer Commission	Site Plan Approval Utility Connection Permits
City of Boston Public Works Department	Curb Cut Permits (minor/driveways) Street Occupancy Permits (construction)
Boston Inspectional Services Department	Building Permit

1.10 Zoning

1.10.1 Existing Zoning

The Project is located in the Dudley Square Economic Development Area (Dudley Square EDA) subdistrict of Roxbury Neighborhood District governed by Article 50 of the Boston Zoning Code (BZC). A portion of the Project Site is located within an area where Planned Development Areas are permitted according to BZC Section 50-12.

1.10.2 Zoning Compliance

The Project will consist of three buildings, each on a separate lot.

Building A will be a two-story supermarket and retail building designed for Tropical Foods International, Inc. Building A will contain approximately 44,308 gross square feet of floor area and will be situated on a portion of the Project Site having approximately 61,458 square feet of land.

Building B will be a five-story building with retail and commercial uses on the first floor and office uses on upper floors, constructed above underground parking. Building B will contain approximately 59,142 gross square feet of floor area and will be situated on a portion of the Project Site having approximately 25,588 square feet of land.

Building C will consist of the redevelopment of the existing Tropical Foods building at 2101 Washington Street for use as retail and commercial space on the ground floor and approximately 30 apartments on the third through fourth floors. Building A will contain approximately 42,648 gross square feet of floor area and will be situated on a portion of the Project Site having approximately 29,159 square feet of land.

Uses

All of the uses proposed for the project are allowed in the Dudley Square EDA subdistrict, pursuant to BZC Section 50-10 and Article 50 Table A.

Dimensions

Each of the three Project buildings will comply with the dimensional regulations applicable in the Dudley Square EDA subdistrict as set forth in BZC Section 50-11 and Article 50 Table C, except that the height and floor area ratios of Building B will exceed the applicable limits. The maximum building height in the Dudley Square EDA subdistrict is 55 feet and the maximum floor area ratio is 2.0. Building B will have a maximum height of approximately 68 feet and a maximum floor area ratio of approximately 2.40. The Project will require zoning relief with respect to these dimensional regulations.

Parking

BZC Section 50-43 provides that for any project subject to Large Project Review, required off-street parking spaces and off-street loading spaces will be determined through such review in accordance with the provisions of Article 80. The Expanded PNF is submitted as part of Large Project Review. The Project will provide approximately 173 off-street parking spaces, primarily in a common parking area utilizing portions of all three lots, with some underground parking spaces below Building B.

Operation of a common parking facility is permitted pursuant to BZC Section 50-43.5(b) with the permission of the Board of Appeal.

Design review

The Project is subject to design review as part of Large Project Review in accordance with BZC Section 50-38 and 80B-2 and to the Design Guidelines set forth in BZC Section 50-39. The applicants have submitted plans for review and the Project will be subject to on-going design review by the BRA staff as part of the Large Project Review process.

Zoning relief

The Proponent intends to apply to the Board of Appeal for variances with respect to the height and floor area ratio of Building B, for all three buildings to receive permission for a common parking facility, and for such further zoning relief as may be required. Building permit applications for Buildings A, B and C will be submitted to ISD at the same time in April 2013.

If the Project should become eligible for the establishment of a Planned Development Area and if a Development Plan should be approved, then no zoning relief would be required because the height limit in PDAs in the Dudley Square EDA subdistrict is increased to 65 feet and the floor area ratio would be calculated for the project area as a whole, and would be less than 2.0.

Chapter 2.0

Transportation

2.0 TRANSPORTATION

2.1 Introduction

In accordance with the Boston Transportation Department's (BTD) *Transportation Access Plan Guidelines* (2001) and the Boston Redevelopment Authorities *(BRA) Development Review Guidelines* (2006), this chapter describes roadway, pedestrian, and bicycle conditions; transportation issues; parking and loading; pedestrian and bicycle circulation; proposed mitigation; and transportation goals for the Madison Tropical Parcel 10 Project.

2.2 Project Description

The Project Site is located in Boston's Roxbury neighborhood and is bounded by Washington Street to the east, Shawmut Avenue to the west, Williams Street to the south, and Melnea Cass Boulevard to the north.

The site is occupied by a four-story building containing the Tropical Foods supermarket with vacant storage and office space, an associated parking lot, which is used informally for neighbor parking, and a vacant lot.

The Project involves rehabilitation of the existing 44,000 square foot Tropical Foods building (Building C) to accommodate approximately 11,000 sf of ground floor retail space plus 30 residential apartments on floors two through four. Two new buildings are also proposed. The first (Building A) will be a new Tropical Foods supermarket building totaling approximately 44,300 sf with 20,000 sf of ground level shopping space and about 24,300 sf of affiliated storage, and administrative space on the first and second floors. The second new building (Building B) will be a new mixed-use building accommodating approximately 12,000 sf of ground level retail space plus about 47,000 sf of office space on floors two through five. The building square footages used in the transportation analysis are slightly higher than the square footages actually proposed. This results in a slightly conservative estimate of trip generation. On-site parking will include 92 surface spaces for the supermarket, 17 surface spaces for the additional retail space, 18 surface spaces for the residents, and 46 below-grade spaces for the office space. Table 2-1 summarizes the land use assumptions used in the transportation analysis.

Table 2-1 Proposed Development Program

Program Description	Size (approximate)
Supermarket[1]	20,000
Residential Housing	30 units
Retail	23,000 sf
Office	47,000 sf
Parking Spaces	173 spaces

1. Excludes approximately 24,300 sf of additional storage and administrative space on the first and second floor.

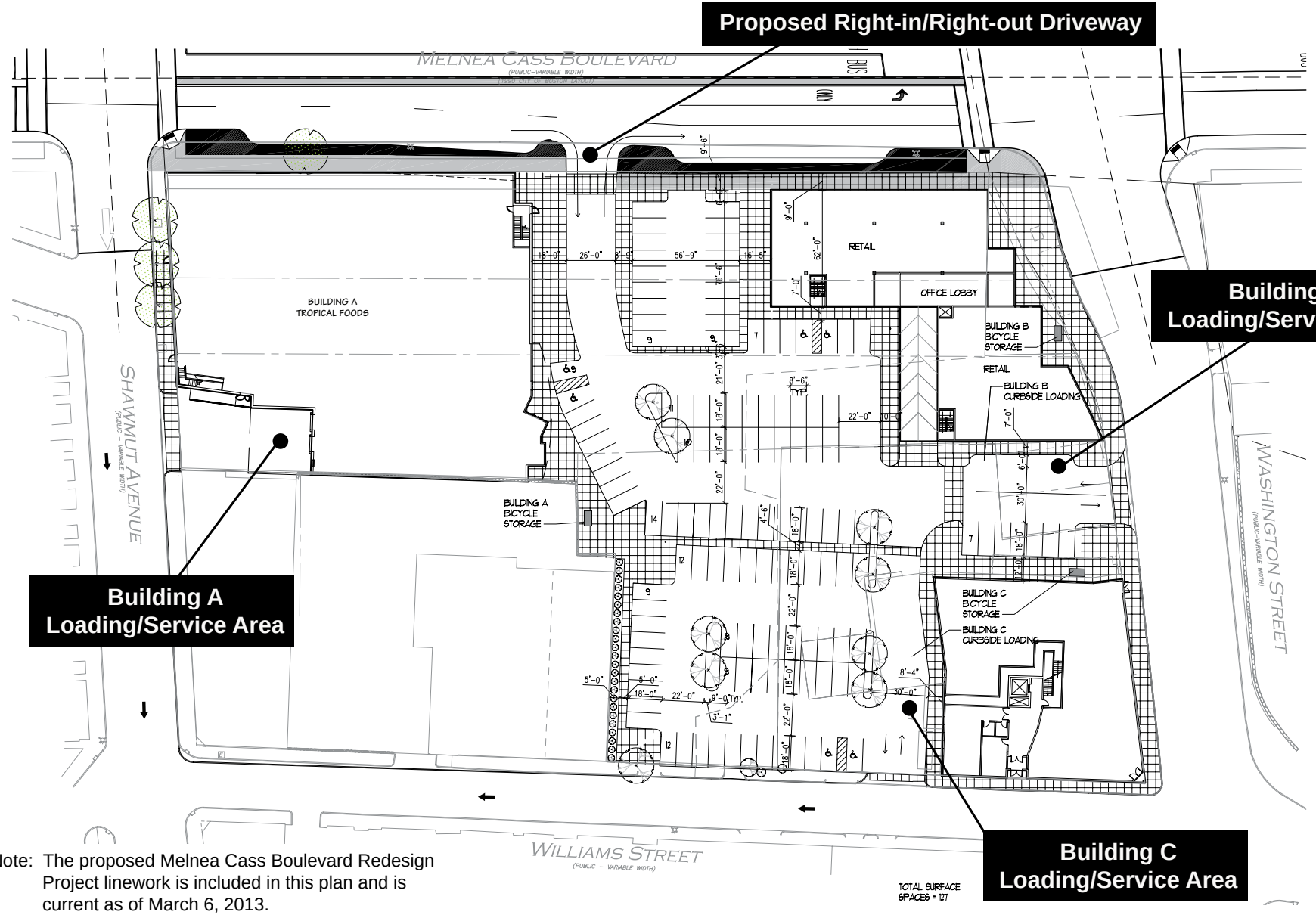
As shown in Figure 2-1, the primary pedestrian entrances to the buildings will be located on Washington Street and the internal roadway network. Pedestrian access will also be provided along Williams Street and Shawmut Avenue for the retail stores and an additional office lobby will be located on Washington Street. Vehicular access to the site's surface parking and internal driveways will be provided via a right-in/right-out only access driveway on Melnea Cass Boulevard, a full access driveway on Washington Street, and a right-in/right-out only driveway on Williams Street. Access to the below-grade parking garage will be located on the site. All servicing and loading demands will be accommodated on-site in a grocery store loading dock on Shawmut Avenue, and two-additional off-street loading areas accessed from Washington Street and Williams Street for the residential, retail, and office uses.

The Project team has been working with the City of Boston on coordinating the Proposed Project design and layout with respect to the ongoing Melnea Cass Boulevard Redesign Project and Parcel 9 project. The redesign project currently calls for the widening of Melnea Cass Boulevard to accommodate the addition of a center aligned busway from Columbus Avenue to Albany Street. The Project team will continue to work with the City as these two projects advance.

2.3 Methodology

The transportation analysis for the proposed Project was prepared in accordance with BTD T*ransportation Access Plan Guidelines*. The analysis is summarized in the following sections:

- An inventory of existing transportation conditions, including roadway capacities, parking, transit, pedestrian and bicycle circulation, loading, and site conditions.



Note: The proposed Melnea Cass Boulevard Redesign Project linework is included in this plan and is current as of March 6, 2013.

Parcel 10 Redevelopment Boston, Massachusetts

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Figure 2-1
Proposed Site Plan

- Future transportation conditions and assessment of potential traffic impacts associated with the development and other neighboring projects. Long-term impacts are evaluated for the year 2018, based on a five-year horizon from the 2013 base year. Expected roadway, parking, transit, pedestrian, and loading capacities and deficiencies are identified. This section includes the following scenarios:

    - The No-Build Scenario (2018) includes general background growth and additional vehicular traffic associated with specific proposed or planned developments and roadway changes in the vicinity of the site; and

    - The Build Scenario (2018) includes specific travel demand forecasts for the Project.

- The third section identifies appropriate measures to mitigate Project-related impacts identified in the previous section.

- The fourth includes an evaluation of short-term traffic impacts associated with construction activities.

- Finally, the analysis includes a brief summary and conclusion.

2.3.1 Study Area

The Project Site is generally bounded by Washington Street to the east, Shawmut Avenue to the west, Melnea Cass Boulevard to the north and Williams Street to the south. The study area, for which a detailed transportation analysis was performed, depicted in Figure 2-2, comprises the following six intersections:

- Melnea Cass Boulevard/Shawmut Avenue (signalized);

- Melnea Cass Boulevard/Washington Street (signalized);

- Washington Street/Williams Street/Eustis Street (signalized);

- Shawmut Avenue/Williams Street (unsignalized);

- Washington Street/Tropical Foods Driveway (unsignalized); and

- Williams Street/Tropical Foods Driveway (unsignalized).

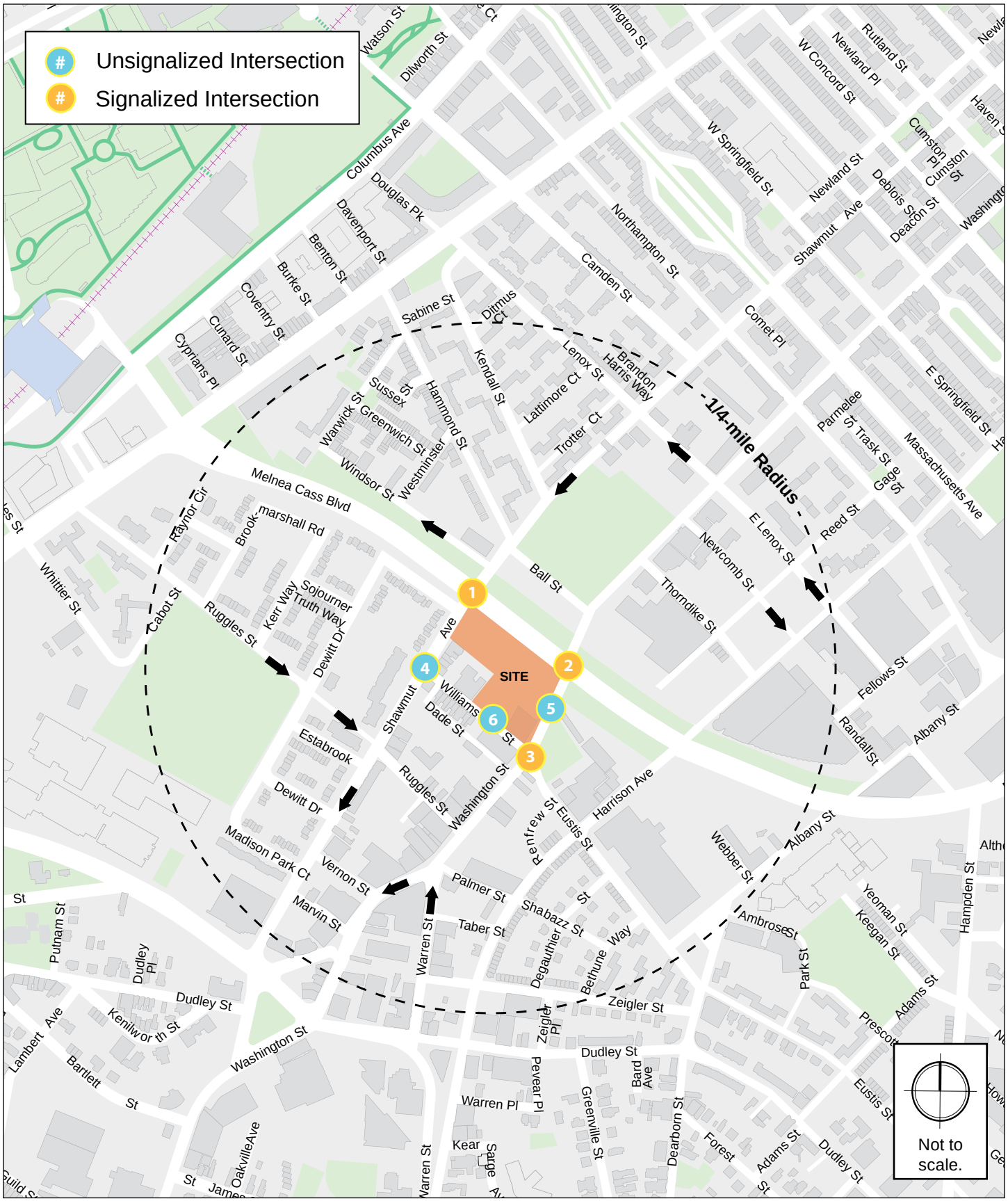

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Figure 2-2
Study Area Intersections

2.4 Existing Conditions

2.4.1 Roadway Conditions

The study area comprises the following roadways, which are categorized according to the Massachusetts Department of Transportation, Highway Division's (MassDOT's) Office of Transportation Planning functional classifications:

Melnea Cass Boulevard, an urban minor arterial, runs east-west from Massachusetts Avenue to Columbus Avenue. East of Massachusetts Avenue, Melnea Cass Boulevard connects to the "Massachusetts Avenue Connector," which provides access to I-93 northbound and southbound and I-90 eastbound and westbound. Within the study area, Melnea Cass Boulevard consists of two lanes in each direction separated by a cobble median. While varying in width, the roadway is generally 55 feet wide, with seven foot sidewalks on each side. On-street parking is prohibited along the entire roadway. On the north side of the street, a 40 foot wide easement has been provided to accommodate Urban Ring public transportation. Today, this easement functions as a pedestrian/bicycle path, the South Bay Harbor Trail (SBHT). The Melnea Cass Boulevard Redesign Project calls for the widening of Melnea Cass Boulevard to accommodate the addition of a center aligned busway from Columbus Avenue to Albany Street.

Shawmut Avenue, an urban minor arterial, runs north-south through the South End and Roxbury Crossing. Adjacent to the Project, Shawmut Avenue is a 22.5 foot wide one-way street southbound, with two travel lanes. There are seven-to-eight foot wide sidewalks and on-street parking provided on both sides of the roadway.

Washington Street, an urban principal arterial, runs north-south from downtown Boston through the South End, Roxbury, and Jamaica Plain. The roadway has two lanes in each direction north of Melnea Cass, an 11 foot designated bus lane, and an 11 foot travel lane, and one lane in each direction south of Melnea Cass Boulevard. Washington Street has 17 foot wide sidewalks and on-street parking on both sides of the roadway.

Williams Street, a local *one-way* roadway, runs east-west between Washington Street and Shawmut Avenue. The roadway has one, ten foot wide westbound lane. Williams Street has seven-to-eight foot wide sidewalks along both sides and on-street parking provided on both sides of the roadwas.

Eustis Street, a local roadway, runs east-west between Magazine Street and Washington Street. The roadway generally consists of one travel lane in each direction in the vicinity of the Project Site. re are seven-to-eight foot wide sidewalks and on-street parking provided on both sides of the roadway.

2.4.2 Intersection Conditions

2.4.2.1 Signalized Intersections

Melnea Cass Boulevard/Shawmut Avenue is a signalized intersection with three approaches. The Melnea Cass Boulevard eastbound approach consists of an 11 foot through lane and a 12 foot shared through/right-turn lane. The Melnea Cass Boulevard westbound approach consists of an 11 foot shared left-turn/through lane and an 11 foot through lane. A six foot cobblestone median separates the east-west direction of travel at the eastbound and westbound approaches. The Shawmut Avenue southbound approach consists of a 25 foot left-turn/through/right-turn lane; however, field observations indicate that the approach generally operates as a shared left-turn/through lane and a shared through/right-turn lane. The Melnea Cass Boulevard Redesign Project calls for the widening of Melnea Cass Boulevard to accommodate the addition of a center aligned busway from Columbus Avenue to Albany Street.

Parking is prohibited along the Melnea Cass Boulevard approaches, and unrestricted parking is provided on both sides of Shawmut Avenue. Crosswalks and wheelchair ramps are maintained on all legs of the intersection, as are countdown pedestrian signal indications. The pavement and pavement markings are in fair condition.

Melnea Cass Boulevard/Washington Street is a signalized intersection with four approaches. The Melnea Cass Boulevard eastbound approach consists of a 10 foot exclusive left-turn lane, a 10 foot through lane, and a 14 foot shared through/right-turn lane. The Melnea Cass Boulevard westbound approach consists of an 11 foot exclusive left-turn lane, an 11 foot through lane, and a 12 foot shared through/right-turn lane. The Washington Street northbound approach consists of a 9 foot exclusive left-turn lane, an 11 foot through lane, and an 11 foot exclusive right-turn lane. The Washington Street southbound approach consists of an 11 foot exclusive left-turn lane, a 12 foot through lane, and a 12 foot exclusive right-turn lane. The Washington Street southbound right-turn only lane is shared with the MBTA bus lane. The Melnea Cass Boulevard Redesign Project calls for the widening of Melnea Cass Boulevard to accommodate the addition of a center aligned busway from Columbus Avenue to Albany Street.

Parking is prohibited along all approaches of the intersection, with the exception for the Washington Street southbound approach where unrestricted on-street parking is provided. MBTA bus stops are located on the far sides of the Washington Street northbound approach (SL4, SL5, Bus #8), southbound approach (SL4, SL5, Bus #1, #8, #47), and westbound approach (Bus #8, #19, #47, and CT3). The MBTA inbound bus only lane begins just north of Melnea Cass Boulevard and the outbound bus only lane ends just south of Melnea Cass Boulevard. Crosswalks and wheelchair ramps are maintained on all legs of the intersection, as are pedestrian signal indications. The pavement and pavement markings are in fair condition.

Washington Street/Williams Street/Eustis Street is a signalized intersection with four approaches. The Eustis Street westbound approach consists of one 25.5 foot lane. From field observations, this lane functions as two lanes, one shared left and through-turn lane and one right-turn lane. The Washington Street northbound approach consists of a 13.5 foot shared left/through/right-turn lane with 7.5 feet adjacent parking. From field observations, Washington Street was analyzed as three lanes instead of the current one shared left/thru/right. The Washington Street southbound approach consists of a 10 foot exclusive left-turn lane, and a 20 foot shared through/right-turn lane. Crosswalks and wheelchair ramps are maintained on all legs of the intersections, as are pedestrian signal indications. The pavement and pavement markings are in fair condition.

2.4.2.2 Unsignalized Intersections

Shawmut Avenue/Williams Street is an unsignalized three leg intersection. The Williams Street westbound approach consists of one 25-foot left turn lane. The Shawmut Avenue southbound approach is a free movement consisting of one travel lane. There are crosswalks across the Williams Street leg and the Shawmut Avenue southern leg of the intersection.

Washington Street/Tropical Foods Driveway is an unsignalized three leg intersection. The unstriped Tropical Foods Driveway eastbound approach is 25 feet wide. Field observations indicate that the driveway functions as two lanes, a left and right turn lane. Washington Street northbound and southbound consists of one lane in each direction. There are no crosswalks at this location.

Williams Street/Tropical Foods Driveway is an unsignalized three leg intersection. The Williams Street westbound approach consists of one through lane with parking on both sides of the roadway. Williams Street is a one-way westbound street. The Tropical Foods Driveway southbound approach consists of a 25 foot driveway, which is unstriped and acts as an exit only. There are no crosswalks at this location.

2.4.3 Traffic Conditions

Vehicular, bicycle, and pedestrian counts were conducted at the intersections of Washington Street/Williams Street/Eustis Street, Shawmut Avenue/Williams Street, Washington Street/Tropical Foods Driveway and Williams Street/Tropical Foods Driveway on June 6, 2012 for the a.m. and p.m. peak hours. Turning movement counts at the intersections of Melnea Cass Boulevard/Shawmut Avenue and Melnea Cass Boulevard/Washington Street were collected in September 2011. The weekday peak period vehicle turning movements, bicycle, and pedestrian volumes were collected from 7:00 to 9:00 a.m. and from 4:00 to 6:00 p.m.

Based on a review of MassDOT historic traffic count data for the area, no traffic growth has occurred in the past few years. Therefore, the traffic count data obtained in 2011 and 2012 were not adjusted and were considered to reflect 2013 traffic conditions. Based on these counts, the a.m. and p.m. peak hours were identified as 7:15–8:15 a.m., and 5:00–6:00 p.m. The existing peak hour volumes are shown in Figure 2-3, and Figure 2-4, respectively. Complete traffic count data are provided in Appendix A.

2.4.3.1 Existing Traffic Operations

Trafficware's Synchro 6 software was used to analyze delay and the existing Level of Service (LOS) at study area intersections. This tool is based on the methodology specified in the Transportation Research Board's 2000 Highway Capacity Manual (HCM). HCM methods analyze the capacity of an intersection by determining the LOS, delay (in seconds), volume-to-capacity (v/c) ratio, and 95th percentile queue length (in feet), based on the intersection geometry, traffic control, and available traffic data for each intersection.

The v/c *ratio* is a measure of congestion at an intersection approach. A v/c ratio of one or greater indicates that the traffic volume on the intersection approach exceeds capacity.

The 95th percentile queue length, measured in feet, represents the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line during 5% of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only 5% of the time and would typically not occur during off-peak hours.

Field observations were performed by Howard/Stein-Hudson (HSH) to establish intersection geometry (i.e., number of turning lanes, lane length, and lane width). Signal timing and phasing used in this analysis were obtained from BTD and through field observations conducted by HSH.

LOS designations, derived from the HCM, are based on average delay per vehicle for all vehicles entering an intersection. Table 2-2 displays the intersection level of service criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst (unacceptable) condition, with significant traffic delay. LOS D or better is typically considered acceptable in an urban area. However, LOS E or F is often typical for a stop controlled minor street that intersects a major roadway.

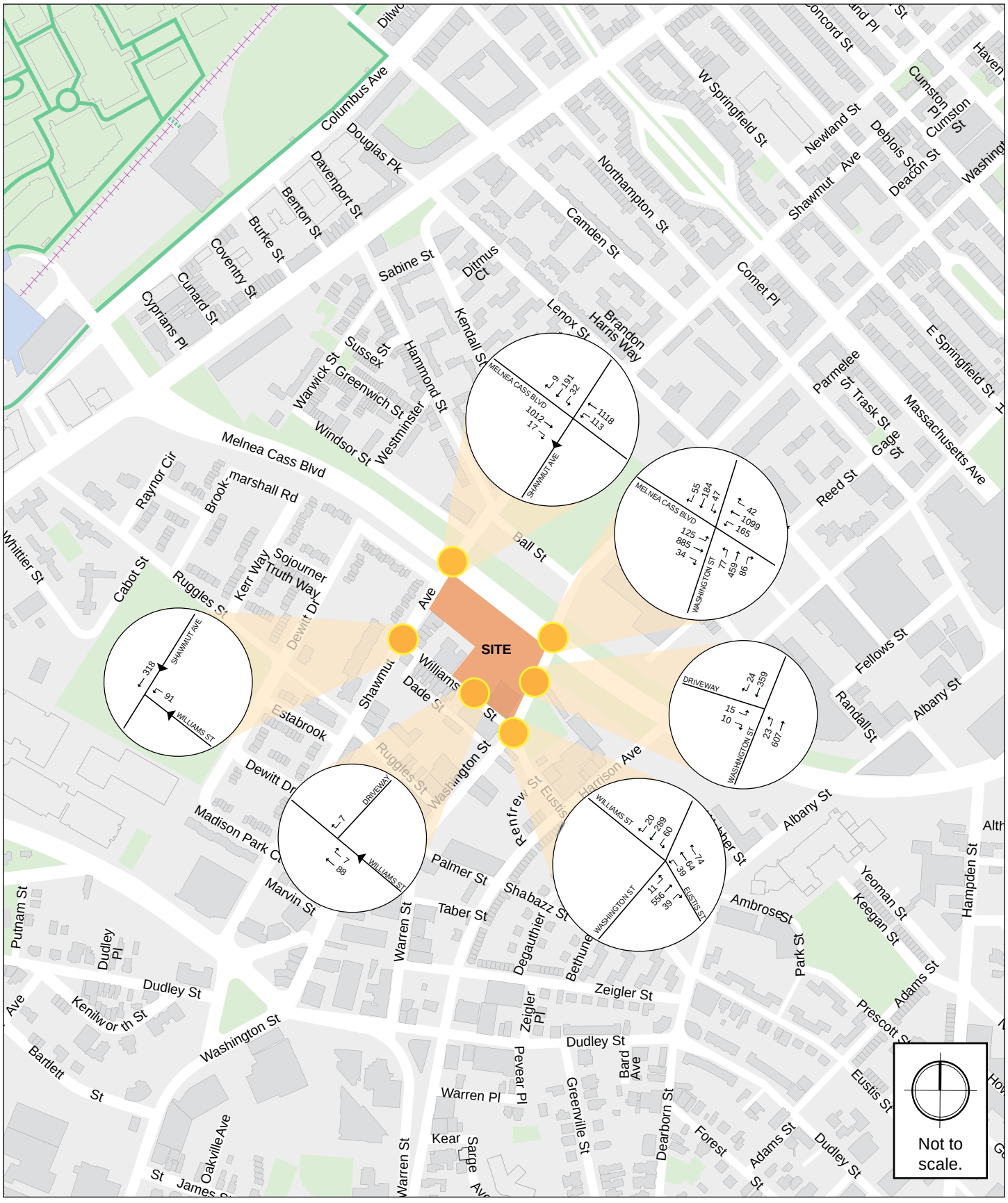

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Figure 2-3
Existing Conditions (2013) Traffic Volumes, a.m. Peak Hour (7:15-8:15 a.m.)

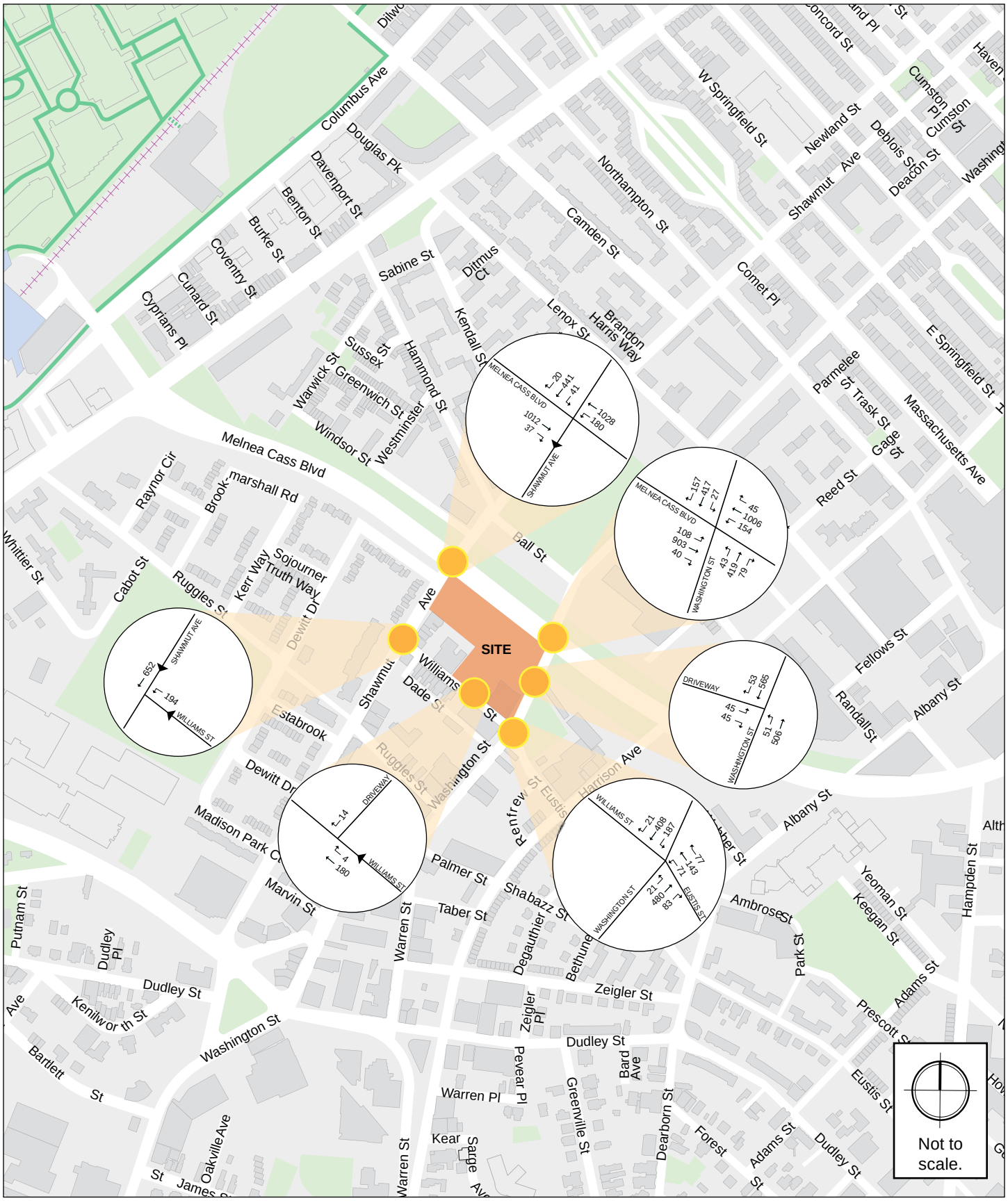

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Figure 2-4
Existing Conditions (2013) Traffic Volumes, p.m. Peak Hour (5:00-6:00 p.m.)

Table 2-2 Intersection Level of Service Criteria

`	Average Stopped Delay (seconds/vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

To evaluate existing intersection operations, the study team calibrated the level of service analysis based on field observations of actual queues and delays. Uncalibrated, the analysis can show exaggerated queues and delays. Table 2-3 and Table 2-4 summarize the existing a.m. and p.m. intersection LOS, delay, v/c ratio, and 95th percentile queue length analysis results for the Project. Detailed Synchro reports are provided in Appendix B.

Table 2-3 Existing Conditions (2013) Level of Service Summary, a.m. Peak Hour

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Signalized Intersections				
Melnea Cass Blvd./Shawmut Avenue	**B**	**19.0**	—	—
Melnea Cass Blvd. EB thru | thru/right	A	5.5	0.59	37
Melnea Cass Blvd. WB left/thru | thru	C	23.2	0.97	#110
Shawmut Ave. SB left/thru | thru/right	D	50.4	0.72	112
Melnea Cass Blvd./Washington Street	**D**	**36.0**	—	—
Melnea Cass Blvd. EB left	F	>80.0	>1.0	m#224
Melnea Cass Blvd. EB thru | thru/right	C	33.9	0.92	#427
Melnea Cass Blvd. WB left	D	40.3	0.90	m73
Melnea Cass Blvd. WB thru | thru/right	B	16.0	0.86	m135
Washington St. NB left	C	26.6	0.33	45
Washington St. NB thru	E	58.6	0.94	m#522
Washington St. NB right	B	13.4	0.23	m21
Washington St. SB left	C	33.2	0.38	60
Washington St. SB thru	C	24.7	0.36	146
Washington St. SB right	A	6.2	0.11	25
Washington Street/Williams Street/Eustis Street	**B**	**17.3**	—	—
Eustis St. WB left/ thru/right	C	33.4	0.80	m103
Washington St. NB left*	C	22.4	0.23	16
Washington St. NB thru*	B	18.1	0.61	#539
Washington St. NB right*	A	8.7	0.08	27
Washington St. SB left	A	9.2	0.27	m33
Washington St. SB thru/ right	A	8.5	0.36	m165

Table 2-3 Existing Conditions (2013) Level of Service Summary, a.m. Peak Hour (Continued)

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Unsignalized Intersections				
Shawmut Avenue/Williams Street	—	—	—	—
Williams St. WB left/thru	B	13.2	0.24	23
Shawmut Ave. SB thru/right	A	0.0	0.24	0
Washington Street/Tropical Foods Driveway	—	—	—	—
Tropical Foods EB left/right	C	18.3	0.17	15
Washington St. NB left/thru	A	0.7	0.03	2
Washington St. SB thru/right	A	0.0	0.26	0
Williams Street/Tropical Foods Driveway	—	—	—	—
Williams St. WB thru/right	A	0.0	0.09	0
Tropical Foods SB right	A	9.2	0.01	1

# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is maximum after 2 cycles.
m = Volume for the 95th percentile queue is metered by the upstream signal.
* Due to field observations of the 13.5 foot thru lane with adjacent 7.5 feet parking and 6.5 foot painted median, Washington Street NB was analyzed as three lanes instead of the current one left/thru/right striping.
Grey Shading indicated LOS E or worse.

Table 2-4 Existing Conditions (2013) Level of Service Summary, p.m. Peak Hour

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Signalized Intersections				
Melnea Cass Blvd./Shawmut Avenue	**E**	**79.2**	—	—
Melnea Cass Blvd. EB thru | thru/right	B	16.3	0.77	328
Melnea Cass Blvd. WB left/thru | thru	F	>80.0	>1.00	m#582
Shawmut Ave. SB left/thru | thru/right	D	52.6	0.87	235
Melnea Cass Blvd./Washington Street	**D**	**44.3**	—	—
Melnea Cass Blvd. EB left	D	50.7	0.88	m#121
Melnea Cass Blvd. EB thru | thru/right	E	59.3	0.97	#445
Melnea Cass Blvd. WB left	E	68.8	0.89	m#98
Melnea Cass Blvd. WB thru | thru/right	B	18.9	0.72	m247
Washington St. NB left	D	36.2	0.54	m36
Washington St. NB thru	E	65.3	0.97	m#454
Washington St. NB right	A	7.9	0.22	m23
Washington St. SB left	C	30.8	0.26	40
Washington St. SB thru	E	58.6	0.93	#468
Washington St. SB right	B	14.5	0.35	92
Washington Street/Williams Street/Eustis Street	**E**	**57.4**	—	—
Eustis St. WB left/ thru/ right	F	>80.0	>1.0	#359
Washington St. NB left*	C	29.4	0.29	38
Washington St. NB thru*	C	23.8	0.63	#430
Washington St. NB right*	B	10.1	0.16	46
Washington St. SB left	C	33.3	0.77	m126
Washington St. SB thru/ right	B	18.5	0.51	m288

Table 2-4 Existing Conditions (2013) Level of Service Summary, p.m. Peak Hour (Continued)

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Unsignalized Intersections				
Shawmut Avenue/Williams Street	—	—	—	—
Williams St. WB left/thru	F	>50.0	0.94	232
Shawmut Ave. SB thru/right	A	0.0	0.46	0
Washington Street/Tropical Foods Driveway	—	—	—	—
Tropical Foods EB left/right	D	29.2	0.40	46
Washington St. NB left/thru	A	2.4	0.09	8
Washington St. SB thru/right	A	0.0	0.43	0
Williams Street/Tropical Foods Driveway	—	—	—	—
Williams St. WB thru/right	A	0.0	0.16	0
Tropical Foods SB right	A	9.7	0.03	2

# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is maximum after 2 cycles.
m = Volume for the 95th percentile queue is metered by the upstream signal.
* Due to field observations of the 13.5 foot thru lane with adjacent 7.5 feet parking and 6.5 foot painted median, Washington Street NB was analyzed as three lanes instead of the current one left/thru/right striping.
Grey Shading indicates LOS E or worse

With existing volumes and existing geometry, during the a.m. and p.m. peak hours, typically, LOS D or better is considered acceptable in an urban environment such as this study area. During the peak periods, most of the study area intersections operate at an overall LOS D or better. The following intersections descriptions explain specifically when the intersections and approaches operate at LOS E or worse:

Melnea Cass Boulevard/Shawmut Avenue operates at an overall LOS E during the p.m. peak hour. The Melnea Cass Boulevard westbound approach operates at LOS F during the p.m. peak hour. The delay can be attributed both to the high volume of vehicles waiting for a gap in the opposing traffic to turn left onto Shawmut Avenue and to the high volume of vehicles entering and clearing the intersection within the green time provided.

Melnea Cass Boulevard/Washington Street. Overall, this intersection operates at acceptable LOS D during both the a.m. and the p.m. peak hour. However, during the a.m. peak hour, the eastbound left-turn lane from Melnea Cass Blvd. to Washington Street operates at LOS F and the Melnea Cass Boulevard eastbound through/through/right approach operates at LOS E. During the p.m. peak hour, the Melnea Cass Boulevard westbound left-turn lane approach operates at a LOS E and the Washington Street southbound through approach operate at LOS E. The Washington Street northbound through approach operates at LOS E during both the a.m. peak hour and the p.m. peak hour. The delay can be attributed to the volume of vehicles waiting for a gap in the opposing traffic to turn left onto Washington Street and the high volume of vehicles entering and clearing the intersection within the green time provided

Washington Street/Williams Street/Eustis Street. This intersection operates at an overall LOS E during the p.m. peak hour, with the Eustis Street westbound left/through/right lane approach operating at LOS F. Again, the delay can be attributed to the volume of vehicles waiting for a gap in the opposing traffic to turn left; and the volume of vehicles entering and clearing the intersection within the green time provided.

Shawmut Avenue/Williams Street. Here, the Williams Street westbound left/through approach operates at LOS F during the p.m. peak hour. The delay can be attributed to the small gaps afforded from the high volume of vehicles traveling southbound on Shawmut Avenue.

2.4.4 Bicycle and Car Sharing

Hubway is a bicycle sharing system in Metro Boston, which was launched in July 2011. The program now has more than 100 stations with 1,000 bicycles available throughout Boston, Brookline, Cambridge, and Somerville. Within a quarter-mile of the Project Site, there is a Hubway station at the corner of Washington Street and Lenox Street that has between fifteen to twenty bicycles docks. There are also three other Hubway stations within a half-mile from the site with about fifteen bicycles each.

Car sharing is predominately provided by Zipcar in the Boston area, supplying easy access to vehicular transportation for people who do not own cars. Vehicles are rented on an hourly or daily basis with all vehicle costs (gas, maintenance, insurance, and parking) included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location. Within about a quarter-mile radius of the site, there are five Zipcar locations with approximately sixteen vehicles available for use.

Figure 2-5 presents both Zipcar and Hubway facilities within walking distance to the site.

2.4.5 On -Street Parking

On-street parking within the study areas is generally a mix of residential permit, two-hour, and unrestricted parking. On-street parking regulations, within a quarter-mile of the site, are illustrated in Figure 2-6.

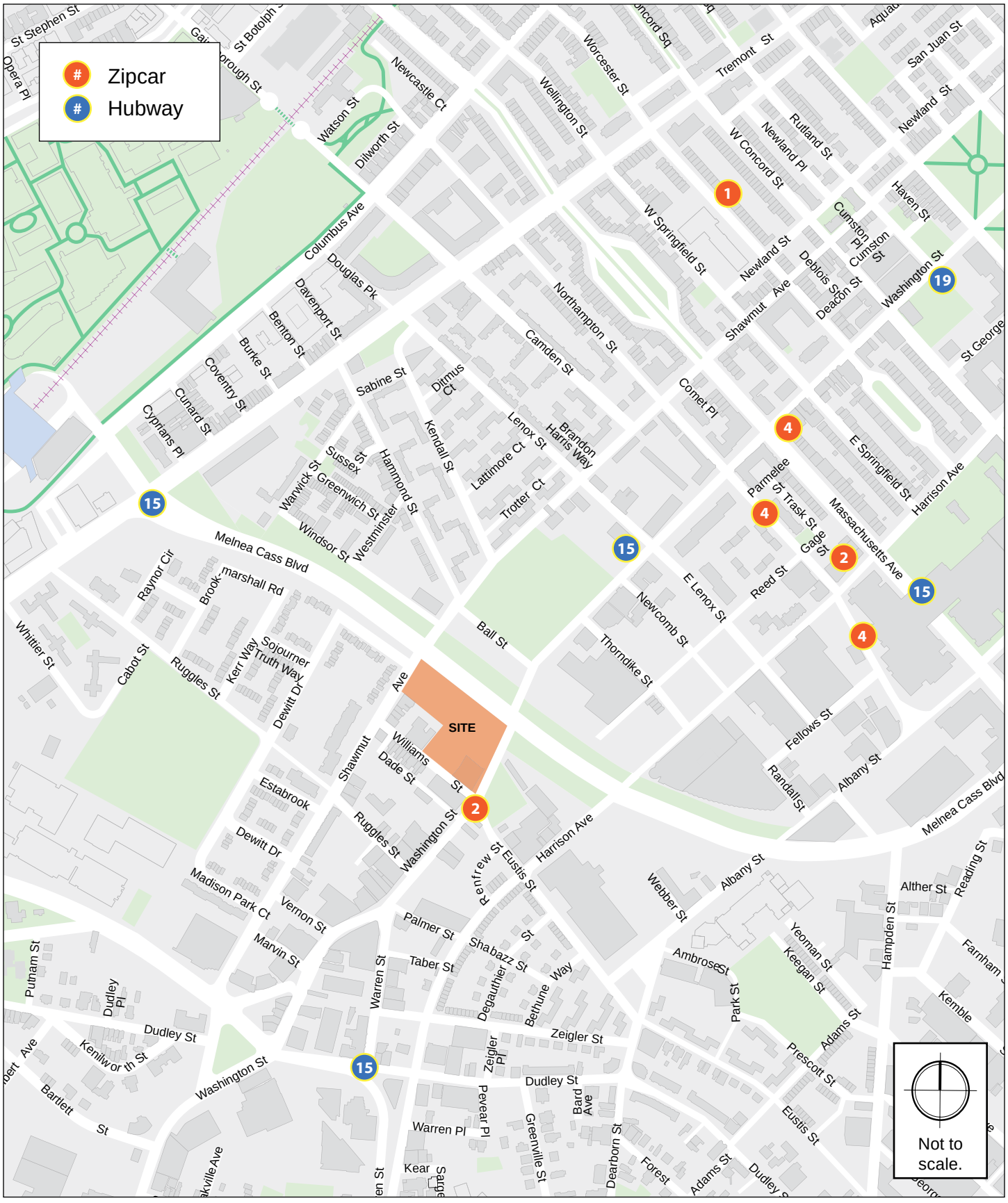

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Figure 2-5
Existing Zipcar and Hubway Locations

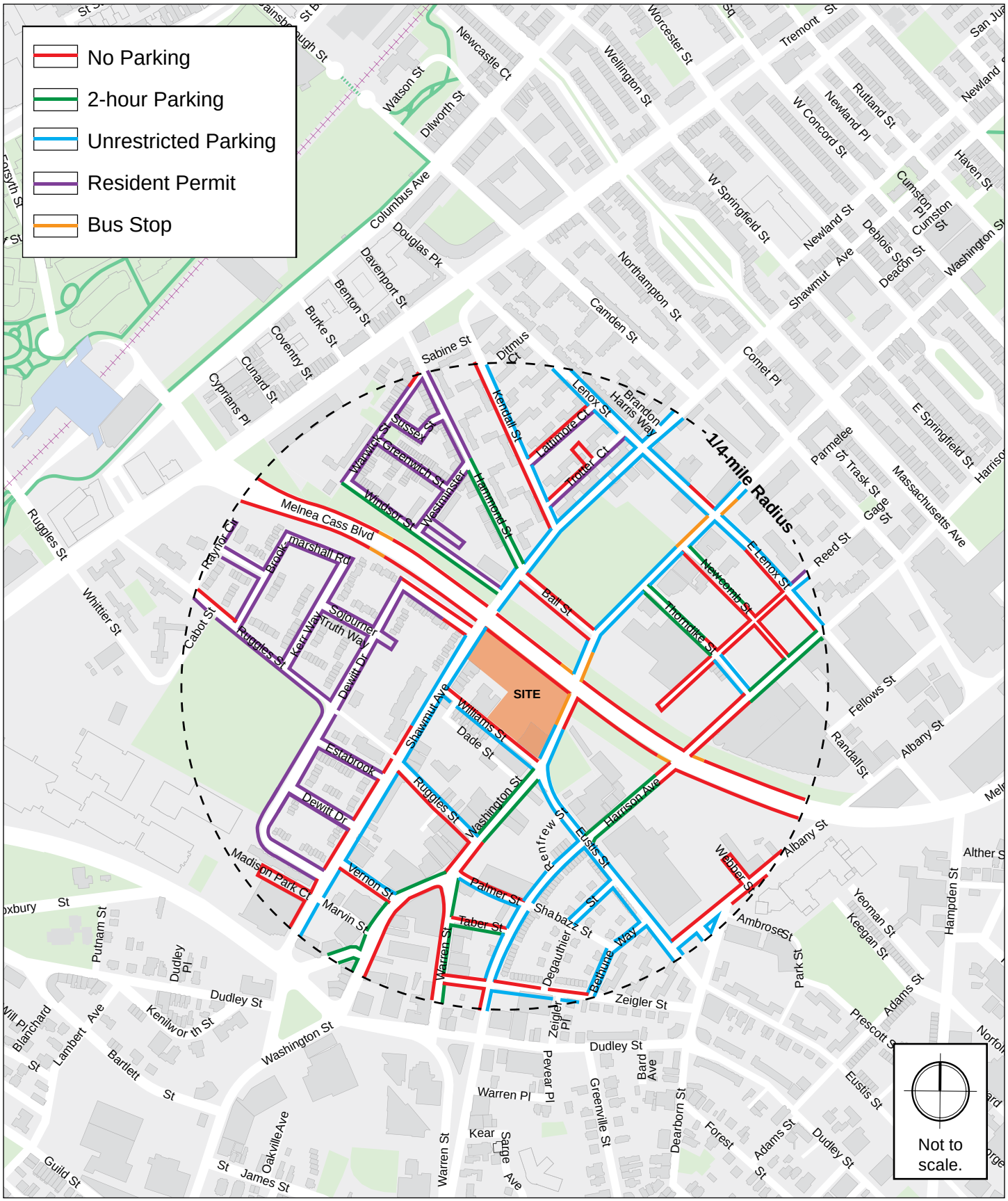

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Figure 2-6
On-street Parking in the Study Area

2.4.6 Public Transportation

The Project Site is located within convenient walking distance of a variety of public transit services provided by the Massachusetts Bay Transportation Authority (MBTA). This site is directly adjacent to Silver Line bus rapid transit (BRT) service and several MBTA bus lines. At the intersection of Melnea Cass Boulevard, adjacent to the Project Site, three bus stops are provided on the far sides of the intersection including one on Washington Street northbound (SL4, SL5, Bus #8), one on Washington Street southbound (SL4, SL5, Bus #1, #8, #47), and a third bus stop on Melnea Cass /Boulevard westbound (Bus #8, #19, #47, and CT3).

Dudley Station, approximately three-tenths of a mile from the Project Site and located between Washington Street and Warren Street, is a hub to several local bus services and the Silver Line. Ruggles Station, approximately four-tenths of a mile from the Project Site and located at the intersection of Ruggles Street and Tremont Street, provides Orange Line service, Commuter Rail service, and local bus services. Privately operated bus services run along the corridor as well. Public transportation within the study area is presented in Figure 2-7 and summarized in Table 2-5.

2.4.6.1 Rapid Transit

The MBTA's Orange Line subway provides service from Forest Hills Station in Jamaica Plain, Boston to Oak Grove Station in Malden, Massachusetts. At Ruggles Station, the Orange Line provides inbound and outbound service approximately every five minutes Monday through Friday and every ten minutes on Saturday and Sunday.

The MBTA Silver Line Bus Rapid Transit (BRT) services Dudley Square Station, Downtown Crossing and South Station via the Washington Street. The Silver Line operates on an exclusive bus only lane that runs from the intersection of Melina Cass Boulevard at Washington Street to Tufts Medical Station in Chinatown. Local bus stops are located along the corridor and its adjacent roadway network. The Silver Line #4 (SL4) service operates from Dudley Station to South Station at Essex Street via Washington Street, and provides peak hour headway of approximately five minutes. The Silver Line #5 (SL5) service operates from Dudley Station to Downtown Crossing at Temple Street via Washington Street, and provides peak hour headway of approximately fifteen minutes.

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Figure 2-7
Public Transportation in the Study Area

Table 2-5 Public Transportation in the Study Area

Train/Bus Route	Origin—Destination	a.m. Peak Headway (minutes)	p.m. Peak Headway (minutes)
Rapid Transit			
Orange Line	Forest Hills Station – Oak Grove Station	5	5
SL4	Dudley Square – South Station	10	10
SL5	Dudley Square – Downtown Crossing	7	7
Bus Service			
CT3	Longwood Medical Area – Andrew Station	20	25
1	Harvard/Holyoke Gate – Dudley Station	8	7
8	Harbor Point/U Mass – Kenmore Station	14	25
19	Fields Comer Station – Ruggles or Kenmore Station	14	30
47	Central Square Cambridge – Broadway Station	8	20
170	Oak Park – Dudley Station (PM Service only)	-	60
171	Logan Airport – Dudley Station Sunrise (AM Service only)	30	-
Commuter Rail			
Needham Line	South Station – Needham Heights	30*	30*
Franklin Line	South Station – Forge Park/495	25*	25*
Providence/ Stoughton Line	South Station – Stoughton/Wickford Junction	15*	15*

Source: *mbta.com*, accessed March 2013.

2.4.6.2 Bus

With Dudley Station acting as a public transportation hub for buses in the Boston Metro area, several local bus services provide connections to Cambridge, Kenmore Square, Ruggles Station, and other local and regional destinations.

Local MBTA bus routes provide connections to MBTA subway stations, such as the Red Line (Broadway, Andrew, and JFK/UMass) and the Orange Line (Forrest Hills, Jackson Square, Roxbury Crossing, Ruggles, Massachusetts Avenue, and Back Bay). MBTA crosstown bus service is also provided within the study area, with stops along Melnea Cass Boulevard with direct connections to the MBTA's Orange Line and local bus connections at Ruggles Station.

The privately operated Medical Academic and Scientific Community Organization, Inc., (MASCO) shuttle buses run along Melnea Cass Boulevard, providing a connection between Longwood Medical and Academic area (LMA) and the cross-town development at Massachusetts Avenue.

2.4.6.3 Commuter Rail

Three MBTA Commuter Rail lines run through Ruggles Station: the Providence/Stoughton line, the Franklin line, and the Needham line. These trains provide access from Boston to the southern and southwestern regions of Massachusetts and Rhode Island.

The Needham Line has twelve inbound trains and twelve outbound trains that stop at Ruggles Station. Inbound trains run between 6:41 a.m. and 10:39 p.m. Outbound trains run between 12:08 p.m. to 10:38 p.m.

The Franklin Line has seven inbound trains and fifteen outbound trains that stop at Ruggles Station. Inbound trains run between 7:00 a.m. and 12:57 p.m. Outbound trains run between 12:53 p.m. to 11:58 p.m.

During the weekday, the Providence/Stoughton Lines has ten inbound trains and 25 outbound trains that stop at Ruggles Station. Inbound trains run between 6:11 a.m. and 2:29 p.m. Outbound trains run between 6:28 a.m. to 12:07 a.m.

2.4.7 Pedestrians and Bicycles

Pedestrian activity in and around the Project Site is generated by the Site's proximity to the public transportation, retail uses (e.g., Tropical Foods), and the South Bay Harbor Trail. The signalized intersection, Melnea Cass Boulevard/Washington Street, experiences fairly heavy pedestrian traffic, especially in the p.m. peak hour. Crosswalks and handicapped-accessible ramps are generally provided at all study area intersections. Existing a.m. and p.m. peak-hour pedestrian volumes are shown in Figure 2-8.

For cyclists, the Site is conveniently located adjacent to the South Bay Harbor Trail and near the Pierre Lallement Southwest Corridor Park. The South Bay Harbor Trail runs along the north side of Melnea Cass Boulevard, adjacent to the Project site. The South Bay Harbor Trail is a mixed-use path that extends from Columbus Avenue towards the Southeast Expressway (Interstate 93), and connects with the Boston Harbor walk in Rolling Bridge Park on Fort Point Channel. The Southwest Corridor Park connects with the South Bay Harbor Trail at Columbus Avenue, less than one-half mile west of the Project site. The Pierre Lallement Southwest Corridor Park is a 4.7 mile, 52-acre, linear park stretching from the Back Bay to Forest Hills.

Bicycle activity around the site is generally light on all adjacent project roadways. Existing a.m., midday and p.m. peak-hour bicycle volumes are shown in Figure 2-9.

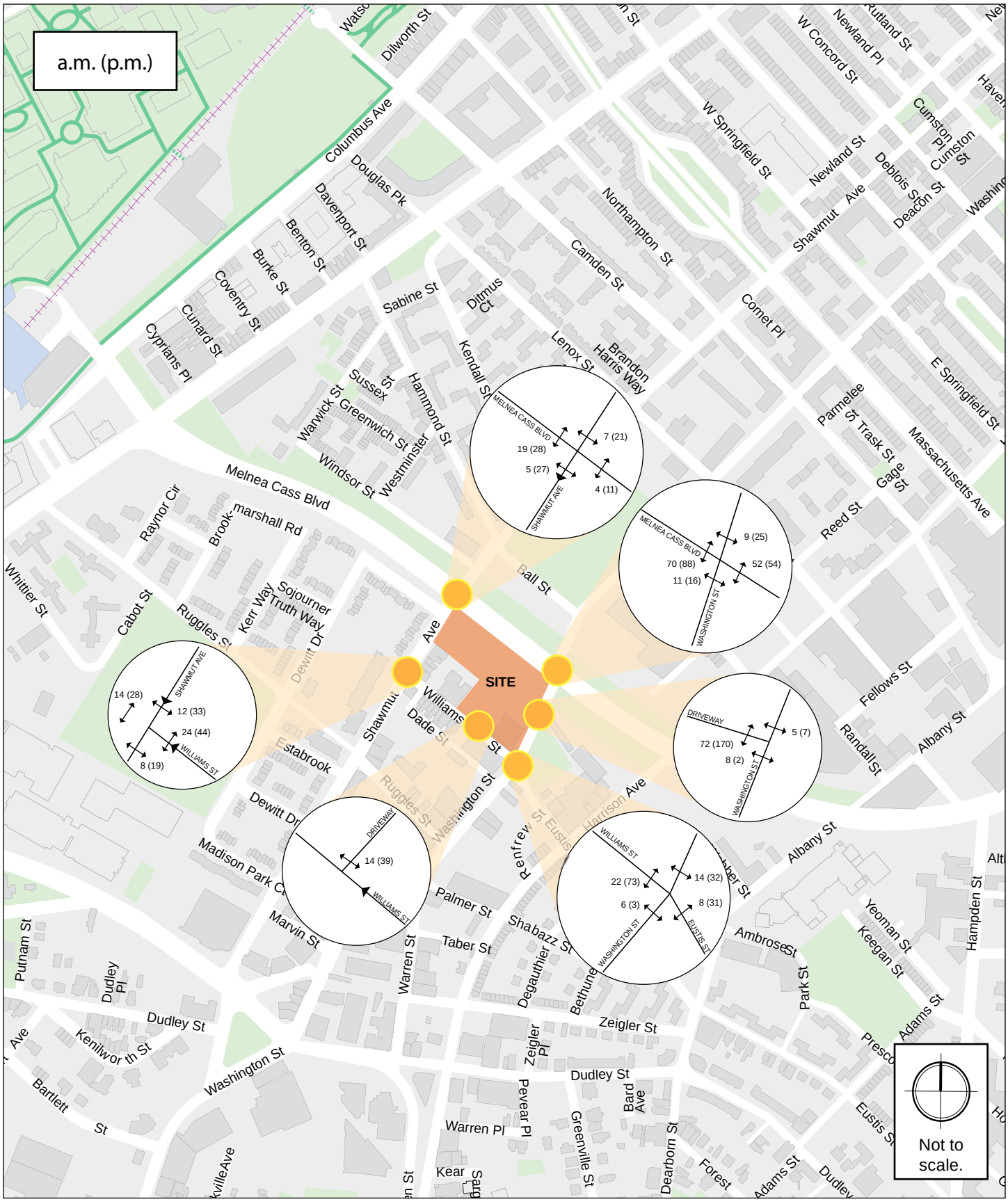

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Figure 2-8
Existing Condtions (2013) Pedestrian Volumes, a.m. and p.m. Peak Hours

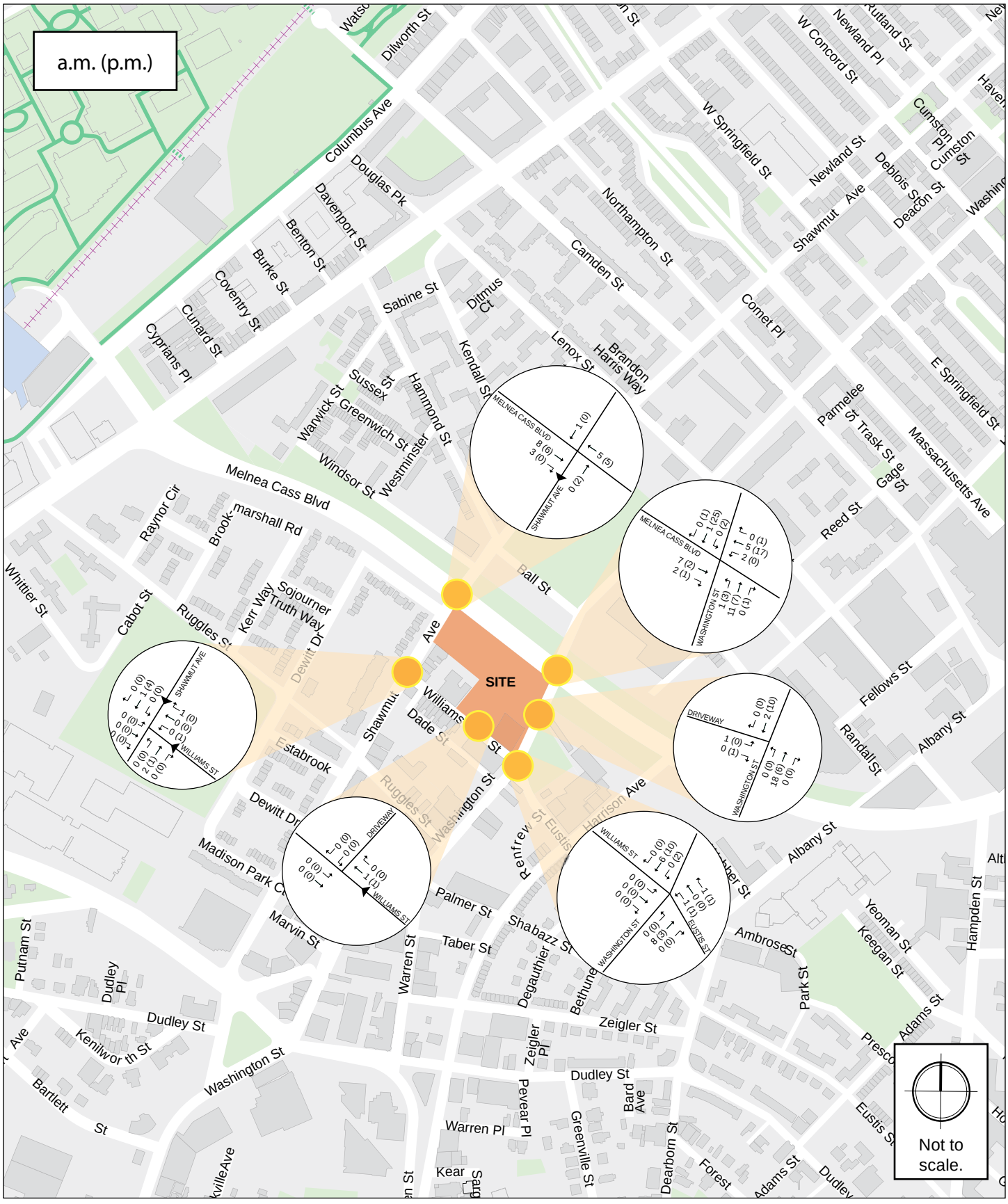

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Figure 2-9
Existing Condtions (2013) Bicycle Volumes, a.m. and p.m. Peak Hours

2.5 Evaluation of Long-term Impacts

This section describes and evaluates 2018 No-Build and Build Conditions. The methodology is consistent with the City of Boston's *Transportation Access Plan Guidelines* (2001).

2.5.1 No-Build Scenario

No-Build traffic conditions, independent of the proposed Project, include all existing traffic and any new traffic resulting from both background growth and any identified development projects in the area. The No-Build Condition is used to evaluate the cumulative impacts of the anticipated future traffic increases, while providing a baseline of comparison for the proposed Project. Two procedures are followed in developing No-Build volumes, as discussed below.

2.5.1.1 Background Traffic Growth Rate

The first procedure is to determine background traffic growth and apply a general growth rate to account for changes in demographics, auto usage, and ownership. To develop the background growth rate, the study team compared existing volumes with historic count data. Comparison of this data indicates that traffic volumes have remained relatively unchanged in recent years. However, to provide a conservative estimate of future traffic growth, the study team assumed a background growth rate of 0.5% per year.

2.5.1.2 Project-Specific Traffic Volumes

The second procedure is to estimate traffic generated by planned major developments and anticipated roadway changes and distribute these trips to study area intersections. The study team identified several background projects in the immediate area of the site, which are described below and illustrated in Figure 2-10:

- ***Parcel 9*** – This project, across Melnea Cass Boulevard from the Project Site, will include approximately 145 hotel rooms, 50 residential units, and approximately 7,935 sf of ground-floor retail space, with 118 parking spaces. Trip generation and distribution were obtained from the draft Project Notification Form under preparation for the project by HSH in March 2013.

- ***Dudley Municipal Building*** – This Project will provide a new 200,000 sf headquarters building for Boston Public Schools, which will house over 500 employees. It will include 20,000 sf of street-level retail space, as well as open space to showcase student work, school events, and host community gatherings. Trip generation and distribution were obtained from the transportation component of the Environmental Notification Form, prepared by Epsilon Associates, Inc. on April 30, 2012.

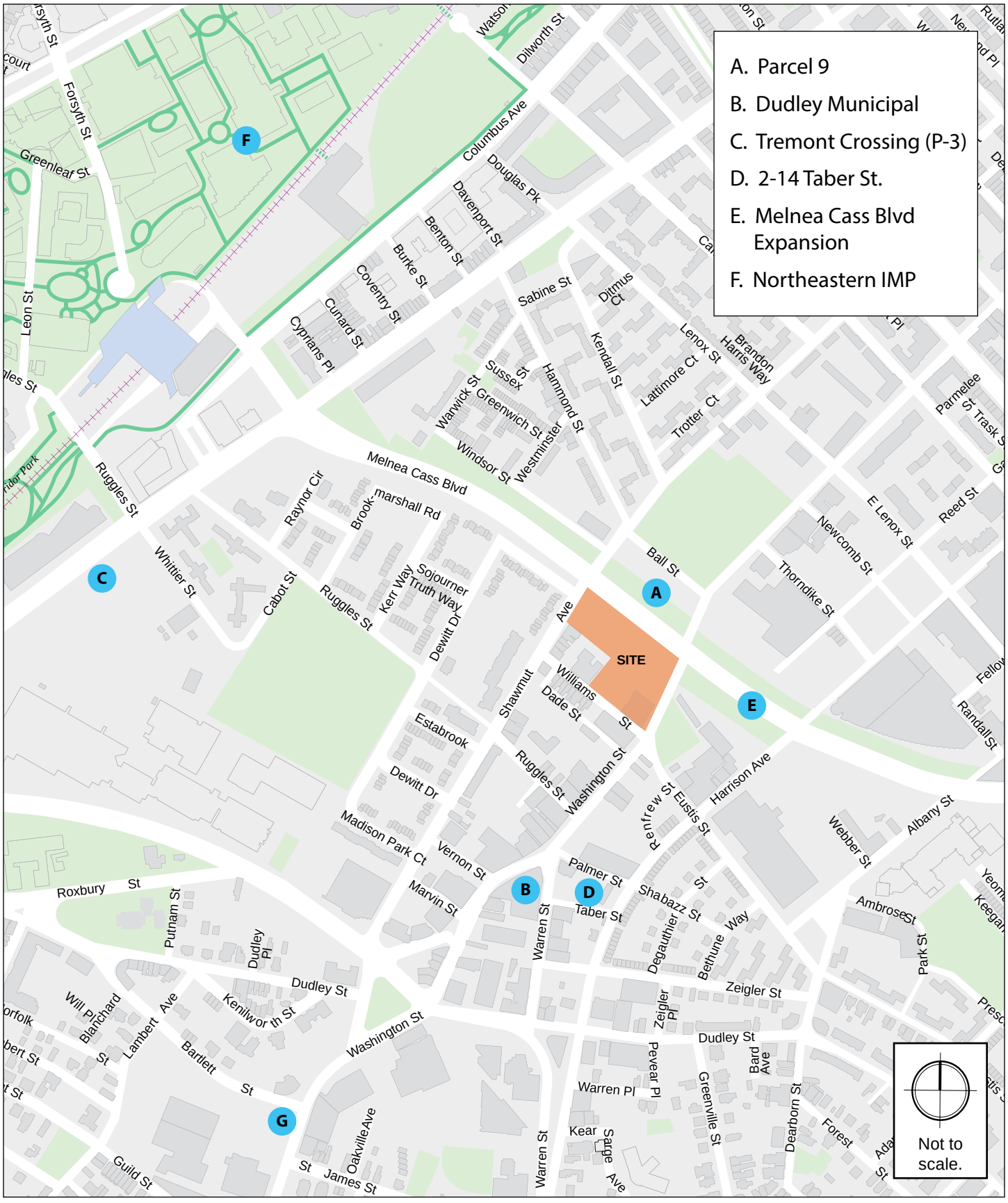

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Figure 2-10
Area Projects

- *Tremont Crossing (Parcel 3)* – This Project proposal calls for 550,000 sf of retail, 200,000 sf of office, 240 residential units, 58,000 sf of cultural space and 1,700 parking spaces. Trip generation and distribution were obtained from the transportation component of the Project Notification Form, prepared by BSC Group on April 17, 2012.

- *2-14 Taber Street* – This Project proposal calls for the construction of a three-story building with 23,559 sf of office and retail. Phase One will include 7,853 sf of retail space on the ground floor and Phase Two will consist of construction of the second and third floors with 15,706 sf of office space.

- *Melnea Cass Boulevard Redesign Project* – The City of Boston is working with the community to design a multimodal, green, smart street that accommodates all users: vehicles, pedestrians, transit, and bicycles. The reconstruction of Melnea Cass Boulevard will incorporate a center-aligned busway from Columbus Avenue to Albany Street; which will provide connections to jobs (i.e. Boston Medical Center, Longwood, Seaport). Existing bus services currently with routes along the boulevard will utilize the busway. Proposed bus stops will be located at Washington Street and Kerr Way. Reconstruction will require widening to Melnea Cass Boulevard; however, the South Bay Harbor Trail (bike path) and sidewalks within the project area will remain as part of the design. The Project also includes the introduction of on-street parking and new landscape elements to improve the pedestrian environment. This project is planned to be funded through the 2014 Transportation Improvement Program for the Boston Metropolitan Planning Organization (MassDOT Project # 605789). The Parcel 10 Project team has been coordinating with the City of Boston on design and construction issues. Based on discussions with the BTD planning staff, the proposed changes to the adjacent roadway network were not included in the analysis for the Proposed Project since the Melnea Cass Boulevard Redesign Project would be assessing the cumulative impacts of all projects in the area, including Parcel 9 project located across the street from Parcel 10.

- Northeastern University Institutional Master Plan – Northeastern University filed an Institutional Master Plan Notification Form (IMPNF) in December 2013 for Northeastern's Institutional Master Plan, 2013-2023. The University is considering several projects, which will be further evaluated as part of the IMP process. It is not expected that these projects would result in significant changes to traffic patterns in the vicinity of the Project Site. Thus, it is assumed that any such traffic increases would be accounted for in the background growth rate.

- **Bartlett Place –** This Project will be built in multiple phases. The proposal for Phase One calls for 102 residential units in two buildings along with 16,839 sf of commercial space and structured parking for 130 vehicles. Trip generation and distribution were obtained from the transportation component of the Expanded Project Notification Form, prepared by Epsilon Associates, Inc. on March 1, 2013.

2.5.1.3 No-Build (2018) Traffic Operations

The 2018 No-Build a.m., midday, and p.m. peak hour traffic volumes, accounting for the background growth rate, are presented in Figure 2-11 and Figure 2-12. LOS analysis conducted using the methodology described for No-Build Conditions is presented in Table 2-6 and Table 2-7. Detailed Synchro reports are provided in Appendix B.

Table 2-6 No-Build Conditions (2018) Level of Service Summary, a.m. Peak Hour

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Signalized Intersections				
Melnea Cass Blvd./Shawmut Avenue	**D**	**44.1**	—	—
Melnea Cass Blvd. EB thru | thru/right	A	7.9	0.66	89
Melnea Cass Blvd. WB left/thru | thru	E	72.8	>1.00	m#574
Shawmut Ave. SB left/thru | thru/right	D	50.8	0.80	148
Melnea Cass Blvd./Washington Street	**D**	**54.3**	—	—
Melnea Cass Blvd. EB left	F	>80.0	>1.00	m#226
Melnea Cass Blvd. EB thru | thru/right	D	50.8	>1.00	#491
Melnea Cass Blvd. WB left	F	>80.0	>1.00	m#97
Melnea Cass Blvd. WB thru | thru/right	C	20.4	0.92	m153
Washington St. NB left	B	17.3	0.35	m43
Washington St. NB thru	F	>80.0	1.00	#m573
Washington St. NB right	A	6.0	0.24	m20
Washington St. SB left	D	40.6	0.47	#71
Washington St. SB thru	C	25.2	0.38	155
Washington St. SB right	A	8.7	0.12	31
Washington Street/Williams Street/Eustis Street	**B**	**18.8**	—	—
Eustis St. WB left/ thru/right	C	31.3	0.74	m90
Washington St. NB left*	B	17.7	0.14	20
Washington St. NB thru*	C	22.5	0.66	#610
Washington St. NB right*	A	8.7	0.06	32
Washington St. SB left	A	9.9	0.30	m35
Washington St. SB thru/ right	B	10.1	0.46	m223

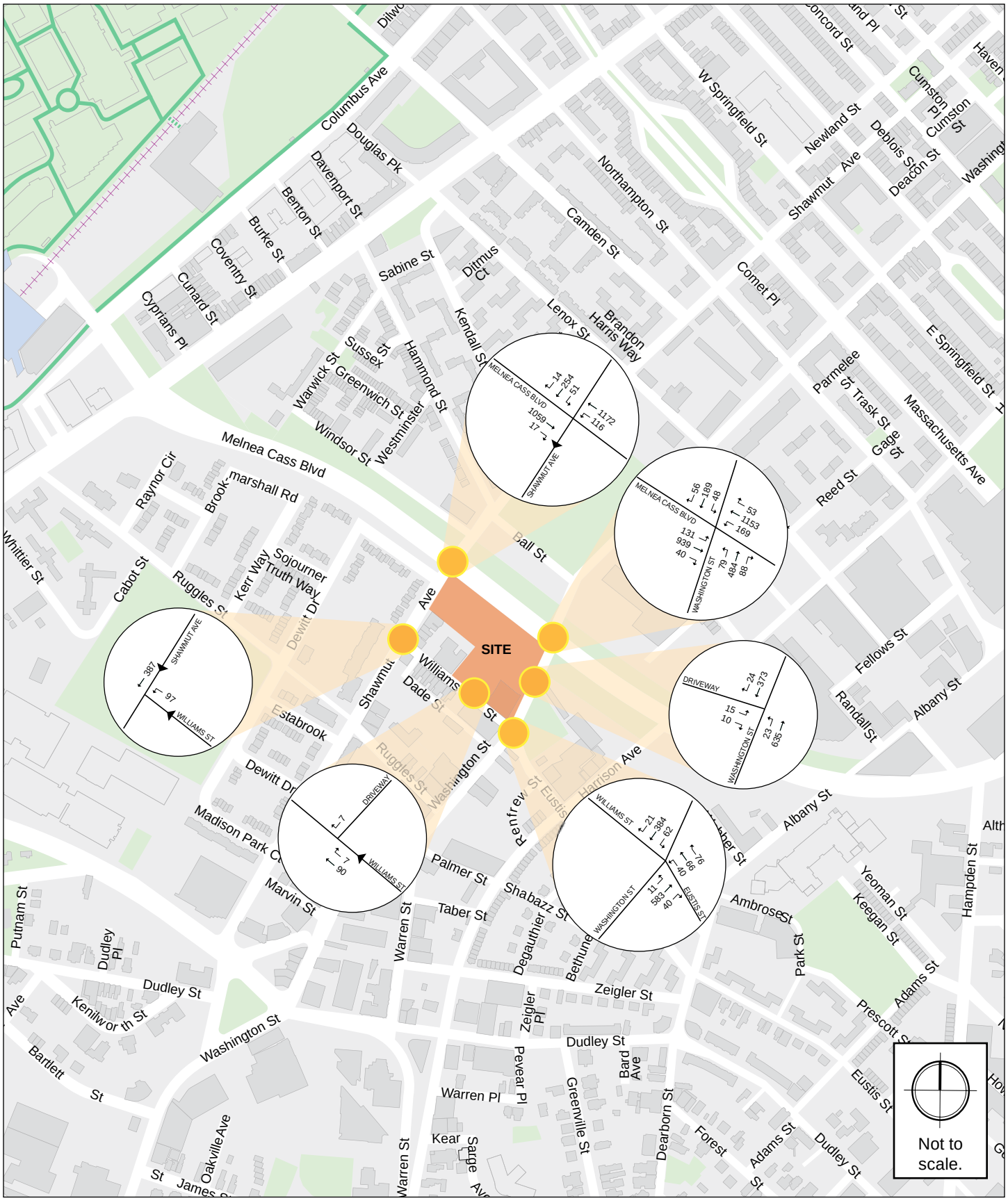

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Figure 2-11
No-Build Conditions (2018) Traffic Volumes, a.m. Peak Hour

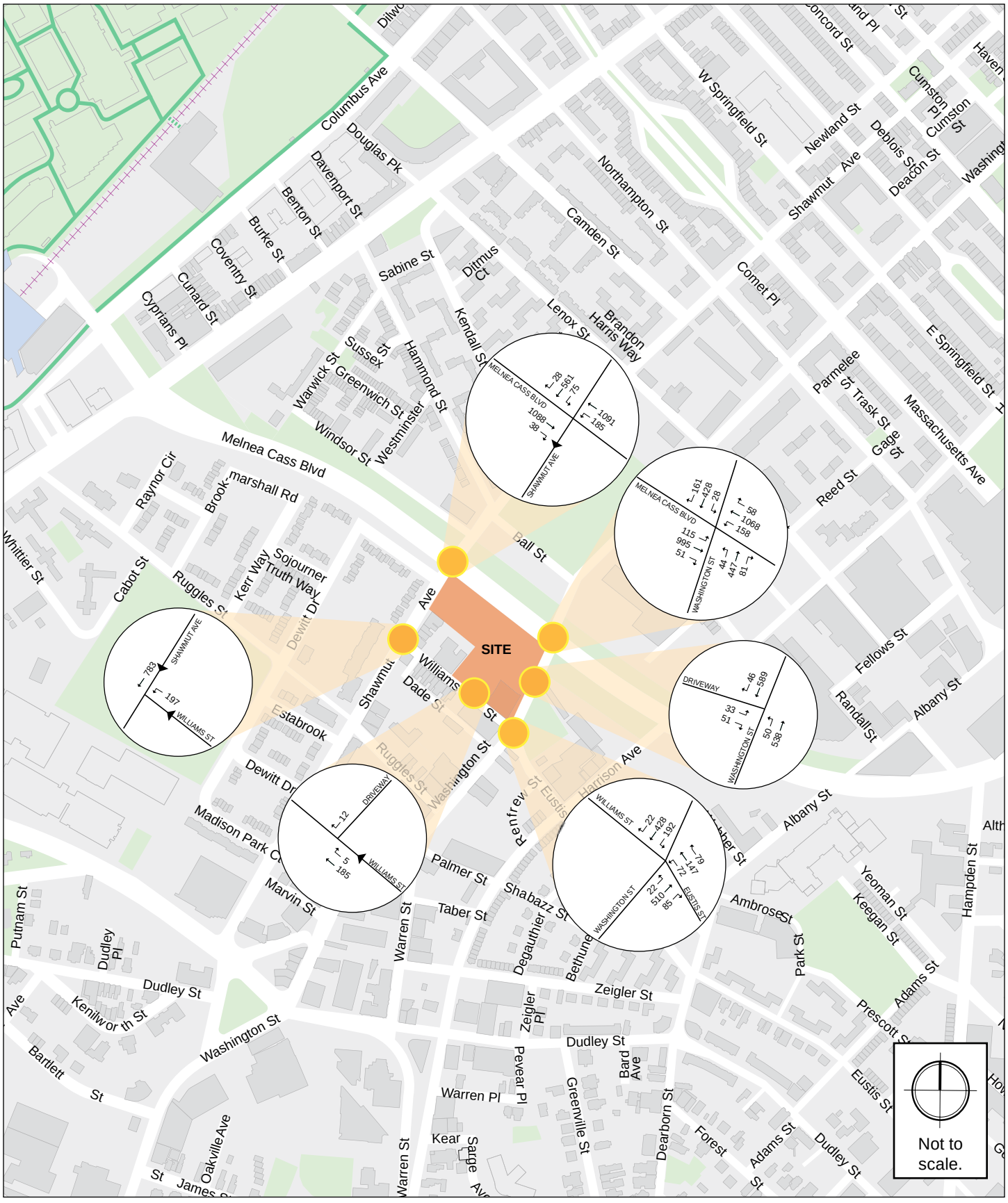

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Figure 2-12
No-Build (2018) Traffic Volumes, p.m. Peak Hour

Table 2-6 No-Build Conditions (2018) Level of Service Summary, a.m. Peak Hour (Continued)

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Unsignalized Intersections				
Shawmut Avenue/Williams Street	—	—	—	—
Williams St. WB left/thru	B	12.7	0.18	17
Shawmut Ave. SB thru/right	A	0.0	0.25	0
Washington Street/Tropical Foods Driveway	—	—	—	—
Tropical Foods EB left/right	C	17.2	0.08	7
Washington St. NB left/thru	A	0.6	0.02	2
Washington St. SB thru/right	A	0.0	0.25	0
Williams Street/Tropical Foods Driveway	—	—	—	—
Williams St. WB thru/right	A	0.0	0.06	0
Tropical Foods SB right	A	8.8	0.01	1

# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is maximum after 2 cycles.
m = Volume for the 95th percentile queue is metered by the upstream signal.
* Due to field observations of the 13.5 foot thru lane with adjacent 7.5 feet parking and 6.5 foot painted median, Washington Street NB was analyzed as three lanes instead of the current one left/thru/right striping.
Grey shading indicates a decrease in LOS from Existing Conditions to LOS E or worse.

Table 2-7 No-Build Conditions (2018) Level of Service Summary, p.m. Peak Hour

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Signalized Intersections				
Melnea Cass Blvd./Shawmut Avenue	**F**	**>80.0**	—	—
Melnea Cass Blvd. EB thru | thru/right	C	22.8	0.86	494
Melnea Cass Blvd. WB left/thru | thru	F	>80.0	>1.00	#641
Shawmut Ave. SB left/thru | thru/right	E	75.0	>1.00	#374
Melnea Cass Blvd./Washington Street	**D**	**47.5**	—	—
Melnea Cass Blvd. EB left	F	>80.0	>1.00	m#108
Melnea Cass Blvd. EB thru | thru/right	E	61.6	1.00	m#503
Melnea Cass Blvd. WB left	F	>80.0	0.96	m#118
Melnea Cass Blvd. WB thru | thru/right	B	19.9	0.78	m269
Washington St. NB left	C	32.7	0.52	m31
Washington St. NB thru	E	74.1	1.00	m#513
Washington St. NB right	A	6.6	0.22	m21
Washington St. SB left	C	31.9	0.28	41
Washington St. SB thru	E	55.6	0.91	#474
Washington St. SB right	B	16.2	0.35	102
Washington Street/Williams Street/Eustis Street	**D**	**36.0**	—	—
Eustis St. WB left/ thru/right	F	>80.0	>1.00	m#323
Washington St. NB left*	C	27.8	0.28	38
Washington St. NB thru*	C	25.8	0.65	#489
Washington St. NB right*	B	10.3	0.13	53
Washington St. SB left	C	31.8	0.76	m113
Washington St. SB thru/ right	B	17.8	0.47	m265

Table 2-7 No-Build Conditions (2018) Level of Service Summary, p.m. Peak Hour (Continued)

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Unsignalized Intersections				
Shawmut Avenue/Williams Street	—	—	—	—
Williams St. WB left/thru	F	>50.0	0.81	159
Shawmut Ave. SB thru/right	A	0.0	0.50	0
Washington Street/Tropical Foods Driveway	—	—	—	—
Tropical Foods EB left/right	C	23.3	0.32	33
Washington St. NB left/thru	A	2.1	0.08	6
Washington St. SB thru/right	A	0.0	0.41	0
Williams Street/Tropical Foods Driveway	—	—	—	—
Williams St. WB thru/right	A	0.0	0.15	0
Tropical Foods SB right	A	9.7	0.03	2

# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is maximum after 2 cycles.
m = Volume for the 95th percentile queue is metered by the upstream signal.
* Due to field observations of the 13.5 foot thru lane with adjacent 7.5 feet parking and 6.5 foot painted median, Washington Street NB was analyzed as three lanes instead of the current one left/thru/right striping.
Grey shading indicates a decrease in LOS from Existing Conditions to LOS E or worse.

Under No-Build Conditions, all study area intersections continue to operate at the same overall and individual level of service in both the morning and evening peak hours as the Existing Conditions with the following exceptions:

Melnea Cass Boulevard/Shawmut Avenue. The intersection of Melnea Cass Boulevard/Shawmut Avenue decreases from overall LOS E to LOS F during the p.m. peak hour. Operations at the approach of Melnea Cass Boulevard westbound left/through/through decrease from LOS C to LOS E during the p.m. peak hour. The decrease can be attributed to the added volume of vehicles waiting for a gap in the opposing traffic to turn left onto Shawmut Avenue, and the high volume of vehicles that need to enter and clear the intersection within the green time provided.

Melnea Cass Boulevard/Washington Street. Operations of the approach of Melnea Cass Boulevard eastbound left decrease from LOS D to LOS F during the p.m. peak hour. The approach of Melnea Cass Boulevard westbound left decreases from LOS D to LOS F during the a.m. peak hour, and from LOS E to LOS F during the p.m. peak hour. The approach of Washington Street northbound through decreases from LOS E to LOS F during the a.m. peak hour. The decrease can be attributed to the volume of vehicles waiting for a gap in the opposing traffic to turn left onto Washington Street; and the volume of vehicles entering and clearing the intersection within the green time provided.

2.5.2 Build Scenario (2018)

The Project will result in the construction of 44,300 sf of supermarket space for the new Tropical Foods store (20,000 sf ground-level shopping space and 24,300 sf of storage space), 30 residential units, 23,000 sf of additional retail space and 47,000 sf of office space. The site plan is shown in Figure 2-1, above.

2.5.2.1 Trip Generation and Mode Use

Trip generation for the proposed land uses was derived from the Institute of Transportation Engineers' (ITE) publication *Trip Generation* (9th edition, 2012), using the following Land Use Codes (LUC):

- ***LUC 150 – Warehousing*** – Warehouses are primarily devoted to the storage of materials, but may also include office and maintenance areas.

- ***LUC 220 – Apartments*** – are rental dwellings located within the same building with at least three other dwelling units. The studies included in this land use did not identify whether the apartments were low-rise, mid-rise, or high-rise buildings.

- ***LUC 710 – General Office Building*** – A general office building houses multiple tenants. It is a location where affairs of businesses, commercial or industrial organizations or professional persons or firms are conducted.

- ***LUC 820 – Shopping Center*** – Used for the general retail space in this project, this code covers neighborhood centers, community centers regional centers, and super regional centers.

- ***LUC 850 – Supermarket –*** Supermarkets are free-standing retail stores selling a complete assortment of food, food preparation and wrapping materials, and household cleaning items. This code was used for the Tropical Foods space.

BTD publishes transit, walk/bike, and vehicle mode split rates for different areas of Boston and the Project is located within designated Area 15. The mode split assumptions based on BTD's Area 15 data and local vehicle occupancy rates from 2009 *National Household Travel Survey* and the 2010 U.S. Census.

Based on the land use trip rates, mode split assumptions, and local vehicle occupancy rates, the resulting transit, walk/bike, and vehicle trips were identified. The existing use on the lot includes not only the existing supermarket but also informal neighborhood parking. Thus, to accurately reflect existing activity, the existing vehicle trips were developed from driveway counts and subtracted from the Project-generated trips to develop net new trips. The Project-generated trips are summarized in Table 2-8, with detailed trip generation information provided in Appendix C.

Table 2-8 Project Trip Generation

Time Period	Vehicle (net new)	Transit	Walk/Bike/Other
Daily	**572**	**818**	**1,994**
Entering	286	409	997
Exiting	286	409	997
a.m. Peak Hour	**33**	**73**	**94**
Entering	37	47	62
Exiting	(4)	26	32
p.m. Peak Hour	**18**	**139**	**215**
Entering	(25)	70	100
Exiting	43	69	115

As shown in Table 2-8, the Project will only generate approximately 33 new vehicle trips (37 more trips entering, but 4 fewer trips exiting) during a.m. peak hour and 18 new vehicle trips (25 fewer trips entering and 43 trips exiting) during p.m. peak hour. This corresponds to less than one new vehicle trip per minute during the a.m. and p.m. peak hour on the adjacent roadway network, a negligible increase.

2.5.2.2 Trip Distribution

Vehicular trip distribution was based on existing traffic patterns and review of the adjacent roadway network. The Project-generated vehicle trips during the a.m. and p.m. peak hour assigned to the roadway network using the resulting trip distribution are illustrated in Figure 2-13.

The Project-generated vehicle trips were then added to the No-Build traffic volumes to create the 2018 Build Condition traffic volumes. Figure 2-14 and Figure 2-15 show the 2018 Build a.m. and p.m. peak hour traffic volumes, respectively.

2.5.2.3 Build (2018) Traffic Operations

The LOS analysis for the Build Conditions was conducted using the same methodology described for Existing and No-Build Conditions. The LOS summary appears in Table 2-9 and Table 2-10. Capacity analysis reports are provided in Appendix B.

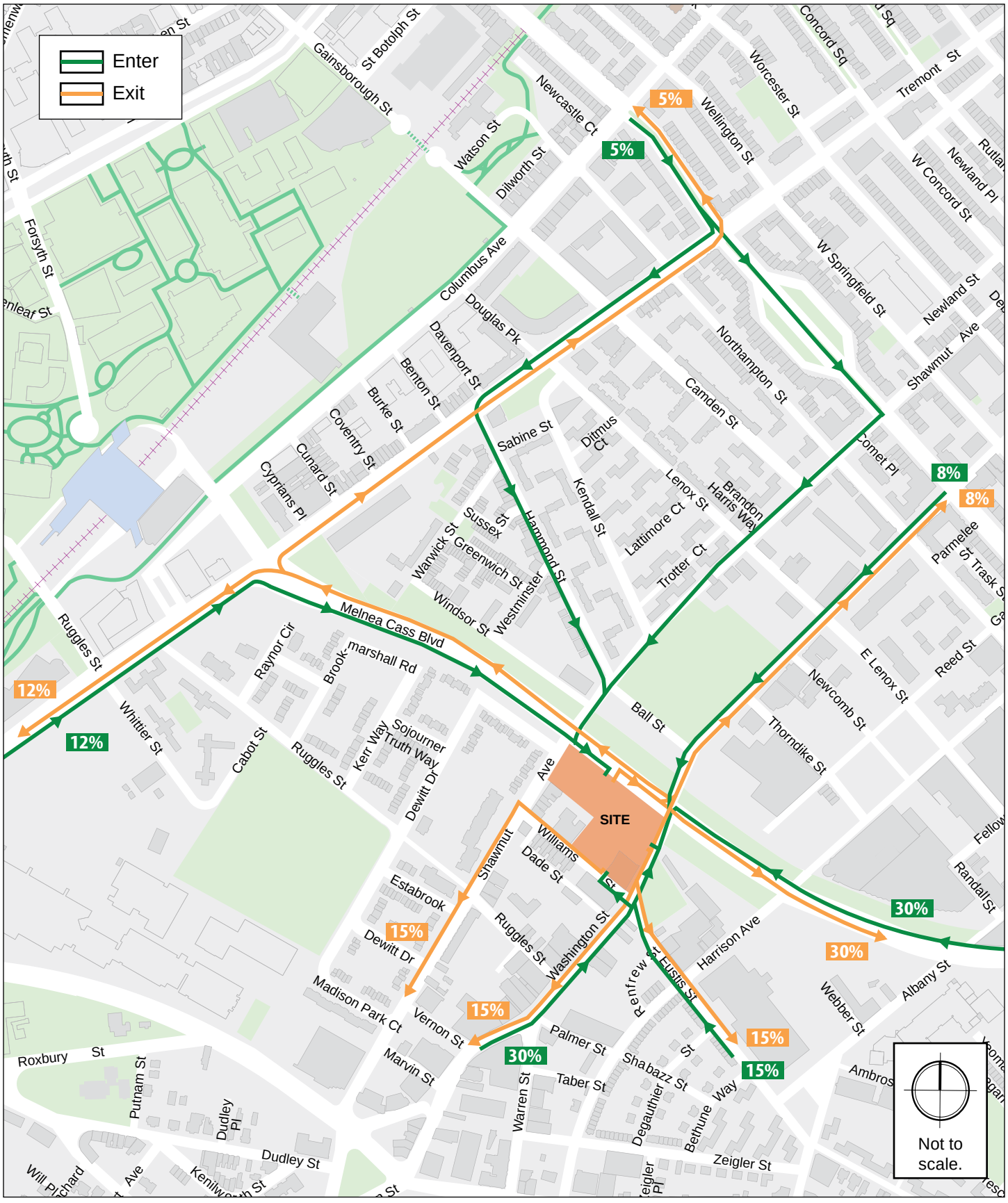

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Figure 2-13
Trip Distribution

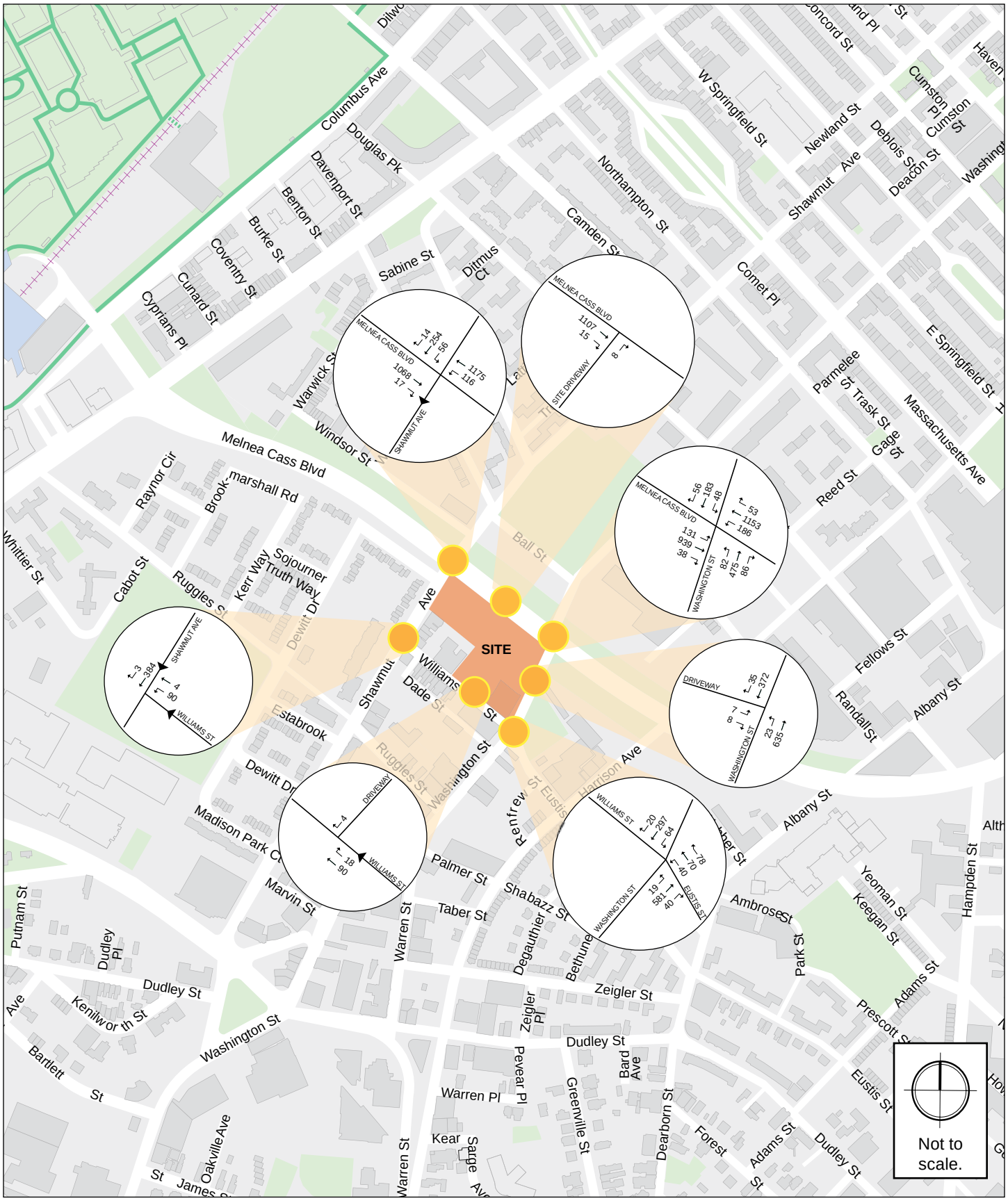

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Figure 2-14
Build Conditions (2018) Traffic Volumes, a.m. Peak Hour

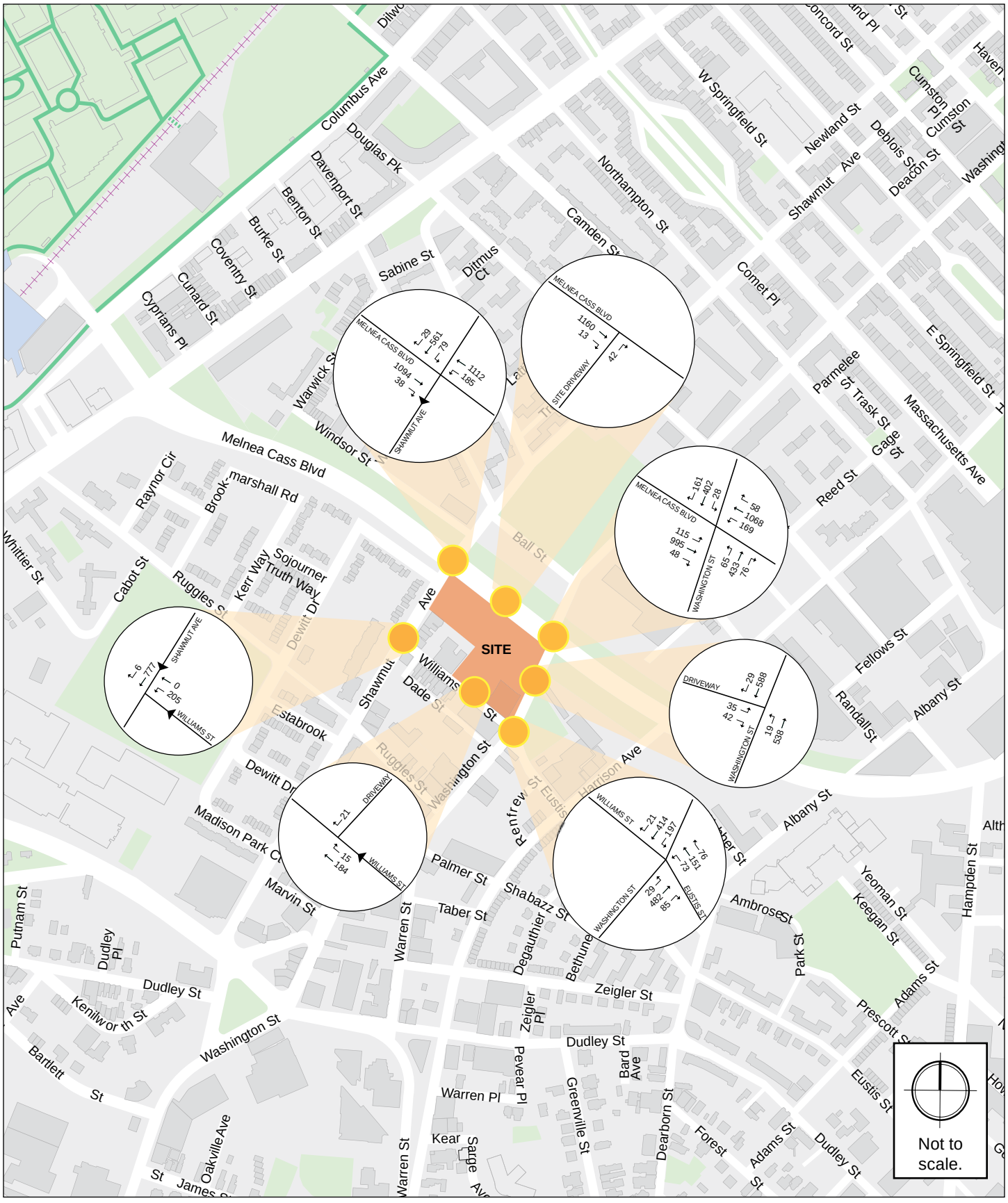

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Figure 2-15
Build Conditions (2018) Traffic Volumes, p.m. Peak Hour

Table 2-9 Build Conditions (2018) Level of Service Summary, a.m. Peak Hour

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Signalized Intersections				
Melnea Cass Blvd./Shawmut Avenue	**D**	**49.7**		
Melnea Cass Blvd. EB thru | thru/right	A	8.2	0.67	52
Melnea Cass Blvd. WB left/thru | thru	F	>80.0	>1.00	#635
Shawmut Ave. SB left/thru | thru/right	D	50.7	0.77	153
Melnea Cass Blvd./Washington Street	**E**	**55.1**		
Melnea Cass Blvd. EB left	F	>80.0	>1.00	m#225
Melnea Cass Blvd. EB thru | thru/right	D	50.5	>1.00	#492
Melnea Cass Blvd. WB left	F	>80.0	>1.00	m#116
Melnea Cass Blvd. WB thru | thru/right	C	20.5	0.92	m155
Washington St. NB left	B	17.3	0.36	m45
Washington St. NB thru	F	>80.0	0.98	#559
Washington St. NB right	A	6.0	0.24	m19
Washington St. SB left	D	38.2	0.45	68
Washington St. SB thru	C	25.0	0.37	151
Washington St. SB right	A	8.7	0.12	31
Washington Street/Williams Street/Eustis Street	**B**	**18.1**		
Eustis St. WB left/ thru/right	C	32.0	0.76	m95
Washington St. NB left*	C	22.6	0.24	36
Washington St. NB thru*	C	21.6	0.66	#606
Washington St. NB right*	A	8.7	0.06	32
Washington St. SB left	A	9.8	0.31	m33
Washington St. SB thru/ right	A	8.8	0.36	m153
Unsignalized Intersections				
Shawmut Avenue/Williams Street				
Williams St. WB left/thru	B	12.6	0.18	16
Shawmut Ave. SB thru/right	A	0.0	0.25	0
Washington Street/Tropical Foods Driveway				
Tropical Foods EB left/right	C	15.4	0.04	4
Washington St. NB left/thru	A	0.6	0.02	2
Washington St. SB thru/right	A	0.0	0.26	0
Williams Street/Tropical Foods Driveway				
Williams St. WB thru/right	A	0.0	0.07	0
Tropical Foods SB right	A	8.8	0.00	0
Melnea Cass Boulevard/Tropical Foods Driveway				
Melnea Cass Blvd. EB thru | thru/right	A	0.0	0.47	0
Tropical Foods NB right	A	10.5	0.01	1

# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is maximum after 2 cycles.
m = Volume for the 95th percentile queue is metered by the upstream signal.
* Due to field observations of the 13.5 foot thru lane with adjacent 7.5 feet parking and 6.5 foot painted median, Washington Street NB was analyzed as three lanes instead of the current one left/thru/right striping.
Grey shading indicates a decrease in LOS from No-Build Conditions to LOS E or worse.

Table 2-10 Build Conditions (2018) Level of Service Summary, p.m. Peak Hour

Intersection/Movement	LOS	Delay (seconds)	V/C Ratio	95th Percentile Queue Length (feet)
Signalized Intersections				
Melnea Cass Blvd./Shawmut Avenue	F	>80.0		
Melnea Cass Blvd. EB thru | thru/right	C	23.1	0.87	508
Melnea Cass Blvd. WB left/thru | thru	F	>80.0	>1.00	#662
Shawmut Ave. SB left/thru | thru/right	E	76.4	>1.00	#378
Melnea Cass Blvd./Washington Street	D	53.1		
Melnea Cass Blvd. EB left	F	>80.0	>1.00	m#112
Melnea Cass Blvd. EB thru | thru/right	E	79.3	1.00	m#497
Melnea Cass Blvd. WB left	F	>80.0	>1.00	m#119
Melnea Cass Blvd. WB thru | thru/right	B	19.9	0.78	m270
Washington St. NB left	D	47.0	0.68	m#81
Washington St. NB thru	E	65.8	0.97	m#489
Washington St. NB right	A	6.9	0.20	m20
Washington St. SB left	C	30.4	0.26	40
Washington St. SB thru	D	48.3	0.86	#432
Washington St. SB right	B	16.2	0.35	102
Washington Street/Williams Street/Eustis Street	D	13.4		
Eustis St. WB left/ thru/right	F	>80.0	>1.00	m#326
Washington St. NB left*	C	34.2	0.37	#59
Washington St. NB thru*	C	23.2	0.62	416
Washington St. NB right*	B	10.0	0.13	52
Washington St. SB left	C	28.9	0.73	m117
Washington St. SB thru/ right	B	17.1	0.46	m262
Unsignalized Intersections				
Shawmut Avenue/Williams Street				
Williams St. WB left/thru	F	>50.0	0.84	173
Shawmut Ave. SB thru/right	A	0.0	0.50	0
Washington Street/Tropical Foods Driveway				
Tropical Foods EB left/right	C	21.4	0.28	28
Washington St. NB left/thru	A	0.8	0.03	2
Washington St. SB thru/right	A	0.0	0.39	0
Williams Street/Tropical Foods Driveway				
Williams St. WB thru/right	A	0.0	0.17	0
Tropical Foods SB right	A	9.8	0.05	4
Melnea Cass Boulevard/Tropical Foods Driveway				
Melnea Cass Blvd. EB thru | thru/right	A	0.0	0.49	0
Tropical Foods NB right	B	10.6	0.07	5

# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is maximum after 2 cycles.
m = Volume for the 95th percentile queue is metered by the upstream signal.
* Due to field observations of the 13.5 foot thru lane with adjacent 7.5 feet parking and 6.5 foot painted median, Washington Street NB was analyzed as three lanes instead of the current one left/thru/right striping.
Grey shading indicates a decrease in LOS from No-Build Conditions to LOS E or worse.

LOS at the following intersections and approaches listed below decreased under Build Conditions:

Melnea Cass Boulevard/Shawmut Avenue. The Melnea Cass Boulevard westbound left/through/through movement decreases from LOS E to LOS F during the a.m. peak hour. The decrease is mainly attributed to the added volume of vehicles waiting for a gap in the opposing traffic to turn left onto Shawmut Avenue.

Melnea Cass Boulevard/Washington Street. Overall intersection LOS here decreases from LOS D to LOS E during the a.m. peak hour with an 8 second increase in average delay. The decrease is mainly attributed to the volume of vehicles waiting for a gap in the opposing traffic to turn left onto Washington Street and the volume of vehicles entering and clearing the intersection within the green time provided.

2.5.2.4 Parking Supply/Demand

The Project will provide approximately 127 surface spaces and a 46-space below-grade parking garage for the office space. BTD has set parking space goals and guidelines throughout the City to establish the amount of parking supply provided with new developments. The spaces are allocated as follows:

- Tropical Foods – 92 surface spaces;
- Additional retail space – 17 surface spaces;
- Office – 46 below-grade spaces; and
- Residential 18 surface spaces.

BTD's maximum parking ratio guidelines in Roxbury near an MBTA Station is 0.75-1.25 spaces per dwelling unit, and 0.75–1.0 parking spaces per 1,000 square feet of commercial space. The residential space ratio falls within this guideline at 0.6 spaces per unit. The office and retail space ratio is 147 spaces to serve approximately 114,000 sf of commercial space, for a ratio of 1.36 spaces per 1,000 sf, slightly above the BTD's guidelines. Because the major commercial use is a grocery store, the increased ratio is appropriate.

2.5.2.5 Public Transportation

The Project will generate a combined estimated 818 daily transit trips, with approximately 73 transit trips (47 boarding and 26 alighting) during a.m. peak hour and 139 transit trips (70 boarding and 69 alighting) during p.m. peak hour. This volume of trips is not expected

to affect transit service adversely in the study area. The Proponent is committed to promoting transit use among Project residents and visitors, as discussed under the Transportation Demand Management section below.

2.5.2.6 Bicycle Accommodations

Secure bicycle storage will be made available for building residents and tenants within the parking garage area and/or within the proposed building per City of Boston *Bicycle Parking Guidelines*, which require a minimum of one bicycle parking space per residential unit and one space per 10,000 sf for the commercial space. Additional bicycle racks for workers, visitors, and guests will also be provided near main entrances to the new buildings.

All bicycle racks, signs, and parking areas will conform to BTD standards and be sited in safe, secure locations. The Proponent will work with BTD to identify the most appropriate quantity and location for bicycle racks on the Project site as part of the *Transportation Access Plan Agreement* (*TAPA*) process.

2.5.2.7 Pedestrian Access and Circulation

On a daily basis, the Project will generate a combined estimated 1,994 pedestrian and bicycle trips in addition to the 818 new transit trips that will require a walk to or from the site. This result is an additional 2,812 new pedestrian or bicycle trips per day. The Project will generate approximately 94 walk/bicycle/other trips (62 trips entering and 32 trips exiting) during the a.m. peak hour and 215 walk/bicycle/other trips (110 trips entering and 115 trips exiting) during the p.m. peak hour. Pedestrian and bicycle trip generation is located in the detailed trip generation data provided in Appendix C.

The Proponent is committed to promoting bicycle use among Project residents, workers and visitors, as discussed under the Transportation Demand Management section below.

2.5.2.8 Loading and Service

All loading, trash pick-up, and move-in/move-out activities will occur on-site in several loading areas, as shown in the Proposed Site Plan, Figure 2-1.

2.6 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project-generated traffic impacts. The TDM program supports the City's efforts to reduce dependency on the automobile by encouraging travelers to use alternatives to driving alone, especially during peak time periods. The Project site is adjacent to and well served by bus and rapid transit, which will serve a good portion of the resident, worker, guest, and visitor trips to and from the site.

The Proponent is prepared to take advantage of good transit access in marketing the Project to future residents and tenants and to work with them to implement the following demand management measures to encourage the use of public transportation, ridesharing, bicycling, and walking. TDM measures may include, but are not limited to, the following:

- *Transportation Coordinator* - On-site management will provide transit information (schedules, maps, fare information) for residents and visitors. The transportation coordinator will oversee site transportation issues, including parking, service, and loading. The transportation coordinator will work with residents and tenants as they move in to raise awareness of public transportation alternatives.

- *Tenant and Resident Orientation Packet* - The packet will provide new tenants with information about available transportation demand management programs and public transportation options, including route schedules, maps, and fare information as well as shared bicycle and shared car services in the area.

- *Web Site* - Design of a Web site will include public transportation information for residents, visitors, and for marketing to prospective tenants.

- *Bicycles* - Management will provide secure bicycle storage for residents at a minimum of one bicycle space for every one residential dwelling unit, plus outdoor bicycle racks for visitors and guests.

- *Car-sharing Service* - The Proponent will evaluate the feasibility of providing a shared car service (i.e. Zipcar, Hertz, etc.).

- *Electric Charging Stations* - The Proponent will explore the feasibility of providing an electric vehicle charging station within the garage.

2.7 Evaluation of Short-term Construction Impacts

A Construction Management Plan (CMP) will be filed with BTD in accordance with the City's requirements. The CMP will discuss measures for minimizing negative impacts associated with trucking activity, construction staging, and construction worker parking. As part of the CMP, the Proponent will work with the City to ensure that the construction schedule for the proposed Project is well coordinated with other construction activities in the area, including Parcel 9 and the Melnea Cass Boulevard Redesign Project.

Construction activities will be accommodated within the site boundaries, where possible.

Details of the overall construction schedule, working hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in the CMP.

To minimize transportation impacts during the construction period, the following mitigation measures will be incorporated into the CMP:

- Transit use and car-pooling will be encouraged for construction workers;
- Secure spaces will be provided on site for workers' supplies and tools, so that they do not have to be brought to the site each day; and
- The Proponent will designate an individual as primary contact to work with appropriate public review agencies and surrounding businesses and communities. The liaison will ensure coordination with other development projects and will be able to provide construction information as required. The role of the liaison will be to enable the construction period to run as smoothly as possible by serving as the point of contact for resolution of any issues that may arise.

Chapter 3.0

Environmental Protection Component

3.0 ENVIRONMENTAL PROTECTION COMPONENT

3.1 Wind

The following section is a qualitative review of the wind environment in the vicinity of the proposed Project and the impact that the Project may have on pedestrian level wind conditions. Due to the relatively short height of the proposed buildings and the heights of the existing buildings in the surrounding area, the Project is unlikely to cause significant adverse pedestrian level wind impacts.

3.1.1 Introduction and Background

Tall buildings, especially those that protrude above their surroundings, often cause increased local wind speeds at the pedestrian level. Typically, wind speeds increase with elevation. Taller buildings can intercept faster winds at the higher elevations and deflect them down to the pedestrian level. The funneling of wind through tight gaps between buildings and the acceleration of wind around corners of buildings may also cause increases in wind speed. Conversely, buildings that are surrounded by others of equivalent height tend to be protected from prevailing upper-level winds; therefore, they do not intercept and deflect the faster winds downward and no significant changes to the local pedestrian-level wind environment occur.

3.1.2 Project Site

The Project Site consists of open space and an existing building, surrounded by low buildings and trees. The Site includes Building C which will be retained and rehabilitated as part of the Project and therefore will not cause any changes to the overall wind impacts of the Site.

3.1.3 Proposed Building Heights and Surrounding Development

The proposed Project will have a maximum height of approximately 68 feet, which is the height of the partial fifth floor of Building B at the corner of Melnea Cass Boulevard and Washington Street. Building A will have a height of only two stories, or 35 feet and Building C is an existing building of four stories, or 51 feet.

The area surrounding the Project Site is built up generally with low-rise development, typical of the Roxbury neighborhood. To the west, in the blocks between Shawmut Avenue and Sojurner Truth Court are numerous three story row homes and a few taller brick buildings, including two buildings at the corner of Shawmut Avenue and Ruggles Street that range in height between seven and twelve stories. The area to the east and south of the Project Site primarily consists of one to two story industrial buildings and three story residential buildings. To the north, the surrounding land is defined by vacant lots and open space along Ramsey Park. In summary the heights of the buildings around the Project Site are generally similar to the existing and proposed conditions.

3.1.4 Boston's Wind Climate

The Project Site is located less than four miles southwest of Logan International Airport. Thus, the wind data from Logan International Airport, usually used to define the winds for the Boston area, is applicable. Figure 3.1-1 depicts a wind rose for Boston. The wind speeds are estimated at pedestrian level at the airport. The length of each line radiating from the center of the figure to the outermost crossing line is proportional to the total time the wind comes from that direction. The other lines crossing the radial lines indicate the frequency of winds less than 7, 10, and 15 miles per hour (mph). As noted in the figure, the wind rose is based on surface wind data from Logan International Airport taken from 1945 to 1965. Data from 1965 to 2007 is also available, but it is not believed to be as representative of the true winds in Boston. Many 25- to 40-story buildings have been built in the financial district since 1965. The financial district is just one mile southwest of Logan International Airport.

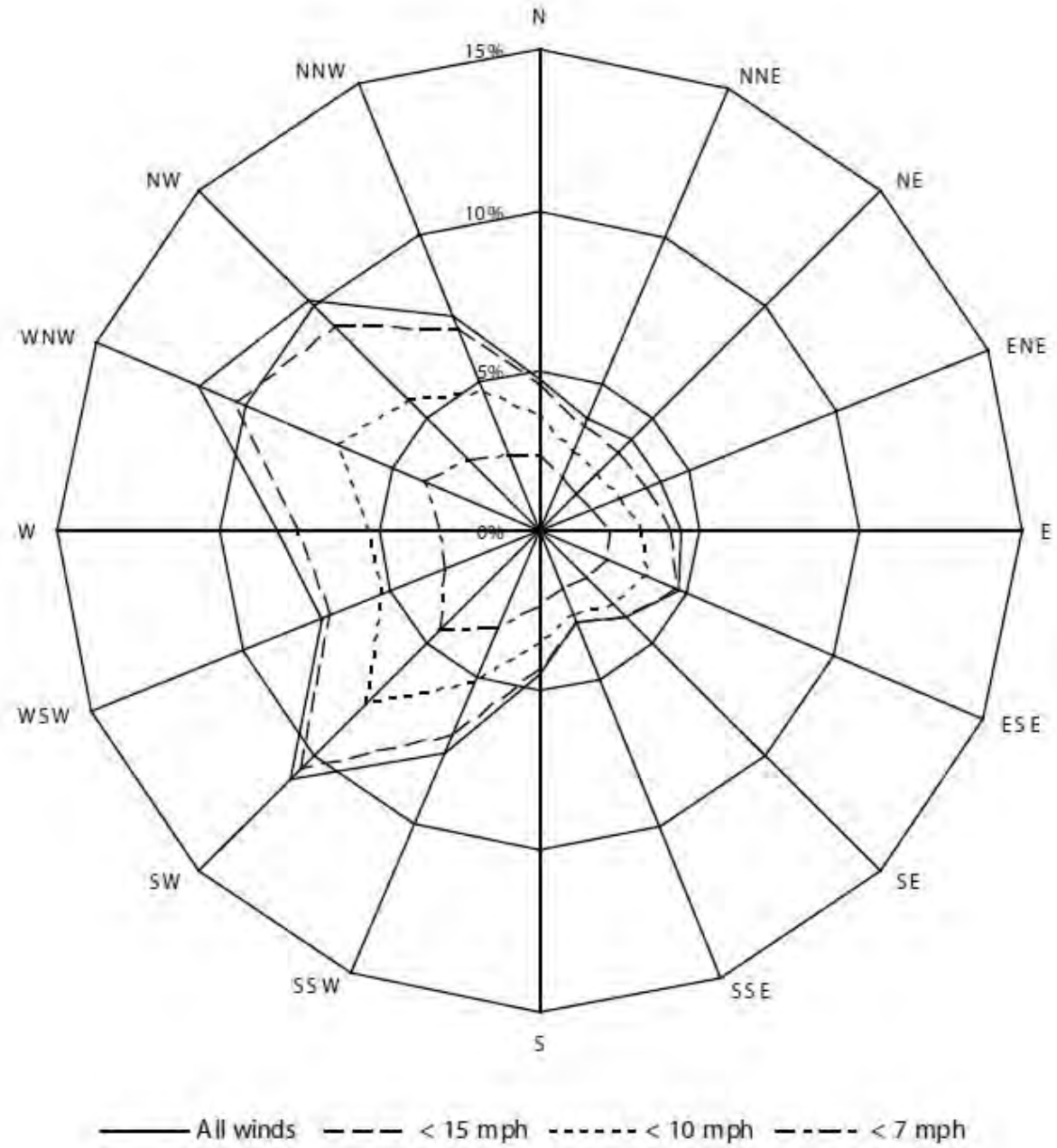
The prevailing winds in Boston vary with the season. In the colder months, winds are generally out of the northwest and from the southwest in the warmer months. Spring and fall are transitional, but winds are stronger in the spring than in the fall. Boston weather is generally dominated by either large coastal storms that occur in the fall, winter, and spring or by the Bermuda High in the summer. Typically, when a coastal storm occurs, it rains or snows for 4 to 12 hours with the wind coming from the northeast (a nor'easter), then it clears, and, as the storm moves to the northeast, the winds blow from the northwest for three or four days until the next weather system arrives. These storms and the northwest winds following them occur mostly in the fall, winter, and spring. Northwest winds are particularly uncomfortable in the winter on cold days.

The Bermuda High is generally responsible for the southwest winds that occur in the summer. Based upon wind data gathered at Logan International Airport, the average wind speed at pedestrian level is 9.4 mph in the winter, 9.2 mph in the spring, 7.4 mph in the summer, and 8.2 mph in the fall.[1]

3.1.5 Impacts

Because the relatively low height of the existing and proposed buildings will not intercept higher level winds, and because the proposed buildings are relatively similar in height and do not protrude above the surrounding buildings, the proposed Project is not expected to induce undue wind impacts or cause any significant change in pedestrian level wind patterns.

[1] Durgin, Frank. Draft Project Impact Report, Charlesview Redevelopment, July 24, 2009, pp. 4-1 – 4-28.



Source: Frank H. Durgin, P.E.

Figure 3.1-1

Annual Pedestrian Level Wind Rose for Boston Based on Surface Data from Logan Airport 1945-1965

In the winter, fall, and spring, prevailing winds will be from the northwest. This means that the Project Site will be somewhat protected from the wind by the existing surrounding buildings of three or more stories located to the northwest and the gradual increase in the Project's height starting with the two story Building A that will be located in the northwest corner of the Project Site before the Project steps up to Building B. Building C will not have any new impacts compared to the existing conditions, as this part of the Project involves the rehabilitation of the existing four-story building.

Warmer summer winds will come from the southwest. In this case, the existing Building C and the proposed partial five-story Building B at the southeastern corner of the Site will serve, to some extent, as a shield for the Project Site and the surrounding buildings to the northeast.

As the design for the Project progresses, the architect will take careful note of the potential for the proposed buildings to affect pedestrian level winds and will incorporate mitigation measures, such as wind screens, canopies, or additional landscaping if needed to reduce impacts.

3.2 Shadow Impacts

3.2.1 Introduction and Methodology

As is typically required by the BRA, a shadow impact analysis was conducted to investigate shadow impacts from the Project during three time periods (9:00 a.m., 12:00 noon, and 3:00 p.m.) during the vernal equinox (March 21), summer solstice (June 21), autumnal equinox (September 21), and the winter solstice (December 21). In addition, shadow studies were conducted for the 6:00 p.m. time period during the summer solstice and autumnal equinox.

The shadow analysis presents existing shadow and net new shadow from the proposed buildings to illustrate the incremental impact of the Project. The analysis focuses on public open spaces, major pedestrian areas, bus stops and subway stations, and the sidewalks adjacent to and in the vicinity of the Project Site. Shadows have been determined using the applicable Altitude and Azimuth data for Boston, shown in Table 3.2-1, as is typically requested by the BRA.

Table 3.2-1 Azimuth and Altitude Data

Date	Local Time	Solar Position	
		Altitude	Azimuth
March 21	9:00 a.m. EST	33.0	125.7
	12:00 p.m. EST	48.0	-176.9
	3:00 p.m. EST	30.5	-121.8
June 21	9:00 a.m. DST	39.9	93.5
	12:00 p.m. DST	68.8	149.4
	3:00 p.m. DST	56.5	-113.7
	6:00 p.m. DST	23.9	-79.3
September 21	9:00 a.m. DST	25.9	115.3
	12:00 p.m. DST	47.4	166.0
	3:00 p.m. DST	37.4	-132.9
	6:00 p.m. DST	7.3	-96.0
December 21	9:00 a.m. EST	14.2	141.9
	12:00 p.m. EST	24.1	-175.6
	3:00 p.m. EST	10.0	-135.1

3.2.2 Vernal Equinox (March 21)

At 9:00 a.m. during the Vernal Equinox, net new shadow from the Project will be cast in a northwesterly direction. New shadow will be cast onto portions of the roadway and northern sidewalks along Shawmut Avenue. New shadow will also be cast across portions of the Project Site.

As the day progresses, the shadows become shorter, still falling to the north. At noon, new shadow from the Project will be cast onto a small portion of the sidewalk along Melnea Cass Boulevard. Some new shadow will also fall on minor portions of the Project Site.

In the afternoon (3:00 p.m.), new shadow will extend northeast from the Project. Net new shadow from the Project will be cast onto Melnea Cass Boulevard adjacent to the Project site. Narrow shadow from the Project will also be cast onto Washington Street.

3.2.3 Summer Solstice (June 21)

At 9:00 a.m. during the Summer Solstice net new shadow from the Project will be cast in a northwesterly direction. New shadow will be cast onto portions of Shawmut Avenue and the Project Site.

As the day progresses, the shadows become shorter, falling north. At noon, shadow from the Project will be limited to portions of the sidewalk and roadway areas along Melnea Cass Boulevard adjacent to the Project Site.

In the afternoon (3:00 p.m.), new shadow will extend northeast from the Project. Net new shadow from the Project will fall on the corner of Melnea Cass Boulevard and Washington Street.

By 6:00 p.m., new shadows will extend to the southeast falling across the Project Site. New shadow will be cast across Washington Street and onto the vacant lot on the corner of Melnea Cass Boulevard and Washington Street opposite the Project Site. No new shadow is anticipated to impact the abutting Eliot Burying Ground.

3.2.4 Autumnal Equinox (September 21)

At 9:00 a.m. during the Autumnal Equinox net new shadow from the Project will be cast in a northwesterly direction. Net new shadow will be cast onto portions of the sidewalks and roadways of Shawmut Avenue. Other new shadow will be cast onto a small portion of the Project Site.

At noon, minimal new shadow from the Project will be cast onto portions of the sidewalk of Melnea Cass Boulevard adjacent to the Project site.

In the afternoon (3:00 p.m.), new shadow will extend northeast from the Project. Net new shadow will be cast across portions of roadways and sidewalks of Melnea Cass Boulevard and Washington Street.

By 6:00 p.m., much of the area is in existing shadow. New shadow is anticipated on the Project Site and on the vacant lot at he corner of Melnea Cass Boulevard and Washington Street opposite the Project Site. New shadow will also extend across Melnea Cass Boulevard onto Parcel 9 and other properties in the Project's eastern proximity. No new shadow is anticipated to impact the abutting Eliot Burying Ground.

3.2.5 Winter Solstice (December 21)

The Winter Solstice creates the least favorable conditions for sunlight in New England. The sun angle during the winter is lower than in any other season, causing the shadows to elongate and create considerable shadow in the area.

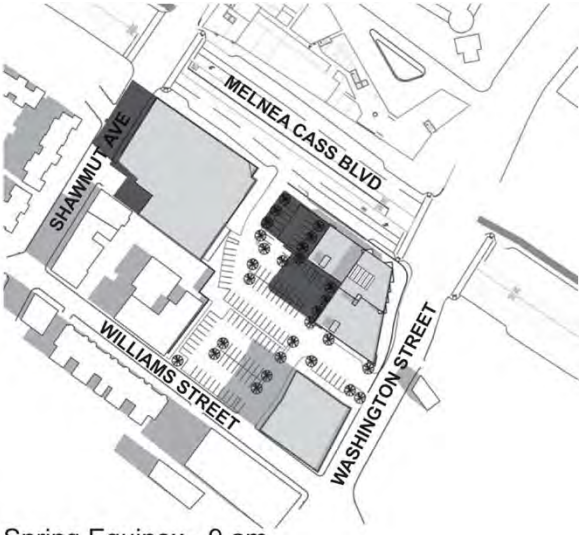
At 9:00 a.m., the morning sun will cast new shadows from the Project to the northwest, across portions of roadway and sidewalks of Shawmut Avenue and Melnea Cass Boulevard. New shadow will also fall upon portions of the Project Site.

At noon, the sun has moved and the shadows will fall to the north. New shadow from the Project will be cast on the sections of Shawmut Avenue and Melnea Cass Boulevard. New shadow will also be cast a small portion of the Project Site.

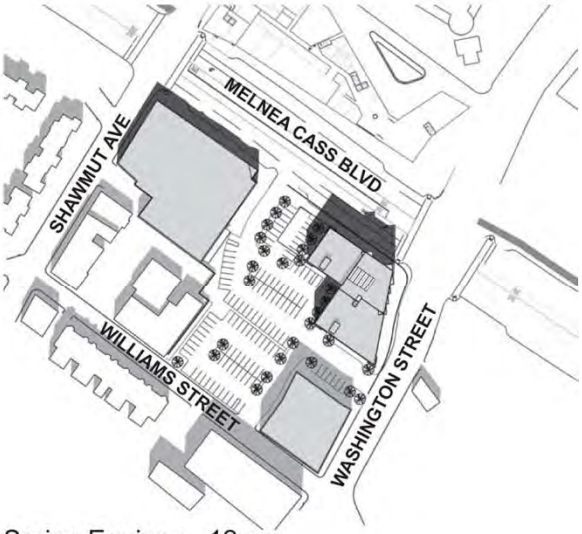
As the sun sinks lower in the sky, 3:00 p.m. shadows become elongated, falling northeast of the Project Site. Net new shadow from the Project will be cast across Melnea Cass Boulevard onto portions of the roadway and sidewalks and onto portions of Parcel 9. New shadow cast by the Project will also fall along Washington Street and the abutting parcels. No new shadow is anticipated to impact the abutting Eliot Burying Ground.

3.2.6 Conclusions

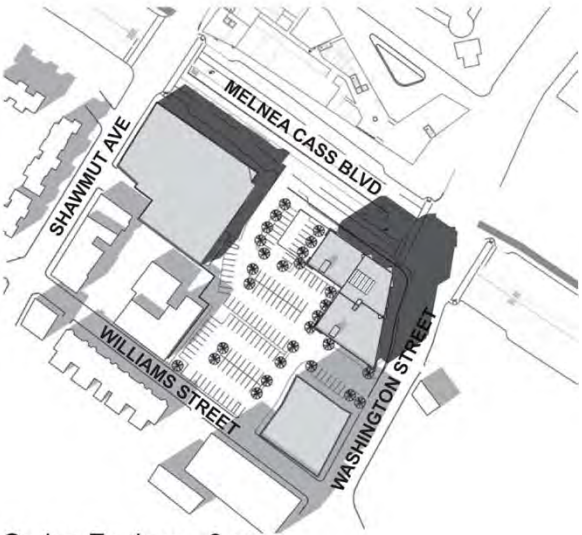
Given the relatively low height and scale of the Project, as well as the rehabilitation of the existing structure known as Building C, there will be relatively minor shadow impacts related to the development of the Project. In general, shadow impacts from the Project are confined to the immediate surrounding roadways and sidewalks. No new shadow from the Project is anticipated on any existing and proposed open spaces or public parks in the area including the nearby Eliot Burying Ground.



Spring Equinox - 9 am

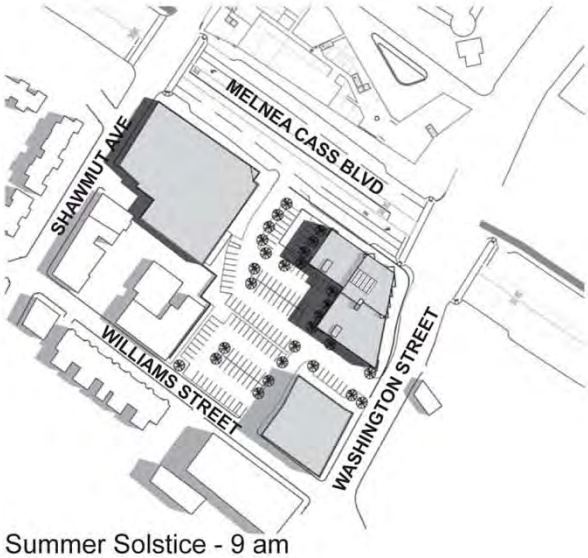


Spring Equinox - 12 pm

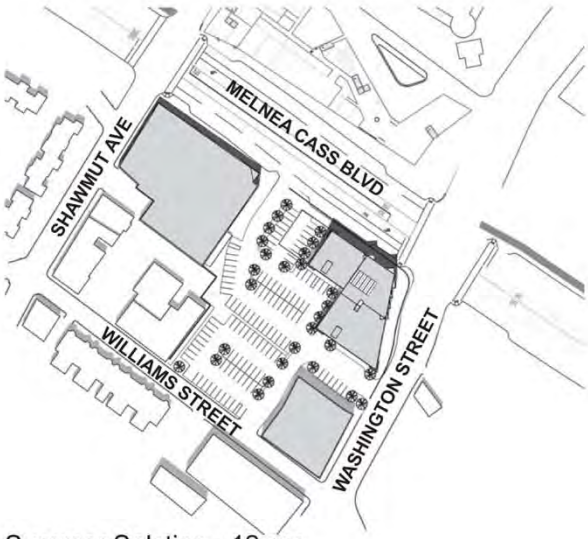


Spring Equinox - 3 pm

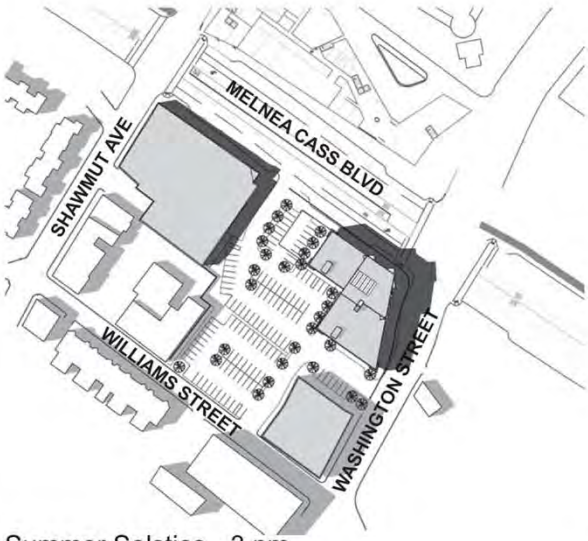
Figure 3.2-1
Spring Equinox



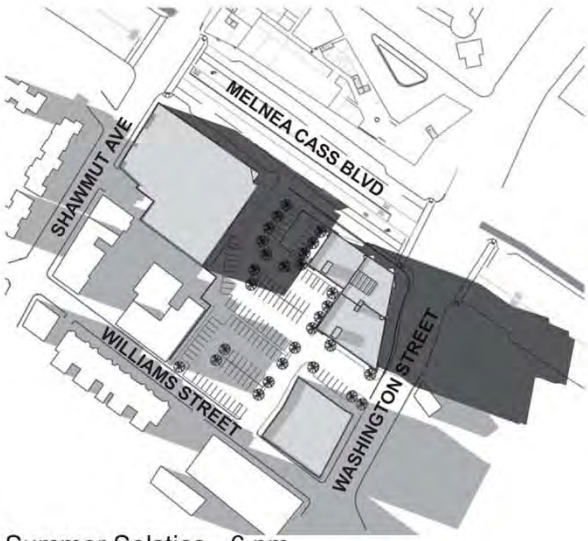
Summer Solstice - 9 am



Summer Solstice - 12 pm

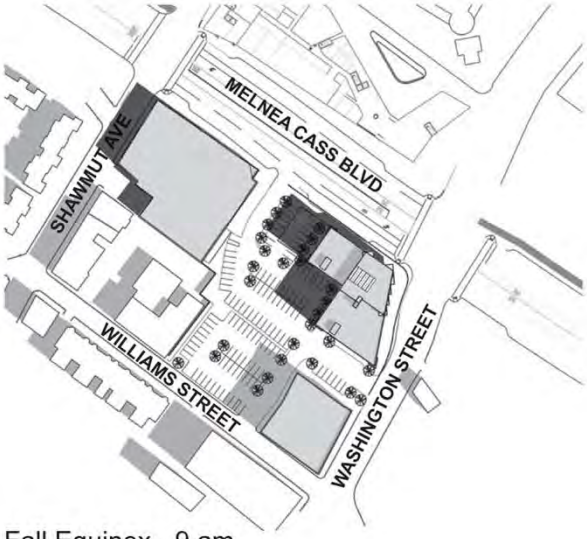


Summer Solstice - 3 pm

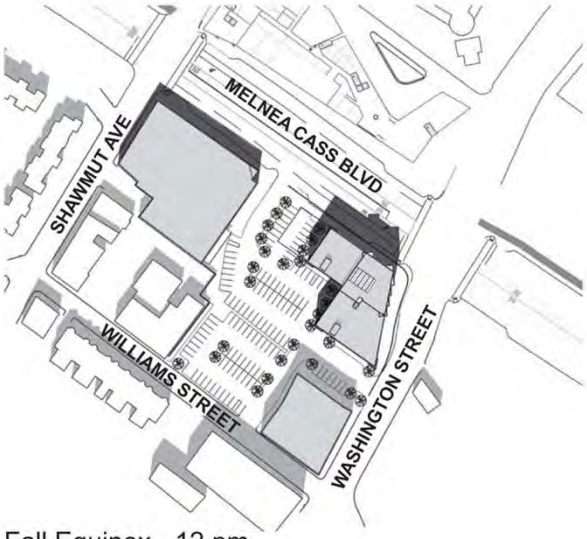


Summer Solstice - 6 pm

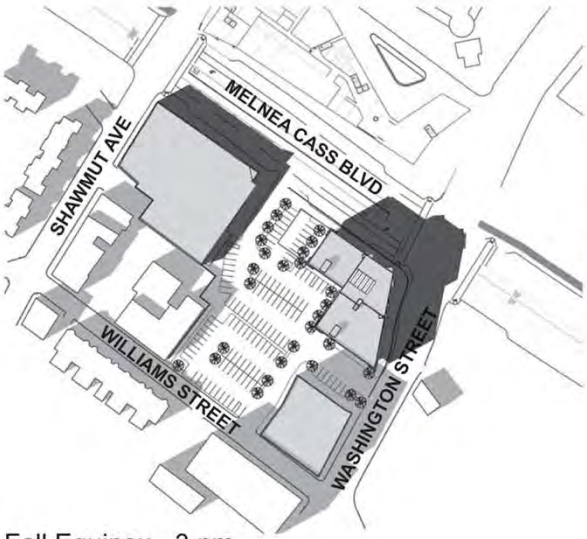
Figure 3.2-2
Summer Solstice



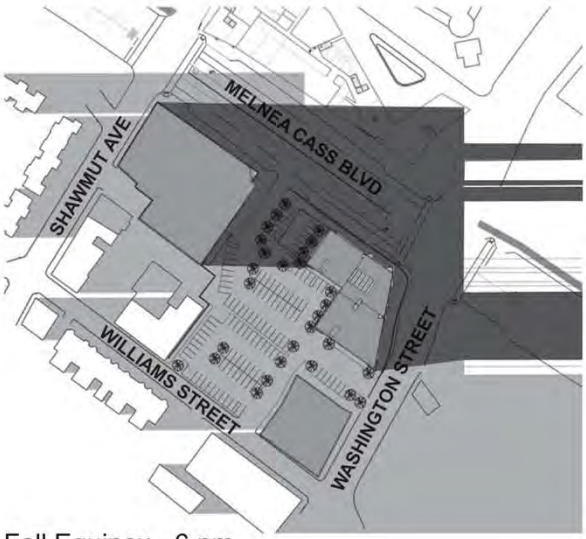
Fall Equinox - 9 am



Fall Equinox - 12 pm

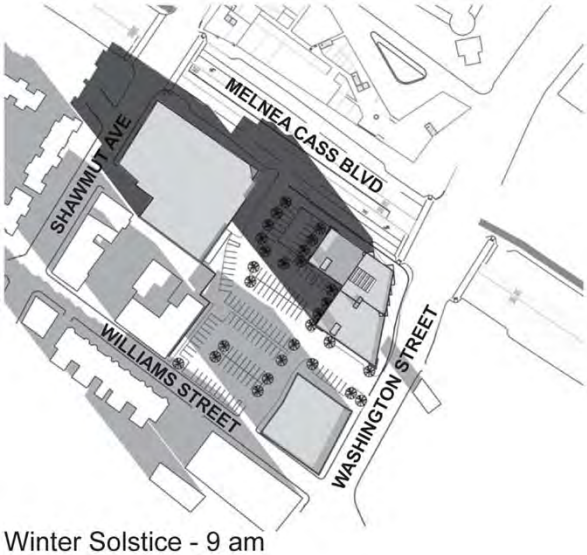


Fall Equinox - 3 pm

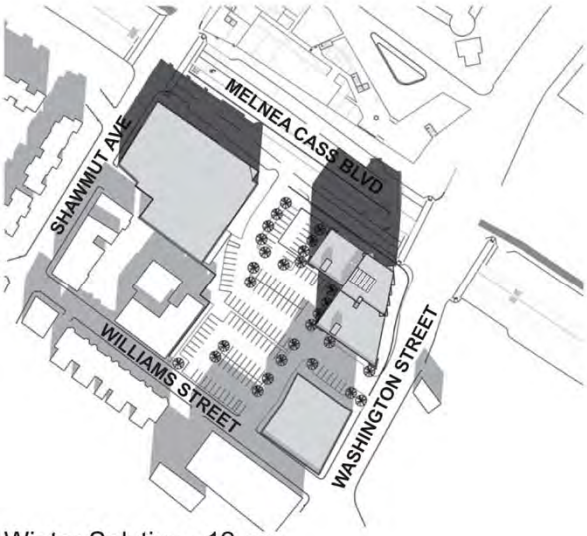


Fall Equinox - 6 pm

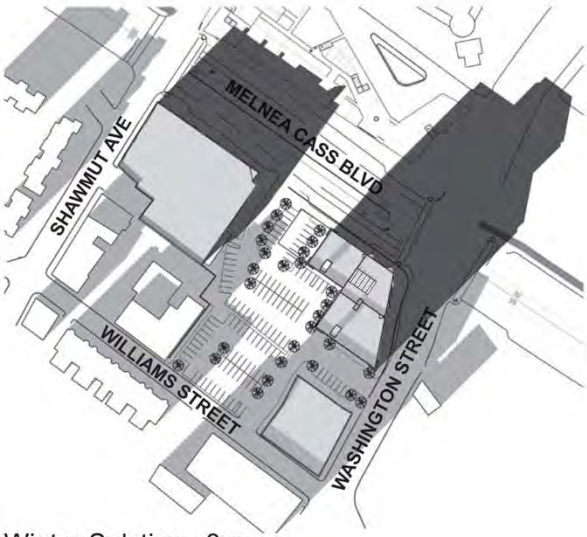
Figure 3.2-3
Fall Equinox



Winter Solstice - 9 am



Winter Solstice - 12 pm



Winter Solstice - 3 pm

Figure 3.2-4
Winter Solstice

3.3 Daylight Analysis

3.3.1 Introduction

The purpose of the daylight analysis is to estimate the extent to which a proposed project will affect the amount of daylight reaching the streets and the pedestrian areas adjacent to the project site. As is typically required by the BRA, the daylight analysis for the Project considers existing and proposed daylight conditions as well as those of the surrounding area. The Project Site is currently occupied by a single building (current site of Tropical Foods) in its southern corner and is otherwise covered by surface parking and a maintained lawn. Because the building only takes up a portion of the lot area, most viewpoints looking toward the Site have a low daylight obstruction value. Although the Project will result in an increase in daylight obstruction, the resulting conditions will generally be less obstructive than or similar to nearby areas and typical urban areas.

3.3.2 Methodology

The daylight analysis was performed using the Boston Redevelopment Authority Daylight Analysis (BRADA) computer program.[2] This program measures the percentage of sky-dome that is obstructed by a project and is a useful tool in evaluating the net change in obstruction from existing to build conditions at a specific site.

Using BRADA, a silhouette view of the Project Site is taken at ground level from the middle of the adjacent city streets or pedestrian ways centered on the Project. The façade of the buildings facing the viewpoint, including heights, setbacks, corners and other features, is plotted onto a base map using lateral and elevation angles. The two-dimensional base map generated by BRADA represents a figure of the buildings in the "sky dome" from the viewpoint chosen. Due to the constraints of the BRADA program, the setbacks of the buildings may be simplified or the buildings may be divided into sections in some cases. The BRADA program calculates the percentage of daylight that will be obstructed on a scale of zero percent to 100 percent based on the width of the view, the distance between the viewpoint and the buildings, and the massing and setbacks incorporated into the design of the buildings; the lower the number, the lower the percentage of obstruction of daylight from any given viewpoint.

The daylight analysis compares three conditions:

- Existing conditions;
- Proposed conditions; and

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[2] Method developed by Harvey Bryan and Susan Stuebing, computer program developed by Ronald Fergle, Massachusetts Institute of Technology, Cambridge, MA, September 1984.

- The context of the area.

Viewpoints were chosen from the four public ways surrounding the Project Site: Melnea Cass Boulevard (Viewpoint 1), Washington Street (Viewpoint 2), Williams Street (Viewpoint 3), and Shawmut Avenue (Viewpoint 4). Additionally, this study considered area context points to provide a basis of comparison to existing conditions in the surrounding area. These viewpoints were taken along Shawmut Avenue (AC1), Williams Street (AC2) and Ruggles Street (AC3). These viewpoints and area context points are illustrated on Figure 3.3-1.

3.3.3 Daylight Analysis Results

The results for each viewpoint under each condition are described in Table 3.3-1. Figures 3.3-2 through 3.3-5 illustrate the BRADA results for each viewpoint and are located at the end of this section.

Table 3.3-1 Daylight Obstruction Values

Viewpoint Locations		Existing	Proposed
Viewpoint 1	Melnea Cass Boulevard looking southwest at the Project Site	1.8%	12.7%
Viewpoint 2	Washington Street looking northwest at the Project Site	6.3%	20.7%
Viewpoint 3	Williams Street looking northeast at the Project Site	6.8%	10.8%
Viewpoint 4	Shawmut Avenue looking southeast at the Project Site	17.7%	50.2%
Area Context Points			
AC1	Shawmut Avenue looking at 735 Shawmut Avenue		46.0%
AC2	Williams Street looking southwest		46.5%
AC3	Ruggles Street looking northeast		16.2%

3.3.3.1 Existing Conditions

The Project Site is currently occupied by a four-story building at the southern corner, with paved parking and a large maintained lawn covering the majority of the Site. Two three-story buildings stand on the same block, just to the west of the Project Site. Because these buildings occupy only a small portion of the Project Site, existing daylight obstruction values are low, ranging from 1.8% to 17.7%, relative to the surrounding area.

3.3.3.2 Melnea Cass Boulevard – Viewpoint 1

Melnea Cass Boulevard runs along the northeastern edge of the Project Site. Viewpoint 1 was taken from the center of Melnea Cass Boulevard, looking southwest towards the Project Site. The existing buildings on the Site are set back significantly from Melnea Cass Boulevard, and therefore create little daylight obstruction. The development of the Project will result in an increase in daylight obstruction to 12.7 percent. This daylight obstruction value is relatively low because of the large opening for entry and parking that separates Buildings A and B.

3.3.3.3 Washington Street – Viewpoint 2

Washington Street runs along the southeastern edge of the Project Site. Viewpoint 2 was taken from the center of Washington Street, looking northwest towards the Project Site. The new development will increase the daylight obstruction value from this viewpoint to 20.7 percent from 6.3% in the existing condition. This daylight obstruction value is low for an urban area, but typical of much of the surrounding area outside of Dudley Square.

3.3.3.4 Williams Street – Viewpoint 3

Williams Street runs along the southwestern edge of the Project Site. Viewpoint 3 was taken from the center of Williams Street, looking northeast toward the Project Site. The new development will increase this daylight obstruction value to 10.8 percent from 6.8% in the existing condition. Again, this daylight obstruction value is relatively low due to the large central parking area separating the existing buildings and Building C, and is typical of much of the surrounding area outside of Dudley Square.

3.3.3.5 Shawmut Avenue – Viewpoint 4

Shawmut Avenue runs along the northwestern edge of the Project Site. Viewpoint 4 was taken from the center of Shawmut Avenue, looking southeast toward the Project Site. The development of Building A will increase the daylight obstruction value from this viewpoint to 50.2 percent from 17.7% in the existing condition. This daylight obstruction value is typical of urban areas and the Dudley Square area.

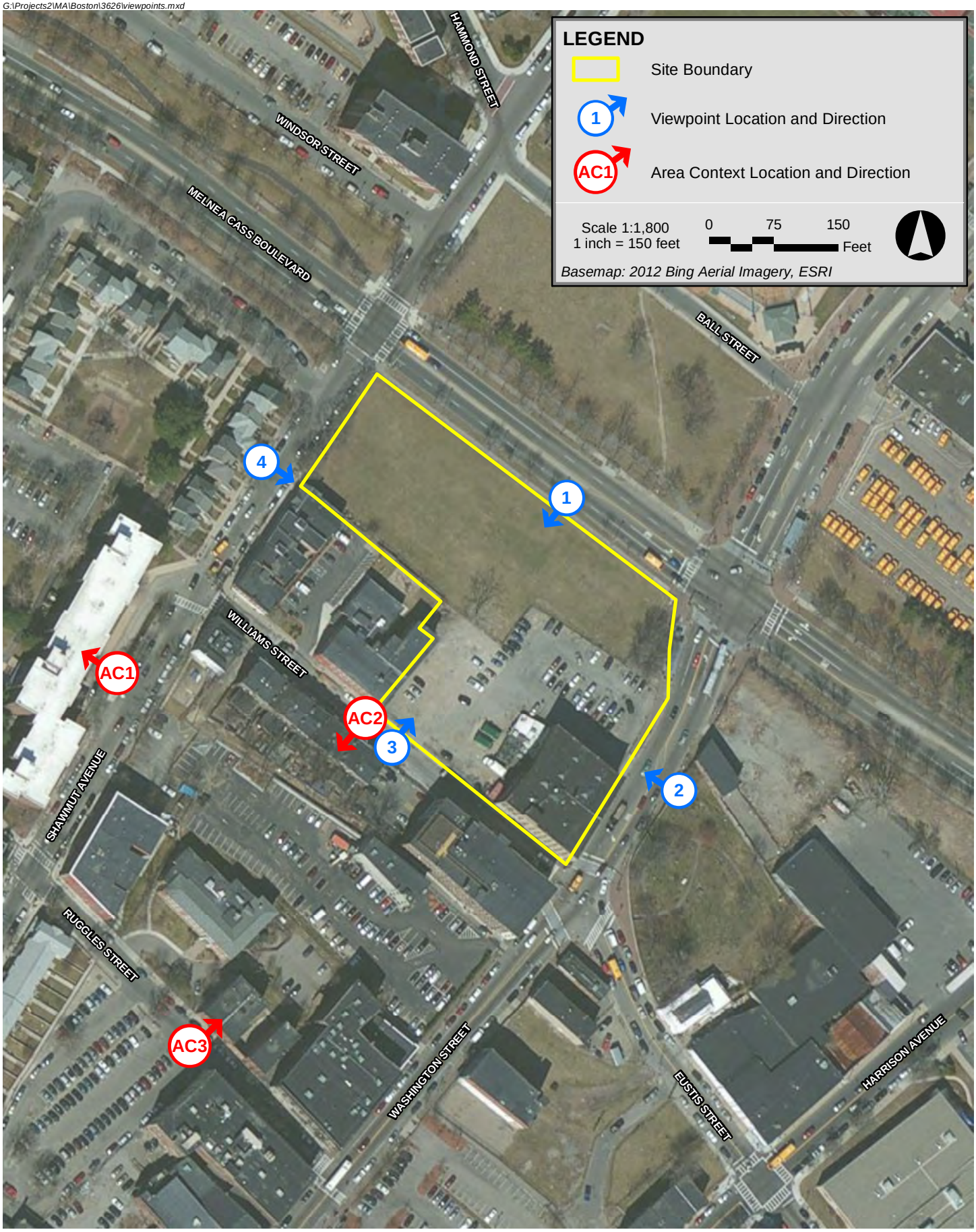
3.3.3.6 Area Context

To evaluate general daylight conditions in the area, the analysis included three area context viewpoints. From Shawmut Avenue, the 735 Shawmut Avenue building (AC1) has a daylight obstruction value of 46.0 percent. The buildings along Williams Street to the southwest (AC2), opposite the Project Site, have an obstruction value of 46.5 percent. The buildings along the northeast side of Ruggles Street (AC3) have a daylight obstruction value of 16.2 percent. These conditions are typical of those in the Project area, which consists of a mix of urban residential development, commercial buildings, and landscaped and parking areas.

3.3.4 Conclusions

The daylight analysis conducted for the Project describes existing and proposed daylight obstruction conditions at the Project Site and in the surrounding area. The results of the BRADA analysis indicate that daylight obstruction will increase due to the proposed development because the existing site is mostly vacant, with one four-story building occupying a corner of the Site. Melnea Cass Boulevard and Washington Street, which are anticipated to see the most pedestrian activity due to the locations of building entries, will have relatively low daylight obstruction values compared to other viewpoints in the Project area. Overall, the daylight obstruction values related to the Project will be below or similar to those found in the surrounding area and in typical urban areas.

G:\Projects2\MA\Boston\3626\viewpoints.mxd



Parcel 10 Roxbury, MA

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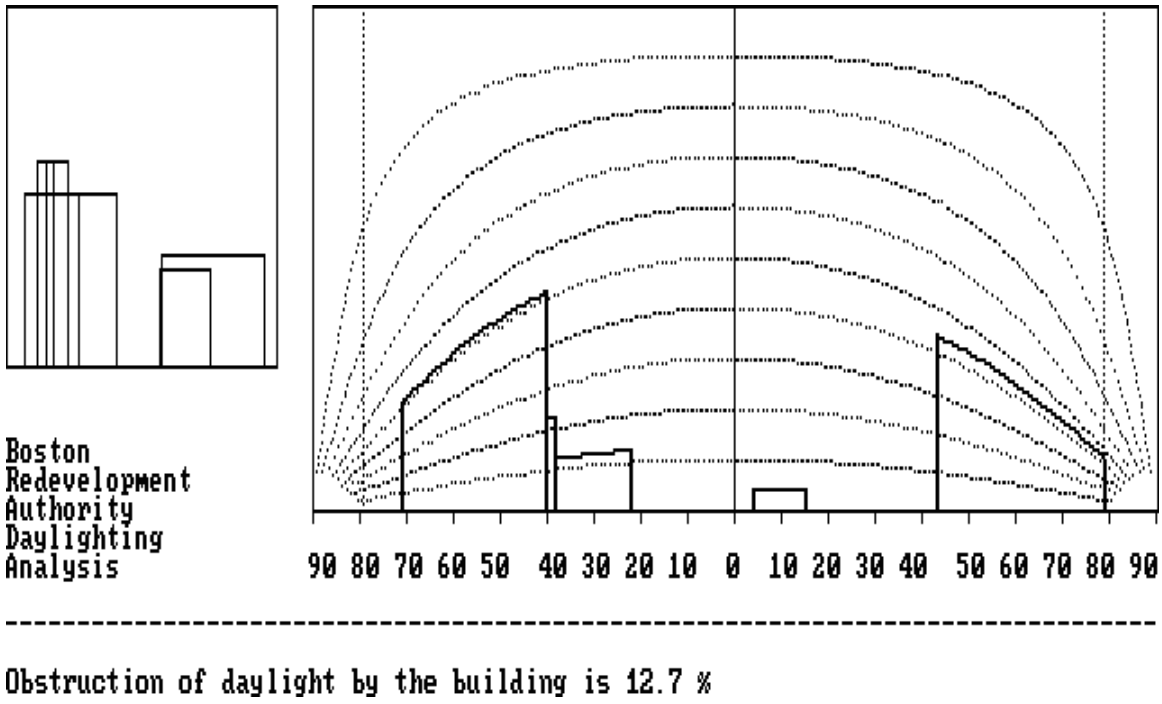
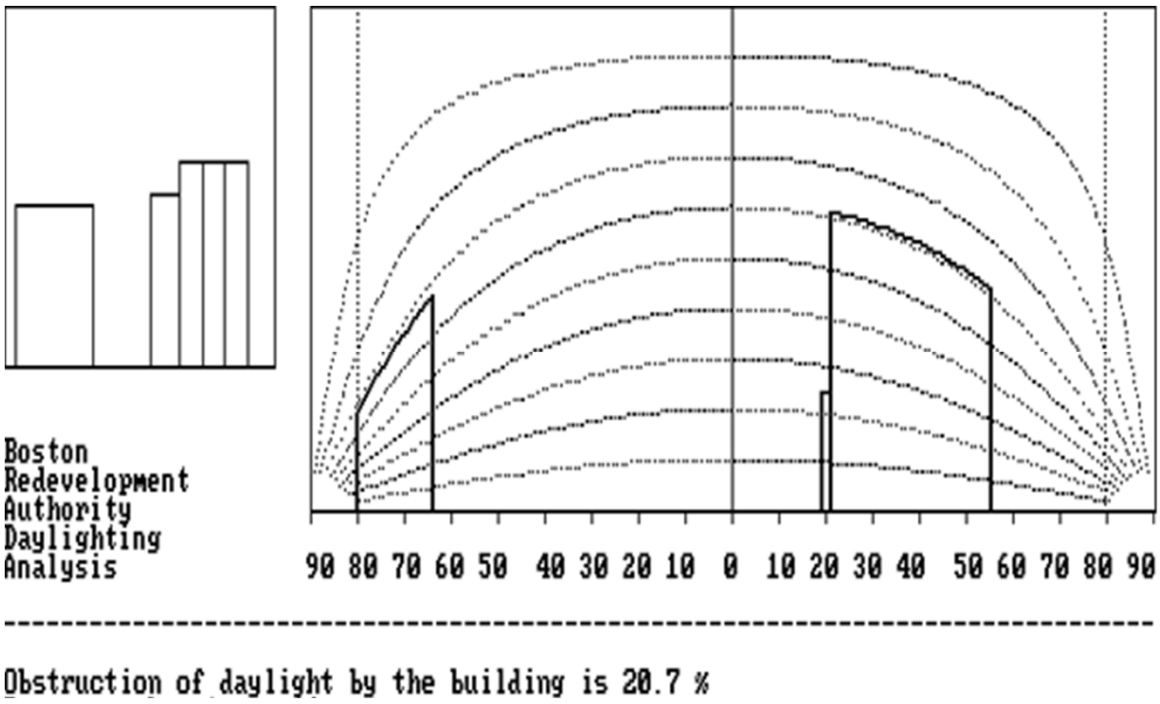
Figure 3.3-1

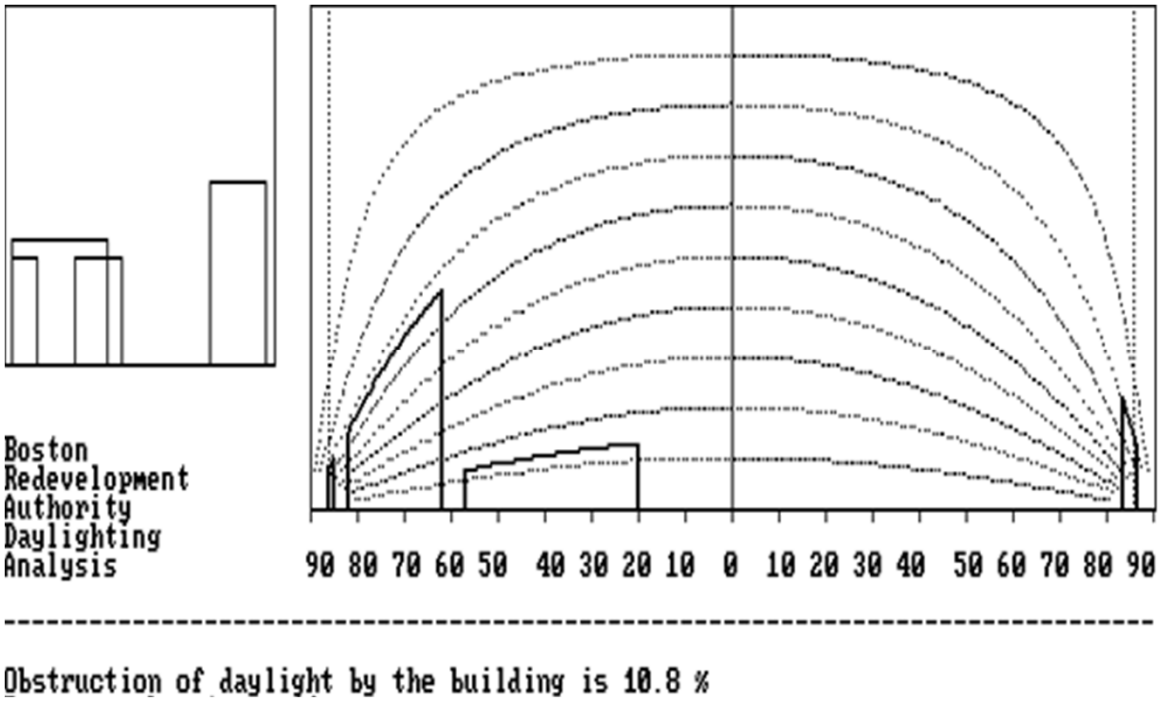
Viewpoint and Area Context Locations



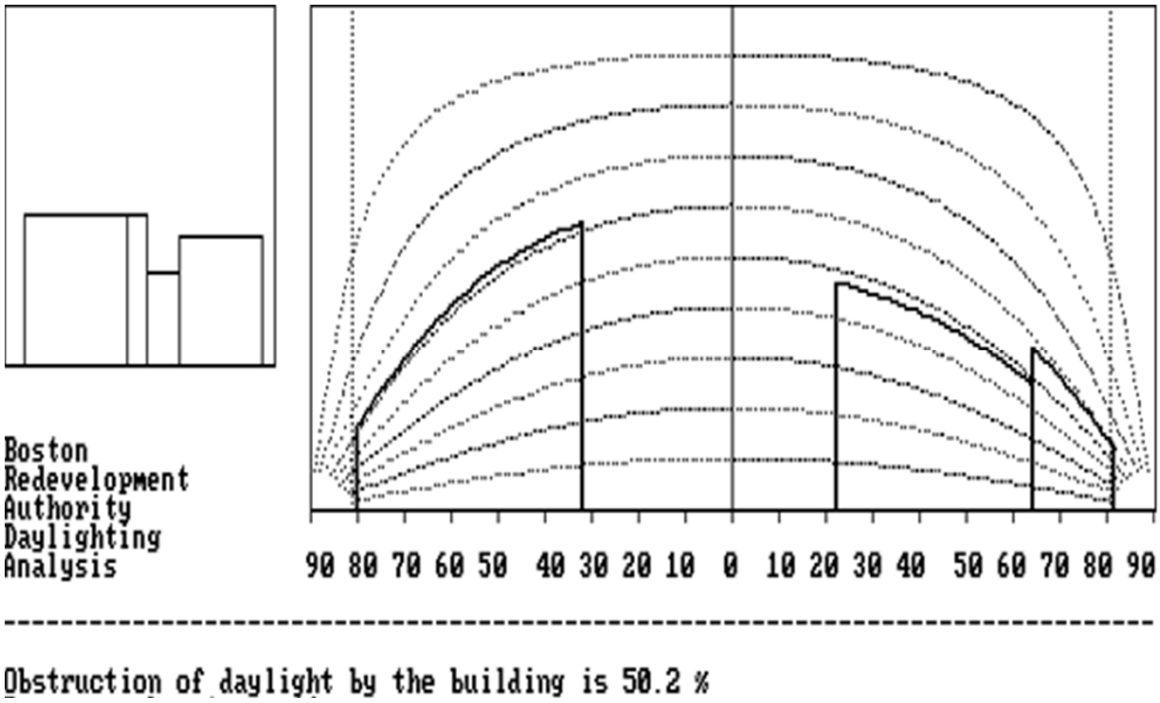
Viewpoint 1: Proposed Conditions: Melnea Cass Boulevard Looking Southwest at the Project Site



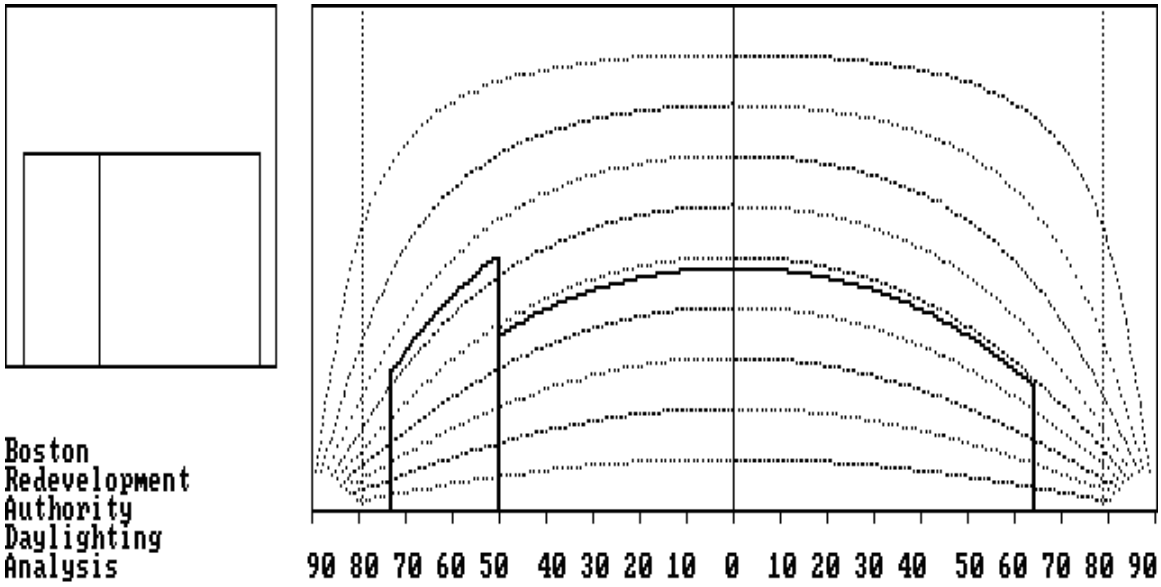
Viewpoint 2: Proposed Conditions: Washington Street Looking Northwest at the Project Site



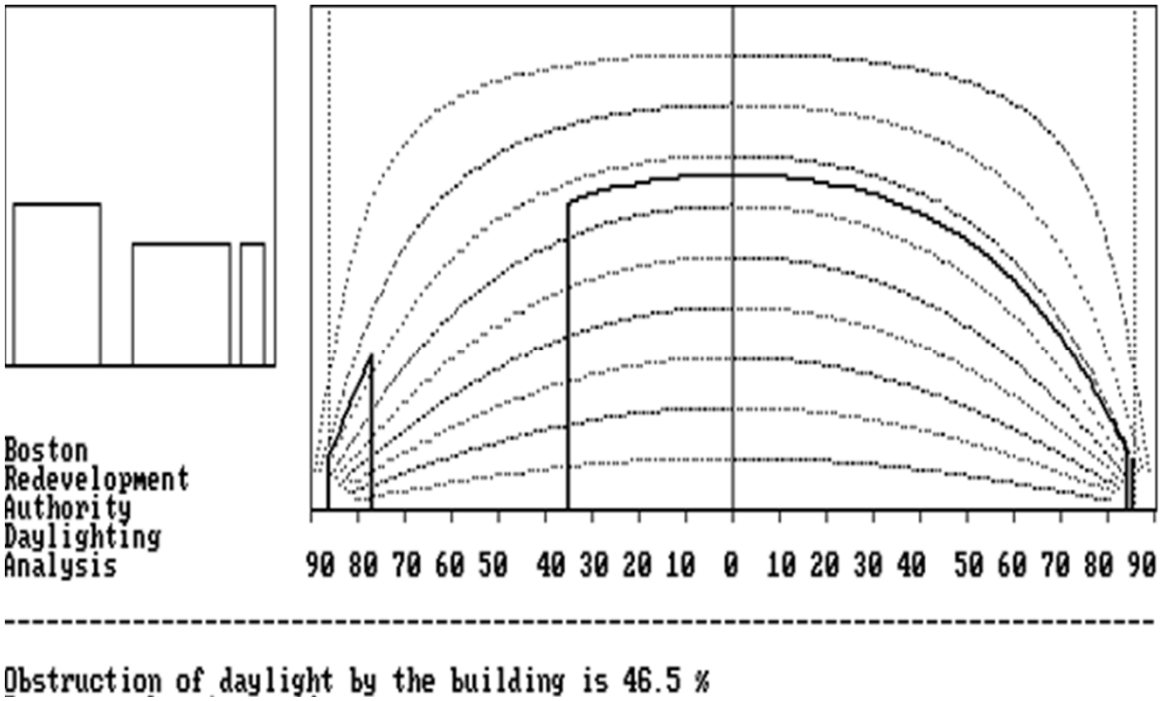
Viewpoint 3: Proposed Conditions: Williams Street Looking Northeast at the Project Site



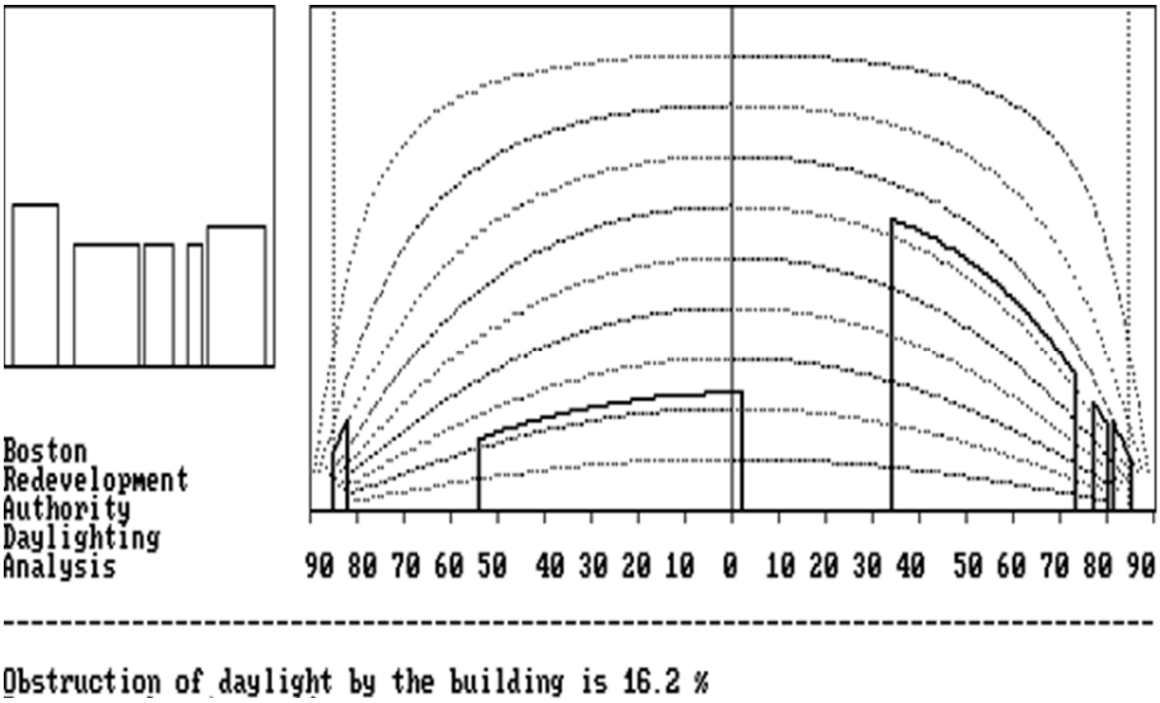
Viewpoint 4: Proposed Conditions: Shawmut Avenue Looking Southeast at the Project Site



AC1: Shawmut Avenue Looking at 735 Shawmut Avenue



AC2: Williams Street Looking Southwest



AC3: Ruggles Street Looking Northeast

3.4 Solar Glare

The Proponent will take care to make use of non-reflective materials as the Project's design progresses to avoid adverse impacts from spot glare. Due to the relatively low scale and height of the buildings, solar glare impacts are not anticipated.

3.5 Air Quality

3.5.1 Introduction

An air quality analysis was conducted to determine the impact of pollutant emissions from mobile source emissions generated by the Project. A microscale analysis was performed to evaluate the potential air quality impacts of carbon monoxide (CO) due to traffic flow around the Project areas.

National Ambient Air Quality Standards

The 1970 Clean Air Act was enacted by the U.S. Congress to protect the health and welfare of the public from the adverse effects of air pollution. As required by the Clean Air Act, EPA promulgated National Ambient Air Quality Standards (NAAQS) for these criteria pollutants: nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) (PM10 and PM2.5), carbon monoxide (CO), ozone (O_3), and lead (Pb). The NAAQS are listed in Table 5-1. Massachusetts Ambient Air Quality Standards (MAAQS) are typically identical to NAAQS.

NAAQS specify concentration levels for various averaging times and include both "primary" and "secondary" standards. Primary standards are intended to protect human health, whereas secondary standards are intended to protect public welfare from any known or anticipated adverse effects associated with the presence of air pollutants, such as damage to vegetation. The more stringent of the primary or secondary standards were applied when comparing to the modeling results for the Project.

A new one-hour NO_2 standard was promulgated on January 22, 2010 to protect public health, including the health of sensitive populations (e.g., people with asthma, children, and the elderly). The final rule for the new hourly NO_2 NAAQS was published in the Federal Register on February 9, 2010 and became effective on April 12, 2010. The form of this standard is the three-year average of the 98th percentile of the daily maximum one-hour concentrations.

Similarly, a new one-hour SO_2 standard was promulgated on June 2, 2010 to protect public health, including the health of sensitive populations (e.g., people with asthma, children, and the elderly). The final rule for the new hourly SO_2 NAAQS was published in the Federal Register on June 22, 2010 and became effective on August 23, 2010. The form of this standard is the three-year average of the 99th percentile of the daily maximum one-hour concentrations.

Table 3.5-1 National Ambient Air Quality Standards

Pollutant	*Averaging Period*	*National Ambient Air Quality Standards and Massachusetts Ambient Air Quality Standards (micrograms per cubic meter)*	
		Primary	*Secondary*
NO_2	Annual [1]	100	Same
	1-hour [7]	188	None
SO_2	Annual [1,8]	80	None
	24-hour [2,8]	365	None
	3-hour [2]	None	1,300
	1-hour [7]	195	None
PM10 [6]	Annual	50	Same
	24-hour [3]	150	Same
PM2.5	Annual [4]	12	15
	24-hour [5]	35	Same
CO	8-hour [2]	10,000	Same
	1-hour [2]	40,000	Same
Ozone	8-hour [3]	235	Same
Pb	3-month [1]	1.5	Same

Notes:
[1] Not to be exceeded
[2] Not to be exceeded more than once per year.
[3] Not to be exceeded more than an average of one day per year over three years.
[4] Not to be exceeded by the arithmetic average of the annual arithmetic averages from 3 successive years.
[5] Not to be exceeded based on the 98th percentile of data collection.
[6] Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, EPA revoked the annual PM10 standard in 2006 (effective December 17, 2006). However, the annual standard remains codified in 310 CMR 6.00
[7] Not to be exceeded. Based on the 3-yr average of the 98th (NO2) or 99th (SO2) percentile of the daily maximum 1-hour concentrations.
[8]The Annual and 24-hour SO2 standards were revoked on June 2, 2010. However, these standards remain in effect until one year after an area is designated for the 1-hour standard, unless currently in nonattainment.
Source: 40 CFR 50 and 310 CMR 6.00

The NAAQS also reflect various durations of exposure. The short-term periods (24 hours or less) refer to exposure levels not to be exceeded more than once a year. Long-term periods refer to limits that cannot be exceeded for exposure averaged over three months or longer.

The inhalable particulate (PM10) NAAQS were promulgated on July 1, 1987 at the federal level with the intent of replacing the existing standards limiting ambient levels of Total Suspended Particulate (TSP). EPA also promulgated a Fine Particulate (PM2.5) NAAQS, effective July 18, 1997. The PM2.5 standards have since been strengthened to an annual standard of 12 $\mu g/m^3$ and a 24-hour standard of 35 $\mu g/m^3$.

The standards were developed by EPA to protect the human health against adverse health effects with a margin of safety.

The modeling methodology was developed in accordance with the latest Massachusetts Department of Environmental Protection (MassDEP) modeling policies and Federal modeling guidelines.[3]

Modeling assumptions and backup data for results presented in this section are provided in the Air Quality Appendix.

3.5.2 Methodology

3.5.2.1 Microscale Analysis

The BRA requires an analysis of the effect on air quality of the increase in traffic generated by the Project. This "microscale" analysis is required for any intersection (including garage entrances/exits where the Level of Service (LOS) is expected to deteriorate to D and the proposed Projects causes a 10 percent increase in traffic or where the LOS is E or F and the proposed Projects contribute to a reduction in LOS. The microscale analysis involves modeling of carbon monoxide (CO) emissions from vehicles idling at and traveling through both signaled and unsignalized intersections. Predicted ambient concentrations of CO for the Build and No Build cases are compared with federal (and state) ambient air quality standards for CO.

The microscale analysis typically examines ground-level CO impacts due to traffic queues in the immediate vicinity of a project. CO is used in microscale studies to indicate roadway pollutant levels since it is the most abundant pollutant emitted by motor vehicles and can result in so-called "hot spot" (high concentration) locations around congested intersections. The NAAQS standards do not allow ambient CO concentrations to exceed 35 parts per million (ppm) for a one-hour averaging period and 9 ppm for an eight-hour averaging period, more than once per year at any location. The widespread use of CO catalysts on current vehicles has reduced the occurrences of CO hotspots. Air quality modeling techniques (computer simulation programs) are typically used to predict CO levels for both existing and future conditions to evaluate compliance of the roadways with the standards. The analyses for the Project followed the procedure outlined in U.S. EPA's intersection modeling guidance.[4]

The microscale analysis has been conducted using the latest versions of EPA's MOBILE6.2 and CAL3QHC programs to estimate CO concentrations at sidewalk receptor locations.

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[3] 40 CFR 51 Appendix W, Guideline on Air Quality Models, 70 FR 68228, Nov. 9, 2005

[4] U.S. EPA, Guideline for Modeling Carbon Monoxide from Roadway Intersections; EPA-454/R-92-005, November 1992.

Baseline (2013) and future year (2018) emission factor data calculated from the MOBILE6.2 model, along with traffic data, were input into the CAL3QHC program to determine CO concentrations due to traffic flowing through the selected intersections.

Existing background values of CO at the nearest monitor location at Harrison Avenue in Roxbury were obtained from the MassDEP. CAL3QHC results were then added to background CO values of 2.9 ppm (one-hour) and 2.1 ppm (eight-hour), as provided by the MassDEP, to determine total air quality impacts due to the Project. These values were compared to the NAAQS for CO of 35 ppm (one-hour) and 9 ppm (eight-hour).

Intersection Selection

As stated previously, a "microscale" analysis is required for the Project at intersections where 1) project traffic would impact intersections or roadway links currently operating at Level of Service ("LOS") D, E, or F or would cause LOS to decline to D, E, or F; 2) project traffic would increase traffic volumes on nearby roadways by 10% or more (unless the increase in traffic volume is less than 100 vehicles per hour); or, 3) the project will generate 3,000 or more new average daily trips on roadways providing access to a single location.

The modeling guidance identifies the following steps to determine the intersections to be modeled.

- Rank the top 20 intersections by traffic volumes
- Calculate the Level of Service (LOS) for each intersection
- Rank the intersections by volume
- Rank the intersections by LOS
- Model the top three intersections based on worst LOS and the top three intersections based on the highest traffic volumes

Only three signalized intersections were included in the traffic study (See Section 2, Transportation). The traffic volumes and LOS calculations provided in Section 2 form the basis of evaluating the traffic data versus the microscale thresholds. All three intersections were found to meet the criteria for inclusion in the microscale analysis:

- The intersection of Melnea Cass Boulevard and Shawmut Avenue;
- The intersection of Melnea Cass Boulevard and Washington Street; and,
- The intersection of Washington Street and Williams/Eustis Streets.

Microscale modeling was performed for the intersections based on the aforementioned methodology. The 2013 existing conditions, and the 2018 No Action and Build conditions were each evaluated for both morning (AM) and afternoon (PM) peak.

Emissions Calculations (MOBILE6.2)

The EPA MOBILE6.2 computer program was used to estimate motor vehicle emission factors on the roadway network. Emission factors calculated by the MOBILE6.2 model are based on motor vehicle operations typical of daily periods. The Commonwealth's statewide annual Inspection and Maintenance (I&M) program was included, as well as the state specific vehicle age registration distribution. The input files for MOBILE6.2 for the existing (2013) and build year (2018) are provided by MassDEP. As is typical, minor edits to the files were necessary to allow the program to output emission factors for the various speeds used in the analyses.

Idle emission factors are obtained from factors for a vehicle speed of 2.5 mph. The resulting emission rate given in (grams/mile) is then multiplied by 2.5 mph to estimate idle emissions (in grams/hour). Moving emissions are calculated based on actual speeds at which free-flowing vehicles travel through the intersections. A speed of 30 mph is used for all free-flow traffic. Speeds of 10 and 15 mph were used for right (and U-turns, if necessary) and left turns, respectively.

Winter CO emission factors are typically higher than summer for CO. Therefore winter vehicular emission factors were conservatively used in the microscale analyses.

Receptors and Meteorology Inputs

Sets of up to 250 receptors were placed in the vicinity of each of the modeled intersections. Receptors extended approximately 100 to 300 feet on the sidewalks along the roadways approaching the intersection. The roadway links and receptor locations of the modeled intersections are presented in Figures 3.5-1 through, 3.5-3.

For the CAL3QHC model, limited meteorological inputs are required. Following EPA guidance[5], a wind speed of 1 m/s, stability class D (4), and a mixing height of 1000 meters was used. To account for the intersection geometry, wind directions from 0° to 350°, every 10° were selected. A surface roughness length of 127 cm was selected for all three intersections.[6]

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5 U.S. EPA, *Guideline for Modeling Carbon Monoxide from Roadway Intersections.* EPA-454/R-92-005, November 1992.

6 U.S. EPA, *User's Guide for CAL3QHC Version 2: A Modeling Methodology for Predicting Pollutant Concentrations Near Roadway Intersections*. EPA –454/R-92-006 (Revised), September 1995

Impact Calculations (CAL3QHC)

The CAL3QHC model predicts one-hour concentrations using queue-links at intersections, worst-case meteorological conditions, and traffic input data. The one-hour concentrations were scaled by a factor of 0.7 to estimate 8-hour concentrations.[7] The CAL3QHC methodology was based on EPA CO modeling guidance. Signal timings were provided directly from the traffic modeling outputs. The CAL3QHC input parameters are also described in the Air Quality Appendix.

3.5.2.2 Background Concentrations

To estimate background pollutant levels representative of the area, the most recent air quality monitor data reported by the MassDEP in their Annual Air Quality Reports was obtained for 2007 to 2011. MassDEP guidance specifies the use of the latest three years of available monitoring data from within 10 km of the Project Site.

The Clean Air Act allows for one exceedance per year of the CO and SO_2 short-term NAAQS per year. The highest second-high accounts for the one exceedance. Annual NAAQS are never to be exceeded. The 24-hour PM-10 standard is not to be exceeded more than once per year on average over three years. To attain the 24-hour PM-2.5 standard, the three-year average of the 98th percentile of 24-hour concentrations must not exceed 35 $\mu g/m^3$. For annual PM-2.5 averages, the average of the highest yearly observations was used as the background concentration. A new 1-hr NO_2 standard was recently promulgated. To attain this standard, the 3-year average of the 98th percentile of the maximum daily 1-hour concentrations must not exceed 188 $\mu g/m^3$.

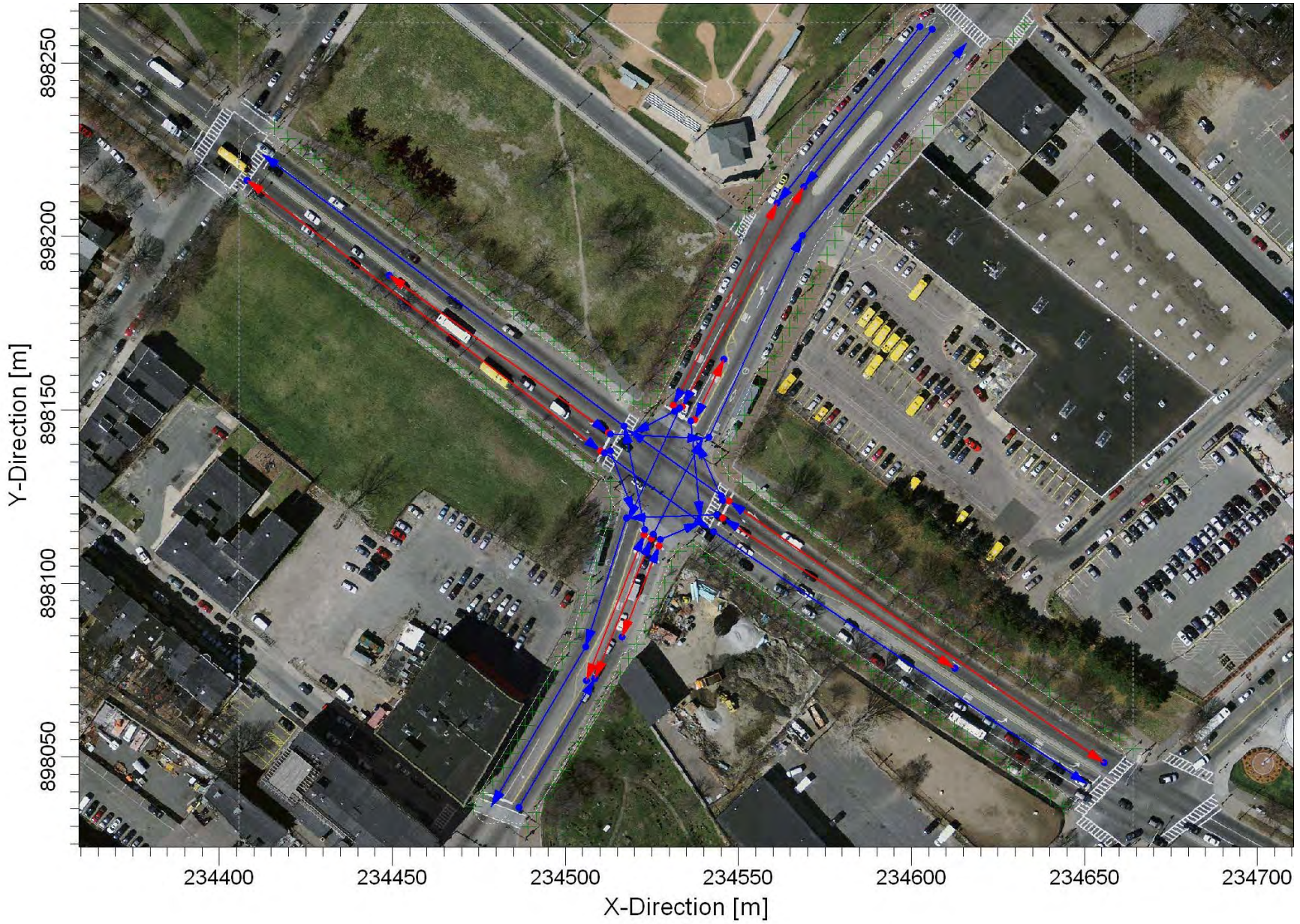
Background concentrations were determined from the closest available monitoring stations to the proposed development. The closest monitor is located at Harrison Avenue, in Boston. A summary of the background air quality concentrations are presented in Table 3.5-2.

[7] U.S. EPA, Screening Procedures for Estimating the Air Quality Impact of Stationary Sources; EPA-454/R-92-019, October 1992

Parcel 10 – Dudley Square

Figure 3.5-1

Link and Receptor Locations for CAL3QHC modeling of Intersection of Melnea Cass Blvd. & Shawmut Ave.



Parcel 10 – Dudley Square

Epsilon ASSOCIATES INC.

Figure 3.5-2

Link and Receptor Locations for CAL3QHC modeling of Intersection of Melnea Cass Blvd. & Washington St.

Parcel 10 – Dudley Square

Epsilon ASSOCIATES INC.

Figure 3.5-3

Link and Receptor Locations for CAL3QHC modeling of Intersection of Washington St., Williams St., & Eustis St.

Table 3.5-2 Observed Ambient Air Quality Concentrations and Selected Background Levels

Pollutant	Averaging Time	2009	2010	2011	Background Concentration ($\mu g/m^3$)	Location
SO_2 [1][7][8]	1-Hour	85.8	63.2	93.3	93.3	Harrison Ave., Boston
	3-Hour	62.4	54.6	72.8	72.8	Harrison Ave., Boston
	24-Hour	33.8	22.9	33.5	33.8	Harrison Ave., Boston
	Annual	5.7	4.2	3.3	5.7	Harrison Ave., Boston
PM-10	24-Hour	47.0	48.0	42.0	48.0	Harrison Ave., Boston
	Annual	16.0	12.5	14.8	16.0	Harrison Ave., Boston
PM-2.5	24-Hour [4]	21.3	22.5	20.9	21.6	Kenmore Sq., Boston
	Annual [5]	8.7	8.3	8.5	8.5	Harrison Ave., Boston
NO_2 [3]	1-Hour [6]	109.0	116.6	139.1	139.1	Harrison Ave., Boston
	Annual	33.8	32.1	34.8	34.8	Harrison Ave., Boston
CO [2]	1-Hour	2964	3306	2816	3306	Harrison Ave., Boston
	8-Hour	1710	2394	2166	2394	Harrison Ave., Boston

Notes: From 2007-2011 MA DEP Annual Data Summaries

[1] SO_2 reported in ppm or ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 2600 $\mu g/m^3$.

[2] CO reported in ppm or ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 1140 $\mu g/m^3$.

[3] NO_2 reported in ppm or ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 1880 $\mu g/m^3$.

[4] Background level for 24-hour PM-2.5 is the average concentration of the 98th percentile for three years.

[5] Background level for annual PM-2.5 is the average for three years.

[6] Maximum annual 1-hr concentrations.

[7] The 24-hour and Annual standards were revoked by EPA on June 22, 2010, Federal Register 75-119, p. 35520.

[8] The 2010 & 2011 SO_2 3-hr value is not reported. Years 2007-2009 used instead.

Air quality is generally good in the area, with all of the ambient concentrations well below their respective NAAQS. For use in the microscale analysis, background concentrations of CO in ppm were required. The corresponding maximum background concentrations in ppm were 2.9 ppm (3306 $\mu g/m^3$) for 1-hour and 1.5 ppm (2394 $\mu g/m^3$) for 8-hour CO.

3.5.3 Air Quality Results

3.5.3.1 Microscale Analysis

The results of the maximum one-hour predicted CO concentrations from CAL3QHC are provided in Tables 3.5-3 through 3.5-5 for the 2013 and 2018 scenarios. Eight-hour average concentrations are calculated by multiplying the maximum one-hour concentrations by a factor of 0.7.[8]

The results of the one-hour and eight-hour maximum modeled CO ground-level concentrations from CAL3QHC were added to EPA supplied background levels for comparison to the NAAQS. These values represent the highest potential concentrations at the intersection as they are predicted during the simultaneous occurrence of "defined" worst case meteorology. The highest one-hour traffic-related concentration predicted in the area of the Project, for the modeled conditions (1.7 ppm) plus background (2.9 ppm) is 4.6 ppm for the 2013 morning peak hour case at the intersections of Melnea Cass Boulevard and Shawmut Avenue, and Melnea Cass Boulevard and Washington Street. The highest eight-hour traffic-related concentration predicted in the area of the Project for the modeled conditions (1.2 ppm) plus background (2.1 ppm) is 3.3 ppm for at the same locations and scenarios. All concentrations are well below the one-hour NAAQS of 35 ppm and the eight-hour NAAQS of 9 ppm.

It would be expected that any mitigation measures implemented to improve traffic flow at any of the modeled intersections would result in further improved air quality impacts.

3.5.4 Conclusions

3.5.4.1 Microscale Analysis

Results of the microscale analysis show that all predicted CO concentrations are well below 1-hour and 8-hour NAAQS. Therefore, it can be concluded that there are no adverse air quality impacts resulting from increased traffic in the area.

[8] U.S. EPA, Screening Procedures for Estimating the Air Quality Impact of Stationary Sources; EPA-454/R-92-019, October 1992

Table 3.5-3 Summary of Microscale Modeling Analysis (Existing 2013)

Intersection	Peak	CAL3QHC Modeled CO Impacts (ppm)	Monitored Background Concentration (ppm)	Total CO Impacts (ppm)	NAAQS (ppm)
1-Hour					
Melnea Cass Boulevard and Shawmut Avenue	AM	1.7	2.9	4.6	35
	PM	1.6	2.9	4.5	35
Melnea Cass Boulevard and Washington Street	AM	1.7	2.9	4.6	35
	PM	1.6	2.9	4.5	35
Street and Williams/Eustis Streets	AM	0.8	2.9	3.7	35
	PM	1.1	2.9	4.0	35
8-Hour					
Melnea Cass Boulevard and Shawmut Avenue	AM	1.2	2.1	3.3	9
	PM	1.1	2.1	3.2	9
Melnea Cass Boulevard and Washington Street	AM	1.2	2.1	3.3	9
	PM	1.1	2.1	3.2	9
Street and Williams/Eustis Streets	AM	0.6	2.1	2.7	9
	PM	0.8	2.1	2.9	9

Notes:
CAL3QHC 8-hour impacts were conservatively obtained by multiplying 1-hour impacts by a screening factor of 0.7.

Table 3.5-4 Summary of Microscale Modeling Analysis (No-Build 2018)

Intersection	Peak	CAL3QHC Modeled CO Impacts (ppm)	Monitored Background Concentration (ppm)	Total CO Impacts (ppm)	NAAQS (ppm)
1-Hour					
Melnea Cass Boulevard and Shawmut Avenue	AM	1.6	2.9	4.5	35
	PM	1.6	2.9	4.5	35
Melnea Cass Boulevard and Washington Street	AM	1.6	2.9	4.5	35
	PM	1.6	2.9	4.5	35
Street and Williams/Eustis Streets	AM	0.4	2.9	3.3	35
	PM	1.0	2.9	3.9	35
8-Hour					
Melnea Cass Boulevard and Shawmut Avenue	AM	1.1	2.1	3.2	9
	PM	1.1	2.1	3.2	9
Melnea Cass Boulevard and Washington Street	AM	1.1	2.1	3.2	9
	PM	1.1	2.1	3.2	9
Street and Williams/Eustis Streets	AM	0.3	2.1	2.4	9
	PM	0.7	2.1	2.8	9

Notes:
CAL3QHC 8-hour impacts were conservatively obtained by multiplying 1-hour impacts by a screening factor of 0.7.

Table 3.5-5 Summary of Microscale Modeling Analysis (Build 2018)

Intersection	Peak	CAL3QHC Modeled CO Impacts (ppm)	Monitored Background Concentration (ppm)	Total CO Impacts (ppm)	NAAQS (ppm)
1-Hour					
Melnea Cass Boulevard and Shawmut Avenue	AM	1.6	2.9	4.5	35
	PM	1.6	2.9	4.5	35
Melnea Cass Boulevard and Washington Street	AM	1.6	2.9	4.5	35
	PM	1.6	2.9	4.5	35
Street and Williams/Eustis Streets	AM	0.7	2.9	3.6	35
	PM	1.0	2.9	3.9	35
8-Hour					
Melnea Cass Boulevard and Shawmut Avenue	AM	1.1	2.1	3.2	9
	PM	1.1	2.1	3.2	9
Melnea Cass Boulevard and Washington Street	AM	1.1	2.1	3.2	9
	PM	1.1	2.1	3.2	9
Street and Williams/Eustis Streets	AM	0.5	2.1	2.6	9
	PM	0.7	2.1	2.8	9

Notes:
CAL3QHC 8-hour impacts were conservatively obtained by multiplying 1-hour impacts by a screening factor of 0.7.

3.5.5 Stationary Sources

Stationary sources of air pollution are typically units that combust fuel. In this case, these sources consist of heating and hot water units, and emergency electrical generators. Cooling towers, although not a combustion source, are a source of particulate emissions.

3.5.5.1 Boilers

The current plans are include a number of small condensing boilers for heat and domestic hot water. All units will be natural gas-fired and are expected to be exhausted through individual stacks through the buildings' rooftops.

3.5.5.2 Emergency Generators

Current design plans include an emergency generator to be installed on the buildings to be constructed. The units will provide life safety and standby emergency power to the buildings. Typically, generators operate for approximately one hour each month for testing and general maintenance and as needed for emergency power. The units will be diesel-fired and located either in a mechanical area on the roof of the building or in the basement. The generators are to be designed such that its exhaust stack extends at least 10 feet above the individual building's roof height above ground level.

3.5.5.3 Cooling Towers

Current plans call for cooling towers to be installed on the buildings to be constructed. These units will remove the excess heat generated by the buildings' mechanical equipment. All units will be located on the roofs of the buildings.

3.5.5.4 Parking Garage Exhausts

The below grade parking of 46 vehicles for Building B will likely require mechanical ventilation to deal with potential carbon monoxide emissions. Carbon monoxide monitors are typically installed within enclosed areas with idling vehicles to ensure that levels of CO do not exceed health standards.

3.5.5.5 Permitting

It is expected that the majority of stationary sources (boilers, engines, etc) would be subject to the MassDEP's Environmental Results Program (ERP).

The boilers are expected to be within the requirements of the ERP since individual estimated heat inputs are expected to be within or below the 10 to 40 MMBtu/hour ERP range.

The ERP regulation applies to new emergency generators greater than 37 kW. The regulation is similar to the boiler ERP in that new engines are subject to emission standards, recordkeeping, certification, and compliance with the MassDEP noise policy. Since the generator maximum rating capacity will likely be greater than the ERP limit of 37 kW, it will be subject to the ERP program. Per the ERP, the generator owner will limit operation of the generator to less than 300 hours per year and submit a certification form to MassDEP within 60 days of installation.

3.6 Solid and Hazardous Waste

3.6.1 Hazardous Waste

Goldman Environmental Consultants (Goldman) began its analysis of the Project Site by analyzing available historical information in an effort to determine the potential for contamination and make recommendations relative to future subsurface investigations and soil management. Sanborn Fire Maps showed that there were formerly underground storage tanks (USTs)at the Site and that the vicinity of the Site has a long industrial history. Goldman predicted that on-Site soils would consist of urban fill material. Urban fill is often contaminated with Extractable Petroleum Hydrocarbons (EPH) and polycyclic aromatic hydrocarbons (PAHs) and may also be contaminated with metals.

A subsequent geographical survey and test pitting confirmed that four abandoned steel USTs are present on the Project Site. Two of the tanks are filled with water and one tank had one to two feet of a liquid that had a gasoline odor. The fourth tank had not been completely uncovered so the volume of its contents is unknown. Based on the 1938 Sanborn map and review of the analytical data for soil and groundwater samples collected in the vicinity of the tanks, it appears that all four tanks historically contained gasoline. The four USTs have been removed from the Project Site.

In addition, soil borings and test pits have been made to further assess soil conditions on the Project Site and groundwater monitoring wells have been installed on site to assist the Proponent in understanding the status of groundwater quality on site.

Any contamination encountered will be handled in accordance with the Massachusetts Contingency Plan and applicable state and federal regulations.

3.6.2 Hazardous Waste Generation

With the exception of "household hazardous waste" typical of residential and retail developments (e.g., cleaning fluids, paint, and fuel for emergency generators), the Project will not involve the generation, use, transportation, storage, release or disposal of potentially hazardous materials.

3.6.3 Solid Waste Generation

Building A's approximate 20,000 sf of supermarket space and approximately 24,300 sf of office/warehouse space are expected to generate approximately 145 tons of solid waste per year. Building B will contain approximately 11,000 sf of retail space and 47,000 sf of office space resulting in approximately 122 tons of solid waste per year. Based on 30 residential units and approximately 7,700 sf of retail, Building C would generate approximately 75 tons of trash per year. Solid waste generated by the Project will be collected, compacted and disposed of off-site by a licensed contractor. The Proponent will implement an aggressive recycling program throughout the Project that will be consistent with the City's

Recycling Strategic Plan. The Proponent will contact the City of Boston to discuss the recycling program for the Project. Paper and commingled recyclables will be picked up weekly.

3.7 Noise

The primary set of noise regulations relating to a potential increase in sound levels due to the Project is the City of Boston Zoning District Noise Standards (City of Boston Code – Ordinances: Section 16–26 Unreasonable Noise and City of Boston Air Pollution Control Commission Regulations for the Control of Noise in the City of Boston). Separate regulations within the Standards provide criteria to control different types of noise. Regulation 2 is applicable to the effects of the Project, as completed. Zoning District Standards are presented below in Table 4.7-1.

Table 4.7-1 City of Boston Zoning District Noise Standards, Maximum Allowable Sound Pressure Levels

Octave-band Center Frequency (Hz)	Residential Zoning District		Residential-Industrial Zoning District		Business Zoning District Anytime (dB)	Industrial Zoning District Anytime (dB)
	Daytime (dB)	All Other Times (dB)	Daytime (dB)	All Other Times (dB)		
32	76	68	79	72	79	83
63	75	67	78	71	78	82
125	69	61	73	65	73	77
250	62	52	68	57	68	73
500	56	46	62	51	62	67
1000	50	40	56	45	56	61
2000	45	33	51	39	51	57
4000	40	28	47	34	47	53
8000	38	26	44	32	44	50
A-Weighted (dBA)	**60**	**50**	**65**	**55**	**65**	**70**

Notes:
- Noise standards are extracted from Regulation 2.5, City of Boston Air Pollution Control Commission, "Regulations for the Control of Noise in the City of Boston", adopted December 17, 1976.
- All standards apply at the property line of the receiving property.
- dB and dBA based on a reference sound pressure of 20 micropascals.
- 'Daytime' refers to the period between 7:00 am and 6:00 pm daily, excluding Sunday.

Additionally, the MassDEP has the authority to regulate noise under 310 CMR 7.10, which is part of the Commonwealth's air pollution control regulations. According to MassDEP, "unnecessary" noise is considered an air contaminant and thus prohibited by 310 CMR

7.10. The MassDEP administers this regulation through Noise Policy DAQC 90-001 which limits a source to a 10-dBA increase above the L_{90} ambient sound level measured at the Project property line and at the nearest residences. The MassDEP policy further prohibits "pure tone" conditions where the sound pressure level in one octave-band is 3 dB or more than the sound levels in each of two adjacent bands.

While the details of the mechanical equipment associated with the Project have not yet been precisely determined, steady operational noise from stationary sources will primarily involve heating, cooling, and ventilation equipment for residential and commercial uses, including: cooling and exhaust fans, condensers, air-cooled chillers and rooftop HVAC units.

At this time, the mechanical equipment and noise controls are conceptual in nature and, during the final design phase of the Project, will be specified to meet the applicable City of Boston and MassDEP noise limits. Reasonable efforts will be made, if necessary, to minimize noise impacts from the Project using routinely employed methods of noise control, including:

- Selection of "low-noise" equipment models;
- Fitting of inlet and discharge vents with duct silencers;
- Installation of screening barriers to provide shielding where appropriate;
- Use of sound-attenuating enclosures, acoustical blankets, or both on continuously operating equipment with outdoor exposure; and
- Siting of noisy equipment at locations that protect sensitive receptors by shielding or with increased distance.

In summary, the Project, with appropriate noise control, is not expected to result in any adverse noise impacts at nearby sensitive receptors. Short-term, intermittent increases in noise levels will occur during Project construction. However, every reasonable effort will be made to minimize the noise impacts and ensure the project complies with the requirements of the City of Boston noise ordinance.

3.8 Water Quality/Stormwater Management

Approximately half of the existing site is pervious surface (lawn). Stormwater under existing conditions either infiltrates or, during large storm events, stormwater from unpaved areas may run off the site and be collected by the stormwater systems in the abutting public ways (Melnea Cass Boulevard or Shawmut Avenue). The remainder of the Site's surface area is covered by a bituminous concrete parking lot and the rooftop of the existing building. Runoff from the parking lot is ostensibly drained by a single catch basin; however, when

surveyed, the catch basin was clogged and no pipes were visible. It is likely that stormwater simply sheet-flows until it either reaches a pervious surface and infiltrates, or leaves the site and is collected by a catch basin in one of the surrounding streets.

In the proposed condition, stormwater runoff from the parking lots and rooftops will be collected by a system of catch basins with oil traps and piped to an underground stormwater detention chamber sized in accordance with the requirements of BWSC. The detention chamber's outlet will be designed to overflow to the City's storm sewer system located in the adjacent public ways.

3.8.1 Water Quality

Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas and the BWSC storm drain systems. During construction existing catch basins will be protected with filter fabric, hay bales, crushed stone, or a combination to limit sediment from runoff. These controls will be inspected and maintained throughout the construction phase until all areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

Dewatering will be conducted in accordance with applicable Massachusetts Water Resources Authority (MWRA) and BWSC discharge permits. Once construction is complete, the Proposed Project will comply with local and state stormwater management policies.

3.8.2 Conformance with State Stormwater Management Policies

In March 1997 (last revised February 2008) the Massachusetts Department of Environmental Protection (MassDEP) established a Stormwater Management Policy to address non-point source pollution. The Policy prescribes specific stormwater management standards for development projects, including urban pollutant removal criteria for projects that may impact environmental resource areas. Compliance is achieved through the implementation of Best Management Practices (BMP's) in the stormwater management design. The Policy is administered locally pursuant to MGL Ch. 131, s. 40.

A brief explanation of each Policy Standard and the Proposed Project's stormwater management system's compliance is provided below:

Standard #1: No new untreated stormwater will discharge into, or cause erosion to, wetlands or waters.

Compliance: The Proposed Project will comply with this Standard. There will be no direct untreated stormwater discharge into wetlands or waters. All discharges will be treated prior to connection to the BWSC system.

Standard #2: Post-development peak discharge rates do not exceed pre-development rates on the site either at the point of discharge or down gradient of the property boundary for the 2- and 10-year 24-hour design storms. The project's stormwater design will not increase flooding impacts offsite for the 100-year design storm.

Compliance: The Proposed Project will comply with this Standard. The proposed project will increase impervious surfaces, and to mitigate the resulting increase run-off a subsurface detention system will be employed to increase groundwater recharge and detain the run-off for slow distribution over a longer period.

Standard #3: The annual groundwater recharge for the post-development Site must approximate the annual recharge from existing Site conditions, based on soil type.

Compliance: As noted above to attenuate increased run-off we propose to use a subsurface detention facility that will allow for ground water recharge. To the extent possible, the Proposed Project will include on-site stormwater recharge.

Standard #4: For new development, the proposed stormwater management system must achieve an 80 percent removal rate for the Site's average annual load of TSS [Total Suspended Solids].

Compliance: To the extent possible, the Proposed Project's stormwater management system will remove 80 percent of the post-development site's average annual TSS load through the use of a water quality structure.

Standard #5: If the Proposed Project contains an area with Higher Potential Pollutant Loads (as prescribed by the Policy), BMPs [Best Management Practices] must be used to prevent the recharge of untreated stormwater.

Compliance: The Proposed Project is not associated with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-8). The Proposed Project complies with this standard.

Standard #6: If the Site contains areas of Sensitive Resources (as prescribed by the Policy), such as rare/endangered wildlife habitats, ACECs, etc., a larger volume of runoff from the "first flush" must be treated (1 inch of runoff from impervious area vs. the standard ½ inch).

Compliance: The proposed Project will comply with this Standard. The Proposed Project is not located in a Sensitive Resource area.

Standard #7: Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.

Compliance: The Proposed Project will meet or exceed all Standards to the maximum extent practicable.

Standard #8: Erosion and sediment controls must be designed into the project to minimize adverse environmental effects.

Compliance: The Proposed Project will comply with this Standard. Sedimentation and erosion controls will be incorporated as part of the design of the Proposed Project and employed during site construction.

Standard #9: A long-term BMP operation and maintenance plan is required to ensure proper maintenance and functioning of the SWM system.

Compliance: The Proposed Project will comply with this Standard. An Operations and Maintenance Plan including long-term BMP operation requirements will be prepared and will ensure proper maintenance and functioning of the stormwater management system.

Standard #10: All illicit discharges to the stormwater management system are prohibited.

Compliance: The Proposed Project will comply with this Standard. No illicit discharges, including wastewater, process wastes, toxic pollutants and hazardous substances will be introduced into the stormwater management system.

3.9 Water, Sewer and Drainage

In the Project area, existing 12-inch water lines run in Melnea Cass, Washington Street, and Williams Street. There is an existing 16-inch water line in Shawmut Avenue. The existing building on Parcel 10 is fed from a service connection on Washington Street. The proposed new buildings will connect to the water lines in the abutting street, reducing the lengths of the water services. Capacity within the existing water lines is expected to more than be adequate for the demand of the Project.

Existing 12-inch sanitary sewer lines run in Washington Street, Williams Street, and Shawmut Avenue. There is no sanitary sewer in Melnea Cass Boulevard. A 12-inch sewer runs through the middle of the Site, contained in a 40-foot wide easement, running parallel to Melnea Cass Boulevard. The sewer will need to be abandoned and removed as part of the Project. Capacity within the existing sewer lines is expected to more than be adequate for the demand of the Project.

The storm sewer system on Melnea Cass is split at a high point directly in front of Parcel 10. West of the high point, stormwater is channeled to catch basins at the Melnea Cass Boulevard/Shawmut Avenue intersection, where the trunkline flows north down Shawmut Avenue. East of the high point, stormwater is collected by catch basins at the Melnea Cass Boulevard/Washington Street intersection, from which point a storm sewer continues east down Melnea Cass Boulevard. Shawmut Avenue, Williams Street, and Washington Street have continuous 12-inch, 12-inch, and 18-inch trunklines, respectively, with catch basins near every intersection in the Project area. In the proposed condition, stormwater runoff from the parking lots and rooftops will be collected by a system of catch basins with oil

traps and piped to an underground stormwater detention chamber sized per the requirements of BWSC. The detention chamber's outlet will be designed to overflow to the City's storm sewer system in the adjacent public ways. Capacity within the existing storm lines is expected to more than be adequate for the demand of the proposed project.

All proposed connections to the BWSC's water, sanitary sewer, and storm drain system will be designed in conformance with the BWSC's design standards, Sewer Use and Water Distribution System Regulations, and Requirements for Site Plans. The Proponent will submit a site plan for each element of the Proposed Project, i.e. the Office Building and the Garage, for BWSC review and approval and apply for General Service Applications prior to the initiation of construction. The site plans will indicate the existing and proposed water mains, sanitary sewers, storm sewers, telephone, gas, electric, steam, and cable television. The site plans will also include the disconnections of the existing services, in addition to the proposed new connections.

3.10 Geotechnical Impacts

Geotechnical Partnership, Inc. completed background data review, subsurface explorations (structural test borings), field soil testing, and groundwater monitoring well installation for the Project Site. A summary of the findings is provided in this section.

3.10.1 Site Conditions

The Project Site has a relatively flat topography. The Site is bounded by Shawmut Avenue to the west, Washington Street to the east, Melnea Cass Boulevard to the north, and Williams Street to the south. The existing conditions of the Site include a slightly rolling grassy area along the southern edge of Melnea Cass Boulevard as well as several buildings and paved parking lots along the southern portion of the Site.

Ten borings were drilled at the Project Site to characterize the soil conditions. The generalized subsurface profile is provided below.

- **Man-placed Fill:** Man-placed fill was encountered on all of the borings. The fill is made up of plastic and non-plastic silt with little to no sand or gravel, and granular fill with sand and silt, and urban fill with combinations of the previous materials in addition to solid waste inclusions (coal, ash, brick, and concrete). The thickness of the fill was approximately four to nine feet. This fill is considered uncontrolled in-situ both in terms of compaction (density) and quality and should not be left in place below structural units.

- **Buried Topsoil**: Buried topsoil is generally a soft, readily compressible silt loam layer found at the base of the fill. This material should be expected to be compressible and problematic if left in place below structural units.

- **Glacial Fluvial Deposits**: The thickness and depth of the glacial fluvial deposits varied depending on boring location. Glacial Fluvial soil on the Project Site is present as SM-type (silty sand to sandy silt) and SP or SP-SW-type (poorly to well graded sand with minor silt and gravel). Inter-bedding of glacial fluvial and marine clay layers below ground occurs particularly within the proposed supermarket footprint. It should be noted that SM-type glacial outwash, where exposed, will degrade under direct pressure by people and equipment in the presense of water. As such, surface protection in open excavations (mudmats, select engineered fill) should be considered and implemented.

- **Marine Sediment**: Marine sediment occurs in two forms on the Site; plastic silt with clay and silty clay. The plastic silt variety of marine sediment is highly degradeable and extremely sensitive to the pressure of people and equipment in the presence of water and is more sensitive than the silty clay form of marine sediment. It would likely require mudmats if exposed in a footing excavation base. Marine sediment was found to vary in consistency from medium stiff to hard in the borings. It was seen to soften slightly with depth.

- **Glacial Till:** Glacial till was not encountered on site.

- **Bedrock:** Depth to bedrock is estimated to be located at a depth of approximately 100 feet.

3.10.2 Groundwater Levels

Three groundwater monitoring wells were installed at the Project Site. Groundwater during the dry months was found at a depth of approximately nine to eleven feet. It is anticipated that future groundwater levels across the Project Site may vary by as much as 24 inches above the given summer levels due to factors such as normal seasonal changes, periods of heavy precipitation, and alterations of existing drainage patterns.

3.10.3 Foundation Construction

Based upon the proposed building footprints and further geotechnical testing the proposed buildings will be supported on a combination of foundation elements. Building A will likely involve site improvement with aggregate piers or deep foundations down to suitable grade. Building B will likely require conventional spread and continuous wall footings and a parking level grade slab. It is expected that some excavation bracing will be required consisting of either cantilever (unbraced) steel sheeting or soldier piles and lagging including at sidewalks and at private property lines. Building C is a rehab project and therefore will require not require any significant foundation construction.

3.11 Construction Impacts

3.11.1 Introduction

A Construction Management Plan prepared in compliance with the City's Construction Management Program will be submitted to BTD once final plans are developed and the construction schedules are fixed. The construction contractor(s) will be required to comply with the details and conditions of the approved CMP.

Proper planning with the City and neighborhood will be essential to the timely construction of the Project. Construction methodologies, which ensure public safety and protect nearby residences, will be employed. Techniques such as barricades, walkways, and signage will be used. The CMP will include routing plans for trucking and deliveries, plans for the protection of existing utilities, and control of noise and dust.

Periodic meetings will be held with neighborhood representatives to describe the ongoing work and to discuss measures that will be taken to minimize impacts on the community. The Project superintendent(s) will contact abutters and close neighbors at least once every two weeks during new phases of work.

The Proponent intends to follow the guidelines of the City of Boston and the MassDEP, which direct the evaluation and mitigation of construction impacts.

3.11.2 Construction Methodology/Public Safety

Construction methodologies that protect public safety and protect nearby tenants will be employed. Barricades and signage will be used, if necessary. Construction management and scheduling will minimize impacts on the surrounding environment. This will include plans for construction worker commuting and parking, routing plans for trucking and deliveries, and control of noise and dust. Construction staging methodology is further described in Section 3.11.4 below.

As the design of the Project progresses, the Proponent and its construction team will meet with the BTD to discuss the specific location of barricades, the need for lane closures, pedestrian walkways, and truck queuing areas.

3.11.3 Construction Schedule

Construction of Phase 1 (site infrastructure and Building A) is estimated to last approximately 10 months, with initial site work expected to begin in September 2013. Construction of Phase 2 (Building B) is estimated to last approximately 18 months and begin in May of 2014. The rehabilitation work for Phase 3 (Building C) is anticipated to begin in May of 2015 and last for approximately 13 months.

The first phase of the project will involve the development of Building A (by Tropical Foods itself) and the development of the common site parking and sidewalks (by Master Developer Madison Park CDC). The contractors will use the empty part of Parcel 10 as a staging area for Building A. This area will ultimately house Building B during the second phase of construction. After Building A is in place, this area can be used for temporary parking for the existing Tropical Foods operation while the common site work is completed. The second phase will begin at the completion of the common site work of the first phase. The third phase will include the renovation of Building C and will begin after the completion of Building B.

Typical construction hours during construction will be from 7:00 a.m. to 5:00 p.m., Monday through Friday, with occasional work taking place on Saturday. The proponent understands that City of Boston ordinances do not allow construction on Sundays without a permit; therefore no construction is planned to take place on Sunday.

The proponent will retain the services of a Construction Manager who will be responsible for coordinating construction activities during all phases of construction with the City of Boston agencies to minimize potential scheduling and construction conflicts with other ongoing construction projects in the area.

3.11.4 Construction Staging/Access

The proposed construction staging plan will be designed to isolate the construction while providing safe access for pedestrians and vehicles during normal day-to-day activity and emergencies. The staging areas will be secured by chain-link fencing to prevent pedestrians' entering these areas.

Although specific construction and staging details have not been finalized, the Proponent will work with the construction manager and the City of Boston to ensure that staging areas will be located to minimize impact to pedestrian and vehicular flow. Secure fencing and barricades will be used to isolate construction areas from pedestrian traffic. In addition, public safety for pedestrians on abutting sidewalks will include covered pedestrian walkways when appropriate and, as required, the suspension of the use of certain sidewalks during the most hazardous periods of overhead work activity (if needed). It is anticipated that suspension of use of certain sidewalks will be required and some removal and replacement of sidewalks may be necessary. As required by BTD and the Boston Police Department, police details will be provided to facilitate traffic flow. Construction procedures will be designed to meet Occupational Safety and Health Administration (OSHA) safety standards for specific site construction activities.

3.11.5 Construction Mitigation

The Proponent will follow City and MassDEP guidelines that direct the evaluation and mitigation of construction impacts. As part of this process, the Proponent and construction team will evaluate the Commonwealth's Clean Air Construction Initiative.

A CMP will be submitted to BTD for review and approval prior to issuance of a Building Permit. The CMP will include detailed information on specific construction mitigation measures and construction methodologies to minimize impacts to abutters and the local community. The CMP will also define truck routes which will help in minimizing the impact of trucks on City and neighborhood streets. "Don't Dump - Drains to Charles River" plaques will be installed at storm drains that are replaced or installed as part of the Project.

3.11.6 Construction Employment and Worker Transportation

The Project will create approximately 440 construction jobs during the construction period. The Proponent will make reasonable good-faith efforts to have at least 50 percent of the total employee work hours be allocated for Boston residents, at least 25 percent of total employee work hours be allocated for minorities and at least 10 percent of the total employee work hours be allocated for women.

Because the construction workers will arrive and depart prior to peak traffic periods, the construction trips are not expected to impact local traffic conditions. To reduce vehicle trips to and from the construction site, no construction worker parking will be permitted on the site and workers will be strongly encouraged to use public transportation. The Project site has strong public transportation access via the MBTA Silver Line with a stop right at the site. Space on-site or adjacent rented areas will be made available for storage of workers' supplies and tools so they do not have to be brought to the site each day. The contractor will establish a designated drop-off area for workers, tools, and equipment. The established time frame for the drop-off area will be 6:00 a.m. to 7:00 a.m. The drop-off area will include posted "No Idling" signs.

It is anticipated that trucks will approach the site via Melnea Cass for the majority of construction for Building A and Washington Street for the majority of construction for Buildings B and C.

3.11.7 Construction Truck Routes and Deliveries

Truck traffic will vary throughout the construction period, depending on the activity. The construction team will manage deliveries to the Project Site during morning and afternoon peak hours in a manner that minimizes disruption to traffic flow on adjacent streets. Construction truck routes to and from the Project Site for contractor personnel, supplies, materials, and removal of excavations required for the development will be coordinated with BTD. Traffic logistics and routing will be planned to minimize community impacts. Truck access during construction will be determined by the BTD as part of the CMP. These

routes will be mandated as a part of all subcontractors' contracts for the development. The construction team will provide subcontractors and vendors with Construction Vehicle & Delivery Truck Route Brochures in advance of construction activity. "No Idling" signs will be posted at the loading, delivery, pick-up and drop-off areas.

3.11.8 Construction Air Quality

Short-term air quality impacts from fugitive dust may be expected, however, the construction management plan will include plans for controlling fugitive dust during demolition and construction. The construction contract will provide for a number of strictly enforced measures to reduce potential emissions and minimize impacts. These will include the following:

- Using wetting agents where needed on a scheduled basis;
- Using covered trucks;
- Minimizing exposed storage debris on-site;
- Providing a wheel wash at site exits; and
- Cleaning streets and sidewalks on a regular basis to minimize dust accumulations.

3.11.9 Construction Noise

Intermittent increases in noise levels will occur during the demolition and construction period. Construction work will comply with the requirements of the City of Boston noise ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities. Mitigation measures are expected to include the following:

- Using appropriate mufflers on equipment and providing ongoing maintenance of intake and exhaust mufflers;
- Installing muffling enclosures on continuously operating equipment, such as air compressors and welding generators with outdoor exposure;
- Replacing specific construction operations and techniques with less noisy ones where feasible;
- Selecting the quietest of alternate items of equipment;
- Scheduling equipment operations to keep average levels low, to synchronize noisiest operations with times of highest ambient noise levels, and to maintain relatively uniform noise levels; and

- Locating noisy equipment at locations that protect sensitive receptors by shielding or distance.

3.11.10 Construction Vibration

Means and methods for performing work at the Project Site will be evaluated for potential vibration impacts on adjoining property, utilities, and existing structures. Acceptable vibration criteria will be established prior to construction, and vibration will be monitored, if required, during construction to ensure compliance with the agreed-upon standard.

3.11.11 Construction Waste

The Proponent will take an active role with regard to the reprocessing and recycling of construction and building demolition waste. Demolition materials from buildings and site materials will be removed from the Site.

The disposal contract will include specific requirements to ensure that construction procedures allow for the necessary segregation, reprocessing, reuse and recycling of materials. For those materials that cannot be recycled, solid waste will be transported in covered trucks to an approved solid waste facility, per MassDEP's Regulations for Solid Waste Facilities, 310 CMR 16.00. This requirement will be specified in the disposal contract. Construction will be conducted so that materials that may be recycled are segregated from those materials not recyclable to enable disposal at an approved solid waste facility.

3.11.12 Protection of Utilities

Existing public and private infrastructure located within the public right-of-way and within easements across the property will be protected during construction. The installation of proposed utilities within public ways will be in accordance with the MWRA, BWSC, Boston Public Works, Dig Safe, and the governing utility company requirements. Required permits will be obtained before the commencement of the specific utility installation. Specific methods for constructing proposed utilities where they are near to, or connect with, existing water, sewer and drain facilities will be reviewed by BWSC as part of its site plan review process.

3.11.13 Rodent Control

A rodent extermination certificate will be filed with the building permit applications for the Project to the City. Rodent inspection monitoring and treatment will be carried out before, during, and at the completion of construction work for the proposed Project, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of areas throughout the Project Site. During the construction process, regular service visits will be made.

3.11.14 Wildlife Habitat

The Project site is in an established urban neighborhood. According to the 2008 Natural Heritage online MassGIS data layer, prepared by the Massachusetts Natural Heritage and Endangered Species Program, there are no Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife on the Project Site.

3.12 Sustainable Design

The Proponent and the Project design team, including LEED Accredited Professionals, are considering many sustainable design and energy conservation measures for the Project, including being silver certifiable for LEED Neighborhood Development. Furthermore, each building will be LEED certifiable under the appropriate LEED standard. The Project Site is located near the MBTA Silver and Orange Lines, and provides a convenient location for walking and bicycling. During the design process, the Proponent will evaluate incorporating green-building features in the Project, including the following:

3.12.1 Smart Location and Linkage

To satisfy the prerequisites and achieve additional points in the Smart Location and Linkage section of the LEED for ND scorecard, the Project intends to meet a variety of goals:

- The Project will be constructed on an infill site with an existing infrastructure;
- The Project does not affect any endangered species;
- The Project Site is not located within 100 feet of wetlands and will likely involve the remediation of a Brownfield;
- The Project is not located in a locally designated agricultural preservation district
- The Project is not be located in a floodplain as defined by FEMA;
- The Project Site is located in a community with a "connectivity" of over 250 intersections per square mile;
- The Project is located in a federally designated Empowerment Zone with easy access to over 320 public transit bus trips per week and within a half mile of a 5 mile-long bike path;
- The Project Site is located within half a mile of 30 FTE's – equal to the number of housing units in the proposal; and
- The Project does not include development on areas with a 15% slope.

3.12.2 Neighborhood Pattern and Design

The following measures included in the proposal will satisfy the prerequisites and achieve additional points in the Neighborhood Pattern and Design section of the scorecard:

- The Project design accommodates "Walkable Streets" and plans for principal entries into buildings to face public spaces, parking areas to be located behind buildings and more than 15% of existing and new street frontage to have minimum building height to street width ratios of 1:3;

- The Project will have a density of more than 30 units per acre and commercial space with a density of more than 0.5 FAR;
- The Project Site is located within one-quarter mile of over a dozen community services including banks, restaurants, transportation, clothing stores, bakeries, etc.;
- The Project will provide a variety of housing types and affordability levels including: one bedroom units, two bedroom units, units with elevator access, units affordable to families making 30% of AMI, units affordable to families making 60% of AMI and units affordable to families making at/above 80% of AMI;
- The Project Site will include intersections at least every 400 feet as well as bus stops on the perimeter of the Site;
- Bike and car sharing programs will be located on site (or within 250 feet from the Project Site);
- The Project Site is located within one-quarter mile of public park space and within ½ of a public baseball field;
- A minimum of 20% of the housing units will comply with Universal Design requirements;
- During the planning process, the Proponent will engage in a community process that includes well over two community/public meetings and design charrettes;
- The Project Site is located within one-half mile of local food production and a farmers market;
- The Project will include new street trees lining all public sidewalks around the perimeter of the Site. Trees will be planted along pedestrian walkways within the Site as well; and
- The Project Site is located within one-half mile of a public school and contains sidewalks for easy access to the schools.

3.12.3 Green Infrastructure and Buildings

The following measures included in the proposal will satisfy the prerequisites and achieve additional points in the Green Infrastructure and Buildings section of the scorecard:

- All three buildings included in the Project will be LEED certifiable;
- New buildings constructed within the Project will use energy modeling or a prescriptive path to project a 20% or greater energy reduction over the Ashrae 90.1-2007 standard and rehabilitated buildings will achieve 15% or great energy reduction of the same standard. To achieve this goal, the Project will incorporate high R-value insulation, low-E windows, high-efficiency HVAC equipment, Energy Star appliances and light fixtures, low-flow fixtures and potentially solar thermal and /or photo-voltaic renewable energy systems into the project;
- Buildings will use 40% or less water than the Energy Act of 1992 standard;
- Substantial erosion and dust controls will be used during construction to reduce harmful impacts on outdoor air quality;
- The Project will keep and reuse at least 50% of an existing, historic building; and
- At least 85% of the Project footprint is located on areas that have been previously developed.

Building A

Tropical Foods will be an approximately 40,000 square foot grocery store and warehouse that will use USGBC's LEED for Retail: New Construction and Major Renovations Rating System. Tropical Foods understands that it is important to do what it can to reduce the environmental impact of its retail activities both with the building itself and with the development of the Site, understanding that it generates airborne pollutants from shoppers' vehicular trips, stormwater runoff from parking facilities, and noise and light pollution. The development team for the Tropical Foods building is committed to incorporating green building practices to substantially reduce or eliminate negative environmental impacts through high performance construction and operating practices. Green building practices specific to the Tropical Foods building are planned to include enhanced refrigerant management, materials reuse, construction waste management, regional materials, certified wood, rapidly renewable materials, indoor air quality (IAQ) management plans, low-emitting materials, thermal comfort and daylighting and views.

Site Selection, Development, and Community Connectivity

- The Project will be constructed on an infill site with an existing infrastructure;
- The Project does not affect endangered species;
- The Project Site is not located within 100 feet of wetlands and will likely involve the remediation of a Brownfield;
- The Project is not located in a locally designated agricultural preservation district;
- The Project is not be located in a floodplain as defined by FEMA;
- The Project Site is located in a community with a "connectivity" of over 250 intersections per square mile;
- The Project is located in a federally designated Empowerment Zone with easy access to over 320 public transit bus trips per week and within a half mile of a five mile-long bike path;
- The Project site is located within half a mile of 30 FTE's – equal to the number of housing units in the proposal; and
- The Project does not include development on areas with a 15% slope.

Brownfield Redevelopment

- The Project Site is defined as a Brownfield.

Alternative Transportation

- The Site is within one-half mile of a subway stop or two bus lines; and
- The Site will provide alternative transportation education through a board accessible to employees and customers with transit maps, transit trip planning assistance, any available information on carpooling programs and bike routes and contacts for more information.

Stormwater Design

- The Proponent will implement a stormwater management plan that reduces cover, promotes infiltration, and captures and treats the stormwater runoff from 90% of the average rainfall using acceptable best management practices.

Heat Island Effect

- Roofing materials will be used that have a solar reflectance index greater than or equal to 78 for a low-sloped roof and 29 for a steep-slope roof, for a minimum of 75% of the roof surface.

Water Efficiency

- 20% less water than water use baseline will be employed through water efficient ultra-low-flow lavatories and low-flow water closets; and
- Potable water consumption for irrigation will be reduced by 50% from a calculated midsummer baseline case through irrigation efficiency.

Energy & Atmosphere

- A commissioning agent will verify that energy-related systems are installed and calibrated to perform according to the owner's project requirements, basis of design, and construction documents;
- 30% improvement in the proposed building performance rating compared to the baseline rating will be achieved through energy efficient lighting, HVAC systems, and refrigerators and freezers;
- No refrigerants or refrigerants that minimize or eliminate emission of compounds that contribute to ozone depletion will be used; and
- A two-year REC contract will be purchased to provide at least 35% of the building's electricity from renewable energy sources.

Materials & Resources

- During construction, 75% of debris will be recycled or salvaged;
- 5% of total value of materials will be salvaged, refurbished, or reused;
- 20% of building products will incorporate recycled content;
- 20% of materials will be extracted, harvested or recovered, as well as manufactured within a 500 mile radius of the Project Site;
- Rapidly renewable building materials and products will be used for 2.5% of the total value of the building materials and products used in the Project; and
- 50% of wood-based materials and products will be certified in accordance with the Forest Stewardship Council's principles and criteria for wood building components.

Indoor Environmental Air Quality

- The following measures will be taken to optimize indoor air quality:
    - Project will meet requirements of sections 4-7 of ASHRAE 62.1-2007 Ventilation for Acceptable Indoor Air Quality;
    - No smoking will be allowed in building or within 25 feet of entrances;
    - Contractor will implement IAQ management plan to meet SMACNA guidelines, protect onsite and installed absorptive materials from moisture damage, and replace any filters prior to occupancy;
    - Developer will flush the building with fresh air prior to occupancy;
    - Adhesives and Sealants will have low/no VOCs;
    - Flooring will meet VOC tests;
    - Composite wood and agrifiber will have no urea-formaldehyde resins; and
    - Low or no VOC paints will be used.

- Systems will be controlled by the following:
  - Individual lighting controls for 90% of retail employees in office and administrative spaces will be available;
  - Individual thermal comfort controls for 50% of retail employees in office and admin spaces will be provided;
  - HVAC systems will be designed to ASHRAE Standard 55-2004;
  - Assessment of building occupants' thermal comfort will be completely regularly through surveys; and
  - 75% of the regularly occupied spaces will have daylighting.

Building B

Building B will be a new, approximately 60,000 square foot retail and office building that will use USGBC's LEED for Core and Shell Rating System. Though the future retail and office tenants of the building are unknown, the developer intends to design and construct a commercial core and shell that will provide a good starting point for future tenant fitouts to meet LEED for Commercial Interior or LEED for Retail standards. Healthy indoor air quality, high efficiency electric, HVAC and water systems, healthy and recycled building materials and occupant comfort will be high priorities for the development team during the design and construction process.

Site Selection, Development, and Community Connectivity

- The Project will be constructed on an infill site with an existing infrastructure;
- The Project will not affect endangered species;
- The Project Site is not located within 100 feet of wetlands and will likely involve the remediation of a Brownfield;
- The Project Site is not located in a locally designated agricultural preservation district;
- The Project Site is not located in a floodplain as defined by FEMA;
- New parking will be at or below zoning requirements;
- Indoor and outdoor bicycle storage will provided for occupants and visitors (one covered bike rack per ten employees and one outdoor bike rack per 2,000 sf of retail space);
- The Project Site is located in a community with a "connectivity" of over 250 intersections per square mile;
- The Project is located in a federally designated Empowerment Zone with easy access to over 320 public transit bus trips per week and within a half mile of a 5 mile-long bike path;
- The Project Site is located within half a mile of 30 FTE's – equal to the number of housing units in the proposal; and
- The Project does not include development on areas with a 15% slope.

Brownfield Redevelopment

- Site is defined as a Brownfield

Alternative Transportation

- Site is within one-half mile of a subway stop or 2 bus lines; and
- Site will provide alternative transportation education through a board accessible to employees and customers with transit maps, transit trip planning assistance, any available information on carpooling programs and bike routes and contacts for more information.

Stormwater Design

- The Proponent will implement a stormwater management plan that reduces cover, promotes infiltration, and captures and treats the stormwater runoff from 90% of the average rainfall using acceptable best management practices.

Heat Island Effect

- Roofing materials will be used that have a solar reflectance index greater than or equal to 78 for a low-sloped roof and 29 for a steep-slope roof, for a minimum of 75% of the roof surface.

Water Efficiency

- 20% less water than water use baseline will be consumed through water efficient ultra-low-flow lavatories and low-flow water closets;
- There will be no irrigation; and
- 35% less water than water use baseline will be consumed through water efficient ultra-low-flow lavatories and low-flow water closets.

Energy & Atmosphere

- A commissioning agent will verify that energy-related systems are installed and calibrated to perform according to the owner's project requirements, basis of design, and construction documents;
- 20% improvement in the proposed building performance rating compared to the baseline rating will be achieved through energy efficient lighting, HVAC systems, and refrigerators and freezers; and
- No refrigerants or refrigerants that minimize or eliminate emission of compounds that contribute to ozone depletion will be used.

Materials & Resources

- The building will collect and store recyclable materials;
- During construction, 90% of debris will be recycled or salvaged;
- 20% of building products will incorporate recycled content;
- 20% of materials will be extracted, harvested or recovered, as well as manufactured within a 500 mile radius of the Project Site; and
- Rapidly renewable building materials and products will be used for 2.5% of the total value of the building materials and products used in the Project.

Indoor Environmental Air Quality

- The following measures will be taken to optimize indoor air quality:
    - Project will meet requirements of sections 4-7 of ASHRAE 62.1-2007 Ventilation for Acceptable Indoor Air Quality;
    - No smoking will be allowed in building or within 25 feet of entrances;

- Contractor will implement IAQ management plan to meet SMACNA guidelines, protect onsite and installed absorptive materials from moisture damage, and replace any filters prior to occupancy;
- Developer will flush the building with fresh air prior to occupancy;
- Adhesives and sealants will have low or no VOCs;
- Flooring will meet VOC tests;
- Composite wood and agrifiber will have no urea-formaldehyde resins;
- Low or no VOC paints will be used; and
- Daylight and view requirements will be met.

Building C

Building C is the rehabilitation of an approximately 44,000 square foot building that currently serves as home to the Tropical Foods Supermarket. The adaptive reuse will include a new retail space on the ground floor and residential apartments on the upper three floors. This rehabilitation project will use USGBC's LEED for New Construction and Major Renovation Rating System. The Proponent intends to reuse the existing building shell and some of the flooring systems. However, new high-efficiency systems and finishes will be installed to ensure maximum indoor air quality, occupant comfort, and maximum energy efficiency. Recycled, reused, and healthy building materials will be used in the Project.

Site Selection, Development, and Community Connectivity

- The Project will be constructed on an infill site with an existing infrastructure;
- The Project does not affect endangered species;
- The Project Site is not located within 100 feet of wetlands, and will likely involve the remediation of a Brownfield;
- New parking will be at or below zoning requirements;
- Indoor and outdoor bicycle storage will provided for occupants and visitors (one covered bike rack per ten employees and one outdoor bike rack per 2,000 sf of retail space);
- The Project Site is not located in a locally designated agricultural preservation district;
- The Project Site is not located in a floodplain as defined by FEMA;
- The Project Site is located in a community with a "connectivity" of over 250 intersections per square mile;
- The Project is located in a federally designated Empowerment Zone with easy access to over 320 public transit bus trips per week and within a half mile of a 5 mile-long bike path ;
- The Project Site is located within half a mile of 30 FTE's – equal to the number of housing units in the proposal; and
- The Project does not include development on areas with a 15% slope

Brownfield Redevelopment

- Site is defined as a Brownfield.

Alternative Transportation

- The Site is located within one-half mile of a subway stop or two bus lines; and
- Site will provide alternative transportation education through a board accessible to employees and customers with transit maps, transit trip planning assistance, any available information on carpooling programs and bike routes and contacts for more information.

Stormwater Design

- The Proponent will implement a stormwater management plan that reduces cover, promotes infiltration, and captures and treats the stormwater runoff from 90% of the average rainfall using acceptable best management practices.

Heat Island Effect

- Roofing materials will be used that have a solar reflectance index greater than or equal to 78 for a low-sloped roof and 29 for a steep-slope roof, for a minimum of 75% of the roof surface.

Water Efficiency

- 20% less water than water use baseline will be consumed through water efficient ultra-low-flow lavatories and low-flow water closets;
- There will be no irrigation; and
- 30% less water than water use baseline will be consumed through water efficient ultra-low-flow lavatories and low-flow water closets.

Energy & Atmosphere

- A commissioning agent will verify that energy-related systems are installed and calibrated to perform according to the owner's project requirements, basis of design, and construction documents;
- 22% improvement in the proposed building performance rating compared to the baseline rating will be achieved through energy efficient lighting, HVAC systems, and refrigerators and freezers; and
- No refrigerants or refrigerants that minimize or eliminate emission of compounds that contribute to ozone depletion will be used.

Materials & Resouces

- The building will collect and store recyclable materials;
- The building will maintain its floors, walls and roof systems;
- During construction, 90% of debris will be recycled or salvaged;
- 20% of building products will incorporate recycled content;
- 20% of materials will be extracted, harvested or recovered, as well as manufactured within a 500 mile radius of the Project Site; and
- Rapidly renewable building materials and products will be used for 2.5% of the total value of the building materials and products used in the Project.

Indoor Environmental Air Quality

- The following measures will be taken to optimize indoor air quality:
    - Project will meet requirements of sections 4-7 of ASHRAE 62.1-2007 Ventilation for Acceptable Indoor Air Quality;

- No smoking will be allowed in building or within 25 feet of entrances;
- The contractor will implement IAQ management plan to meet SMACNA guidelines, protect onsite and installed absorptive materials from moisture damage, and replace any filters prior to occupancy;
- The Proponent will flush the building with fresh air prior to occupancy;
- Adhesives and sealants will have low or no VOCs;
- Flooring will meet VOC tests;
- Composite wood and agrifiber will have no urea-formaldehyde resins;
- Low or no VOC paints will be used; and
- Daylight and view requirements will be met.

With ongoing assistance from LEED AP team members, the above-mentioned sustainable design measures will be incorporated into the Project's design and construction to achieve the intent of the LEED for Neighborhood Development Silver standard and be LEED certifiable for the individual buildings.

LEED Accredited Professionals on the Madison/Tropical development include:

1. Fernando Domenech, DHK Architects
2. Marya Piaseki, DHK Architects
3. Travis Lee, Madison Park Development

LEED 2009 for Neighborhood Development
Project Scorecard

Project Name: Madison/Tropical Parcel 10 Proposal
Date: July 25, 2011

Yes	?	No			
20	0	7	**Smart Location and Linkage**	**27** Points Possible	
Y			Prereq 1	**Smart Location**	Required
Y			Prereq 2	**Imperiled Species and Ecological Communities**	Required
Y			Prereq 3	**Wetland and Water Body Conservation**	Required
Y			Prereq 4	**Agricultural Land Conservation**	Required
Y			Prereq 5	**Floodplain Avoidance**	Required
5		5	Credit 1	**Preferred Locations**	10
2			Credit 2	**Brownfield Redevelopment**	2
7			Credit 3	**Locations with Reduced Automobile Dependence**	7
1			Credit 4	**Bicycle Network and Storage**	1
3			Credit 5	**Housing and Jobs Proximity**	3
1			Credit 6	**Steep Slope Protection**	1
1			Credit 7	**Site Design for Habitat or Wetland and Water Body Conservation**	1
		1	Credit 8	**Restoration of Habitat or Wetlands and Water Bodies**	1
		1	Credit 9	**Long-Term Conservation Management of Habitat or Wetlands and Water Bodies**	1

Yes	?	No			
28	1	15	**Neighborhood Pattern and Design**	**44** Points Possible	
Y			Prereq 1	**Walkable Streets**	Required
Y			Prereq 2	**Compact Development**	Required
Y			Prereq 3	**Connected and Open Community**	Required
7	1	4	Credit 1	**Walkable Streets**	12
5		1	Credit 2	**Compact Development**	6
3		1	Credit 3	**Mixed-Use Neighborhood Centers**	4
3		4	Credit 4	**Mixed-Income Diverse Communities**	7
0		1	Credit 5	**Reduced Parking Footprint**	1
1		1	Credit 6	**Street Network**	2
1			Credit 7	**Transit Facilities**	1
1		1	Credit 8	**Transportation Demand Management**	2
1			Credit 9	**Access to Civic and Public Spaces**	1
1			Credit 10	**Access to Recreation Facilities**	1
1			Credit 11	**Visitability and Universal Design**	1
1		1	Credit 12	**Community Outreach and Involvement**	2
1			Credit 13	**Local Food Production**	1
1		1	Credit 14	**Tree-Lined and Shaded Streets**	2
1			Credit 15	**Neighborhood Schools**	1

Yes	?	No			
5	0	24	**Green Infrastructure and Buildings**	**29** Points Possible	
Y			Prereq 1	**Certified Green Building**	Required
Y			Prereq 2	**Minimum Building Energy Efficiency**	Required
Y			Prereq 3	**Minimum Building Water Efficiency**	Required
Y			Prereq 4	**Construction Activity Pollution Prevention**	Required

Green Infrastructure and Buildings, Continued

Yes	?	No			
		5	Credit 1	**Certified Green Buildings**	5
1		1	Credit 2	**Building Energy Efficiency**	2
		1	Credit 3	**Building Water Efficiency**	1
1			Credit 4	**Water-Efficient Landscaping**	1
1			Credit 5	**Existing Building Use**	1
1			Credit 6	**Historic Resource Preservation and Adaptive Reuse**	1
1			Credit 7	**Minimized Site Disturbance in Design and Construction**	1
		4	Credit 8	**Stormwater Management**	4
		1	Credit 9	**Heat Island Reduction**	1
		1	Credit 10	**Solar Orientation**	1
		3	Credit 11	**On-Site Renewable Energy Sources**	3
		2	Credit 12	**District Heating and Cooling**	2
		1	Credit 13	**Infrastructure Energy Efficiency**	1
		2	Credit 14	**Wastewater Management**	2
		1	Credit 15	**Recycled Content in Infrastructure**	1
		1	Credit 16	**Solid Waste Management Infrastructure**	1
		1	Credit 17	**Light Pollution Reduction**	1

Yes	?	No			
1	0	5	**Innovation and Design Process**	6 Points	
		1	Credit 1.1	**Innovation and Exemplary Performance**: Provide Specific Title	1
		1	Credit 1.2	**Innovation and Exemplary Performance**: Provide Specific Title	1
		1	Credit 1.3	**Innovation and Exemplary Performance**: Provide Specific Title	1
		1	Credit 1.4	**Innovation and Exemplary Performance**: Provide Specific Title	1
		1	Credit 1.5	**Innovation and Exemplary Performance**: Provide Specific Title	1
1			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No			
0	0	4	**Regional Priority Credit**	4 Points	
		1	Credit 1.1	**Regional Priority Credit**: Region Defined	1
		1	Credit 1.2	**Regional Priority Credit**: Region Defined	1
		1	Credit 1.3	**Regional Priority Credit:** Region Defined	1
		1	Credit 1.4	**Regional Priority Credit**: Region Defined	1

Yes	?	No		
54	1	55	**Project Totals (Certification estimates)**	110 Points

Certified: 40-49 points, **Silver:** 50-59 points, **Gold:** 60-79 points, **Platinum:** 80+ points

LEED 2009 for Retail: New Construction and Major Renovations

Project Checklist

TROPICAL FOODS- BUILDING A

04.11.2013

Sustainable Sites — Possible Points: 26

Y	?	N				
Y			Prereq 1	Construction Activity Pollution Prevention		
1			Credit 1	Site Selection	1	
5			Credit 2	Development Density and Community Connectivity	5	
1			Credit 3	Brownfield Redevelopment	1	
8	2		Credit 4	Alternative Transportation	1 to 10	
		1	Credit 5.1	Site Development—Protect or Restore Habitat	1	
		1	Credit 5.2	Site Development—Maximize Open Space	1	
1			Credit 6.1	Stormwater Design—Quantity Control	1	
		1	Credit 6.2	Stormwater Design—Quality Control	1	
	2		Credit 7.1	Heat Island Effect—Nonroof	1 to 2	
1			Credit 7.2	Heat Island Effect—Roof	1	
	2		Credit 8	Light Pollution Reduction	2	

Water Efficiency — Possible Points: 10

Y	?	N				
Y			Prereq 1	Water Use Reduction—20% Reduction		
1	3		Credit 1	Water Efficient Landscaping	2 to 4	
	2		Credit 2	Innovative Wastewater Technologies	2	
		4	Credit 3	Water Use Reduction	2 to 4	

Energy and Atmosphere — Possible Points: 35

Y	?	N				
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems		
Y			Prereq 2	Minimum Energy Performance		
Y			Prereq 3	Fundamental Refrigerant Management		
10		9	Credit 1	Optimize Energy Performance	1 to 19	
	7		Credit 2	On-Site Renewable Energy	1 to 7	
	2		Credit 3	Enhanced Commissioning	2	
1	1		Credit 4	Enhanced Refrigerant Management	2	
	3		Credit 5	Measurement and Verification	3	
1	1		Credit 6	Green Power	2	

Materials and Resources — Possible Points: 14

Y	?	N				
Y			Prereq 1	Storage and Collection of Recyclables		
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3	
		1	Credit 1.2	Building Reuse—Maintain Interior Nonstructural Elements	1	
2			Credit 2	Construction Waste Management	1 to 2	
	2		Credit 3	Materials Reuse	1 to 2	

Materials and Resources, Continued

Y	?	N			
2			Credit 4	Recycled Content	1 to 2
2			Credit 5	Regional Materials	1 to 2
1			Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1

Indoor Environmental Quality — Possible Points: 15

Y	?	N			
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
		1	Credit 1	Outdoor Air Delivery Monitoring	1
		1	Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
5			Credit 4	Low-Emitting Materials	1 to 5
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6	Controllability of Systems—Lighting and Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Employee Verification	1
1			Credit 8.1	Daylight and Views—Daylight	1
		1	Credit 8.2	Daylight and Views—Views	1

Innovation and Design Process — Possible Points: 6

			Credit 1.1	Innovation in Design: Specific Title	1
			Credit 1.2	Innovation in Design: Specific Title	1
			Credit 1.3	Innovation in Design: Specific Title	1
			Credit 1.4	Innovation in Design: Specific Title	1
			Credit 1.5	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

			Credit 1.1	Regional Priority: Specific Credit	1
			Credit 1.2	Regional Priority: Specific Credit	1
			Credit 1.3	Regional Priority: Specific Credit	1
			Credit 1.4	Regional Priority: Specific Credit	1

Total — Possible Points: 110

51	27	23

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80+ points

LEED 2009 for Core and Shell Development

Project Checklist

Madison Tropical Parcel 10 - Building B

4.4.13

Sustainable Sites — Possible Points: 28

Y	?	N			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
1			Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
2			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	2
		3	Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
		1	Credit 5.1	Site Development—Protect or Restore Habitat	1
		1	Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
		1	Credit 6.2	Stormwater Design—Quality Control	1
		1	Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
1			Credit 8	Light Pollution Reduction	1
	1		Credit 9	Tenant Design and Construction Guidelines	1

Water Efficiency — Possible Points: 10

Y	?	N			
Y			Prereq 1	Water Use Reduction—20% Reduction	
4			Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
3	1		Credit 3	Water Use Reduction	2 to 4

Energy and Atmosphere — Possible Points: 37

Y	?	N			
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
7		14	Credit 1	Optimize Energy Performance	3 to 21
	4		Credit 2	On-Site Renewable Energy	4
		2	Credit 3	Enhanced Commissioning	2
		2	Credit 4	Enhanced Refrigerant Management	2
		3	Credit 5.1	Measurement and Verification—Base Building	3
		3	Credit 5.2	Measurement and Verification—Tenant Submetering	3
		2	Credit 6	Green Power	2

Materials and Resources — Possible Points: 13

Y	?	N			
Y			Prereq 1	Storage and Collection of Recyclables	
		5	Credit 1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 5
2			Credit 2	Construction Waste Management	1 to 2
		1	Credit 3	Materials Reuse	1
2			Credit 4	Recycled Content	1 to 2
2			Credit 5	Regional Materials	1 to 2
	1		Credit 6	Certified Wood	1

Indoor Environmental Quality — Possible Points: 12

Y	?	N			
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
		1	Credit 1	Outdoor Air Delivery Monitoring	1
1			Credit 2	Increased Ventilation	1
1			Credit 3	Construction IAQ Management Plan—During Construction	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
		1	Credit 6	Controllability of Systems—Thermal Comfort	1
		1	Credit 7	Thermal Comfort—Design	1
1			Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1

Innovation and Design Process — Possible Points: 6

?	N			
	1	Credit 1.1	Innovation in Design: Specific Title	1
	1	Credit 1.2	Innovation in Design: Specific Title	1
	1	Credit 1.3	Innovation in Design: Specific Title	1
	1	Credit 1.4	Innovation in Design: Specific Title	1
	1	Credit 1.5	Innovation in Design: Specific Title	1
		Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

?	N			
	1	Credit 1.1	Regional Priority: Specific Credit	1
	1	Credit 1.2	Regional Priority: Specific Credit	1
	1	Credit 1.3	Regional Priority: Specific Credit	1
	1	Credit 1.4	Regional Priority: Specific Credit	1

Total — Possible Points: 110

50	7	53

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

LEED 2009 for New Construction and Major Renovations

Project Checklist

Madison Trop'ical Parcel 10 - Building C

4.4.13

Y	?	N			
17	1	8	**Sustainable Sites**	Possible Points:	**26**
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
1			Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
		1	Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
		3	Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
		1	Credit 5.1	Site Development—Protect or Restore Habitat	1
		1	Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
		1	Credit 6.2	Stormwater Design—Quality Control	1
		1	Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
	1		Credit 8	Light Pollution Reduction	1

5	2	3	**Water Efficiency**	Possible Points:	**10**
Y			Prereq 1	Water Use Reduction—20% Reduction	
4			Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
1	2	1	Credit 3	Water Use Reduction	2 to 4

8	4	23	**Energy and Atmosphere**	Possible Points:	**35**
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
8	4	7	Credit 1	Optimize Energy Performance	1 to 19
		7	Credit 2	On-Site Renewable Energy	1 to 7
		2	Credit 3	Enhanced Commissioning	2
		2	Credit 4	Enhanced Refrigerant Management	2
		3	Credit 5	Measurement and Verification	3
		2	Credit 6	Green Power	2

11	3		**Materials and Resources**	Possible Points:	**14**
Y			Prereq 1	Storage and Collection of Recyclables	
3			Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
	1		Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
1	1		Credit 3	Materials Reuse	1 to 2

Y	?	N			
			Materials and Resources, Continued		
2			Credit 4	Recycled Content	1 to 2
2			Credit 5	Regional Materials	1 to 2
1			Credit 6	Rapidly Renewable Materials	1
	1		Credit 7	Certified Wood	1

10	4	1	**Indoor Environmental Quality**	Possible Points:	**15**
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
	1		Credit 1	Outdoor Air Delivery Monitoring	1
1			Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
	1		Credit 6.1	Controllability of Systems—Lighting	1
	1		Credit 6.2	Controllability of Systems—Thermal Comfort	1
	1		Credit 7.1	Thermal Comfort—Design	1
		1	Credit 7.2	Thermal Comfort—Verification	1
1			Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1

1		5	**Innovation and Design Process**	Possible Points:	**6**
		1	Credit 1.1	Innovation in Design: Specific Title	1
		1	Credit 1.2	Innovation in Design: Specific Title	1
		1	Credit 1.3	Innovation in Design: Specific Title	1
		1	Credit 1.4	Innovation in Design: Specific Title	1
		1	Credit 1.5	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1

		4	**Regional Priority Credits**	Possible Points:	**4**
		1	Credit 1.1	Regional Priority: Specific Credit	1
		1	Credit 1.2	Regional Priority: Specific Credit	1
		1	Credit 1.3	Regional Priority: Specific Credit	1
		1	Credit 1.4	Regional Priority: Specific Credit	1

52	14	44	**Total**	Possible Points:	**110**

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

Chapter 4.0

Urban Design

4.0 URBAN DESIGN

4.1 Site Plan

The Project's site plan strongly reinforces the idea of bringing back the historic urban block, by creating a fairly continuous urban wall around the perimeter of the site. Three buildings will anchor the corners of the Site, with pedestrian and vehicular access points at two important locations between them. The Site is organized with the new Tropical Foods Supermarket (Building A) on the northwest corner. This will be a 26,000 square foot footprint in two stories of construction. Building B will be an office building with street level retail that anchors the corner of Washington Street and Melnea Cass Boulevard. Building B will have two wings, one running along Melnea Cass (east wing) and the other along Washington Street (south wing). The third building (Building C) is the existing Tropical Foods, located at 2101 Washington Street, on the corner with Williams Street. Building C is being converted to include street level retail and residential uses above. Floor plans, elevations and renderings of the Project are presented below in figures 4-1 through 4-31.

4.2 Massing/Architectural Character

The complex will be varied in its architectural treatment and in its massing. In a gesture to the lower scale of the residential buildings of this part of the Site, Building A will contain a two-story supermarket. The existing Building C is a square shaped, four-story structure composed of a brick facade. Building B is meant to anchor the Site as the most prominent of the structures. It will have five stories at the corner, stepping down to four along each wing of the building.

Architecturally, the three buildings will also be quite varied. To begin with, Building C is an existing historic building that will have its exterior restored. This building (originally two buildings combined into one) is a combination of an industrial expression on the north side and a punched window treatment on the south side. The architectural character of Building C will be preserved.

Buildings A and B will be newly constructed and based on their functions will each have its own architectural character. Building A is clearly a lower box, which functionally uses its perimeter wall space to provide the backing for the organization of shelving and foodstuffs. The front of the building, facing into the parking area, is expected to be very transparent and glazed floor to ceiling. A wide canopy in front or western exposure is shown so as to provide shelter for people coming out of the store and for store carts. The side of the building facing Melnea Cass Boulevard will have two glazed ends plus a series of clerestory strips, to provide natural light inside and a friendlier pedestrian façade to the street. The building will tectonically be a series of piers that articulate the structural organization of the building. A series of infill panel,s some with the graphics of the current murals at 2101

Washington, will decorate the exterior – a very literal clue to the function of the building. Some portion of the façade will be solid masonry with a diamonds shaped pattern in colors.

Building B is more complicated because of its geometry and its prominent location. The architecture of the building will reflect it function as an office building. It presupposes a four-foot interior planning module that will show itself on the outside in the dimensions of the panel system that makes up the façade. These "panels" might be in some cases a solid material, in other cases, a glazed curtain wall system with transparent panels and spandrel glass. The location of the various panels will be a function of the solar exposure of a particular elevation. The idea is that some elevations will be more transparent than others, depending on the need for shading. This system of transparency/opacity will produce elevations that are 50% transparent, 75% transparent or 100% transparent. The opaque panels within each elevation will be placed so as to create a checkerboard pattern on the exterior. The corner of the building will be five-stories tall, reflecting the existence of a mezzanine level inside, and providing height for the corner of the building. The retail level will consist of a continuous storefront around most of the buildings aimed at improving the local pedestrian environment.

4.3 Landscape/Hardscape

The Project is envisioned in very urban, pedestrian oriented terms. This means that the public and private sidewalks – private referring to the internal pedestrian spine – will be highly developed with landscape, lighting, seating and other amenities. Even the parking court is envisioned in this light. Buildings will be set directly against the property lines. It is expected that the street environment be enhanced with trees. Canopies will be provided along retail storefronts. A space between Buildings A and B will eventually be developed as an open urban plaza where outdoor markets can take place during the pleasant weather. The parking itself will be carefully detailed and contain planting strips, buffer screens between it and the street, and textured hardscape areas. The continuity of the sidewalk environment is important, and thus, vehicular openings will consist of curb cuts that give priority to the sidewalk, and are detailed in some type of textured pavers to highlight a pedestrian oriented environment. Along the pedestrian network, places for bike parking will be provided to encourage and support alternative modes of transportation.

Parcel 10 Boston, Massachusetts

Epsilon ASSOCIATES INC.

Figure 4-1

Parcel 10 From Melnea Cass Boulevard Looking Southeast Towards Washington Street

Parcel 10 Boston, Massachusetts

Epsilon ASSOCIATES INC.

Figure 4-2

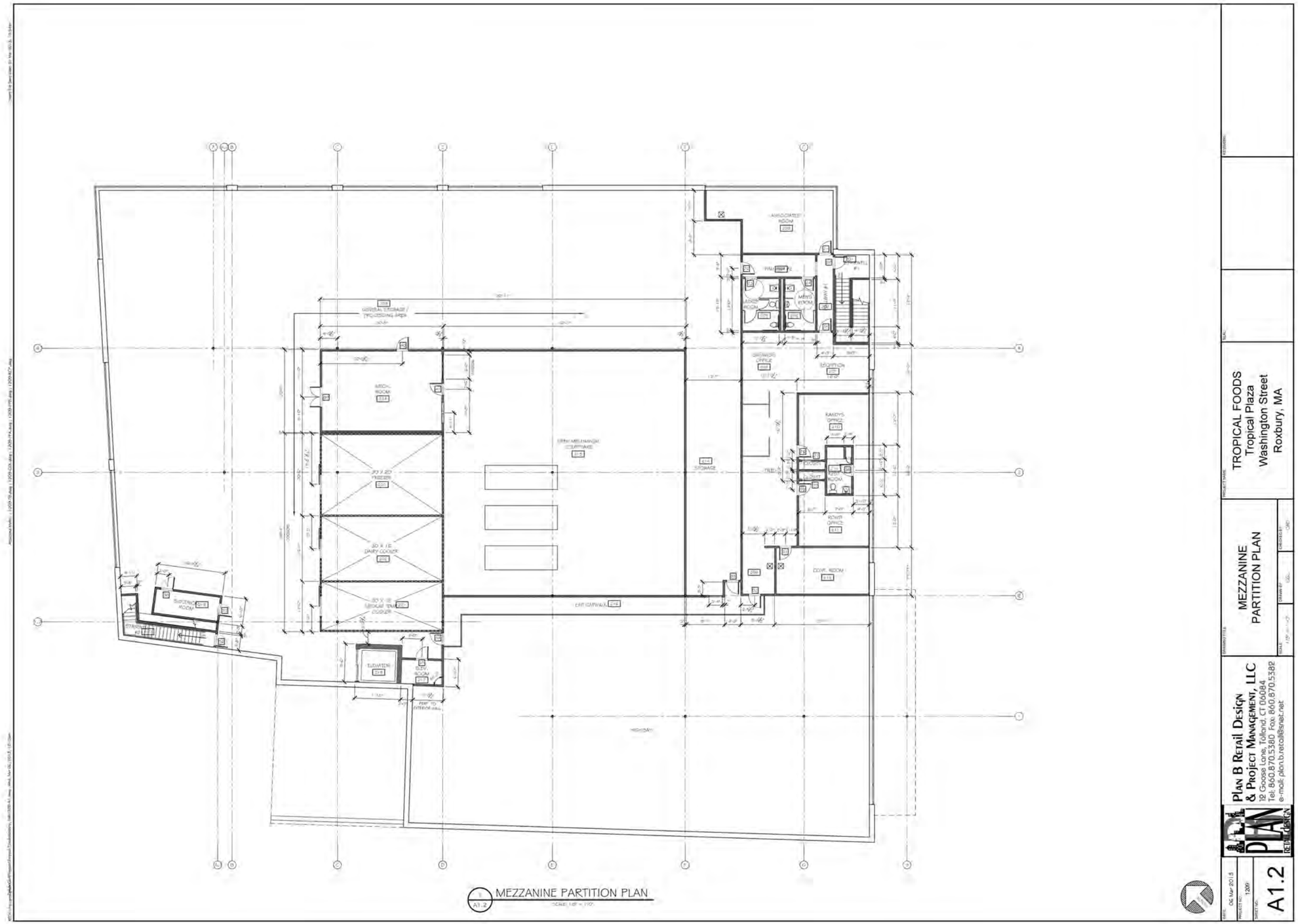
Parcel 10 Looking South Toward Williams Street

Parcel 10 Boston, Massachusetts

Epsilon ASSOCIATES INC.

Figure 4-3

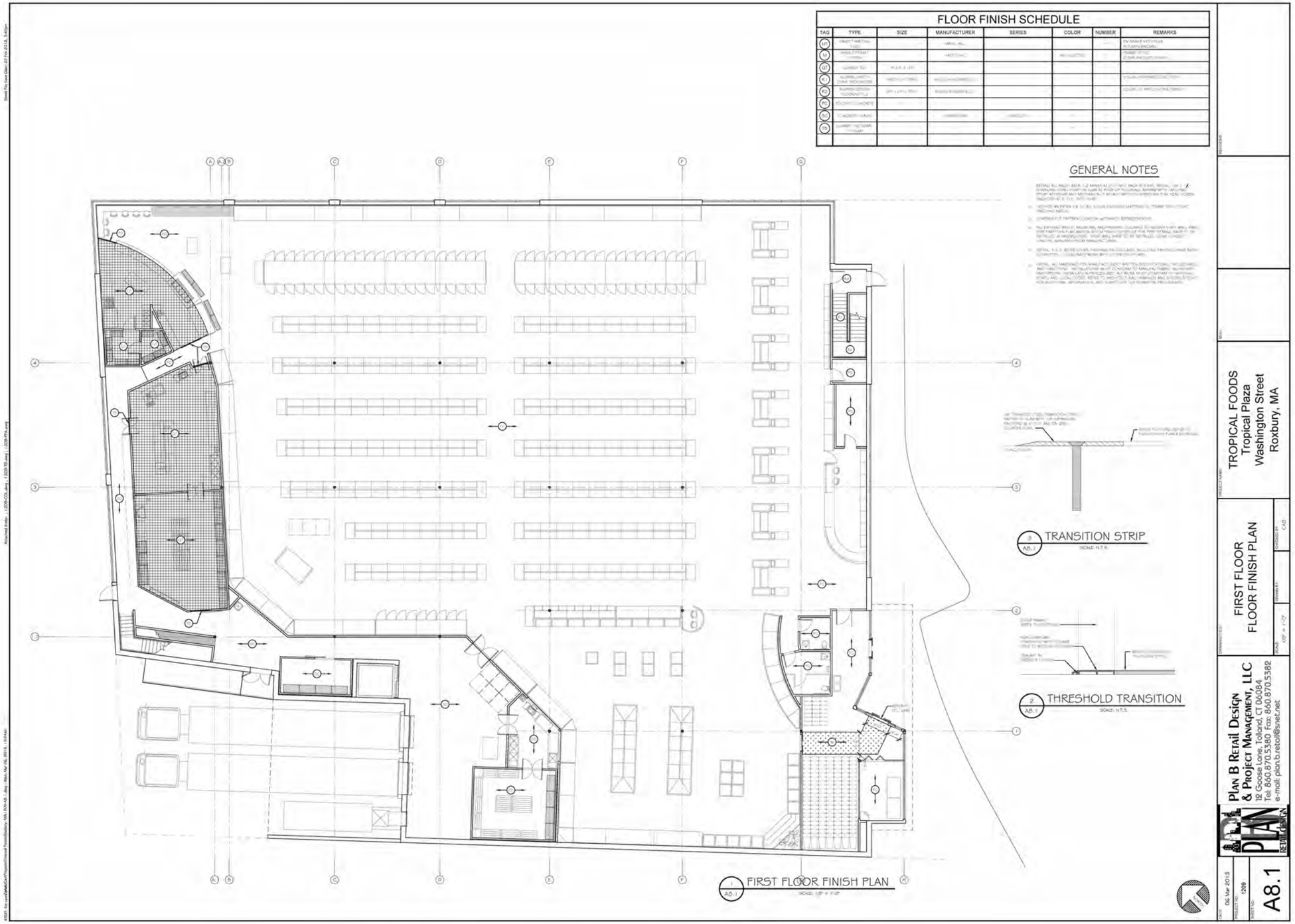
Parcel 10 Looking West Toward Shawmut Avenue



Parcel 10 Boston, Massachusetts

Figure 4-4

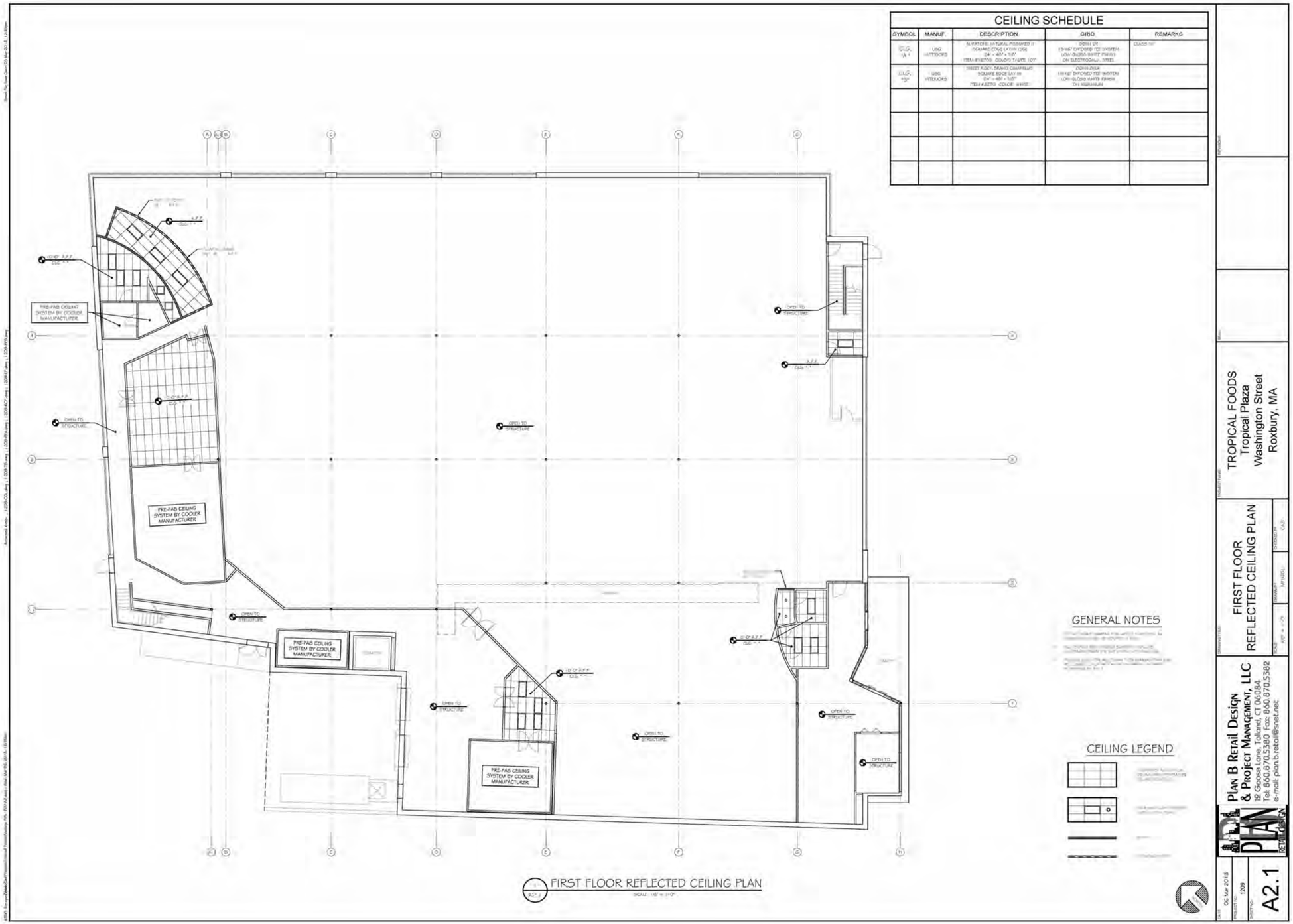
Building A Mezzanine Partition Plan



Parcel 10 Boston, Massachusetts

Figure 4-5

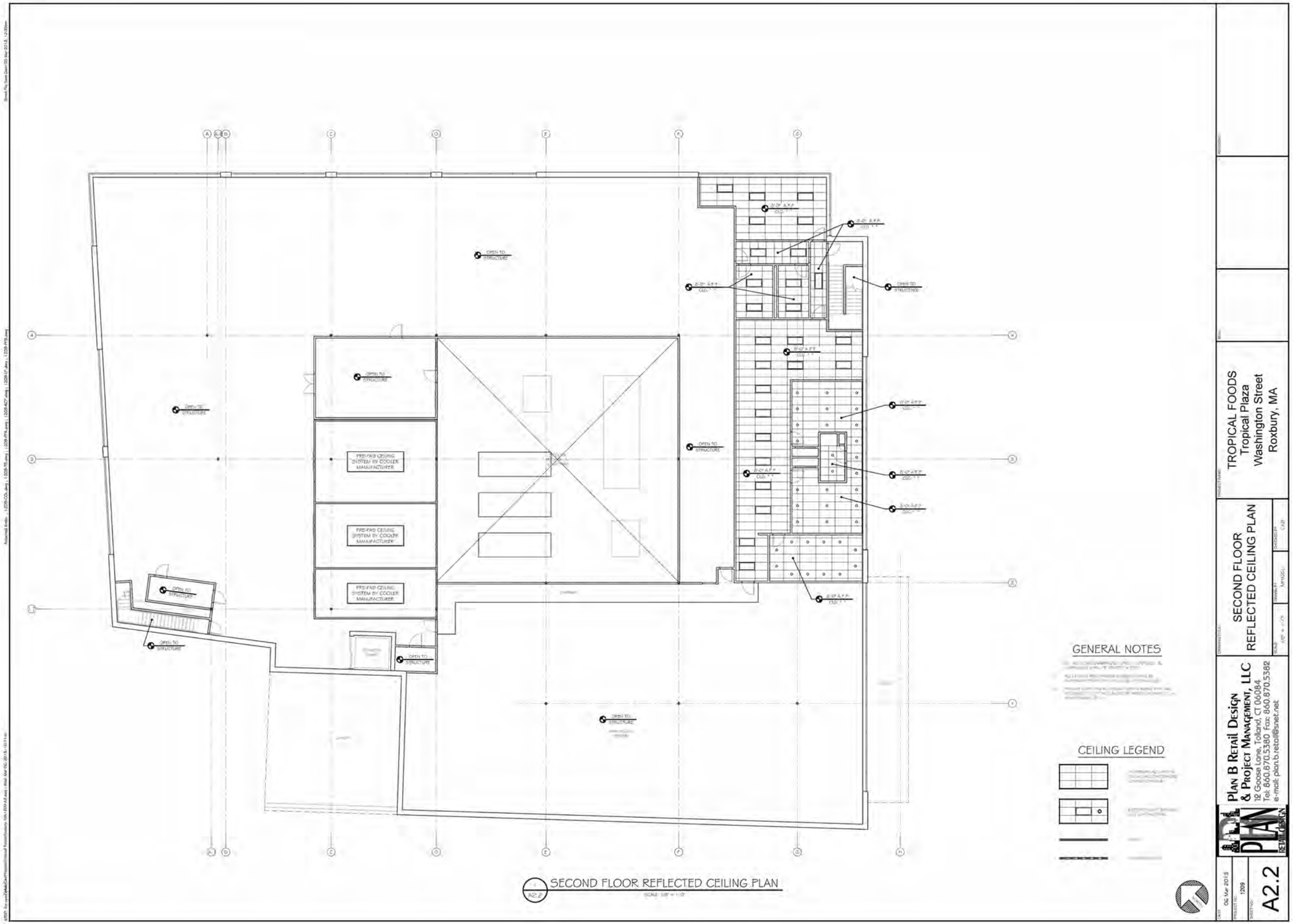
Building A First Floor Finish Plan



Parcel 10 Boston, Massachusetts

Figure 4-6

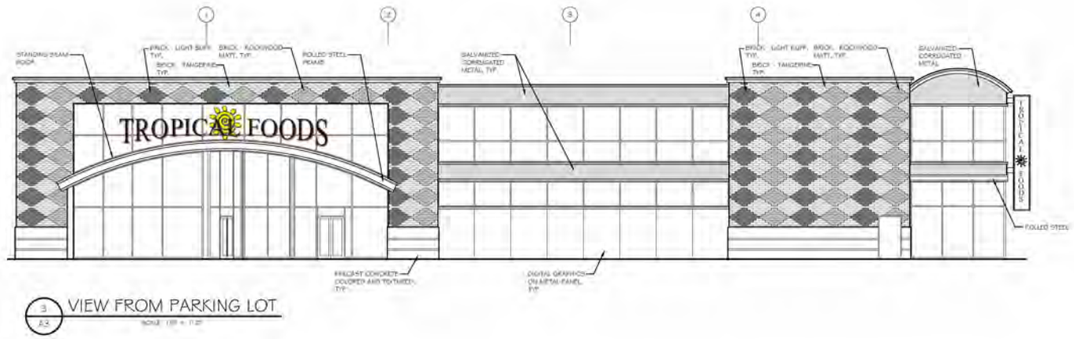
Building A First Floor Reflected Ceiling Plan



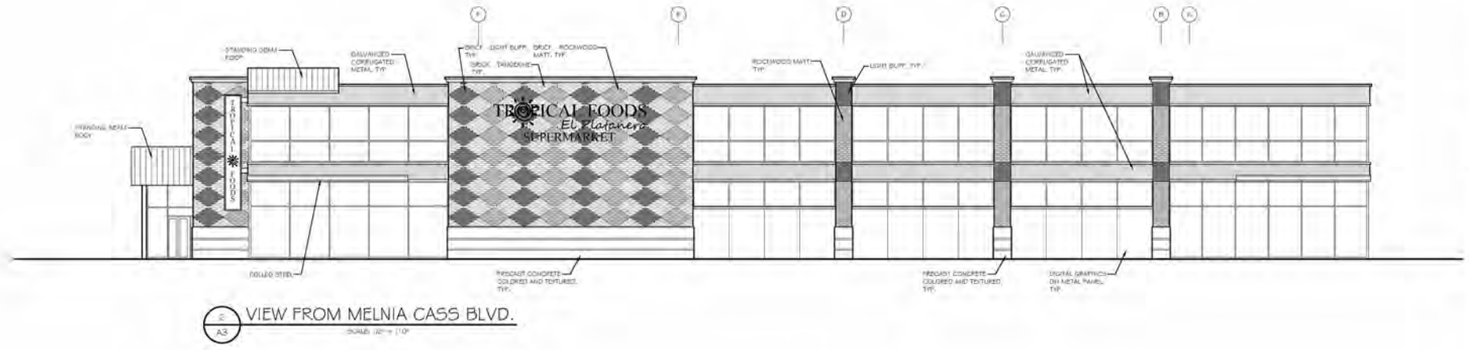
Parcel 10 Boston, Massachusetts

Figure 4-7

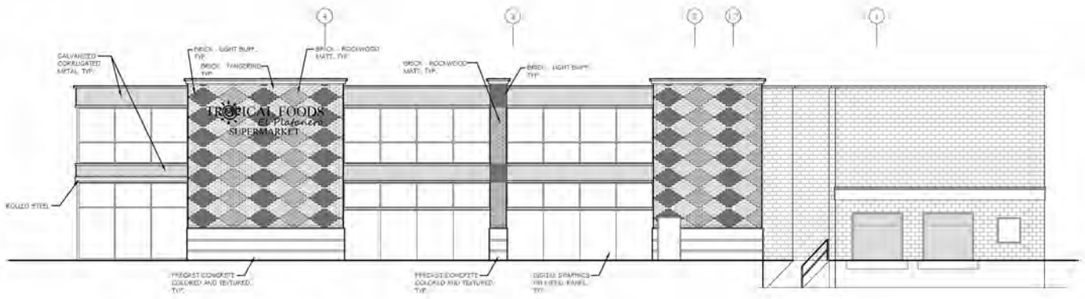
Building A Second Floor Reflected Ceiling Plan



3 / A3 VIEW FROM PARKING LOT



2 / A3 VIEW FROM MELNIA CASS BLVD.



1 / A3 VIEW FROM SHAWMUT AVE.

PROJECT NAME: TROPICAL FOODS
Tropical Plaza
Washington Street
Roxbury, MA

DRAWING TITLE: PROPOSED EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0"

DRAWN BY: AM

CHECKED BY: CAD

DATE: 06 Mar 2013

PROJECT NO: 1209

SHEET NO: A3

PLAN B RETAIL DESIGN & PROJECT MANAGEMENT, LLC
12 Goose Lane, Tolland, CT 06084
Tel: 860.870.5380 Fax: 860.870.5382
e-mail: plan.b.retail@snet.net

Parcel 10 Boston, Massachusetts

Figure 4-8
Building A Elevations

Parcel 10 Boston, Massachusetts

Figure 4-9

Building B Basement Parking Plan

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Figure 4-10

Building B Ground Floor Plan

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DHK ARCHITECTS

Figure 4-11

Building B Floors 2-4 Plan

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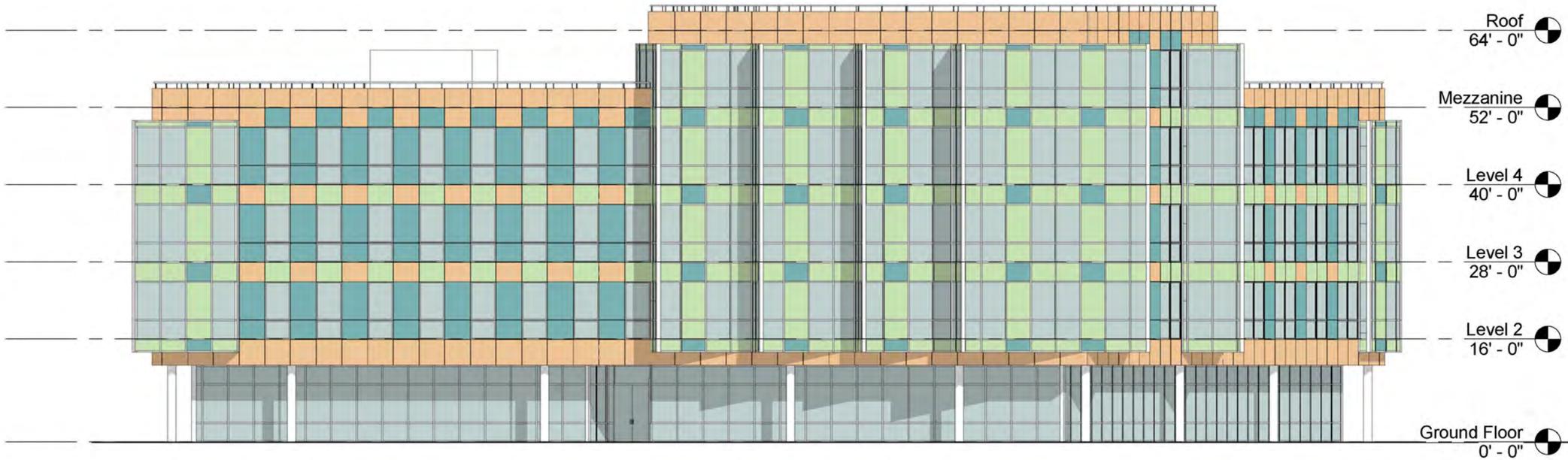
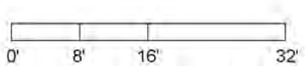
Figure 4-12

Building B Mezzanine Plan





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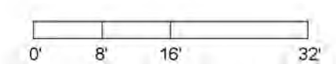
Parcel 10 Boston, Massachusetts

Figure 4-13

Building B Washington Street Elevation



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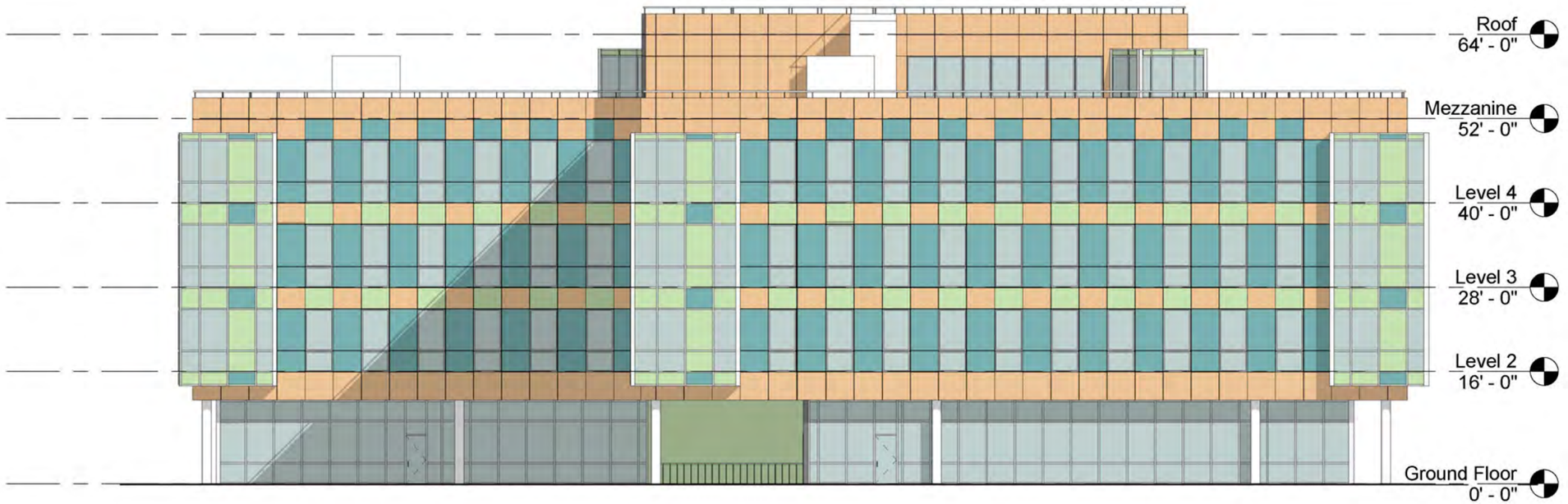
Parcel 10 Boston, Massachusetts

Figure 4-14

Building B Melnea Cass Boulevard Elevation



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ARCHITECTS

Figure 4-15
Building B South Elevation

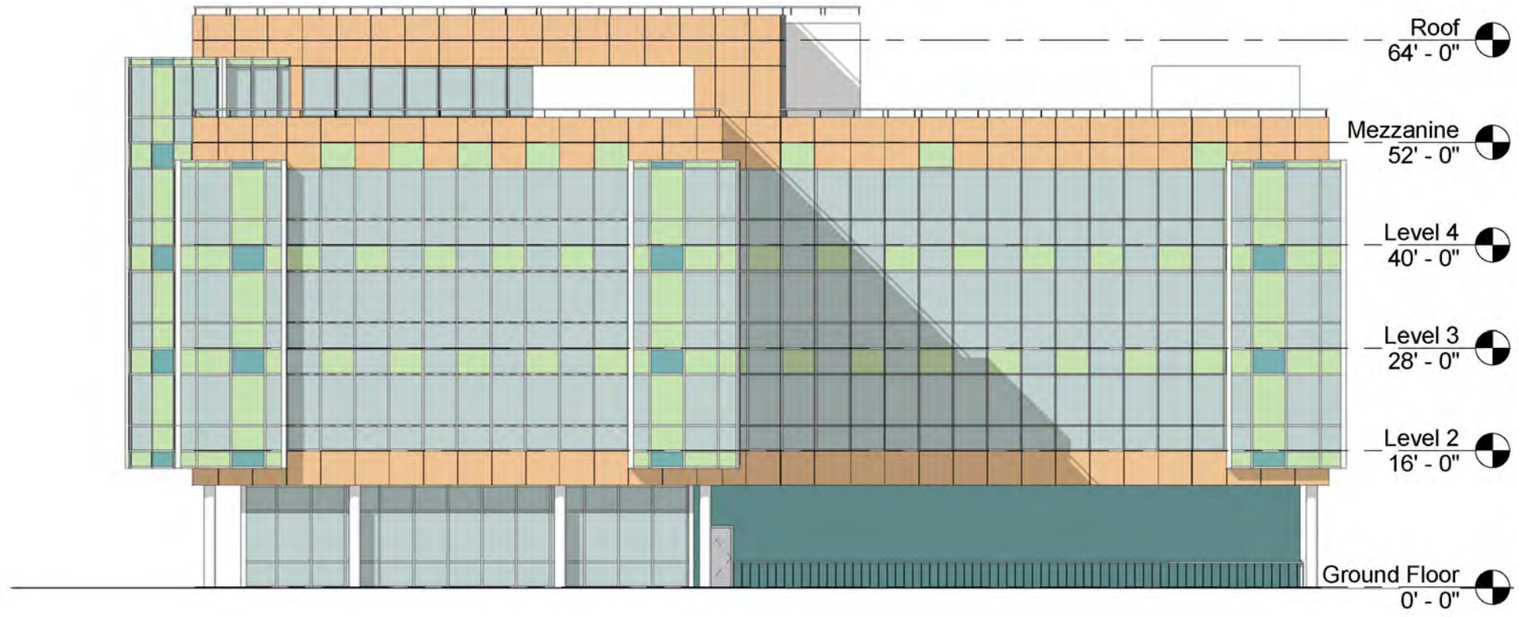

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Figure 4-16
Building B West Elevation

1 3D View 1

2 3D View 2

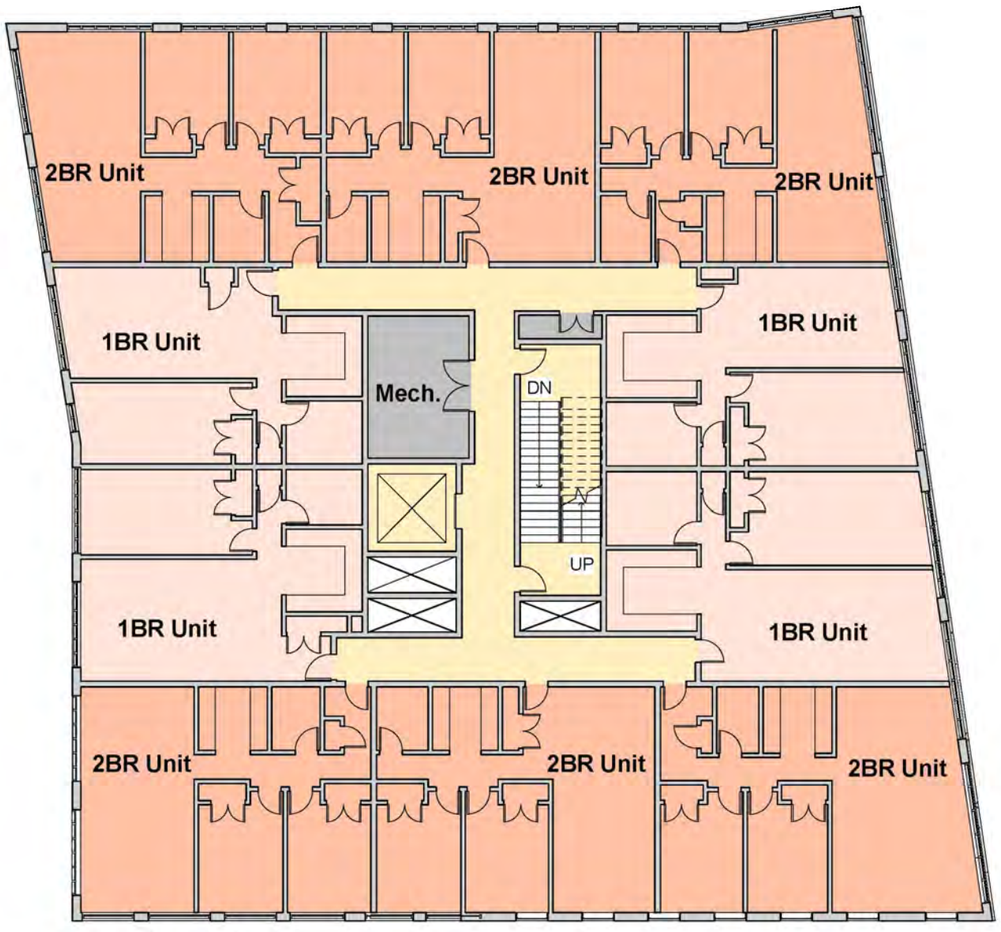
3 3D View 3

4 3D View 4

DHK
ARCHITECTS

Figure 4-17
Building B 3D Views

1 First Floor
1/16" = 1'-0"



2 Floors 2-4
1/16" = 1'-0"

DHK
ARCHITECTS

Figure 4-18
Building C Floor Plans

1 Washington Street Elevation
1/16" = 1'-0"

2 Williams Street Elevation
1/16" = 1'-0"

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DHK
ARCHITECTS

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Figure 4-20
View at Melnea Cass Blvd. & Washington St.

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Figure 4-21
View Between Buildings B & C

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Figure 4-22
Streetscape Improvements

DHK
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Figure 4-23
View of Building A

DHK
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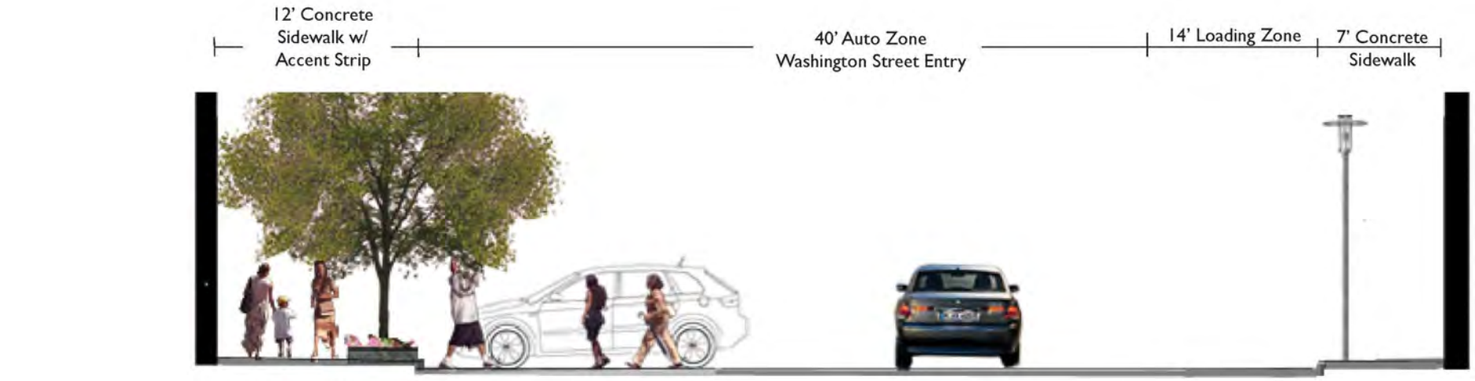
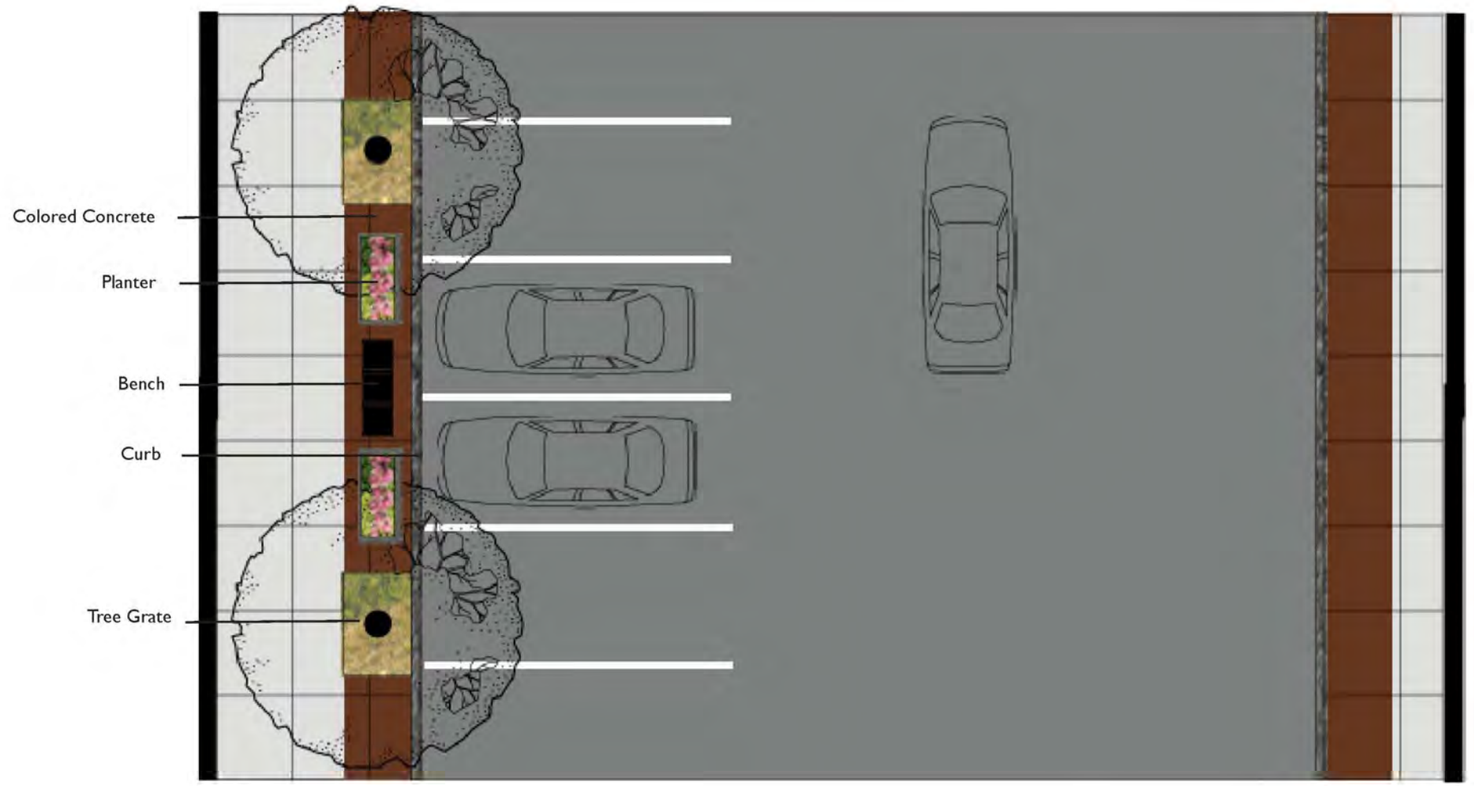
Figure 4-24
View Between Buildings A & B

Parcel 10 **Boston, Massachusetts**

Figure 4-25
Site Plan



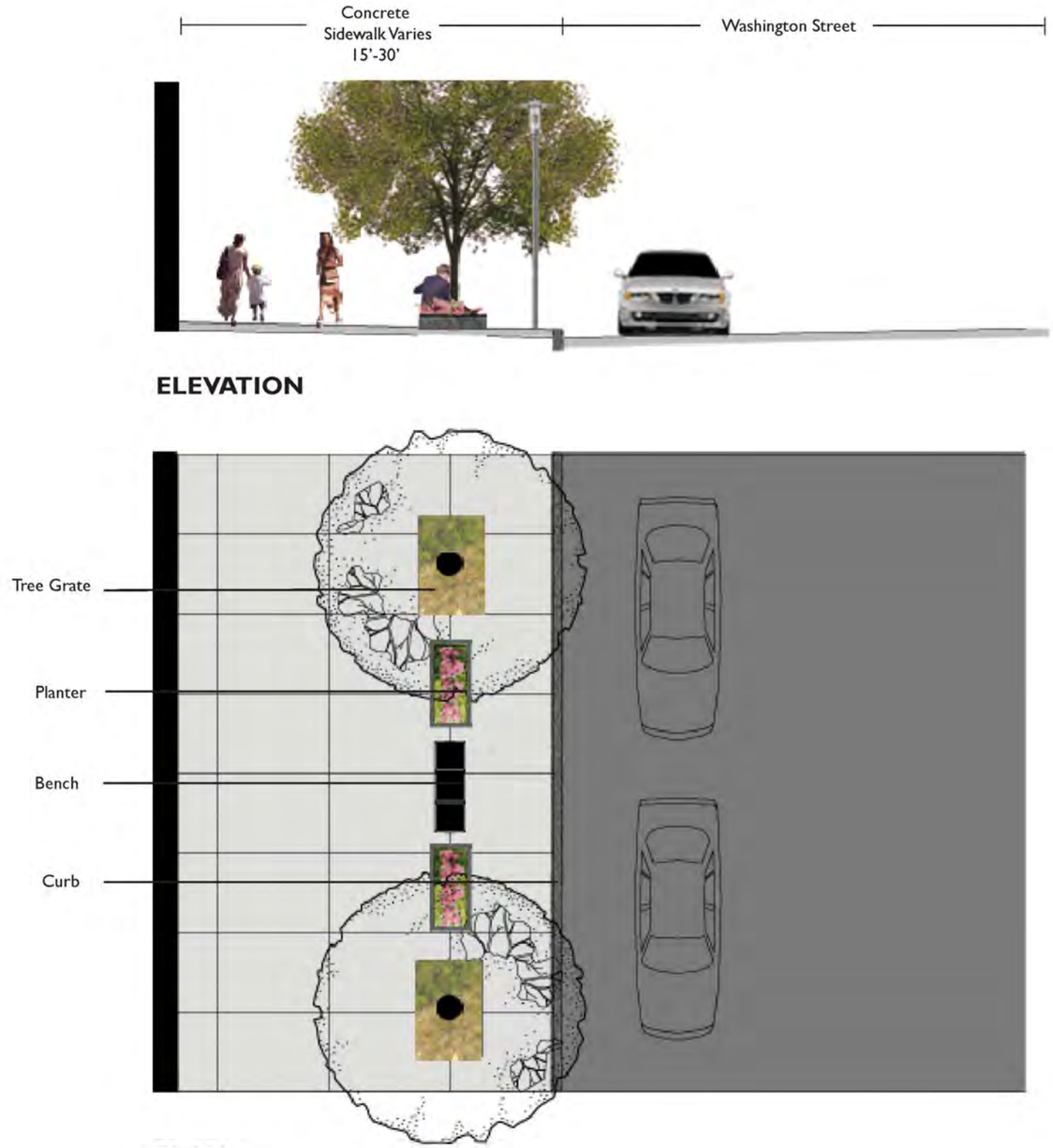
ELEVATION



PLAN

DHK ARCHITECTS

Figure 4-26
Entry from Washington Street



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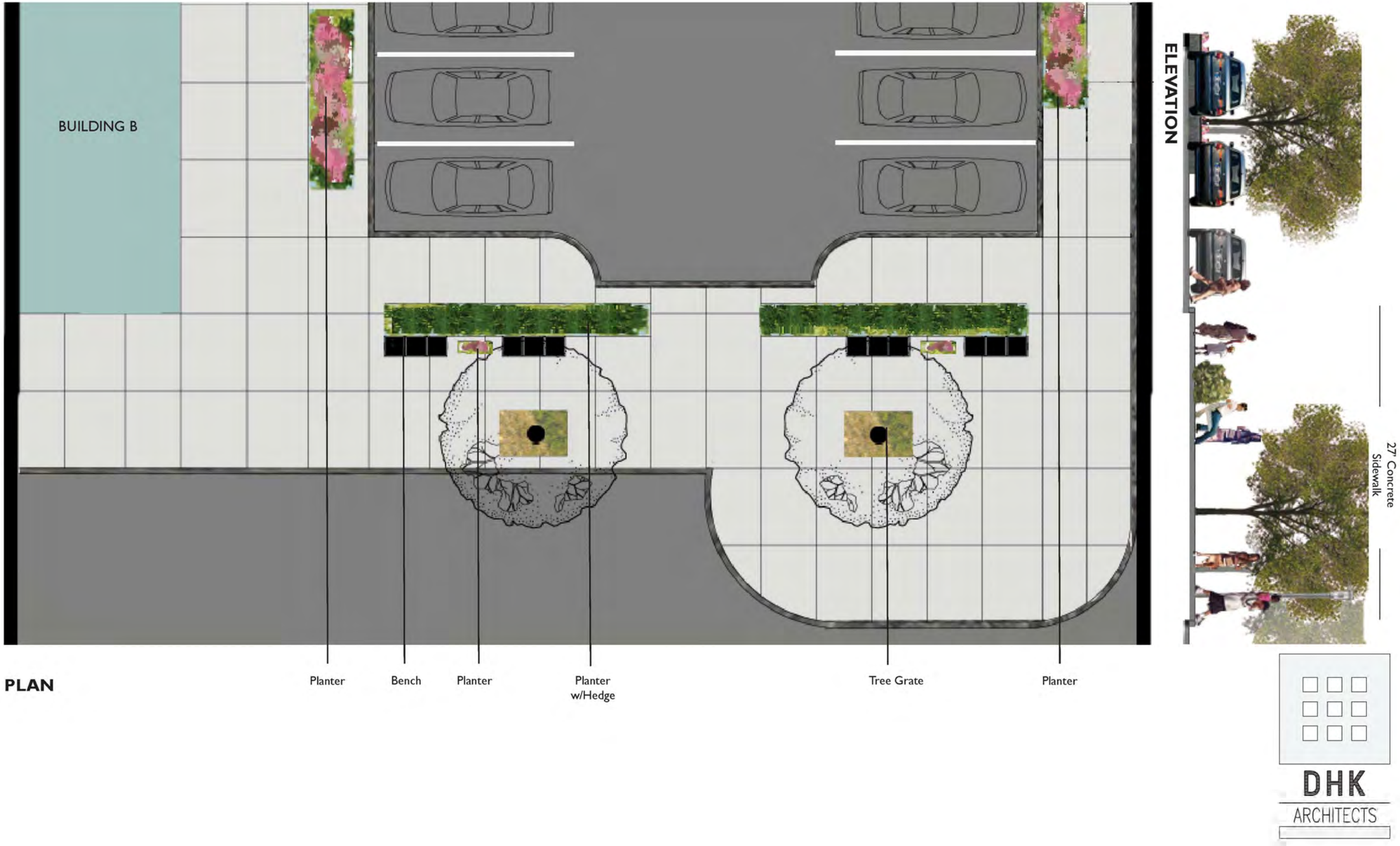
BUILDING B
PLAN
Planter
Bench
Planter
Planter w/Hedge
Tree Grate
Planter
ELEVATION
27' Concrete Sidewalk
DHK
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Parcel 10 Boston, Massachusetts

Figure 4-29
Williams Street Parking Access

WILLAMS STREET - PEDESTRIAN GATE
Brick piers with metal fencing.
Flowering tree, low shrubs and groundcover plantings

DHK
ARCHITECTS

DHK
ARCHITECTS

Parcel 10 Boston, Massachusetts

Figure 4-31

Future Pedestrian Seating Area Between Tropical Foods & Building B

Chapter 5.0

Historic Resources

5.0 HISTORIC RESOURCES

5.1 Historic Resources on the Project Site

The Project consists of 11 parcels and one historic building in the Roxbury neighborhood of Boston. The Project Site is bounded by Washington Street to the east, Melnea Cass Boulevard to the north, Shawmut Avenue to the west and Williams Street to the south. Located at 2107–2115 Washington Street on the corner of Williams Street, Building C of the Project is a historic building. Building C is part of the surrounding Dudley Station Historic District, which was listed on the National Register of Historic Places in 1985. Additionally, most of the building and a portion of the Site to north extending to Melnea Cass Boulevard are within the Eustis Street Protection Area as designated by the Boston Landmarks Commission (BLC) in 1981.

Roxbury was founded in 1630 by English colonists, attracted by the area's abundance of open farmland, timber, outcroppings of what would become to be known as Roxbury puddingstone, and proximity to Boston. Farming became Roxbury's primary industry during the 17th and 18th centuries, but changes in the economy and industry in the early 19th century shifted the area's focus. By the early 1800s, manufacturing became a major industry, as clock makers, tanneries, a rubber factory, lithographers, and beer brewers all set up shop alongside the established fruit orchards and farmlands. As Roxbury's industrial concerns grew its population increased, necessitating denser residential development. Farmlands began to be subdivided to accommodate the growing demand for housing stock, as more and more families pursued detached single-family houses in the suburbs. A horse drawn bus line was established along Washington Street in the 1820s, linking Roxbury to Boston and making it possible for commuters to live in the suburbs and work in the city. The 1835 establishment of the railroad from Boston to Providence, sited along the Stony Brook Valley, provided yet another link between the town and the city.

Though Roxbury had been incorporated as an independent city since 1846, in 1868 residents agreed to annexation by Boston. By becoming a part of the larger city, still-growing Roxbury was able to access Boston's services and infrastructure. Electric trolley service, introduced in 1887, led to another population boom as more and more families moved to the area. As Roxbury became more densely populated, the housing market shifted its focus away from detached single-family homes to rowhouses and three-deckers. Lower Roxbury, closer to industries such as mills and tanneries, saw a rising demand for worker's housing such as tenements and rowhouses.

Through the end of the nineteenth century, Roxbury's population was composed mostly of German, Irish, and English immigrants and their families. The area diversified during the 20th century with the establishment of a Jewish community along Blue Hill Avenue and later with a growing African-American population during the 1940s and 1950s.

In 1948, the Inner Belt Expressway was conceived. This was to be a controlled access roadway that would bypass downtown Boston. Beginning at the intersection of Massachusetts Avenue and the Southeast Expressway and going westerly through Roxbury, the roadway was to ultimately connect to the Northeast Expressway, Route 1. Through the next decade, funding was sought at the state and federal levels to undertake the plan, and taking of the land and demolition commenced in the early 1960s. By 1970, significant opposition to the plan had been voiced at many levels and in 1972 the project was cancelled. A 1971 aerial of this portion of the neighborhood that had been taken for the roadway shows significant levels of demolition to the north of Sterling Street and the Old Roxbury (John Eliot) Burying Ground. The adjacent land remained vacant through the 1970s until the construction of Melnea Cass Boulevard in 1981.

5.1.1 Dudley Area and Project Site

The area surrounding Dudley Station has long been an important center of commerce in Roxbury. The intersection of Washington, Warren, and Dudley streets became the endpoint for the Boston Elevated Railway in 1901 and was later incorporated as part of the Orange Line. The Dudley Square area became known as the "busiest switch" in Boston, an important nexus of transportation methods surrounded by residential hotels, department stores, banks, and silent movie theaters. The Dudley Station Historic District, encompassing the Dudley Square area, was noted for its "stylish, high quality buildings" that "reflect the late 19th-early 20th century prosperity of a major metropolitan Boston transportation/commercial node."

The Project Site was originally bound by Sterling Street to the north, and the 1895 Bromley Atlas shows the development of brick buildings along Washington Street and on the northwest corner at Shawmut Avenue and Sterling Street. There are large parcels of open space and some additional wood construction on the remainder of the block. The building on the corner of Washington and Williams streets was owned by Gardner and May, 3 Williams Street and 2101 to 2115 Washington Street, and housed Emmons and & Quinsler carriage works as well as J. W. Strieder box makers. The L-shaped brick building was four-stories tall and in the Second Empire style with a mansard roof, storefronts at the ground floor and coining on the southeast corner. Adjacent to the building to the north along Washington Street was a three-story wood frame structure and then four brick row houses terminating at the corner of Sterling Street. Based on building permits and the 1915 Bromley Atlas, it would appear that L-shaped building was either completely demolished or significantly altered and the current building was in place between 1910 and 1915. The wood frame structures at the rear of the building remained in place into the 1920s and, based on permit records, was demolished in 1923/24 and replaced with a new structure that wrapped the 1910-1915 building. Both sections of the building are constructed of yellow brick on the Washington and Williams streets facades and are four-stories tall with a corbelled brick cornice. There is circulation between the two sections on all floors and a light well that is wrapped by both buildings. The earlier section is six-bays wide and eight-

bays deep with regularly spaced windows at the upper floors with wood 2/2 sash, larger windows on the second floor on the Washington Street façade and storefronts, also on Washington Street. The later addition is three bays on Williams Street and six-bays wide on Washington Street. Treatment of the first and second floors on Washington Street is the same as the earlier portion, but the upper floors have much larger window openings and industrial metal sash. The rear and north sides of the building are secondary in nature and are constructed of red brick. The northeast corner of the north elevation shared a party wall with the adjacent building and then featured seven-bays of the same window configuration on floors two through four as is found on the Washington Street façade. This window configuration wraps the rear of the building. During the course of history, the storefronts have been altered and in the past decade, EIFS has been added to a portion of the building. Overall the building maintains its historic integrity and continues to contribute to the Dudley Station Historic District.

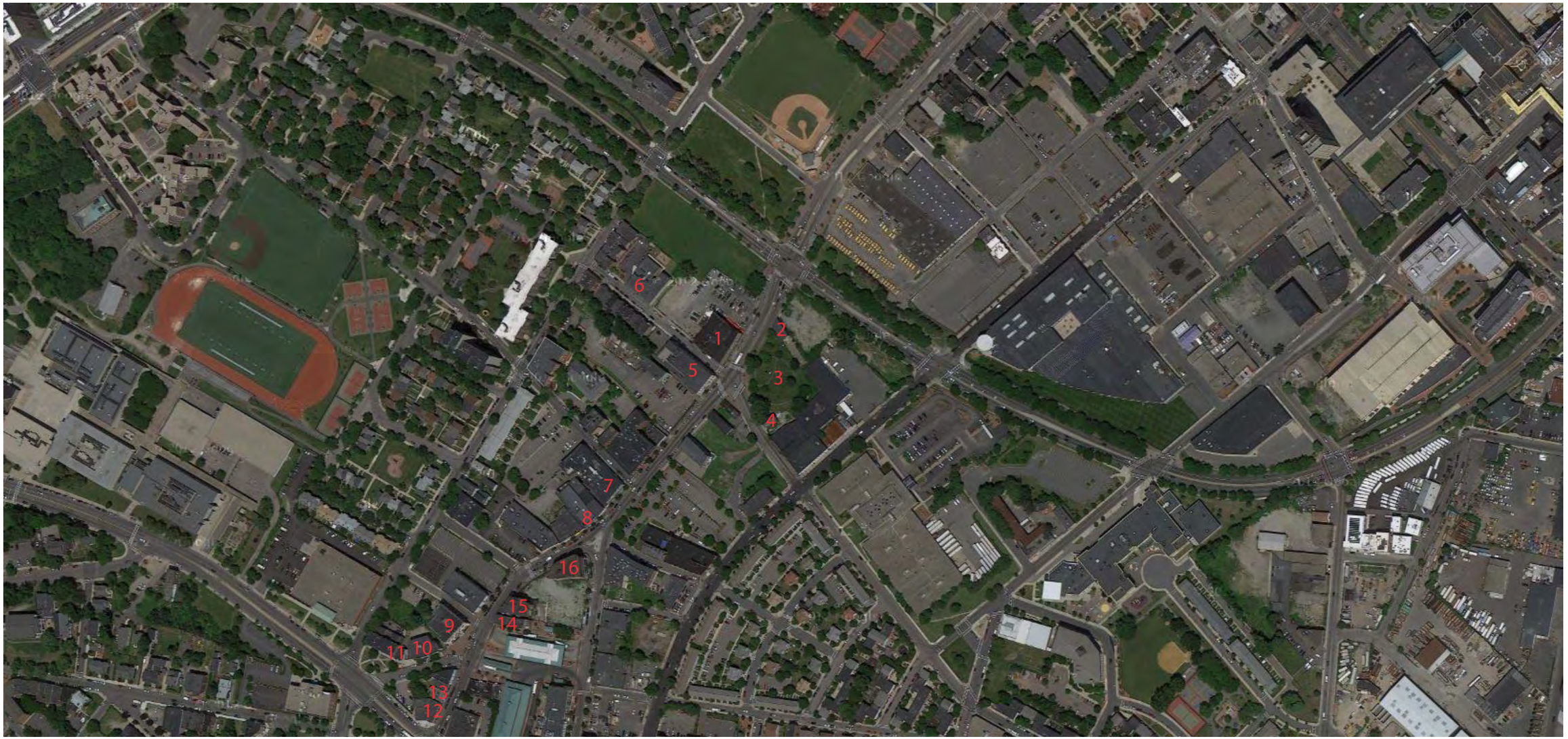
Development of the Site continued through the 1920s and 1930s with the addition of a large two-story wood structure on the southwest corner of the site that was built and owned by the Berger Company, which was housed in a brick building on the adjacent parcel to the west of the Site. The wood structure was later torn down and replaced with a one-story garage that spanned the Site from Williams Street to Sterling Street. The remainder of the Site was on separate parcels that fronted Sterling Street and Shawmut Avenue, which were mostly wood and brick row houses with the exception of the 7th Day Adventist Church on Shawmut Avenue. These buildings can be seen on the 1938 Bromley Atlas as well as aerial images from 1938 and 1955.

5.2 Historic Resources in the Vicinity

Numerous other historic resources exist within the Project vicinity. Notable resources include: The Berger Factory at Williams Street; the Hotel Comfort at Washington Street adjacent to the site across Washington Street, the Old Roxbury (John Eliot) Burying Ground, the Owen Nawn Factory at Washington Street, and the Eustis Street Fire House. These historic resources, and others within a four-block radius of the site, are listed in Table 5-1 and identified in Figure 5-1.

Table 5-1 Historic Resources in the Vicinity of the Project Site

Map Key to Figure	Historic Resource	Address	Year Built
Local, State, and National Register-listed Properties and Historic Districts			
1	Tropical Foods	2107-2115 Washington Street	c 1910
2	Own Nawn Factory	2303 Washington Street	1880
3	Eliot Burying Ground/ Old Roxbury Burying Ground	Eustis and Washington	1633
4	Eustis Street Fire House	20 Eustis Street	1859
5	Hotel Comfort	2121-2131 Washington Street	1877-78
6	Berger Factory	37 Williams Street	1902
7		2205-2217 Washington Street	Pre 1915
8	Eagle Bowling Alley	2235-2241 Washington Street	1902
9	Roxbury Institute for Savings	2343-2345 Washington Street	1901
10	Boston Consolidated Gas Company	11-29 Roxbury Street	1927
11	Sargent/ Price Block	37-51 Roxbury Street	1868
12		2395 Washington Street	c 1920
13 North	Joseph Warren Cooperative Bank	2371 Washington Street	1926
13 South	South Bowman Cutter Building	2377 Washington Street	1913
14	Waterman Block	2328 Washington Street	1890
15	Curtis Block	2304-2308 Washington Street	1888
16	Blue Store	2260-2272 Washington Street	1895



Parcel 10 **Boston, Massachusetts**

Figure 5-1
Historic Resources

5.3 Archaeological Resources

The site consists of several previously developed urban parcels. Due to previous development activities and disturbances, it is expected that most of the Site does not contain significant archaeological resources. Standard "4. New Construction" of the "Specific Standards and Criteria" for the Eustis Street Protection Area is as follows: "Ground disturbance in the Protection Area will be subject to an impact study for effects on archaeological resources. If such resources are found, a plan will be developed to mitigate adverse effects." The Proponent has engaged City Archeologist Joe Bagley to help work within the Protection Area. Upon initial review, Mr. Bagley noted an area behind the former row house on Washington Street to the north of the existing building, now a parking lot that may be the only location of potential archaeological resources. Mr. Bagley will be undertaking a dig at this location to determine if any resources exist. He believes that the remainder of the Site provides little possibility for archaeological resources. Attached is a letter from Mr. Bagley regarding his review and participation in the Project.

5.4 Impacts to Historic Resources

5.4.1 Design and Visual Impacts

The Project will have little impact on the historic resources on the Site or in the adjacent neighborhood. The new construction located in the Protection Area at the corner of Washington Street and Melnea Cass Boulevard will be of a scale and massing to have no negative impact on the adjacent existing building nor on the Owen Nawn Factory or Old Roxbury Burying Ground across Washington Street. New construction on Shawmut Avenue will be at the location of the previous row houses on the Site. In both cases, the new construction fills the corner and creates a street wall and level of density that was found in the neighborhood prior to the 1960's demolition. Surface parking will be located in the center of the Site to the rear of the existing buildings and new construction. Much of the parking will be in an area that had previously been used for parking over the Site's history. The existing historic structure will be the subject of an application for state and federal historic tax credits and as such will be rehabilitated to meet the Secretary of the Interior's *Standards for Rehabilitation* and will be reviewed by the Massachusetts Historical Commission (MHC) and the National Park Service (NPS). The building will have a mix of uses with retail on the ground floor and housing above. The rehabilitation will include the removal of the later EIFS and the return of the original window configuration as well as a rehabilitation of the facades and a return of the storefronts along Washington Street.

5.4.2 Status of Project Review with Historical Agencies

The Proponent has initiated contact with the Boston Landmarks Commission and the Boston City Archeologist and will be seeking a certificate of appropriateness for the Project elements that are within the Eustis Street Protection Area. The Proponent will be filing a PNF with the MHC and applying for the upcoming Massachusetts Historic Rehabilitation Tax Credit round on April 30.

5.5 No Adverse Effect

The Proponent believes the project will have no adverse effect on the existing historic building on the Site nor on the adjacent historic buildings in the Project area.

Chapter 6.0

Infrastructure Systems Component

6.0 INFRASTRUCTURE SYSTEMS COMPONENT

6.1 Water Supply

In the Project area, existing 12-inch water lines run in Melnea Cass, Washington Street, and Williams Street. There is an existing 16-inch water line in Shawmut Avenue. The existing building on Parcel 10 is fed from a service connection on Washington Street. The proposed new buildings will connect to the water lines in the abutting street, minimizing the lengths of the water services. Capacity within the existing water lines is expected to more than be adequate for the demand of the Project.

Table 6-1 Water Supply

	Existing (gallons per day)	Proposed (gallons per day)
Tropical Foods Supermarket	833	1,800
Office and Retail Building	0	4,060
Residential	0	3,950
TOTAL	**833**	**9,810**

6.2 Wastewater Management

Existing 12-inch sanitary sewer lines run in Washington Street, Williams Street, and Shawmut Avenue. There is no sanitary sewer in Melnea Cass Boulevard. A 12-inch sewer runs through the middle of the Site, contained in a 40-foot wide easement, running parallel to Melnea Cass Boulevard. The sewer will need to be abandoned and removed as part of the Project. Capacity within the existing sewer lines is expected to more than be adequate for the demand of the Project.

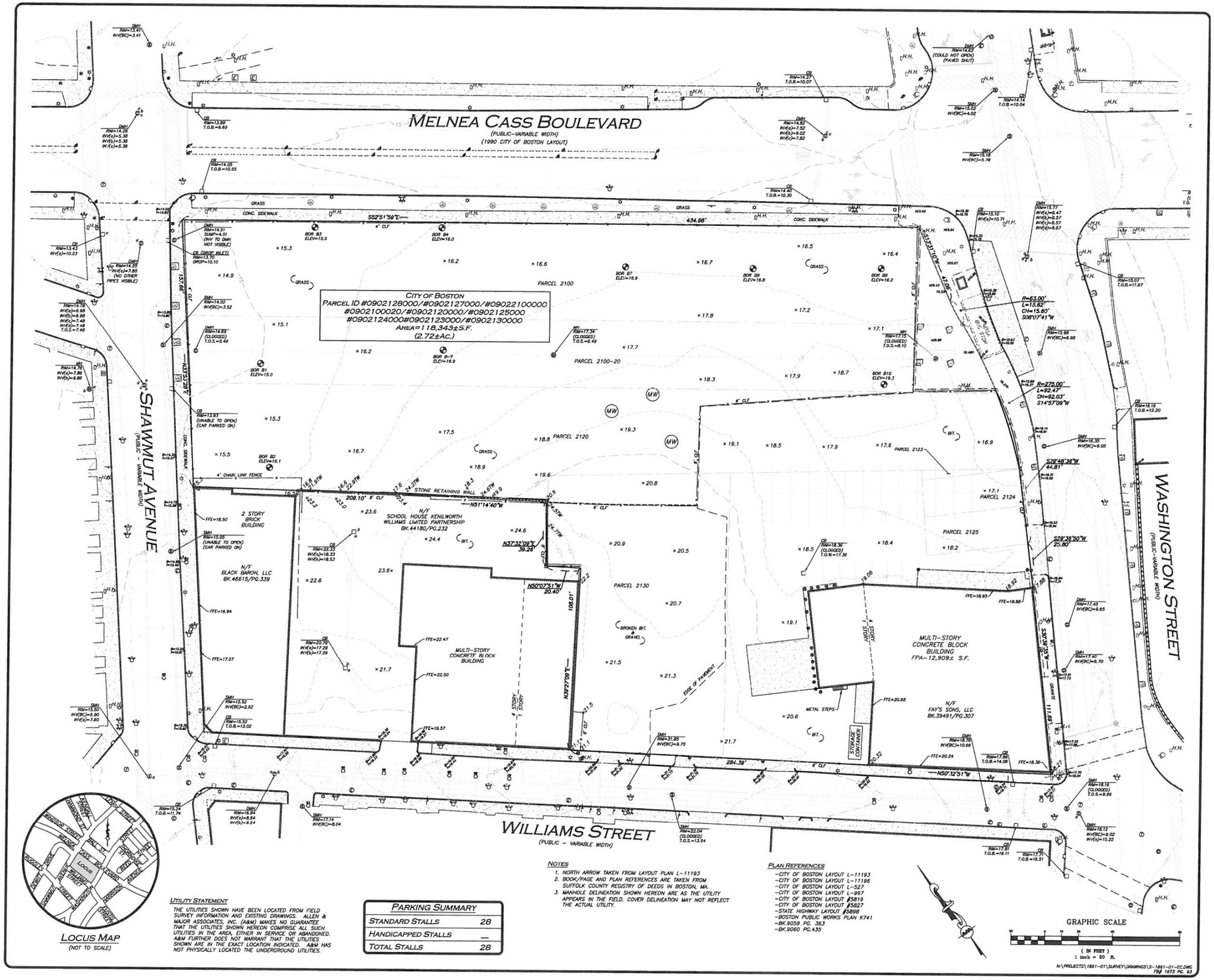
Table 6-2 Wastewater

	Existing (gallons per day)	Proposed (gallons per day)
Tropical Foods Supermarket	916	2,000
Office and Retail Building	0	4,060
Residential	0	3,950
TOTAL	**916**	**10,010**

6.3 Stormwater Management

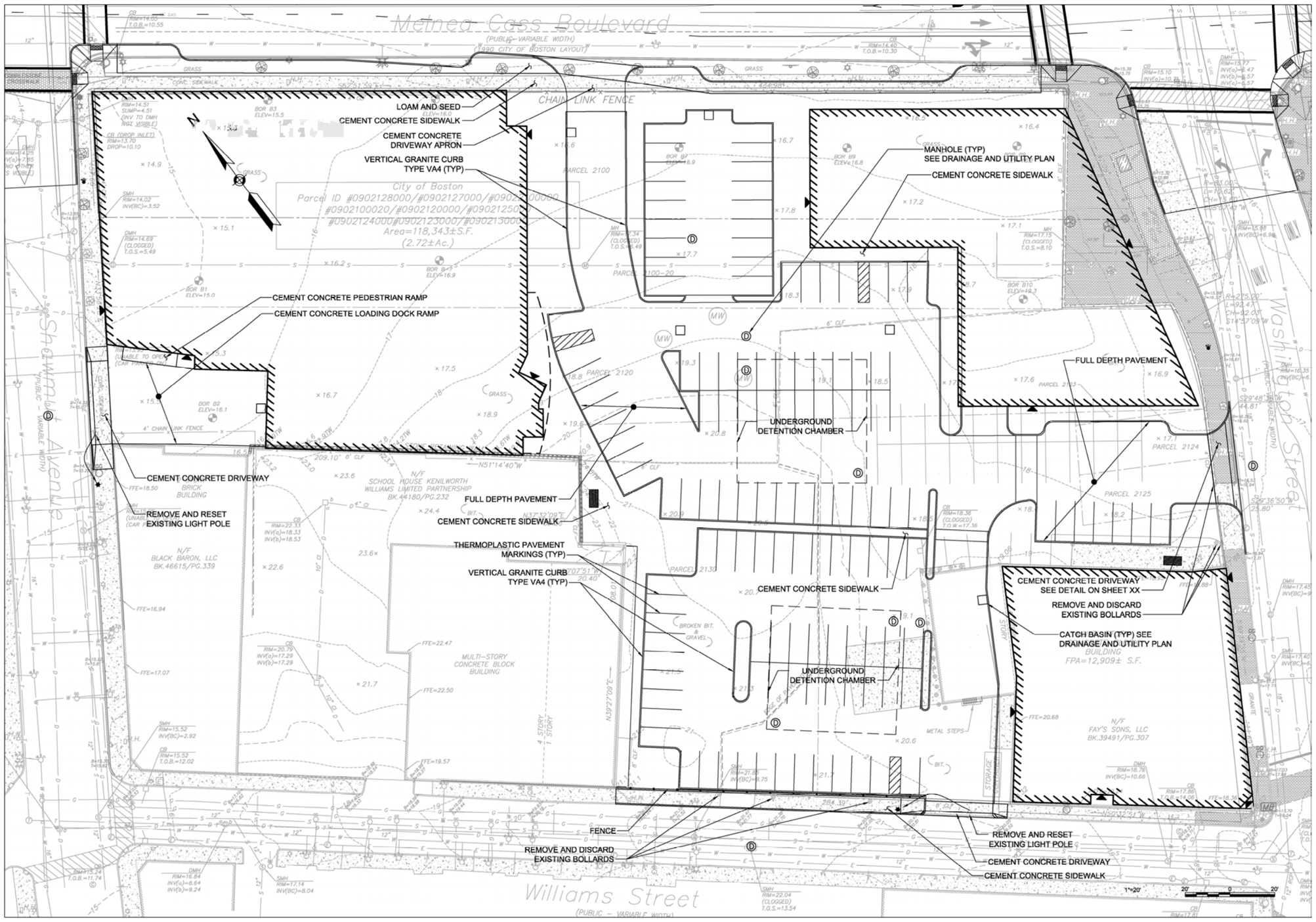
The storm sewer system on Melnea Cass is split at a high point directly in front of Parcel 10. West of the high point, stormwater is channeled to catch basins at the Melnea Cass Boulevard/Shawmut Avenue intersection, where the trunkline flows north down Shawmut Avenue. East of the high point, stormwater is collected by catch basins at the Melnea Cass Boulevard/Washington Street intersection, from which point a storm sewer continues east down Melnea Cass Boulevard. Shawmut Avenue, Williams Street, and Washington Street have continuous 12-inch, 12-inch, and 18-inch trunklines, respectively, with catch basins near every intersection in the Project area.

In the proposed condition, stormwater runoff from the parking lots and rooftops will be collected by a system of catch basins with oil traps and piped to an underground stormwater detention chamber sized per the requirements of BWSC. The detention chamber's outlet will be designed to overflow to the City's storm sewer system in the adjacent public ways. Capacity within the existing storm lines is expected to more than be adequate for the demand of the proposed project.



Parcel 10 Boston, Massachusetts

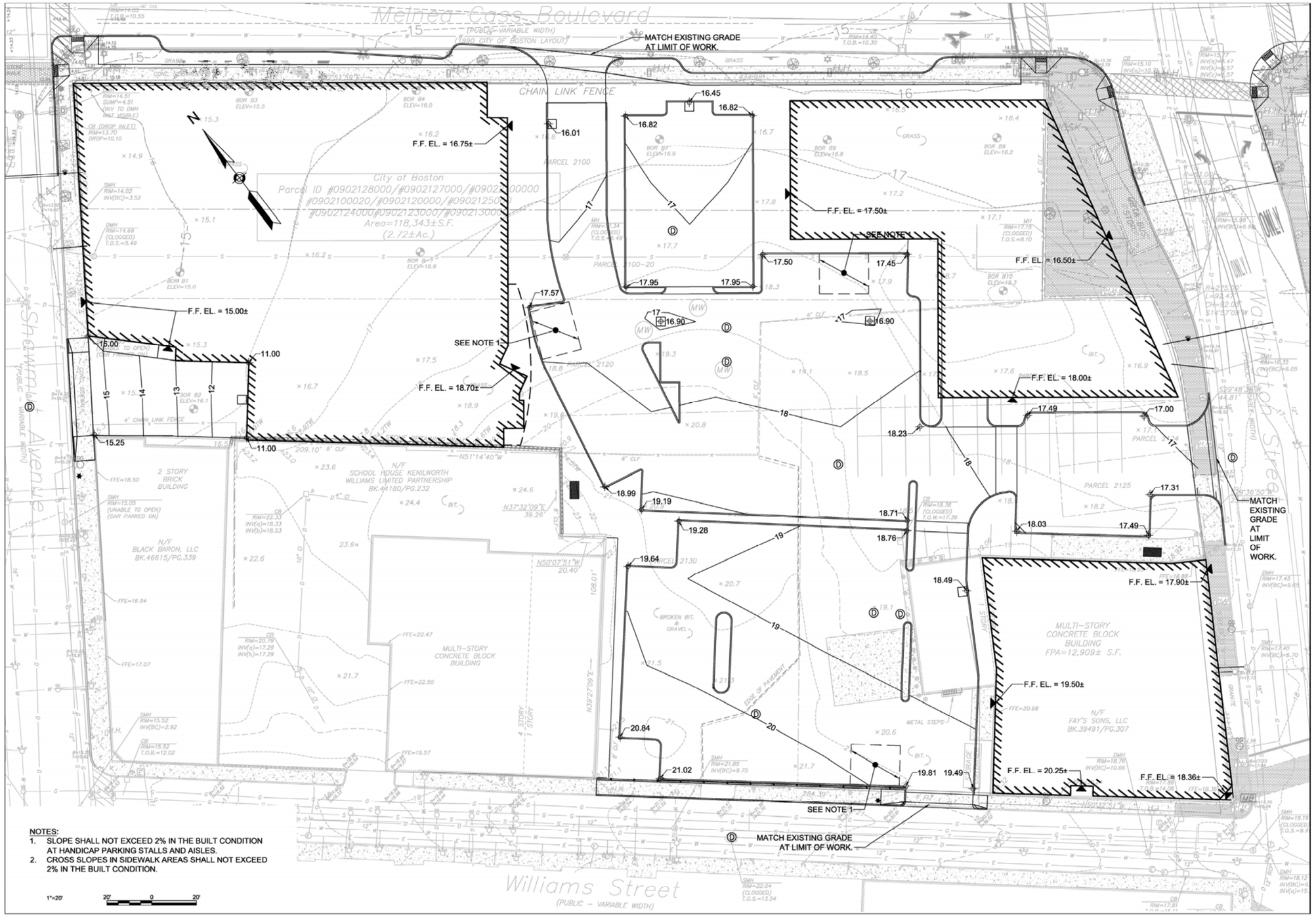
Figure 6-1
Existing Site



Parcel 10 Boston, Massachusetts

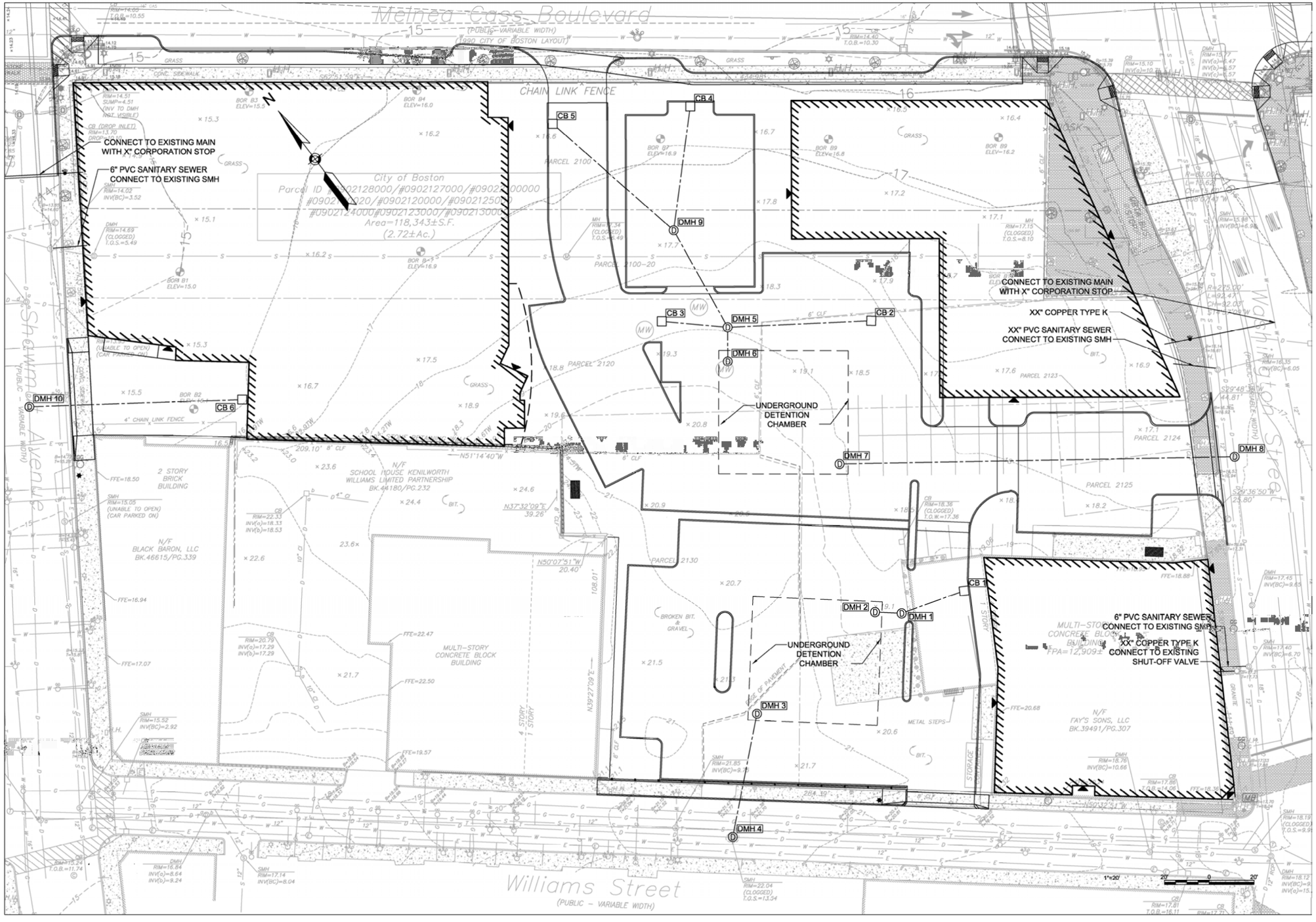
Figure 6-2

Layout and Materials Plan



Parcel 10 Boston, Massachusetts

Figure 6-3
Grading Plan



Parcel 10 Boston, Massachusetts

Figure 6-4

Drainage and Utility Plan

Project's Certification

PROJECT'S CERTIFICATION

This form has been submitted to the Boston Redevelopment Authority as required by the Boston Zoning Code, Article 80.

Signature of Proponent

Madison Tropical LLC
c/o Madison Park Development Corporation
184 Dudley Street, Suite 102
Roxbury, MA 02119

4/15/13
Date

Signature of Preparer

Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

4/15/13
Date

Attachment A

Transportation

Accurate Counts

978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 1

Groups Printed- Cars - Trucks

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
07:00	8	36	4	29	271	0	0	0	0	0	211	2	561
07:15	9	40	2	27	266	0	0	0	0	0	252	5	601
07:30	12	39	2	23	295	0	0	0	0	0	241	2	614
07:45	2	41	3	29	266	0	0	0	0	0	264	5	610
Total	31	156	11	108	1098	0	0	0	0	0	968	14	2386
08:00	9	57	2	31	265	0	0	0	0	0	248	5	617
08:15	9	49	7	24	267	0	0	0	0	0	221	8	585
08:30	9	51	8	21	244	0	0	0	0	0	196	8	537
08:45	11	49	5	23	251	0	0	0	0	0	213	4	556
Total	38	206	22	99	1027	0	0	0	0	0	878	25	2295
09:00	8	34	7	22	208	0	0	0	0	0	239	7	525
09:15	9	27	5	22	242	0	0	0	0	0	207	3	515
09:30	8	29	5	27	222	0	0	0	0	0	185	4	480
09:45	8	29	2	23	264	0	0	0	0	0	221	4	551
Total	33	119	19	94	936	0	0	0	0	0	852	18	2071
10:00	11	35	1	19	244	0	0	0	0	0	222	6	538
10:15	6	26	4	25	229	0	0	0	0	0	195	1	486
10:30	8	35	0	20	225	0	0	0	0	0	169	1	458
10:45	9	28	3	18	248	0	0	0	0	0	183	3	492
Total	34	124	8	82	946	0	0	0	0	0	769	11	1974
11:00	10	32	3	19	242	0	0	0	0	0	208	6	520
11:15	5	29	2	22	184	0	0	0	0	0	205	3	450
11:30	9	26	5	18	215	0	0	0	0	0	208	3	484
11:45	11	27	2	20	210	0	0	0	0	0	246	3	519
Total	35	114	12	79	851	0	0	0	0	0	867	15	1973
12:00	13	39	8	17	233	0	0	0	0	0	216	3	529
12:15	8	34	6	25	182	0	0	0	0	0	203	5	463
12:30	9	36	5	16	209	0	0	0	0	0	258	6	539
12:45	8	27	2	29	215	0	0	0	0	0	221	2	504
Total	38	136	21	87	839	0	0	0	0	0	898	16	2035
13:00	8	42	4	28	185	0	0	0	0	0	208	4	479
13:15	6	34	4	26	213	0	0	0	0	0	220	9	512
13:30	6	37	5	24	231	0	0	0	0	0	223	4	530
13:45	7	39	3	34	220	0	0	0	0	0	291	9	603
Total	27	152	16	112	849	0	0	0	0	0	942	26	2124
14:00	12	63	4	25	238	0	0	0	0	0	272	5	619
14:15	12	36	7	23	202	0	0	0	0	0	295	4	579
14:30	16	48	7	28	206	0	0	0	0	0	284	8	597
14:45	3	51	5	23	250	0	0	0	0	0	241	5	578
Total	43	198	23	99	896	0	0	0	0	0	1092	22	2373
15:00	8	57	6	33	200	0	0	0	0	0	277	7	588
15:15	11	72	9	29	210	0	0	0	0	0	276	5	612
15:30	8	70	10	29	197	0	0	0	0	0	251	4	569
15:45	5	80	5	31	208	0	0	0	0	0	267	9	605
Total	32	279	30	122	815	0	0	0	0	0	1071	25	2374
16:00	12	77	5	51	203	0	0	0	0	0	211	3	562
16:15	16	62	3	26	192	0	0	0	0	0	225	2	526
16:30	10	67	7	33	219	0	0	0	0	0	255	6	597
16:45	9	76	8	25	222	0	0	0	0	0	197	6	543
Total	47	282	23	135	836	0	0	0	0	0	888	17	2228
17:00	10	87	6	46	216	0	0	0	0	0	189	8	562
17:15	13	95	10	46	278	0	0	0	0	0	268	9	719
17:30	9	84	2	37	254	0	0	0	0	0	246	9	641
17:45	7	103	2	50	271	0	0	0	0	0	264	11	708
Total	39	369	20	179	1019	0	0	0	0	0	967	37	2630

Accurate Counts
978-664-2565

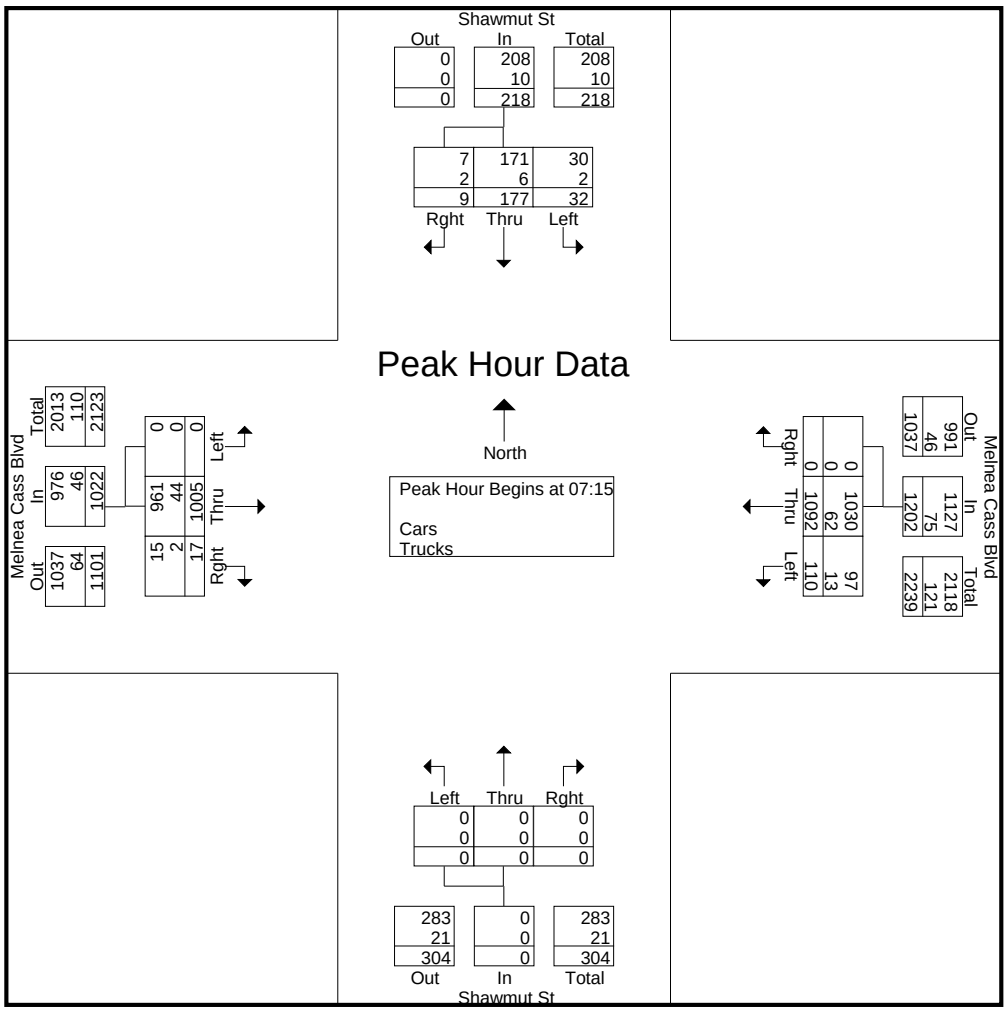
N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 2

Groups Printed- Cars - Trucks

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
Grand Total	397	2135	205	1196	10112	0	0	0	0	0	10192	226	24463
Apprch %	14.5	78	7.5	10.6	89.4	0	0	0	0	0	97.8	2.2	
Total %	1.6	8.7	0.8	4.9	41.3	0	0	0	0	0	41.7	0.9	
Cars	381	2077	191	1138	9666	0	0	0	0	0	9771	215	23439
% Cars	96	97.3	93.2	95.2	95.6	0	0	0	0	0	95.9	95.1	95.8
Trucks	16	58	14	58	446	0	0	0	0	0	421	11	1024
% Trucks	4	2.7	6.8	4.8	4.4	0	0	0	0	0	4.1	4.9	4.2

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	9	40	2	51	27	266	0	293	0	0	0	0	0	252	**5**	257	601
07:30	**12**	39	2	53	23	**295**	0	**318**	0	0	0	0	0	241	2	243	614
07:45	2	41	**3**	46	29	266	0	295	0	0	0	0	0	**264**	5	**269**	610
08:00	9	**57**	2	**68**	**31**	265	0	296	0	0	0	0	0	248	5	253	**617**
Total Volume	32	177	9	218	110	1092	0	1202	0	0	0	0	0	1005	17	1022	2442
% App. Total	14.7	81.2	4.1		9.2	90.8	0		0	0	0		0	98.3	1.7		
PHF	.667	.776	.750	.801	.887	.925	.000	.945	.000	.000	.000	.000	.000	.952	.850	.950	.989
Cars	30	171	7	208	97	1030	0	1127	0	0	0	0	0	961	15	976	2311
% Cars	93.8	96.6	77.8	95.4	88.2	94.3	0	93.8	0	0	0	0	0	95.6	88.2	95.5	94.6
Trucks	2	6	2	10	13	62	0	75	0	0	0	0	0	44	2	46	131
% Trucks	6.3	3.4	22.2	4.6	11.8	5.7	0	6.2	0	0	0	0	0	4.4	11.8	4.5	5.4

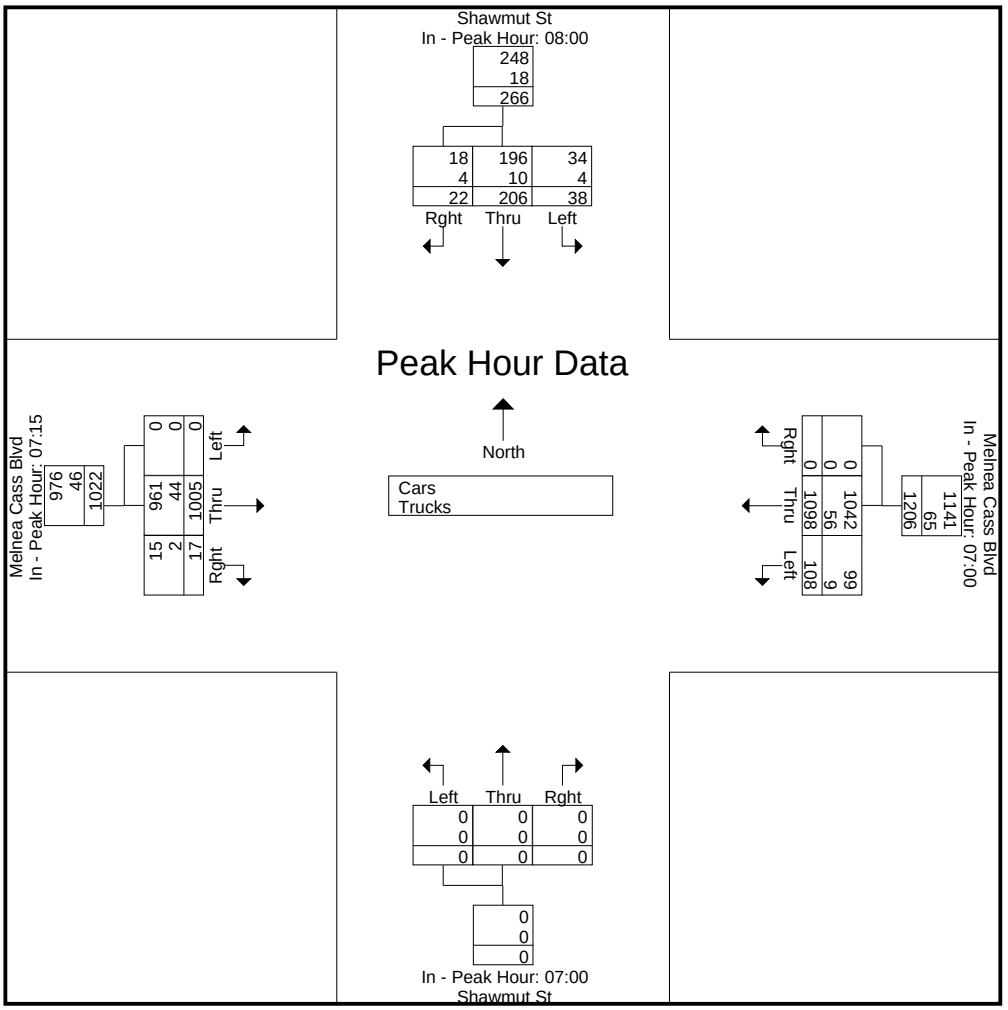


Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 3

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00				07:00				07:00				07:15				
+0 mins.	9	**57**	2	**68**	**29**	271	0	300	0	0	0	0	0	252	**5**	257	
+15 mins.	9	49	7	65	27	266	0	293	0	0	0	0	0	241	2	243	
+30 mins.	9	51	**8**	68	23	**295**	0	**318**	0	0	0	0	0	**264**	5	**269**	
+45 mins.	**11**	49	5	65	29	266	0	295	0	0	0	0	0	248	5	253	
Total Volume	38	206	22	266	108	1098	0	1206	0	0	0	0	0	1005	17	1022	
% App. Total	14.3	77.4	8.3		9	91	0		0	0	0		0	98.3	1.7		
PHF	.864	.904	.688	.978	.931	.931	.000	.948	.000	.000	.000	.000	.000	.952	.850	.950	
Cars	34	196	18	248	99	1042	0	1141	0	0	0	0	0	961	15	976	
% Cars	89.5	95.1	81.8	93.2	91.7	94.9	0	94.6	0	0	0	0	0	95.6	88.2	95.5	
Trucks	4	10	4	18	9	56	0	65	0	0	0	0	0	44	2	46	
% Trucks	10.5	4.9	18.2	6.8	8.3	5.1	0	5.4	0	0	0	0	0	4.4	11.8	4.5	



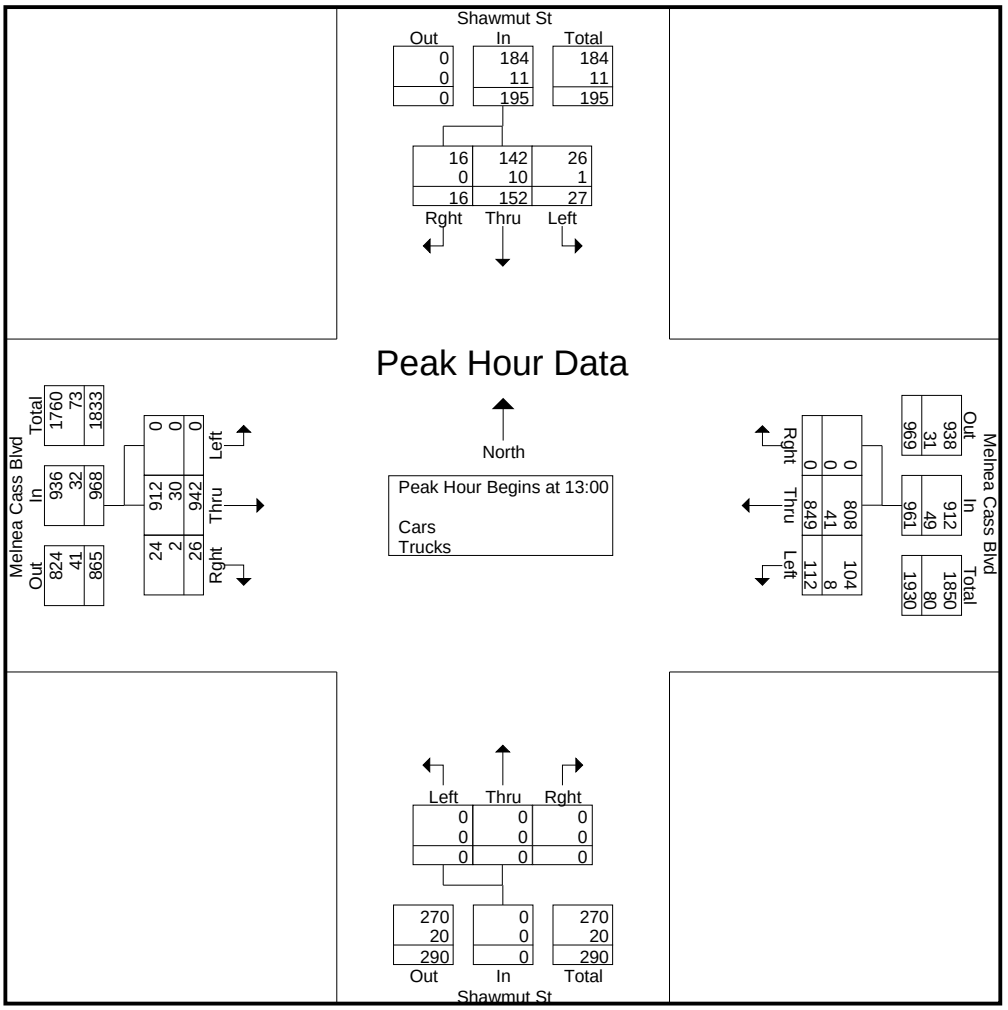
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 13:00

13:00	**8**	**42**	4	**54**	28	185	0	213	0	0	0	0	0	208	4	212	479
13:15	6	34	4	44	26	213	0	239	0	0	0	0	0	220	**9**	229	512
13:30	6	37	**5**	48	24	**231**	0	**255**	0	0	0	0	0	223	4	227	530
13:45	7	39	3	49	**34**	220	0	254	0	0	0	0	0	**291**	9	**300**	**603**
Total Volume	27	152	16	195	112	849	0	961	0	0	0	0	0	942	26	968	2124
% App. Total	13.8	77.9	8.2		11.7	88.3	0		0	0	0		0	97.3	2.7		
PHF	.844	.905	.800	.903	.824	.919	.000	.942	.000	.000	.000	.000	.000	.809	.722	.807	.881
Cars	26	142	16	184	104	808	0	912	0	0	0	0	0	912	24	936	2032
% Cars	96.3	93.4	100	94.4	92.9	95.2	0	94.9	0	0	0	0	0	96.8	92.3	96.7	95.7
Trucks	1	10	0	11	8	41	0	49	0	0	0	0	0	30	2	32	92
% Trucks	3.7	6.6	0	5.6	7.1	4.8	0	5.1	0	0	0	0	0	3.2	7.7	3.3	4.3

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 4



Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

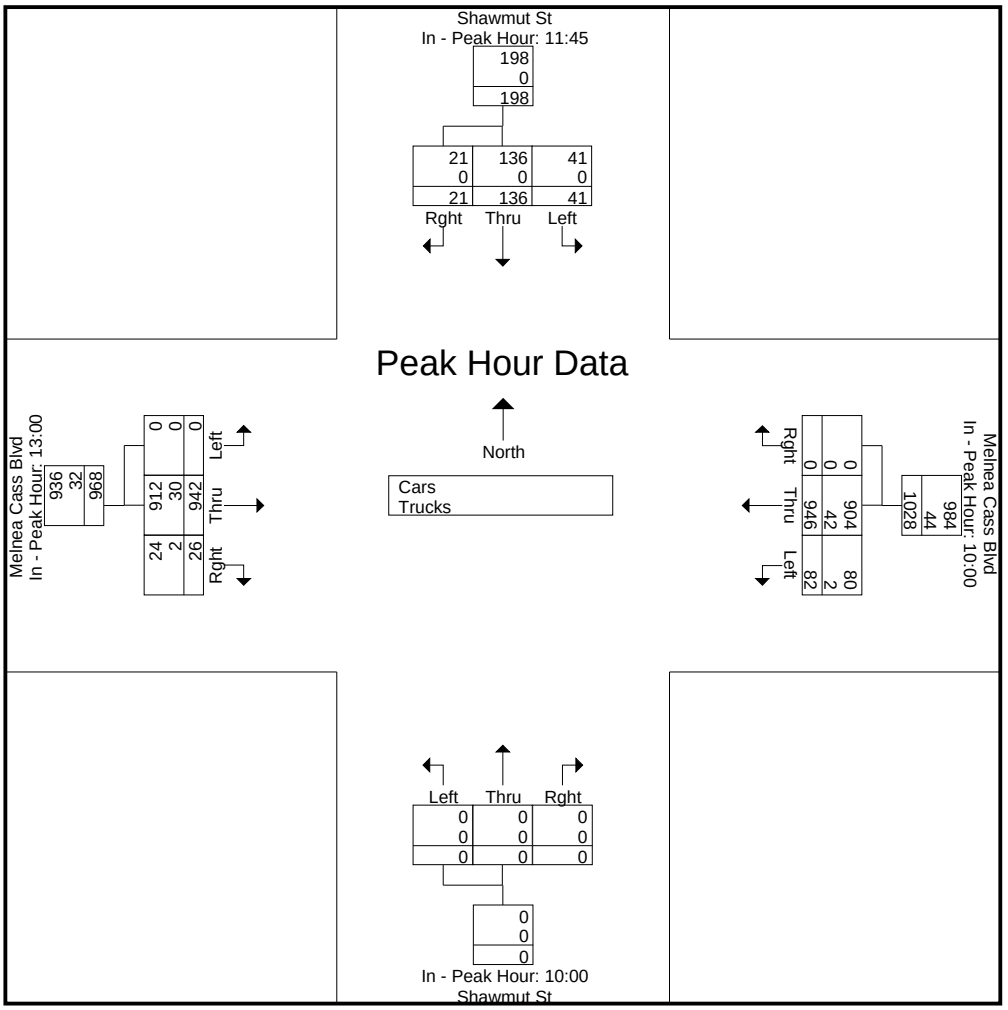
Peak Hour for Each Approach Begins at:

	11:45				10:00				10:00				13:00			
+0 mins.	11	27	2	40	19	244	0	263	0	0	0	0	0	208	4	212
+15 mins.	**13**	**39**	**8**	**60**	**25**	229	0	254	0	0	0	0	0	220	**9**	229
+30 mins.	8	34	6	48	20	225	0	245	0	0	0	0	0	223	4	227
+45 mins.	9	36	5	50	18	**248**	0	**266**	0	0	0	0	0	**291**	9	**300**
Total Volume	41	136	21	198	82	946	0	1028	0	0	0	0	0	942	26	968
% App. Total	20.7	68.7	10.6		8	92	0		0	0	0		0	97.3	2.7	
PHF	.788	.872	.656	.825	.820	.954	.000	.966	.000	.000	.000	.000	.000	.809	.722	.807
Cars	41	136	21	198	80	904	0	984	0	0	0	0	0	912	24	936
% Cars	100	100	100	100	97.6	95.6	0	95.7	0	0	0	0	0	96.8	92.3	96.7
Trucks	0	0	0	0	2	42	0	44	0	0	0	0	0	30	2	32
% Trucks	0	0	0	0	2.4	4.4	0	4.3	0	0	0	0	0	3.2	7.7	3.3

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 5



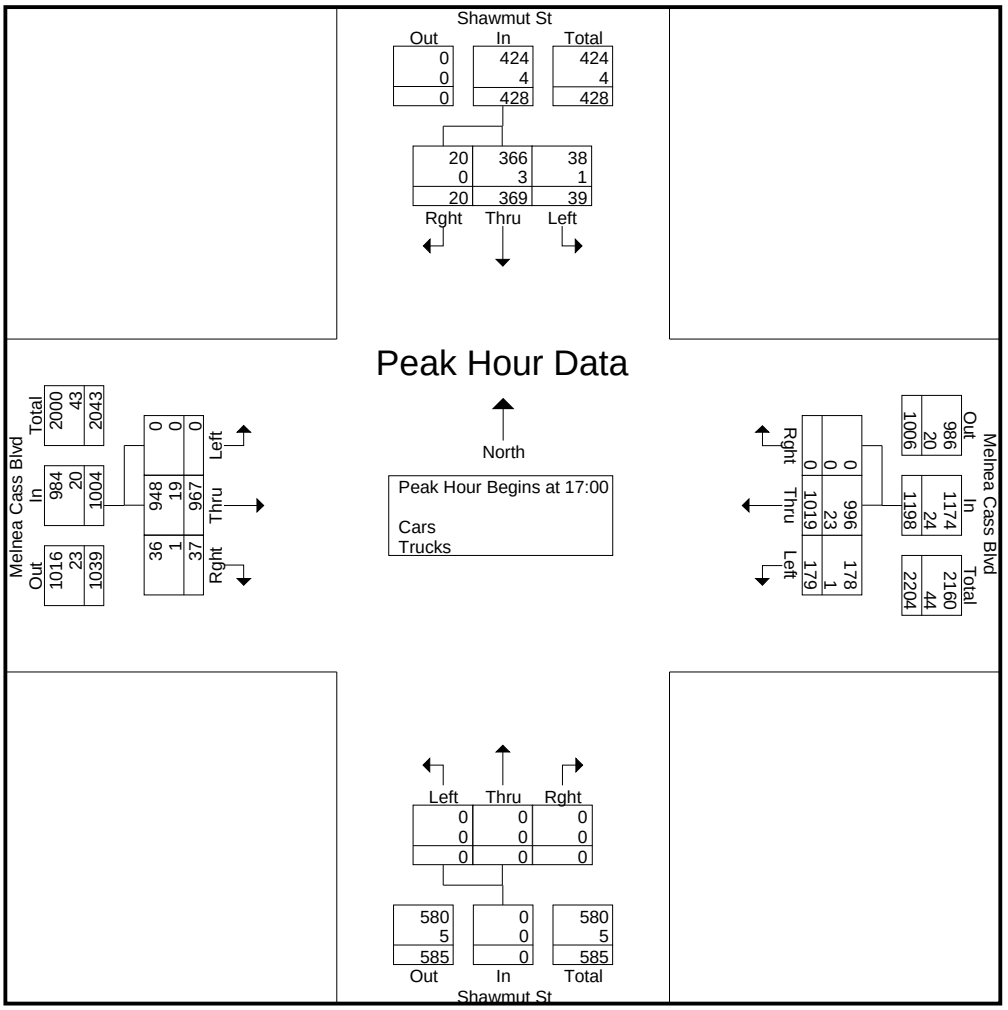
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	10	87	6	103	46	216	0	262	0	0	0	0	0	189	8	197	562
17:15	**13**	95	**10**	**118**	46	**278**	0	**324**	0	0	0	0	0	**268**	9	**277**	**719**
17:30	9	84	2	95	37	254	0	291	0	0	0	0	0	246	9	255	641
17:45	7	**103**	2	112	**50**	271	0	321	0	0	0	0	0	264	**11**	275	708
Total Volume	39	369	20	428	179	1019	0	1198	0	0	0	0	0	967	37	1004	2630
% App. Total	9.1	86.2	4.7		14.9	85.1	0		0	0	0		0	96.3	3.7		
PHF	.750	.896	.500	.907	.895	.916	.000	.924	.000	.000	.000	.000	.000	.902	.841	.906	.914
Cars	38	366	20	424	178	996	0	1174	0	0	0	0	0	948	36	984	2582
% Cars	97.4	99.2	100	99.1	99.4	97.7	0	98.0	0	0	0	0	0	98.0	97.3	98.0	98.2
Trucks	1	3	0	4	1	23	0	24	0	0	0	0	0	19	1	20	48
% Trucks	2.6	0.8	0	0.9	0.6	2.3	0	2.0	0	0	0	0	0	2.0	2.7	2.0	1.8

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 6



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1

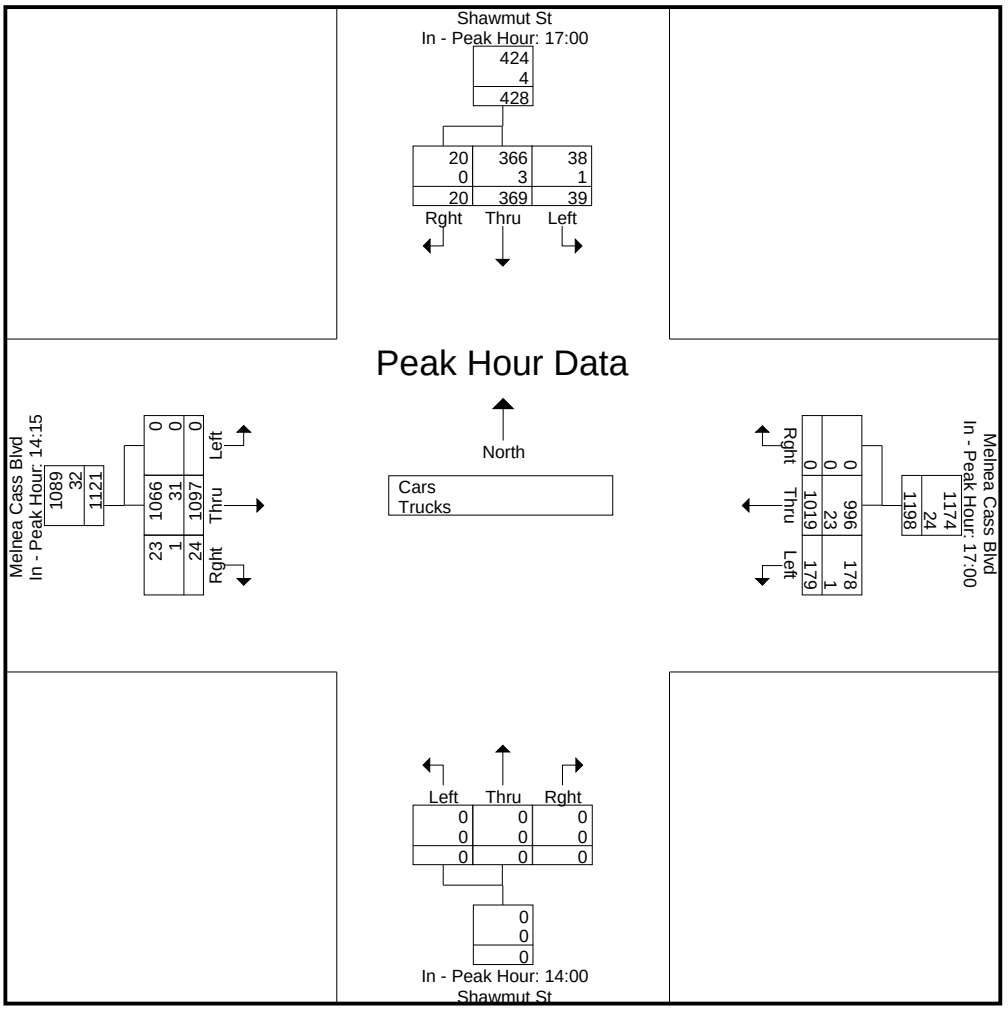
Peak Hour for Each Approach Begins at:

	17:00				17:00				14:00				14:15			
+0 mins.	10	87	6	103	46	216	0	262	0	0	0	0	0	**295**	4	**299**
+15 mins.	**13**	95	**10**	**118**	46	**278**	0	**324**	0	0	0	0	0	284	**8**	292
+30 mins.	9	84	2	95	37	254	0	291	0	0	0	0	0	241	5	246
+45 mins.	7	**103**	2	112	**50**	271	0	321	0	0	0	0	0	277	7	284
Total Volume	39	369	20	428	179	1019	0	1198	0	0	0	0	0	1097	24	1121
% App. Total	9.1	86.2	4.7		14.9	85.1	0		0	0	0		0	97.9	2.1	
PHF	.750	.896	.500	.907	.895	.916	.000	.924	.000	.000	.000	.000	.000	.930	.750	.937
Cars	38	366	20	424	178	996	0	1174	0	0	0	0	0	1066	23	1089
% Cars	97.4	99.2	100	99.1	99.4	97.7	0	98	0	0	0	0	0	97.2	95.8	97.1
Trucks	1	3	0	4	1	23	0	24	0	0	0	0	0	31	1	32
% Trucks	2.6	0.8	0	0.9	0.6	2.3	0	2	0	0	0	0	0	2.8	4.2	2.9

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 7



Accurate Counts

978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 1

Groups Printed- Cars

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
07:00	8	35	4	27	261	0	0	0	0	0	202	1	538
07:15	9	39	2	24	250	0	0	0	0	0	246	3	573
07:30	12	37	2	20	278	0	0	0	0	0	228	2	579
07:45	1	40	2	28	253	0	0	0	0	0	253	5	582
Total	30	151	10	99	1042	0	0	0	0	0	929	11	2272
08:00	8	55	1	25	249	0	0	0	0	0	234	5	577
08:15	6	47	6	21	249	0	0	0	0	0	211	7	547
08:30	9	47	8	21	231	0	0	0	0	0	186	8	510
08:45	11	47	3	21	247	0	0	0	0	0	198	3	530
Total	34	196	18	88	976	0	0	0	0	0	829	23	2164
09:00	8	32	7	17	196	0	0	0	0	0	226	7	493
09:15	9	26	4	19	231	0	0	0	0	0	191	3	483
09:30	6	26	4	26	208	0	0	0	0	0	165	4	439
09:45	8	26	2	23	256	0	0	0	0	0	201	4	520
Total	31	110	17	85	891	0	0	0	0	0	783	18	1935
10:00	11	35	1	19	234	0	0	0	0	0	208	6	514
10:15	6	26	4	24	218	0	0	0	0	0	186	1	465
10:30	7	35	0	20	213	0	0	0	0	0	162	1	438
10:45	8	28	3	17	239	0	0	0	0	0	175	3	473
Total	32	124	8	80	904	0	0	0	0	0	731	11	1890
11:00	10	32	3	19	231	0	0	0	0	0	193	6	494
11:15	5	29	2	22	175	0	0	0	0	0	190	3	426
11:30	9	26	5	18	204	0	0	0	0	0	192	3	457
11:45	11	27	2	20	201	0	0	0	0	0	239	3	503
Total	35	114	12	79	811	0	0	0	0	0	814	15	1880
12:00	13	39	8	17	219	0	0	0	0	0	211	3	510
12:15	8	34	6	25	176	0	0	0	0	0	191	5	445
12:30	9	36	5	16	203	0	0	0	0	0	246	6	521
12:45	8	27	2	29	208	0	0	0	0	0	208	2	484
Total	38	136	21	87	806	0	0	0	0	0	856	16	1960
13:00	7	38	4	25	177	0	0	0	0	0	198	4	453
13:15	6	32	4	25	201	0	0	0	0	0	217	9	494
13:30	6	35	5	22	219	0	0	0	0	0	216	4	507
13:45	7	37	3	32	211	0	0	0	0	0	281	7	578
Total	26	142	16	104	808	0	0	0	0	0	912	24	2032
14:00	11	59	4	24	228	0	0	0	0	0	263	5	594
14:15	12	35	7	23	191	0	0	0	0	0	289	4	561
14:30	15	48	5	22	196	0	0	0	0	0	274	8	568
14:45	3	50	5	22	239	0	0	0	0	0	234	5	558
Total	41	192	21	91	854	0	0	0	0	0	1060	22	2281
15:00	8	57	5	30	184	0	0	0	0	0	269	6	559
15:15	11	68	8	28	198	0	0	0	0	0	271	5	589
15:30	8	65	9	27	191	0	0	0	0	0	243	3	546
15:45	5	79	4	29	197	0	0	0	0	0	258	8	580
Total	32	269	26	114	770	0	0	0	0	0	1041	22	2274
16:00	11	76	4	50	193	0	0	0	0	0	206	3	543
16:15	16	61	3	26	182	0	0	0	0	0	221	2	511
16:30	9	65	7	32	216	0	0	0	0	0	249	6	584
16:45	8	75	8	25	217	0	0	0	0	0	192	6	531
Total	44	277	22	133	808	0	0	0	0	0	868	17	2169
17:00	10	86	6	46	211	0	0	0	0	0	183	8	550
17:15	12	94	10	45	270	0	0	0	0	0	264	9	704
17:30	9	83	2	37	250	0	0	0	0	0	241	9	631
17:45	7	103	2	50	265	0	0	0	0	0	260	10	697
Total	38	366	20	178	996	0	0	0	0	0	948	36	2582

Accurate Counts
978-664-2565

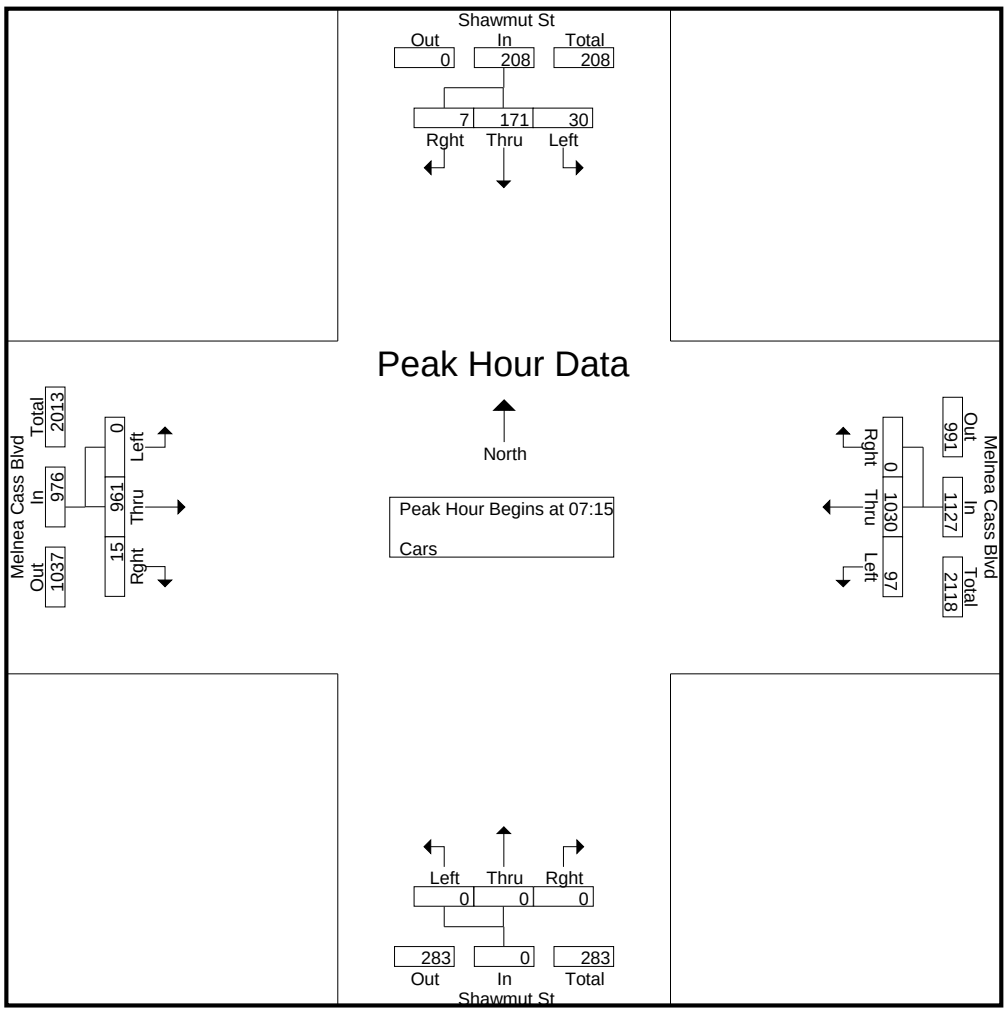
N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 2

Groups Printed- Cars

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
Grand Total	381	2077	191	1138	9666	0	0	0	0	0	9771	215	23439
Apprch %	14.4	78.4	7.2	10.5	89.5	0	0	0	0	0	97.8	2.2	
Total %	1.6	8.9	0.8	4.9	41.2	0	0	0	0	0	41.7	0.9	

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	9	39	**2**	50	24	250	0	274	0	0	0	0	0	246	3	249	573
07:30	**12**	37	2	51	20	**278**	0	**298**	0	0	0	0	0	228	2	230	579
07:45	1	40	2	43	**28**	253	0	281	0	0	0	0	0	**253**	**5**	**258**	**582**
08:00	8	**55**	1	**64**	25	249	0	274	0	0	0	0	0	234	5	239	577
Total Volume	30	171	7	208	97	1030	0	1127	0	0	0	0	0	961	15	976	2311
% App. Total	14.4	82.2	3.4		8.6	91.4	0		0	0	0		0	98.5	1.5		
PHF	.625	.777	.875	.813	.866	.926	.000	.945	.000	.000	.000	.000	.000	.950	.750	.946	.993

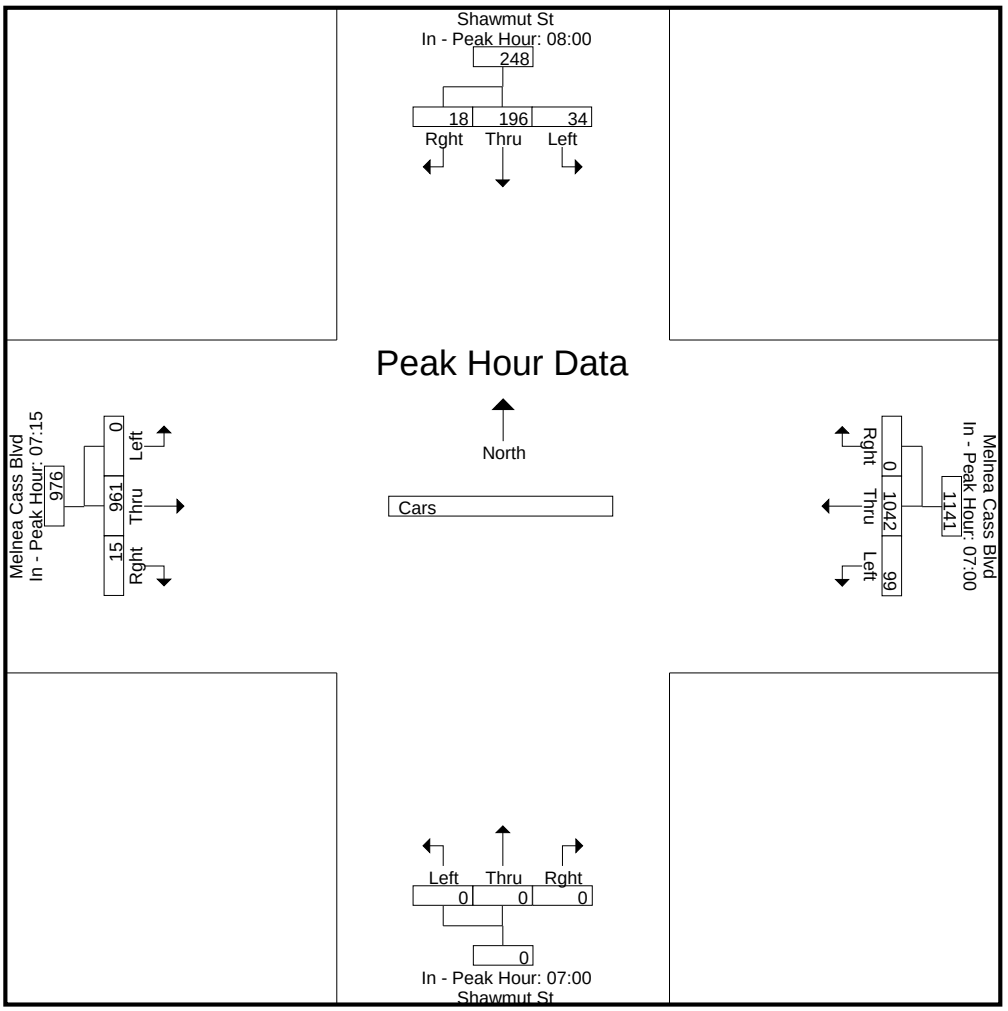


Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 3

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00				07:00				07:00				07:15				
+0 mins.	8	**55**	1	**64**	27	261	0	288	0	0	0	0	0	246	3	249	
+15 mins.	6	47	6	59	24	250	0	274	0	0	0	0	0	228	2	230	
+30 mins.	9	47	**8**	64	20	**278**	0	**298**	0	0	0	0	0	**253**	**5**	**258**	
+45 mins.	**11**	47	3	61	**28**	253	0	281	0	0	0	0	0	234	5	239	
Total Volume	34	196	18	248	99	1042	0	1141	0	0	0	0	0	961	15	976	
% App. Total	13.7	79	7.3		8.7	91.3	0		0	0	0		0	98.5	1.5		
PHF	.773	.891	.563	.969	.884	.937	.000	.957	.000	.000	.000	.000	.000	.950	.750	.946	



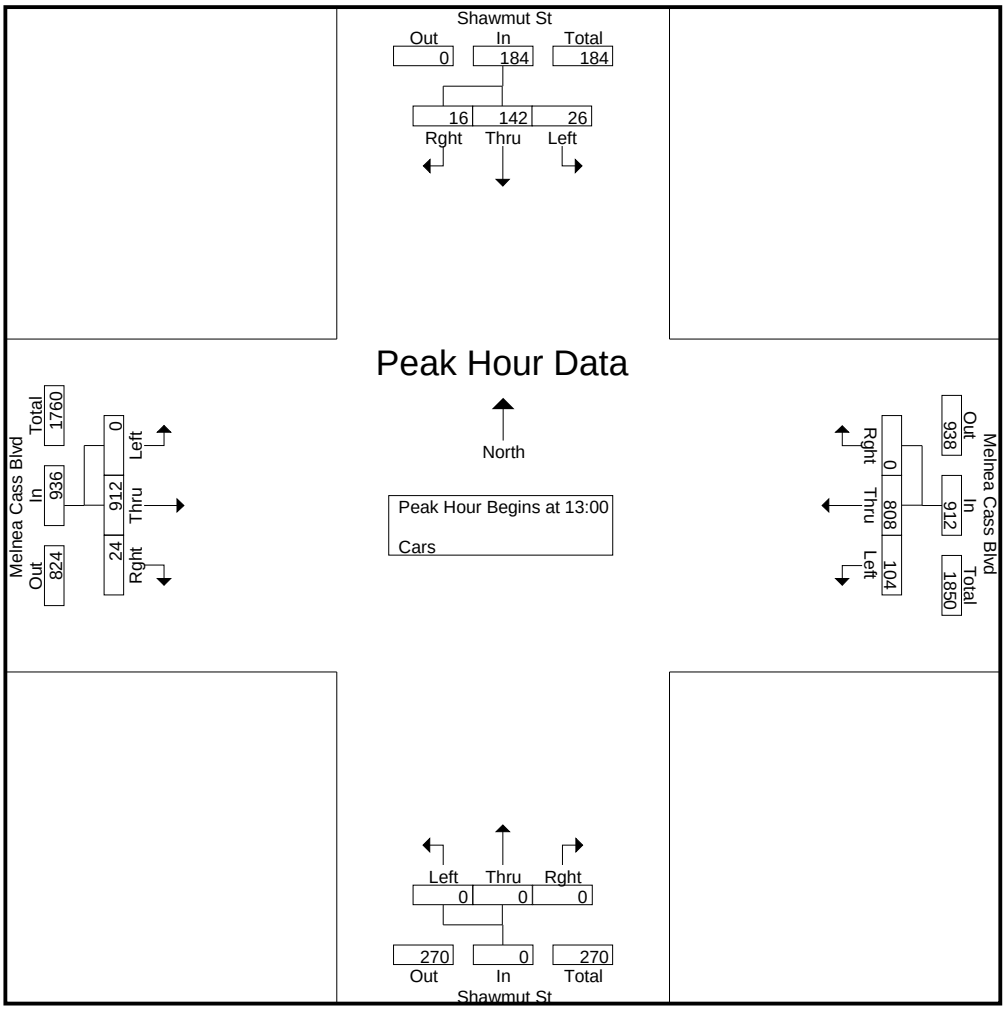
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 13:00

13:00	**7**	**38**	4	**49**	25	177	0	202	0	0	0	0	0	198	4	202	453
13:15	6	32	4	42	25	201	0	226	0	0	0	0	0	217	**9**	226	494
13:30	6	35	**5**	46	22	**219**	0	241	0	0	0	0	0	216	4	220	507
13:45	7	37	3	47	**32**	211	0	**243**	0	0	0	0	0	**281**	7	**288**	**578**
Total Volume	26	142	16	184	104	808	0	912	0	0	0	0	0	912	24	936	2032
% App. Total	14.1	77.2	8.7		11.4	88.6	0		0	0	0		0	97.4	2.6		
PHF	.929	.934	.800	.939	.813	.922	.000	.938	.000	.000	.000	.000	.000	.811	.667	.813	.879

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 4



Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

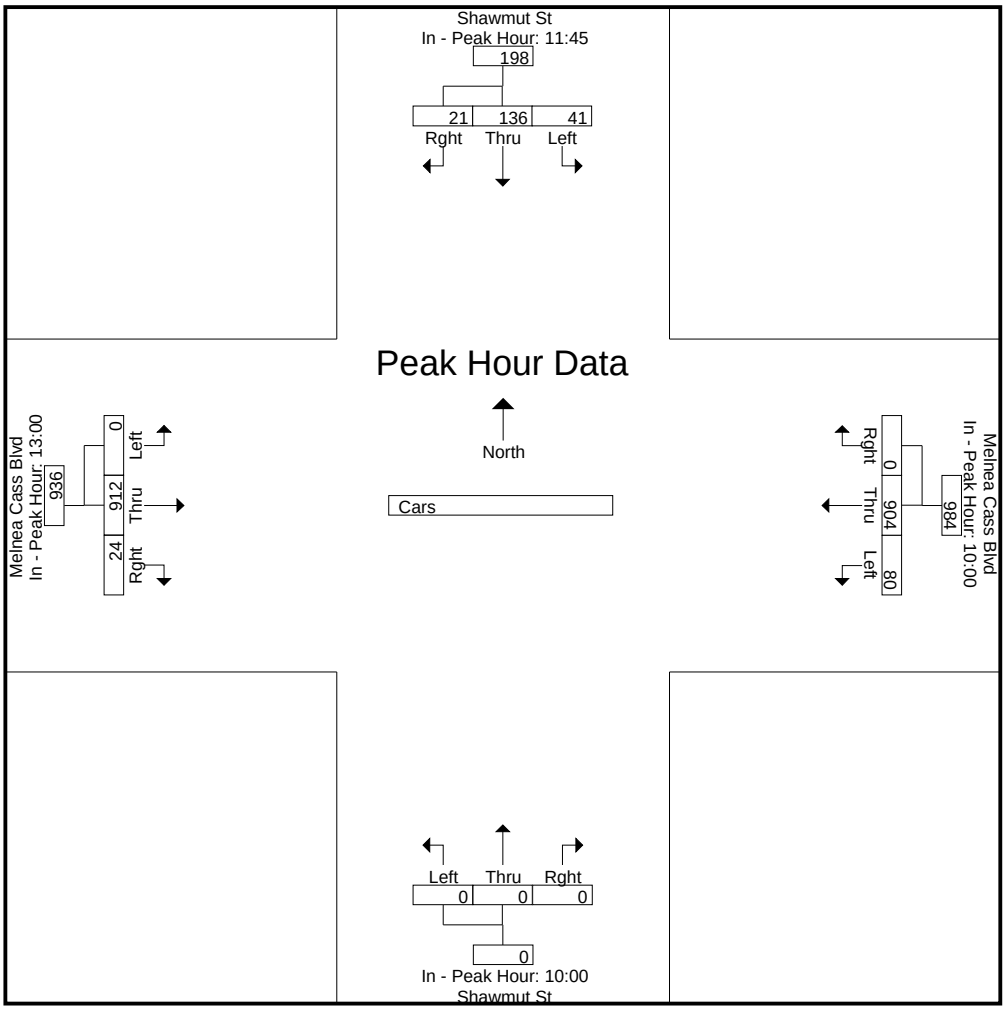
Peak Hour for Each Approach Begins at:

	11:45				10:00				10:00				13:00			
+0 mins.	11	27	2	40	19	234	0	253	0	0	0	0	0	198	4	202
+15 mins.	**13**	**39**	**8**	**60**	**24**	218	0	242	0	0	0	0	0	217	**9**	226
+30 mins.	8	34	6	48	20	213	0	233	0	0	0	0	0	216	4	220
+45 mins.	9	36	5	50	17	**239**	0	**256**	0	0	0	0	0	**281**	7	**288**
Total Volume	41	136	21	198	80	904	0	984	0	0	0	0	0	912	24	936
% App. Total	20.7	68.7	10.6		8.1	91.9	0		0	0	0		0	97.4	2.6	
PHF	.788	.872	.656	.825	.833	.946	.000	.961	.000	.000	.000	.000	.000	.811	.667	.813

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 5



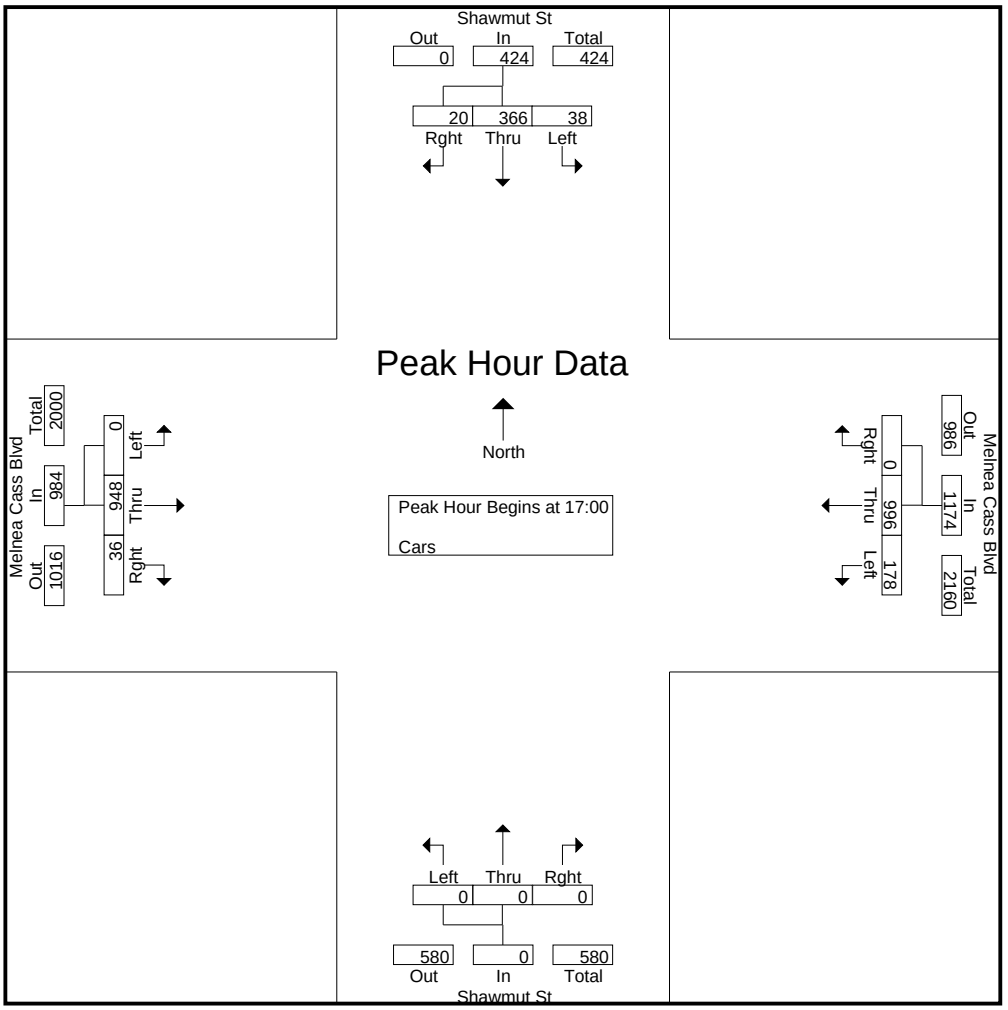
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	10	86	6	102	46	211	0	257	0	0	0	0	0	183	8	191	550
17:15	**12**	94	**10**	**116**	45	**270**	0	**315**	0	0	0	0	0	**264**	9	**273**	**704**
17:30	9	83	2	94	37	250	0	287	0	0	0	0	0	241	9	250	631
17:45	7	**103**	2	112	**50**	265	0	315	0	0	0	0	0	260	**10**	270	697
Total Volume	38	366	20	424	178	996	0	1174	0	0	0	0	0	948	36	984	2582
% App. Total	9	86.3	4.7		15.2	84.8	0		0	0	0		0	96.3	3.7		
PHF	.792	.888	.500	.914	.890	.922	.000	.932	.000	.000	.000	.000	.000	.898	.900	.901	.917

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 6



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1

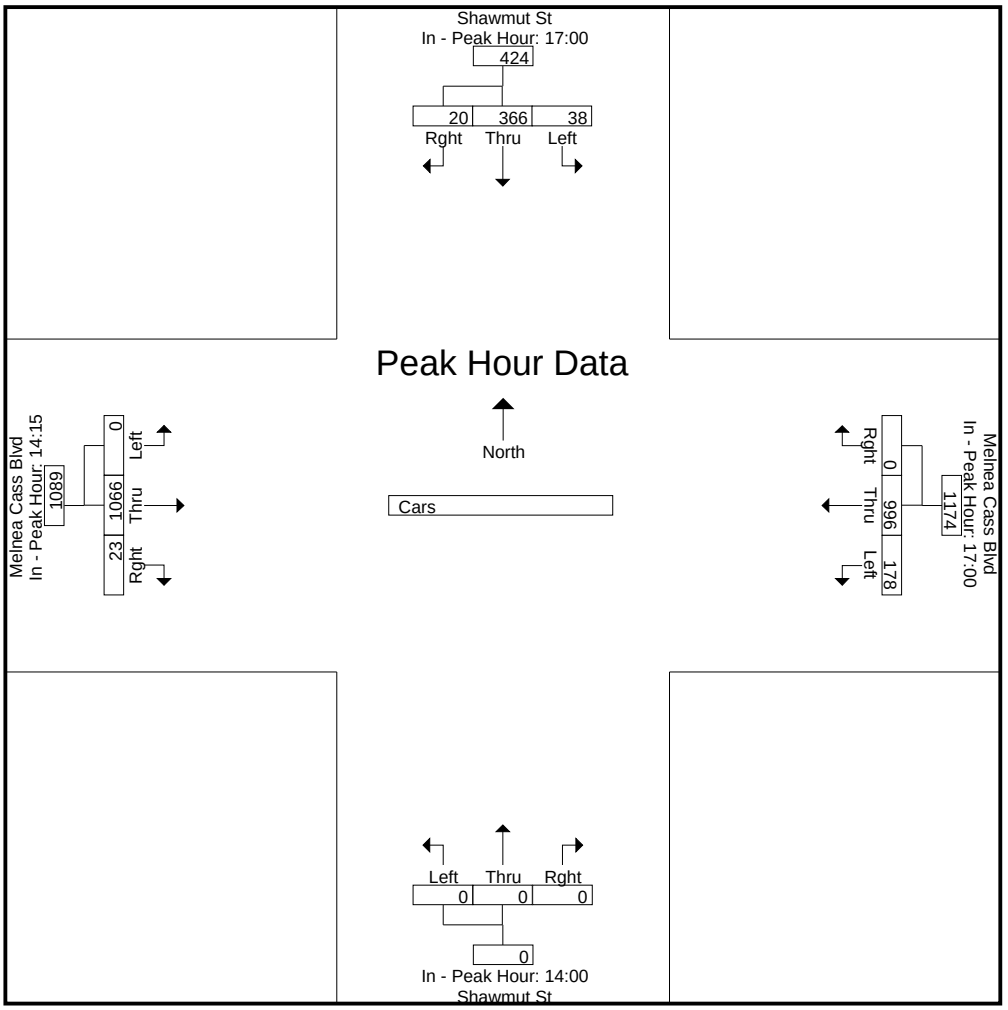
Peak Hour for Each Approach Begins at:

	17:00				17:00				14:00				14:15			
+0 mins.	10	86	6	102	46	211	0	257	0	0	0	0	0	**289**	4	**293**
+15 mins.	**12**	94	**10**	**116**	45	**270**	0	**315**	0	0	0	0	0	274	**8**	282
+30 mins.	9	83	2	94	37	250	0	287	0	0	0	0	0	234	5	239
+45 mins.	7	**103**	2	112	**50**	265	0	315	0	0	0	0	0	269	6	275
Total Volume	38	366	20	424	178	996	0	1174	0	0	0	0	0	1066	23	1089
% App. Total	9	86.3	4.7		15.2	84.8	0		0	0	0		0	97.9	2.1	
PHF	.792	.888	.500	.914	.890	.922	.000	.932	.000	.000	.000	.000	.000	.922	.719	.929

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 7



Accurate Counts

978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 1

Groups Printed- Trucks

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
07:00	0	1	0	2	10	0	0	0	0	0	9	1	23
07:15	0	1	0	3	16	0	0	0	0	0	6	2	28
07:30	0	2	0	3	17	0	0	0	0	0	13	0	35
07:45	1	1	1	1	13	0	0	0	0	0	11	0	28
Total	1	5	1	9	56	0	0	0	0	0	39	3	114
08:00	1	2	1	6	16	0	0	0	0	0	14	0	40
08:15	3	2	1	3	18	0	0	0	0	0	10	1	38
08:30	0	4	0	0	13	0	0	0	0	0	10	0	27
08:45	0	2	2	2	4	0	0	0	0	0	15	1	26
Total	4	10	4	11	51	0	0	0	0	0	49	2	131
09:00	0	2	0	5	12	0	0	0	0	0	13	0	32
09:15	0	1	1	3	11	0	0	0	0	0	16	0	32
09:30	2	3	1	1	14	0	0	0	0	0	20	0	41
09:45	0	3	0	0	8	0	0	0	0	0	20	0	31
Total	2	9	2	9	45	0	0	0	0	0	69	0	136
10:00	0	0	0	0	10	0	0	0	0	0	14	0	24
10:15	0	0	0	1	11	0	0	0	0	0	9	0	21
10:30	1	0	0	0	12	0	0	0	0	0	7	0	20
10:45	1	0	0	1	9	0	0	0	0	0	8	0	19
Total	2	0	0	2	42	0	0	0	0	0	38	0	84
11:00	0	0	0	0	11	0	0	0	0	0	15	0	26
11:15	0	0	0	0	9	0	0	0	0	0	15	0	24
11:30	0	0	0	0	11	0	0	0	0	0	16	0	27
11:45	0	0	0	0	9	0	0	0	0	0	7	0	16
Total	0	0	0	0	40	0	0	0	0	0	53	0	93
12:00	0	0	0	0	14	0	0	0	0	0	5	0	19
12:15	0	0	0	0	6	0	0	0	0	0	12	0	18
12:30	0	0	0	0	6	0	0	0	0	0	12	0	18
12:45	0	0	0	0	7	0	0	0	0	0	13	0	20
Total	0	0	0	0	33	0	0	0	0	0	42	0	75
13:00	1	4	0	3	8	0	0	0	0	0	10	0	26
13:15	0	2	0	1	12	0	0	0	0	0	3	0	18
13:30	0	2	0	2	12	0	0	0	0	0	7	0	23
13:45	0	2	0	2	9	0	0	0	0	0	10	2	25
Total	1	10	0	8	41	0	0	0	0	0	30	2	92
14:00	1	4	0	1	10	0	0	0	0	0	9	0	25
14:15	0	1	0	0	11	0	0	0	0	0	6	0	18
14:30	1	0	2	6	10	0	0	0	0	0	10	0	29
14:45	0	1	0	1	11	0	0	0	0	0	7	0	20
Total	2	6	2	8	42	0	0	0	0	0	32	0	92
15:00	0	0	1	3	16	0	0	0	0	0	8	1	29
15:15	0	4	1	1	12	0	0	0	0	0	5	0	23
15:30	0	5	1	2	6	0	0	0	0	0	8	1	23
15:45	0	1	1	2	11	0	0	0	0	0	9	1	25
Total	0	10	4	8	45	0	0	0	0	0	30	3	100
16:00	1	1	1	1	10	0	0	0	0	0	5	0	19
16:15	0	1	0	0	10	0	0	0	0	0	4	0	15
16:30	1	2	0	1	3	0	0	0	0	0	6	0	13
16:45	1	1	0	0	5	0	0	0	0	0	5	0	12
Total	3	5	1	2	28	0	0	0	0	0	20	0	59
17:00	0	1	0	0	5	0	0	0	0	0	6	0	12
17:15	1	1	0	1	8	0	0	0	0	0	4	0	15
17:30	0	1	0	0	4	0	0	0	0	0	5	0	10
17:45	0	0	0	0	6	0	0	0	0	0	4	1	11
Total	1	3	0	1	23	0	0	0	0	0	19	1	48

Accurate Counts
978-664-2565

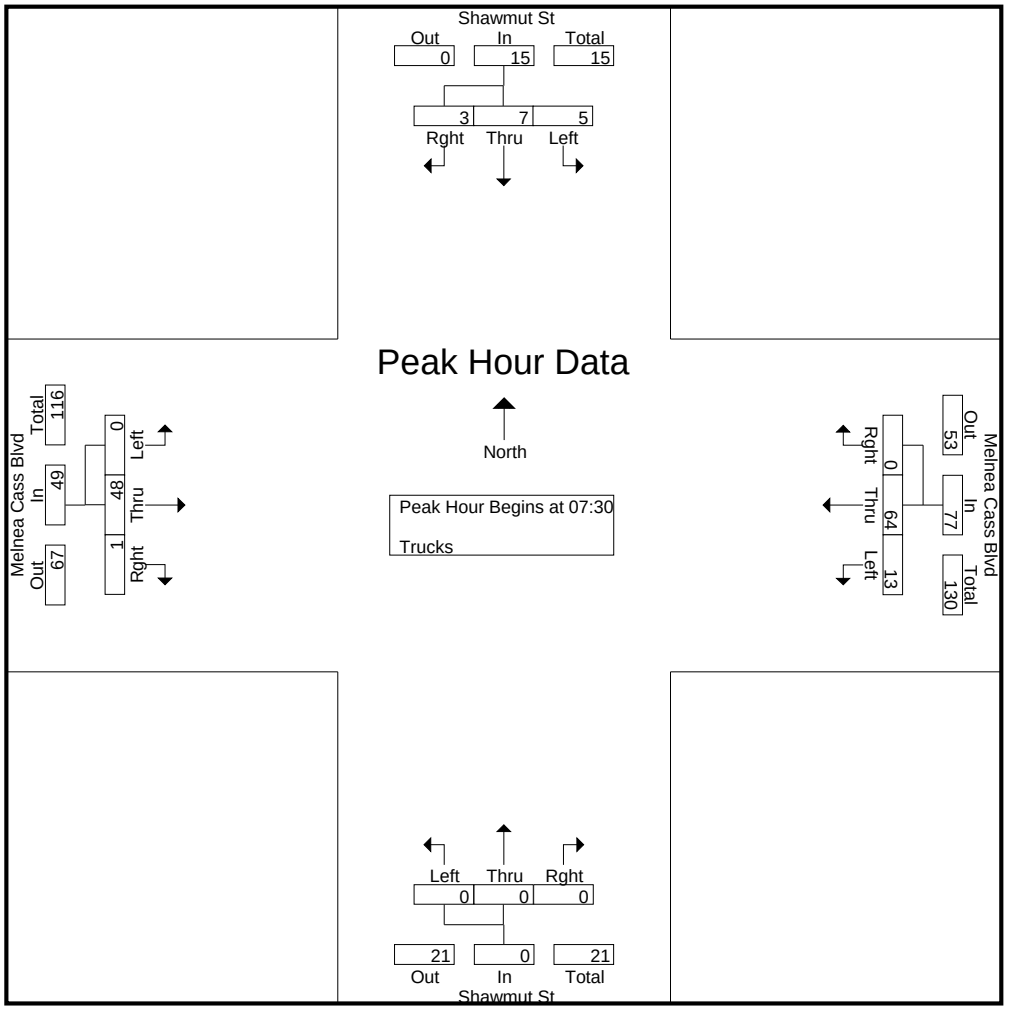
N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 2

Groups Printed- Trucks

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
Grand Total	16	58	14	58	446	0	0	0	0	0	421	11	1024
Apprch %	18.2	65.9	15.9	11.5	88.5	0	0	0	0	0	97.5	2.5	
Total %	1.6	5.7	1.4	5.7	43.6	0	0	0	0	0	41.1	1.1	

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	**2**	0	2	3	17	0	20	0	0	0	0	0	13	0	13	35
07:45	1	1	**1**	3	1	13	0	14	0	0	0	0	0	11	0	11	28
08:00	1	2	1	4	**6**	16	0	**22**	0	0	0	0	0	**14**	0	**14**	**40**
08:15	**3**	2	1	**6**	3	**18**	0	21	0	0	0	0	0	10	**1**	11	38
Total Volume	5	7	3	15	13	64	0	77	0	0	0	0	0	48	1	49	141
% App. Total	33.3	46.7	20		16.9	83.1	0		0	0	0		0	98	2		
PHF	.417	.875	.750	.625	.542	.889	.000	.875	.000	.000	.000	.000	.000	.857	.250	.875	.881

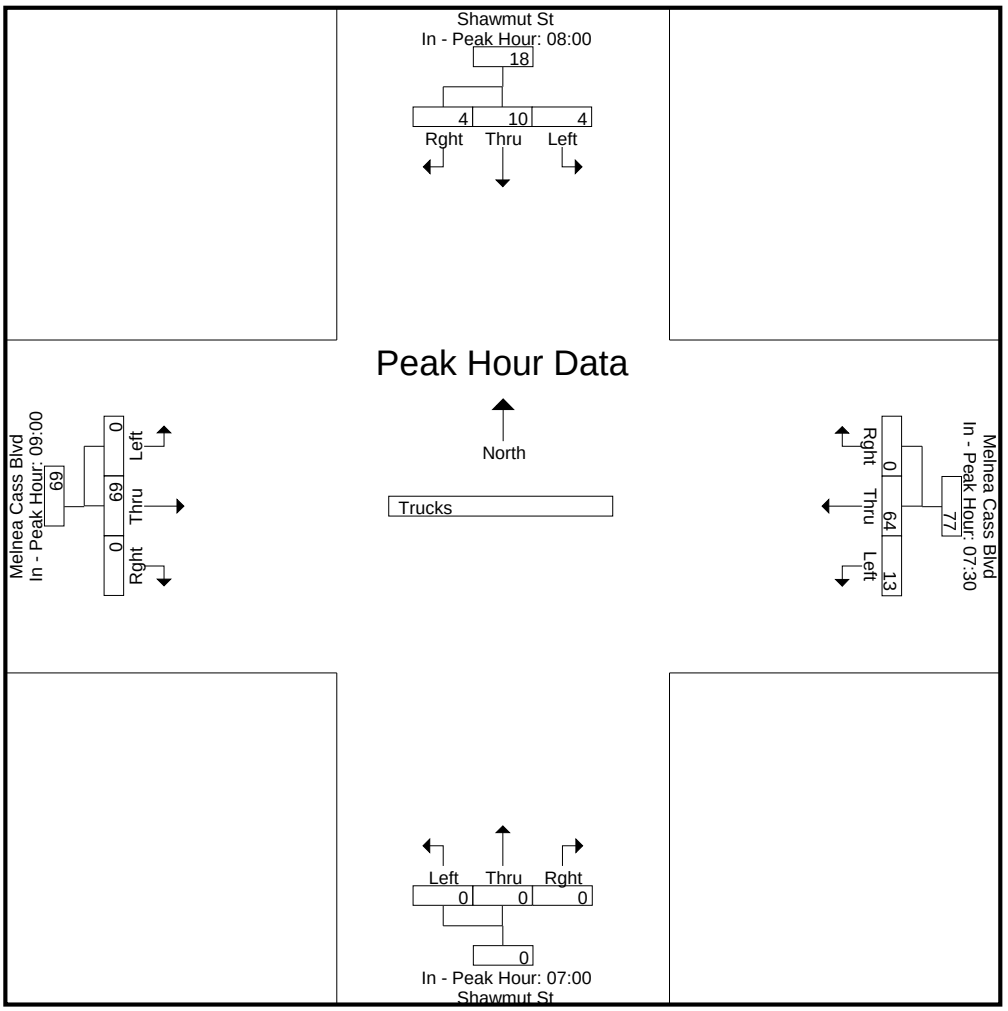


Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00				07:30				07:00				09:00				
+0 mins.	1	2	1	4	3	17	0	20	0	0	0	0	0	13	0	13	
+15 mins.	**3**	2	1	**6**	1	13	0	14	0	0	0	0	0	16	0	16	
+30 mins.	0	**4**	0	4	**6**	16	0	**22**	0	0	0	0	0	**20**	0	**20**	
+45 mins.	0	2	**2**	4	3	**18**	0	21	0	0	0	0	0	20	0	20	
Total Volume	4	10	4	18	13	64	0	77	0	0	0	0	0	69	0	69	
% App. Total	22.2	55.6	22.2		16.9	83.1	0		0	0	0		0	100	0		
PHF	.333	.625	.500	.750	.542	.889	.000	.875	.000	.000	.000	.000	.000	.863	.000	.863	



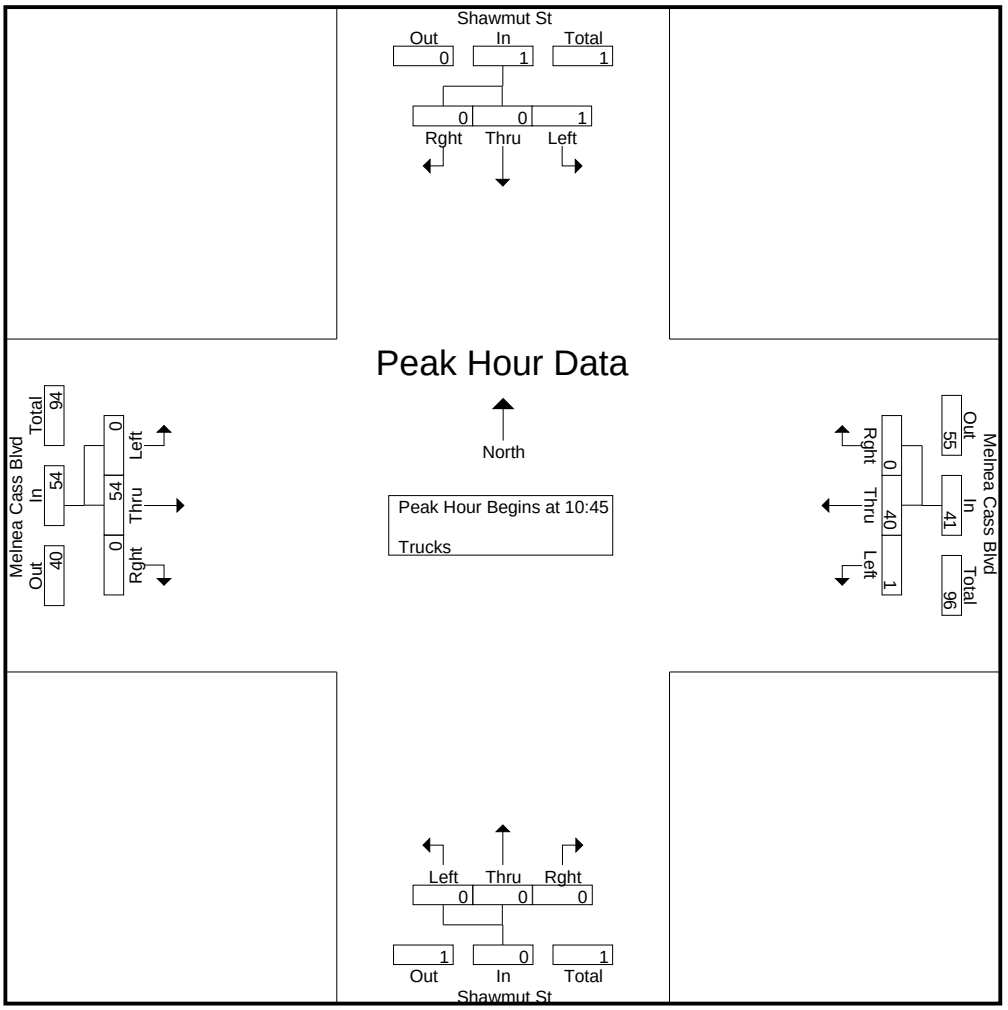
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 10:45

10:45	**1**	0	0	**1**	**1**	9	0	10	0	0	0	0	0	8	0	8	19
11:00	0	0	0	0	0	**11**	0	**11**	0	0	0	0	0	15	0	15	26
11:15	0	0	0	0	0	9	0	9	0	0	0	0	0	15	0	15	24
11:30	0	0	0	0	0	11	0	11	0	0	0	0	0	**16**	0	**16**	**27**
Total Volume	1	0	0	1	1	40	0	41	0	0	0	0	0	54	0	54	96
% App. Total	100	0	0		2.4	97.6	0		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.250	.909	.000	.932	.000	.000	.000	.000	.000	.844	.000	.844	.889

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 4



Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

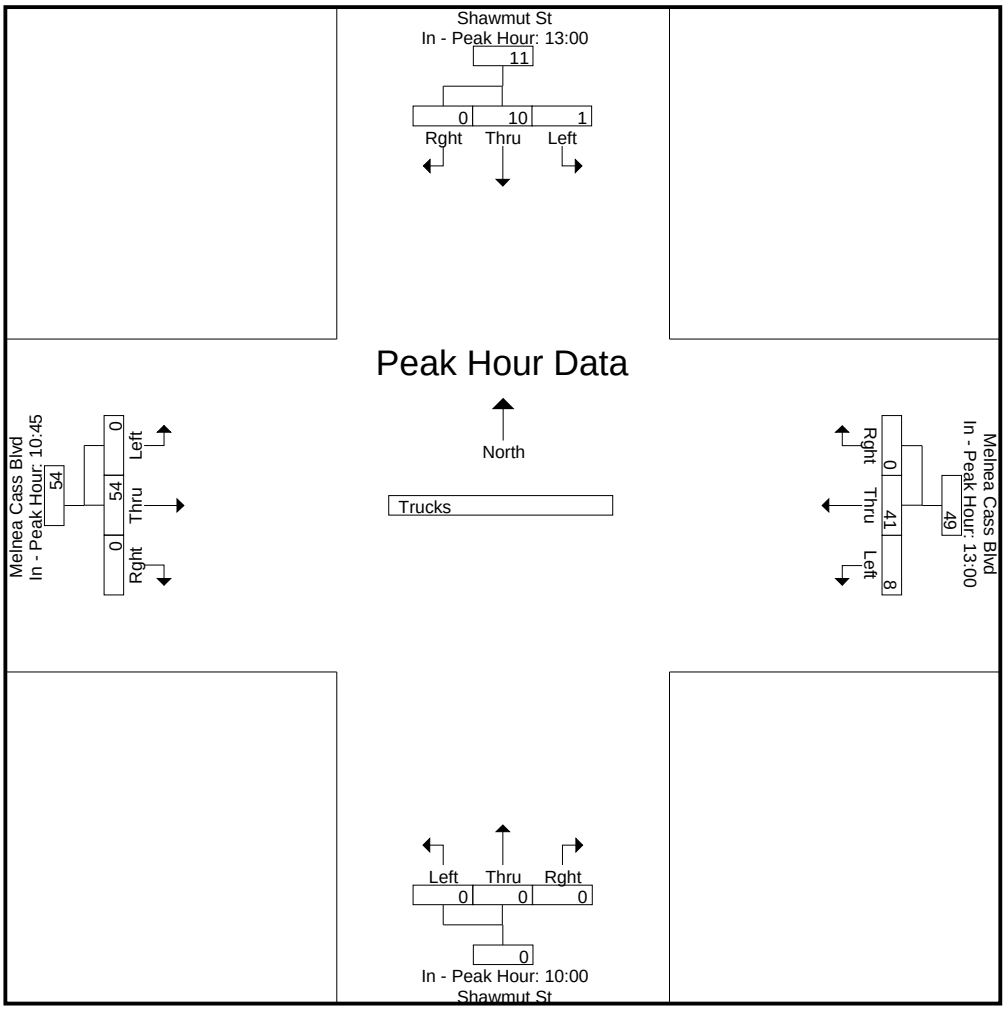
Peak Hour for Each Approach Begins at:

	13:00				13:00				10:00				10:45			
+0 mins.	**1**	**4**	0	**5**	**3**	8	0	11	0	0	0	0	0	8	0	8
+15 mins.	0	2	0	2	1	**12**	0	13	0	0	0	0	0	15	0	15
+30 mins.	0	2	0	2	2	12	0	**14**	0	0	0	0	0	15	0	15
+45 mins.	0	2	0	2	2	9	0	11	0	0	0	0	0	**16**	0	**16**
Total Volume	1	10	0	11	8	41	0	49	0	0	0	0	0	54	0	54
% App. Total	9.1	90.9	0		16.3	83.7	0		0	0	0		0	100	0	
PHF	.250	.625	.000	.550	.667	.854	.000	.875	.000	.000	.000	.000	.000	.844	.000	.844

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 5



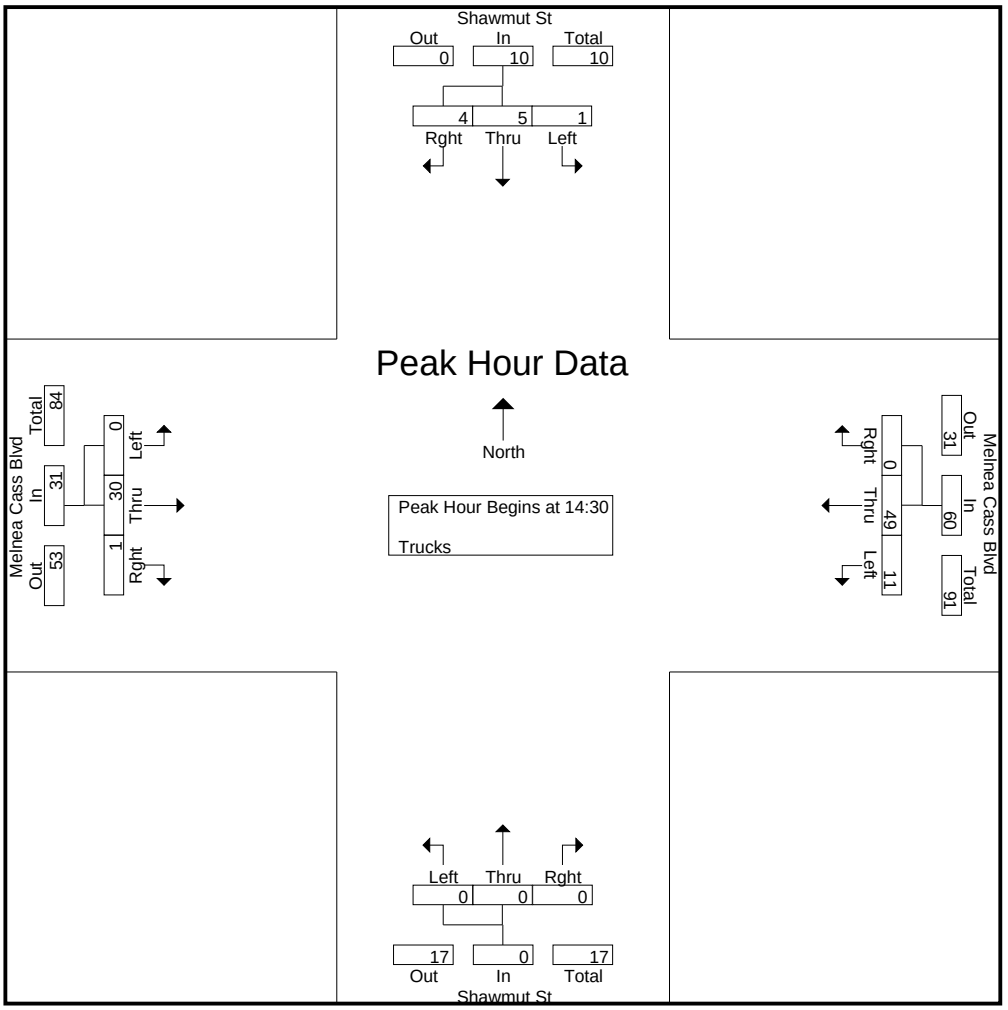
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 14:30

14:30	**1**	0	**2**	3	**6**	10	0	16	0	0	0	0	0	**10**	0	**10**	**29**
14:45	0	1	0	1	1	11	0	12	0	0	0	0	0	7	0	7	20
15:00	0	0	1	1	3	**16**	0	**19**	0	0	0	0	0	8	**1**	9	29
15:15	0	**4**	1	**5**	1	12	0	13	0	0	0	0	0	5	0	5	23
Total Volume	1	5	4	10	11	49	0	60	0	0	0	0	0	30	1	31	101
% App. Total	10	50	40		18.3	81.7	0		0	0	0		0	96.8	3.2		
PHF	.250	.313	.500	.500	.458	.766	.000	.789	.000	.000	.000	.000	.000	.750	.250	.775	.871

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 6



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1

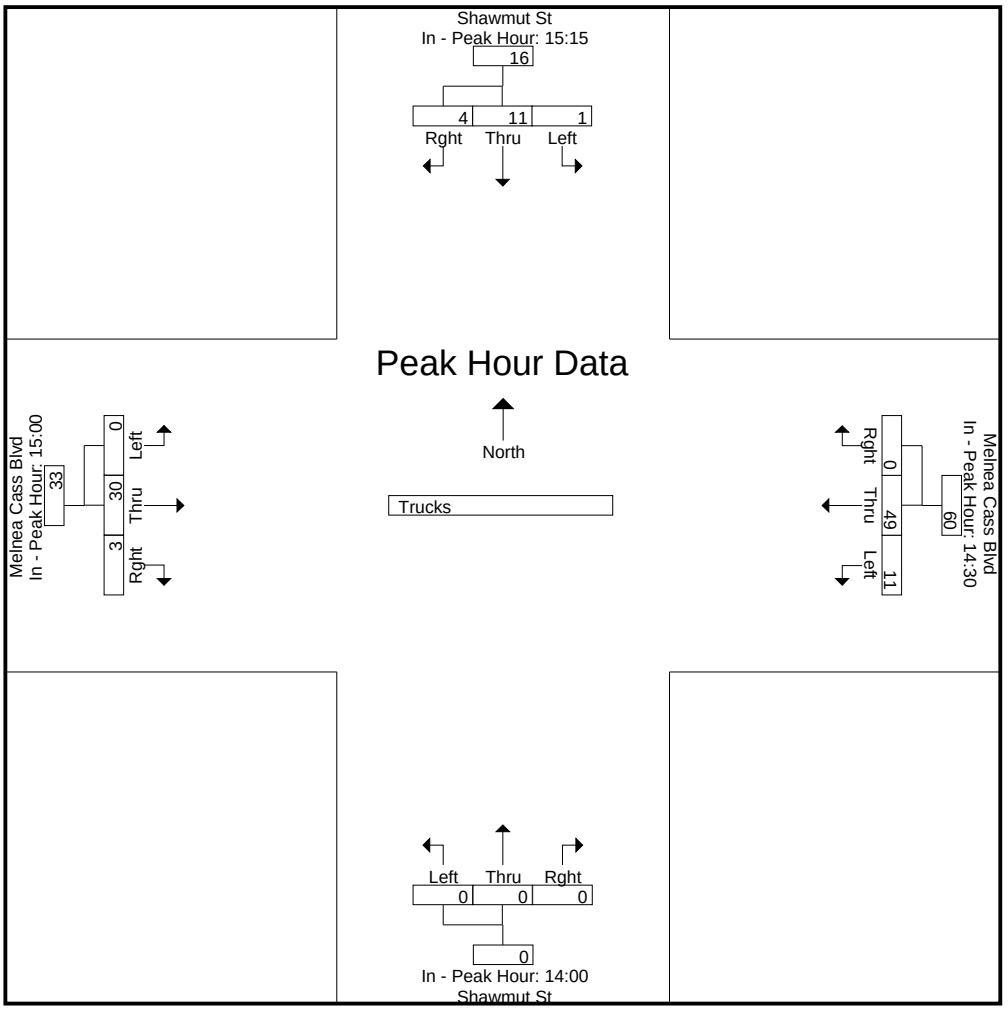
Peak Hour for Each Approach Begins at:

	15:15				14:30				14:00				15:00			
+0 mins.	0	4	**1**	5	**6**	10	0	16	0	0	0	0	0	8	**1**	9
+15 mins.	0	**5**	1	**6**	1	11	0	12	0	0	0	0	0	5	0	5
+30 mins.	0	1	1	2	3	**16**	0	**19**	0	0	0	0	0	8	1	9
+45 mins.	**1**	1	1	3	1	12	0	13	0	0	0	0	0	**9**	1	**10**
Total Volume	1	11	4	16	11	49	0	60	0	0	0	0	0	30	3	33
% App. Total	6.2	68.8	25		18.3	81.7	0		0	0	0		0	90.9	9.1	
PHF	.250	.550	1.000	.667	.458	.766	.000	.789	.000	.000	.000	.000	.000	.833	.750	.825

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 7



Accurate Counts

978-664-2565

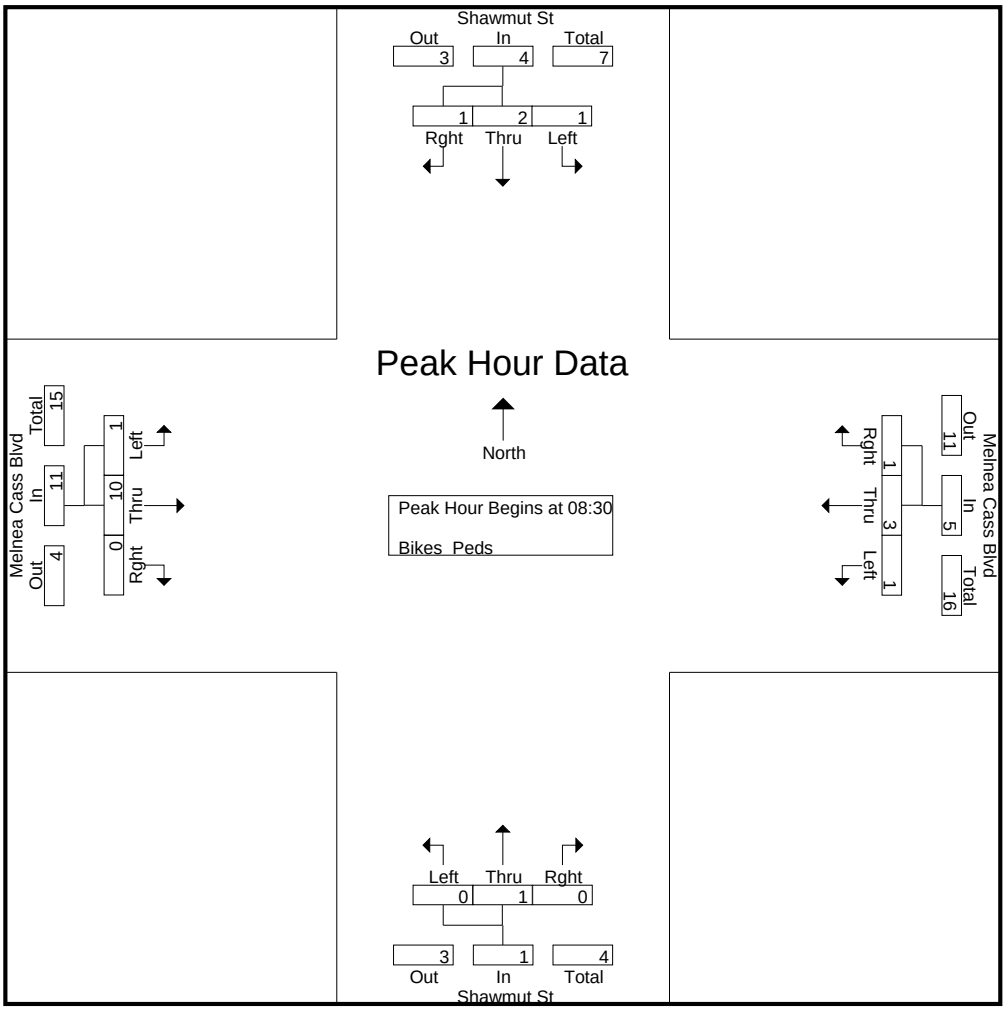
N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 1

Groups Printed- Bikes Peds

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	1	4	0	0	3	0	0	0	1	0	0	3	9	14	7	21
07:15	0	0	0	3	0	1	0	1	0	0	0	0	1	0	0	10	14	2	16
07:30	0	0	0	2	0	2	0	0	0	0	0	3	1	2	0	5	10	5	15
07:45	0	1	0	2	0	2	0	2	0	0	0	0	1	1	0	2	6	5	11
Total	0	1	0	8	4	5	0	6	0	0	0	4	3	3	3	26	44	19	63
08:00	0	0	0	0	0	0	0	1	0	0	0	2	0	5	0	2	5	5	10
08:15	0	0	0	2	0	0	0	4	0	0	0	0	0	0	0	7	13	0	13
08:30	0	0	0	5	0	1	0	6	0	0	0	2	1	3	0	7	20	5	25
08:45	1	0	1	3	0	1	1	1	0	0	0	0	0	1	0	3	7	5	12
Total	1	0	1	10	0	2	1	12	0	0	0	4	1	9	0	19	45	15	60
09:00	0	1	0	6	1	0	0	1	0	0	0	8	0	6	0	3	18	8	26
09:15	0	1	0	1	0	1	0	4	0	1	0	2	0	0	0	4	11	3	14
09:30	0	1	0	3	0	1	0	1	0	0	0	2	0	1	0	6	12	3	15
09:45	0	1	0	3	0	2	0	3	0	0	0	2	0	0	0	2	10	3	13
Total	0	4	0	13	1	4	0	9	0	1	0	14	0	7	0	15	51	17	68
10:00	0	0	0	3	0	0	0	6	0	0	0	2	0	2	0	1	12	2	14
10:15	0	0	0	2	0	0	0	4	0	0	0	1	0	2	0	3	10	2	12
10:30	0	0	0	3	0	1	0	6	0	1	0	2	0	3	0	0	11	5	16
10:45	0	2	0	1	0	0	0	2	0	0	0	5	0	1	0	1	9	3	12
Total	0	2	0	9	0	1	0	18	0	1	0	10	0	8	0	5	42	12	54
11:00	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	9	11	2	13
11:15	0	1	0	1	0	0	0	2	0	1	0	4	0	0	0	3	10	2	12
11:30	0	0	0	2	0	2	0	2	0	0	0	2	0	1	0	2	8	3	11
11:45	1	2	0	1	0	2	0	5	0	0	0	2	0	0	0	3	11	5	16
Total	1	3	0	5	0	5	0	10	0	1	0	8	0	2	0	17	40	12	52
12:00	0	0	0	1	0	0	0	2	0	0	0	2	0	1	0	1	6	1	7
12:15	0	3	0	0	0	0	0	0	0	1	0	1	0	3	0	1	2	7	9
12:30	0	1	0	3	0	1	0	5	0	0	0	1	0	1	0	2	11	3	14
12:45	0	0	0	4	0	1	0	1	0	1	0	5	0	1	0	6	16	3	19
Total	0	4	0	8	0	2	0	8	0	2	0	9	0	6	0	10	35	14	49
13:00	0	1	0	3	0	2	0	9	0	0	0	8	0	0	0	3	23	3	26
13:15	0	0	0	5	0	0	0	7	0	0	0	7	0	2	0	6	25	2	27
13:30	0	0	0	3	0	1	0	7	0	0	0	6	0	2	0	4	20	3	23
13:45	0	0	0	5	0	2	0	0	0	0	0	6	0	1	0	13	24	3	27
Total	0	1	0	16	0	5	0	23	0	0	0	27	0	5	0	26	92	11	103
14:00	0	0	0	3	0	0	0	5	0	0	0	2	0	0	0	7	17	0	17
14:15	0	0	0	2	0	0	0	2	0	0	0	3	2	1	0	8	15	3	18
14:30	0	0	0	2	0	1	0	3	0	0	0	3	0	0	0	9	17	1	18
14:45	0	0	0	5	0	0	0	1	0	0	0	2	0	0	0	7	15	0	15
Total	0	0	0	12	0	1	0	11	0	0	0	10	2	1	0	31	64	4	68
15:00	0	0	0	8	0	2	0	3	0	0	0	9	0	0	0	1	21	2	23
15:15	0	0	0	3	0	0	1	1	0	0	0	18	0	0	0	4	26	1	27
15:30	0	0	0	2	0	0	0	1	0	0	0	4	0	3	0	1	8	3	11
15:45	0	0	0	1	0	0	0	2	0	0	0	8	0	1	0	2	13	1	14
Total	0	0	0	14	0	2	1	7	0	0	0	39	0	4	0	8	68	7	75
16:00	0	0	0	0	0	0	0	0	0	0	0	6	0	2	0	8	14	2	16
16:15	0	0	0	1	0	1	0	4	0	0	0	5	0	0	0	6	16	1	17
16:30	0	0	0	2	0	0	0	0	0	0	0	10	0	1	0	5	17	1	18
16:45	0	0	0	5	0	1	0	4	0	0	0	6	0	1	0	14	29	2	31
Total	0	0	0	8	0	2	0	8	0	0	0	27	0	4	0	33	76	6	82
17:00	0	0	0	4	0	1	0	0	0	0	0	3	0	0	0	6	13	1	14
17:15	0	0	0	7	0	1	0	6	0	0	0	10	0	1	0	8	31	2	33
17:30	0	0	0	8	0	3	0	4	0	2	0	9	0	0	0	8	29	5	34
17:45	0	0	0	2	0	1	0	1	0	0	0	5	0	4	0	6	14	5	19
Total	0	0	0	21	0	6	0	11	0	2	0	27	0	5	0	28	87	13	100
Grand Total	2	15	1	124	5	35	2	123	0	7	0	179	6	54	3	218	644	130	774
Apprch %	11.1	83.3	5.6		11.9	83.3	4.8		0	100	0		9.5	85.7	4.8				
Total %	1.5	11.5	0.8		3.8	26.9	1.5		0	5.4	0		4.6	41.5	2.3		83.2	16.8	

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30																	
08:30	0	0	0	0	0	**1**	0	1	0	0	0	0	**1**	3	0	4	5
08:45	**1**	0	**1**	**2**	0	1	**1**	**2**	0	0	0	0	0	1	0	1	5
09:00	0	**1**	0	1	**1**	0	0	1	0	0	0	0	0	**6**	0	**6**	**8**
09:15	0	1	0	1	0	1	0	1	0	**1**	0	**1**	0	0	0	0	3
Total Volume	1	2	1	4	1	3	1	5	0	1	0	1	1	10	0	11	21
% App. Total	25	50	25		20	60	20		0	100	0		9.1	90.9	0		
PHF	.250	.500	.250	.500	.250	.750	.250	.625	.000	.250	.000	.250	.250	.417	.000	.458	.656

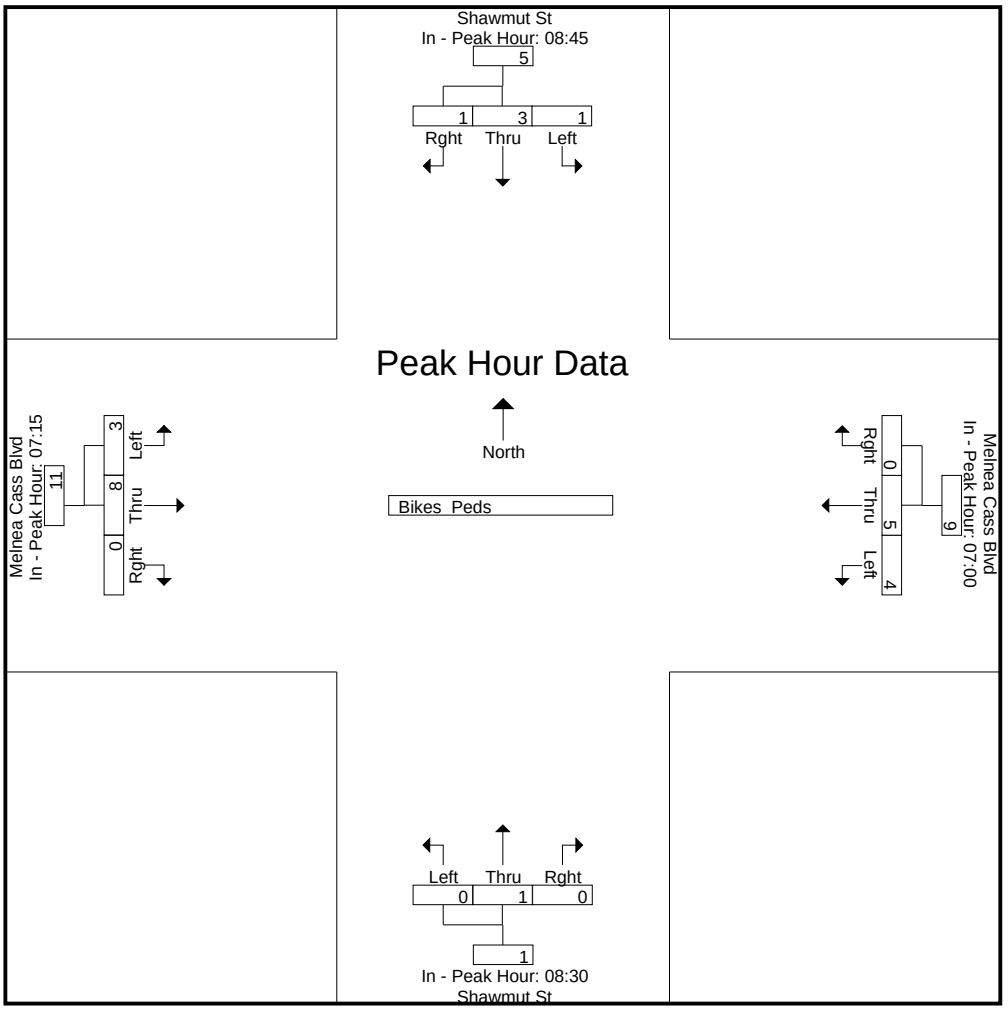


Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:45				07:00				08:30				07:15			
+0 mins.	**1**	0	**1**	**2**	**4**	0	0	**4**	0	0	0	0	**1**	0	0	1
+15 mins.	0	**1**	0	1	0	1	0	1	0	0	0	0	1	2	0	3
+30 mins.	0	1	0	1	0	**2**	0	2	0	0	0	0	1	1	0	2
+45 mins.	0	1	0	1	0	2	0	2	0	**1**	0	**1**	0	**5**	0	**5**
Total Volume	1	3	1	5	4	5	0	9	0	1	0	1	3	8	0	11
% App. Total	20	60	20		44.4	55.6	0		0	100	0		27.3	72.7	0	
PHF	.250	.750	.250	.625	.250	.625	.000	.563	.000	.250	.000	.250	.750	.400	.000	.550

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 3



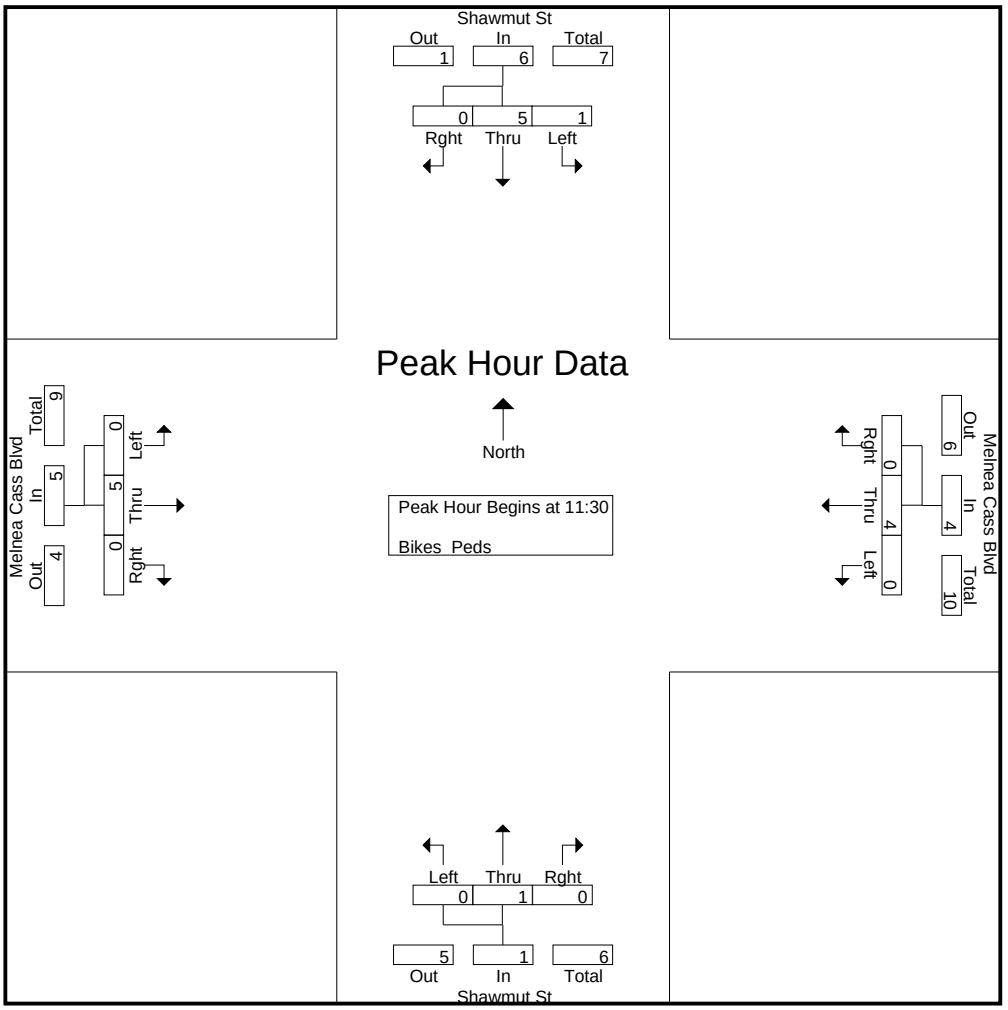
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:30

11:30	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	1	0	1	3
11:45	**1**	2	0	**3**	0	2	0	2	0	0	0	0	0	0	0	0	5
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:15	0	**3**	0	3	0	0	0	0	0	**1**	0	**1**	0	**3**	0	**3**	**7**
Total Volume	1	5	0	6	0	4	0	4	0	1	0	1	0	5	0	5	16
% App. Total	16.7	83.3	0		0	100	0		0	100	0		0	100	0		
PHF	.250	.417	.000	.500	.000	.500	.000	.500	.000	.250	.000	.250	.000	.417	.000	.417	.571

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 4



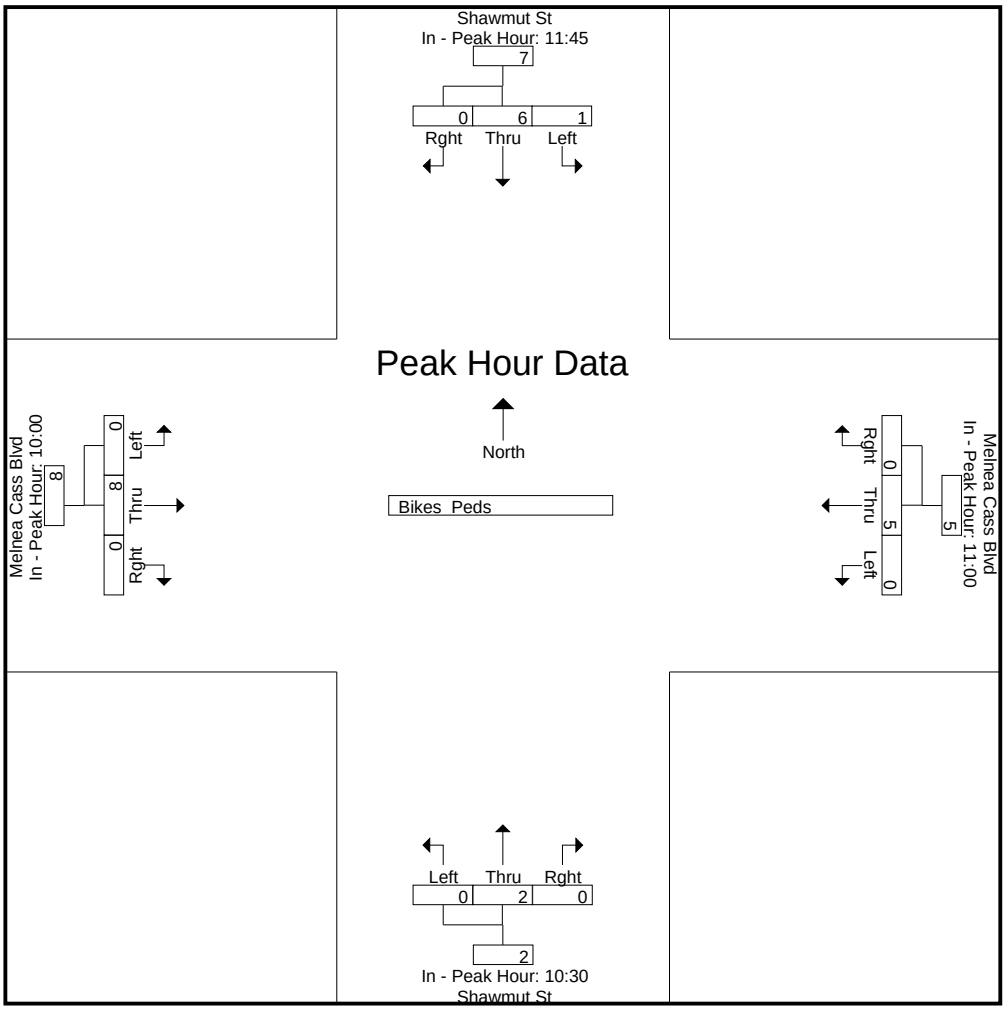
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45				11:00				10:30				10:00			
+0 mins.	**1**	2	0	**3**	0	1	0	1	0	**1**	0	**1**	0	2	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+30 mins.	0	**3**	0	3	0	**2**	0	**2**	0	0	0	0	0	**3**	0	**3**
+45 mins.	0	1	0	1	0	2	0	2	0	1	0	1	0	1	0	1
Total Volume	1	6	0	7	0	5	0	5	0	2	0	2	0	8	0	8
% App. Total	14.3	85.7	0		0	100	0		0	100	0		0	100	0	
PHF	.250	.500	.000	.583	.000	.625	.000	.625	.000	.500	.000	.500	.000	.667	.000	.667

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 5



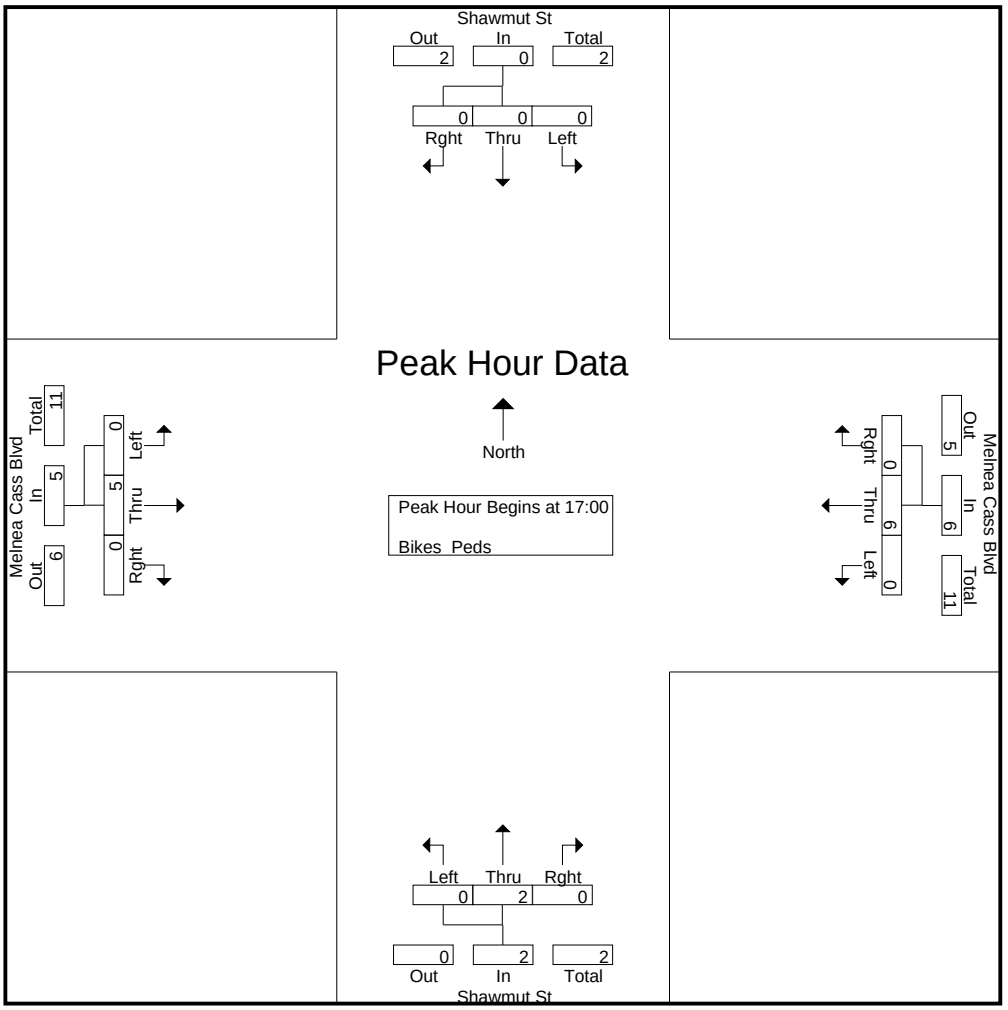
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
17:30	0	0	0	0	0	**3**	0	**3**	0	**2**	0	**2**	0	0	0	0	**5**
17:45	0	0	0	0	0	1	0	1	0	0	0	0	0	**4**	0	**4**	5
Total Volume	0	0	0	0	0	6	0	6	0	2	0	2	0	5	0	5	13
% App. Total	0	0	0		0	100	0		0	100	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.250	.000	.313	.000	.313	.650

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 6



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1

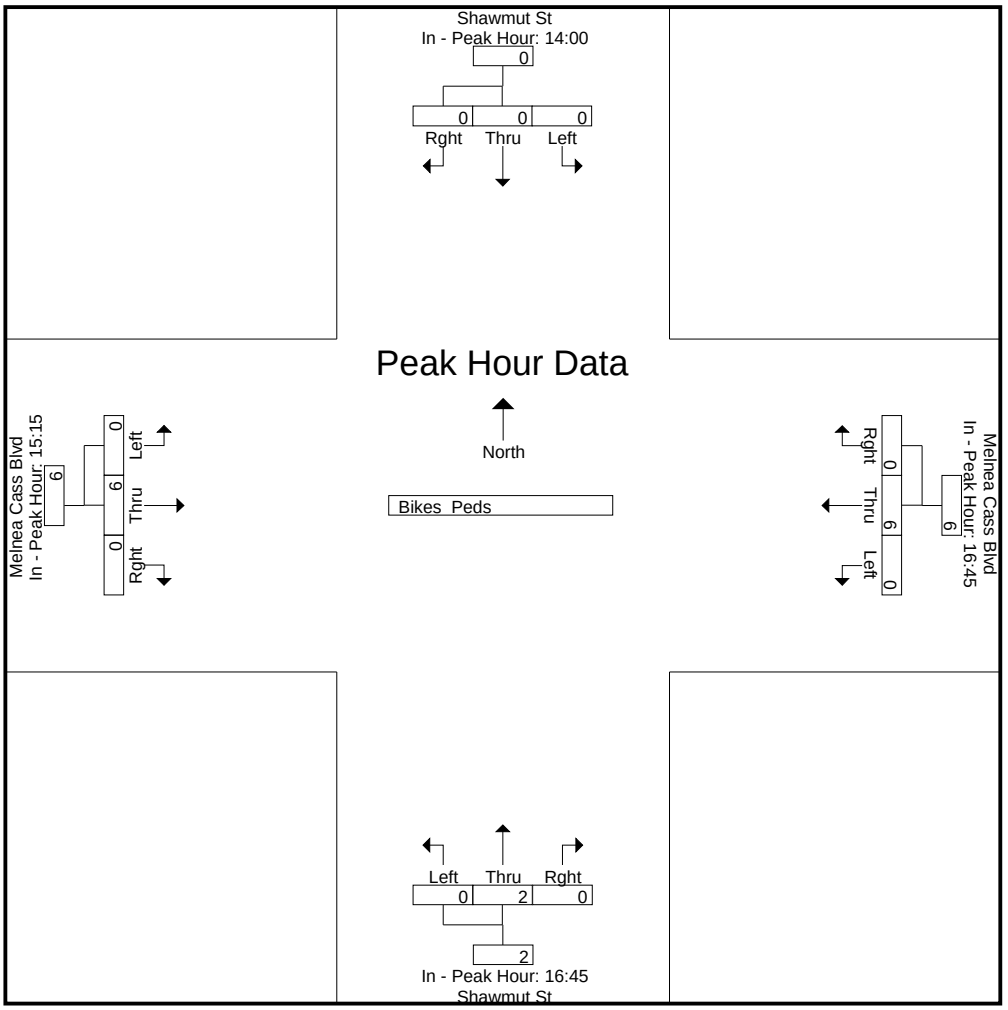
Peak Hour for Each Approach Begins at:

	14:00				16:45				16:45				15:15			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**3**	0	**3**
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	**3**	0	**3**	0	**2**	0	**2**	0	2	0	2
Total Volume	0	0	0	0	0	6	0	6	0	2	0	2	0	6	0	6
% App. Total	0	0	0		0	100	0		0	100	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.250	.000	.500	.000	.500

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 7



Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011

Groups Printed- Cars - Trucks

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
07:00	5	50	13	0	49	255	9	1	19	69	20	0	27	195	10	0	722
07:15	16	48	7	0	50	278	12	0	24	118	19	0	30	210	5	0	817
07:30	7	44	10	0	43	263	11	0	23	110	14	0	32	228	13	0	798
07:45	4	48	19	0	30	274	13	0	11	128	17	0	29	222	9	0	804
Total	32	190	49	0	172	1070	45	1	77	425	70	0	118	855	37	0	3141
08:00	7	44	19	0	36	249	5	0	19	103	13	0	32	215	7	0	749
08:15	6	49	23	0	25	246	13	0	16	99	16	0	16	196	3	1	709
08:30	7	45	10	0	37	256	5	0	11	86	21	0	31	174	6	0	689
08:45	7	45	10	0	29	240	8	1	14	105	20	0	38	187	6	3	713
Total	27	183	62	0	127	991	31	1	60	393	70	0	117	772	22	4	2860
09:00	1	48	9	0	23	217	6	0	10	74	29	0	33	185	6	0	641
09:15	4	39	17	0	21	233	11	0	9	98	28	0	33	172	4	0	669
09:30	6	49	13	0	39	239	9	1	19	77	25	0	35	171	10	0	693
09:45	11	46	18	0	33	251	13	0	6	78	19	0	27	204	5	0	711
Total	22	182	57	0	116	940	39	1	44	327	101	0	128	732	25	0	2714
10:00	11	49	13	0	30	244	12	0	16	77	19	0	30	186	3	0	690
10:15	6	55	17	0	46	235	11	0	12	66	26	0	24	152	9	0	659
10:30	6	58	13	0	45	237	11	0	11	45	18	0	21	161	8	0	634
10:45	4	41	18	0	27	219	15	0	11	55	13	0	14	170	15	0	602
Total	27	203	61	0	148	935	49	0	50	243	76	0	89	669	35	0	2585
11:00	7	64	14	1	27	231	11	0	11	59	19	0	19	183	10	0	656
11:15	4	43	11	0	33	194	8	0	4	47	24	0	23	173	12	0	576
11:30	7	35	4	0	31	195	5	0	12	53	13	0	22	189	15	0	581
11:45	8	52	18	0	36	211	12	0	10	49	17	0	11	219	11	1	655
Total	26	194	47	1	127	831	36	0	37	208	73	0	75	764	48	1	2468
12:00	9	67	16	0	24	196	4	0	10	60	24	0	19	210	11	0	650
12:15	6	54	15	1	29	202	16	0	10	77	23	0	14	202	8	0	657
12:30	6	70	12	0	30	232	9	0	8	67	22	0	17	221	5	0	699
12:45	4	42	18	1	31	191	12	0	9	68	20	0	15	223	9	0	643
Total	25	233	61	2	114	821	41	0	37	272	89	0	65	856	33	0	2649
13:00	7	52	23	0	30	199	16	0	7	62	18	0	16	186	17	0	633
13:15	8	58	20	0	28	194	8	1	9	50	30	0	27	182	7	3	625
13:30	13	37	16	0	20	222	8	0	8	56	22	0	18	212	6	0	638
13:45	9	45	20	0	33	222	13	1	10	60	14	0	11	267	12	0	717
Total	37	192	79	0	111	837	45	2	34	228	84	0	72	847	42	3	2613
14:00	12	60	14	0	38	208	9	0	12	49	28	0	34	255	10	0	729
14:15	6	41	21	0	30	210	16	0	9	56	19	0	22	266	15	0	711
14:30	10	65	28	0	25	213	16	0	6	60	21	0	26	242	18	1	731
14:45	9	52	14	0	37	229	10	0	17	95	23	0	30	214	14	1	745
Total	37	218	77	0	130	860	51	0	44	260	91	0	112	977	57	2	2916
15:00	3	64	25	0	38	196	6	0	6	66	26	0	28	212	17	0	687
15:15	4	73	31	0	43	183	9	0	11	60	23	0	37	251	12	0	737
15:30	11	61	38	0	27	193	11	0	8	66	14	0	26	232	12	2	701
15:45	7	80	38	0	26	170	8	0	14	78	29	0	42	203	17	0	712
Total	25	278	132	0	134	742	34	0	39	270	92	0	133	898	58	2	2837
16:00	12	88	43	0	24	189	10	0	11	104	15	0	35	160	11	0	702
16:15	6	71	21	0	33	199	10	0	12	71	22	0	29	219	11	0	704
16:30	5	77	26	0	27	230	9	0	8	97	16	0	38	200	12	1	746
16:45	4	93	39	0	21	208	13	0	13	87	13	0	38	141	14	0	684
Total	27	329	129	0	105	826	42	0	44	359	66	0	140	720	48	1	2836
17:00	5	72	41	0	25	211	11	0	6	81	20	0	24	162	5	1	664
17:15	3	86	37	0	42	261	10	0	13	86	24	0	30	258	11	1	862

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011

Groups Printed- Cars - Trucks

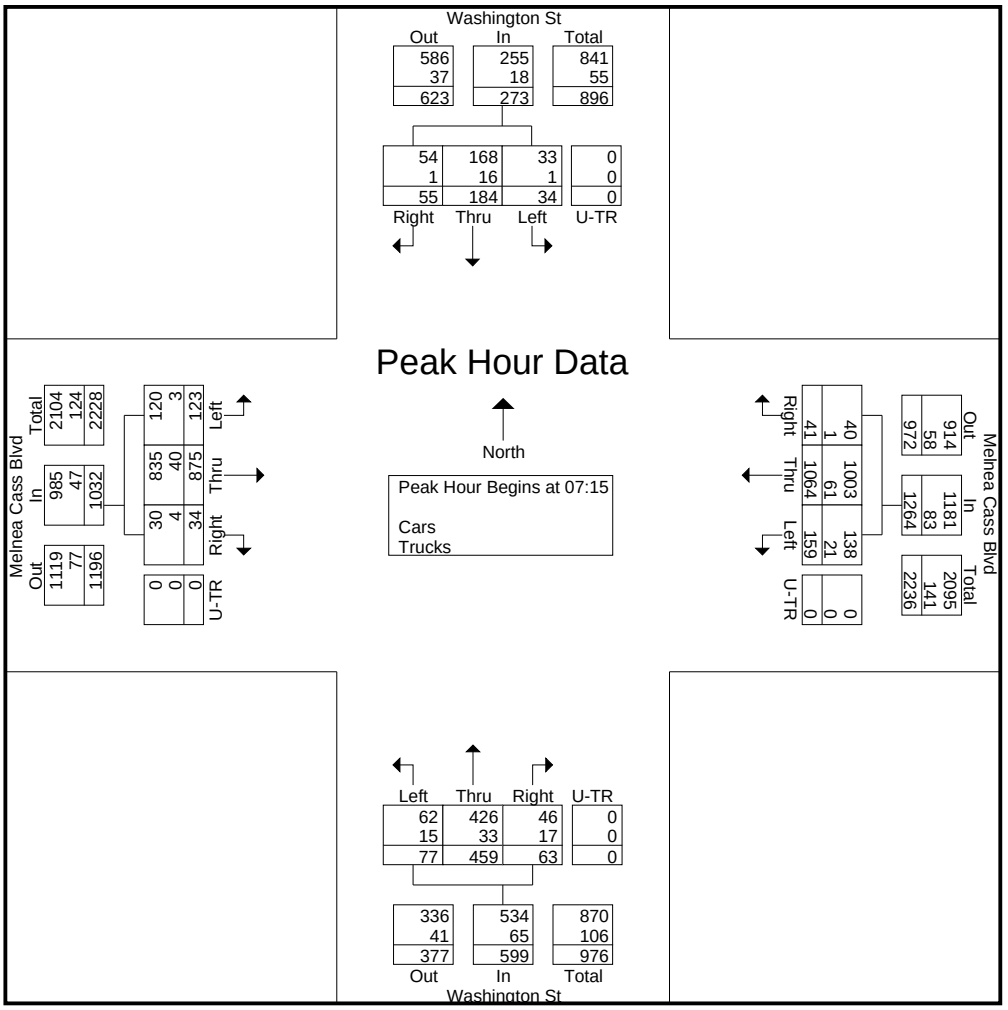
	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
17:30	4	104	44	0	38	252	10	0	8	65	21	0	23	236	10	0	815
17:45	13	89	35	0	45	257	13	0	16	84	14	0	31	225	14	0	836
Total	25	351	157	0	150	981	44	0	43	316	79	0	108	881	40	2	3177
Grand Total	310	2553	911	3	1434	9834	457	5	509	3301	891	0	1157	8971	445	15	30796
Apprch %	8.2	67.6	24.1	0.1	12.2	83.8	3.9	0	10.8	70.2	19	0	10.9	84.7	4.2	0.1	
Total %	1	8.3	3	0	4.7	31.9	1.5	0	1.7	10.7	2.9	0	3.8	29.1	1.4	0	
Cars	302	2355	862	3	1251	9476	445	4	413	3061	744	0	1129	8590	419	11	29065
% Cars	97.4	92.2	94.6	100	87.2	96.4	97.4	80	81.1	92.7	83.5	0	97.6	95.8	94.2	73.3	94.4
Trucks	8	198	49	0	183	358	12	1	96	240	147	0	28	381	26	4	1731
% Trucks	2.6	7.8	5.4	0	12.8	3.6	2.6	20	18.9	7.3	16.5	0	2.4	4.2	5.8	26.7	5.6

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	**16**	**48**	7	0	**71**	**50**	**278**	12	0	**340**	**24**	118	**19**	0	**161**	30	210	5	0	245	**817**
07:30	7	44	10	0	61	43	263	11	0	317	23	110	14	0	147	**32**	**228**	**13**	0	**273**	798
07:45	4	48	**19**	0	71	30	274	**13**	0	317	11	**128**	17	0	156	29	222	9	0	260	804
08:00	7	44	19	0	70	36	249	5	0	290	19	103	13	0	135	32	215	7	0	254	749
Total Volume	34	184	55	0	273	159	1064	41	0	1264	77	459	63	0	599	123	875	34	0	1032	3168
% App. Total	12.5	67.4	20.1	0		12.6	84.2	3.2	0		12.9	76.6	10.5	0		11.9	84.8	3.3	0		
PHF	.531	.958	.724	.000	.961	.795	.957	.788	.000	.929	.802	.896	.829	.000	.930	.961	.959	.654	.000	.945	.969
Cars	33	168	54	0	255	138	1003	40	0	1181	62	426	46	0	534	120	835	30	0	985	2955
% Cars	97.1	91.3	98.2	0	93.4	86.8	94.3	97.6	0	93.4	80.5	92.8	73.0	0	89.1	97.6	95.4	88.2	0	95.4	93.3
Trucks	1	16	1	0	18	21	61	1	0	83	15	33	17	0	65	3	40	4	0	47	213
% Trucks	2.9	8.7	1.8	0	6.6	13.2	5.7	2.4	0	6.6	19.5	7.2	27.0	0	10.9	2.4	4.6	11.8	0	4.6	6.7

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 3



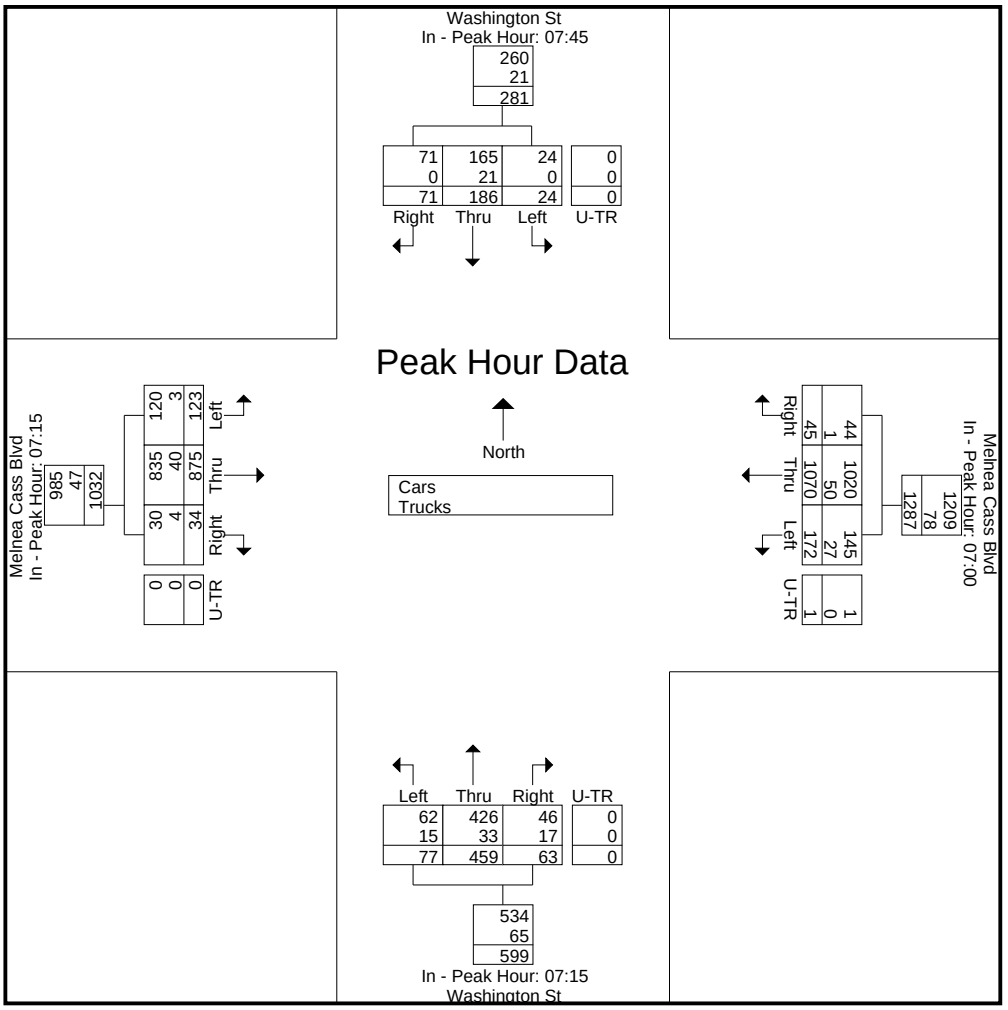
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45					07:00					07:15					07:15				
+0 mins.	4	48	19	0	71	49	255	9	**1**	314	**24**	118	**19**	0	**161**	30	210	5	0	245
+15 mins.	**7**	44	19	0	70	**50**	**278**	12	0	**340**	23	110	14	0	147	**32**	**228**	**13**	0	**273**
+30 mins.	6	**49**	**23**	0	**78**	43	263	11	0	317	11	**128**	17	0	156	29	222	9	0	260
+45 mins.	7	45	10	0	62	30	274	**13**	0	317	19	103	13	0	135	32	215	7	0	254
Total Volume	24	186	71	0	281	172	1070	45	1	1288	77	459	63	0	599	123	875	34	0	1032
% App. Total	8.5	66.2	25.3	0		13.4	83.1	3.5	0.1		12.9	76.6	10.5	0		11.9	84.8	3.3	0	
PHF	.857	.949	.772	.000	.901	.860	.962	.865	.250	.947	.802	.896	.829	.000	.930	.961	.959	.654	.000	.945
Cars	24	165	71	0	260	145	1020	44	1	1210	62	426	46	0	534	120	835	30	0	985
% Cars	100	88.7	100	0	92.5	84.3	95.3	97.8	100	93.9	80.5	92.8	73	0	89.1	97.6	95.4	88.2	0	95.4
Trucks	0	21	0	0	21	27	50	1	0	78	15	33	17	0	65	3	40	4	0	47
% Trucks	0	11.3	0	0	7.5	15.7	4.7	2.2	0	6.1	19.5	7.2	27	0	10.9	2.4	4.6	11.8	0	4.6

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 4



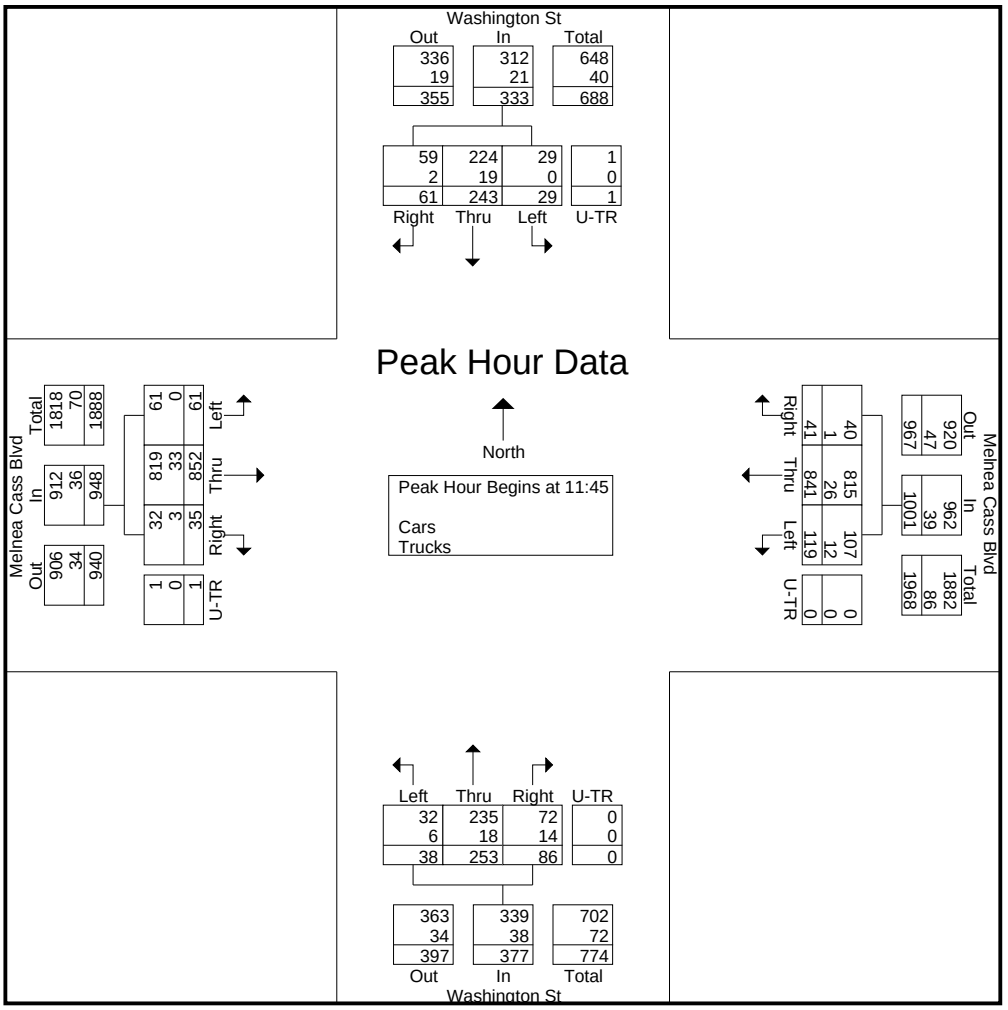
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:45

11:45	8	52	**18**	0	78	**36**	211	12	0	259	**10**	49	17	0	76	11	219	**11**	**1**	242	655
12:00	**9**	67	16	0	**92**	24	196	4	0	224	10	60	**24**	0	94	**19**	210	11	0	240	650
12:15	6	54	15	**1**	76	29	202	**16**	0	247	10	**77**	23	0	**110**	14	202	8	0	224	657
12:30	6	**70**	12	0	88	30	**232**	9	0	**271**	8	67	22	0	97	17	**221**	5	0	**243**	**699**
Total Volume	29	243	61	1	334	119	841	41	0	1001	38	253	86	0	377	61	852	35	1	949	2661
% App. Total	8.7	72.8	18.3	0.3		11.9	84	4.1	0		10.1	67.1	22.8	0		6.4	89.8	3.7	0.1		
PHF	.806	.868	.847	.250	.908	.826	.906	.641	.000	.923	.950	.821	.896	.000	.857	.803	.964	.795	.250	.976	.952
Cars	29	224	59	1	313	107	815	40	0	962	32	235	72	0	339	61	819	32	1	913	2527
% Cars	100	92.2	96.7	100	93.7	89.9	96.9	97.6	0	96.1	84.2	92.9	83.7	0	89.9	100	96.1	91.4	100	96.2	95.0
Trucks	0	19	2	0	21	12	26	1	0	39	6	18	14	0	38	0	33	3	0	36	134
% Trucks	0	7.8	3.3	0	6.3	10.1	3.1	2.4	0	3.9	15.8	7.1	16.3	0	10.1	0	3.9	8.6	0	3.8	5.0

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 5



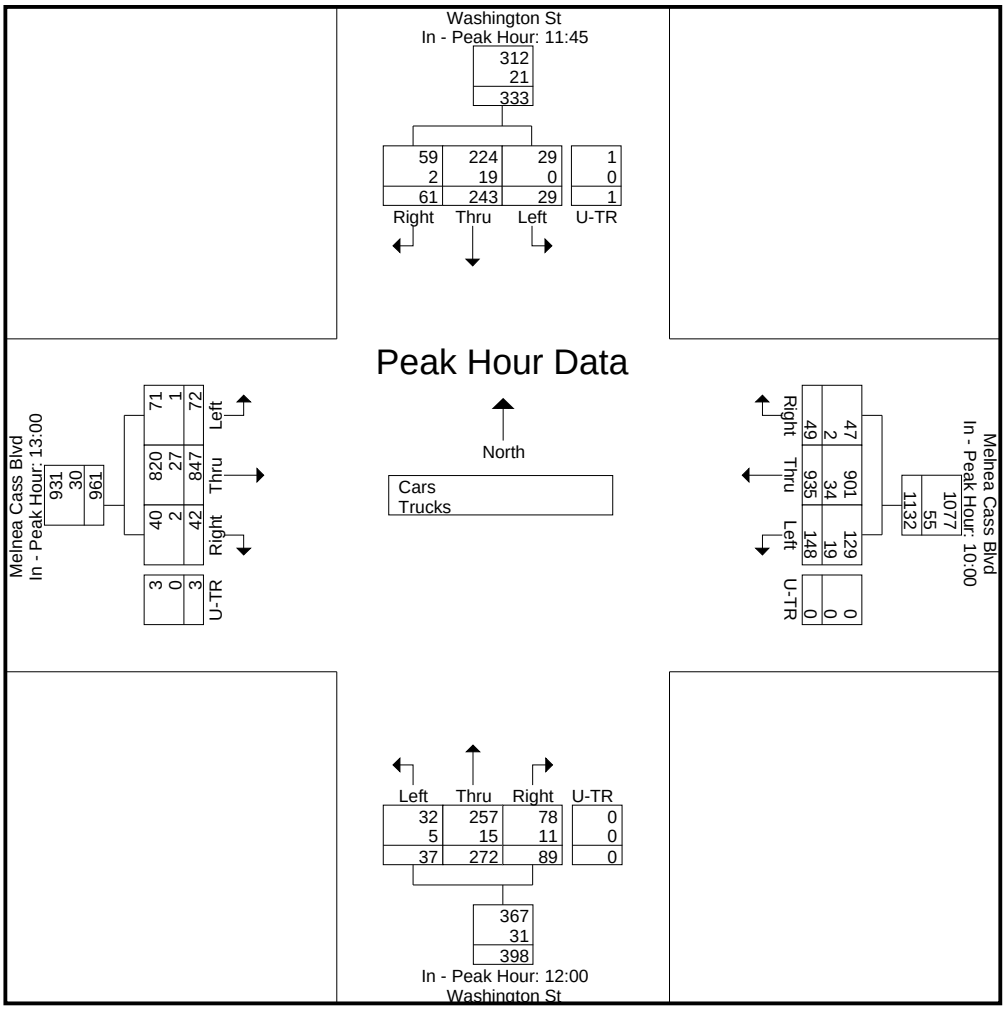
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:45					10:00					12:00					13:00				
+0 mins.	8	52	**18**	0	78	30	**244**	12	0	286	**10**	60	**24**	0	94	16	186	**17**	0	219
+15 mins.	**9**	67	16	0	**92**	**46**	235	11	0	292	10	**77**	23	0	**110**	**27**	182	7	**3**	219
+30 mins.	6	54	15	**1**	76	45	237	11	0	**293**	8	67	22	0	97	18	212	6	0	236
+45 mins.	6	**70**	12	0	88	27	219	**15**	0	261	9	68	20	0	97	11	**267**	12	0	**290**
Total Volume	29	243	61	1	334	148	935	49	0	1132	37	272	89	0	398	72	847	42	3	964
% App. Total	8.7	72.8	18.3	0.3		13.1	82.6	4.3	0		9.3	68.3	22.4	0		7.5	87.9	4.4	0.3	
PHF	.806	.868	.847	.250	.908	.804	.958	.817	.000	.966	.925	.883	.927	.000	.905	.667	.793	.618	.250	.831
Cars	29	224	59	1	313	129	901	47	0	1077	32	257	78	0	367	71	820	40	3	934
% Cars	100	92.2	96.7	100	93.7	87.2	96.4	95.9	0	95.1	86.5	94.5	87.6	0	92.2	98.6	96.8	95.2	100	96.9
Trucks	0	19	2	0	21	19	34	2	0	55	5	15	11	0	31	1	27	2	0	30
% Trucks	0	7.8	3.3	0	6.3	12.8	3.6	4.1	0	4.9	13.5	5.5	12.4	0	7.8	1.4	3.2	4.8	0	3.1

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 6



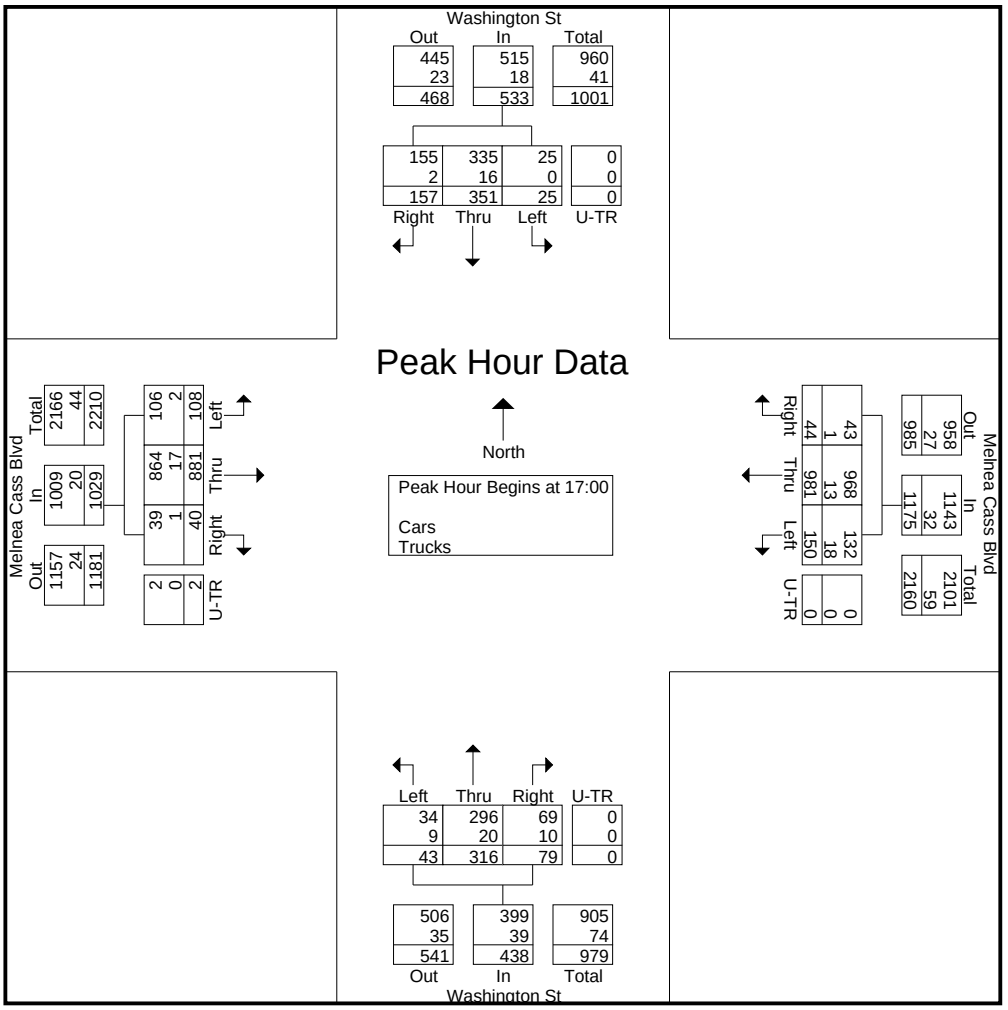
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	5	72	41	0	118	25	211	11	0	247	6	81	20	0	107	24	162	5	**1**	192	664
17:15	3	86	37	0	126	42	**261**	10	0	313	13	**86**	**24**	0	**123**	30	**258**	11	1	**300**	**862**
17:30	4	**104**	**44**	0	**152**	38	252	10	0	300	8	65	21	0	94	23	236	10	0	269	815
17:45	**13**	89	35	0	137	**45**	257	**13**	0	**315**	**16**	84	14	0	114	**31**	225	**14**	0	270	836
Total Volume	25	351	157	0	533	150	981	44	0	1175	43	316	79	0	438	108	881	40	2	1031	3177
% App. Total	4.7	65.9	29.5	0		12.8	83.5	3.7	0		9.8	72.1	18	0		10.5	85.5	3.9	0.2		
PHF	.481	.844	.892	.000	.877	.833	.940	.846	.000	.933	.672	.919	.823	.000	.890	.871	.854	.714	.500	.859	.921
Cars	25	335	155	0	515	132	968	43	0	1143	34	296	69	0	399	106	864	39	2	1011	3068
% Cars	100	95.4	98.7	0	96.6	88.0	98.7	97.7	0	97.3	79.1	93.7	87.3	0	91.1	98.1	98.1	97.5	100	98.1	96.6
Trucks	0	16	2	0	18	18	13	1	0	32	9	20	10	0	39	2	17	1	0	20	109
% Trucks	0	4.6	1.3	0	3.4	12.0	1.3	2.3	0	2.7	20.9	6.3	12.7	0	8.9	1.9	1.9	2.5	0	1.9	3.4

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 7



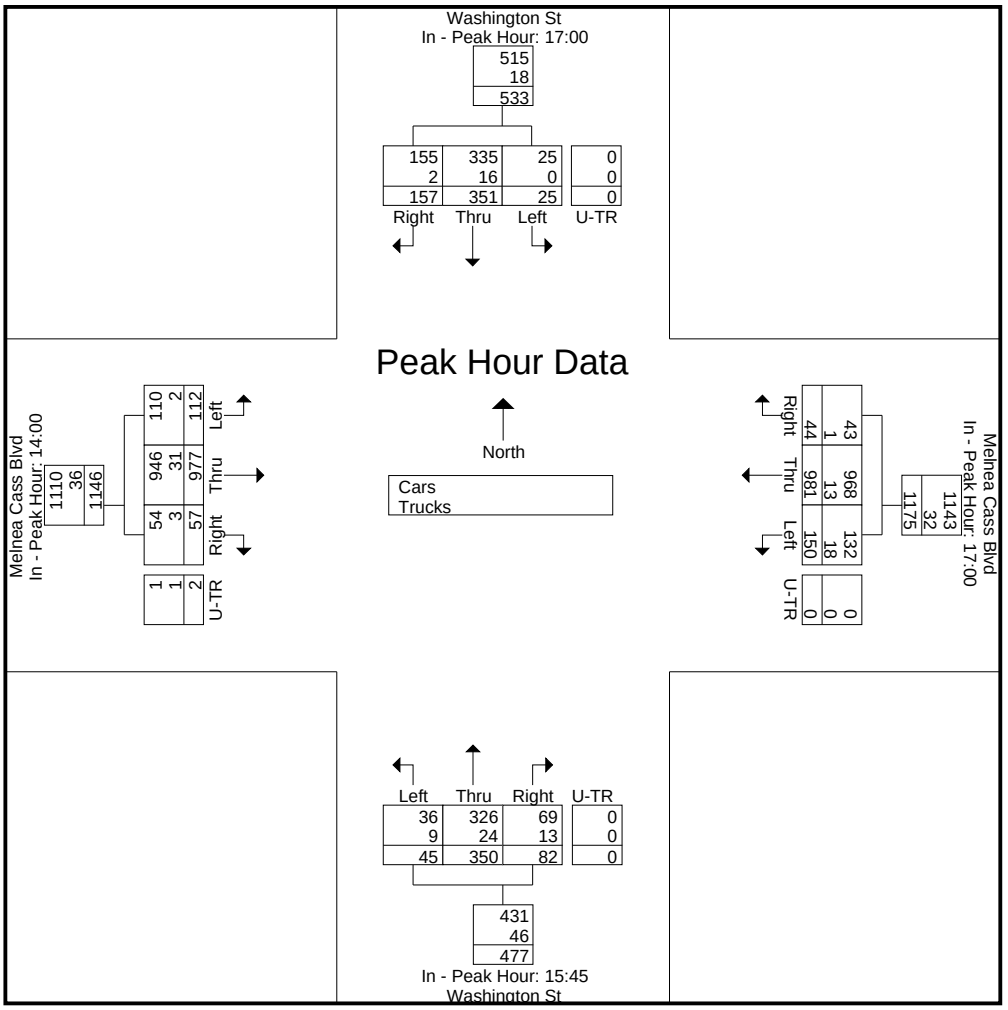
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	17:00					17:00					15:45					14:00				
+0 mins.	5	72	41	0	118	25	211	11	0	247	**14**	78	**29**	0	121	**34**	255	10	0	299
+15 mins.	3	86	37	0	126	42	**261**	10	0	313	11	**104**	15	0	**130**	22	**266**	15	0	**303**
+30 mins.	4	**104**	**44**	0	**152**	38	252	10	0	300	12	71	22	0	105	26	242	**18**	**1**	287
+45 mins.	**13**	89	35	0	137	**45**	257	**13**	0	**315**	8	97	16	0	121	30	214	14	1	259
Total Volume	25	351	157	0	533	150	981	44	0	1175	45	350	82	0	477	112	977	57	2	1148
% App. Total	4.7	65.9	29.5	0		12.8	83.5	3.7	0		9.4	73.4	17.2	0		9.8	85.1	5	0.2	
PHF	.481	.844	.892	.000	.877	.833	.940	.846	.000	.933	.804	.841	.707	.000	.917	.824	.918	.792	.500	.947
Cars	25	335	155	0	515	132	968	43	0	1143	36	326	69	0	431	110	946	54	1	1111
% Cars	100	95.4	98.7	0	96.6	88	98.7	97.7	0	97.3	80	93.1	84.1	0	90.4	98.2	96.8	94.7	50	96.8
Trucks	0	16	2	0	18	18	13	1	0	32	9	24	13	0	46	2	31	3	1	37
% Trucks	0	4.6	1.3	0	3.4	12	1.3	2.3	0	2.7	20	6.9	15.9	0	9.6	1.8	3.2	5.3	50	3.2

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 8



Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 1

Groups Printed- Cars

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
07:00	5	45	12	0	37	248	9	1	17	61	16	0	27	185	10	0	673
07:15	15	44	7	0	42	263	12	0	19	108	13	0	30	204	5	0	762
07:30	7	41	9	0	40	248	10	0	19	103	10	0	30	217	11	0	745
07:45	4	42	19	0	26	261	13	0	8	118	12	0	29	213	8	0	753
Total	31	172	47	0	145	1020	44	1	63	390	51	0	116	819	34	0	2933
08:00	7	41	19	0	30	231	5	0	16	97	11	0	31	201	6	0	695
08:15	6	47	23	0	19	229	13	0	12	91	13	0	15	186	2	1	657
08:30	7	35	10	0	32	247	5	0	9	78	18	0	31	164	6	0	642
08:45	7	41	10	0	27	233	8	1	13	101	15	0	38	173	5	0	672
Total	27	164	62	0	108	940	31	1	50	367	57	0	115	724	19	1	2666
09:00	1	43	8	0	16	205	6	0	6	69	21	0	32	171	6	0	584
09:15	4	36	17	0	18	221	11	0	7	88	19	0	30	161	4	0	616
09:30	5	44	13	0	35	228	9	1	17	71	23	0	32	154	9	0	641
09:45	10	44	18	0	28	241	11	0	5	74	17	0	27	184	5	0	664
Total	20	167	56	0	97	895	37	1	35	302	80	0	121	670	24	0	2505
10:00	11	46	13	0	26	239	12	0	13	73	15	0	29	175	3	0	655
10:15	6	48	15	0	37	226	10	0	10	59	20	0	23	143	9	0	606
10:30	6	55	11	0	42	227	11	0	11	43	16	0	20	154	8	0	604
10:45	3	37	18	0	24	209	14	0	10	55	11	0	14	161	13	0	569
Total	26	186	57	0	129	901	47	0	44	230	62	0	86	633	33	0	2434
11:00	7	57	14	1	25	224	11	0	7	56	14	0	19	171	9	0	615
11:15	4	43	11	0	29	187	8	0	4	40	21	0	22	160	12	0	541
11:30	6	32	4	0	27	184	4	0	11	49	11	0	21	175	14	0	538
11:45	8	46	18	0	32	204	12	0	8	44	13	0	11	213	11	1	621
Total	25	178	47	1	113	799	35	0	30	189	59	0	73	719	46	1	2315
12:00	9	67	15	0	21	187	4	0	8	54	20	0	19	205	11	0	620
12:15	6	47	15	1	28	198	16	0	10	75	21	0	14	189	7	0	627
12:30	6	64	11	0	26	226	8	0	6	62	18	0	17	212	3	0	659
12:45	4	41	17	1	25	186	12	0	8	66	19	0	15	211	8	0	613
Total	25	219	58	2	100	797	40	0	32	257	78	0	65	817	29	0	2519
13:00	6	48	20	0	29	193	16	0	5	58	16	0	16	179	15	0	601
13:15	7	52	13	0	24	191	7	1	5	45	26	0	27	177	7	3	585
13:30	13	32	12	0	20	215	8	0	7	51	19	0	17	206	6	0	606
13:45	9	41	15	0	23	217	13	0	8	54	13	0	11	258	12	0	674
Total	35	173	60	0	96	816	44	1	25	208	74	0	71	820	40	3	2466
14:00	12	53	11	0	35	201	9	0	10	46	25	0	34	244	10	0	690
14:15	6	39	20	0	29	200	15	0	8	49	18	0	22	261	14	0	681
14:30	10	60	27	0	21	202	15	0	4	55	19	0	26	231	16	1	687
14:45	9	47	13	0	35	222	10	0	13	90	21	0	28	210	14	0	712
Total	37	199	71	0	120	825	49	0	35	240	83	0	110	946	54	1	2770
15:00	3	62	25	0	33	177	6	0	4	60	22	0	28	206	16	0	642
15:15	4	68	30	0	38	177	9	0	7	56	17	0	36	247	12	0	701
15:30	11	54	37	0	24	189	10	0	7	59	13	0	26	225	11	2	668
15:45	7	73	34	0	23	162	8	0	11	72	26	0	41	197	15	0	669
Total	25	257	126	0	118	705	33	0	29	247	78	0	131	875	54	2	2680
16:00	12	83	40	0	19	184	10	0	9	97	12	0	35	156	11	0	668
16:15	6	65	19	0	30	194	10	0	9	65	17	0	27	216	11	0	669
16:30	4	74	25	0	27	228	9	0	7	92	14	0	35	196	11	1	723
16:45	4	83	39	0	17	204	13	0	11	81	10	0	38	135	14	0	649
Total	26	305	123	0	93	810	42	0	36	335	53	0	135	703	47	1	2709
17:00	5	69	40	0	19	208	11	0	5	77	17	0	23	157	5	1	637
17:15	3	81	37	0	38	257	9	0	9	81	20	0	30	255	10	1	831

Accurate Counts
978-664-2565

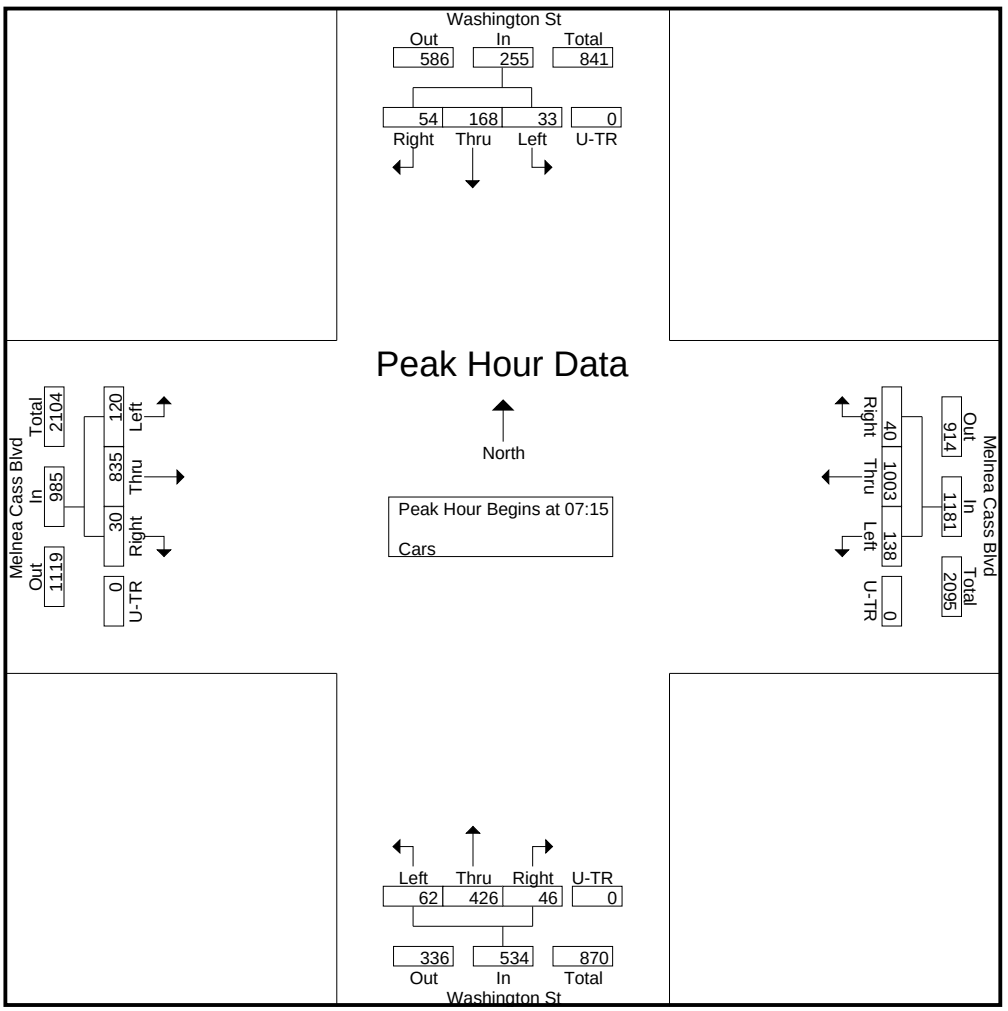
N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 2

Groups Printed- Cars

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
17:30	4	101	44	0	34	249	10	0	7	60	20	0	22	232	10	0	793
17:45	13	84	34	0	41	254	13	0	13	78	12	0	31	220	14	0	807
Total	25	335	155	0	132	968	43	0	34	296	69	0	106	864	39	2	3068
Grand Total	302	2355	862	3	1251	9476	445	4	413	3061	744	0	1129	8590	419	11	29065
Apprch %	8.6	66.9	24.5	0.1	11.2	84.8	4	0	9.8	72.6	17.6	0	11.1	84.6	4.1	0.1	
Total %	1	8.1	3	0	4.3	32.6	1.5	0	1.4	10.5	2.6	0	3.9	29.6	1.4	0	

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	**15**	**44**	7	0	66	**42**	**263**	12	0	**317**	**19**	108	**13**	0	**140**	30	204	5	0	239	**762**
07:30	7	41	9	0	57	40	248	10	0	298	19	103	10	0	132	30	**217**	**11**	0	**258**	745
07:45	4	42	**19**	0	65	26	261	**13**	0	300	8	**118**	12	0	138	29	213	8	0	250	753
08:00	7	41	19	0	**67**	30	231	5	0	266	16	97	11	0	124	**31**	201	6	0	238	695
Total Volume	33	168	54	0	255	138	1003	40	0	1181	62	426	46	0	534	120	835	30	0	985	2955
% App. Total	12.9	65.9	21.2	0		11.7	84.9	3.4	0		11.6	79.8	8.6	0		12.2	84.8	3	0		
PHF	.550	.955	.711	.000	.951	.821	.953	.769	.000	.931	.816	.903	.885	.000	.954	.968	.962	.682	.000	.954	.969

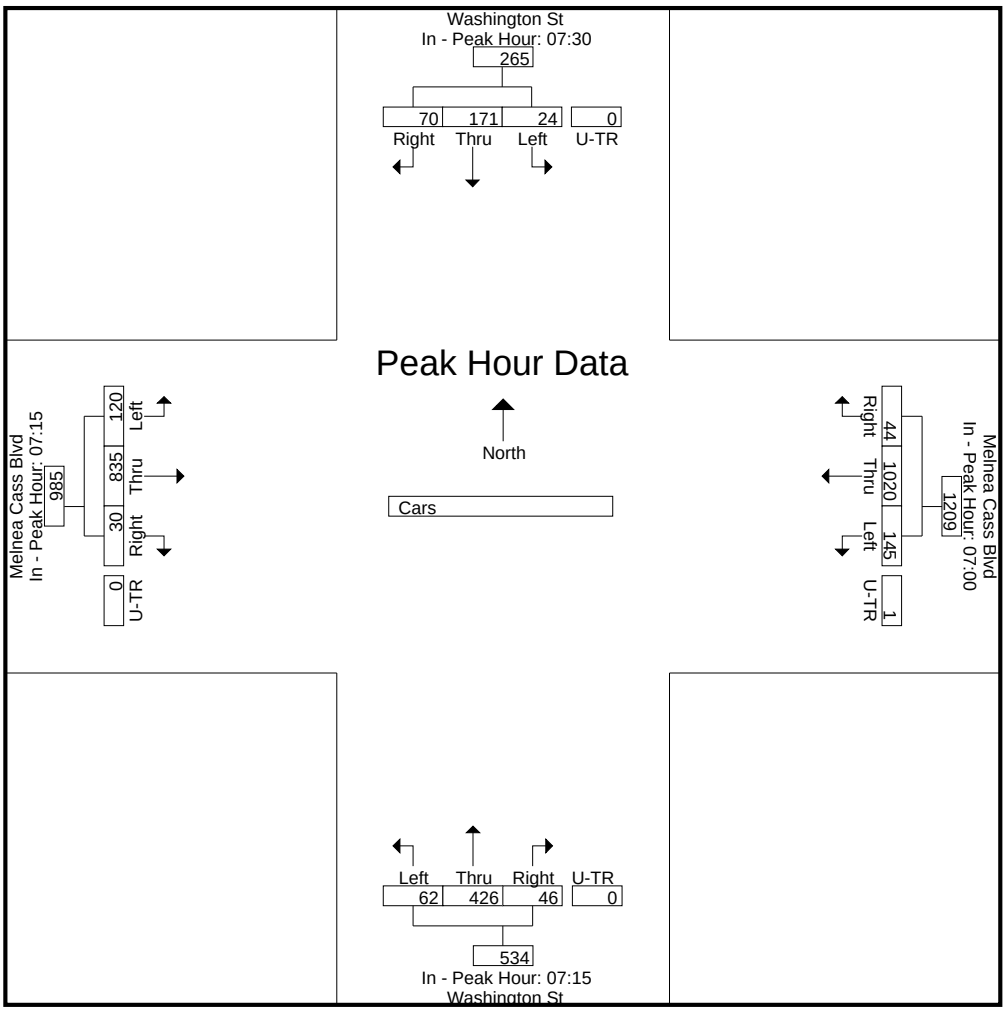


Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 3

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:30					07:00					07:15					07:15					
+0 mins.	**7**	41	9	0	57	37	248	9	**1**	295	**19**	108	**13**	0	**140**	30	204	5	0	239	
+15 mins.	4	42	19	0	65	**42**	**263**	12	0	**317**	19	103	10	0	132	30	**217**	**11**	0	**258**	
+30 mins.	7	41	19	0	67	40	248	10	0	298	8	**118**	12	0	138	29	213	8	0	250	
+45 mins.	6	**47**	**23**	0	**76**	26	261	**13**	0	300	16	97	11	0	124	**31**	201	6	0	238	
Total Volume	24	171	70	0	265	145	1020	44	1	1210	62	426	46	0	534	120	835	30	0	985	
% App. Total	9.1	64.5	26.4	0		12	84.3	3.6	0.1		11.6	79.8	8.6	0		12.2	84.8	3	0		
PHF	.857	.910	.761	.000	.872	.863	.970	.846	.250	.954	.816	.903	.885	.000	.954	.968	.962	.682	.000	.954	



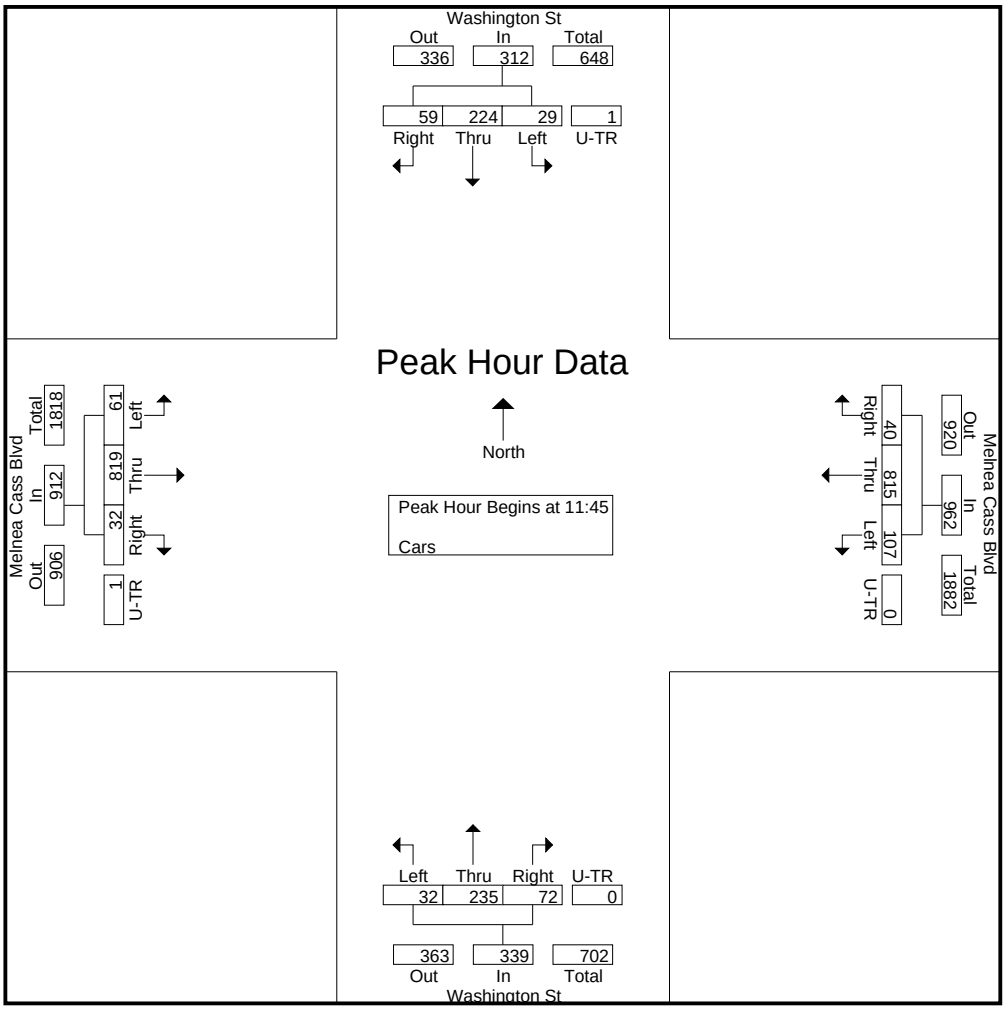
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:45

11:45	8	46	**18**	0	72	**32**	204	12	0	248	8	44	13	0	65	11	**213**	**11**	**1**	**236**	621
12:00	**9**	**67**	15	0	**91**	21	187	4	0	212	8	54	20	0	82	**19**	205	11	0	235	620
12:15	6	47	15	**1**	69	28	198	**16**	0	242	**10**	**75**	**21**	0	**106**	14	189	7	0	210	627
12:30	6	64	11	0	81	26	**226**	8	0	**260**	6	62	18	0	86	17	212	3	0	232	**659**
Total Volume	29	224	59	1	313	107	815	40	0	962	32	235	72	0	339	61	819	32	1	913	2527
% App. Total	9.3	71.6	18.8	0.3		11.1	84.7	4.2	0		9.4	69.3	21.2	0		6.7	89.7	3.5	0.1		
PHF	.806	.836	.819	.250	.860	.836	.902	.625	.000	.925	.800	.783	.857	.000	.800	.803	.961	.727	.250	.967	.959

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 4



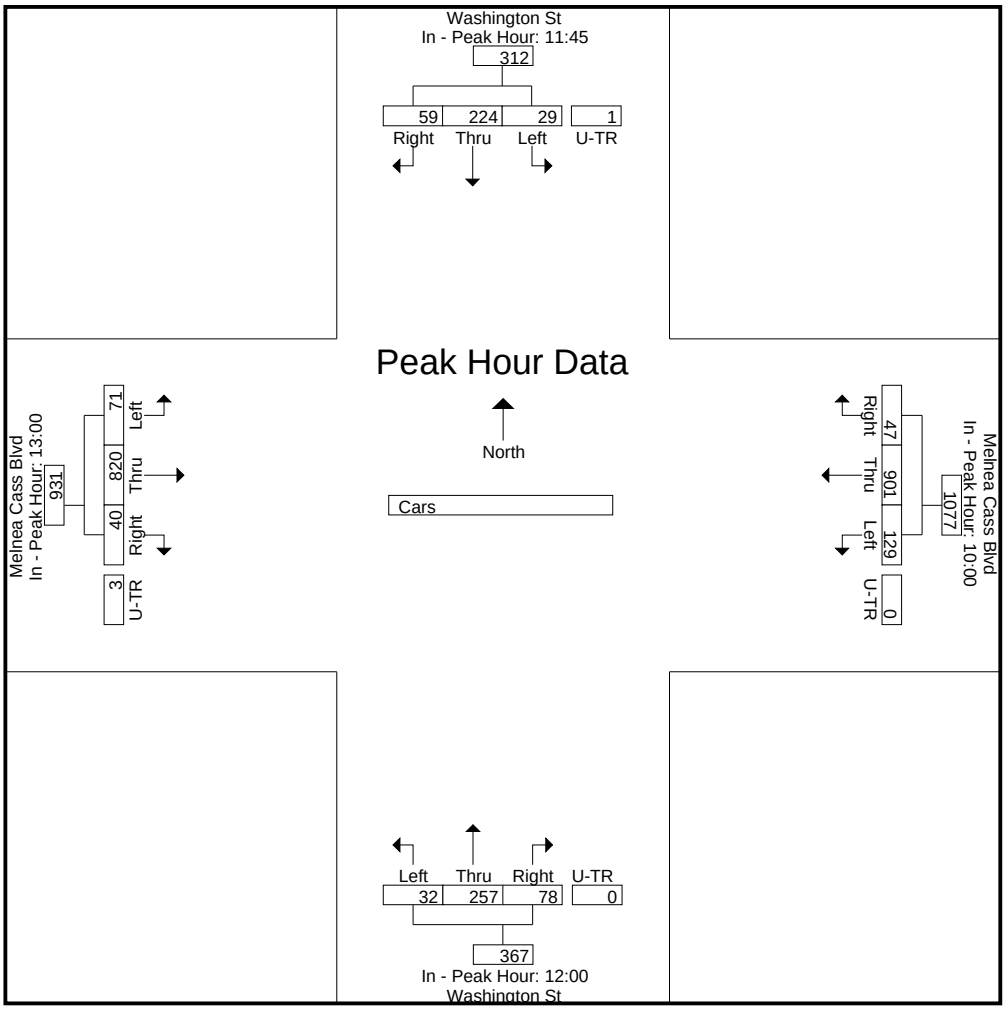
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:45					10:00					12:00					13:00				
+0 mins.	8	46	**18**	0	72	26	**239**	12	0	277	8	54	20	0	82	16	179	**15**	0	210
+15 mins.	**9**	**67**	15	0	**91**	37	226	10	0	273	**10**	**75**	**21**	0	**106**	**27**	177	7	**3**	214
+30 mins.	6	47	15	**1**	69	**42**	227	11	0	**280**	6	62	18	0	86	17	206	6	0	229
+45 mins.	6	64	11	0	81	24	209	**14**	0	247	8	66	19	0	93	11	**258**	12	0	**281**
Total Volume	29	224	59	1	313	129	901	47	0	1077	32	257	78	0	367	71	820	40	3	934
% App. Total	9.3	71.6	18.8	0.3		12	83.7	4.4	0		8.7	70	21.3	0		7.6	87.8	4.3	0.3	
PHF	.806	.836	.819	.250	.860	.768	.942	.839	.000	.962	.800	.857	.929	.000	.866	.657	.795	.667	.250	.831

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 5



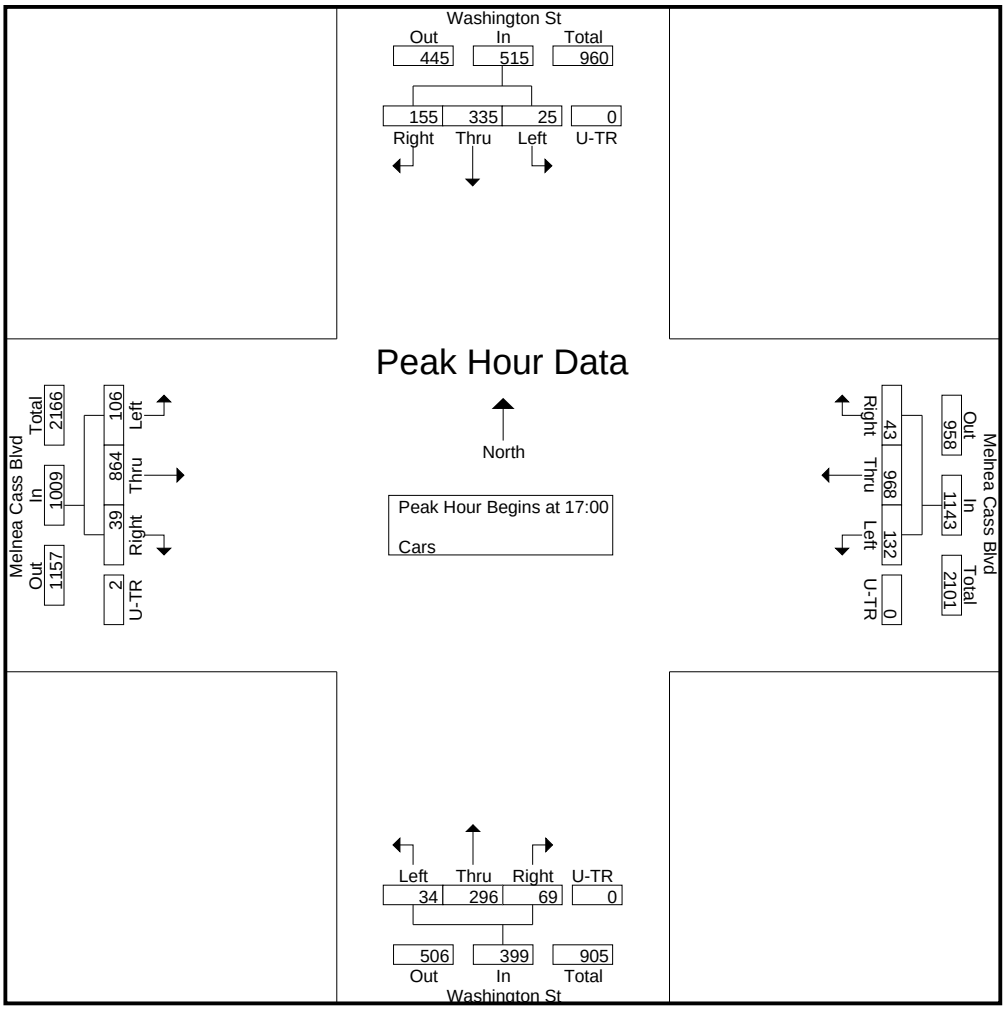
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	5	69	40	0	114	19	208	11	0	238	5	77	17	0	99	23	157	5	**1**	186	637
17:15	3	81	37	0	121	38	**257**	9	0	304	9	**81**	**20**	0	**110**	30	**255**	10	1	**296**	**831**
17:30	4	**101**	**44**	0	**149**	34	249	10	0	293	7	60	20	0	87	22	232	10	0	264	793
17:45	**13**	84	34	0	131	**41**	254	**13**	0	**308**	**13**	78	12	0	103	**31**	220	**14**	0	265	807
Total Volume	25	335	155	0	515	132	968	43	0	1143	34	296	69	0	399	106	864	39	2	1011	3068
% App. Total	4.9	65	30.1	0		11.5	84.7	3.8	0		8.5	74.2	17.3	0		10.5	85.5	3.9	0.2		
PHF	.481	.829	.881	.000	.864	.805	.942	.827	.000	.928	.654	.914	.863	.000	.907	.855	.847	.696	.500	.854	.923

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 6



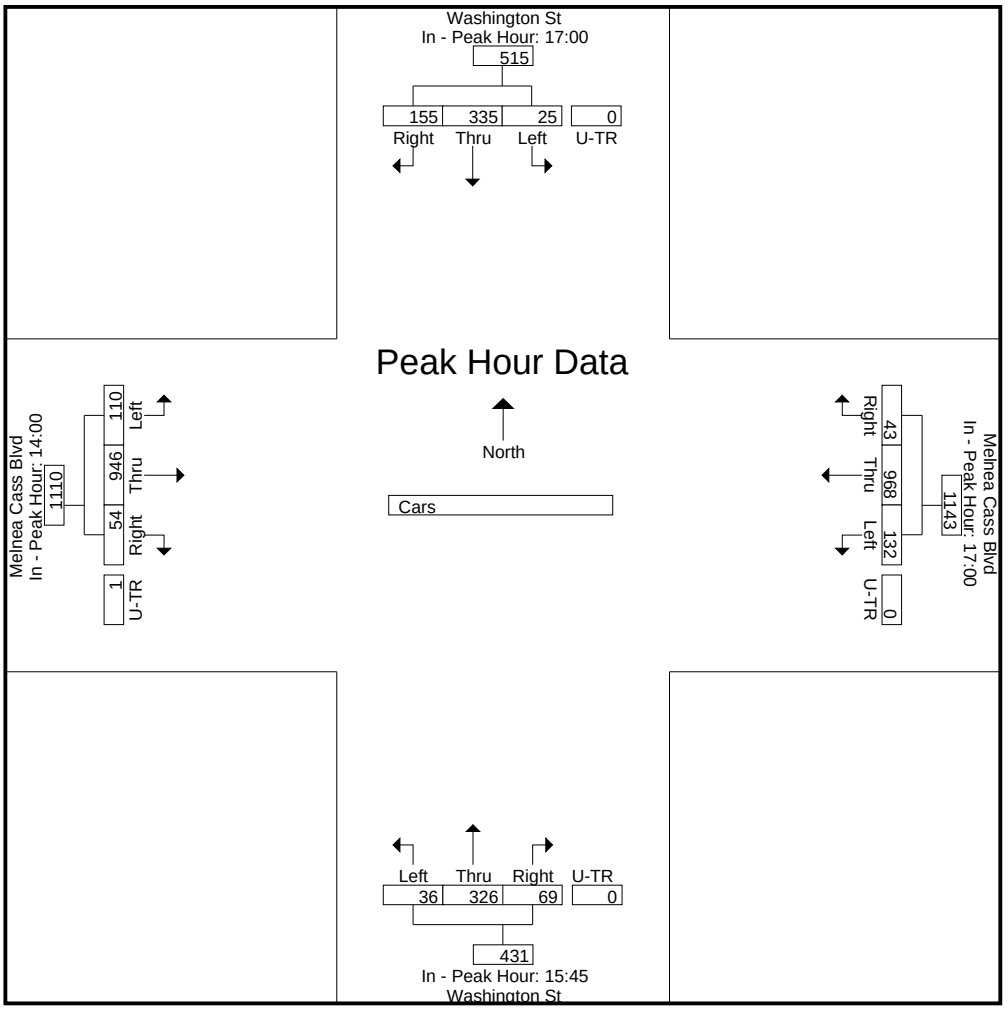
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	17:00					17:00					15:45					14:00				
+0 mins.	5	69	40	0	114	19	208	11	0	238	**11**	72	**26**	0	109	**34**	244	10	0	288
+15 mins.	3	81	37	0	121	38	**257**	9	0	304	9	**97**	12	0	**118**	22	**261**	14	0	**297**
+30 mins.	4	**101**	**44**	0	**149**	34	249	10	0	293	9	65	17	0	91	26	231	**16**	**1**	274
+45 mins.	**13**	84	34	0	131	**41**	254	**13**	0	**308**	7	92	14	0	113	28	210	14	0	252
Total Volume	25	335	155	0	515	132	968	43	0	1143	36	326	69	0	431	110	946	54	1	1111
% App. Total	4.9	65	30.1	0		11.5	84.7	3.8	0		8.4	75.6	16	0		9.9	85.1	4.9	0.1	
PHF	.481	.829	.881	.000	.864	.805	.942	.827	.000	.928	.818	.840	.663	.000	.913	.809	.906	.844	.250	.935

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 7



Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 1

Groups Printed- Trucks

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
07:00	0	5	1	0	12	7	0	0	2	8	4	0	0	10	0	0	49
07:15	1	4	0	0	8	15	0	0	5	10	6	0	0	6	0	0	55
07:30	0	3	1	0	3	15	1	0	4	7	4	0	2	11	2	0	53
07:45	0	6	0	0	4	13	0	0	3	10	5	0	0	9	1	0	51
Total	1	18	2	0	27	50	1	0	14	35	19	0	2	36	3	0	208
08:00	0	3	0	0	6	18	0	0	3	6	2	0	1	14	1	0	54
08:15	0	2	0	0	6	17	0	0	4	8	3	0	1	10	1	0	52
08:30	0	10	0	0	5	9	0	0	2	8	3	0	0	10	0	0	47
08:45	0	4	0	0	2	7	0	0	1	4	5	0	0	14	1	3	41
Total	0	19	0	0	19	51	0	0	10	26	13	0	2	48	3	3	194
09:00	0	5	1	0	7	12	0	0	4	5	8	0	1	14	0	0	57
09:15	0	3	0	0	3	12	0	0	2	10	9	0	3	11	0	0	53
09:30	1	5	0	0	4	11	0	0	2	6	2	0	3	17	1	0	52
09:45	1	2	0	0	5	10	2	0	1	4	2	0	0	20	0	0	47
Total	2	15	1	0	19	45	2	0	9	25	21	0	7	62	1	0	209
10:00	0	3	0	0	4	5	0	0	3	4	4	0	1	11	0	0	35
10:15	0	7	2	0	9	9	1	0	2	7	6	0	1	9	0	0	53
10:30	0	3	2	0	3	10	0	0	0	2	2	0	1	7	0	0	30
10:45	1	4	0	0	3	10	1	0	1	0	2	0	0	9	2	0	33
Total	1	17	4	0	19	34	2	0	6	13	14	0	3	36	2	0	151
11:00	0	7	0	0	2	7	0	0	4	3	5	0	0	12	1	0	41
11:15	0	0	0	0	4	7	0	0	0	7	3	0	1	13	0	0	35
11:30	1	3	0	0	4	11	1	0	1	4	2	0	1	14	1	0	43
11:45	0	6	0	0	4	7	0	0	2	5	4	0	0	6	0	0	34
Total	1	16	0	0	14	32	1	0	7	19	14	0	2	45	2	0	153
12:00	0	0	1	0	3	9	0	0	2	6	4	0	0	5	0	0	30
12:15	0	7	0	0	1	4	0	0	0	2	2	0	0	13	1	0	30
12:30	0	6	1	0	4	6	1	0	2	5	4	0	0	9	2	0	40
12:45	0	1	1	0	6	5	0	0	1	2	1	0	0	12	1	0	30
Total	0	14	3	0	14	24	1	0	5	15	11	0	0	39	4	0	130
13:00	1	4	3	0	1	6	0	0	2	4	2	0	0	7	2	0	32
13:15	1	6	7	0	4	3	1	0	4	5	4	0	0	5	0	0	40
13:30	0	5	4	0	0	7	0	0	1	5	3	0	1	6	0	0	32
13:45	0	4	5	0	10	5	0	1	2	6	1	0	0	9	0	0	43
Total	2	19	19	0	15	21	1	1	9	20	10	0	1	27	2	0	147
14:00	0	7	3	0	3	7	0	0	2	3	3	0	0	11	0	0	39
14:15	0	2	1	0	1	10	1	0	1	7	1	0	0	5	1	0	30
14:30	0	5	1	0	4	11	1	0	2	5	2	0	0	11	2	0	44
14:45	0	5	1	0	2	7	0	0	4	5	2	0	2	4	0	1	33
Total	0	19	6	0	10	35	2	0	9	20	8	0	2	31	3	1	146
15:00	0	2	0	0	5	19	0	0	2	6	4	0	0	6	1	0	45
15:15	0	5	1	0	5	6	0	0	4	4	6	0	1	4	0	0	36
15:30	0	7	1	0	3	4	1	0	1	7	1	0	0	7	1	0	33
15:45	0	7	4	0	3	8	0	0	3	6	3	0	1	6	2	0	43
Total	0	21	6	0	16	37	1	0	10	23	14	0	2	23	4	0	157
16:00	0	5	3	0	5	5	0	0	2	7	3	0	0	4	0	0	34
16:15	0	6	2	0	3	5	0	0	3	6	5	0	2	3	0	0	35
16:30	1	3	1	0	0	2	0	0	1	5	2	0	3	4	1	0	23
16:45	0	10	0	0	4	4	0	0	2	6	3	0	0	6	0	0	35
Total	1	24	6	0	12	16	0	0	8	24	13	0	5	17	1	0	127
17:00	0	3	1	0	6	3	0	0	1	4	3	0	1	5	0	0	27
17:15	0	5	0	0	4	4	1	0	4	5	4	0	0	3	1	0	31

Accurate Counts
978-664-2565

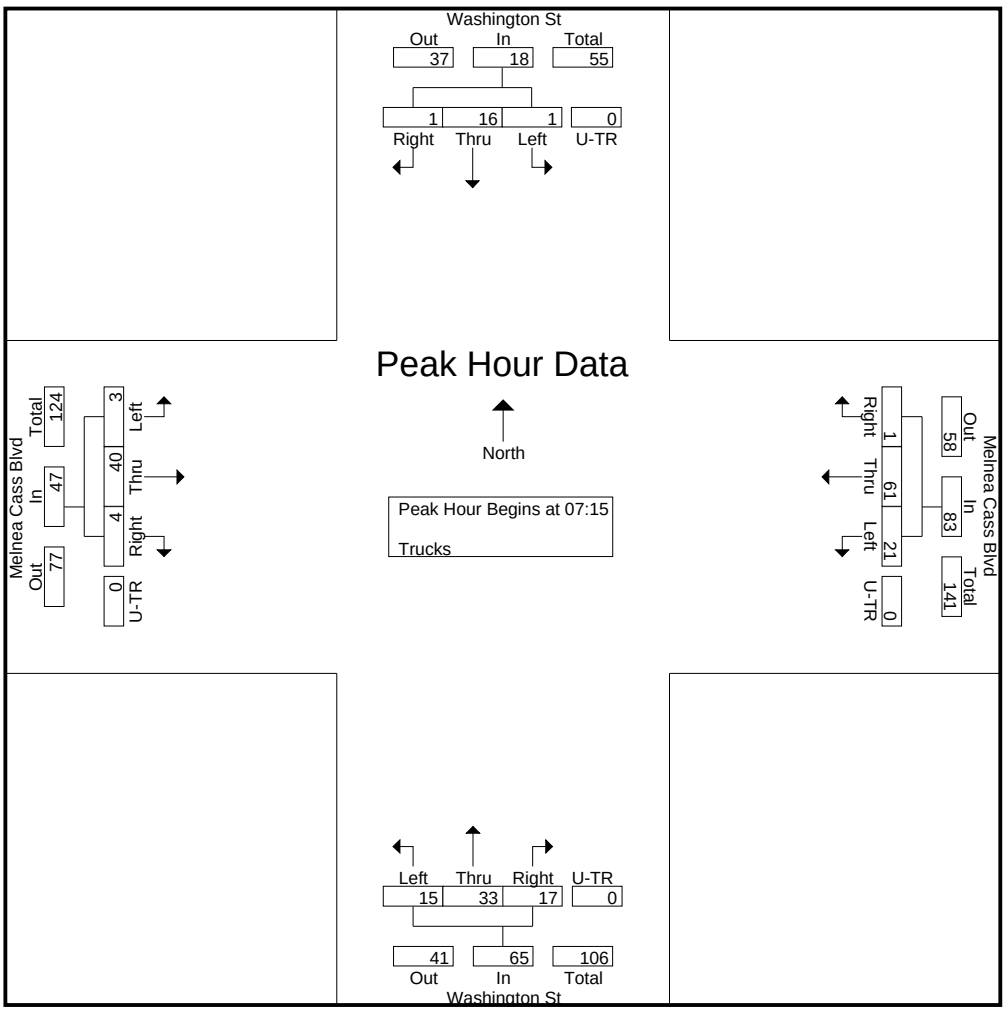
N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 2

Groups Printed- Trucks

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
17:30	0	3	0	0	4	3	0	0	1	5	1	0	1	4	0	0	22
17:45	0	5	1	0	4	3	0	0	3	6	2	0	0	5	0	0	29
Total	0	16	2	0	18	13	1	0	9	20	10	0	2	17	1	0	109
Grand Total	8	198	49	0	183	358	12	1	96	240	147	0	28	381	26	4	1731
Apprch %	3.1	77.6	19.2	0	33	64.6	2.2	0.2	19.9	49.7	30.4	0	6.4	86.8	5.9	0.9	
Total %	0.5	11.4	2.8	0	10.6	20.7	0.7	0.1	5.5	13.9	8.5	0	1.6	22	1.5	0.2	

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	**1**	4	0	0	5	**8**	15	0	0	23	**5**	**10**	**6**	0	**21**	0	6	0	0	6	**55**
07:30	0	3	**1**	0	4	3	15	**1**	0	19	4	7	4	0	15	**2**	11	**2**	0	15	53
07:45	0	**6**	0	0	**6**	4	13	0	0	17	3	10	5	0	18	0	9	1	0	10	51
08:00	0	3	0	0	3	6	**18**	0	0	**24**	3	6	2	0	11	1	**14**	1	0	**16**	54
Total Volume	1	16	1	0	18	21	61	1	0	83	15	33	17	0	65	3	40	4	0	47	213
% App. Total	5.6	88.9	5.6	0		25.3	73.5	1.2	0		23.1	50.8	26.2	0		6.4	85.1	8.5	0		
PHF	.250	.667	.250	.000	.750	.656	.847	.250	.000	.865	.750	.825	.708	.000	.774	.375	.714	.500	.000	.734	.968

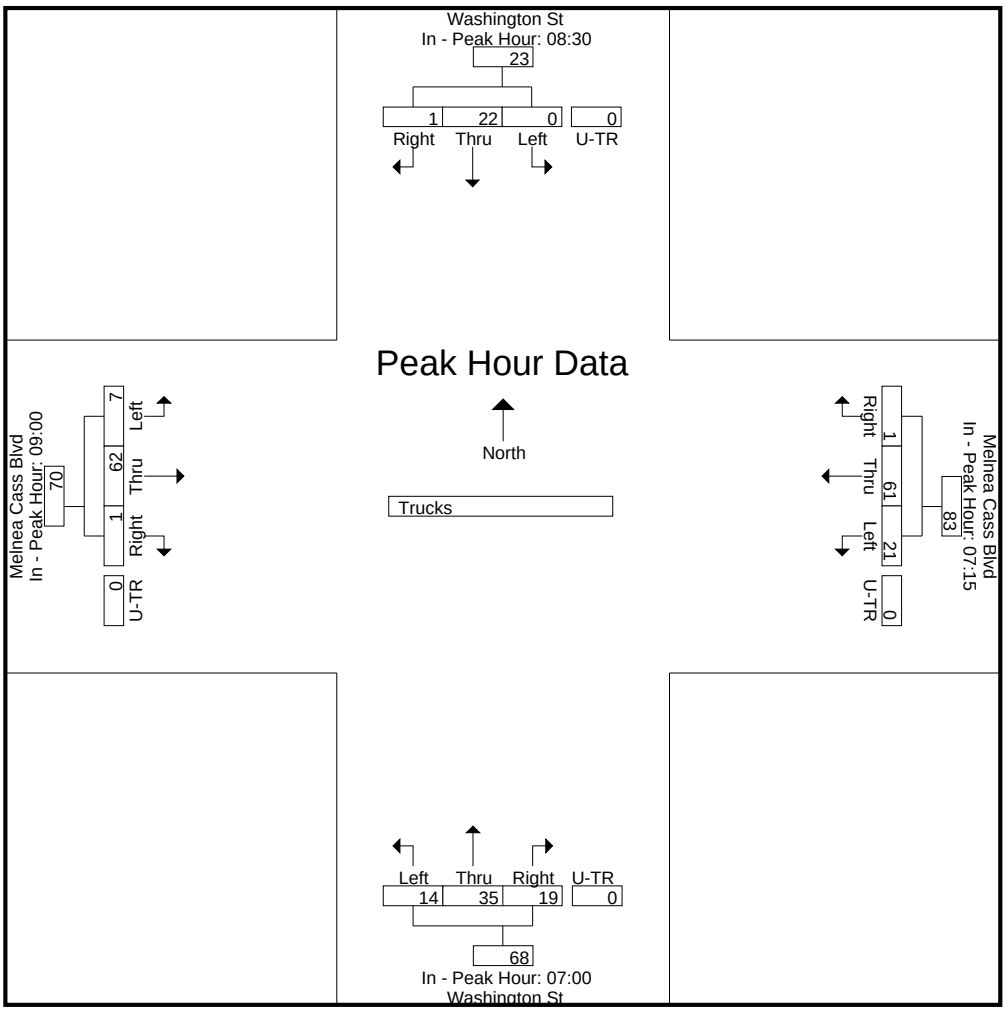


Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 3

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:30					07:15					07:00					09:00					
+0 mins.	0	**10**	0	0	**10**	**8**	15	0	0	23	2	8	4	0	14	1	14	0	0	15	
+15 mins.	0	4	0	0	4	3	15	**1**	0	19	**5**	**10**	**6**	0	**21**	**3**	11	0	0	14	
+30 mins.	0	5	**1**	0	6	4	13	0	0	17	4	7	4	0	15	3	17	**1**	0	**21**	
+45 mins.	0	3	0	0	3	6	**18**	0	0	**24**	3	10	5	0	18	0	**20**	0	0	20	
Total Volume	0	22	1	0	23	21	61	1	0	83	14	35	19	0	68	7	62	1	0	70	
% App. Total	0	95.7	4.3	0		25.3	73.5	1.2	0		20.6	51.5	27.9	0		10	88.6	1.4	0		
PHF	.000	.550	.250	.000	.575	.656	.847	.250	.000	.865	.700	.875	.792	.000	.810	.583	.775	.250	.000	.833	



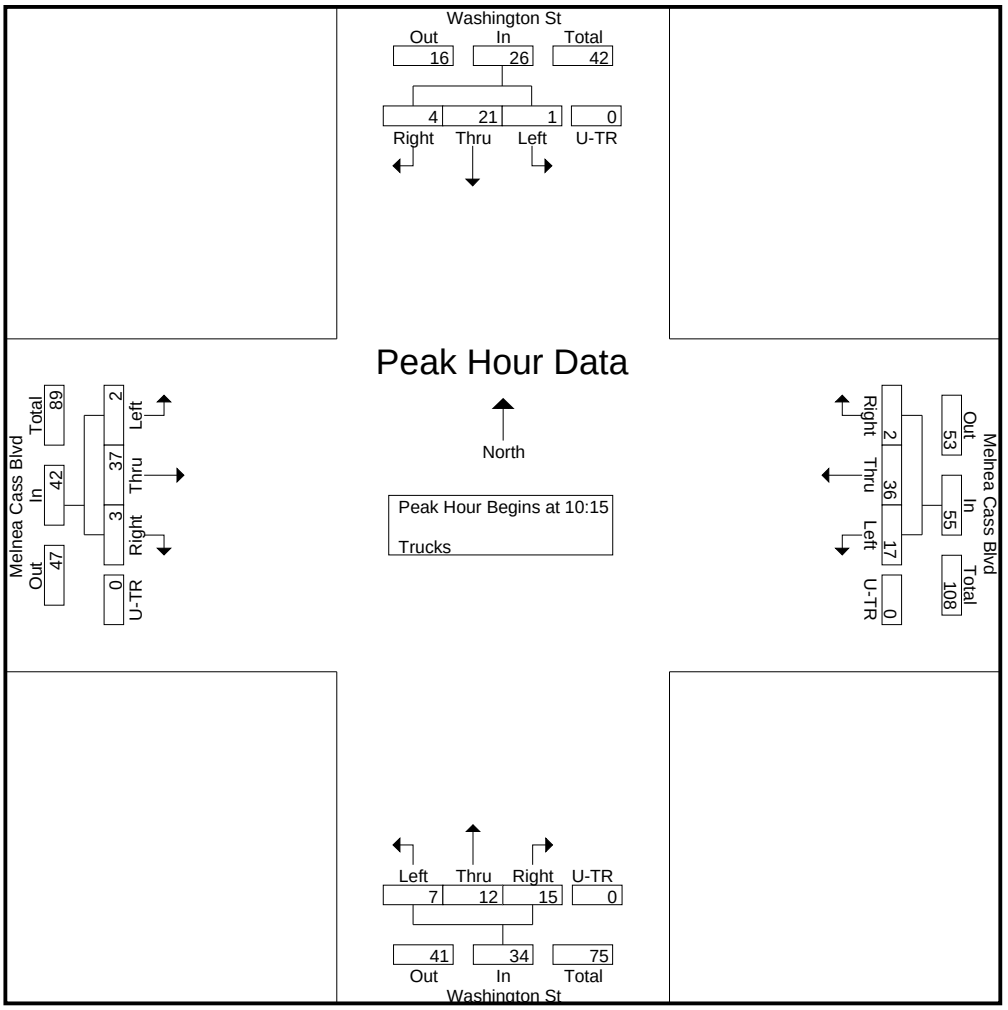
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 10:15

10:15	0	**7**	**2**	0	**9**	**9**	9	**1**	0	**19**	2	**7**	**6**	0	**15**	**1**	9	0	0	10	**53**
10:30	0	3	2	0	5	3	**10**	0	0	13	0	2	2	0	4	1	7	0	0	8	30
10:45	**1**	4	0	0	5	3	10	1	0	14	1	0	2	0	3	0	9	**2**	0	11	33
11:00	0	7	0	0	7	2	7	0	0	9	**4**	3	5	0	12	0	**12**	1	0	**13**	41
Total Volume	1	21	4	0	26	17	36	2	0	55	7	12	15	0	34	2	37	3	0	42	157
% App. Total	3.8	80.8	15.4	0		30.9	65.5	3.6	0		20.6	35.3	44.1	0		4.8	88.1	7.1	0		
PHF	.250	.750	.500	.000	.722	.472	.900	.500	.000	.724	.438	.429	.625	.000	.567	.500	.771	.375	.000	.808	.741

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 4



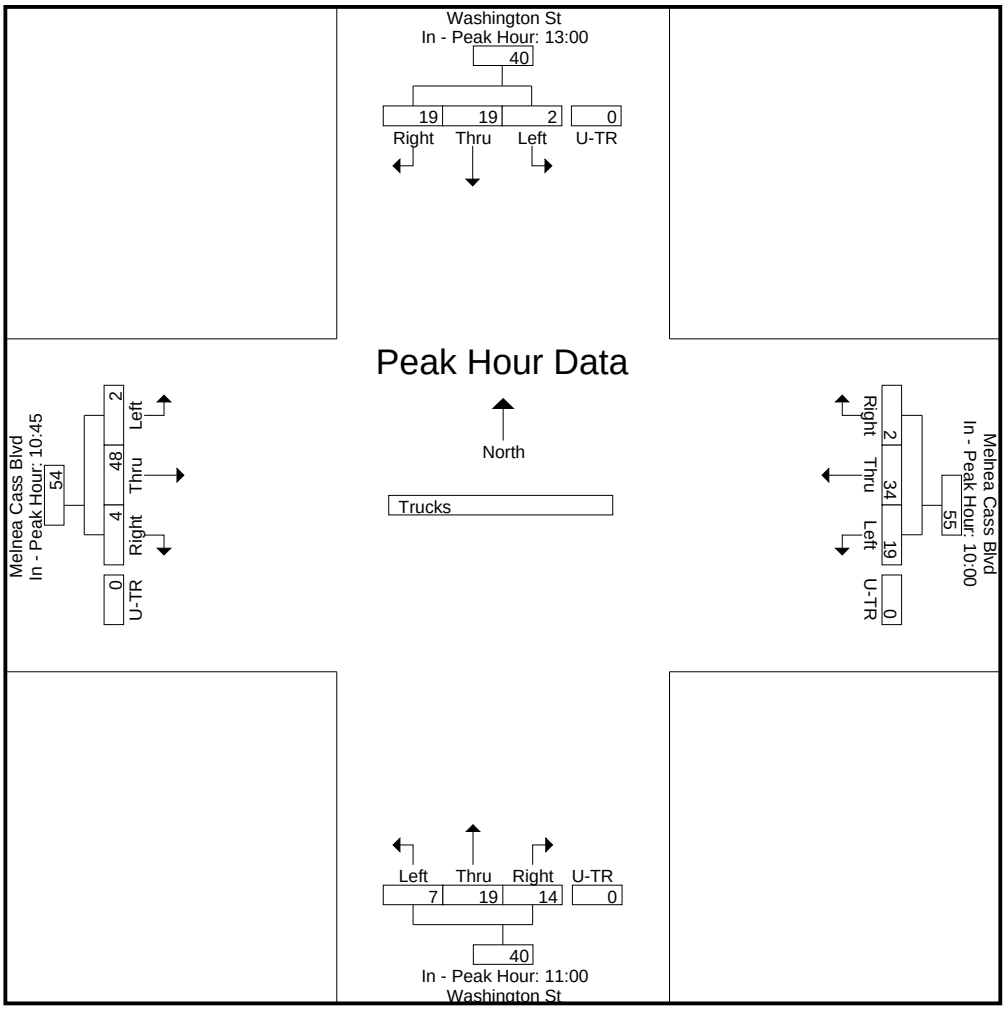
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	13:00					10:00					11:00					10:45				
+0 mins.	**1**	4	3	0	8	4	5	0	0	9	**4**	3	**5**	0	**12**	0	9	**2**	0	11
+15 mins.	1	**6**	**7**	0	**14**	**9**	9	**1**	0	**19**	0	**7**	3	0	10	0	12	1	0	13
+30 mins.	0	5	4	0	9	3	**10**	0	0	13	1	4	2	0	7	**1**	13	0	0	14
+45 mins.	0	4	5	0	9	3	10	1	0	14	2	5	4	0	11	1	**14**	1	0	**16**
Total Volume	2	19	19	0	40	19	34	2	0	55	7	19	14	0	40	2	48	4	0	54
% App. Total	5	47.5	47.5	0		34.5	61.8	3.6	0		17.5	47.5	35	0		3.7	88.9	7.4	0	
PHF	.500	.792	.679	.000	.714	.528	.850	.500	.000	.724	.438	.679	.700	.000	.833	.500	.857	.500	.000	.844

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 5



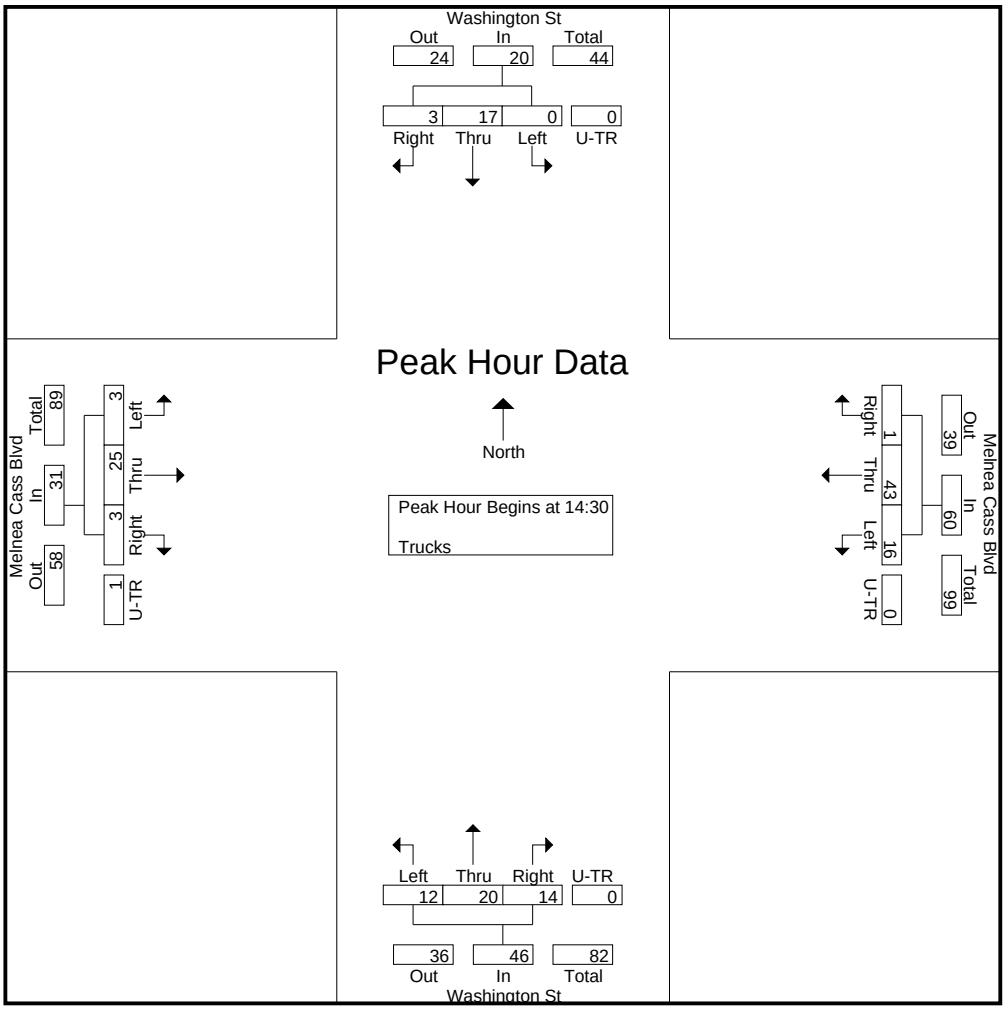
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 14:30

14:30	0	**5**	**1**	0	**6**	4	11	**1**	0	16	2	5	2	0	9	0	**11**	**2**	0	**13**	44
14:45	0	5	1	0	6	2	7	0	0	9	**4**	5	2	0	11	**2**	4	0	**1**	7	33
15:00	0	2	0	0	2	**5**	**19**	0	0	**24**	2	**6**	4	0	12	0	6	1	0	7	**45**
15:15	0	5	1	0	6	5	6	0	0	11	4	4	**6**	0	**14**	1	4	0	0	5	36
Total Volume	0	17	3	0	20	16	43	1	0	60	12	20	14	0	46	3	25	3	1	32	158
% App. Total	0	85	15	0		26.7	71.7	1.7	0		26.1	43.5	30.4	0		9.4	78.1	9.4	3.1		
PHF	.000	.850	.750	.000	.833	.800	.566	.250	.000	.625	.750	.833	.583	.000	.821	.375	.568	.375	.250	.615	.878

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 6



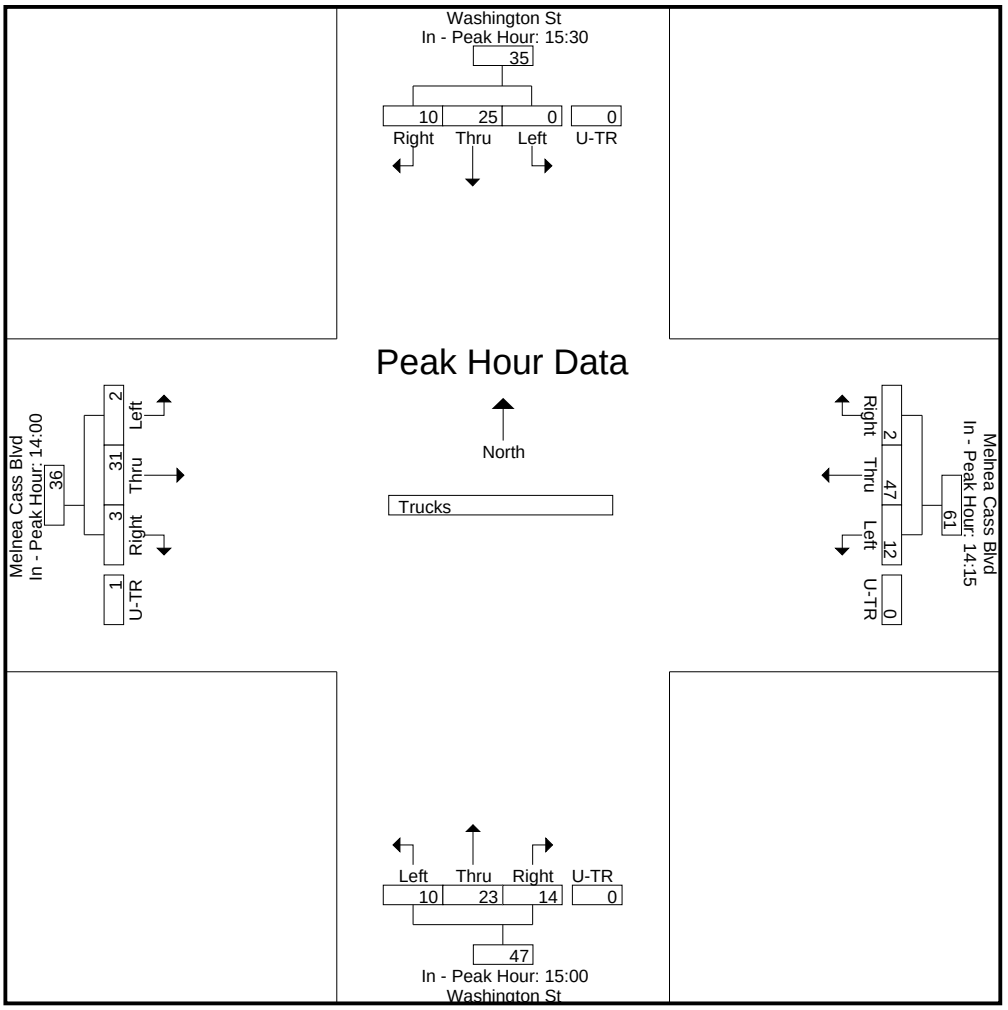
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	15:30					14:15					15:00					14:00				
+0 mins.	0	**7**	1	0	8	1	10	**1**	0	12	2	6	4	0	12	0	**11**	0	0	11
+15 mins.	0	7	**4**	0	**11**	4	11	1	0	16	**4**	4	**6**	0	**14**	0	5	1	0	6
+30 mins.	0	5	3	0	8	2	7	0	0	9	1	**7**	1	0	9	0	11	**2**	0	**13**
+45 mins.	0	6	2	0	8	**5**	**19**	0	0	**24**	3	6	3	0	12	**2**	4	0	**1**	7
Total Volume	0	25	10	0	35	12	47	2	0	61	10	23	14	0	47	2	31	3	1	37
% App. Total	0	71.4	28.6	0		19.7	77	3.3	0		21.3	48.9	29.8	0		5.4	83.8	8.1	2.7	
PHF	.000	.893	.625	.000	.795	.600	.618	.500	.000	.635	.625	.821	.583	.000	.839	.250	.705	.375	.250	.712

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 7



Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 1

Groups Printed- Bikes Peds

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	1	1	0	6	0	1	0	17	0	2	0	0	0	1	0	4	27	6	33
07:15	0	0	0	6	1	2	0	18	0	1	0	3	0	0	0	4	31	4	35
07:30	0	0	0	1	1	2	0	15	0	2	0	1	0	2	0	4	21	7	28
07:45	0	1	0	2	0	1	0	8	0	3	0	2	2	2	0	13	25	9	34
Total	1	2	0	15	2	6	0	58	0	8	0	6	2	5	0	25	104	26	130
08:00	0	0	0	0	0	0	0	18	1	5	0	3	0	3	0	8	29	9	38
08:15	0	0	0	5	0	1	0	8	0	1	0	0	0	0	0	12	25	2	27
08:30	0	0	0	2	0	0	0	8	0	2	0	1	0	3	0	12	23	5	28
08:45	0	0	0	8	0	3	0	17	1	5	1	1	0	2	0	17	43	12	55
Total	0	0	0	15	0	4	0	51	2	13	1	5	0	8	0	49	120	28	148
09:00	0	2	0	5	0	0	0	16	0	1	0	5	0	5	1	11	37	9	46
09:15	0	0	0	1	0	1	0	12	0	3	1	6	0	0	0	12	31	5	36
09:30	0	0	0	6	0	1	0	14	0	3	0	4	1	0	0	13	37	5	42
09:45	0	1	0	1	0	2	0	17	0	1	0	2	0	1	0	19	39	5	44
Total	0	3	0	13	0	4	0	59	0	8	1	17	1	6	1	55	144	24	168
10:00	0	3	0	3	0	1	0	11	0	1	0	2	0	3	0	22	38	8	46
10:15	1	0	0	4	0	1	0	20	0	1	0	2	0	2	0	10	36	5	41
10:30	0	2	0	2	0	1	0	15	0	1	0	3	0	1	0	21	41	5	46
10:45	0	1	0	7	0	0	0	15	0	4	0	6	0	1	0	19	47	6	53
Total	1	6	0	16	0	3	0	61	0	7	0	13	0	7	0	72	162	24	186
11:00	0	1	0	5	0	0	0	22	0	0	0	3	0	1	0	27	57	2	59
11:15	0	1	0	0	0	0	0	17	0	1	0	2	0	0	0	25	44	2	46
11:30	0	0	0	5	0	5	0	14	0	0	0	1	0	1	0	26	46	6	52
11:45	0	4	0	1	0	2	0	14	0	0	0	2	0	0	0	18	35	6	41
Total	0	6	0	11	0	7	0	67	0	1	0	8	0	2	0	96	182	16	198
12:00	0	0	0	5	0	1	1	10	0	1	0	4	0	0	0	26	45	3	48
12:15	0	0	0	2	1	0	0	11	0	1	0	3	0	5	0	15	31	7	38
12:30	0	2	0	2	0	0	0	22	1	0	0	2	0	1	0	13	39	4	43
12:45	0	2	0	2	0	1	0	9	0	3	0	2	0	1	0	16	29	7	36
Total	0	4	0	11	1	2	1	52	1	5	0	11	0	7	0	70	144	21	165
13:00	0	3	0	5	0	4	0	17	1	3	0	11	0	1	0	15	48	12	60
13:15	0	2	1	5	0	0	0	15	0	2	0	3	0	1	0	19	42	6	48
13:30	1	0	0	6	0	3	0	13	0	2	0	8	0	3	0	12	39	9	48
13:45	0	0	0	7	0	2	0	12	0	0	0	2	0	2	0	29	50	4	54
Total	1	5	1	23	0	9	0	57	1	7	0	24	0	7	0	75	179	31	210
14:00	0	1	0	5	0	0	0	15	0	2	0	9	0	0	0	14	43	3	46
14:15	1	3	0	4	0	2	0	11	0	3	0	5	0	1	0	19	39	10	49
14:30	0	1	0	10	0	0	0	11	0	0	0	1	0	0	0	16	38	1	39
14:45	0	1	0	11	0	0	0	12	0	4	0	7	0	1	0	35	65	6	71
Total	1	6	0	30	0	2	0	49	0	9	0	22	0	2	0	84	185	20	205
15:00	0	2	0	5	0	1	0	12	0	1	0	9	0	2	0	32	58	6	64
15:15	0	5	1	20	0	0	0	26	0	2	0	30	0	1	0	40	116	9	125
15:30	0	4	0	2	0	2	0	11	1	1	0	8	0	2	0	33	54	10	64
15:45	1	4	0	3	0	2	0	18	0	2	0	4	0	1	0	16	41	10	51
Total	1	15	1	30	0	5	0	67	1	6	0	51	0	6	0	121	269	35	304
16:00	0	5	0	1	0	2	0	23	0	2	0	3	0	1	0	31	58	10	68
16:15	0	1	3	5	0	2	1	9	0	4	0	3	0	4	0	23	40	15	55
16:30	0	6	0	1	0	2	0	4	0	0	0	8	0	2	0	29	42	10	52
16:45	0	1	1	1	0	4	0	13	0	2	0	32	0	1	0	38	84	9	93
Total	0	13	4	8	0	10	1	49	0	8	0	46	0	8	0	121	224	44	268
17:00	0	7	2	4	0	3	0	22	2	3	0	4	0	1	0	18	48	18	66
17:15	0	7	0	5	0	7	1	10	0	2	0	6	0	0	1	19	40	18	58
17:30	0	5	0	12	0	4	0	11	1	0	0	6	0	1	0	28	57	11	68
17:45	1	6	0	4	0	3	0	11	0	2	1	0	0	0	0	23	38	13	51
Total	1	25	2	25	0	17	1	54	3	7	1	16	0	2	1	88	183	60	243

Accurate Counts
978-664-2565

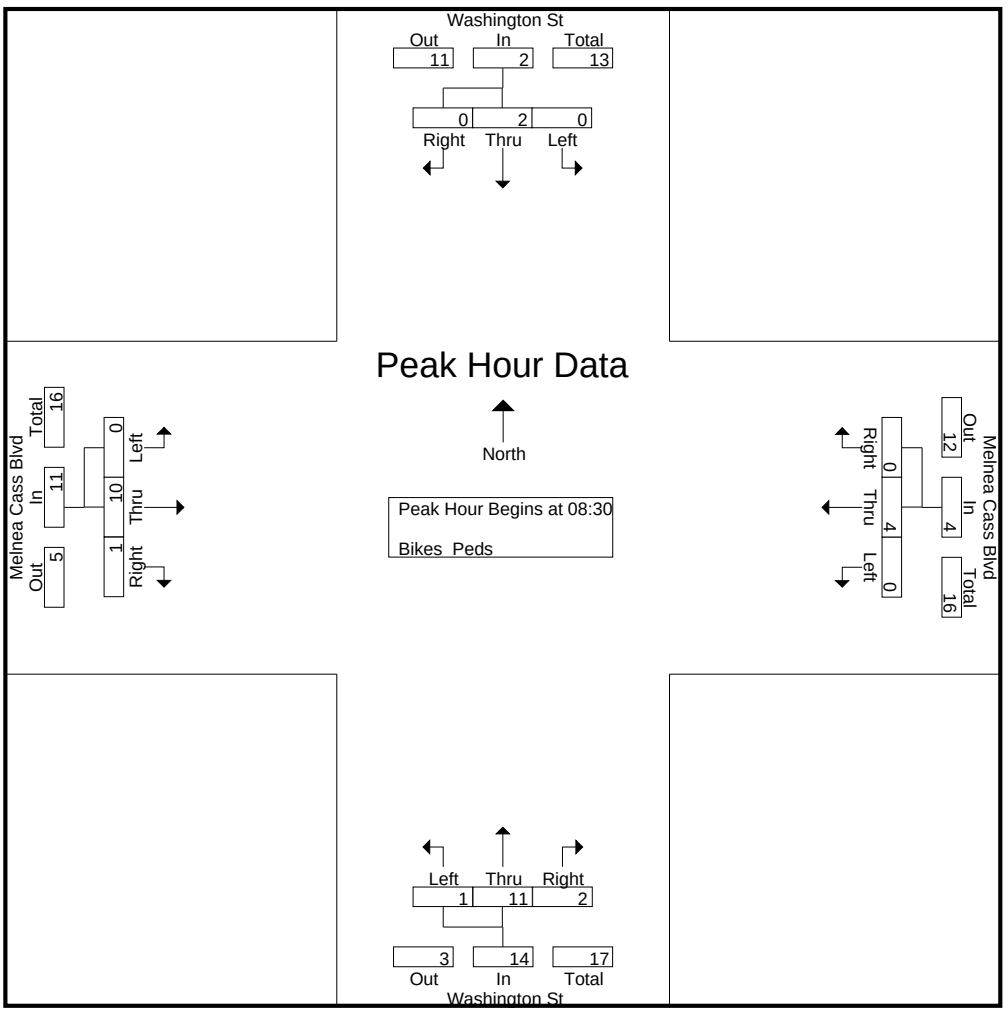
N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 2

Groups Printed- Bikes Peds

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West						
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
Grand Total	6	85	8	197	3	69	3	624	8	79	3	219	3	60	2	856	1896	329	2225
Apprch %	6.1	85.9	8.1		4	92	4		8.9	87.8	3.3		4.6	92.3	3.1				
Total %	1.8	25.8	2.4		0.9	21	0.9		2.4	24	0.9		0.9	18.2	0.6		85.2	14.8	

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30																	
08:30	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5
08:45	0	0	0	0	0	**3**	0	**3**	**1**	**5**	**1**	**7**	0	2	0	2	**12**
09:00	0	**2**	0	**2**	0	0	0	0	0	1	0	1	0	**5**	**1**	**6**	9
09:15	0	0	0	0	0	1	0	1	0	3	1	4	0	0	0	0	5
Total Volume	0	2	0	2	0	4	0	4	1	11	2	14	0	10	1	11	31
% App. Total	0	100	0		0	100	0		7.1	78.6	14.3		0	90.9	9.1		
PHF	.000	.250	.000	.250	.000	.333	.000	.333	.250	.550	.500	.500	.000	.500	.250	.458	.646

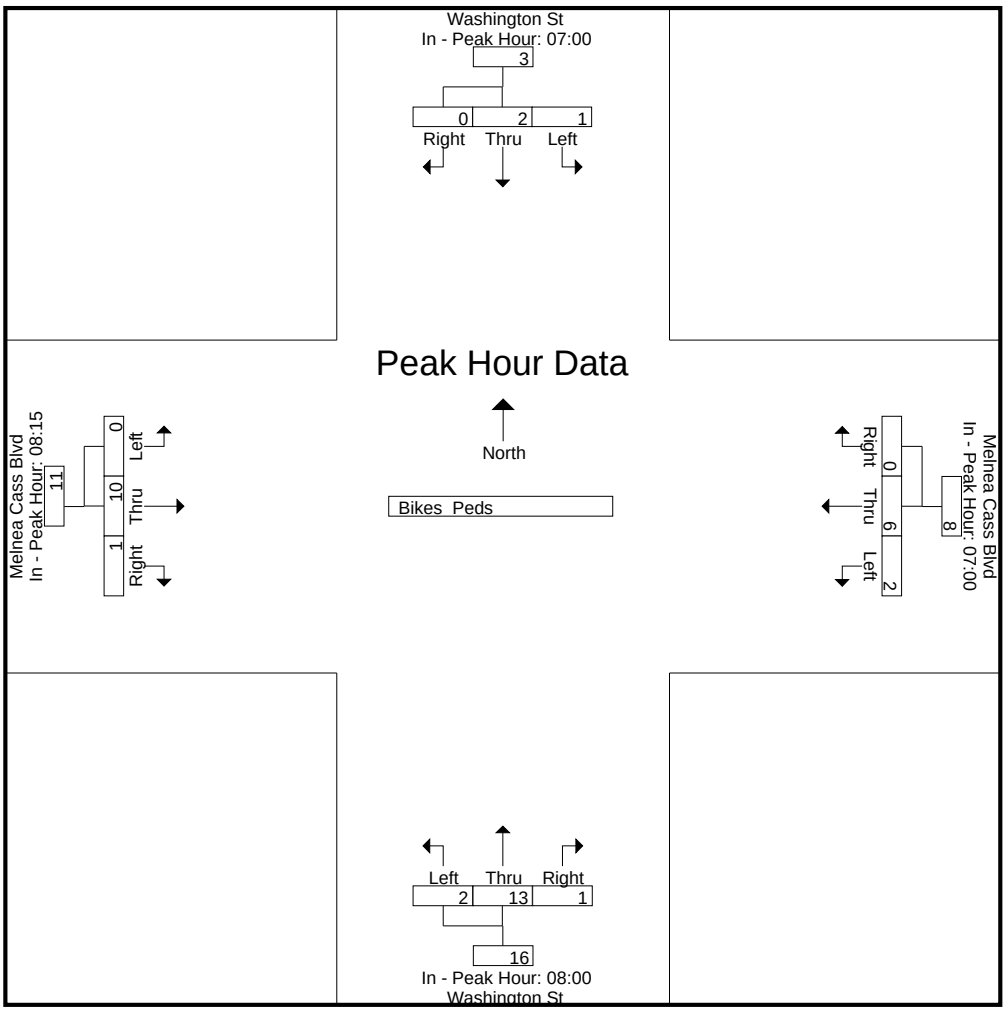


Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00				07:00				08:00				08:15				
+0 mins.	**1**	**1**	0	**2**	0	1	0	1	**1**	**5**	0	6	0	0	0	0	
+15 mins.	0	0	0	0	**1**	**2**	0	**3**	0	1	0	1	0	3	0	3	
+30 mins.	0	0	0	0	1	2	0	3	0	2	0	2	0	2	0	2	
+45 mins.	0	1	0	1	0	1	0	1	1	5	**1**	**7**	0	**5**	**1**	**6**	
Total Volume	1	2	0	3	2	6	0	8	2	13	1	16	0	10	1	11	
% App. Total	33.3	66.7	0		25	75	0		12.5	81.2	6.2		0	90.9	9.1		
PHF	.250	.500	.000	.375	.500	.750	.000	.667	.500	.650	.250	.571	.000	.500	.250	.458	



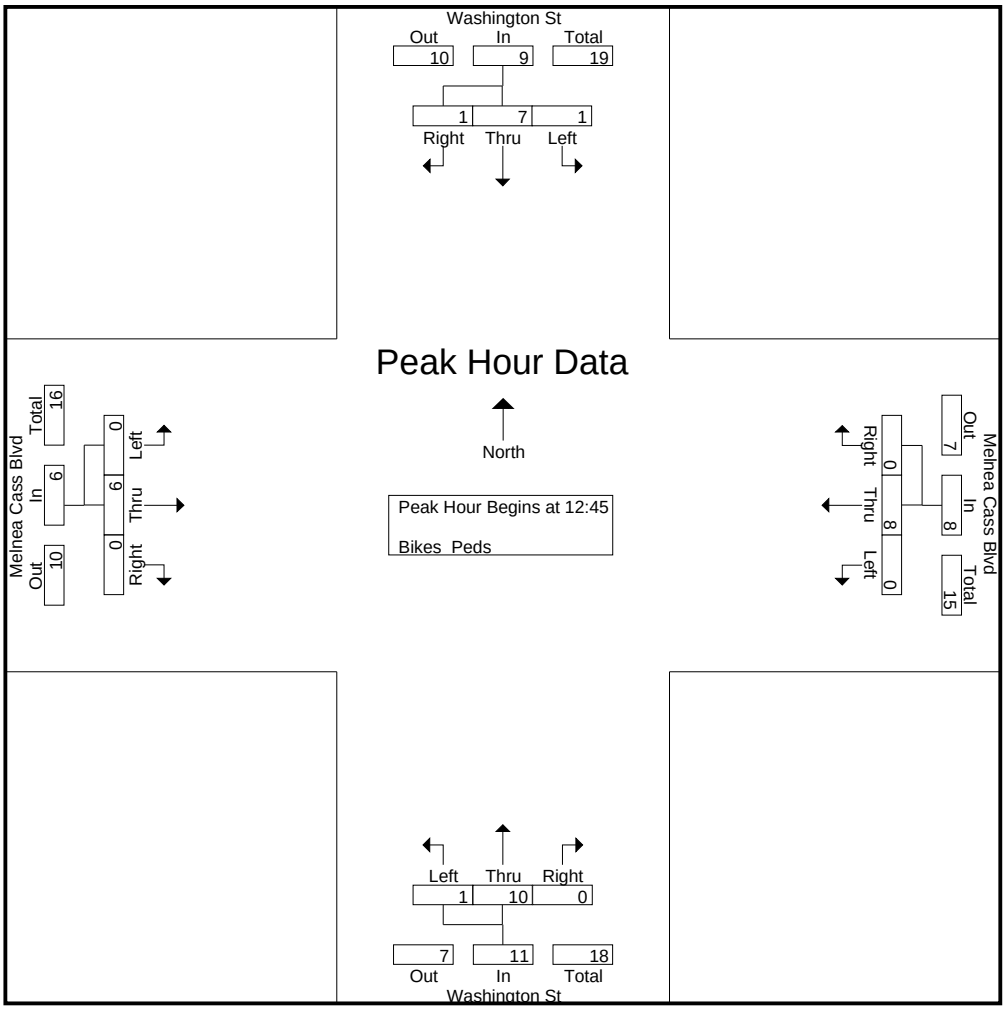
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:45

12:45	0	2	0	2	0	1	0	1	0	**3**	0	3	0	1	0	1	7
13:00	0	**3**	0	**3**	0	**4**	0	**4**	**1**	3	0	**4**	0	1	0	1	**12**
13:15	0	2	**1**	3	0	0	0	0	0	2	0	2	0	1	0	1	6
13:30	**1**	0	0	1	0	3	0	3	0	2	0	2	0	**3**	0	**3**	9
Total Volume	1	7	1	9	0	8	0	8	1	10	0	11	0	6	0	6	34
% App. Total	11.1	77.8	11.1		0	100	0		9.1	90.9	0		0	100	0		
PHF	.250	.583	.250	.750	.000	.500	.000	.500	.250	.833	.000	.688	.000	.500	.000	.500	.708

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 4



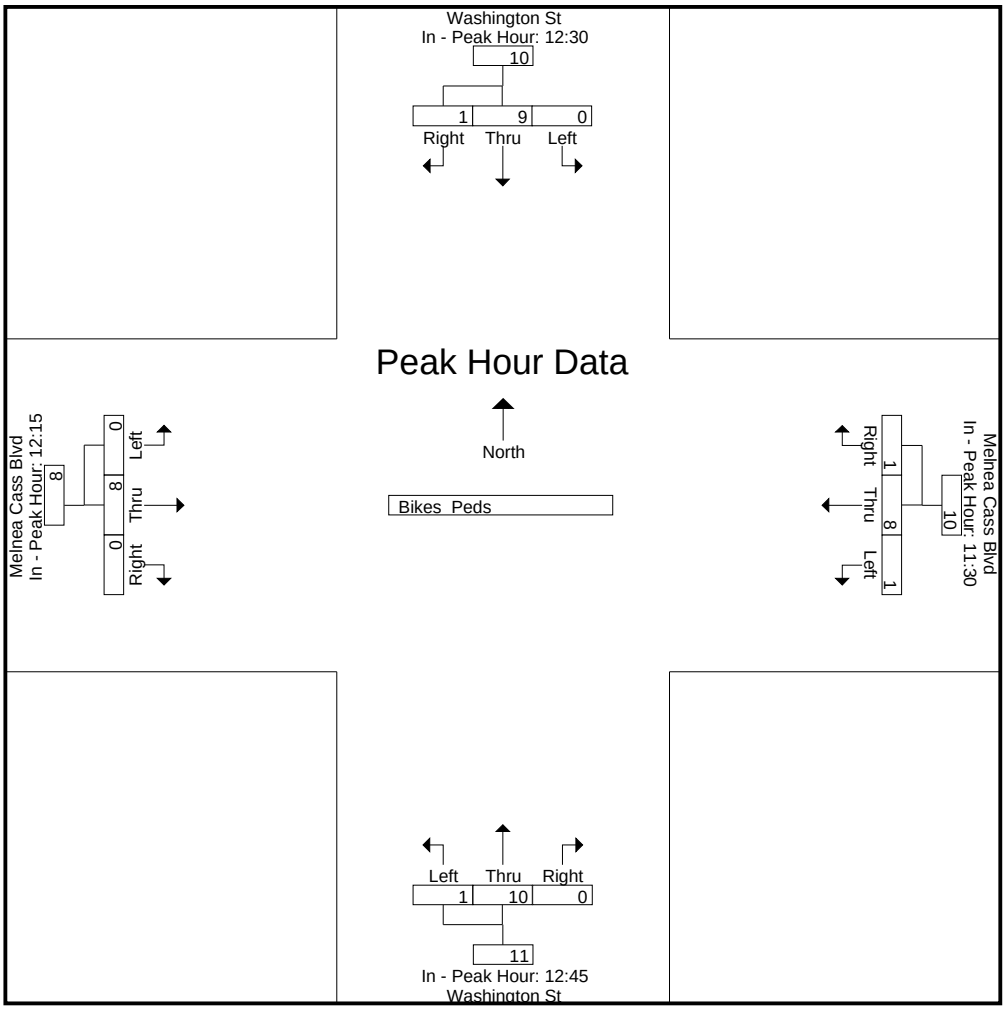
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:30				11:30				12:45				12:15			
+0 mins.	0	2	0	2	0	**5**	0	**5**	0	**3**	0	3	0	**5**	0	**5**
+15 mins.	0	2	0	2	0	2	0	2	**1**	3	0	**4**	0	1	0	1
+30 mins.	0	**3**	0	**3**	0	1	**1**	2	0	2	0	2	0	1	0	1
+45 mins.	0	2	**1**	3	**1**	0	0	1	0	2	0	2	0	1	0	1
Total Volume	0	9	1	10	1	8	1	10	1	10	0	11	0	8	0	8
% App. Total	0	90	10		10	80	10		9.1	90.9	0		0	100	0	
PHF	.000	.750	.250	.833	.250	.400	.250	.500	.250	.833	.000	.688	.000	.400	.000	.400

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 5



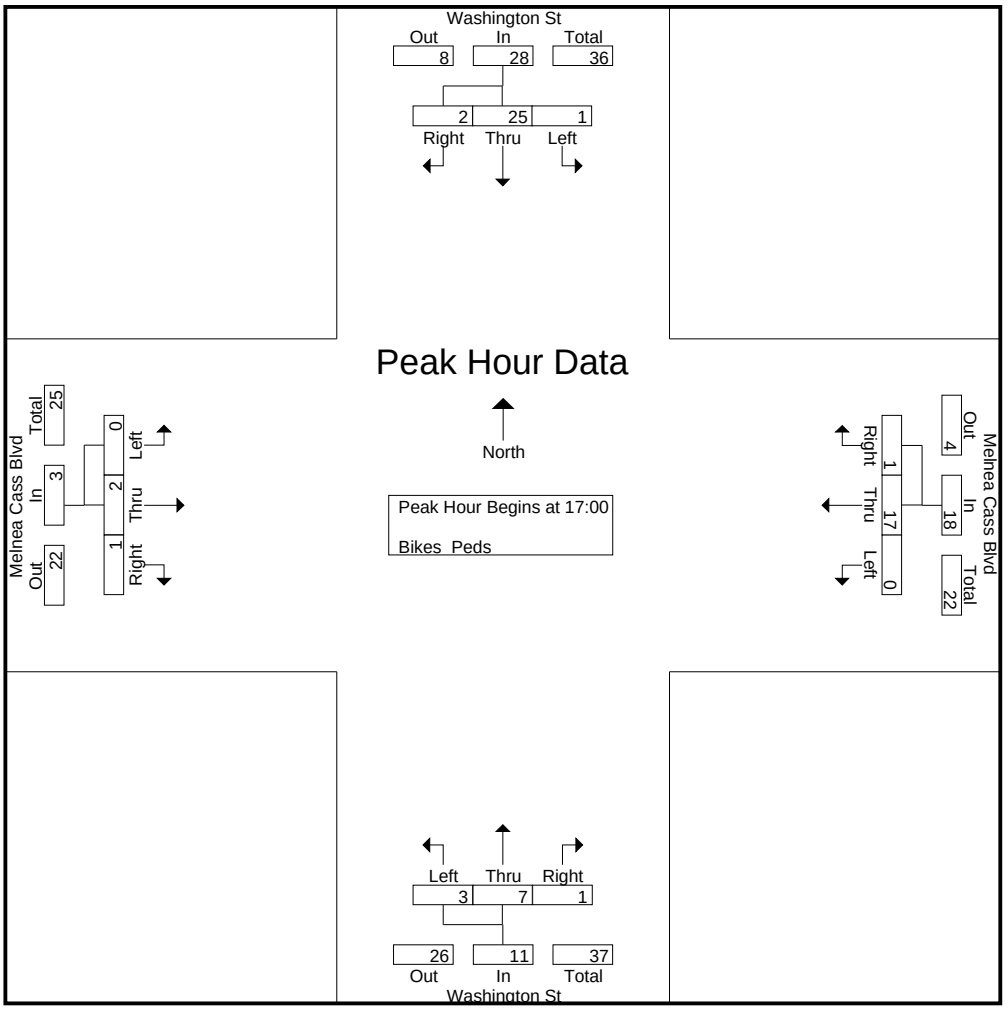
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	0	**7**	**2**	**9**	0	3	0	3	**2**	**3**	0	**5**	0	**1**	0	**1**	**18**
17:15	0	7	0	7	0	**7**	**1**	**8**	0	2	0	2	0	0	**1**	1	18
17:30	0	5	0	5	0	4	0	4	1	0	0	1	0	1	0	1	11
17:45	**1**	6	0	7	0	3	0	3	0	2	**1**	3	0	0	0	0	13
Total Volume	1	25	2	28	0	17	1	18	3	7	1	11	0	2	1	3	60
% App. Total	3.6	89.3	7.1		0	94.4	5.6		27.3	63.6	9.1		0	66.7	33.3		
PHF	.250	.893	.250	.778	.000	.607	.250	.563	.375	.583	.250	.550	.000	.500	.250	.750	.833

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 6



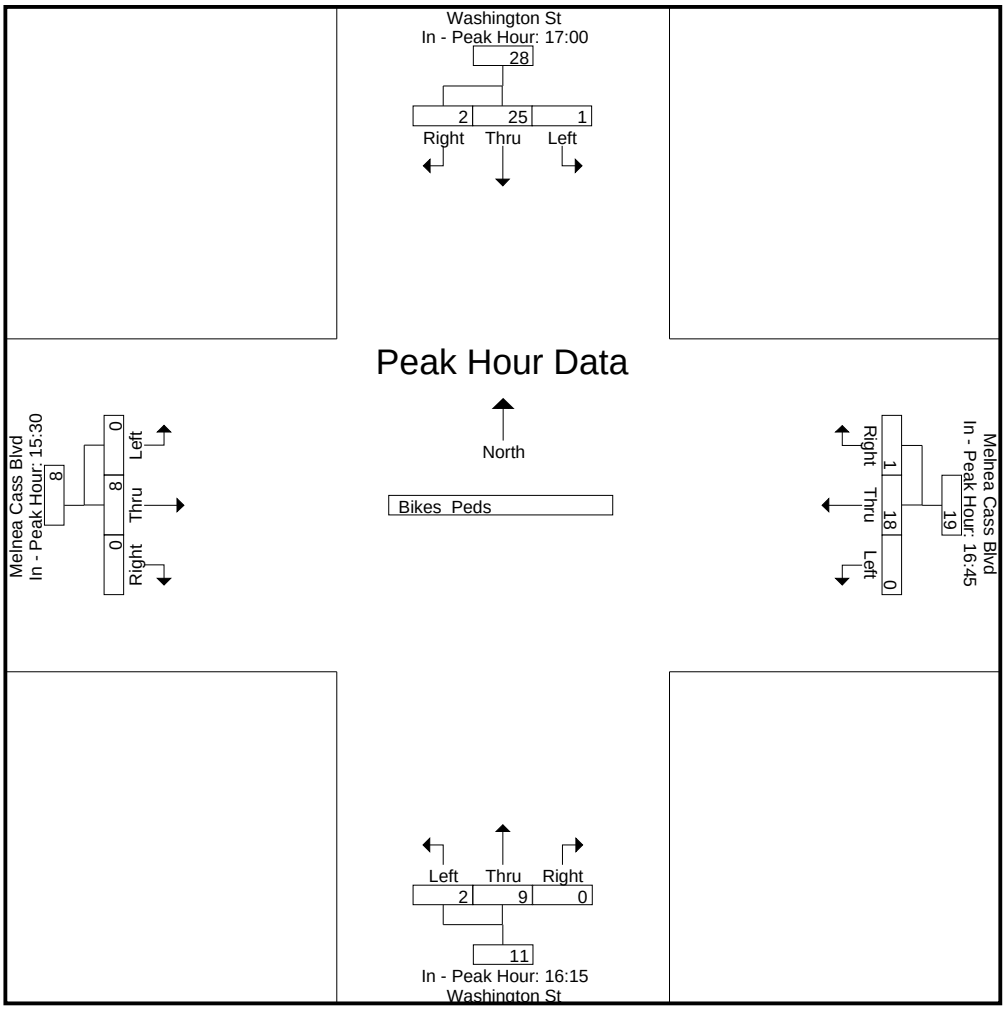
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	17:00				16:45				16:15				15:30			
+0 mins.	0	**7**	**2**	**9**	0	4	0	4	0	**4**	0	4	0	2	0	2
+15 mins.	0	7	0	7	0	3	0	3	0	0	0	0	0	1	0	1
+30 mins.	0	5	0	5	0	**7**	**1**	**8**	0	2	0	2	0	1	0	1
+45 mins.	**1**	6	0	7	0	4	0	4	**2**	3	0	**5**	0	**4**	0	**4**
Total Volume	1	25	2	28	0	18	1	19	2	9	0	11	0	8	0	8
% App. Total	3.6	89.3	7.1		0	94.7	5.3		18.2	81.8	0		0	100	0	
PHF	.250	.893	.250	.778	.000	.643	.250	.594	.250	.563	.000	.550	.000	.500	.000	.500

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 7



N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

File Name : 122951 A
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	57	26	0	17	14	6	1	9	112	1	0	0	0	0	0	244
07:15 AM	0	76	15	0	19	15	11	0	11	124	1	0	0	0	0	0	272
07:30 AM	1	80	17	0	17	5	10	0	9	132	4	0	0	0	0	0	275
07:45 AM	1	71	15	0	16	20	10	0	5	137	1	2	0	0	0	0	278
Total	3	284	73	0	69	54	37	1	34	505	7	2	0	0	0	0	1069
08:00 AM	1	65	13	0	22	19	8	0	14	127	5	0	0	0	0	0	274
08:15 AM	3	75	16	0	16	7	6	0	6	121	6	0	0	0	0	0	256
08:30 AM	3	77	17	0	16	17	8	0	6	125	2	0	0	0	0	0	271
08:45 AM	2	68	21	0	18	13	11	0	12	112	4	1	0	0	0	0	262
Total	9	285	67	0	72	56	33	0	38	485	17	1	0	0	0	0	1063
Grand Total	12	569	140	0	141	110	70	1	72	990	24	3	0	0	0	0	2132
Apprch %	1.7	78.9	19.4	0	43.8	34.2	21.7	0.3	6.6	90.9	2.2	0.3	0	0	0	0	
Total %	0.6	26.7	6.6	0	6.6	5.2	3.3	0	3.4	46.4	1.1	0.1	0	0	0	0	
Cars	10	462	130	0	129	103	67	1	67	859	24	3	0	0	0	0	1855
% Cars	83.3	81.2	92.9	0	91.5	93.6	95.7	100	93.1	86.8	100	100	0	0	0	0	87
Heavy Vehicles	2	107	10	0	12	7	3	0	5	131	0	0	0	0	0	0	277
% Heavy Vehicles	16.7	18.8	7.1	0	8.5	6.4	4.3	0	6.9	13.2	0	0	0	0	0	0	13

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	76	15	0	91	19	15	**11**	**0**	**45**	**11**	**124**	**1**	**0**	**136**	**0**	**0**	**0**	**0**	**0**	**272**
07:30 AM	**1**	**80**	**17**	**0**	**98**	17	5	10	0	32	9	132	4	0	145	0	0	0	0	0	275
07:45 AM	1	71	15	0	87	16	**20**					**137**		**2**							**278**
08:00 AM	1	65	13	0	79	**22**	19	8	0	**49**	**14**		**5**	0	**146**	0	0	0	0	0	274
Total Volume	3	292	60	0	355	74	59	39	0	172	39	520	11	2	572	0	0	0	0	0	1099
% App. Total	0.8	82.3	16.9	0		43	34.3	22.7	0		6.8	90.9	1.9	0.3		0	0	0	0		
PHF	.750	.913	.882	.000	.906	.841	.738	.886	.000	.878	.696	.949	.550	.250	.979	.000	.000	.000	.000	.000	.988
Cars	3	236	57	0	296	67	56	37	0	160	35	454	11	2	502	0	0	0	0	0	958
% Cars	100	80.8	95.0	0	83.4	90.5	94.9	94.9	0	93.0	89.7	87.3	100	100	87.8	0	0	0	0	0	87.2
Heavy Vehicles	0	56	3	0	59	7	3	2	0	12	4	66	0	0	70	0	0	0	0	0	141
% Heavy Vehicles	0	19.2	5.0	0	16.6	9.5	5.1	5.1	0	7.0	10.3	12.7	0	0	12.2	0	0	0	0	0	12.8

N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

File Name : 122951 A
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	43	22	0	15	13	6	1	9	93	1	0	0	0	0	0	204
07:15 AM	0	63	14	0	19	14	11	0	10	110	1	0	0	0	0	0	242
07:30 AM	1	67	15	0	16	4	9	0	8	115	4	0	0	0	0	0	239
07:45 AM	1	56	15	0	13	20	9	0	5	123	1	2	0	0	0	0	245
Total	3	229	66	0	63	51	35	1	32	441	7	2	0	0	0	0	930
08:00 AM	1	50	13	0	19	18	8	0	12	106	5	0	0	0	0	0	232
08:15 AM	3	65	15	0	16	7	5	0	6	107	6	0	0	0	0	0	230
08:30 AM	2	66	16	0	15	17	8	0	6	110	2	0	0	0	0	0	242
08:45 AM	1	52	20	0	16	10	11	0	11	95	4	1	0	0	0	0	221
Total	7	233	64	0	66	52	32	0	35	418	17	1	0	0	0	0	925
Grand Total	10	462	130	0	129	103	67	1	67	859	24	3	0	0	0	0	1855
Apprch %	1.7	76.7	21.6	0	43	34.3	22.3	0.3	7	90.1	2.5	0.3	0	0	0	0	
Total %	0.5	24.9	7	0	7	5.6	3.6	0.1	3.6	46.3	1.3	0.2	0	0	0	0	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	63	14	0	77	**19**	14	**11**	**0**	**44**	**10**	**110**	**1**	**0**	**121**	**0**	**0**	**0**	**0**	**0**	**242**
07:30 AM	**1**	**67**	**15**	**0**	**83**	16	4	9	0	29	8	115	4	0	127	0	0	0	0	0	239
07:45 AM	1	56	15	0	72	13	**20**					**123**		**2**	**131**	0	0	0	0	0	**245**
08:00 AM	1	50	13	0	64	19	18	8	0	**45**	**12**		**5**	0	123	0	0	0	0	0	232
Total Volume	3	236	57	0	296	67	56	37	0	160	35	454	11	2	502	0	0	0	0	0	958
% App. Total	1	79.7	19.3	0		41.9	35	23.1	0		7	90.4	2.2	0.4		0	0	0	0		
PHF	.750	.881	.950	.000	.892	.882	.700	.841	.000	.889	.729	.923	.550	.250	.958	.000	.000	.000	.000	.000	.978

N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
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File Name : 122951 A
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Groups Printed- Heavy Vehicles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	14	4	0	2	1	0	0	0	19	0	0	0	0	0	0	40
07:15 AM	0	13	1	0	0	1	0	0	1	14	0	0	0	0	0	0	30
07:30 AM	0	13	2	0	1	1	1	0	1	17	0	0	0	0	0	0	36
07:45 AM	0	15	0	0	3	0	1	0	0	14	0	0	0	0	0	0	33
Total	0	55	7	0	6	3	2	0	2	64	0	0	0	0	0	0	139
08:00 AM	0	15	0	0	3	1	0	0	2	21	0	0	0	0	0	0	42
08:15 AM	0	10	1	0	0	0	1	0	0	14	0	0	0	0	0	0	26
08:30 AM	1	11	1	0	1	0	0	0	0	15	0	0	0	0	0	0	29
08:45 AM	1	16	1	0	2	3	0	0	1	17	0	0	0	0	0	0	41
Total	2	52	3	0	6	4	1	0	3	67	0	0	0	0	0	0	138
Grand Total	2	107	10	0	12	7	3	0	5	131	0	0	0	0	0	0	277
Apprch %	1.7	89.9	8.4	0	54.5	31.8	13.6	0	3.7	96.3	0	0	0	0	0	0	
Total %	0.7	38.6	3.6	0	4.3	2.5	1.1	0	1.8	47.3	0	0	0	0	0	0	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	13	1	0	14	0	**1**	**0**	**0**	**1**	**1**	**14**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**30**
07:30 AM	**0**	**13**	**2**	**0**	**15**	1	1	**1**	**0**	**3**	**1**	**17**	**0**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**36**
07:45 AM	**0**	**15**	0	0	15	**3**	0	1	0	**4**	0	14	0	0	14	0	0	0	0	0	33
08:00 AM	0	15	0	0	15	3	1	0	0	4	**2**	**21**			**23**	0	0	0	0	0	**42**
Total Volume	0	56	3	0	59	7	3	2	0	12	4	66	0	0	70	0	0	0	0	0	141
% App. Total	0	94.9	5.1	0		58.3	25	16.7	0		5.7	94.3	0	0		0	0	0	0		
PHF	.000	.933	.375	.000	.983	.583	.750	.500	.000	.750	.500	.786	.000	.000	.761	.000	.000	.000	.000	.000	.839

N/S: Washington Street
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Groups Printed- Peds and Bicycles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	1	0	5	1	0	0	2	0	2	0	2	0	0	0	2	15
07:15 AM	0	1	0	2	0	0	1	3	0	0	0	0	0	0	0	4	11
07:30 AM	0	3	0	3	0	0	0	3	0	1	0	2	0	0	0	9	21
07:45 AM	0	1	0	4	0	0	0	0	0	5	0	2	0	0	0	7	19
Total	0	6	0	14	1	0	1	8	0	8	0	6	0	0	0	22	66
08:00 AM	0	0	0	1	0	0	0	1	0	3	0	1	0	0	0	5	11
08:15 AM	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	3	8
08:30 AM	0	0	0	3	0	0	0	2	0	5	0	2	0	0	0	0	12
08:45 AM	0	2	0	2	1	0	0	4	0	3	0	0	0	0	0	4	16
Total	0	2	0	8	1	0	0	10	0	11	0	3	0	0	0	12	47
Grand Total	0	8	0	22	2	0	1	18	0	19	0	9	0	0	0	34	113
Apprch %	0	26.7	0	73.3	9.5	0	4.8	85.7	0	67.9	0	32.1	0	0	0	100	
Total %	0	7.1	0	19.5	1.8	0	0.9	15.9	0	16.8	0	8	0	0	0	30.1	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	1	0	**5**	**6**	**1**	0	0	2	3	0	2	0	**2**	**4**	**0**	**0**	**0**	**2**	**2**	**15**
07:15 AM	**0**	**1**	**0**	**2**	**3**	**0**	**0**	**1**	**3**	**4**	0	0	0	0	0	0	0	0	4	4	11
07:30 AM	0	**3**	0	3	6	0	0	0	3	3	0	1	0	2	3	0	0	0	**9**	**9**	**21**
07:45 AM	0	1	0	4	5	0	0	0	0	0	0	**5**			**7**	0	0	0	7	7	19
Total Volume	0	6	0	14	20	1	0	1	8	10	0	8	0	6	14	0	0	0	22	22	66
% App. Total	0	30	0	70		10	0	10	80		0	57.1	0	42.9		0	0	0	100		
PHF	.000	.500	.000	.700	.833	.250	.000	.250	.667	.625	.000	.400	.000	.750	.500	.000	.000	.000	.611	.611	.786

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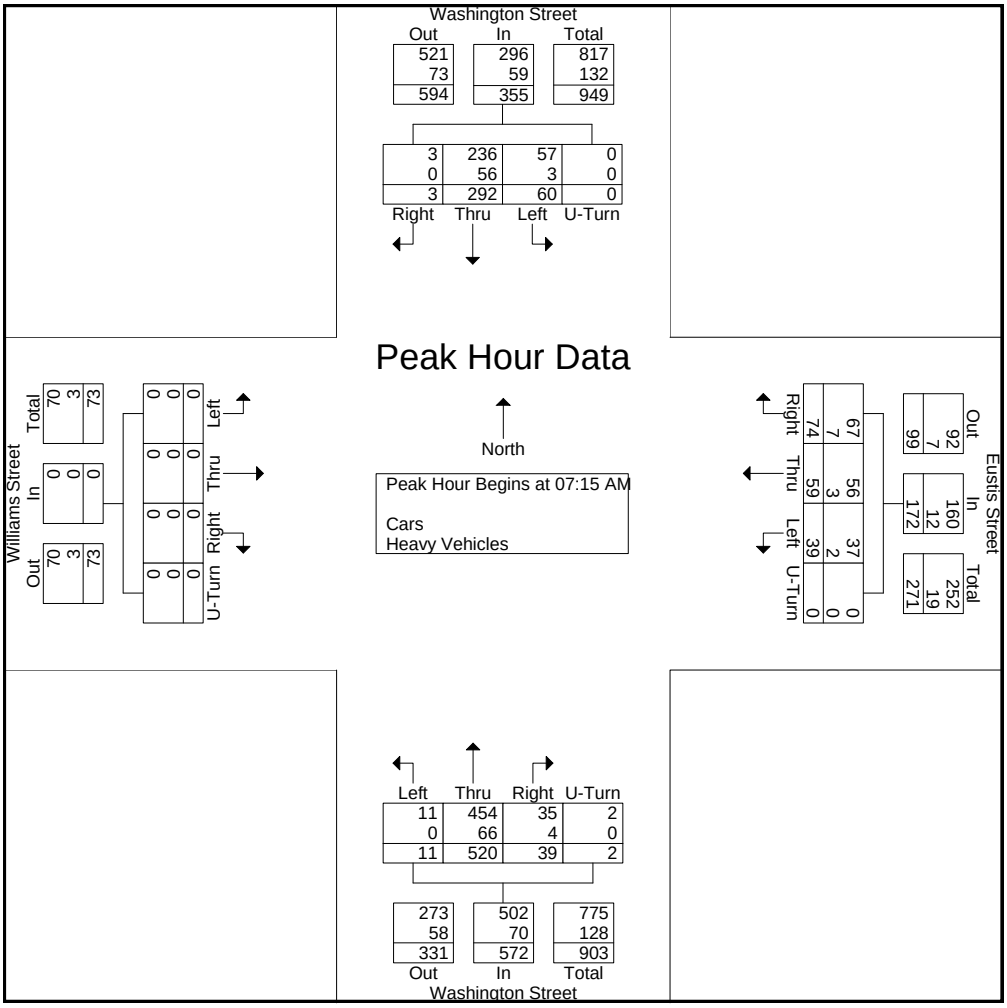
	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	76	15	0	91	19	15	**11**	**0**	**45**	**11**	**124**	**1**	**0**	**136**	**0**	**0**	**0**	**0**	**0**	**272**
07:30 AM	**1**	**80**	**17**	**0**	**98**	17	5	10	0	32	9	132	4	0	145	0	0	0	0	0	275
07:45 AM	1	71	15	0	87	16	**20**					**137**		**2**							**278**
08:00 AM	1	65	13	0	79	**22**	19	8	0	**49**	**14**		**5**	0	**146**	0	0	0	0	0	274
Total Volume	3	292	60	0	355	74	59	39	0	172	39	520	11	2	572	0	0	0	0	0	1099
% App. Total	0.8	82.3	16.9	0		43	34.3	22.7	0		6.8	90.9	1.9	0.3		0	0	0	0		
PHF	.750	.913	.882	.000	.906	.841	.738	.886	.000	.878	.696	.949	.550	.250	.979	.000	.000	.000	.000	.000	.988
Cars	3	236	57	0	296	67	56	37	0	160	35	454	11	2	502	0	0	0	0	0	958
% Cars	100	80.8	95.0	0	83.4	90.5	94.9	94.9	0	93.0	89.7	87.3	100	100	87.8	0	0	0	0	0	87.2
Heavy Vehicles	0	56	3	0	59	7	3	2	0	12	4	66	0	0	70	0	0	0	0	0	141
% Heavy Vehicles	0	19.2	5.0	0	16.6	9.5	5.1	5.1	0	7.0	10.3	12.7	0	0	12.2	0	0	0	0	0	12.8



N/S: Washington Street
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File Name : 122951 AA
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Groups Printed- Cars - Heavy Vehicles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	6	77	35	0	12	14	26	0	19	109	5	0	0	0	0	0	303
04:15 PM	4	92	32	0	25	18	10	0	25	124	6	0	1	0	0	0	337
04:30 PM	5	96	37	0	25	12	12	0	24	127	2	0	0	0	0	0	340
04:45 PM	8	106	47	0	28	21	14	0	21	129	6	0	0	0	0	0	380
Total	23	371	151	0	90	65	62	0	89	489	19	0	1	0	0	0	1360
05:00 PM	2	106	60	0	18	36	21	0	15	127	4	0	0	0	0	0	389
05:15 PM	7	116	48	0	21	37	17	0	20	133	5	0	0	0	0	0	404
05:30 PM	5	84	47	1	17	22	19	0	27	126	6	0	0	0	0	0	354
05:45 PM	5	78	41	0	21	12	4	0	18	100	6	0	0	0	0	0	285
Total	19	384	196	1	77	107	61	0	80	486	21	0	0	0	0	0	1432
Grand Total	42	755	347	1	167	172	123	0	169	975	40	0	1	0	0	0	2792
Apprch %	3.7	65.9	30.3	0.1	36.1	37.2	26.6	0	14.3	82.3	3.4	0	100	0	0	0	
Total %	1.5	27	12.4	0	6	6.2	4.4	0	6.1	34.9	1.4	0	0	0	0	0	
Cars	39	686	336	0	157	170	116	0	164	848	39	0	1	0	0	0	2556
% Cars	92.9	90.9	96.8	0	94	98.8	94.3	0	97	87	97.5	0	100	0	0	0	91.5
Heavy Vehicles	3	69	11	1	10	2	7	0	5	127	1	0	0	0	0	0	236
% Heavy Vehicles	7.1	9.1	3.2	100	6	1.2	5.7	0	3	13	2.5	0	0	0	0	0	8.5

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**8**	**106**	**47**	**0**	**161**	**28**	21	14	0	63	21	129	**6**	0	156	0	0	0	0	0	380
05:00 PM	2	106	**60**					**21**		**75**	15	127	4	0	146	0	0	0	0	0	389
05:15 PM	7	**116**	48	0	**171**	21	**37**					**133**									**404**
05:30 PM	5	84	47	**1**							**27**				**159**	0	0	0	0	0	354
Total Volume	22	412	202	1	637	84	116	71	0	271	83	515	21	0	619	0	0	0	0	0	1527
% App. Total	3.5	64.7	31.7	0.2		31	42.8	26.2	0		13.4	83.2	3.4	0		0	0	0	0		
PHF	.688	.888	.842	.250	.931	.750	.784	.845	.000	.903	.769	.968	.875	.000	.973	.000	.000	.000	.000	.000	.945
Cars	21	369	197	0	587	79	116	67	0	262	79	456	21	0	556	0	0	0	0	0	1405
% Cars	95.5	89.6	97.5	0	92.2	94.0	100	94.4	0	96.7	95.2	88.5	100	0	89.8	0	0	0	0	0	92.0
Heavy Vehicles	1	43	5	1	50	5	0	4	0	9	4	59	0	0	63	0	0	0	0	0	122
% Heavy Vehicles	4.5	10.4	2.5	100	7.8	6.0	0	5.6	0	3.3	4.8	11.5	0	0	10.2	0	0	0	0	0	8.0

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Groups Printed- Cars

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	5	70	34	0	12	14	26	0	19	94	5	0	0	0	0	0	279
04:15 PM	4	85	32	0	22	16	9	0	25	104	6	0	1	0	0	0	304
04:30 PM	4	89	33	0	23	12	10	0	24	109	2	0	0	0	0	0	306
04:45 PM	7	92	44	0	25	21	14	0	21	118	6	0	0	0	0	0	348
Total	20	336	143	0	82	63	59	0	89	425	19	0	1	0	0	0	1237
05:00 PM	2	100	60	0	18	36	20	0	13	104	4	0	0	0	0	0	357
05:15 PM	7	105	47	0	19	37	15	0	20	123	5	0	0	0	0	0	378
05:30 PM	5	72	46	0	17	22	18	0	25	111	6	0	0	0	0	0	322
05:45 PM	5	73	40	0	21	12	4	0	17	85	5	0	0	0	0	0	262
Total	19	350	193	0	75	107	57	0	75	423	20	0	0	0	0	0	1319
Grand Total	39	686	336	0	157	170	116	0	164	848	39	0	1	0	0	0	2556
Apprch %	3.7	64.7	31.7	0	35.4	38.4	26.2	0	15.6	80.7	3.7	0	100	0	0	0	
Total %	1.5	26.8	13.1	0	6.1	6.7	4.5	0	6.4	33.2	1.5	0	0	0	0	0	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**7**	**92**	**44**	**0**	**143**	**25**	21	14	0	60	21	118	**6**	0	145	0	0	0	0	0	348
05:00 PM	2	100	**60**		**162**	18	36	**20**		**74**	13	104	4	0	121	0	0	0	0	0	357
05:15 PM	7	**105**	47	0	159	19	**37**					**123**			**148**	0	0	0	0	0	**378**
05:30 PM	5	72	46	0	123	17	22	18	0	57	**25**										
Total Volume	21	369	197	0	587	79	116	67	0	262	79	456	21	0	556	0	0	0	0	0	1405
% App. Total	3.6	62.9	33.6	0		30.2	44.3	25.6	0		14.2	82	3.8	0		0	0	0	0		
PHF	.750	.879	.821	.000	.906	.790	.784	.838	.000	.885	.790	.927	.875	.000	.939	.000	.000	.000	.000	.000	.929

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Groups Printed- Heavy Vehicles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	1	7	1	0	0	0	0	0	0	15	0	0	0	0	0	0	24
04:15 PM	0	7	0	0	3	2	1	0	0	20	0	0	0	0	0	0	33
04:30 PM	1	7	4	0	2	0	2	0	0	18	0	0	0	0	0	0	34
04:45 PM	1	14	3	0	3	0	0	0	0	11	0	0	0	0	0	0	32
Total	3	35	8	0	8	2	3	0	0	64	0	0	0	0	0	0	123
05:00 PM	0	6	0	0	0	0	1	0	2	23	0	0	0	0	0	0	32
05:15 PM	0	11	1	0	2	0	2	0	0	10	0	0	0	0	0	0	26
05:30 PM	0	12	1	1	0	0	1	0	2	15	0	0	0	0	0	0	32
05:45 PM	0	5	1	0	0	0	0	0	1	15	1	0	0	0	0	0	23
Total	0	34	3	1	2	0	4	0	5	63	1	0	0	0	0	0	113
Grand Total	3	69	11	1	10	2	7	0	5	127	1	0	0	0	0	0	236
Apprch %	3.6	82.1	13.1	1.2	52.6	10.5	36.8	0	3.8	95.5	0.8	0	0	0	0	0	
Total %	1.3	29.2	4.7	0.4	4.2	0.8	3	0	2.1	53.8	0.4	0	0	0	0	0	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	7	0	0	7	**3**	**2**	**1**	**0**	**6**	0	20	0	0	20	0	0	0	0	0	33
04:30 PM	**1**		**4**					**2**													**34**
04:45 PM	1	**14**	3	0	**18**	3	0	0	0	3	0	11	0	0	11	0	0	0	0	0	32
05:00 PM	0	6	0	0	6	0	0	1	0	1	**2**	**23**			**25**	0	0	0	0	0	32
Total Volume	2	34	7	0	43	8	2	4	0	14	2	72	0	0	74	0	0	0	0	0	131
% App. Total	4.7	79.1	16.3	0		57.1	14.3	28.6	0		2.7	97.3	0	0		0	0	0	0		
PHF	.500	.607	.438	.000	.597	.667	.250	.500	.000	.583	.250	.783	.000	.000	.740	.000	.000	.000	.000	.000	.963

N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
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Site Code : 11065
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Groups Printed- Peds and Bicycles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	7	0	0	0	10	0	1	0	1	0	0	0	24	43
04:15 PM	0	1	0	10	0	0	1	7	0	0	0	1	0	0	0	20	40
04:30 PM	0	5	0	10	0	0	0	10	0	2	0	1	0	0	0	13	41
04:45 PM	0	4	2	5	1	0	0	4	0	0	0	0	0	0	0	16	32
Total	0	10	2	32	1	0	1	31	0	3	0	3	0	0	0	73	156
05:00 PM	0	1	0	9	0	2	0	12	0	1	0	2	0	1	0	12	40
05:15 PM	0	0	0	16	0	0	1	9	0	1	0	7	0	0	0	6	40
05:30 PM	1	3	0	11	0	0	0	6	0	1	0	7	0	0	0	5	34
05:45 PM	0	2	0	10	0	0	0	3	0	2	0	5	0	1	0	19	42
Total	1	6	0	46	0	2	1	30	0	5	0	21	0	2	0	42	156
Grand Total	1	16	2	78	1	2	2	61	0	8	0	24	0	2	0	115	312
Apprch %	1	16.5	2.1	80.4	1.5	3	3	92.4	0	25	0	75	0	1.7	0	98.3	
Total %	0.3	5.1	0.6	25	0.3	0.6	0.6	19.6	0	2.6	0	7.7	0	0.6	0	36.9	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	7	7	0	0	0	**10**	**10**	0	1	0	**1**	**2**	**0**	**0**	**0**	**24**	**24**	**43**
04:15 PM	0	1	0	**10**				**1**			0										
04:30 PM	**0**	**5**	0	10	**15**	0	0	0	10	10	0	**2**	**0**	**1**	**3**	0	0	0	13	13	41
04:45 PM	0	4	**2**			**1**	0	0	4	5	0	0	0	0	0	0	0	0	16	16	32
Total Volume	0	10	2	32	44	1	0	1	31	33	0	3	0	3	6	0	0	0	73	73	156
% App. Total	0	22.7	4.5	72.7		3	0	3	93.9		0	50	0	50		0	0	0	100		
PHF	.000	.500	.250	.800	.733	.250	.000	.250	.775	.825	.000	.375	.000	.750	.500	.000	.000	.000	.760	.760	.907

N/S: Washington Street
E/W: Eustis Street/Williams Street
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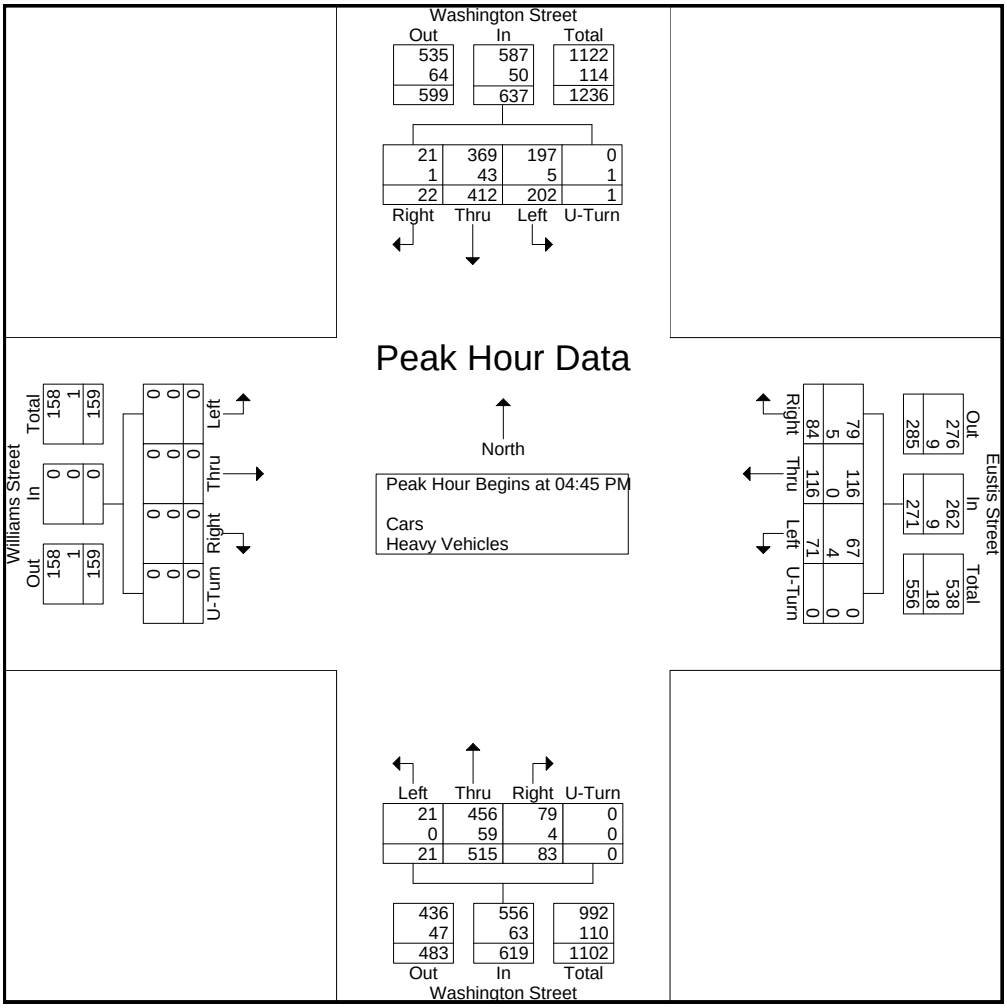
	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**8**	**106**	**47**	**0**	**161**	**28**	21	14	0	63	21	129	**6**	0	156	0	0	0	0	0	380
05:00 PM	2	106	**60**					**21**		**75**	15	127	4	0	146	0	0	0	0	0	389
05:15 PM	7	**116**	48	0	**171**	21	**37**					**133**									**404**
05:30 PM	5	84	47	**1**							**27**				**159**	0	0	0	0	0	354
Total Volume	22	412	202	1	637	84	116	71	0	271	83	515	21	0	619	0	0	0	0	0	1527
% App. Total	3.5	64.7	31.7	0.2		31	42.8	26.2	0		13.4	83.2	3.4	0		0	0	0	0		
PHF	.688	.888	.842	.250	.931	.750	.784	.845	.000	.903	.769	.968	.875	.000	.973	.000	.000	.000	.000	.000	.945
Cars	21	369	197	0	587	79	116	67	0	262	79	456	21	0	556	0	0	0	0	0	1405
% Cars	95.5	89.6	97.5	0	92.2	94.0	100	94.4	0	96.7	95.2	88.5	100	0	89.8	0	0	0	0	0	92.0
Heavy Vehicles	1	43	5	1	50	5	0	4	0	9	4	59	0	0	63	0	0	0	0	0	122
% Heavy Vehicles	4.5	10.4	2.5	100	7.8	6.0	0	5.6	0	3.3	4.8	11.5	0	0	10.2	0	0	0	0	0	8.0



N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 B
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	76	0	0	0	0	17	0	0	1	0	0	0	0	0	0	95
07:15 AM	1	57	0	0	0	1	16	0	0	0	0	0	0	0	0	0	75
07:30 AM	0	67	0	0	0	0	8	0	0	0	0	0	0	0	0	0	75
07:45 AM	0	65	0	0	0	0	27	0	0	0	0	0	0	0	0	0	92
Total	2	265	0	0	0	1	68	0	0	1	0	0	0	0	0	0	337
08:00 AM	0	79	0	1	0	0	25	0	0	0	0	0	0	0	0	0	105
08:15 AM	0	74	0	0	0	2	19	0	0	0	0	0	0	0	0	0	95
08:30 AM	1	79	0	0	0	1	28	0	0	0	0	0	0	0	0	0	109
08:45 AM	2	86	0	0	0	1	19	0	0	0	0	0	0	0	0	0	108
Total	3	318	0	1	0	4	91	0	0	0	0	0	0	0	0	0	417
Grand Total	5	583	0	1	0	5	159	0	0	1	0	0	0	0	0	0	754
Apprch %	0.8	99	0	0.2	0	3	97	0	0	100	0	0	0	0	0	0	
Total %	0.7	77.3	0	0.1	0	0.7	21.1	0	0	0.1	0	0	0	0	0	0	
Cars	5	533	0	0	0	5	153	0	0	1	0	0	0	0	0	0	697
% Cars	100	91.4	0	0	0	100	96.2	0	0	100	0	0	0	0	0	0	92.4
Heavy Vehicles	0	50	0	1	0	0	6	0	0	0	0	0	0	0	0	0	57
% Heavy Vehicles	0	8.6	0	100	0	0	3.8	0	0	0	0	0	0	0	0	0	7.6

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	79	0	**1**	**80**	**0**	**0**	**25**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**105**
08:15 AM	**0**	**74**	**0**	**0**	**74**	**0**	**2**	**19**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**95**
08:30 AM	**1**	**79**	**0**	**0**	**80**	**0**	**1**	**28**	**0**	**29**	0	0	0	0	0	0	0	0	0	0	**109**
08:45 AM	**2**	**86**	0	0	**88**	0	1	19	0	20	0	0	0	0	0	0	0	0	0	0	108
Total Volume	3	318	0	1	322	0	4	91	0	95	0	0	0	0	0	0	0	0	0	0	417
% App. Total	0.9	98.8	0	0.3		0	4.2	95.8	0		0	0	0	0		0	0	0	0		
PHF	.375	.924	.000	.250	.915	.000	.500	.813	.000	.819	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.956
Cars	3	291	0	0	294	0	4	88	0	92	0	0	0	0	0	0	0	0	0	0	386
% Cars	100	91.5	0	0	91.3	0	100	96.7	0	96.8	0	0	0	0	0	0	0	0	0	0	92.6
Heavy Vehicles	0	27	0	1	28	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	31
% Heavy Vehicles	0	8.5	0	100	8.7	0	0	3.3	0	3.2	0	0	0	0	0	0	0	0	0	0	7.4

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 B
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	71	0	0	0	0	17	0	0	1	0	0	0	0	0	0	90
07:15 AM	1	51	0	0	0	1	14	0	0	0	0	0	0	0	0	0	67
07:30 AM	0	59	0	0	0	0	7	0	0	0	0	0	0	0	0	0	66
07:45 AM	0	61	0	0	0	0	27	0	0	0	0	0	0	0	0	0	88
Total	2	242	0	0	0	1	65	0	0	1	0	0	0	0	0	0	311
08:00 AM	0	70	0	0	0	0	24	0	0	0	0	0	0	0	0	0	94
08:15 AM	0	69	0	0	0	2	19	0	0	0	0	0	0	0	0	0	90
08:30 AM	1	73	0	0	0	1	27	0	0	0	0	0	0	0	0	0	102
08:45 AM	2	79	0	0	0	1	18	0	0	0	0	0	0	0	0	0	100
Total	3	291	0	0	0	4	88	0	0	0	0	0	0	0	0	0	386
Grand Total	5	533	0	0	0	5	153	0	0	1	0	0	0	0	0	0	697
Apprch %	0.9	99.1	0	0	0	3.2	96.8	0	0	100	0	0	0	0	0	0	
Total %	0.7	76.5	0	0	0	0.7	22	0	0	0.1	0	0	0	0	0	0	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	70	0	0	70	0	0	24	0	24	0	0	0	0	0	0	0	0	0	0	94
08:15 AM	0	69	0	0	69	0	**2**	**19**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**90**
08:30 AM	**1**	**73**	**0**	**0**	**74**	**0**	**1**	**27**	**0**	**28**	0	0	0	0	0	0	0	0	0	0	**102**
08:45 AM	**2**	**79**	0	0	**81**	0	1	18	0	19	0	0	0	0	0	0	0	0	0	0	100
Total Volume	3	291	0	0	294	0	4	88	0	92	0	0	0	0	0	0	0	0	0	0	386
% App. Total	1	99	0	0		0	4.3	95.7	0		0	0	0	0		0	0	0	0		
PHF	.375	.921	.000	.000	.907	.000	.500	.815	.000	.821	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.946

N/S: Shawmut Avenue
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Groups Printed- Heavy Vehicles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
07:15 AM	0	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	8
07:30 AM	0	8	0	0	0	0	1	0	0	0	0	0	0	0	0	0	9
07:45 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	23	0	0	0	0	3	0	0	0	0	0	0	0	0	0	26
08:00 AM	0	9	0	1	0	0	1	0	0	0	0	0	0	0	0	0	11
08:15 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
08:30 AM	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7
08:45 AM	0	7	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8
Total	0	27	0	1	0	0	3	0	0	0	0	0	0	0	0	0	31
Grand Total	0	50	0	1	0	0	6	0	0	0	0	0	0	0	0	0	57
Apprch %	0	98	0	2	0	0	100	0	0	0	0	0	0	0	0	0	
Total %	0	87.7	0	1.8	0	0	10.5	0	0	0	0	0	0	0	0	0	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	6	0	0	6	0	0	**2**	**0**	**2**	0	0	0	0	0	0	0	0	0	0	8
07:30 AM	0	8	0	0	8	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	9
07:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:00 AM	0	**9**	0	**1**	**10**	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	**11**
Total Volume	0	27	0	1	28	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	32
% App. Total	0	96.4	0	3.6		0	0	100	0		0	0	0	0		0	0	0	0		
PHF	.000	.750	.000	.250	.700	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.727

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Groups Printed- Peds and Bicycles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	5	0	0	0	5	0	0	0	1	0	0	0	8	19
07:15 AM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	5	8
07:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	4
07:45 AM	0	0	0	1	0	0	0	4	0	0	0	3	0	0	0	2	10
Total	0	0	0	7	0	0	0	13	0	0	0	4	0	0	0	17	41
08:00 AM	0	1	0	5	0	0	0	7	0	0	0	4	0	0	0	2	19
08:15 AM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	6	9
08:30 AM	0	0	0	1	1	0	0	11	0	1	0	0	0	0	0	4	18
08:45 AM	0	0	0	5	0	0	0	4	0	1	0	4	0	0	0	2	16
Total	0	1	0	12	1	0	0	24	0	2	0	8	0	0	0	14	62
Grand Total	0	1	0	19	1	0	0	37	0	2	0	12	0	0	0	31	103
Apprch %	0	5	0	95	2.6	0	0	97.4	0	14.3	0	85.7	0	0	0	100	
Total %	0	1	0	18.4	1	0	0	35.9	0	1.9	0	11.7	0	0	0	30.1	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	**1**	0	**5**	**6**	0	0	0	7	7	0	0	0	**4**	**4**	**0**	**0**	**0**	**2**	**2**	**19**
08:15 AM	0	0	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0	**6**	**6**	9
08:30 AM	0	0	0	1	1	**1**	0	0	**11**	**12**	0	**1**									
08:45 AM	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**0**	**4**	**4**	**0**	**1**	**0**	**4**	**5**	0	0	0	2	2	16
Total Volume	0	1	0	12	13	1	0	0	24	25	0	2	0	8	10	0	0	0	14	14	62
% App. Total	0	7.7	0	92.3		4	0	0	96		0	20	0	80		0	0	0	100		
PHF	.000	.250	.000	.600	.542	.250	.000	.000	.545	.521	.000	.500	.000	.500	.500	.000	.000	.000	.583	.583	.816

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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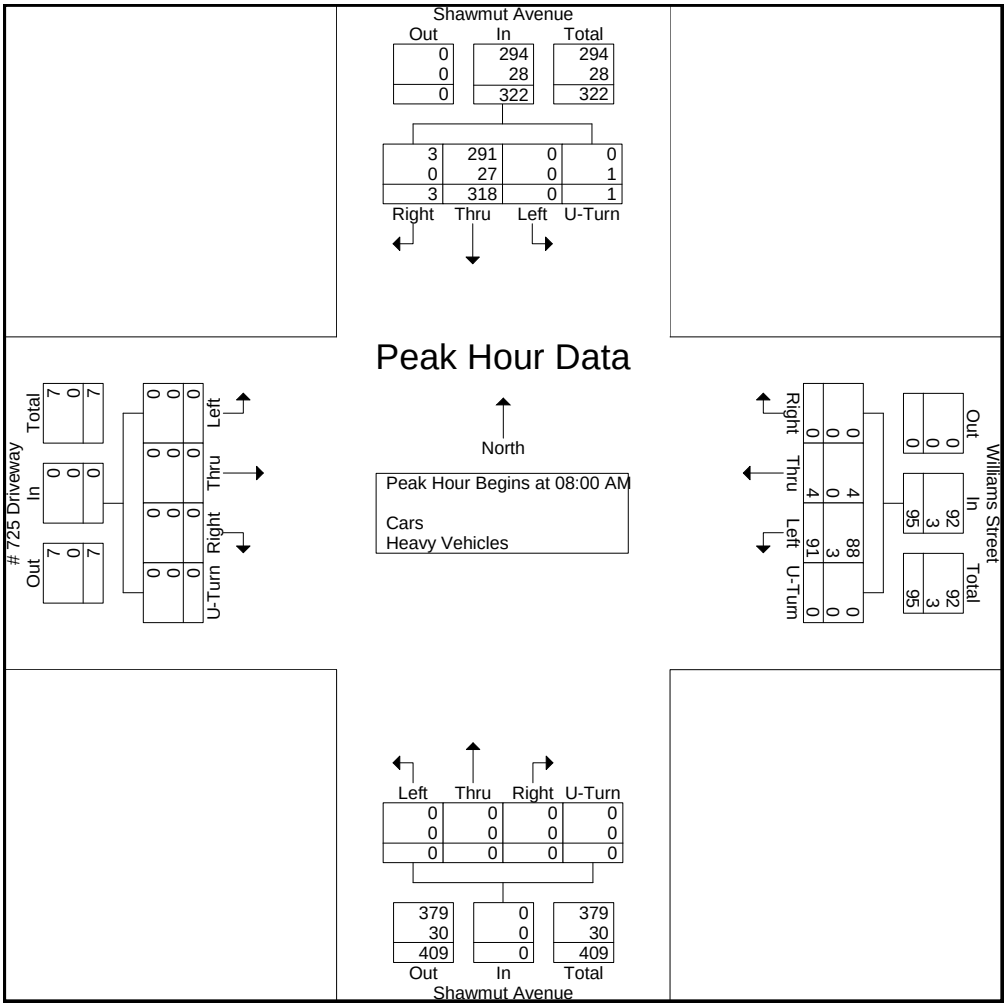
	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	79	0	**1**	**80**	**0**	**0**	**25**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**105**
08:15 AM	**0**	**74**	**0**	**0**	**74**	**0**	**2**	**19**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**95**
08:30 AM	**1**	**79**	**0**	**0**	**80**	**0**	**1**	**28**	**0**	**29**	0	0	0	0	0	0	0	0	0	0	**109**
08:45 AM	**2**	**86**	0	0	**88**	0	1	19	0	20	0	0	0	0	0	0	0	0	0	0	108
Total Volume	3	318	0	1	322	0	4	91	0	95	0	0	0	0	0	0	0	0	0	0	417
% App. Total	0.9	98.8	0	0.3		0	4.2	95.8	0		0	0	0	0		0	0	0	0		
PHF	.375	.924	.000	.250	.915	.000	.500	.813	.000	.819	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.956
Cars	3	291	0	0	294	0	4	88	0	92	0	0	0	0	0	0	0	0	0	0	386
% Cars	100	91.5	0	0	91.3	0	100	96.7	0	96.8	0	0	0	0	0	0	0	0	0	0	92.6
Heavy Vehicles	0	27	0	1	28	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	31
% Heavy Vehicles	0	8.5	0	100	8.7	0	0	3.3	0	3.2	0	0	0	0	0	0	0	0	0	0	7.4



N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
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File Name : 122951 BB
Site Code : 11065
Start Date : 6/14/2012
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Groups Printed- Cars - Heavy Vehicles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	1	122	0	0	0	2	28	0	0	0	0	0	0	0	0	0	153
04:15 PM	2	134	0	0	0	0	34	0	0	0	0	0	0	0	0	0	170
04:30 PM	1	155	0	0	0	2	31	0	0	0	0	0	0	0	0	0	189
04:45 PM	2	138	0	0	0	2	43	0	0	0	0	0	0	0	0	0	185
Total	6	549	0	0	0	6	136	0	0	0	0	0	0	0	0	0	697
05:00 PM	1	181	0	0	0	1	47	0	0	0	0	0	0	0	0	0	230
05:15 PM	2	178	0	0	0	1	68	0	0	0	0	0	0	0	0	0	249
05:30 PM	0	143	0	0	0	1	30	0	0	0	0	0	0	0	0	0	174
05:45 PM	1	108	0	0	0	1	35	0	0	0	0	0	0	0	0	0	145
Total	4	610	0	0	0	4	180	0	0	0	0	0	0	0	0	0	798
Grand Total	10	1159	0	0	0	10	316	0	0	0	0	0	0	0	0	0	1495
Apprch %	0.9	99.1	0	0	0	3.1	96.9	0	0	0	0	0	0	0	0	0	
Total %	0.7	77.5	0	0	0	0.7	21.1	0	0	0	0	0	0	0	0	0	
Cars	10	1131	0	0	0	10	313	0	0	0	0	0	0	0	0	0	1464
% Cars	100	97.6	0	0	0	100	99.1	0	0	0	0	0	0	0	0	0	97.9
Heavy Vehicles	0	28	0	0	0	0	3	0	0	0	0	0	0	0	0	0	31
% Heavy Vehicles	0	2.4	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0	2.1

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	155	0	0	156	0	**2**	**31**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**189**
04:45 PM	**2**	**138**	**0**	**0**	**140**	**0**	**2**	**43**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**185**
05:00 PM	**1**	**181**	0	0	**182**	0	1	47	0	48	0	0	0	0	0	0	0	0	0	0	230
05:15 PM	2	178	0	0	180	0	1	**68**		**69**	0	0	0	0	0	0	0	0	0	0	**249**
Total Volume	6	652	0	0	658	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	853
% App. Total	0.9	99.1	0	0		0	3.1	96.9	0		0	0	0	0		0	0	0	0		
PHF	.750	.901	.000	.000	.904	.000	.750	.695	.000	.707	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.856
Cars	6	636	0	0	642	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	837
% Cars	100	97.5	0	0	97.6	0	100	100	0	100	0	0	0	0	0	0	0	0	0	0	98.1
Heavy Vehicles	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
% Heavy Vehicles	0	2.5	0	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 BB
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	1	120	0	0	0	2	28	0	0	0	0	0	0	0	0	0	151
04:15 PM	2	129	0	0	0	0	32	0	0	0	0	0	0	0	0	0	163
04:30 PM	1	150	0	0	0	2	31	0	0	0	0	0	0	0	0	0	184
04:45 PM	2	134	0	0	0	2	43	0	0	0	0	0	0	0	0	0	181
Total	6	533	0	0	0	6	134	0	0	0	0	0	0	0	0	0	679
05:00 PM	1	177	0	0	0	1	47	0	0	0	0	0	0	0	0	0	226
05:15 PM	2	175	0	0	0	1	68	0	0	0	0	0	0	0	0	0	246
05:30 PM	0	140	0	0	0	1	30	0	0	0	0	0	0	0	0	0	171
05:45 PM	1	106	0	0	0	1	34	0	0	0	0	0	0	0	0	0	142
Total	4	598	0	0	0	4	179	0	0	0	0	0	0	0	0	0	785
Grand Total	10	1131	0	0	0	10	313	0	0	0	0	0	0	0	0	0	1464
Apprch %	0.9	99.1	0	0	0	3.1	96.9	0	0	0	0	0	0	0	0	0	
Total %	0.7	77.3	0	0	0	0.7	21.4	0	0	0	0	0	0	0	0	0	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	150	0	0	151	0	**2**	**31**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**184**
04:45 PM	**2**	**134**	**0**	**0**	**136**	**0**	**2**	**43**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**181**
05:00 PM	**1**	**177**	0	0	**178**	0	1	47	0	48	0	0	0	0	0	0	0	0	0	0	226
05:15 PM	2	175	0	0	177	0	1	**68**		**69**	0	0	0	0	0	0	0	0	0	0	**246**
Total Volume	6	636	0	0	642	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	837
% App. Total	0.9	99.1	0	0		0	3.1	96.9	0		0	0	0	0		0	0	0	0		
PHF	.750	.898	.000	.000	.902	.000	.750	.695	.000	.707	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.851

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 BB
Site Code : 11065
Start Date : 6/14/2012
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Groups Printed- Heavy Vehicles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	5	0	0	0	0	2	0	0	0	0	0	0	0	0	0	7
04:30 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:45 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	16	0	0	0	0	2	0	0	0	0	0	0	0	0	0	18
05:00 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Total	0	12	0	0	0	0	1	0	0	0	0	0	0	0	0	0	13
Grand Total	0	28	0	0	0	0	3	0	0	0	0	0	0	0	0	0	31
Apprch %	0	100	0	0	0	0	100	0	0	0	0	0	0	0	0	0	
Total %	0	90.3	0	0	0	0	9.7	0	0	0	0	0	0	0	0	0	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	**5**	0	0	**5**	0	0	**2**	**0**	**2**	0	0	0	0	0	0	0	0	0	0	**7**
04:30 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:45 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00 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	18	0	0	18	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	20
% App. Total	0	100	0	0		0	0	100	0		0	0	0	0		0	0	0	0		
PHF	.000	.900	.000	.000	.900	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.714

N/S: Shawmut Avenue
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Groups Printed- Peds and Bicycles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	8	0	0	1	18	0	0	0	9	0	0	0	11	47
04:15 PM	0	2	0	14	0	0	0	8	0	1	0	2	0	0	0	6	33
04:30 PM	0	1	0	6	0	0	0	12	0	0	0	4	0	0	0	5	28
04:45 PM	0	1	0	5	0	0	0	6	0	0	0	4	0	0	0	6	22
Total	0	4	0	33	0	0	1	44	0	1	0	19	0	0	0	28	130
05:00 PM	0	3	0	10	0	0	1	7	0	6	0	1	0	0	0	6	34
05:15 PM	0	3	0	10	0	0	0	12	0	1	0	4	0	0	0	3	33
05:30 PM	0	0	0	4	0	0	0	13	0	1	0	5	0	0	0	5	28
05:45 PM	0	2	0	3	0	0	0	1	0	0	0	2	0	0	0	9	17
Total	0	8	0	27	0	0	1	33	0	8	0	12	0	0	0	23	112
Grand Total	0	12	0	60	0	0	2	77	0	9	0	31	0	0	0	51	242
Apprch %	0	16.7	0	83.3	0	0	2.5	97.5	0	22.5	0	77.5	0	0	0	100	
Total %	0	5	0	24.8	0	0	0.8	31.8	0	3.7	0	12.8	0	0	0	21.1	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	8	8	0	0	**1**	**18**	**19**	0	0	0	**9**	**9**	0	0	0	**11**	**11**	**47**
04:15 PM	0	**2**	0	**14**	**16**	0	0	0	8	8	0	**1**									
04:30 PM	**0**	**1**	**0**	**6**	**7**	**0**	**0**	**0**	**12**	**12**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**5**	**5**	**28**
04:45 PM	**0**	**1**	**0**	**5**	**6**	**0**	**0**	**0**	**6**	**6**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**6**	**6**	**22**
Total Volume	0	4	0	33	37	0	0	1	44	45	0	1	0	19	20	0	0	0	28	28	130
% App. Total	0	10.8	0	89.2		0	0	2.2	97.8		0	5	0	95		0	0	0	100		
PHF	.000	.500	.000	.589	.578	.000	.000	.250	.611	.592	.000	.250	.000	.528	.556	.000	.000	.000	.636	.636	.691

N/S: Shawmut Avenue
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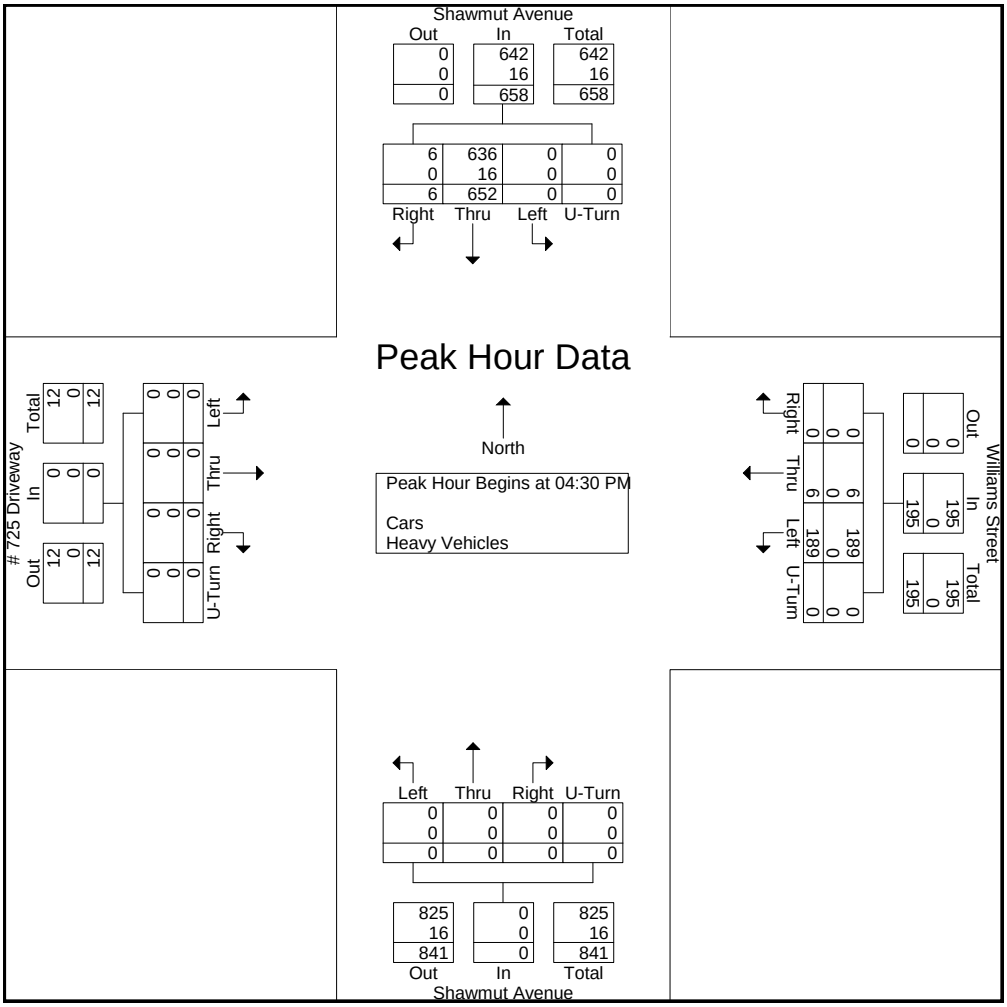
	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	155	0	0	156	0	**2**	**31**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**189**
04:45 PM	**2**	**138**	**0**	**0**	**140**	**0**	**2**	**43**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**185**
05:00 PM	**1**	**181**	0	0	**182**	0	1	47	0	48	0	0	0	0	0	0	0	0	0	0	230
05:15 PM	2	178	0	0	180	0	1	**68**		**69**	0	0	0	0	0	0	0	0	0	0	**249**
Total Volume	6	652	0	0	658	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	853
% App. Total	0.9	99.1	0	0		0	3.1	96.9	0		0	0	0	0		0	0	0	0		
PHF	.750	.901	.000	.000	.904	.000	.750	.695	.000	.707	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.856
Cars	6	636	0	0	642	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	837
% Cars	100	97.5	0	0	97.6	0	100	100	0	100	0	0	0	0	0	0	0	0	0	0	98.1
Heavy Vehicles	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
% Heavy Vehicles	0	2.5	0	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9



N/S: Washington Street
W: Tropical Foods Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 C
Site Code : 11065
Start Date : 6/14/2012
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Groups Printed- Cars - Heavy Vehicles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	4	84	0	129	2	0	2	2	0	223
07:15 AM	5	90	0	144	4	1	0	0	0	244
07:30 AM	3	96	0	145	7	0	4	2	0	257
07:45 AM	12	92	1	146	7	0	3	4	0	265
Total	24	362	1	564	20	1	9	8	0	989
08:00 AM	4	74	0	157	5	0	3	9	0	252
08:15 AM	3	95	0	144	2	0	5	2	0	251
08:30 AM	6	96	0	145	7	0	4	3	0	261
08:45 AM	5	92	0	127	2	0	5	10	0	241
Total	18	357	0	573	16	0	17	24	0	1005
Grand Total	42	719	1	1137	36	1	26	32	0	1994
Apprch %	5.5	94.4	0.1	96.8	3.1	0.1	44.8	55.2	0	
Total %	2.1	36.1	0.1	57	1.8	0.1	1.3	1.6	0	
Cars	38	601	1	992	34	1	22	31	0	1720
% Cars	90.5	83.6	100	87.2	94.4	100	84.6	96.9	0	86.3
Heavy Vehicles	4	118	0	145	2	0	4	1	0	274
% Heavy Vehicles	9.5	16.4	0	12.8	5.6	0	15.4	3.1	0	13.7

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**12**	92	**1**	**105**	146	**7**	0	153	3	4	0	7	**265**
08:00 AM	4	74	0	78	**157**	5	0	**162**	3	**9**		**12**	252
08:15 AM	3	95	0	98	144	2	0	146	**5**	2	0	7	251
08:30 AM	6	**96**											
Total Volume	**25**	**357**	**1**	**383**	**592**	**21**	**0**	**613**	**15**	**18**	**0**	**33**	**1029**
% App. Total	**6.5**	**93.2**	**0.3**		**96.6**	**3.4**	**0**		**45.5**	**54.5**	**0**		
PHF	**.521**	**.930**	**.250**	**.912**	**.943**	**.750**	**.000**	**.946**	**.750**	**.500**	**.000**	**.688**	**.971**
Cars	**23**	**301**	**1**	**325**	**519**	**19**	**0**	**538**	**13**	**18**	**0**	**31**	**894**
% Cars	**92.0**	**84.3**	**100**	**84.9**	**87.7**	**90.5**	**0**	**87.8**	**86.7**	**100**	**0**	**93.9**	**86.9**
Heavy Vehicles	**2**	**56**	**0**	**58**	**73**	**2**	**0**	**75**	**2**	**0**	**0**	**2**	**135**
% Heavy Vehicles	8.0	15.7	0	15.1	12.3	9.5	0	12.2	13.3	0	0	6.1	13.1

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Site Code : 11065
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Groups Printed- Cars

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	3	67	0	107	2	0	1	2	0	182
07:15 AM	5	77	0	130	4	1	0	0	0	217
07:30 AM	2	82	0	128	7	0	3	2	0	224
07:45 AM	11	75	1	127	7	0	2	4	0	227
Total	21	301	1	492	20	1	6	8	0	850
08:00 AM	3	59	0	136	4	0	3	9	0	214
08:15 AM	3	83	0	127	2	0	5	2	0	222
08:30 AM	6	84	0	129	6	0	3	3	0	231
08:45 AM	5	74	0	108	2	0	5	9	0	203
Total	17	300	0	500	14	0	16	23	0	870
Grand Total	38	601	1	992	34	1	22	31	0	1720
Apprch %	5.9	93.9	0.2	96.6	3.3	0.1	41.5	58.5	0	
Total %	2.2	34.9	0.1	57.7	2	0.1	1.3	1.8	0	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**11**	75	**1**	**87**	**127**	**7**	0	134	2	4	0	6	227
08:00 AM	3	59	0	62	**136**	4	0	**140**	3	**9**		**12**	214
08:15 AM	3	83	0	86	127	2	0	129	**5**	2	0	7	222
08:30 AM	6	**84**		**90**	129	6	0	135	3	3	0	6	**231**
Total Volume	23	301	1	325	519	19	0	538	13	18	0	31	894
% App. Total	7.1	92.6	0.3		96.5	3.5	0		41.9	58.1	0		
PHF	.523	.896	.250	.903	.954	.679	.000	.961	.650	.500	.000	.646	.968

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File Name : 122951 C
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Groups Printed- Heavy Vehicles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	1	17	0	22	0	0	1	0	0	41
07:15 AM	0	13	0	14	0	0	0	0	0	27
07:30 AM	1	14	0	17	0	0	1	0	0	33
07:45 AM	1	17	0	19	0	0	1	0	0	38
Total	3	61	0	72	0	0	3	0	0	139
08:00 AM	1	15	0	21	1	0	0	0	0	38
08:15 AM	0	12	0	17	0	0	0	0	0	29
08:30 AM	0	12	0	16	1	0	1	0	0	30
08:45 AM	0	18	0	19	0	0	0	1	0	38
Total	1	57	0	73	2	0	1	1	0	135
Grand Total	4	118	0	145	2	0	4	1	0	274
Apprch %	3.3	96.7	0	98.6	1.4	0	80	20	0	
Total %	1.5	43.1	0	52.9	0.7	0	1.5	0.4	0	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	**1**	**17**	**0**	**18**	**22**	0	0	**22**	**1**	0	0	**1**	**41**
07:15 AM	0	13	0	13	14	0	0	14	0	0	0	0	27
07:30 AM	1	14	0	15	17	0	0	17	1	0	0	1	33
07:45 AM	1	17	0	18	19	0	0	19	1	0	0	1	38
Total Volume	3	61	0	64	72	0	0	72	3	0	0	3	139
% App. Total	4.7	95.3	0		100	0	0		100	0	0		
PHF	.750	.897	.000	.889	.818	.000	.000	.818	.750	.000	.000	.750	.848

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Groups Printed- Peds and Bicycles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
07:00 AM	0	1	0	2	0	1	0	0	4	8
07:15 AM	0	1	3	2	0	1	0	0	16	23
07:30 AM	0	2	2	1	0	3	0	0	21	29
07:45 AM	1	3	0	7	0	4	0	0	14	29
Total	1	7	5	12	0	9	0	0	55	89
08:00 AM	0	0	3	6	0	0	0	1	7	17
08:15 AM	0	0	0	0	0	0	0	0	24	24
08:30 AM	0	1	1	7	0	4	0	0	16	29
08:45 AM	0	1	1	5	0	4	0	0	25	36
Total	0	2	5	18	0	8	0	1	72	106
Grand Total	1	9	10	30	0	17	0	1	127	195
Apprch %	5	45	50	63.8	0	36.2	0	0.8	99.2	
Total %	0.5	4.6	5.1	15.4	0	8.7	0	0.5	65.1	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	**3**	**3**	6	0	0	6	0	**1**	**7**	**8**	**17**
08:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	**24**	**24**
08:30 AM	**0**	**1**	**1**	**2**	**7**	0	**4**	**11**	0	0	16	16	29
08:45 AM	0	1	1	2	5	0	4	9	0	0	**25**	**25**	**36**
Total Volume	0	2	5	7	18	0	8	26	0	1	72	73	106
% App. Total	0	28.6	71.4		69.2	0	30.8		0	1.4	98.6		
PHF	.000	.500	.417	.583	.643	.000	.500	.591	.000	.250	.720	.730	.736

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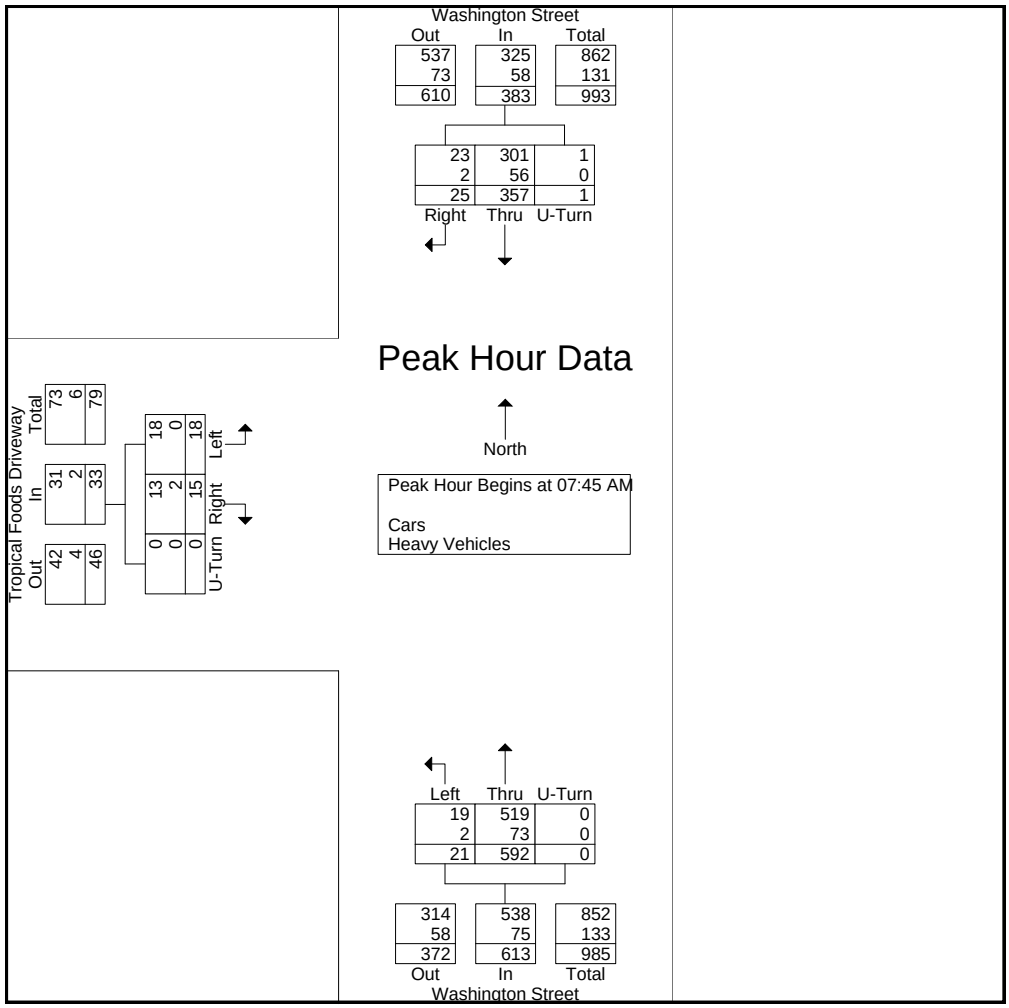
	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**12**	92	**1**	**105**	146	**7**	0	153	3	4	0	7	**265**
08:00 AM	4	74	0	78	**157**	5	0	**162**	3	**9**		**12**	252
08:15 AM	3	95	0	98	144	2	0	146	**5**	2	0	7	251
08:30 AM	6	**96**											
Total Volume	**25**	**357**	**1**	**383**	**592**	**21**	**0**	**613**	**15**	**18**	**0**	**33**	**1029**
% App. Total	**6.5**	**93.2**	**0.3**		**96.6**	**3.4**	**0**		**45.5**	**54.5**	**0**		
PHF	**.521**	**.930**	**.250**	**.912**	**.943**	**.750**	**.000**	**.946**	**.750**	**.500**	**.000**	**.688**	**.971**
Cars	**23**	**301**	**1**	**325**	**519**	**19**	**0**	**538**	**13**	**18**	**0**	**31**	**894**
% Cars	**92.0**	**84.3**	**100**	**84.9**	**87.7**	**90.5**	**0**	**87.8**	**86.7**	**100**	**0**	**93.9**	**86.9**
Heavy Vehicles	**2**	**56**	**0**	**58**	**73**	**2**	**0**	**75**	**2**	**0**	**0**	**2**	**135**
% Heavy Vehicles	8.0	15.7	0	15.1	12.3	9.5	0	12.2	13.3	0	0	6.1	13.1



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Groups Printed- Cars - Heavy Vehicles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	10	88	0	129	8	0	7	5	0	247
04:15 PM	13	125	0	130	25	0	8	8	0	309
04:30 PM	15	141	0	141	13	0	6	10	0	326
04:45 PM	10	153	0	152	15	0	10	12	0	352
Total	48	507	0	552	61	0	31	35	0	1234
05:00 PM	15	151	0	140	9	0	13	11	4	343
05:15 PM	13	168	0	149	14	0	12	12	0	368
05:30 PM	13	132	0	136	17	0	11	2	0	311
05:45 PM	5	122	0	121	10	0	15	8	0	281
Total	46	573	0	546	50	0	51	33	4	1303
Grand Total	94	1080	0	1098	111	0	82	68	4	2537
Apprch %	8	92	0	90.8	9.2	0	53.2	44.2	2.6	
Total %	3.7	42.6	0	43.3	4.4	0	3.2	2.7	0.2	
Cars	94	994	0	956	111	0	82	67	4	2308
% Cars	100	92	0	87.1	100	0	100	98.5	100	91
Heavy Vehicles	0	86	0	142	0	0	0	1	0	229
% Heavy Vehicles	0	8	0	12.9	0	0	0	1.5	0	9

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	**15**	141	0	156	141	13	0	154	6	10	0	16	326
04:45 PM	10	153	0	163	**152**	**15**	0	**167**	10	**12**			
05:00 PM	**15**	**151**	**0**	**166**	**140**	**9**	**0**	**149**	**13**	11	**4**	**28**	343
05:15 PM	13	**168**		**181**	149	14	0	163	12	12	0	24	**368**
Total Volume	53	613	0	666	582	51	0	633	41	45	4	90	1389
% App. Total	8	92	0		91.9	8.1	0		45.6	50	4.4		
PHF	.883	.912	.000	.920	.957	.850	.000	.948	.788	.938	.250	.804	.944
Cars	53	561	0	614	508	51	0	559	41	45	4	90	1263
% Cars	100	91.5	0	92.2	87.3	100	0	88.3	100	100	100	100	90.9
Heavy Vehicles	0	52	0	52	74	0	0	74	0	0	0	0	126
% Heavy Vehicles	0	8.5	0	7.8	12.7	0	0	11.7	0	0	0	0	9.1

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Groups Printed- Cars

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	10	80	0	112	8	0	7	5	0	222
04:15 PM	13	117	0	108	25	0	8	7	0	278
04:30 PM	15	128	0	125	13	0	6	10	0	297
04:45 PM	10	133	0	132	15	0	10	12	0	312
Total	48	458	0	477	61	0	31	34	0	1109
05:00 PM	15	144	0	115	9	0	13	11	4	311
05:15 PM	13	156	0	136	14	0	12	12	0	343
05:30 PM	13	119	0	121	17	0	11	2	0	283
05:45 PM	5	117	0	107	10	0	15	8	0	262
Total	46	536	0	479	50	0	51	33	4	1199
Grand Total	94	994	0	956	111	0	82	67	4	2308
Apprch %	8.6	91.4	0	89.6	10.4	0	53.6	43.8	2.6	
Total %	4.1	43.1	0	41.4	4.8	0	3.6	2.9	0.2	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	**15**	128	0	143	125	13	0	138	6	10	0	16	297
04:45 PM	10	133	0	143	132	**15**	0	147	10	**12**			
05:00 PM	**15**	**144**	**0**	**159**	**115**	**9**	**0**	**124**	**13**	11	**4**	**28**	311
05:15 PM	13	**156**		**169**	**136**	14	0	**150**	12	12	0	24	**343**
Total Volume	53	561	0	614	508	51	0	559	41	45	4	90	1263
% App. Total	8.6	91.4	0		90.9	9.1	0		45.6	50	4.4		
PHF	.883	.899	.000	.908	.934	.850	.000	.932	.788	.938	.250	.804	.921

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Groups Printed- Heavy Vehicles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	0	8	0	17	0	0	0	0	0	25
04:15 PM	0	8	0	22	0	0	0	1	0	31
04:30 PM	0	13	0	16	0	0	0	0	0	29
04:45 PM	0	20	0	20	0	0	0	0	0	40
Total	0	49	0	75	0	0	0	1	0	125
05:00 PM	0	7	0	25	0	0	0	0	0	32
05:15 PM	0	12	0	13	0	0	0	0	0	25
05:30 PM	0	13	0	15	0	0	0	0	0	28
05:45 PM	0	5	0	14	0	0	0	0	0	19
Total	0	37	0	67	0	0	0	0	0	104
Grand Total	0	86	0	142	0	0	0	1	0	229
Apprch %	0	100	0	100	0	0	0	100	0	
Total %	0	37.6	0	62	0	0	0	0.4	0	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	8	0	8	22	0	0	22	0	**1**	**0**	**1**	31
04:30 PM	0	13	0	13	16	0	0	16	0	0	0	0	29
04:45 PM	0	**20**		**20**	20	0	0	20	0	0	0	0	**40**
05:00 PM	0	7	0	7	**25**	0	0	**25**	0	0	0	0	32
Total Volume	0	48	0	48	83	0	0	83	0	1	0	1	132
% App. Total	0	100	0		100	0	0		0	100	0		
PHF	.000	.600	.000	.600	.830	.000	.000	.830	.000	.250	.000	.250	.825

N/S: Washington Street
W: Tropical Foods Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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Groups Printed- Peds and Bicycles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
04:00 PM	0	0	0	2	0	2	0	0	28	32
04:15 PM	0	2	0	3	0	0	0	0	33	38
04:30 PM	0	4	2	0	0	0	0	0	44	50
04:45 PM	0	8	2	2	0	1	0	1	40	54
Total	0	14	4	7	0	3	0	1	145	174
05:00 PM	0	3	3	2	0	2	1	0	31	42
05:15 PM	0	2	1	1	0	0	0	0	52	56
05:30 PM	0	1	1	1	0	7	0	0	38	48
05:45 PM	0	4	2	2	0	3	0	0	49	60
Total	0	10	7	6	0	12	1	0	170	206
Grand Total	0	24	11	13	0	15	1	1	315	380
Apprch %	0	68.6	31.4	46.4	0	53.6	0.3	0.3	99.4	
Total %	0	6.3	2.9	3.4	0	3.9	0.3	0.3	82.9	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	3	**3**	**6**	**2**	0	2	4	**1**	0	31	32	42
05:15 PM	0	2	1	3	1	0	0	1	0	0	**52**	**52**	56
05:30 PM	0	1	1	2	1	0	**7**	**8**	0	0	38	38	48
05:45 PM	0	**4**											**60**
Total Volume	0	10	7	17	6	0	12	18	1	0	170	171	206
% App. Total	0	58.8	41.2		33.3	0	66.7		0.6	0	99.4		
PHF	.000	.625	.583	.708	.750	.000	.429	.563	.250	.000	.817	.822	.858

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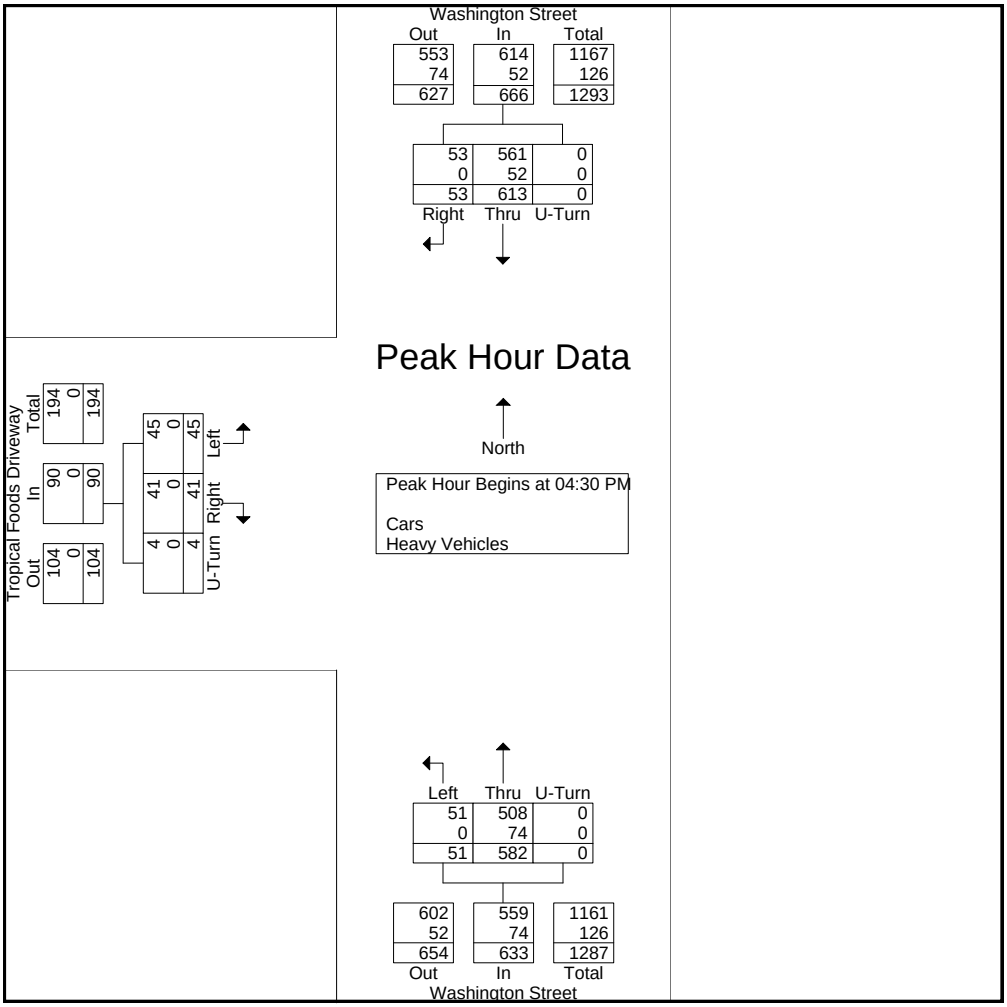
	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	**15**	141	0	156	141	13	0	154	6	10	0	16	326
04:45 PM	10	153	0	163	**152**	**15**	0	**167**	10	**12**			
05:00 PM	**15**	**151**	**0**	**166**	**140**	**9**	**0**	**149**	**13**	11	**4**	**28**	343
05:15 PM	13	**168**		**181**	149	14	0	163	12	12	0	24	**368**
Total Volume	53	613	0	666	582	51	0	633	41	45	4	90	1389
% App. Total	8	92	0		91.9	8.1	0		45.6	50	4.4		
PHF	.883	.912	.000	.920	.957	.850	.000	.948	.788	.938	.250	.804	.944
Cars	53	561	0	614	508	51	0	559	41	45	4	90	1263
% Cars	100	91.5	0	92.2	87.3	100	0	88.3	100	100	100	100	90.9
Heavy Vehicles	0	52	0	52	74	0	0	74	0	0	0	0	126
% Heavy Vehicles	0	8.5	0	7.8	12.7	0	0	11.7	0	0	0	0	9.1



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Groups Printed- Cars - Heavy Vehicles

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	1	16	0	0	0	0	17
07:15 AM	1	0	0	0	16	0	0	0	0	17
07:30 AM	2	0	0	3	7	0	0	0	0	12
07:45 AM	3	0	0	0	23	0	0	0	0	26
Total	6	0	0	4	62	0	0	0	0	72
08:00 AM	1	0	0	4	25	0	0	0	0	30
08:15 AM	2	0	0	0	14	0	0	0	0	16
08:30 AM	0	0	0	2	27	0	0	0	0	29
08:45 AM	1	0	0	4	17	0	0	0	0	22
Total	4	0	0	10	83	0	0	0	0	97
Grand Total	10	0	0	14	145	0	0	0	0	169
Apprch %	100	0	0	8.8	91.2	0	0	0	0	
Total %	5.9	0	0	8.3	85.8	0	0	0	0	
Cars	9	0	0	13	141	0	0	0	0	163
% Cars	90	0	0	92.9	97.2	0	0	0	0	96.4
Heavy Vehicles	1	0	0	1	4	0	0	0	0	6
% Heavy Vehicles	10	0	0	7.1	2.8	0	0	0	0	3.6

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**3**	0	0	**3**	0	23	0	23	0	0	0	0	26
08:00 AM	1	0	0	1	**4**	25	0	**29**	0	0	0	0	**30**
08:15 AM	2	0	0	2	0	14	0	14	0	0	0	0	16
08:30 AM	0	0	0	0	2	**27**	0	29	0	0	0	0	29
Total Volume	6	0	0	6	6	89	0	95	0	0	0	0	101
% App. Total	100	0	0		6.3	93.7	0		0	0	0		
PHF	.500	.000	.000	.500	.375	.824	.000	.819	.000	.000	.000	.000	.842
Cars	6	0	0	6	6	88	0	94	0	0	0	0	100
% Cars	100	0	0	100	100	98.9	0	98.9	0	0	0	0	99.0
Heavy Vehicles	0	0	0	0	0	1	0	1	0	0	0	0	1
% Heavy Vehicles	0	0	0	0	0	1.1	0	1.1	0	0	0	0	1.0

N: Tropical Foods Driveway
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Groups Printed- Cars

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	1	16	0	0	0	0	17
07:15 AM	0	0	0	0	15	0	0	0	0	15
07:30 AM	2	0	0	3	6	0	0	0	0	11
07:45 AM	3	0	0	0	23	0	0	0	0	26
Total	5	0	0	4	60	0	0	0	0	69
08:00 AM	1	0	0	4	24	0	0	0	0	29
08:15 AM	2	0	0	0	14	0	0	0	0	16
08:30 AM	0	0	0	2	27	0	0	0	0	29
08:45 AM	1	0	0	3	16	0	0	0	0	20
Total	4	0	0	9	81	0	0	0	0	94
Grand Total	9	0	0	13	141	0	0	0	0	163
Apprch %	100	0	0	8.4	91.6	0	0	0	0	
Total %	5.5	0	0	8	86.5	0	0	0	0	

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**3**	0	0	**3**	0	23	0	23	0	0	0	0	26
08:00 AM	1	0	0	1	**4**	24	0	28	0	0	0	0	**29**
08:15 AM	2	0	0	2	0	14	0	14	0	0	0	0	16
08:30 AM	0	0	0	0	2	**27**	0	**29**	0	0	0	0	29
Total Volume	6	0	0	6	6	88	0	94	0	0	0	0	100
% App. Total	100	0	0		6.4	93.6	0		0	0	0		
PHF	.500	.000	.000	.500	.375	.815	.000	.810	.000	.000	.000	.000	.862

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Groups Printed- Heavy Vehicles

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	1	0	0	0	0	2
07:30 AM	0	0	0	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	2	0	0	0	0	3
08:00 AM	0	0	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	1	1	0	0	0	0	2
Total	0	0	0	1	2	0	0	0	0	3
Grand Total	1	0	0	1	4	0	0	0	0	6
Apprch %	100	0	0	20	80	0	0	0	0	
Total %	16.7	0	0	16.7	66.7	0	0	0	0	

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	**1**	0	0	**1**	0	**1**	0	**1**	0	0	0	0	**2**
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	1	0	0	1	0	3	0	3	0	0	0	0	4
% App. Total	100	0	0		0	100	0		0	0	0		
PHF	.250	.000	.000	.250	.000	.750	.000	.750	.000	.000	.000	.000	.500

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Groups Printed- Peds and Bicycles

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	5	0	0	0	0	0	0	5
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	4	0	0	0	0	0	0	4
Total	0	0	10	0	0	0	0	0	0	10
08:00 AM	0	0	4	0	0	0	0	0	0	4
08:15 AM	0	0	1	0	0	0	0	0	0	1
08:30 AM	0	0	2	0	1	0	0	0	0	3
08:45 AM	0	0	7	0	0	0	0	0	0	7
Total	0	0	14	0	1	0	0	0	0	15
Grand Total	0	0	24	0	1	0	0	0	0	25
Apprch %	0	0	100	0	100	0	0	0	0	
Total %	0	0	96	0	4	0	0	0	0	

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	4	4	0	0	0	0	0	0	0	0	4
08:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	2	2	0	**1**	0	**1**	0	0	0	0	3
08:45 AM	0	0	**7**	**7**	0	0	0	0	0	0	0	0	**7**
Total Volume	0	0	14	14	0	1	0	1	0	0	0	0	15
% App. Total	0	0	100		0	100	0		0	0	0		
PHF	.000	.000	.500	.500	.000	.250	.000	.250	.000	.000	.000	.000	.536

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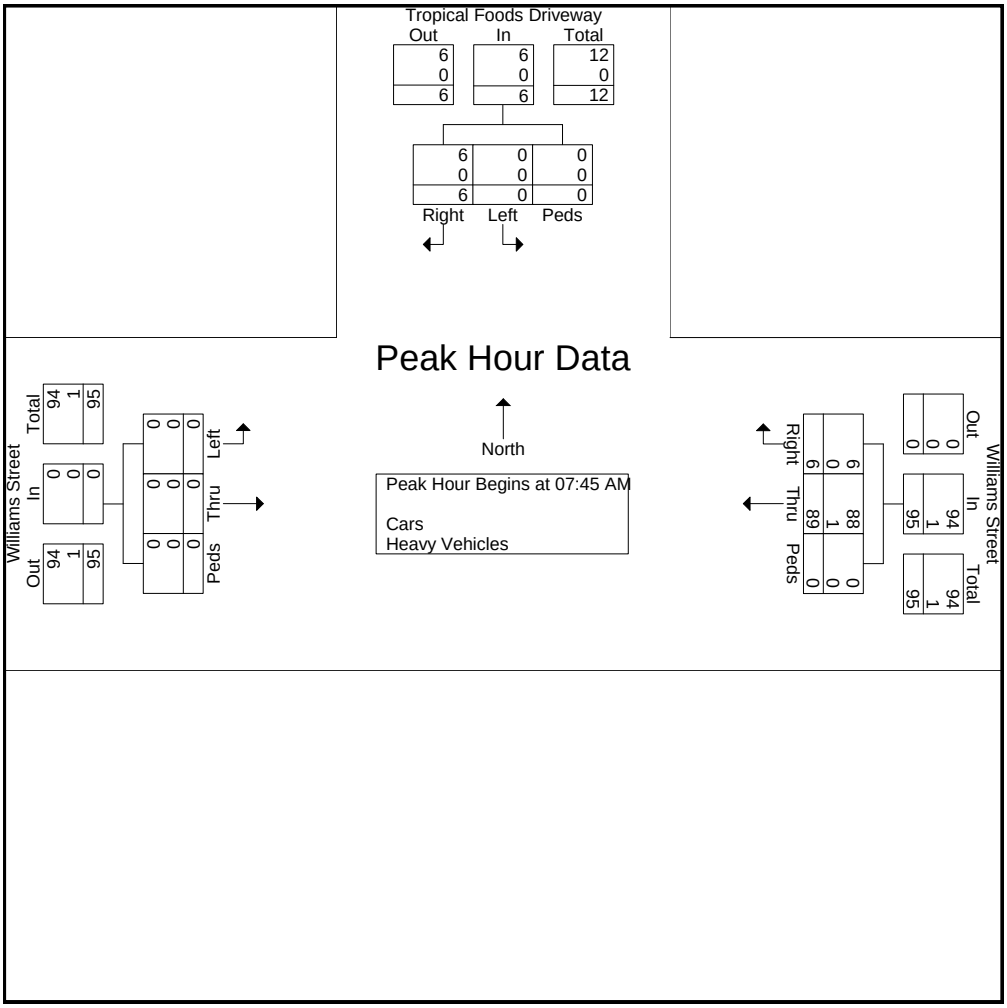
	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**3**	0	0	**3**	0	23	0	23	0	0	0	0	26
08:00 AM	1	0	0	1	**4**	25	0	**29**	0	0	0	0	**30**
08:15 AM	2	0	0	2	0	14	0	14	0	0	0	0	16
08:30 AM	0	0	0	0	2	**27**	0	29	0	0	0	0	29
Total Volume	6	0	0	6	6	89	0	95	0	0	0	0	101
% App. Total	100	0	0		6.3	93.7	0		0	0	0		
PHF	.500	.000	.000	.500	.375	.824	.000	.819	.000	.000	.000	.000	.842
Cars	6	0	0	6	6	88	0	94	0	0	0	0	100
% Cars	100	0	0	100	100	98.9	0	98.9	0	0	0	0	99.0
Heavy Vehicles	0	0	0	0	0	1	0	1	0	0	0	0	1
% Heavy Vehicles	0	0	0	0	0	1.1	0	1.1	0	0	0	0	1.0



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Groups Printed- Cars - Heavy Vehicles

	Tropical Foods Driveway From North		Williams Street From East		Williams Street From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
04:00 PM	2	0	1	28	0	0	31
04:15 PM	7	0	2	25	0	0	34
04:30 PM	10	0	0	24	0	0	34
04:45 PM	6	0	0	36	0	0	42
Total	25	0	3	113	0	0	141
05:00 PM	2	0	3	44	0	0	49
05:15 PM	4	0	1	55	0	0	60
05:30 PM	2	0	0	33	0	0	35
05:45 PM	4	0	1	25	0	0	30
Total	12	0	5	157	0	0	174
Grand Total	37	0	8	270	0	0	315
Apprch %	100	0	2.9	97.1	0	0	
Total %	11.7	0	2.5	85.7	0	0	
Cars	37	0	8	264	0	0	309
% Cars	100	0	100	97.8	0	0	98.1
Heavy Vehicles	0	0	0	6	0	0	6
% Heavy Vehicles	0	0	0	2.2	0	0	1.9

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**6**	0	**6**	0	36	36	0	0	0	42
05:00 PM	2	0	2	**3**	44	47	0	0	0	49
05:15 PM	4	0	4	1	**55**	**56**	0	0	0	**60**
05:30 PM	**2**	**0**	**2**	**0**	**33**	**33**	**0**	**0**	**0**	**35**
Total Volume	**14**	**0**	**14**	**4**	**168**	**172**	**0**	**0**	**0**	**186**
% App. Total	**100**	**0**		**2.3**	**97.7**		**0**	**0**		
PHF	**.583**	**.000**	**.583**	**.333**	**.764**	**.768**	**.000**	**.000**	**.000**	**.775**
Cars	**14**	**0**	**14**	**4**	**166**	**170**	**0**	**0**	**0**	**184**
% Cars	**100**	**0**	**100**	**100**	**98.8**	**98.8**	**0**	**0**	**0**	**98.9**
Heavy Vehicles	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**2**
% Heavy Vehicles	**0**	**0**	**0**	**0**	**1.2**	**1.2**	**0**	**0**	**0**	**1.1**

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Groups Printed- Cars

	Tropical Foods Driveway From North		Williams Street From East		Williams Street From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
04:00 PM	2	0	1	28	0	0	31
04:15 PM	7	0	2	23	0	0	32
04:30 PM	10	0	0	23	0	0	33
04:45 PM	6	0	0	36	0	0	42
Total	25	0	3	110	0	0	138
05:00 PM	2	0	3	43	0	0	48
05:15 PM	4	0	1	55	0	0	60
05:30 PM	2	0	0	32	0	0	34
05:45 PM	4	0	1	24	0	0	29
Total	12	0	5	154	0	0	171
Grand Total	37	0	8	264	0	0	309
Apprch %	100	0	2.9	97.1	0	0	
Total %	12	0	2.6	85.4	0	0	

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**6**	0	**6**	0	36	36	0	0	0	42
05:00 PM	2	0	2	**3**	43	46	0	0	0	48
05:15 PM	4	0	4	1	**55**	**56**	0	0	0	**60**
05:30 PM	**2**	**0**	**2**	**0**	**32**	**32**	**0**	**0**	**0**	**34**
Total Volume	**14**	**0**	**14**	**4**	**166**	**170**	**0**	**0**	**0**	**184**
% App. Total	**100**	**0**		**2.4**	**97.6**		**0**	**0**		
PHF	**.583**	**.000**	**.583**	**.333**	**.755**	**.759**	**.000**	**.000**	**.000**	**.767**

N: Tropical Foods Driveway
E/W: Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

File Name : 122951 DD
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Heavy Vehicles

	Tropical Foods Driveway From North		Williams Street From East		Williams Street From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	2	0	0	2
04:30 PM	0	0	0	1	0	0	1
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	3
05:00 PM	0	0	0	1	0	0	1
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	0	1
05:45 PM	0	0	0	1	0	0	1
Total	0	0	0	3	0	0	3
Grand Total	0	0	0	6	0	0	6
Apprch %	0	0	0	100	0	0	
Total %	0	0	0	100	0	0	

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	**2**	**2**	0	0	0	**2**
04:30 PM	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
04:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
05:00 PM	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
Total Volume	**0**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**4**
% App. Total	**0**	**0**		**0**	**100**		**0**	**0**		
PHF	**.000**	**.000**	**.000**	**.000**	**.500**	**.500**	**.000**	**.000**	**.000**	**.500**

N: Tropical Foods Driveway
E/W: Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 122951 DD
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Peds and Bicycles

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
04:00 PM	0	0	10	0	0	0	0	0	0	10
04:15 PM	0	0	12	0	1	0	0	0	0	13
04:30 PM	0	0	10	0	0	0	0	0	0	10
04:45 PM	0	0	7	0	0	0	0	0	0	7
Total	0	0	39	0	1	0	0	0	0	40
05:00 PM	0	0	3	0	1	0	0	0	0	4
05:15 PM	0	0	7	0	0	0	0	0	0	7
05:30 PM	0	0	7	0	0	0	0	0	0	7
05:45 PM	0	0	7	0	0	0	0	0	0	7
Total	0	0	24	0	1	0	0	0	0	25
Grand Total	0	0	63	0	2	0	0	0	0	65
Apprch %	0	0	100	0	100	0	0	0	0	
Total %	0	0	96.9	0	3.1	0	0	0	0	

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	0	10	10	0	0	0	0	0	0	0	0	10
04:15 PM	0	0	**12**	**12**	0	**1**	0	**1**	0	0	0	0	**13**
04:30 PM	0	0	10	10	0	0	0	0	0	0	0	0	10
04:45 PM	0	0	7	7	0	0	0	0	0	0	0	0	7
Total Volume	0	0	39	39	0	1	0	1	0	0	0	0	40
% App. Total	0	0	100		0	100	0		0	0	0		
PHF	.000	.000	.813	.813	.000	.250	.000	.250	.000	.000	.000	.000	.769

N: Tropical Foods Driveway
E/W: Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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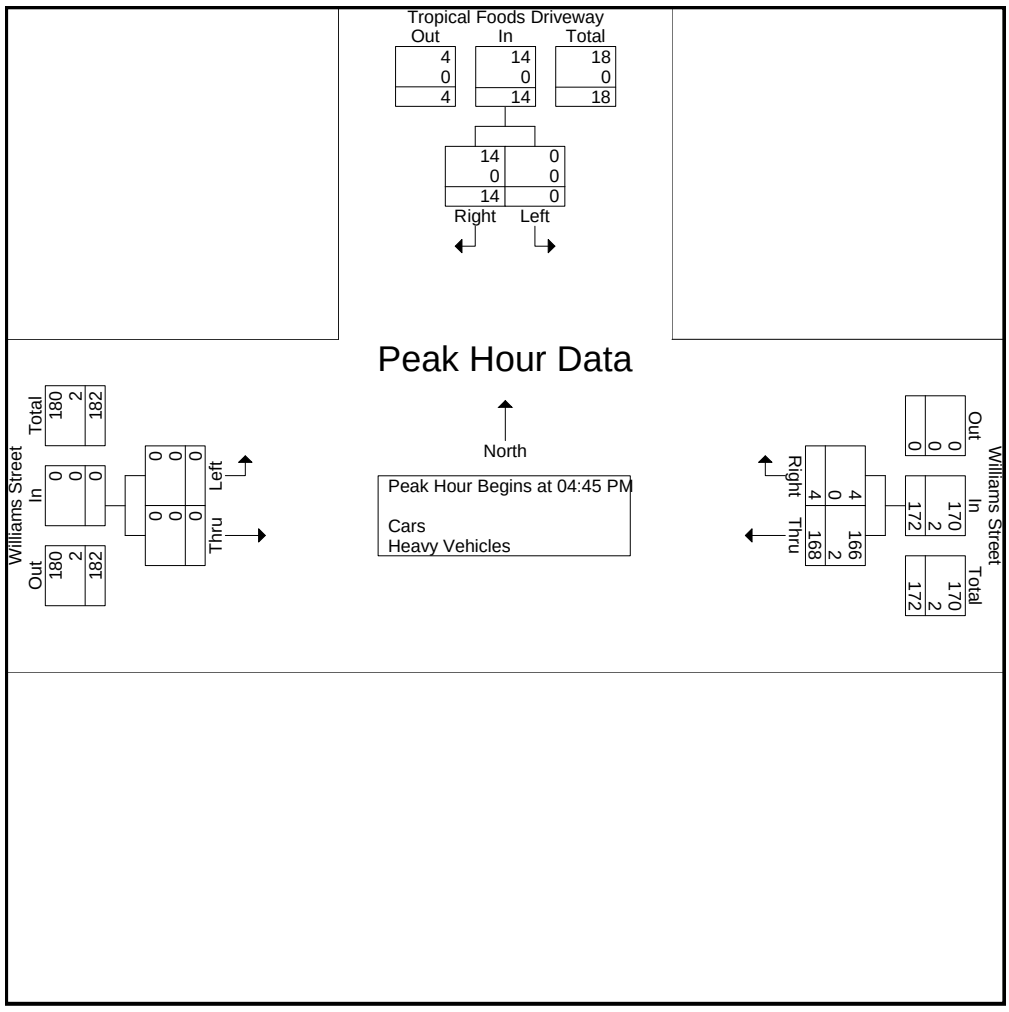
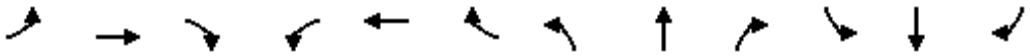
	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**6**	0	**6**	0	36	36	0	0	0	42
05:00 PM	2	0	2	**3**	44	47	0	0	0	49
05:15 PM	4	0	4	1	**55**	**56**	0	0	0	**60**
05:30 PM	**2**	**0**	**2**	**0**	**33**	**33**	**0**	**0**	**0**	**35**
Total Volume	**14**	**0**	**14**	**4**	**168**	**172**	**0**	**0**	**0**	**186**
% App. Total	**100**	**0**		**2.3**	**97.7**		**0**	**0**		
PHF	**.583**	**.000**	**.583**	**.333**	**.764**	**.768**	**.000**	**.000**	**.000**	**.775**
Cars	**14**	**0**	**14**	**4**	**166**	**170**	**0**	**0**	**0**	**184**
% Cars	**100**	**0**	**100**	**100**	**98.8**	**98.8**	**0**	**0**	**0**	**98.9**
Heavy Vehicles	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**2**
% Heavy Vehicles	**0**	**0**	**0**	**0**	**1.2**	**1.2**	**0**	**0**	**0**	**1.1**



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.998									0.994	
Flt Protected					0.995						0.993	
Satd. Flow (prot)	0	2786	0	0	2624	0	0	0	0	0	2755	0
Flt Permitted					0.652						0.993	
Satd. Flow (perm)	0	2786	0	0	1720	0	0	0	0	0	2755	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3									4	
Headway Factor	1.19	1.14	1.14	1.19	1.19	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			518			347			262	
Travel Time (s)		15.6			11.8			7.9			6.0	
Volume (vph)	0	1012	17	113	1118	0	0	0	0	32	191	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	12%	12%	6%	0%	0%	0%	0%	6%	3%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1065	18	119	1177	0	0	0	0	40	239	11
Lane Group Flow (vph)	0	1083	0	0	1296	0	0	0	0	0	290	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	61.0	0.0	12.0	73.0	0.0	0.0	0.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	61.0%	0.0%	12.0%	73.0%	0.0%	0.0%	0.0%	0.0%	27.0%	27.0%	0.0%
Maximum Green (s)		57.0		8.0						23.0	23.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	



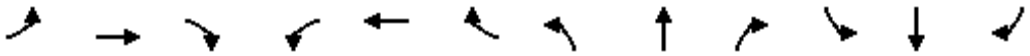
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		65.5			73.5						14.5	
Actuated g/C Ratio		0.66			0.74						0.14	
v/c Ratio		0.59			0.97						0.72	
Control Delay		5.5			23.4						50.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		5.5			23.4						50.4	
LOS		A			C						D	
Approach Delay		5.5			23.4						50.4	
Approach LOS		A			C						D	
90th %ile Green (s)		60.0		8.0						20.0	20.0	
90th %ile Term Code		Coord		Max						Ped	Ped	
70th %ile Green (s)		63.8		8.0						16.2	16.2	
70th %ile Term Code		Coord		Max						Gap	Gap	
50th %ile Green (s)		65.8		8.0						14.2	14.2	
50th %ile Term Code		Coord		Max						Gap	Gap	
30th %ile Green (s)		67.7		8.0						12.3	12.3	
30th %ile Term Code		Coord		Max						Gap	Gap	
10th %ile Green (s)		70.4		8.0						9.6	9.6	
10th %ile Term Code		Coord		Max						Gap	Gap	
Queue Length 50th (ft)		63			97						93	
Queue Length 95th (ft)		37			#110						112	
Internal Link Dist (ft)		605			438			267			182	
Turn Bay Length (ft)												
Base Capacity (vph)		1827			1337						637	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.59			0.97						0.46	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 59 (59%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 19.1 Intersection LOS: B
Intersection Capacity Utilization 95.9% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	96		0	120		80	70		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1330	2562	0	1243	2639	0	1090	1382	990	1364	1404	1275
Flt Permitted	0.180			0.157			0.580			0.236		
Satd. Flow (perm)	252	2562	0	205	2639	0	666	1382	990	339	1404	1275
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			6				45			57
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			535			201			237	
Travel Time (s)		11.8			12.2			4.6			5.4	
Volume (vph)	125	885	34	165	1099	42	77	459	86	47	184	55
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.93	0.93	0.93	0.93	0.93	0.93	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	12%	13%	6%	2%	20%	7%	27%	3%	9%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	132	932	36	177	1182	45	83	494	92	49	192	57
Lane Group Flow (vph)	132	968	0	177	1227	0	83	494	92	49	192	57
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	41.0	41.0		13.0			34.0	34.0	34.0	34.0	34.0	34.0
Total Split (s)	45.0	45.0	0.0	13.0	58.0	0.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	45.0%	45.0%	0.0%	13.0%	58.0%	0.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	41.0	41.0		50.0	54.0		38.0	38.0	38.0	38.0	38.0	38.0
Actuated g/C Ratio	0.41	0.41		0.50	0.54		0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	1.28	0.92		0.90	0.86		0.33	0.94	0.23	0.38	0.36	0.11
Control Delay	199.7	33.9		49.8	17.1		17.4	48.8	6.2	33.2	24.7	6.2
Queue Delay	0.0	0.0		0.0	0.2		0.0	16.9	0.0	0.0	0.0	0.0
Total Delay	199.7	33.9		49.8	17.3		17.4	65.8	6.2	33.2	24.7	6.2
LOS	F	C		D	B		B	E	A	C	C	A
Approach Delay		53.8			21.4			51.6			22.6	
Approach LOS		D			C			D			C	
90th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~108	285		76	144		39	306	19	22	87	0
Queue Length 95th (ft)	m#224	#427		m77	m140		m45	m#522	m21	60	146	25
Internal Link Dist (ft)		438			455			121			157	
Turn Bay Length (ft)	100			96			120		80	70		
Base Capacity (vph)	103	1053		196	1428		253	525	404	129	534	520
Starvation Cap Reductn	0	0		0	17		0	42	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.92		0.90	0.87		0.33	1.02	0.23	0.38	0.36	0.11

Intersection Summary

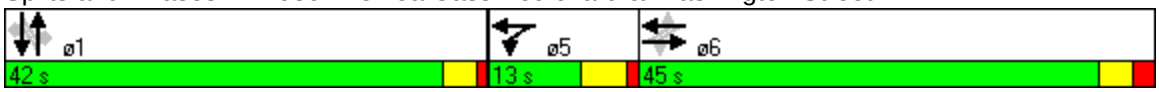
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 6 (6%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 127.7% ICU Level of Service H
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.

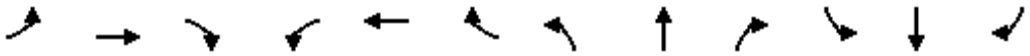
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	16	12	12	16	12	10	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.946				0.850		0.988	
Flt Protected					0.990		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1523	0	1454	1535	1064	1292	1312	0
Flt Permitted					0.990		0.091			0.212		
Satd. Flow (perm)	0	0	0	0	1523	0	139	1535	1064	288	1312	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					30				18		7	
Headway Factor	1.14	1.14	1.14	1.14	0.97	1.14	1.14	0.97	1.30	1.25	1.12	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		276			415			597			179	
Travel Time (s)		6.3			9.4			13.6			4.1	
Volume (vph)	0	0	0	39	64	74	11	556	39	60	289	20
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.89	0.74	0.84	0.55	0.95	0.70	0.88	0.91	0.75
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	5%	5%	9%	0%	13%	10%	5%	19%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0		0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	44	86	88	20	585	56	68	318	27
Lane Group Flow (vph)	0	0	0	0	218	0	20	585	56	68	345	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	6.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	10.0		
Total Split (s)	0.0	0.0	0.0	24.0	24.0	0.0	48.0	48.0	48.0	10.0	58.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	24.0%	24.0%	0.0%	48.0%	48.0%	48.0%	10.0%	58.0%	0.0%
Maximum Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

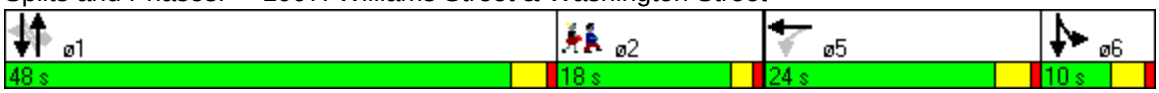


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					16.4		62.0	62.0	62.0	68.0	72.0	
Actuated g/C Ratio					0.16		0.62	0.62	0.62	0.68	0.72	
v/c Ratio					0.80		0.23	0.61	0.08	0.27	0.36	
Control Delay					33.4		22.4	18.1	8.7	8.6	8.0	
Queue Delay					0.1		0.0	1.1	0.0	0.0	0.5	
Total Delay					33.5		22.4	19.2	8.7	8.6	8.5	
LOS					C		C	B	A	A	A	
Approach Delay					33.5			18.4			8.5	
Approach LOS					C			B			A	
90th %ile Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				19.2	19.2		62.8	62.8	62.8	6.0		
70th %ile Term Code				Gap	Gap		Coord	Coord	Coord	Max		
50th %ile Green (s)				14.6	14.6		67.4	67.4	67.4	6.0		
50th %ile Term Code				Gap	Gap		Coord	Coord	Coord	Max		
30th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
30th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
10th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
10th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					83		4	175	7	10	71	
Queue Length 95th (ft)					m103		16	#539	27	m33	m165	
Internal Link Dist (ft)		196			335			517			99	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					329		86	952	667	256	947	
Starvation Cap Reductn					0		0	0	0	0	265	
Spillback Cap Reductn					3		0	165	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					0.67		0.23	0.74	0.08	0.27	0.51	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 83 (83%), Referenced to phase 1:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 63.8%		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.

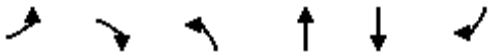
Splits and Phases: 1007: Williams Street & Washington Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	95	0	0	0	0	321
Peak Hour Factor	0.68	0.25	0.25	0.25	0.25	0.78
Hourly flow rate (vph)	140	0	0	0	0	412
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						347
pX, platoon unblocked	0.89					
vC, conflicting volume	412	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	337	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	100			100	
cM capacity (veh/h)	579	1091			1636	

Direction, Lane #	WB 1	SB 1
Volume Total	140	412
Volume Left	140	0
Volume Right	0	0
cSH	579	1700
Volume to Capacity	0.24	0.24
Queue Length 95th (ft)	23	0
Control Delay (s)	13.2	0.0
Lane LOS	B	
Approach Delay (s)	13.2	0.0
Approach LOS	B	

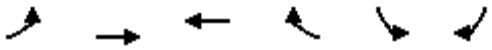
Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	10	23	607	359	24
Peak Hour Factor	0.42	0.50	0.82	0.94	0.92	0.50
Hourly flow rate (vph)	36	20	28	646	390	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				179	201	
pX, platoon unblocked	0.83	0.85	0.85			
vC, conflicting volume	1116	414	438			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	870	311	340			
tC, single (s)	6.4	6.4	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.5	2.2			
p0 queue free %	86	97	97			
cM capacity (veh/h)	262	586	1028			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	56	674	438
Volume Left	36	28	0
Volume Right	20	0	48
cSH	327	1028	1700
Volume to Capacity	0.17	0.03	0.26
Queue Length 95th (ft)	15	2	0
Control Delay (s)	18.3	0.7	0.0
Lane LOS	C	A	
Approach Delay (s)	18.3	0.7	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

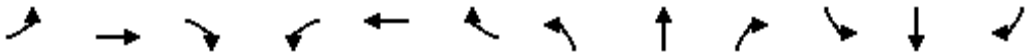


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	88	7	0	7
Peak Hour Factor	0.25	0.25	0.66	0.44	0.25	0.58
Hourly flow rate (vph)	0	0	133	16	0	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			276			
pX, platoon unblocked						
vC, conflicting volume	149				141	141
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	149				141	141
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	99
cM capacity (veh/h)	1444				856	876

Direction, Lane #	WB 1	SB 1
Volume Total	149	12
Volume Left	0	0
Volume Right	16	12
cSH	1700	876
Volume to Capacity	0.09	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	9.2
Lane LOS		A
Approach Delay (s)	0.0	9.2
Approach LOS		A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.995									0.994	
Flt Protected					0.993						0.996	
Satd. Flow (prot)	0	2835	0	0	2516	0	0	0	0	0	2846	0
Flt Permitted					0.525						0.996	
Satd. Flow (perm)	0	2835	0	0	1330	0	0	0	0	0	2846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5									4	
Headway Factor	1.19	1.14	1.14	1.19	1.20	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			518			346			274	
Travel Time (s)		15.6			11.8			7.9			6.2	
Volume (vph)	0	1012	37	180	1028	0	0	0	0	41	441	20
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	13%	10%	0%	0%	0%	0%	3%	1%	0%
Bus Blockages (#/hr)	0	0	0	1	2	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1112	41	196	1117	0	0	0	0	45	485	22
Lane Group Flow (vph)	0	1153	0	0	1313	0	0	0	0	0	552	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	54.0	0.0	17.0	71.0	0.0	0.0	0.0	0.0	29.0	29.0	0.0
Total Split (%)	0.0%	54.0%	0.0%	17.0%	71.0%	0.0%	0.0%	0.0%	0.0%	29.0%	29.0%	0.0%
Maximum Green (s)		50.0		13.0						25.0	25.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		52.9			65.9						22.1	
Actuated g/C Ratio		0.53			0.66						0.22	
v/c Ratio		0.77			1.27						0.87	
Control Delay		16.3			145.6						52.6	
Queue Delay		0.0			0.0						0.0	
Total Delay		16.3			145.6						52.6	
LOS		B			F						D	
Approach Delay		16.3			145.6						52.6	
Approach LOS		B			F						D	
90th %ile Green (s)		50.0		13.0						25.0	25.0	
90th %ile Term Code		Coord		Max						Max	Max	
70th %ile Green (s)		50.0		13.0						25.0	25.0	
70th %ile Term Code		Coord		Max						Max	Max	
50th %ile Green (s)		51.8		13.0						23.2	23.2	
50th %ile Term Code		Coord		Max						Gap	Gap	
30th %ile Green (s)		54.4		13.0						20.6	20.6	
30th %ile Term Code		Coord		Max						Gap	Gap	
10th %ile Green (s)		58.2		13.0						16.8	16.8	
10th %ile Term Code		Coord		Max						Gap	Gap	
Queue Length 50th (ft)		252			~377						175	
Queue Length 95th (ft)		328			#582						235	
Internal Link Dist (ft)		605			438			266			194	
Turn Bay Length (ft)												
Base Capacity (vph)		1502			1030						715	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.77			1.27						0.77	

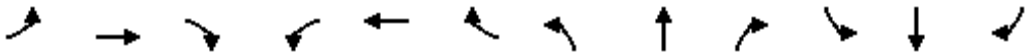
Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 75 (75%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 79.2		Intersection LOS: E	
Intersection Capacity Utilization 105.4%		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.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	125		0	100		50	75		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1357	2573	0	1255	2764	0	1081	1395	1113	1405	1457	1288
Flt Permitted	0.228			0.127			0.222			0.225		
Satd. Flow (perm)	326	2573	0	168	2764	0	253	1395	1113	333	1457	1288
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			7				31			87
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		518			535			251			272	
Travel Time (s)		11.8			12.2			6.8			7.4	
Volume (vph)	108	903	40	154	1006	45	43	419	79	27	417	157
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.89	0.89	0.89	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	1%	12%	1%	2%	21%	6%	13%	0%	5%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	126	1050	47	166	1082	48	48	471	89	31	474	178
Lane Group Flow (vph)	126	1097	0	166	1130	0	48	471	89	31	474	178
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	40.0	40.0		13.0			32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	48.0	48.0	0.0	13.0	61.0	0.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	48.0%	48.0%	0.0%	13.0%	61.0%	0.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%
Maximum Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0

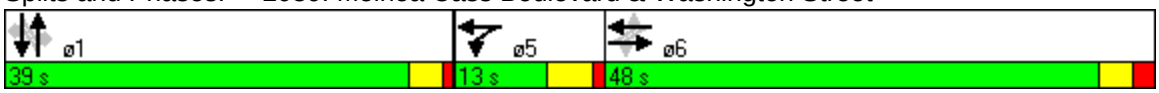


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	44.0	44.0		53.0	57.0		35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.44	0.44		0.53	0.57		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	0.88	0.97		0.89	0.72		0.54	0.97	0.22	0.26	0.93	0.35
Control Delay	50.7	25.5		56.0	18.7		36.2	52.8	7.9	30.8	58.6	14.5
Queue Delay	0.0	33.7		12.8	0.1		0.0	12.5	0.0	0.0	0.0	0.0
Total Delay	50.7	59.3		68.8	18.9		36.2	65.3	7.9	30.8	58.6	14.5
LOS	D	E		E	B		D	E	A	C	E	B
Approach Delay		58.4			25.3			54.6			45.8	
Approach LOS		E			C			D			D	
90th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	6	27		79	180		26	299	18	14	288	40
Queue Length 95th (ft)	m#121	#445		m#98	m247		m36	m#454	m23	40	#468	92
Internal Link Dist (ft)		438			455			171			192	
Turn Bay Length (ft)	100			125			100		50	75		
Base Capacity (vph)	143	1135		187	1578		89	488	410	117	510	507
Starvation Cap Reductn	0	0		0	51		0	26	0	0	0	0
Spillback Cap Reductn	0	120		15	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.88	1.08		0.97	0.74		0.54	1.02	0.22	0.26	0.93	0.35

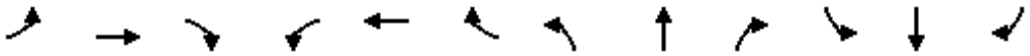
Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 34 (34%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 44.3 Intersection LOS: D
Intersection Capacity Utilization 115.7% ICU Level of Service H
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: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	16	16	16	16	16	10	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.963				0.850		0.990	
Flt Protected					0.988		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1610	0	1569	1535	1251	1330	1584	0
Flt Permitted					0.988		0.091			0.262		
Satd. Flow (perm)	0	0	0	0	1610	0	150	1535	1251	367	1584	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					17				41		6	
Headway Factor	1.14	1.14	1.14	0.97	0.97	0.97	0.97	0.97	1.12	1.25	0.97	0.97
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		247			415			597			130	
Travel Time (s)		5.6			9.4			16.3			3.5	
Volume (vph)	0	0	0	71	143	77	21	481	83	187	408	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.73	0.72	0.69	0.88	0.91	0.74	0.82	0.83	0.59
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	0%	3%	5%	13%	6%	2%	9%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0			
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	97	199	112	24	529	112	228	492	36
Lane Group Flow (vph)	0	0	0	0	408	0	24	529	112	228	528	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	5.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	9.0		
Total Split (s)	0.0	0.0	0.0	23.0	23.0	0.0	48.0	48.0	48.0	11.0	59.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	23.0%	23.0%	0.0%	48.0%	48.0%	48.0%	11.0%	59.0%	0.0%
Maximum Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					19.0		54.8	54.8	54.8	61.8	65.8	
Actuated g/C Ratio					0.19		0.55	0.55	0.55	0.62	0.66	
v/c Ratio					1.27		0.29	0.63	0.16	0.77	0.51	
Control Delay					177.6		29.4	22.5	10.0	33.3	16.3	
Queue Delay					1.7		0.0	1.4	0.0	0.0	2.2	
Total Delay					179.3		29.4	23.8	10.0	33.3	18.5	
LOS					F		C	C	B	C	B	
Approach Delay					179.3			21.7			22.9	
Approach LOS					F			C			C	
90th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
70th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
50th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
50th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
30th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
30th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
10th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
10th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					~315		6	180	17	58	105	
Queue Length 95th (ft)					#359		38	#430	46	m#126	m288	
Internal Link Dist (ft)		167			335			517			50	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					320		82	841	704	295	1044	
Starvation Cap Reductn					0		0	0	0	0	365	
Spillback Cap Reductn					1		0	148	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					1.28		0.29	0.76	0.16	0.77	0.78	

Intersection Summary

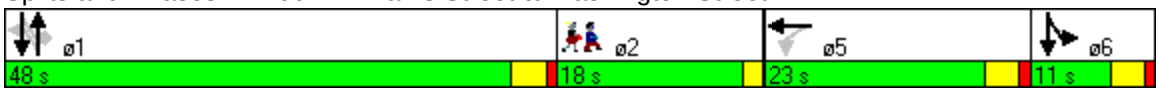
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 57.4 Intersection LOS: E
Intersection Capacity Utilization 75.0% ICU Level 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.

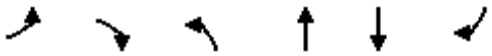
Splits and Phases: 1007: Williams Street & Washington Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	192	0	0	0	0	658
Peak Hour Factor	0.66	0.50	0.25	0.25	0.25	0.84
Hourly flow rate (vph)	291	0	0	0	0	783
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						346
pX, platoon unblocked	0.79					
vC, conflicting volume	783	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	726	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	6	100			100	
cM capacity (veh/h)	310	1091			1636	

Direction, Lane #	WB 1	SB 1
Volume Total	291	783
Volume Left	291	0
Volume Right	0	0
cSH	310	1700
Volume to Capacity	0.94	0.46
Queue Length 95th (ft)	232	0
Control Delay (s)	73.8	0.0
Lane LOS	F	
Approach Delay (s)	73.8	0.0
Approach LOS	F	

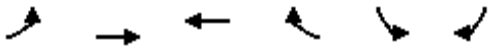
Intersection Summary			
Average Delay	20.0		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	33	51	50	508	565	46
Peak Hour Factor	0.69	0.98	0.83	0.90	0.85	0.77
Hourly flow rate (vph)	48	52	60	564	665	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				130	251	
pX, platoon unblocked	0.78	0.66	0.66			
vC, conflicting volume	1380	695	724			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1031	535	580			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	74	86	91			
cM capacity (veh/h)	184	361	659			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	100	625	724
Volume Left	48	60	0
Volume Right	52	0	60
cSH	247	659	1700
Volume to Capacity	0.40	0.09	0.43
Queue Length 95th (ft)	46	8	0
Control Delay (s)	29.2	2.4	0.0
Lane LOS	D	A	
Approach Delay (s)	29.2	2.4	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	180	5	0	12
Peak Hour Factor	0.25	0.25	0.71	0.42	0.25	0.50
Hourly flow rate (vph)	0	0	254	12	0	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			247			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	265				259	259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	170				163	163
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	97
cM capacity (veh/h)	1256				736	785

Direction, Lane #	WB 1	SB 1
Volume Total	265	24
Volume Left	0	0
Volume Right	12	24
cSH	1700	785
Volume to Capacity	0.16	0.03
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	9.7
Lane LOS		A
Approach Delay (s)	0.0	9.7
Approach LOS		A

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.998									0.993	
Flt Protected					0.996						0.992	
Satd. Flow (prot)	0	2786	0	0	2627	0	0	0	0	0	2745	0
Flt Permitted					0.621						0.992	
Satd. Flow (perm)	0	2786	0	0	1638	0	0	0	0	0	2745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3									4	
Headway Factor	1.19	1.14	1.14	1.19	1.19	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			518			347			262	
Travel Time (s)		15.6			11.8			7.9			6.0	
Volume (vph)	0	1059	17	116	1172	0	0	0	0	51	254	14
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	12%	12%	6%	0%	0%	0%	0%	6%	3%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1151	18	126	1274	0	0	0	0	55	276	15
Lane Group Flow (vph)	0	1169	0	0	1400	0	0	0	0	0	346	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	61.0	0.0	12.0	73.0	0.0	0.0	0.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	61.0%	0.0%	12.0%	73.0%	0.0%	0.0%	0.0%	0.0%	27.0%	27.0%	0.0%
Maximum Green (s)		57.0		8.0						23.0	23.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		63.7			71.7						16.3	
Actuated g/C Ratio		0.64			0.72						0.16	
v/c Ratio		0.66			1.12						0.77	
Control Delay		7.9			72.8						50.8	
Queue Delay		0.0			0.0						0.0	
Total Delay		7.9			72.8						50.8	
LOS		A			E						D	
Approach Delay		7.9			72.8						50.8	
Approach LOS		A			E						D	
90th %ile Green (s)		58.5		8.0						21.5	21.5	
90th %ile Term Code		Coord		Max						Gap	Gap	
70th %ile Green (s)		61.5		8.0						18.5	18.5	
70th %ile Term Code		Coord		Max						Gap	Gap	
50th %ile Green (s)		63.7		8.0						16.3	16.3	
50th %ile Term Code		Coord		Max						Gap	Gap	
30th %ile Green (s)		65.9		8.0						14.1	14.1	
30th %ile Term Code		Coord		Max						Gap	Gap	
10th %ile Green (s)		68.8		8.0						11.2	11.2	
10th %ile Term Code		Coord		Max						Gap	Gap	
Queue Length 50th (ft)		72			~174						111	
Queue Length 95th (ft)		48			m#598						151	
Internal Link Dist (ft)		605			438			267			182	
Turn Bay Length (ft)												
Base Capacity (vph)		1775			1253						634	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.66			1.12						0.55	

Intersection Summary

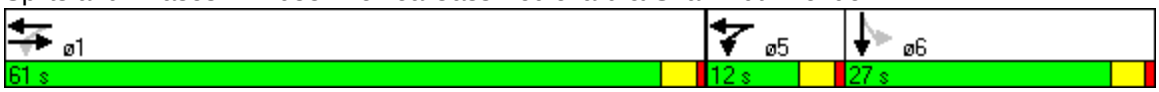
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 59 (59%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 44.1 Intersection LOS: D
Intersection Capacity Utilization 102.5% ICU Level 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.

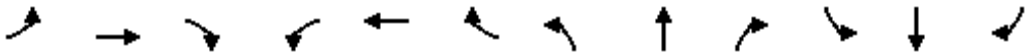
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	96		0	120		80	70		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1330	2562	0	1243	2637	0	1090	1382	990	1364	1404	1275
Flt Permitted	0.151			0.120			0.564			0.202		
Satd. Flow (perm)	211	2562	0	157	2637	0	647	1382	990	290	1404	1275
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7				45			48
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			535			201			237	
Travel Time (s)		11.8			12.2			4.6			5.4	
Volume (vph)	131	939	40	169	1153	53	79	484	88	48	189	56
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	12%	13%	6%	2%	20%	7%	27%	3%	9%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	142	1021	43	184	1253	58	86	526	96	52	205	61
Lane Group Flow (vph)	142	1064	0	184	1311	0	86	526	96	52	205	61
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	41.0	41.0		13.0			34.0	34.0	34.0	34.0	34.0	34.0
Total Split (s)	45.0	45.0	0.0	13.0	58.0	0.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	45.0%	45.0%	0.0%	13.0%	58.0%	0.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	41.0	41.0		50.0	54.0		38.0	38.0	38.0	38.0	38.0	38.0
Actuated g/C Ratio	0.41	0.41		0.50	0.54		0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	1.63	1.01		1.05	0.92		0.35	1.00	0.24	0.47	0.38	0.12
Control Delay	343.2	50.3		86.5	20.0		17.3	60.8	6.0	40.6	25.2	8.7
Queue Delay	0.0	0.5		0.0	0.4		0.0	28.9	0.0	0.0	0.0	0.0
Total Delay	343.2	50.8		86.5	20.4		17.3	89.7	6.0	40.6	25.2	8.7
LOS	F	D		F	C		B	F	A	D	C	A
Approach Delay		85.3			28.5			69.5			24.5	
Approach LOS		F			C			E			C	
90th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~133	~357		~97	166		41	~336	19	25	93	5
Queue Length 95th (ft)	m#226	#491		m#97	m153		m43	#573	m20	#71	155	31
Internal Link Dist (ft)		438			455			121			157	
Turn Bay Length (ft)	100			96			120		80	70		
Base Capacity (vph)	87	1053		176	1427		246	525	404	110	534	514
Starvation Cap Reductn	0	0		0	12		0	42	0	0	0	0
Spillback Cap Reductn	0	2		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.63	1.01		1.05	0.93		0.35	1.09	0.24	0.47	0.38	0.12

Intersection Summary

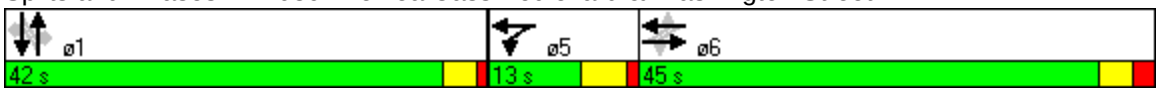
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 6 (6%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.63
Intersection Signal Delay: 54.3 Intersection LOS: D
Intersection Capacity Utilization 131.6% ICU Level of Service H
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.

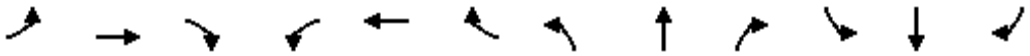
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	16	12	12	16	12	10	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.943				0.850		0.992	
Flt Protected					0.989		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1516	0	1454	1535	1064	1292	1312	0
Flt Permitted					0.989		0.091			0.169		
Satd. Flow (perm)	0	0	0	0	1516	0	139	1535	1064	230	1312	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					32				13		4	
Headway Factor	1.14	1.14	1.14	1.14	0.97	1.14	1.14	0.97	1.30	1.25	1.12	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		276			415			597			179	
Travel Time (s)		6.3			9.4			13.6			4.1	
Volume (vph)	0	0	0	40	66	76	11	583	40	62	384	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	5%	5%	9%	0%	13%	10%	5%	19%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0		0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	43	72	83	12	634	43	67	417	23
Lane Group Flow (vph)	0	0	0	0	198	0	12	634	43	67	440	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	6.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	10.0		
Total Split (s)	0.0	0.0	0.0	24.0	24.0	0.0	48.0	48.0	48.0	10.0	58.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	24.0%	24.0%	0.0%	48.0%	48.0%	48.0%	10.0%	58.0%	0.0%
Maximum Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

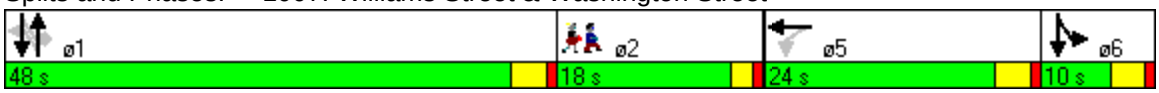


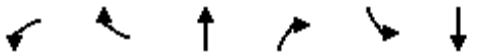
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					15.8		62.6	62.6	62.6	68.6	72.6	
Actuated g/C Ratio					0.16		0.63	0.63	0.63	0.69	0.73	
v/c Ratio					0.74		0.14	0.66	0.06	0.30	0.46	
Control Delay					31.2		17.7	19.1	8.7	9.9	9.5	
Queue Delay					0.1		0.0	3.4	0.0	0.0	0.6	
Total Delay					31.3		17.7	22.5	8.7	9.9	10.1	
LOS					C		B	C	A	A	B	
Approach Delay					31.3			21.5			10.1	
Approach LOS					C			C			B	
90th %ile Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				16.8	16.8		65.2	65.2	65.2	6.0		
70th %ile Term Code				Gap	Gap		Coord	Coord	Coord	Max		
50th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
50th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
30th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
30th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
10th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
10th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					70		2	195	6	9	93	
Queue Length 95th (ft)					m90		20	#610	32	m35	m223	
Internal Link Dist (ft)		196			335			517			99	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					329		87	962	671	222	954	
Starvation Cap Reductn					0		0	0	0	0	224	
Spillback Cap Reductn					5		0	231	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					0.61		0.14	0.87	0.06	0.30	0.60	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 83 (83%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 66.2% 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: 1007: Williams Street & Washington Street

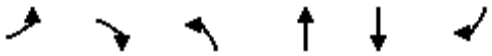




Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	97	0	0	0	0	387
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	105	0	0	0	0	421
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						347
pX, platoon unblocked	0.87					
vC, conflicting volume	421	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	333	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	100			100	
cM capacity (veh/h)	573	1091			1636	

Direction, Lane #	WB 1	SB 1
Volume Total	105	421
Volume Left	105	0
Volume Right	0	0
cSH	573	1700
Volume to Capacity	0.18	0.25
Queue Length 95th (ft)	17	0
Control Delay (s)	12.7	0.0
Lane LOS	B	
Approach Delay (s)	12.7	0.0
Approach LOS	B	

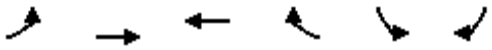
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	10	23	635	373	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	11	25	690	405	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				179	201	
pX, platoon unblocked	0.80	0.84	0.84			
vC, conflicting volume	1159	418	432			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	896	306	322			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	98	98			
cM capacity (veh/h)	244	615	1038			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	27	715	432
Volume Left	16	25	0
Volume Right	11	0	26
cSH	321	1038	1700
Volume to Capacity	0.08	0.02	0.25
Queue Length 95th (ft)	7	2	0
Control Delay (s)	17.2	0.6	0.0
Lane LOS	C	A	
Approach Delay (s)	17.2	0.6	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	90	7	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	98	8	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			276			
pX, platoon unblocked						
vC, conflicting volume	105				102	102
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	105				102	102
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1486				897	954

Direction, Lane #	WB 1	SB 1
Volume Total	105	8
Volume Left	0	0
Volume Right	8	8
cSH	1700	954
Volume to Capacity	0.06	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	8.8
Lane LOS		A
Approach Delay (s)	0.0	8.8
Approach LOS		A

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	15.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.995									0.994	
Flt Protected					0.993						0.994	
Satd. Flow (prot)	0	2835	0	0	2517	0	0	0	0	0	2839	0
Flt Permitted					0.513						0.994	
Satd. Flow (perm)	0	2835	0	0	1300	0	0	0	0	0	2839	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5									4	
Headway Factor	1.19	1.14	1.14	1.19	1.20	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			518			346			274	
Travel Time (s)		15.6			11.8			7.9			6.2	
Volume (vph)	0	1088	38	185	1091	0	0	0	0	75	561	28
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	13%	10%	0%	0%	0%	0%	3%	1%	0%
Bus Blockages (#/hr)	0	0	0	1	2	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1183	41	201	1186	0	0	0	0	82	610	30
Lane Group Flow (vph)	0	1224	0	0	1387	0	0	0	0	0	722	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	54.0	0.0	17.0	71.0	0.0	0.0	0.0	0.0	29.0	29.0	0.0
Total Split (%)	0.0%	54.0%	0.0%	17.0%	71.0%	0.0%	0.0%	0.0%	0.0%	29.0%	29.0%	0.0%
Maximum Green (s)		50.0		13.0						25.0	25.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		50.0			63.0						25.0	
Actuated g/C Ratio		0.50			0.63						0.25	
v/c Ratio		0.86			1.42						1.01	
Control Delay		22.8			209.7						75.0	
Queue Delay		0.0			0.0						0.0	
Total Delay		22.8			209.7						75.0	
LOS		C			F						E	
Approach Delay		22.8			209.7						75.0	
Approach LOS		C			F						E	
90th %ile Green (s)		50.0		13.0						25.0	25.0	
90th %ile Term Code		Coord		Max						Max	Max	
70th %ile Green (s)		50.0		13.0						25.0	25.0	
70th %ile Term Code		Coord		Max						Max	Max	
50th %ile Green (s)		50.0		13.0						25.0	25.0	
50th %ile Term Code		Coord		Max						Max	Max	
30th %ile Green (s)		50.0		13.0						25.0	25.0	
30th %ile Term Code		Coord		Max						Max	Max	
10th %ile Green (s)		50.0		13.0						25.0	25.0	
10th %ile Term Code		Coord		Max						Max	Max	
Queue Length 50th (ft)		303			~503						~247	
Queue Length 95th (ft)		494			#641						#374	
Internal Link Dist (ft)		605			438			266			194	
Turn Bay Length (ft)												
Base Capacity (vph)		1420			977						713	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.86			1.42						1.01	

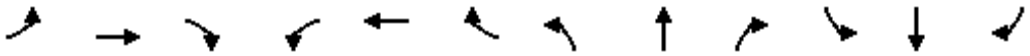
Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 75 (75%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.42
Intersection Signal Delay: 111.9 Intersection LOS: F
Intersection Capacity Utilization 116.0% ICU Level of Service H
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: 2088: Melnea Cass Boulevard & Shawmut Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	125		0	100		50	75		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.993			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1357	2571	0	1255	2759	0	1081	1395	1113	1405	1457	1288
Flt Permitted	0.193			0.114			0.232			0.208		
Satd. Flow (perm)	276	2571	0	151	2759	0	264	1395	1113	308	1457	1288
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9				30			72
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		518			535			251			272	
Travel Time (s)		11.8			12.2			6.8			7.4	
Volume (vph)	115	995	51	158	1068	58	44	447	81	28	428	161
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	1%	12%	1%	2%	21%	6%	13%	0%	5%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	125	1082	55	172	1161	63	48	486	88	30	465	175
Lane Group Flow (vph)	125	1137	0	172	1224	0	48	486	88	30	465	175
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	40.0	40.0		13.0			32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	48.0	48.0	0.0	13.0	61.0	0.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	48.0%	48.0%	0.0%	13.0%	61.0%	0.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%
Maximum Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	44.0	44.0		53.0	57.0		35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.44	0.44		0.53	0.57		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	1.03	1.00		0.96	0.78		0.52	1.00	0.22	0.28	0.91	0.35
Control Delay	81.9	28.8		72.7	19.7		32.7	59.1	6.6	31.9	55.6	16.2
Queue Delay	0.0	32.8		15.8	0.2		0.0	15.0	0.0	0.0	0.0	0.0
Total Delay	81.9	61.6		88.5	19.9		32.7	74.1	6.6	31.9	55.6	16.2
LOS	F	E		F	B		C	E	A	C	E	B
Approach Delay		63.6			28.4			61.4			44.2	
Approach LOS		E			C			E			D	
90th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~9	~26		86	198		25	311	16	14	280	46
Queue Length 95th (ft)	m#108	m#503		m#118	m269		m31	m#513	m21	41	#474	102
Internal Link Dist (ft)		438			455			171			192	
Turn Bay Length (ft)	100			125			100		50	75		
Base Capacity (vph)	121	1135		179	1577		92	488	409	108	510	498
Starvation Cap Reductn	0	0		0	36		0	24	0	0	0	0
Spillback Cap Reductn	0	96		11	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.09		1.02	0.79		0.52	1.05	0.22	0.28	0.91	0.35

Intersection Summary

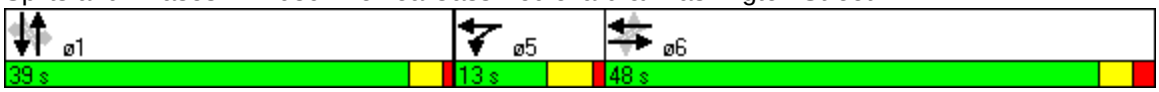
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 34 (34%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 47.5 Intersection LOS: D
Intersection Capacity Utilization 119.4% ICU Level of Service H
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: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	16	16	16	16	16	10	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.964				0.850		0.993	
Flt Protected					0.988		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1603	0	1647	1548	1263	1317	1569	0
Flt Permitted					0.988		0.091			0.240		
Satd. Flow (perm)	0	0	0	0	1603	0	158	1548	1263	333	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					16				32		4	
Headway Factor	1.14	1.14	1.14	0.97	0.97	0.97	0.97	0.97	1.12	1.25	0.97	0.97
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		247			415			597			130	
Travel Time (s)		5.6			9.4			16.3			3.5	
Volume (vph)	0	0	0	73	147	79	22	510	85	192	428	22
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	6%	0%	6%	0%	12%	5%	3%	10%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0			
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	79	160	86	24	554	92	209	465	24
Lane Group Flow (vph)	0	0	0	0	325	0	24	554	92	209	489	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	5.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	9.0		
Total Split (s)	0.0	0.0	0.0	23.0	23.0	0.0	48.0	48.0	48.0	11.0	59.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	23.0%	23.0%	0.0%	48.0%	48.0%	48.0%	11.0%	59.0%	0.0%
Maximum Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					19.0		54.8	54.8	54.8	61.8	65.8	
Actuated g/C Ratio					0.19		0.55	0.55	0.55	0.62	0.66	
v/c Ratio					1.02		0.28	0.65	0.13	0.76	0.47	
Control Delay					90.6		27.8	23.3	10.3	31.8	16.0	
Queue Delay					0.9		0.0	2.5	0.0	0.0	1.8	
Total Delay					91.5		27.8	25.8	10.3	31.8	17.8	
LOS					F		C	C	B	C	B	
Approach Delay					91.5			23.7			22.0	
Approach LOS					F			C			C	
90th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
70th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
50th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
50th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
30th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
30th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
10th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
10th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					~186		6	192	14	55	92	
Queue Length 95th (ft)					m#323		38	#489	53	m113	m265	
Internal Link Dist (ft)		167			335			517			50	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					318		87	848	707	275	1034	
Starvation Cap Reductn					0		0	0	0	0	373	
Spillback Cap Reductn					1		0	179	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					1.03		0.28	0.83	0.13	0.76	0.74	

Intersection Summary

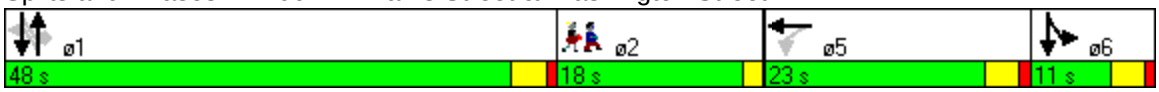
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 36.0 Intersection LOS: D
Intersection Capacity Utilization 77.1% ICU Level of Service D
Analysis Period (min) 15

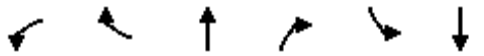
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1007: Williams Street & Washington Street

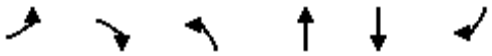




Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	197	0	0	0	0	783
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	214	0	0	0	0	851
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						346
pX, platoon unblocked	0.74					
vC, conflicting volume	851	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	798	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	19	100			100	
cM capacity (veh/h)	264	1091			1623	

Direction, Lane #	WB 1	SB 1
Volume Total	214	851
Volume Left	214	0
Volume Right	0	0
cSH	264	1700
Volume to Capacity	0.81	0.50
Queue Length 95th (ft)	159	0
Control Delay (s)	58.5	0.0
Lane LOS	F	
Approach Delay (s)	58.5	0.0
Approach LOS	F	

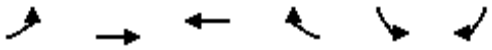
Intersection Summary			
Average Delay	11.7		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	33	51	50	538	589	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	55	54	585	640	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				130	251	
pX, platoon unblocked	0.79	0.66	0.66			
vC, conflicting volume	1359	665	690			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	971	495	532			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	86	92			
cM capacity (veh/h)	206	383	693			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	91	639	690
Volume Left	36	54	0
Volume Right	55	0	50
cSH	286	693	1700
Volume to Capacity	0.32	0.08	0.41
Queue Length 95th (ft)	33	6	0
Control Delay (s)	23.3	2.1	0.0
Lane LOS	C	A	
Approach Delay (s)	23.3	2.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	185	5	0	12
Peak Hour Factor	0.92	0.92	0.76	0.33	0.92	0.58
Hourly flow rate (vph)	0	0	243	15	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			247			
pX, platoon unblocked						
vC, conflicting volume	259				251	251
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	259				251	251
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	97
cM capacity (veh/h)	1318				742	793

Direction, Lane #	WB 1	SB 1
Volume Total	259	21
Volume Left	0	0
Volume Right	15	21
cSH	1700	793
Volume to Capacity	0.15	0.03
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	9.7
Lane LOS		A
Approach Delay (s)	0.0	9.7
Approach LOS		A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.998									0.994	
Flt Protected					0.996						0.991	
Satd. Flow (prot)	0	2786	0	0	2627	0	0	0	0	0	2745	0
Flt Permitted					0.619						0.991	
Satd. Flow (perm)	0	2786	0	0	1633	0	0	0	0	0	2745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2									4	
Headway Factor	1.19	1.14	1.14	1.19	1.19	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			232			347			262	
Travel Time (s)		15.6			5.3			7.9			6.0	
Volume (vph)	0	1068	17	116	1175	0	0	0	0	56	254	14
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	12%	12%	6%	0%	0%	0%	0%	6%	3%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1161	18	126	1277	0	0	0	0	61	276	15
Lane Group Flow (vph)	0	1179	0	0	1403	0	0	0	0	0	352	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	61.0	0.0	12.0	73.0	0.0	0.0	0.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	61.0%	0.0%	12.0%	73.0%	0.0%	0.0%	0.0%	0.0%	27.0%	27.0%	0.0%
Maximum Green (s)		57.0		8.0						23.0	23.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		63.5			71.5						16.5	
Actuated g/C Ratio		0.64			0.72						0.16	
v/c Ratio		0.67			1.13						0.77	
Control Delay		8.2			84.3						50.7	
Queue Delay		0.0			0.0						0.0	
Total Delay		8.2			84.3						50.7	
LOS		A			F						D	
Approach Delay		8.2			84.3						50.7	
Approach LOS		A			F						D	
90th %ile Green (s)		58.2		8.0						21.8	21.8	
90th %ile Term Code		Coord		Max						Gap	Gap	
70th %ile Green (s)		61.3		8.0						18.7	18.7	
70th %ile Term Code		Coord		Max						Gap	Gap	
50th %ile Green (s)		63.5		8.0						16.5	16.5	
50th %ile Term Code		Coord		Max						Gap	Gap	
30th %ile Green (s)		65.6		8.0						14.4	14.4	
30th %ile Term Code		Coord		Max						Gap	Gap	
10th %ile Green (s)		68.7		8.0						11.3	11.3	
10th %ile Term Code		Coord		Max						Gap	Gap	
Queue Length 50th (ft)		74			~271						113	
Queue Length 95th (ft)		52			#635						153	
Internal Link Dist (ft)		605			152			267			182	
Turn Bay Length (ft)												
Base Capacity (vph)		1769			1246						634	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.67			1.13						0.56	

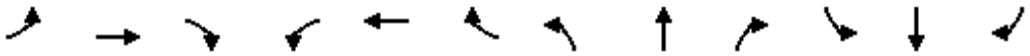
Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 59 (59%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 49.7		Intersection LOS: D	
Intersection Capacity Utilization 103.1%		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.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	96		0	120		80	70		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1330	2562	0	1243	2637	0	1090	1382	990	1364	1404	1275
Flt Permitted	0.151			0.121			0.571			0.213		
Satd. Flow (perm)	211	2562	0	158	2637	0	655	1382	990	306	1404	1275
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7				45			48
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			535			201			237	
Travel Time (s)		6.5			12.2			4.6			5.4	
Volume (vph)	131	939	38	186	1153	53	82	475	88	48	183	56
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	12%	13%	6%	2%	20%	7%	27%	3%	9%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	142	1021	41	202	1253	58	89	516	96	52	199	61
Lane Group Flow (vph)	142	1062	0	202	1311	0	89	516	96	52	199	61
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	41.0	41.0		13.0			34.0	34.0	34.0	34.0	34.0	34.0
Total Split (s)	45.0	45.0	0.0	13.0	58.0	0.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	45.0%	45.0%	0.0%	13.0%	58.0%	0.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	41.0	41.0		50.0	54.0		38.0	38.0	38.0	38.0	38.0	38.0
Actuated g/C Ratio	0.41	0.41		0.50	0.54		0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	1.63	1.01		1.14	0.92		0.36	0.98	0.24	0.45	0.37	0.12
Control Delay	344.4	50.5		118.8	20.1		17.3	55.8	6.0	38.2	25.0	8.7
Queue Delay	0.0	0.0		0.0	0.4		0.0	26.2	0.0	0.0	0.0	0.0
Total Delay	344.4	50.5		118.8	20.5		17.3	82.0	6.0	38.2	25.0	8.7
LOS	F	D		F	C		B	F	A	D	C	A
Approach Delay		85.2			33.6			63.4			24.0	
Approach LOS		F			C			E			C	
90th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~133	~362		~113	165		42	325	20	24	90	5
Queue Length 95th (ft)	m#225	#492		m#116	m155		m45	#559	m19	68	151	31
Internal Link Dist (ft)		206			455			121			157	
Turn Bay Length (ft)	100			96			120		80	70		
Base Capacity (vph)	87	1053		177	1427		249	525	404	116	534	514
Starvation Cap Reductn	0	0		0	12		0	43	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.63	1.01		1.14	0.93		0.36	1.07	0.24	0.45	0.37	0.12

Intersection Summary

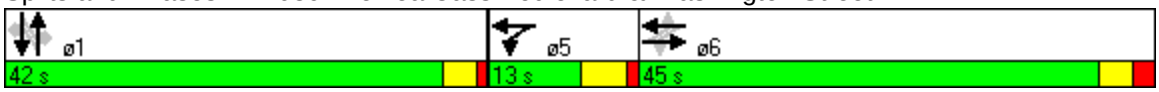
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 6 (6%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.63
Intersection Signal Delay: 55.1 Intersection LOS: E
Intersection Capacity Utilization 131.1% ICU Level of Service H
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.

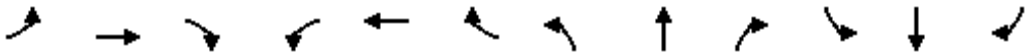
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	16	12	12	16	12	10	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.944				0.850		0.990	
Flt Protected					0.990		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1519	0	1454	1535	1064	1292	1312	0
Flt Permitted					0.990		0.091			0.171		
Satd. Flow (perm)	0	0	0	0	1519	0	139	1535	1064	233	1312	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					32				13		5	
Headway Factor	1.14	1.14	1.14	1.14	0.97	1.14	1.14	0.97	1.30	1.25	1.12	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		276			415			597			179	
Travel Time (s)		6.3			9.4			13.6			4.1	
Volume (vph)	0	0	0	40	70	78	19	581	40	64	297	20
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	5%	5%	9%	0%	13%	10%	5%	19%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0		0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	43	76	85	21	632	43	70	323	22
Lane Group Flow (vph)	0	0	0	0	204	0	21	632	43	70	345	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	6.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	10.0		
Total Split (s)	0.0	0.0	0.0	24.0	24.0	0.0	48.0	48.0	48.0	10.0	58.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	24.0%	24.0%	0.0%	48.0%	48.0%	48.0%	10.0%	58.0%	0.0%
Maximum Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

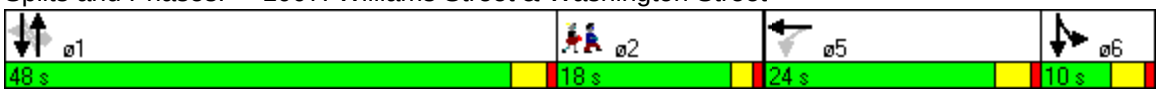


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					15.9		62.5	62.5	62.5	68.5	72.5	
Actuated g/C Ratio					0.16		0.62	0.62	0.62	0.68	0.72	
v/c Ratio					0.76		0.24	0.66	0.06	0.31	0.36	
Control Delay					31.9		22.6	19.1	8.7	9.8	8.3	
Queue Delay					0.1		0.0	2.5	0.0	0.0	0.5	
Total Delay					32.0		22.6	21.6	8.7	9.8	8.8	
LOS					C		C	C	A	A	A	
Approach Delay					32.0			20.9			9.0	
Approach LOS					C			C			A	
90th %ile Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				17.4	17.4		64.6	64.6	64.6	6.0		
70th %ile Term Code				Gap	Gap		Coord	Coord	Coord	Max		
50th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
50th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
30th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
30th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
10th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
10th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					74		5	194	6	10	76	
Queue Length 95th (ft)					m95		36	#606	32	m33	m153	
Internal Link Dist (ft)		196			335			517			99	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					329		87	960	670	223	953	
Starvation Cap Reductn					0		0	0	0	0	275	
Spillback Cap Reductn					4		0	208	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					0.63		0.24	0.84	0.06	0.31	0.51	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 83 (83%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 66.2% 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.

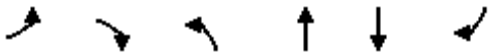
Splits and Phases: 1007: Williams Street & Washington Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	94	0	0	0	0	387
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	102	0	0	0	0	421
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						347
pX, platoon unblocked	0.87					
vC, conflicting volume	421	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	332	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	100			100	
cM capacity (veh/h)	573	1091			1636	

Direction, Lane #	WB 1	SB 1
Volume Total	102	421
Volume Left	102	0
Volume Right	0	0
cSH	573	1700
Volume to Capacity	0.18	0.25
Queue Length 95th (ft)	16	0
Control Delay (s)	12.6	0.0
Lane LOS	B	
Approach Delay (s)	12.6	0.0
Approach LOS	B	

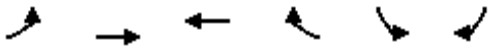
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	7	8	23	635	372	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	9	25	690	404	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				179	201	
pX, platoon unblocked	0.81	0.83	0.83			
vC, conflicting volume	1164	423	442			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	886	305	328			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	99	98			
cM capacity (veh/h)	249	610	1022			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	16	715	442
Volume Left	8	25	0
Volume Right	9	0	38
cSH	363	1022	1700
Volume to Capacity	0.04	0.02	0.26
Queue Length 95th (ft)	4	2	0
Control Delay (s)	15.4	0.6	0.0
Lane LOS	C	A	
Approach Delay (s)	15.4	0.6	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	90	18	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	98	20	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			276			
pX, platoon unblocked						
vC, conflicting volume	117				108	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	117				108	108
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1471				890	946

Direction, Lane #	WB 1	SB 1
Volume Total	117	4
Volume Left	0	0
Volume Right	20	4
cSH	1700	946
Volume to Capacity	0.07	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	8.8
Lane LOS		A
Approach Delay (s)	0.0	8.8
Approach LOS		A

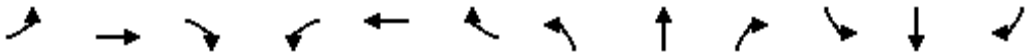
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1107	15	0	0	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1203	16	0	0	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	232			286		
pX, platoon unblocked			0.75		0.75	0.75
vC, conflicting volume			1220		1211	610
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			956		945	140
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			534		194	660

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	802	417	9
Volume Left	0	0	0
Volume Right	0	16	9
cSH	1700	1700	660
Volume to Capacity	0.47	0.25	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	10.5
Lane LOS			B
Approach Delay (s)	0.0		10.5
Approach LOS			B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.995									0.994	
Flt Protected					0.993						0.994	
Satd. Flow (prot)	0	2835	0	0	2517	0	0	0	0	0	2838	0
Flt Permitted					0.512						0.994	
Satd. Flow (perm)	0	2835	0	0	1298	0	0	0	0	0	2838	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5									4	
Headway Factor	1.19	1.14	1.14	1.19	1.20	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			232			346			274	
Travel Time (s)		15.6			5.3			7.9			6.2	
Volume (vph)	0	1094	38	185	1112	0	0	0	0	79	561	28
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	13%	10%	0%	0%	0%	0%	3%	1%	0%
Bus Blockages (#/hr)	0	0	0	1	2	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1189	41	201	1209	0	0	0	0	86	610	30
Lane Group Flow (vph)	0	1230	0	0	1410	0	0	0	0	0	726	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	54.0	0.0	17.0	71.0	0.0	0.0	0.0	0.0	29.0	29.0	0.0
Total Split (%)	0.0%	54.0%	0.0%	17.0%	71.0%	0.0%	0.0%	0.0%	0.0%	29.0%	29.0%	0.0%
Maximum Green (s)		50.0		13.0						25.0	25.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		50.0			63.0						25.0	
Actuated g/C Ratio		0.50			0.63						0.25	
v/c Ratio		0.87			1.44						1.02	
Control Delay		23.1			228.2						76.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		23.1			228.2						76.4	
LOS		C			F						E	
Approach Delay		23.1			228.2						76.4	
Approach LOS		C			F						E	
90th %ile Green (s)		50.0		13.0						25.0	25.0	
90th %ile Term Code		Coord		Max						Max	Max	
70th %ile Green (s)		50.0		13.0						25.0	25.0	
70th %ile Term Code		Coord		Max						Max	Max	
50th %ile Green (s)		50.0		13.0						25.0	25.0	
50th %ile Term Code		Coord		Max						Max	Max	
30th %ile Green (s)		50.0		13.0						25.0	25.0	
30th %ile Term Code		Coord		Max						Max	Max	
10th %ile Green (s)		50.0		13.0						25.0	25.0	
10th %ile Term Code		Coord		Max						Max	Max	
Queue Length 50th (ft)		321			~527						~251	
Queue Length 95th (ft)		508			#662						#378	
Internal Link Dist (ft)		605			152			266			194	
Turn Bay Length (ft)												
Base Capacity (vph)		1420			976						713	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.87			1.44						1.02	

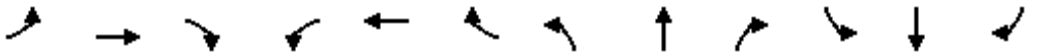
Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 75 (75%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 120.5 Intersection LOS: F
Intersection Capacity Utilization 117.1% ICU Level of Service H
Analysis Period (min) 15

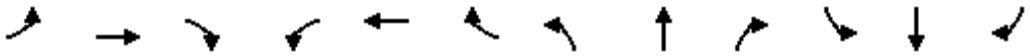
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	125		0	100		50	75		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.993			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1357	2570	0	1255	2759	0	1081	1395	1113	1405	1457	1288
Flt Permitted	0.193			0.115			0.264			0.225		
Satd. Flow (perm)	276	2570	0	152	2759	0	300	1395	1113	333	1457	1288
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			9				29			72
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		286			535			251			272	
Travel Time (s)		6.5			12.2			6.8			7.4	
Volume (vph)	115	995	48	169	1068	58	65	433	76	28	402	161
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	1%	12%	1%	2%	21%	6%	13%	0%	5%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	125	1082	52	184	1161	63	71	471	83	30	437	175
Lane Group Flow (vph)	125	1134	0	184	1224	0	71	471	83	30	437	175
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	40.0	40.0		13.0			32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	48.0	48.0	0.0	13.0	61.0	0.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	48.0%	48.0%	0.0%	13.0%	61.0%	0.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%
Maximum Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	44.0	44.0		53.0	57.0		35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.44	0.44		0.53	0.57		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	1.03	1.00		1.02	0.78		0.68	0.97	0.20	0.26	0.86	0.35
Control Delay	123.3	55.6		88.0	19.7		47.0	53.9	6.9	30.4	48.3	16.2
Queue Delay	0.0	23.6		17.3	0.2		0.0	11.9	0.0	0.0	0.0	0.0
Total Delay	123.3	79.3		105.3	19.9		47.0	65.8	6.9	30.4	48.3	16.2
LOS	F	E		F	B		D	E	A	C	D	B
Approach Delay		83.6			31.1			55.9			38.7	
Approach LOS		F			C			E			D	
90th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~12	43		~97	198		40	298	15	14	256	46
Queue Length 95th (ft)	m#112	m#497		m#119	m270		m#81	m#489	m20	40	#432	102
Internal Link Dist (ft)		206			455			171			192	
Turn Bay Length (ft)	100			125			100		50	75		
Base Capacity (vph)	121	1134		180	1577		105	488	408	117	510	498
Starvation Cap Reductn	0	0		0	37		0	25	0	0	0	0
Spillback Cap Reductn	0	75		9	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.07		1.08	0.79		0.68	1.02	0.20	0.26	0.86	0.35

Intersection Summary

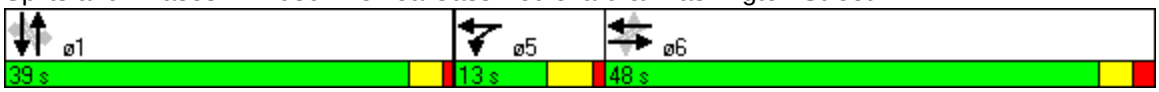
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 34 (34%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 53.1 Intersection LOS: D
Intersection Capacity Utilization 125.6% ICU Level of Service H
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: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	16	16	16	16	16	10	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.966				0.850		0.993	
Flt Protected					0.988		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1607	0	1647	1548	1263	1317	1569	0
Flt Permitted					0.988		0.091			0.267		
Satd. Flow (perm)	0	0	0	0	1607	0	158	1548	1263	370	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15				34		4	
Headway Factor	1.14	1.14	1.14	0.97	0.97	0.97	0.97	0.97	1.12	1.25	0.97	0.97
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		247			415			597			130	
Travel Time (s)		5.6			9.4			16.3			3.5	
Volume (vph)	0	0	0	73	151	76	29	482	85	197	414	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	6%	0%	6%	0%	12%	5%	3%	10%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0			
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	79	164	83	32	524	92	214	450	23
Lane Group Flow (vph)	0	0	0	0	326	0	32	524	92	214	473	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	5.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	9.0		
Total Split (s)	0.0	0.0	0.0	23.0	23.0	0.0	48.0	48.0	48.0	11.0	59.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	23.0%	23.0%	0.0%	48.0%	48.0%	48.0%	11.0%	59.0%	0.0%
Maximum Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					19.0		54.8	54.8	54.8	61.8	65.8	
Actuated g/C Ratio					0.19		0.55	0.55	0.55	0.62	0.66	
v/c Ratio					1.03		0.37	0.62	0.13	0.73	0.46	
Control Delay					92.3		34.2	22.0	10.0	28.9	15.5	
Queue Delay					1.0		0.0	1.1	0.0	0.0	1.6	
Total Delay					93.3		34.2	23.2	10.0	28.9	17.1	
LOS					F		C	C	B	C	B	
Approach Delay					93.3			21.8			20.8	
Approach LOS					F			C			C	
90th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
70th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
50th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
50th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
30th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
30th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
10th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
10th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					~188		9	176	14	49	78	
Queue Length 95th (ft)					m#326		#59	416	52	m117	m262	
Internal Link Dist (ft)		167			335			517			50	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					317		87	848	708	295	1034	
Starvation Cap Reductn					0		0	0	0	0	376	
Spillback Cap Reductn					1		0	141	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					1.03		0.37	0.74	0.13	0.73	0.72	

Intersection Summary

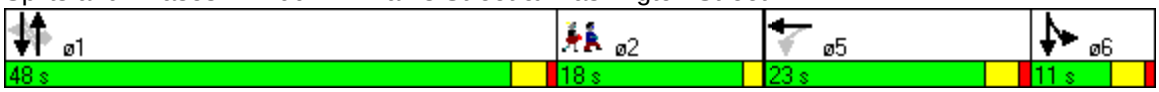
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 35.4 Intersection LOS: D
Intersection Capacity Utilization 75.9% ICU Level of 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.

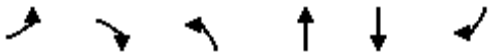
Splits and Phases: 1007: Williams Street & Washington Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	205	0	0	0	0	783
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	223	0	0	0	0	851
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						346
pX, platoon unblocked	0.74					
vC, conflicting volume	851	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	798	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	16	100			100	
cM capacity (veh/h)	264	1091			1623	

Direction, Lane #	WB 1	SB 1
Volume Total	223	851
Volume Left	223	0
Volume Right	0	0
cSH	264	1700
Volume to Capacity	0.84	0.50
Queue Length 95th (ft)	173	0
Control Delay (s)	63.6	0.0
Lane LOS	F	
Approach Delay (s)	63.6	0.0
Approach LOS	F	

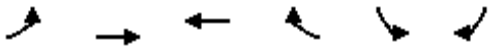
Intersection Summary			
Average Delay	13.2		
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	35	42	19	538	588	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	46	21	585	639	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				130	251	
pX, platoon unblocked	0.80	0.68	0.68			
vC, conflicting volume	1281	655	671			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	915	494	517			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	88	97			
cM capacity (veh/h)	237	395	722			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	84	605	671
Volume Left	38	21	0
Volume Right	46	0	32
cSH	303	722	1700
Volume to Capacity	0.28	0.03	0.39
Queue Length 95th (ft)	28	2	0
Control Delay (s)	21.4	0.8	0.0
Lane LOS	C	A	
Approach Delay (s)	21.4	0.8	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	184	15	0	21
Peak Hour Factor	0.92	0.92	0.76	0.33	0.92	0.58
Hourly flow rate (vph)	0	0	242	45	0	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			247			
pX, platoon unblocked						
vC, conflicting volume	288				265	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				265	265
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	1286				729	779

Direction, Lane #	WB 1	SB 1
Volume Total	288	36
Volume Left	0	0
Volume Right	45	36
cSH	1700	779
Volume to Capacity	0.17	0.05
Queue Length 95th (ft)	0	4
Control Delay (s)	0.0	9.8
Lane LOS		A
Approach Delay (s)	0.0	9.8
Approach LOS		A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1160	13	0	0	0	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1261	14	0	0	0	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	232			286		
pX, platoon unblocked			0.63		0.63	0.63
vC, conflicting volume			1275		1268	638
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			852		841	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			494		192	685

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	841	434	46
Volume Left	0	0	0
Volume Right	0	14	46
cSH	1700	1700	685
Volume to Capacity	0.49	0.26	0.07
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.0	10.6
Lane LOS			B
Approach Delay (s)	0.0		10.6
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

Proposed Parcel 10

Detailed Trip Generation Estimation

Howard/Stein-Hudson Associates
March 18, 2013

Phase 1 and 2

Component	Size	Category	Trip Rates (Trips/ksf or unit)	Unadjusted Vehicle Trips	National vehicle occupancy rate[1]	**Converted to Person trips**	Capture	Person Trips less Capture Rate	Transit Share[2]	**Transit Trips**	Walk/Bike/ Other Share[2]	**Walk/ Bike/ Other Trips**	Vehicle Share[2]	Vehicle Person Trips	Local vehicle occupancy rate[3]	**Total Adjusted Vehicle Trips**
Daily Trip Generation																
Warehousing [4]	16.6	Total	6.39	106	1.13	**120**	0%	120		**20**		**32**		**68**	1.18	**58**
	KSF	In	3.19	53	1.13	**60**	0%	60	17%	**10**	27%	**16**	56%	**34**	1.18	**29**
		Out	3.20	53	1.13	**60**	0%	60	17%	**10**	27%	**16**	56%	**34**	1.18	**29**
Residential [6]	30.0	Total	6.67	200	1.13	**226**	0%	226		**38**		**58**		**128**	1.18	**108**
	units	In	3.33	100	1.13	**113**	0%	113	17%	**19**	26%	**29**	57%	**64**	1.18	**54**
		Out	3.34	100	1.13	**113**	0%	113	17%	**19**	26%	**29**	57%	**64**	1.18	**54**
Office [8]	47.0	Total	11.04	519	1.13	**586**	0%	586		**141**		**100**		**341**	1.18	**289**
	KSF	In	5.53	260	1.13	**294**	0%	294	24%	**71**	17%	**50**	58%	**171**	1.18	**145**
		Out	5.51	259	1.13	**293**	0%	293	24%	**70**	17%	**50**	58%	**170**	1.18	**144**
Retail [9]	24.0	Total	42.71	1025	1.78	**1,825**	25%	1,369		**164**		**479**		**725**	1.78	**407**
	KSF	In	21.38	513	1.78	**913**	25%	685	12%	**82**	35%	**240**	53%	**363**	1.78	**204**
		Out	21.33	512	1.78	**911**	25%	683	12%	**82**	35%	**239**	53%	**362**	1.78	**203**
Grocery [10]	27.7	Total	102.27	2833	1.78	**5,043**	25%	3782		**454**		**1,324**		**2,005**	1.78	**1,126**
	KSF	In	51.16	1417	1.78	**2,522**	25%	1892	12%	**227**	35%	**662**	53%	**1,003**	1.78	**563**
		Out	51.11	1416	1.78	**2,520**	25%	1890	12%	**227**	35%	**662**	53%	**1,002**	1.78	**563**
Daily		Total		**4,683**		**7,800**		**6,083**		**817**		**1,993**				**1,988**
Total		In		**2,343**		**3,902**		**3,044**		**409**		**997**				**995**
		Out		**2,340**		**3,897**		**3,039**		**408**		**996**				**993**
AM Peak-hour Trip Generation																
Warehousing [4]	16.6	Total	1.87	31	1.13	**35**	0%	35		**7**		**9**		**17**	1.18	**14**
	KSF	In	1.45	24	1.13	**27**	0%	27	20%	**5**	27%	**7**	53%	**14**	1.18	**12**
		Out	0.42	7	1.13	**8**	0%	8	28%	**2**	28%	**2**	43%	**3**	1.18	**3**
Residential [6]	30.0	Total	0.63	19	1.13	**21**	0%	21		**6**		**6**		**10**	1.18	**8**
	units	In	0.13	4	1.13	**5**	0%	5	19%	**1**	27%	**1**	54%	**3**	1.18	**3**
		Out	0.50	15	1.13	**17**	0%	17	27%	**5**	29%	**5**	44%	**7**	1.18	**6**
Office [8]	47.0	Total	2.23	105	1.13	**119**	0%	119		**34**		**22**		**63**	1.18	**53**
	KSF	In	1.96	92	1.13	**104**	0%	104	27%	**28**	18%	**19**	55%	**57**	1.18	**48**
		Out	0.27	13	1.13	**15**	0%	15	40%	**6**	17%	**3**	43%	**6**	1.18	**5**
Retail [9]	24.0	Total	1.00	24	1.78	**43**	25%	32		**6**		**11**		**15**	1.78	**8**
	KSF	In	0.63	15	1.78	**27**	25%	20	13%	**3**	36%	**7**	51%	**10**	1.78	**6**
		Out	0.37	9	1.78	**16**	25%	12	21%	**3**	37%	**4**	42%	**5**	1.78	**3**
Grocery [10]	27.7	Total	3.43	95	1.78	**169**	25%	127		**20**		**46**		**60**	1.78	**34**
	KSF	In	2.13	59	1.78	**105**	25%	79	13%	**10**	36%	**28**	51%	**40**	1.78	**22**
		Out	1.30	36	1.78	**64**	25%	48	21%	**10**	37%	**18**	42%	**20**	1.78	**11**
AM Peak		Total		**274**		**387**		**334**		**73**		**94**				**117**
Total		In		**194**		**268**		**235**		**47**		**62**				**91**
		Out		**80**		**120**		**100**		**26**		**32**				**28**
PM Peak-hour Trip Generation																
Warehousing [4]	16.6	Total	1.14	19	1.13	**21**	0%	21		**5**		**6**		**11**	1.18	**9**
	KSF	In	0.30	5	1.13	**6**	0%	6	28%	**2**	28%	**2**	43%	**3**	1.18	**3**
		Out	0.84	14	1.13	**16**	0%	16	20%	**3**	27%	**4**	53%	**8**	1.18	**7**
Residential [5]	30.0	Total	1.17	35	1.13	**40**	0%	40		**11**		**11**		**19**	1.18	**16**
	units	In	0.77	23	1.13	**26**	0%	26	29%	**8**	27%	**7**	44%	**11**	1.18	**9**
		Out	0.40	12	1.13	**14**	0%	14	19%	**3**	27%	**4**	54%	**8**	1.18	**7**
Office [8]	47.0	Total	2.81	132	1.13	**149**	0%	149		**43**		**26**		**79**	1.18	**67**
	KSF	In	0.47	22	1.13	**25**	0%	25	40%	**10**	17%	**4**	43%	**11**	1.18	**9**
		Out	2.34	110	1.13	**124**	0%	124	27%	**33**	18%	**22**	55%	**68**	1.18	**58**
Retail [9]	24.0	Total	3.75	90	1.78	**160**	25%	120		**20**		**44**		**56**	1.78	**31**
	KSF	In	1.79	43	1.78	**77**	25%	58	21%	**12**	37%	**21**	42%	**24**	1.78	**13**
		Out	1.96	47	1.78	**84**	25%	63	13%	**8**	36%	**23**	51%	**32**	1.78	**18**
Grocery [10]	27.7	Total	9.49	263	1.78	**468**	25%	351		**60**		**128**		**163**	1.78	**92**
	KSF	In	4.84	134	1.78	**239**	25%	179	21%	**38**	37%	**66**	42%	**75**	1.78	**42**
		Out	4.65	129	1.78	**230**	25%	173	13%	**22**	36%	**62**	51%	**88**	1.78	**49**
PM Peak		Total		**539**		**838**		**681**		**139**		**215**				**215**
Total		In		**227**		**373**		**294**		**70**		**100**				**76**
		Out		**312**		**468**		**390**		**69**		**115**				**139**
Saturday Midday Peak-hour Trip Generation																
Warehousing [5]	16.6	Total	1.27	21	1.13	**24**	0%	24		**4**		**6**		**13**	1.18	**11**
	KSF	In	0.66	11	1.13	**12**	0%	12	16%	**2**	28%	**3**	56%	**7**	1.18	**6**
		Out	0.61	10	1.13	**11**	0%	11	14%	**2**	27%	**3**	58%	**6**	1.18	**5**
Residential [7]	30.0	Total	6.40	192	1.13	**217**	0%	217		**31**		**56**		**129**	1.18	**109**
	units	In	3.20	96	1.13	**108**	0%	108	17%	**18**	26%	**28**	57%	**62**	1.18	**53**
		Out	3.20	96	1.13	**108**	0%	108	12%	**13**	26%	**28**	62%	**67**	1.18	**57**
Office [8]	47.0	Total	2.72	128	1.13	**145**	0%	145		**34**		**24**		**86**	1.18	**73**
	KSF	In	1.36	64	1.13	**72**	0%	72	23%	**17**	17%	**12**	61%	**44**	1.18	**37**
		Out	1.36	64	1.13	**72**	0%	72	24%	**17**	17%	**12**	59%	**42**	1.18	**36**
Retail [9]	24.0	Total	50.00	1200	1.78	**2,136**	25%	1602		**184**		**560**		**866**	1.78	**487**
	KSF	In	25.00	600	1.78	**1,068**	25%	801	12%	**96**	35%	**280**	54%	**433**	1.78	**243**
		Out	25.00	600	1.78	**1,068**	25%	801	11%	**88**	35%	**280**	54%	**433**	1.78	**243**
Grocery [8]	27.7	Total	177.62	4920	1.78	**8,758**	25%	6569		**755**		**2,298**		**3,546**	1.78	**1,992**
	KSF	In	88.81	2460	1.78	**4,379**	25%	3284	12%	**394**	35%	**1,149**	54%	**1,773**	1.78	**996**
		Out	88.81	2460	1.78	**4,379**	25%	3284	11%	**361**	35%	**1,149**	54%	**1,773**	1.78	**996**
Sat Peak		Total		**6,461**		**11,280**		**8,557**		**1,008**		**2,944**				**2,672**
Total		In		**3,231**		**5,639**		**4,277**		**527**		**1,472**				**1,335**
		Out		**3,230**		**5,638**		**4,276**		**481**		**1,472**				**1,337**

Notes:

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.78: family/personal business/shopping; 1.84: errands; 2.2 :social/recreational; 1.67 All Purpose
2. Mode shares based on peak-hour BTD Data for Area 15
3. Local vehicle occupancy rates based on 2000 Census of population and housing, 1.18 and 2009 National vehivle occupancy rates
4. ITE Trip Generation, 9th Edition, LUC 150 (Warehousing), Fitted Curve
5. ITE Trip Generation, 9th Edition, LUC 150 (Warehousing), Average Rate
6. ITE Trip Generation Rate, 9th Edition, LUC 220 (Apartment), Fitted Curve
7. ITE Trip Generation Rate, 9th Edition, LUC 220 (Apartment), Average Rate
8. ITE Trip Generation Rate, 9th Edition, LUC 710 (General Office Building), Fitted Curve
9. ITE Trip Generation, 9th Edition, LUC 820 (Shopping Center), Average Rate
10. ITE Trip Generation, 9th Edition, LUC 850 (Supermarket), Average Rate

Parcel 10 Redevelopment
Trip Generation Comparison Table
Howard/Stein-Hudson
March 29th 2013

Unadjusted Trips			
DAILY	Existing[1]	Proposed	Net New
Total	1415	4,683	3,268
In	708	2,343	1,635
Out	708	2,340	1,632
AM			
Total	86	274	188
In	54	194	140
PM	32	80	48
PM			
Total	197	539	342
In	101	227	126
Out	96	312	216

Adjusted Trips			
DAILY	Existing[1]	Proposed	Net New
Total	1415	1,988	573
In	708	995	287
Out	708	993	285
AM			
Total	86	117	31
In	54	91	37
Out	32	28	-4
PM			
Total	197	215	18
In	101	76	-25
Out	96	139	43

1. The existing trip generation is based on turning movement count data collected at the site driveways during a.m. and p.m. peak hours. The a.m. and p.m. totals are assumed to account for 20% of daily trips.

Attachment B

Air Quality

AIR QUALITY APPENDIX

Introduction

This Air Quality Appendix provides modeling assumptions and backup for results presented in Section 3.5 of the report. Included within this documentation is a brief description of the methodology employed along with pertinent calculations and data used in the emissions and dispersion calculations supporting the microscale and stationary source air quality analyses.

Motor Vehicle Emissions

The EPA MOBILE6.2 computer program generated motor vehicle emissions used in the garage stationary source analysis along with the mobile source CAL3QHC modeling and mesoscale analysis. The model input parameters were provided by MassDEP. Emission rates were derived for 2013 and 2018 for speed limits of 2.5, 10, 15, and 30 mph for use in the microscale analyses. The 10 mph rate was used to estimate parking garage emissions.

CAL3QHC

For the intersections studied, the CAL3QHC model was applied to calculate CO concentrations at sensitive receptor locations using emission rates derived in MOBILE6.2. The intersection's queue links and free flow links were input to the model along with sensitive receptors at all locations nearby each intersection. The meteorological assumptions input into the model were a 1.0 meter per second wind speed, Pasquill-Gifford Class D stability combined with a mixing height of 1000 meters. For each direction, the full range of wind directions at 10 degree intervals was examined. In addition, a surface roughness (z_0) of 127 cm was used for all intersections. Idle emission rates for queue links were based on 2.5 mph emission rates derived in MOBILE6.2 and converted from grams per mile to grams per hour. Emission rates for speeds of 10, 15, and 30 mph were used for right turn, left turn, and free flow links, respectively.

Due to excessive size CAL3QHC, and MOBILE6.2 input and output files are available on digital media upon request.

Attachment C

Boston Landmarks Commission Letter

Boston
Landmarks
Commission

City of Boston
The Environment
Department

Boston City Hall/ Room 805
Boston, Massachusetts 02201
617/635-3850

www.cityofboston.gov/landmarks

April 10, 2013

Travis Lee, **LEED AP**
Project Manager
Madison Park Development Corporation
184 Dudley Street, Suite 102
Roxbury, MA 02119

RE: Parcel 10, Corner of Melnea Cass Blvd. and Washington St. Roxbury, MA

Dear Mr. Lee:

I am writing in regard to the proposed development of Parcel 10, a parcel located on the intersection of Melnea Cass Blvd. and Washington St. in the Roxbury Neighborhood of Boston.

The proposed project is partially located within the Eustis Street Protection Area, designated by the Boston Landmarks Commission (BLC) as abutting the Eustis Street Architectural Conservation District. The Standards and Criteria for review of proposed changes within the Protection Area specifically cite ground disturbance as subject to an impact study for effects on archaeological resources. .

The attached image on page 2 (Figure 1), illustrates that the majority of the project area under BLC review is currently or was once covered by a structure. In the northern portion of the overlap between Parcel 10 and the District, the former structure and a former street has most-likely disturbed or destroyed any archaeological deposits that may have once been present. A current parking area for Tropical Foods in the south of the project area once contained four domestic structures, built between 1890 and 1895, a dynamic and important period in Roxbury's history.

The footprint of the buildings themselves are not an archaeological concern as their structures would have destroyed any archaeological deposits once there; however, their back lots, which measure an area approximately 8x35 meters (25x100 feet) in size (see map), may contain significant archaeological deposits. The Boston Archaeology Program, which is administered by the Boston Landmarks Commission, is willing and able to provide archaeological excavation, free of charge, to both mitigate any potential impact to important historical resources (through archaeological excavation) and minimize financial impact on the project.

This letter serves to address the archaeological concerns of the BLC and to commit to the adequate documentation of any potential below-ground historic resources within the Eustis Street Protection Area.

Within the Eustis Street Protection Area required review extends to new construction. If you have questions about Boston Landmarks Commission design review for the proposed project please contact Ellen Lipsey, Executive Director,

Boston Landmarks Commission at the phone number above or ellen.lipsey@cityofboston.gov.

Sincerely,

Joseph Bagley
City Archaeologist
Boston Landmarks Commission
City of Boston

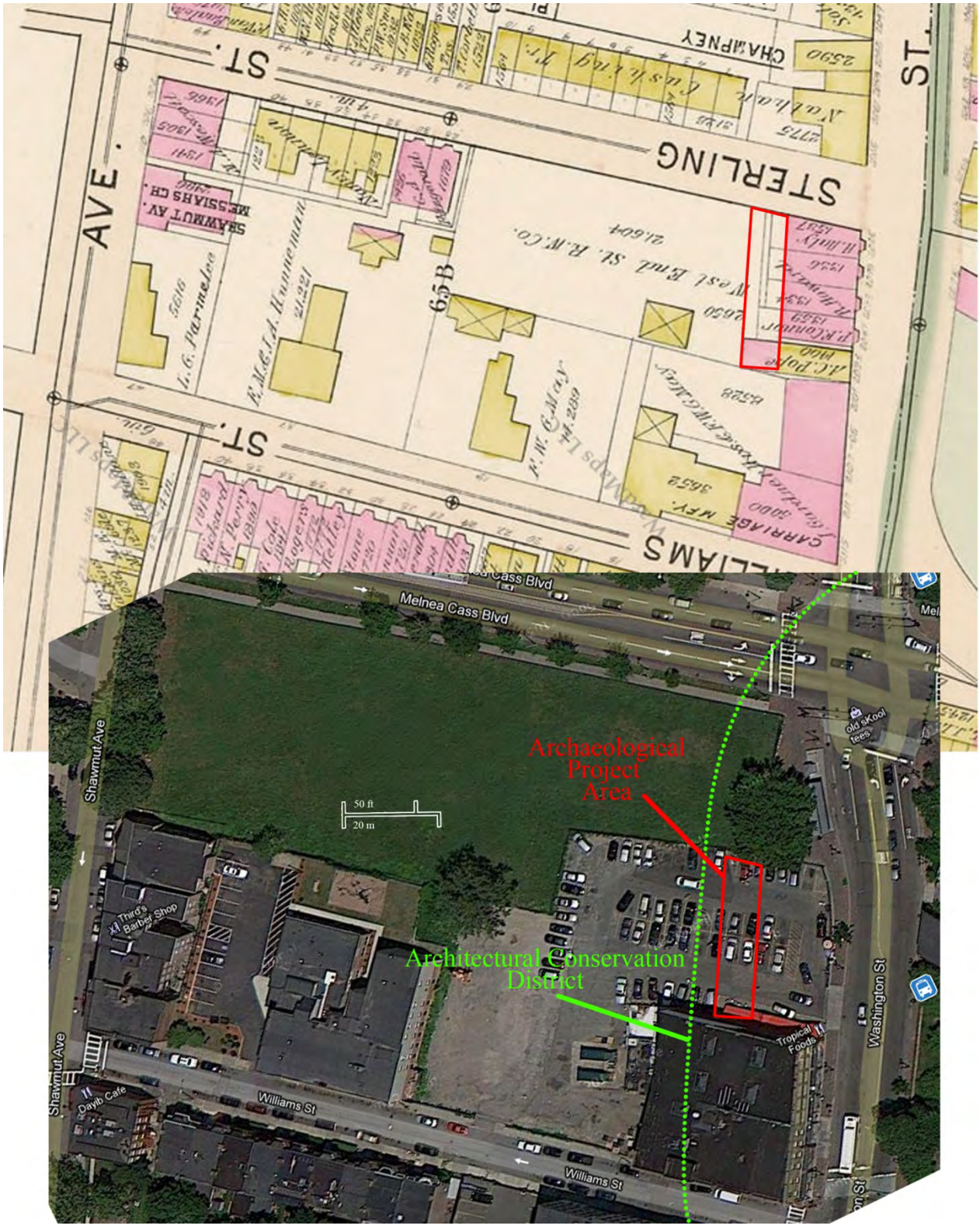


Figure 1. Map indicating 1895 rear lot of domestic structures and current aerial view of Parcel 10 with archaeological project area indicated in red and Eustis St. Protection area indicated in green

Accurate Counts

978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 1

Groups Printed- Cars - Trucks

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
07:00	8	36	4	29	271	0	0	0	0	0	211	2	561
07:15	9	40	2	27	266	0	0	0	0	0	252	5	601
07:30	12	39	2	23	295	0	0	0	0	0	241	2	614
07:45	2	41	3	29	266	0	0	0	0	0	264	5	610
Total	31	156	11	108	1098	0	0	0	0	0	968	14	2386
08:00	9	57	2	31	265	0	0	0	0	0	248	5	617
08:15	9	49	7	24	267	0	0	0	0	0	221	8	585
08:30	9	51	8	21	244	0	0	0	0	0	196	8	537
08:45	11	49	5	23	251	0	0	0	0	0	213	4	556
Total	38	206	22	99	1027	0	0	0	0	0	878	25	2295
09:00	8	34	7	22	208	0	0	0	0	0	239	7	525
09:15	9	27	5	22	242	0	0	0	0	0	207	3	515
09:30	8	29	5	27	222	0	0	0	0	0	185	4	480
09:45	8	29	2	23	264	0	0	0	0	0	221	4	551
Total	33	119	19	94	936	0	0	0	0	0	852	18	2071
10:00	11	35	1	19	244	0	0	0	0	0	222	6	538
10:15	6	26	4	25	229	0	0	0	0	0	195	1	486
10:30	8	35	0	20	225	0	0	0	0	0	169	1	458
10:45	9	28	3	18	248	0	0	0	0	0	183	3	492
Total	34	124	8	82	946	0	0	0	0	0	769	11	1974
11:00	10	32	3	19	242	0	0	0	0	0	208	6	520
11:15	5	29	2	22	184	0	0	0	0	0	205	3	450
11:30	9	26	5	18	215	0	0	0	0	0	208	3	484
11:45	11	27	2	20	210	0	0	0	0	0	246	3	519
Total	35	114	12	79	851	0	0	0	0	0	867	15	1973
12:00	13	39	8	17	233	0	0	0	0	0	216	3	529
12:15	8	34	6	25	182	0	0	0	0	0	203	5	463
12:30	9	36	5	16	209	0	0	0	0	0	258	6	539
12:45	8	27	2	29	215	0	0	0	0	0	221	2	504
Total	38	136	21	87	839	0	0	0	0	0	898	16	2035
13:00	8	42	4	28	185	0	0	0	0	0	208	4	479
13:15	6	34	4	26	213	0	0	0	0	0	220	9	512
13:30	6	37	5	24	231	0	0	0	0	0	223	4	530
13:45	7	39	3	34	220	0	0	0	0	0	291	9	603
Total	27	152	16	112	849	0	0	0	0	0	942	26	2124
14:00	12	63	4	25	238	0	0	0	0	0	272	5	619
14:15	12	36	7	23	202	0	0	0	0	0	295	4	579
14:30	16	48	7	28	206	0	0	0	0	0	284	8	597
14:45	3	51	5	23	250	0	0	0	0	0	241	5	578
Total	43	198	23	99	896	0	0	0	0	0	1092	22	2373
15:00	8	57	6	33	200	0	0	0	0	0	277	7	588
15:15	11	72	9	29	210	0	0	0	0	0	276	5	612
15:30	8	70	10	29	197	0	0	0	0	0	251	4	569
15:45	5	80	5	31	208	0	0	0	0	0	267	9	605
Total	32	279	30	122	815	0	0	0	0	0	1071	25	2374
16:00	12	77	5	51	203	0	0	0	0	0	211	3	562
16:15	16	62	3	26	192	0	0	0	0	0	225	2	526
16:30	10	67	7	33	219	0	0	0	0	0	255	6	597
16:45	9	76	8	25	222	0	0	0	0	0	197	6	543
Total	47	282	23	135	836	0	0	0	0	0	888	17	2228
17:00	10	87	6	46	216	0	0	0	0	0	189	8	562
17:15	13	95	10	46	278	0	0	0	0	0	268	9	719
17:30	9	84	2	37	254	0	0	0	0	0	246	9	641
17:45	7	103	2	50	271	0	0	0	0	0	264	11	708
Total	39	369	20	179	1019	0	0	0	0	0	967	37	2630

Accurate Counts
978-664-2565

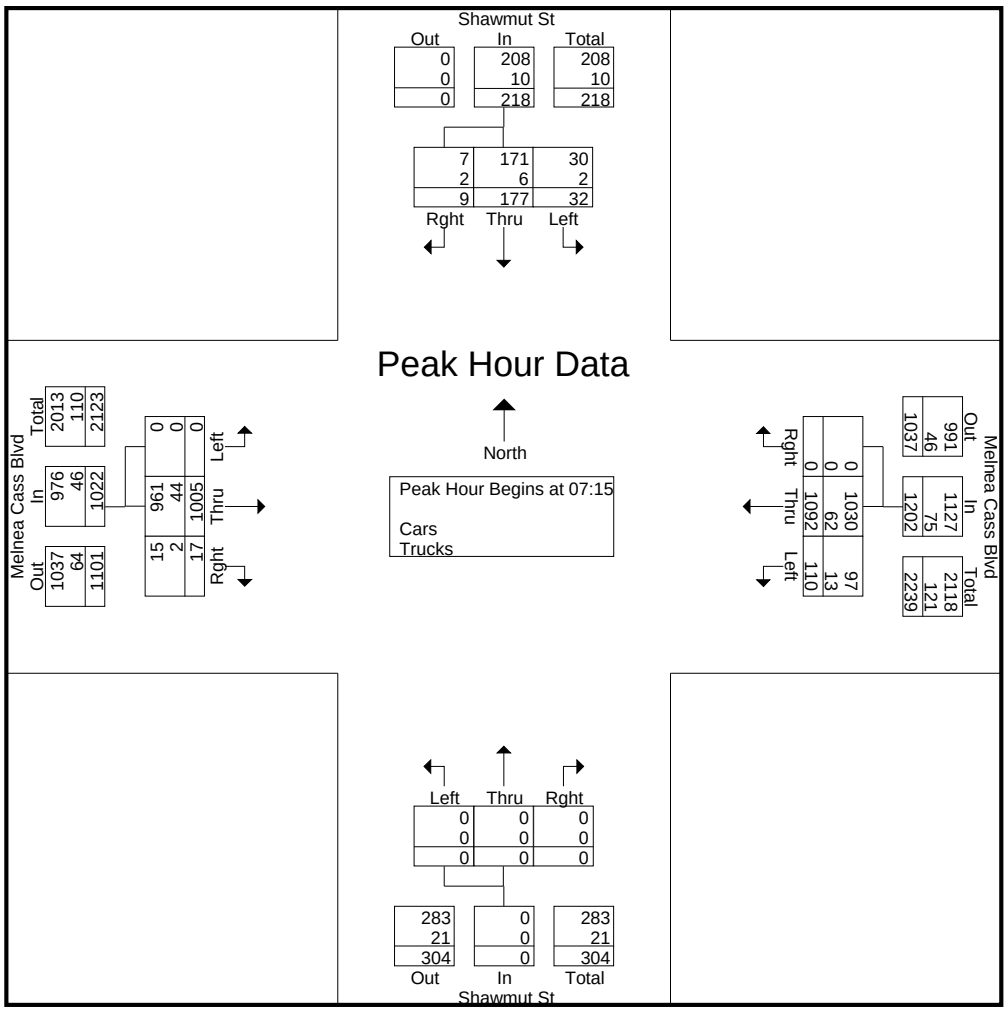
N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 2

Groups Printed- Cars - Trucks

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
Grand Total	397	2135	205	1196	10112	0	0	0	0	0	10192	226	24463
Apprch %	14.5	78	7.5	10.6	89.4	0	0	0	0	0	97.8	2.2	
Total %	1.6	8.7	0.8	4.9	41.3	0	0	0	0	0	41.7	0.9	
Cars	381	2077	191	1138	9666	0	0	0	0	0	9771	215	23439
% Cars	96	97.3	93.2	95.2	95.6	0	0	0	0	0	95.9	95.1	95.8
Trucks	16	58	14	58	446	0	0	0	0	0	421	11	1024
% Trucks	4	2.7	6.8	4.8	4.4	0	0	0	0	0	4.1	4.9	4.2

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	9	40	2	51	27	266	0	293	0	0	0	0	0	252	**5**	257	601
07:30	**12**	39	2	53	23	**295**	0	**318**	0	0	0	0	0	241	2	243	614
07:45	2	41	**3**	46	29	266	0	295	0	0	0	0	0	**264**	5	**269**	610
08:00	9	**57**	2	**68**	**31**	265	0	296	0	0	0	0	0	248	5	253	**617**
Total Volume	32	177	9	218	110	1092	0	1202	0	0	0	0	0	1005	17	1022	2442
% App. Total	14.7	81.2	4.1		9.2	90.8	0		0	0	0		0	98.3	1.7		
PHF	.667	.776	.750	.801	.887	.925	.000	.945	.000	.000	.000	.000	.000	.952	.850	.950	.989
Cars	30	171	7	208	97	1030	0	1127	0	0	0	0	0	961	15	976	2311
% Cars	93.8	96.6	77.8	95.4	88.2	94.3	0	93.8	0	0	0	0	0	95.6	88.2	95.5	94.6
Trucks	2	6	2	10	13	62	0	75	0	0	0	0	0	44	2	46	131
% Trucks	6.3	3.4	22.2	4.6	11.8	5.7	0	6.2	0	0	0	0	0	4.4	11.8	4.5	5.4

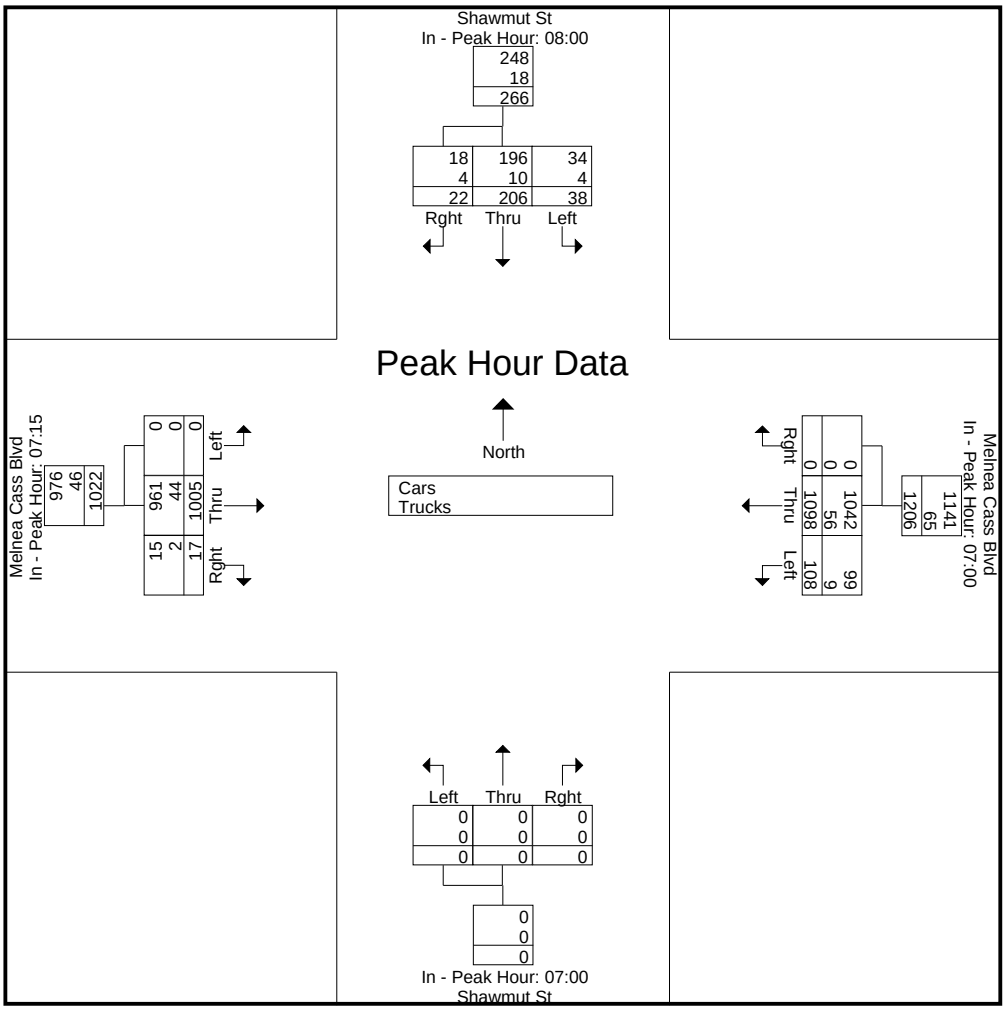


Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 3

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00				07:00				07:00				07:15				
+0 mins.	9	**57**	2	**68**	**29**	271	0	300	0	0	0	0	0	252	**5**	257	
+15 mins.	9	49	7	65	27	266	0	293	0	0	0	0	0	241	2	243	
+30 mins.	9	51	**8**	68	23	**295**	0	**318**	0	0	0	0	0	**264**	5	**269**	
+45 mins.	**11**	49	5	65	29	266	0	295	0	0	0	0	0	248	5	253	
Total Volume	38	206	22	266	108	1098	0	1206	0	0	0	0	0	1005	17	1022	
% App. Total	14.3	77.4	8.3		9	91	0		0	0	0		0	98.3	1.7		
PHF	.864	.904	.688	.978	.931	.931	.000	.948	.000	.000	.000	.000	.000	.952	.850	.950	
Cars	34	196	18	248	99	1042	0	1141	0	0	0	0	0	961	15	976	
% Cars	89.5	95.1	81.8	93.2	91.7	94.9	0	94.6	0	0	0	0	0	95.6	88.2	95.5	
Trucks	4	10	4	18	9	56	0	65	0	0	0	0	0	44	2	46	
% Trucks	10.5	4.9	18.2	6.8	8.3	5.1	0	5.4	0	0	0	0	0	4.4	11.8	4.5	



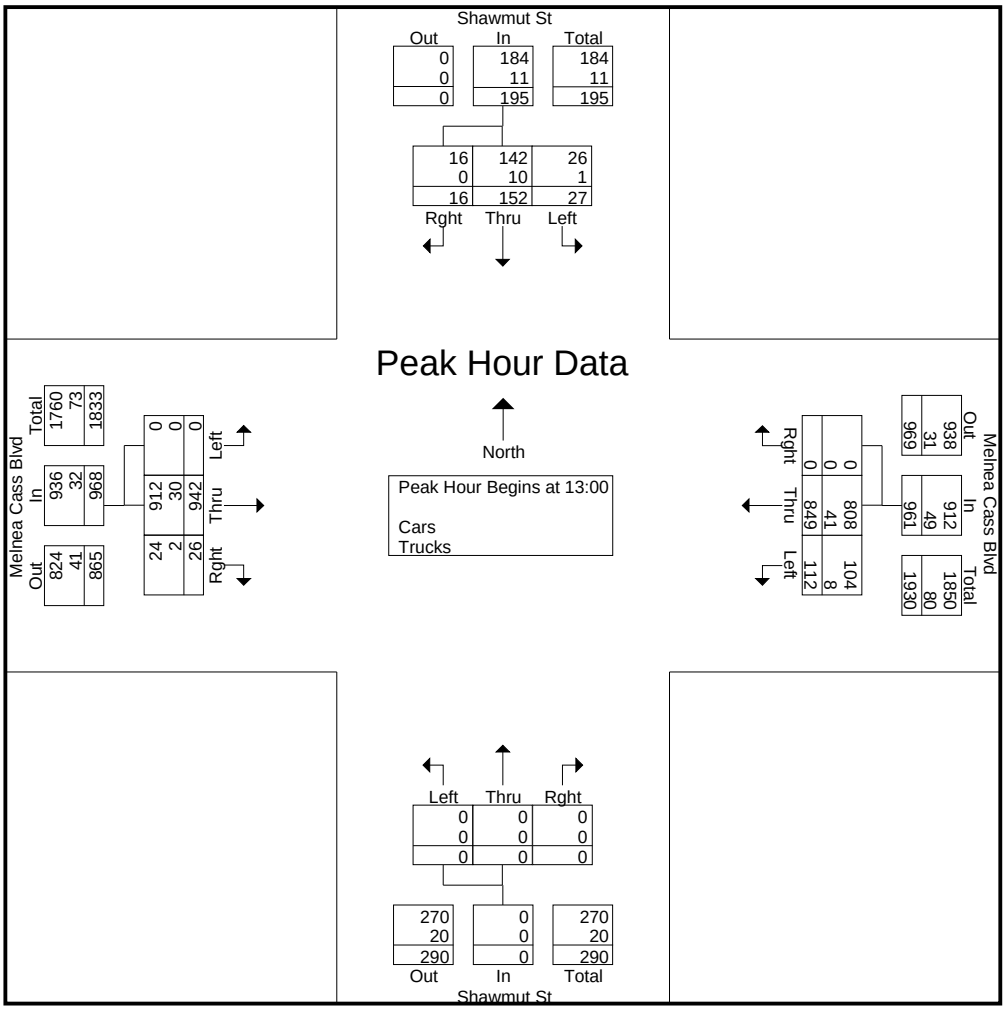
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 13:00

13:00	**8**	**42**	4	**54**	28	185	0	213	0	0	0	0	0	208	4	212	479
13:15	6	34	4	44	26	213	0	239	0	0	0	0	0	220	**9**	229	512
13:30	6	37	**5**	48	24	**231**	0	**255**	0	0	0	0	0	223	4	227	530
13:45	7	39	3	49	**34**	220	0	254	0	0	0	0	0	**291**	9	**300**	**603**
Total Volume	27	152	16	195	112	849	0	961	0	0	0	0	0	942	26	968	2124
% App. Total	13.8	77.9	8.2		11.7	88.3	0		0	0	0		0	97.3	2.7		
PHF	.844	.905	.800	.903	.824	.919	.000	.942	.000	.000	.000	.000	.000	.809	.722	.807	.881
Cars	26	142	16	184	104	808	0	912	0	0	0	0	0	912	24	936	2032
% Cars	96.3	93.4	100	94.4	92.9	95.2	0	94.9	0	0	0	0	0	96.8	92.3	96.7	95.7
Trucks	1	10	0	11	8	41	0	49	0	0	0	0	0	30	2	32	92
% Trucks	3.7	6.6	0	5.6	7.1	4.8	0	5.1	0	0	0	0	0	3.2	7.7	3.3	4.3

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 4



Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45				10:00				10:00				13:00			
+0 mins.	11	27	2	40	19	244	0	263	0	0	0	0	0	208	4	212
+15 mins.	**13**	**39**	**8**	**60**	**25**	229	0	254	0	0	0	0	0	220	**9**	229
+30 mins.	8	34	6	48	20	225	0	245	0	0	0	0	0	223	4	227
+45 mins.	9	36	5	50	18	**248**	0	**266**	0	0	0	0	0	**291**	9	**300**
Total Volume	41	136	21	198	82	946	0	1028	0	0	0	0	0	942	26	968
% App. Total	20.7	68.7	10.6		8	92	0		0	0	0		0	97.3	2.7	
PHF	.788	.872	.656	.825	.820	.954	.000	.966	.000	.000	.000	.000	.000	.809	.722	.807
Cars	41	136	21	198	80	904	0	984	0	0	0	0	0	912	24	936
% Cars	100	100	100	100	97.6	95.6	0	95.7	0	0	0	0	0	96.8	92.3	96.7
Trucks	0	0	0	0	2	42	0	44	0	0	0	0	0	30	2	32
% Trucks	0	0	0	0	2.4	4.4	0	4.3	0	0	0	0	0	3.2	7.7	3.3

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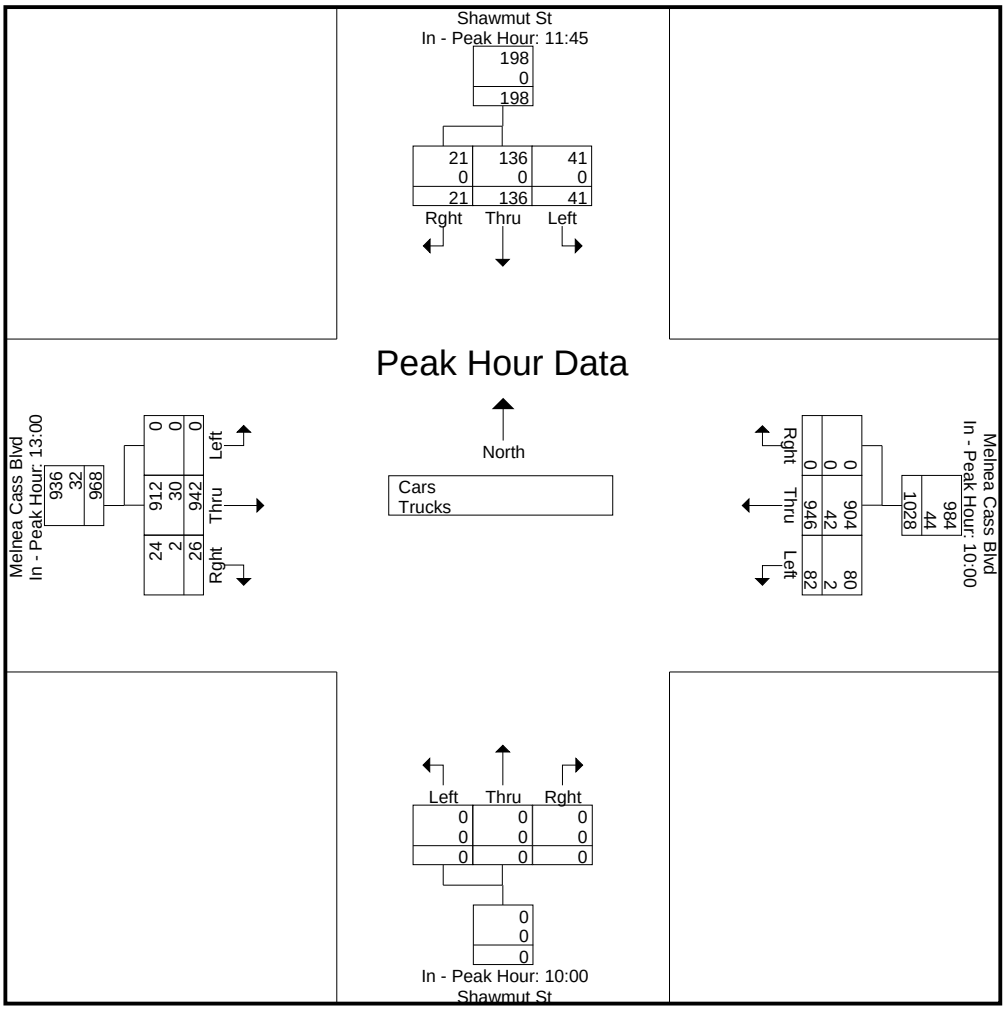
Site Code : 01410004
Start Date : 9/21/2011
Page No : 5



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	10	87	6	103	46	216	0	262	0	0	0	0	0	189	8	197	562
17:15	**13**	95	**10**	**118**	46	**278**	0	**324**	0	0	0	0	0	**268**	9	**277**	**719**
17:30	9	84	2	95	37	254	0	291	0	0	0	0	0	246	9	255	641
17:45	7	**103**	2	112	**50**	271	0	321	0	0	0	0	0	264	**11**	275	708
Total Volume	39	369	20	428	179	1019	0	1198	0	0	0	0	0	967	37	1004	2630
% App. Total	9.1	86.2	4.7		14.9	85.1	0		0	0	0		0	96.3	3.7		
PHF	.750	.896	.500	.907	.895	.916	.000	.924	.000	.000	.000	.000	.000	.902	.841	.906	.914
Cars	38	366	20	424	178	996	0	1174	0	0	0	0	0	948	36	984	2582
% Cars	97.4	99.2	100	99.1	99.4	97.7	0	98.0	0	0	0	0	0	98.0	97.3	98.0	98.2
Trucks	1	3	0	4	1	23	0	24	0	0	0	0	0	19	1	20	48
% Trucks	2.6	0.8	0	0.9	0.6	2.3	0	2.0	0	0	0	0	0	2.0	2.7	2.0	1.8

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
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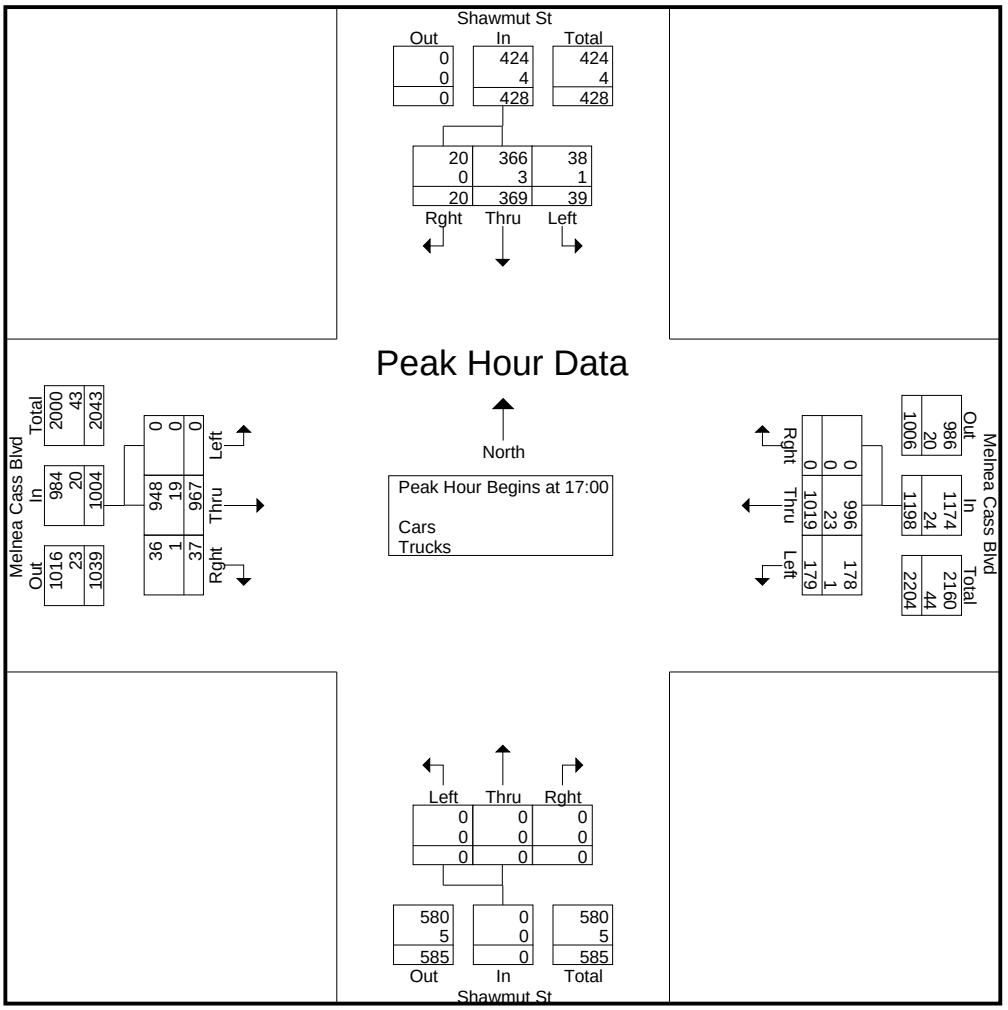
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 6



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				17:00				14:00				14:15			
+0 mins.	10	87	6	103	46	216	0	262	0	0	0	0	0	**295**	4	**299**
+15 mins.	**13**	95	**10**	**118**	46	**278**	0	**324**	0	0	0	0	0	284	**8**	292
+30 mins.	9	84	2	95	37	254	0	291	0	0	0	0	0	241	5	246
+45 mins.	7	**103**	2	112	**50**	271	0	321	0	0	0	0	0	277	7	284
Total Volume	39	369	20	428	179	1019	0	1198	0	0	0	0	0	1097	24	1121
% App. Total	9.1	86.2	4.7		14.9	85.1	0		0	0	0		0	97.9	2.1	
PHF	.750	.896	.500	.907	.895	.916	.000	.924	.000	.000	.000	.000	.000	.930	.750	.937
Cars	38	366	20	424	178	996	0	1174	0	0	0	0	0	1066	23	1089
% Cars	97.4	99.2	100	99.1	99.4	97.7	0	98	0	0	0	0	0	97.2	95.8	97.1
Trucks	1	3	0	4	1	23	0	24	0	0	0	0	0	31	1	32
% Trucks	2.6	0.8	0	0.9	0.6	2.3	0	2	0	0	0	0	0	2.8	4.2	2.9

Accurate Counts
978-664-2565

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Weather : Clear

File Name : 01410004
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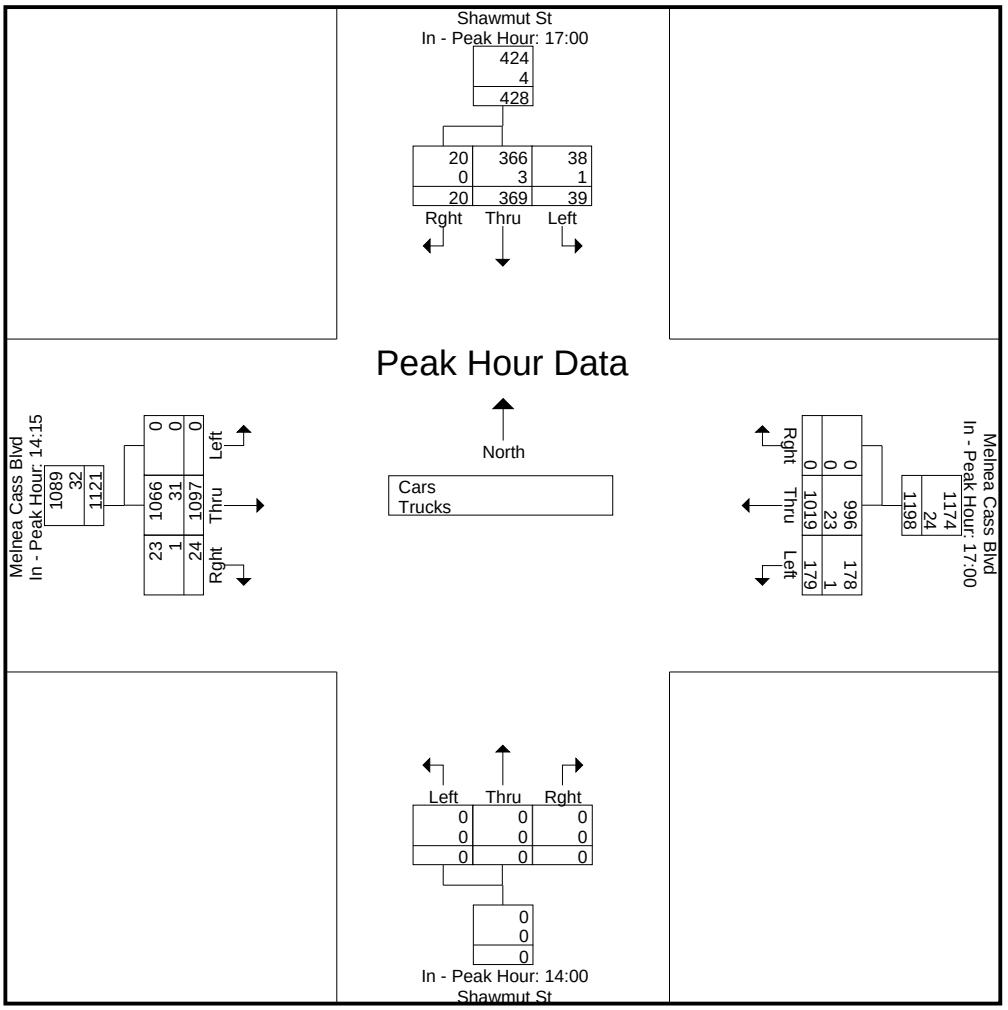


Accurate Counts

978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 1

Groups Printed- Cars

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
07:00	8	35	4	27	261	0	0	0	0	0	202	1	538
07:15	9	39	2	24	250	0	0	0	0	0	246	3	573
07:30	12	37	2	20	278	0	0	0	0	0	228	2	579
07:45	1	40	2	28	253	0	0	0	0	0	253	5	582
Total	30	151	10	99	1042	0	0	0	0	0	929	11	2272
08:00	8	55	1	25	249	0	0	0	0	0	234	5	577
08:15	6	47	6	21	249	0	0	0	0	0	211	7	547
08:30	9	47	8	21	231	0	0	0	0	0	186	8	510
08:45	11	47	3	21	247	0	0	0	0	0	198	3	530
Total	34	196	18	88	976	0	0	0	0	0	829	23	2164
09:00	8	32	7	17	196	0	0	0	0	0	226	7	493
09:15	9	26	4	19	231	0	0	0	0	0	191	3	483
09:30	6	26	4	26	208	0	0	0	0	0	165	4	439
09:45	8	26	2	23	256	0	0	0	0	0	201	4	520
Total	31	110	17	85	891	0	0	0	0	0	783	18	1935
10:00	11	35	1	19	234	0	0	0	0	0	208	6	514
10:15	6	26	4	24	218	0	0	0	0	0	186	1	465
10:30	7	35	0	20	213	0	0	0	0	0	162	1	438
10:45	8	28	3	17	239	0	0	0	0	0	175	3	473
Total	32	124	8	80	904	0	0	0	0	0	731	11	1890
11:00	10	32	3	19	231	0	0	0	0	0	193	6	494
11:15	5	29	2	22	175	0	0	0	0	0	190	3	426
11:30	9	26	5	18	204	0	0	0	0	0	192	3	457
11:45	11	27	2	20	201	0	0	0	0	0	239	3	503
Total	35	114	12	79	811	0	0	0	0	0	814	15	1880
12:00	13	39	8	17	219	0	0	0	0	0	211	3	510
12:15	8	34	6	25	176	0	0	0	0	0	191	5	445
12:30	9	36	5	16	203	0	0	0	0	0	246	6	521
12:45	8	27	2	29	208	0	0	0	0	0	208	2	484
Total	38	136	21	87	806	0	0	0	0	0	856	16	1960
13:00	7	38	4	25	177	0	0	0	0	0	198	4	453
13:15	6	32	4	25	201	0	0	0	0	0	217	9	494
13:30	6	35	5	22	219	0	0	0	0	0	216	4	507
13:45	7	37	3	32	211	0	0	0	0	0	281	7	578
Total	26	142	16	104	808	0	0	0	0	0	912	24	2032
14:00	11	59	4	24	228	0	0	0	0	0	263	5	594
14:15	12	35	7	23	191	0	0	0	0	0	289	4	561
14:30	15	48	5	22	196	0	0	0	0	0	274	8	568
14:45	3	50	5	22	239	0	0	0	0	0	234	5	558
Total	41	192	21	91	854	0	0	0	0	0	1060	22	2281
15:00	8	57	5	30	184	0	0	0	0	0	269	6	559
15:15	11	68	8	28	198	0	0	0	0	0	271	5	589
15:30	8	65	9	27	191	0	0	0	0	0	243	3	546
15:45	5	79	4	29	197	0	0	0	0	0	258	8	580
Total	32	269	26	114	770	0	0	0	0	0	1041	22	2274
16:00	11	76	4	50	193	0	0	0	0	0	206	3	543
16:15	16	61	3	26	182	0	0	0	0	0	221	2	511
16:30	9	65	7	32	216	0	0	0	0	0	249	6	584
16:45	8	75	8	25	217	0	0	0	0	0	192	6	531
Total	44	277	22	133	808	0	0	0	0	0	868	17	2169
17:00	10	86	6	46	211	0	0	0	0	0	183	8	550
17:15	12	94	10	45	270	0	0	0	0	0	264	9	704
17:30	9	83	2	37	250	0	0	0	0	0	241	9	631
17:45	7	103	2	50	265	0	0	0	0	0	260	10	697
Total	38	366	20	178	996	0	0	0	0	0	948	36	2582

Accurate Counts
978-664-2565

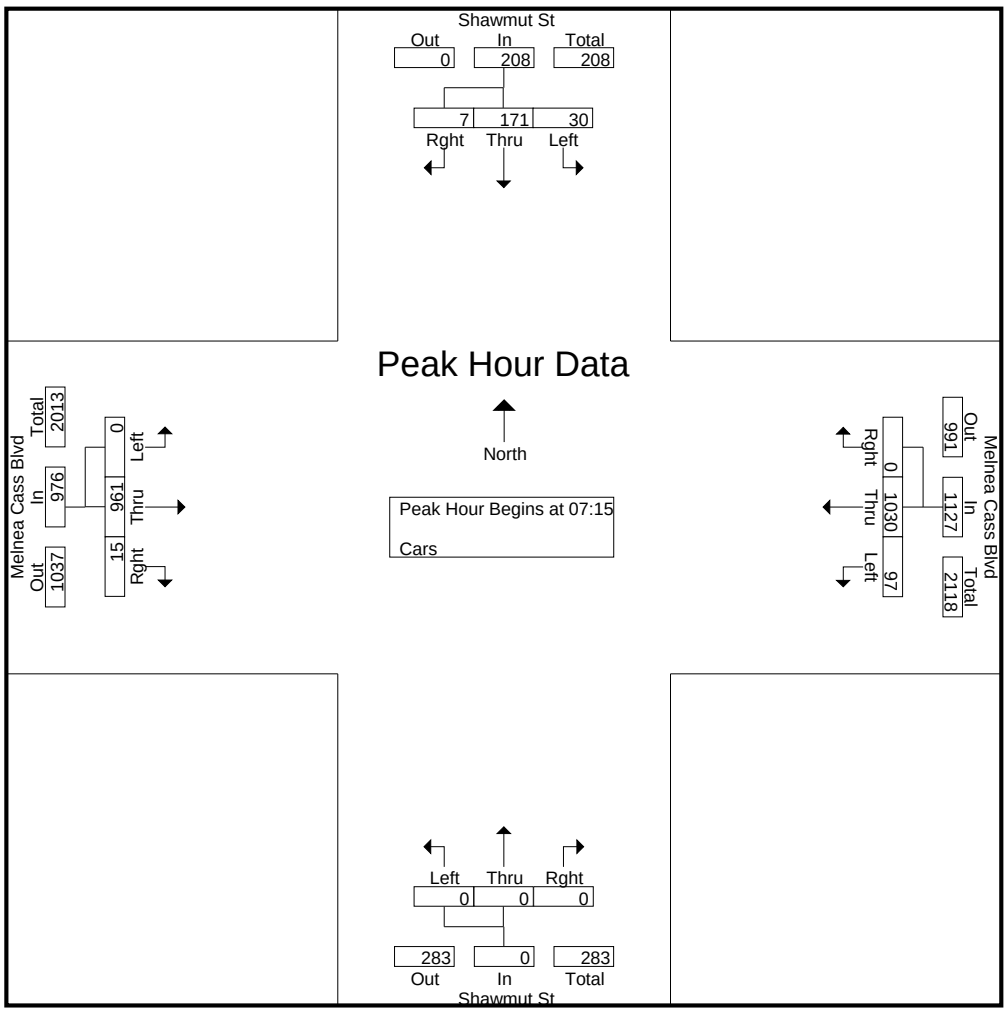
N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 2

Groups Printed- Cars

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
Grand Total	381	2077	191	1138	9666	0	0	0	0	0	9771	215	23439
Apprch %	14.4	78.4	7.2	10.5	89.5	0	0	0	0	0	97.8	2.2	
Total %	1.6	8.9	0.8	4.9	41.2	0	0	0	0	0	41.7	0.9	

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	9	39	**2**	50	24	250	0	274	0	0	0	0	0	246	3	249	573
07:30	**12**	37	2	51	20	**278**	0	**298**	0	0	0	0	0	228	2	230	579
07:45	1	40	2	43	**28**	253	0	281	0	0	0	0	0	**253**	**5**	**258**	**582**
08:00	8	**55**	1	**64**	25	249	0	274	0	0	0	0	0	234	5	239	577
Total Volume	30	171	7	208	97	1030	0	1127	0	0	0	0	0	961	15	976	2311
% App. Total	14.4	82.2	3.4		8.6	91.4	0		0	0	0		0	98.5	1.5		
PHF	.625	.777	.875	.813	.866	.926	.000	.945	.000	.000	.000	.000	.000	.950	.750	.946	.993

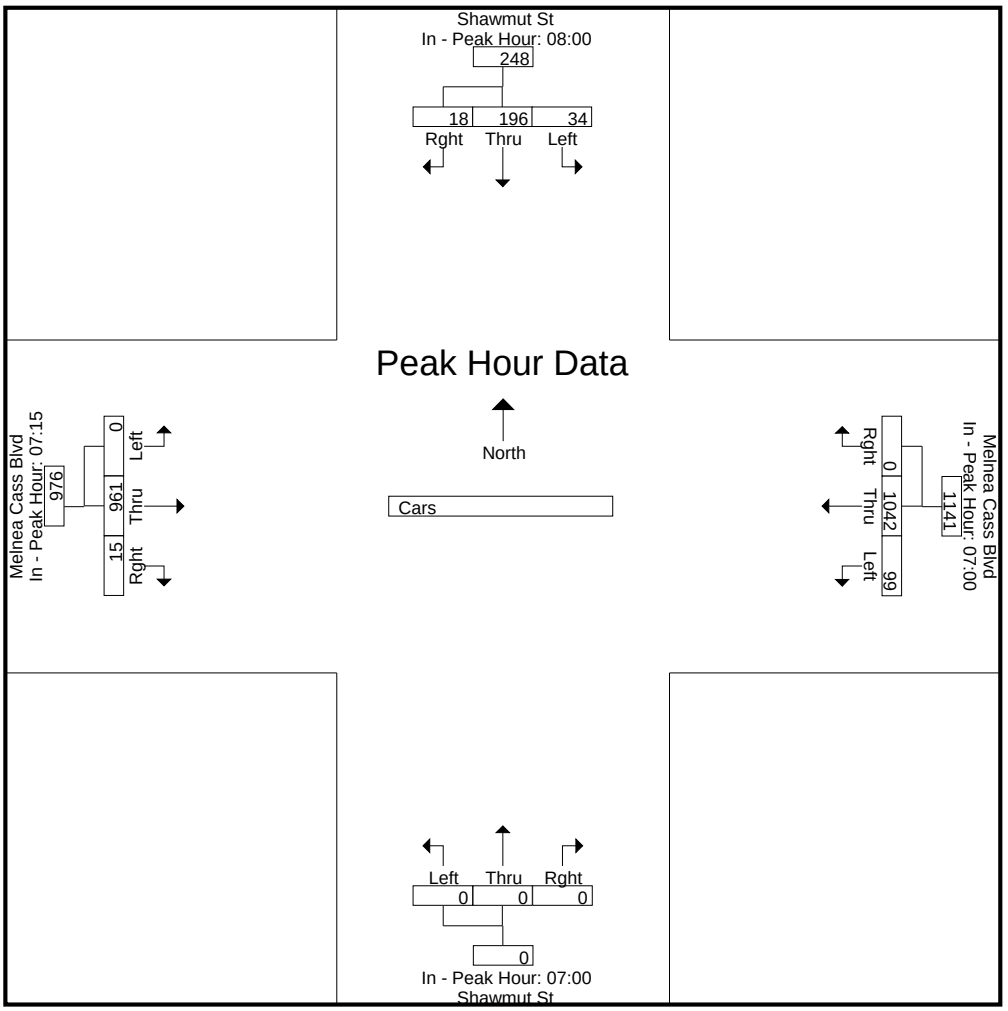


Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 3

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00				07:00				07:00				07:15				
+0 mins.	8	**55**	1	**64**	27	261	0	288	0	0	0	0	0	246	3	249	
+15 mins.	6	47	6	59	24	250	0	274	0	0	0	0	0	228	2	230	
+30 mins.	9	47	**8**	64	20	**278**	0	**298**	0	0	0	0	0	**253**	**5**	**258**	
+45 mins.	**11**	47	3	61	**28**	253	0	281	0	0	0	0	0	234	5	239	
Total Volume	34	196	18	248	99	1042	0	1141	0	0	0	0	0	961	15	976	
% App. Total	13.7	79	7.3		8.7	91.3	0		0	0	0		0	98.5	1.5		
PHF	.773	.891	.563	.969	.884	.937	.000	.957	.000	.000	.000	.000	.000	.950	.750	.946	



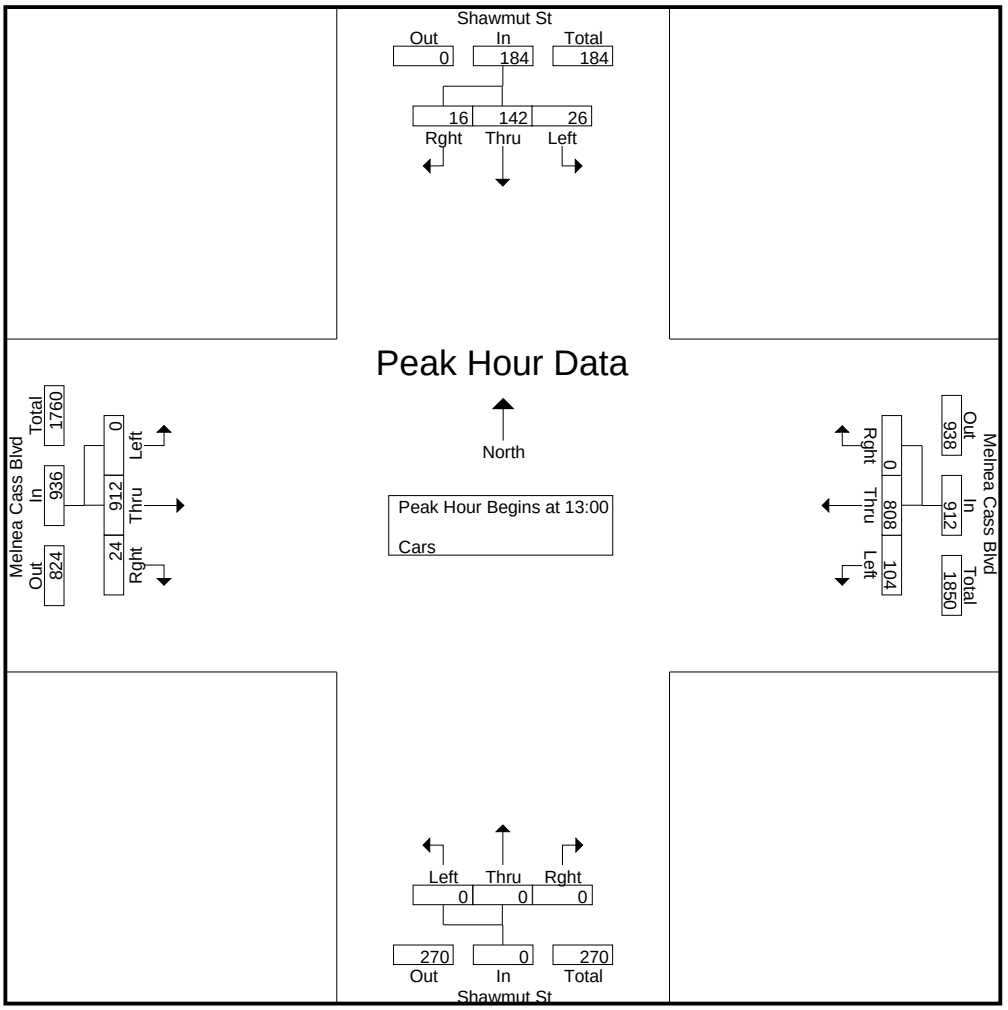
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 13:00

13:00	**7**	**38**	4	**49**	25	177	0	202	0	0	0	0	0	198	4	202	453
13:15	6	32	4	42	25	201	0	226	0	0	0	0	0	217	**9**	226	494
13:30	6	35	**5**	46	22	**219**	0	241	0	0	0	0	0	216	4	220	507
13:45	7	37	3	47	**32**	211	0	**243**	0	0	0	0	0	**281**	7	**288**	**578**
Total Volume	26	142	16	184	104	808	0	912	0	0	0	0	0	912	24	936	2032
% App. Total	14.1	77.2	8.7		11.4	88.6	0		0	0	0		0	97.4	2.6		
PHF	.929	.934	.800	.939	.813	.922	.000	.938	.000	.000	.000	.000	.000	.811	.667	.813	.879

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 4



Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

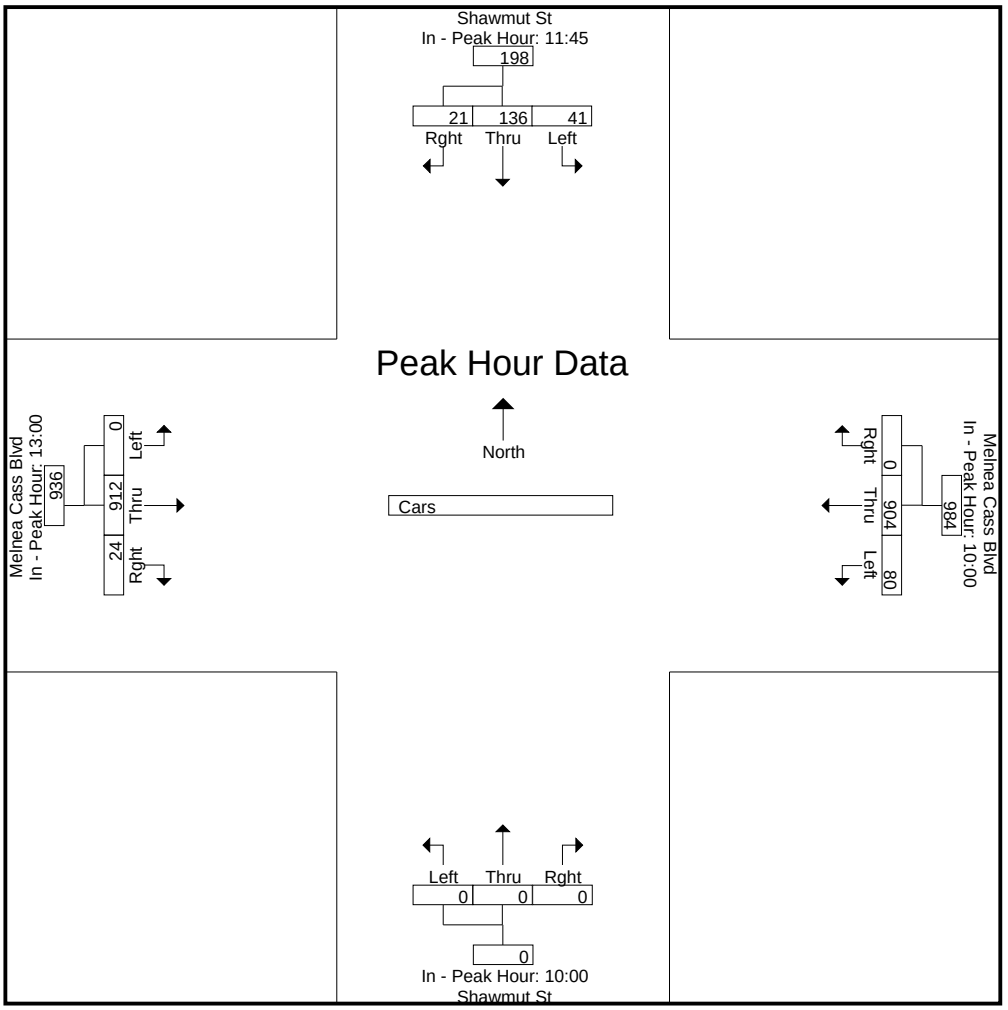
Peak Hour for Each Approach Begins at:

	11:45				10:00				10:00				13:00			
+0 mins.	11	27	2	40	19	234	0	253	0	0	0	0	0	198	4	202
+15 mins.	**13**	**39**	**8**	**60**	**24**	218	0	242	0	0	0	0	0	217	**9**	226
+30 mins.	8	34	6	48	20	213	0	233	0	0	0	0	0	216	4	220
+45 mins.	9	36	5	50	17	**239**	0	**256**	0	0	0	0	0	**281**	7	**288**
Total Volume	41	136	21	198	80	904	0	984	0	0	0	0	0	912	24	936
% App. Total	20.7	68.7	10.6		8.1	91.9	0		0	0	0		0	97.4	2.6	
PHF	.788	.872	.656	.825	.833	.946	.000	.961	.000	.000	.000	.000	.000	.811	.667	.813

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 5



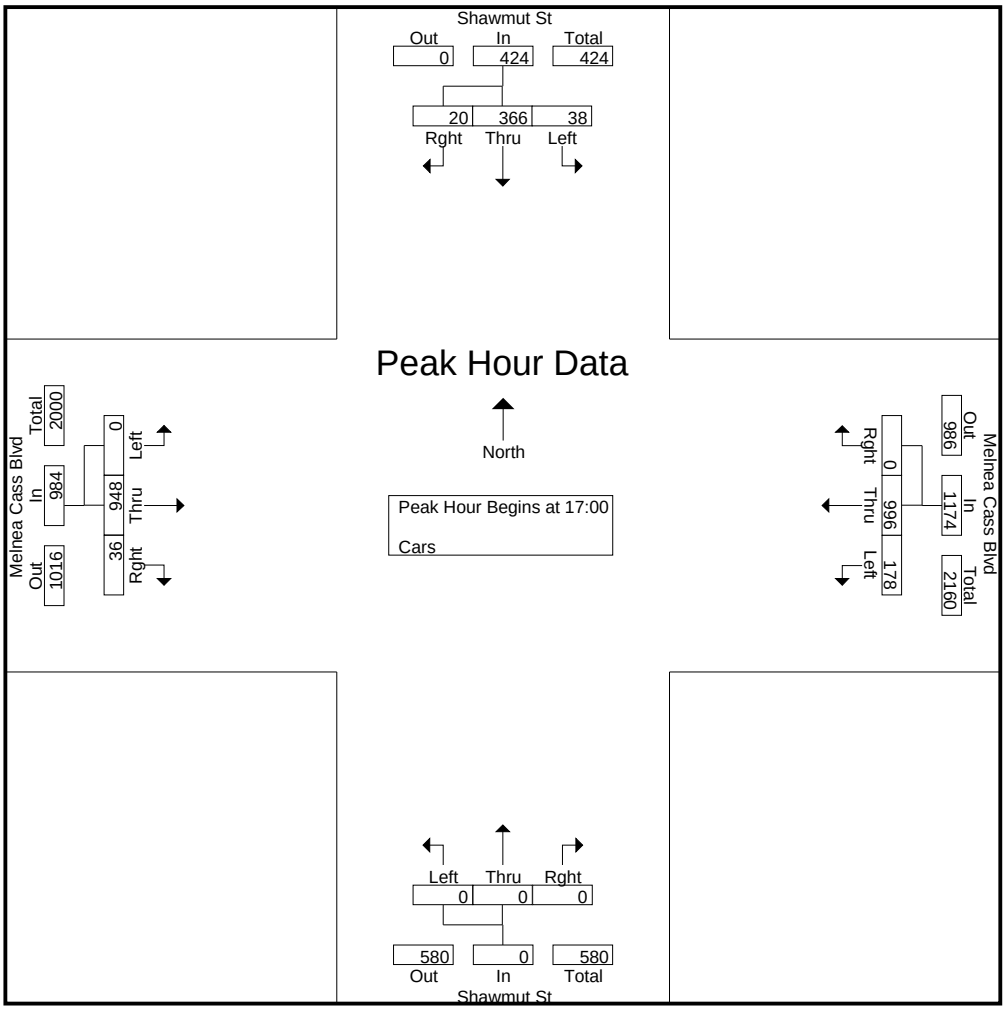
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	10	86	6	102	46	211	0	257	0	0	0	0	0	183	8	191	550
17:15	**12**	94	**10**	**116**	45	**270**	0	**315**	0	0	0	0	0	**264**	9	**273**	**704**
17:30	9	83	2	94	37	250	0	287	0	0	0	0	0	241	9	250	631
17:45	7	**103**	2	112	**50**	265	0	315	0	0	0	0	0	260	**10**	270	697
Total Volume	38	366	20	424	178	996	0	1174	0	0	0	0	0	948	36	984	2582
% App. Total	9	86.3	4.7		15.2	84.8	0		0	0	0		0	96.3	3.7		
PHF	.792	.888	.500	.914	.890	.922	.000	.932	.000	.000	.000	.000	.000	.898	.900	.901	.917

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 6



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				17:00				14:00				14:15			
+0 mins.	10	86	6	102	46	211	0	257	0	0	0	0	0	**289**	4	**293**
+15 mins.	**12**	94	**10**	**116**	45	**270**	0	**315**	0	0	0	0	0	274	**8**	282
+30 mins.	9	83	2	94	37	250	0	287	0	0	0	0	0	234	5	239
+45 mins.	7	**103**	2	112	**50**	265	0	315	0	0	0	0	0	269	6	275
Total Volume	38	366	20	424	178	996	0	1174	0	0	0	0	0	1066	23	1089
% App. Total	9	86.3	4.7		15.2	84.8	0		0	0	0		0	97.9	2.1	
PHF	.792	.888	.500	.914	.890	.922	.000	.932	.000	.000	.000	.000	.000	.922	.719	.929

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
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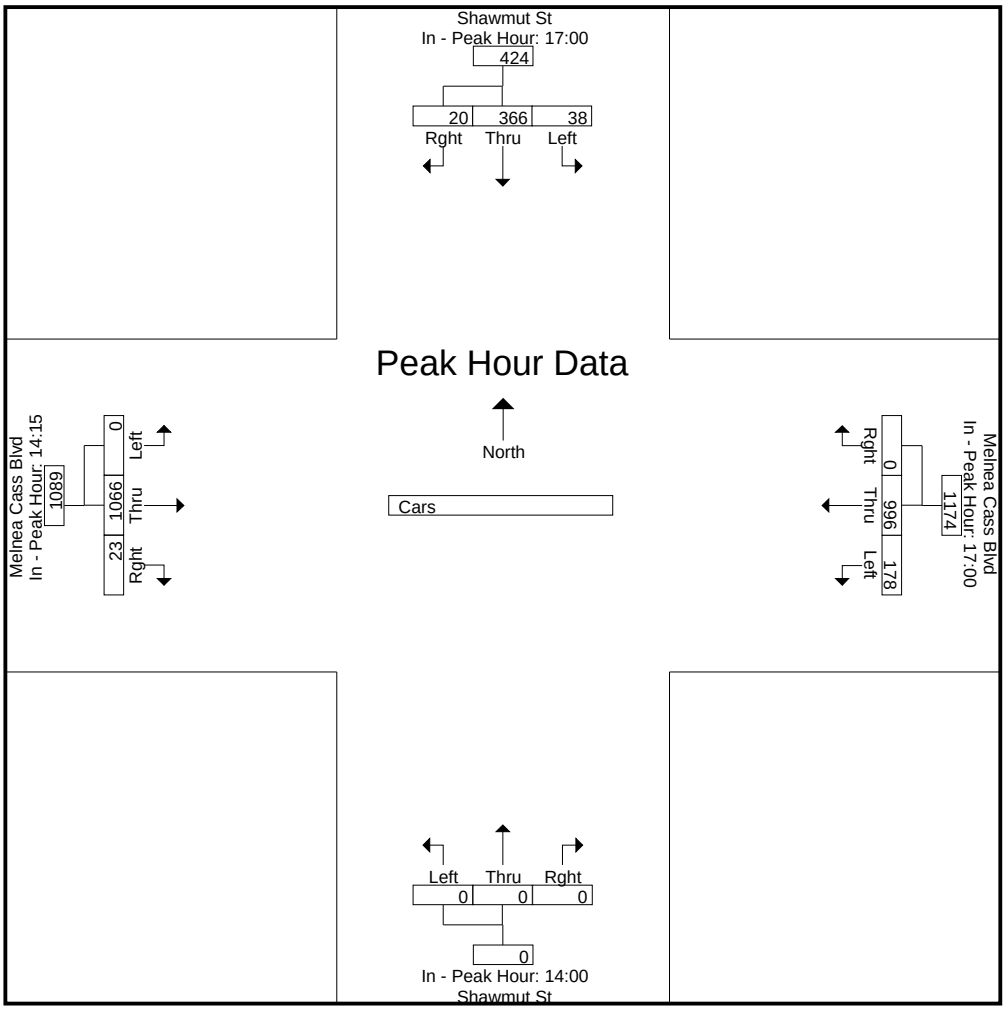


Accurate Counts

978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 1

Groups Printed- Trucks

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
07:00	0	1	0	2	10	0	0	0	0	0	9	1	23
07:15	0	1	0	3	16	0	0	0	0	0	6	2	28
07:30	0	2	0	3	17	0	0	0	0	0	13	0	35
07:45	1	1	1	1	13	0	0	0	0	0	11	0	28
Total	1	5	1	9	56	0	0	0	0	0	39	3	114
08:00	1	2	1	6	16	0	0	0	0	0	14	0	40
08:15	3	2	1	3	18	0	0	0	0	0	10	1	38
08:30	0	4	0	0	13	0	0	0	0	0	10	0	27
08:45	0	2	2	2	4	0	0	0	0	0	15	1	26
Total	4	10	4	11	51	0	0	0	0	0	49	2	131
09:00	0	2	0	5	12	0	0	0	0	0	13	0	32
09:15	0	1	1	3	11	0	0	0	0	0	16	0	32
09:30	2	3	1	1	14	0	0	0	0	0	20	0	41
09:45	0	3	0	0	8	0	0	0	0	0	20	0	31
Total	2	9	2	9	45	0	0	0	0	0	69	0	136
10:00	0	0	0	0	10	0	0	0	0	0	14	0	24
10:15	0	0	0	1	11	0	0	0	0	0	9	0	21
10:30	1	0	0	0	12	0	0	0	0	0	7	0	20
10:45	1	0	0	1	9	0	0	0	0	0	8	0	19
Total	2	0	0	2	42	0	0	0	0	0	38	0	84
11:00	0	0	0	0	11	0	0	0	0	0	15	0	26
11:15	0	0	0	0	9	0	0	0	0	0	15	0	24
11:30	0	0	0	0	11	0	0	0	0	0	16	0	27
11:45	0	0	0	0	9	0	0	0	0	0	7	0	16
Total	0	0	0	0	40	0	0	0	0	0	53	0	93
12:00	0	0	0	0	14	0	0	0	0	0	5	0	19
12:15	0	0	0	0	6	0	0	0	0	0	12	0	18
12:30	0	0	0	0	6	0	0	0	0	0	12	0	18
12:45	0	0	0	0	7	0	0	0	0	0	13	0	20
Total	0	0	0	0	33	0	0	0	0	0	42	0	75
13:00	1	4	0	3	8	0	0	0	0	0	10	0	26
13:15	0	2	0	1	12	0	0	0	0	0	3	0	18
13:30	0	2	0	2	12	0	0	0	0	0	7	0	23
13:45	0	2	0	2	9	0	0	0	0	0	10	2	25
Total	1	10	0	8	41	0	0	0	0	0	30	2	92
14:00	1	4	0	1	10	0	0	0	0	0	9	0	25
14:15	0	1	0	0	11	0	0	0	0	0	6	0	18
14:30	1	0	2	6	10	0	0	0	0	0	10	0	29
14:45	0	1	0	1	11	0	0	0	0	0	7	0	20
Total	2	6	2	8	42	0	0	0	0	0	32	0	92
15:00	0	0	1	3	16	0	0	0	0	0	8	1	29
15:15	0	4	1	1	12	0	0	0	0	0	5	0	23
15:30	0	5	1	2	6	0	0	0	0	0	8	1	23
15:45	0	1	1	2	11	0	0	0	0	0	9	1	25
Total	0	10	4	8	45	0	0	0	0	0	30	3	100
16:00	1	1	1	1	10	0	0	0	0	0	5	0	19
16:15	0	1	0	0	10	0	0	0	0	0	4	0	15
16:30	1	2	0	1	3	0	0	0	0	0	6	0	13
16:45	1	1	0	0	5	0	0	0	0	0	5	0	12
Total	3	5	1	2	28	0	0	0	0	0	20	0	59
17:00	0	1	0	0	5	0	0	0	0	0	6	0	12
17:15	1	1	0	1	8	0	0	0	0	0	4	0	15
17:30	0	1	0	0	4	0	0	0	0	0	5	0	10
17:45	0	0	0	0	6	0	0	0	0	0	4	1	11
Total	1	3	0	1	23	0	0	0	0	0	19	1	48

Accurate Counts
978-664-2565

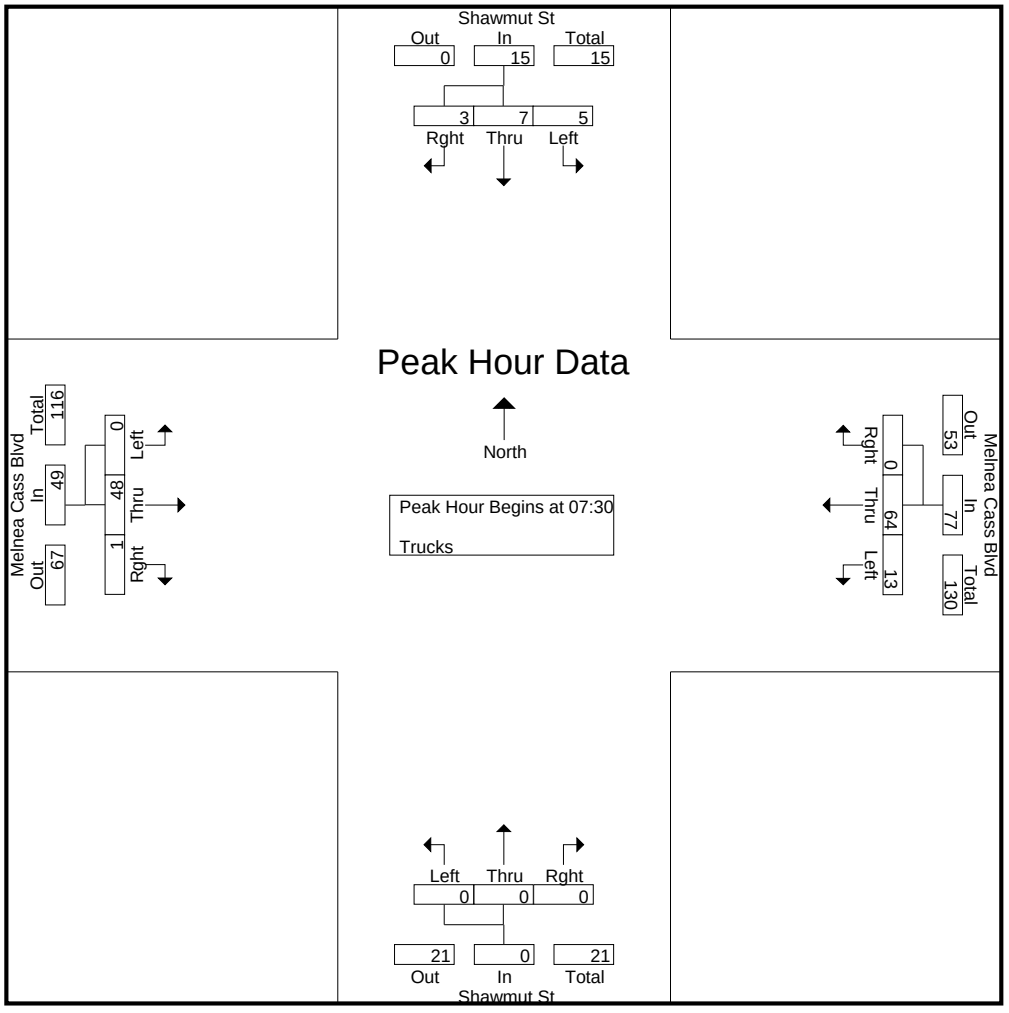
N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 2

Groups Printed- Trucks

	Shawmut St From North			Melnea Cass Blvd From East			Shawmut St From South			Melnea Cass Blvd From West			
	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
Grand Total	16	58	14	58	446	0	0	0	0	0	421	11	1024
Apprch %	18.2	65.9	15.9	11.5	88.5	0	0	0	0	0	97.5	2.5	
Total %	1.6	5.7	1.4	5.7	43.6	0	0	0	0	0	41.1	1.1	

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	**2**	0	2	3	17	0	20	0	0	0	0	0	13	0	13	35
07:45	1	1	**1**	3	1	13	0	14	0	0	0	0	0	11	0	11	28
08:00	1	2	1	4	**6**	16	0	**22**	0	0	0	0	0	**14**	0	**14**	**40**
08:15	**3**	2	1	**6**	3	**18**	0	21	0	0	0	0	0	10	**1**	11	38
Total Volume	5	7	3	15	13	64	0	77	0	0	0	0	0	48	1	49	141
% App. Total	33.3	46.7	20		16.9	83.1	0		0	0	0		0	98	2		
PHF	.417	.875	.750	.625	.542	.889	.000	.875	.000	.000	.000	.000	.000	.857	.250	.875	.881

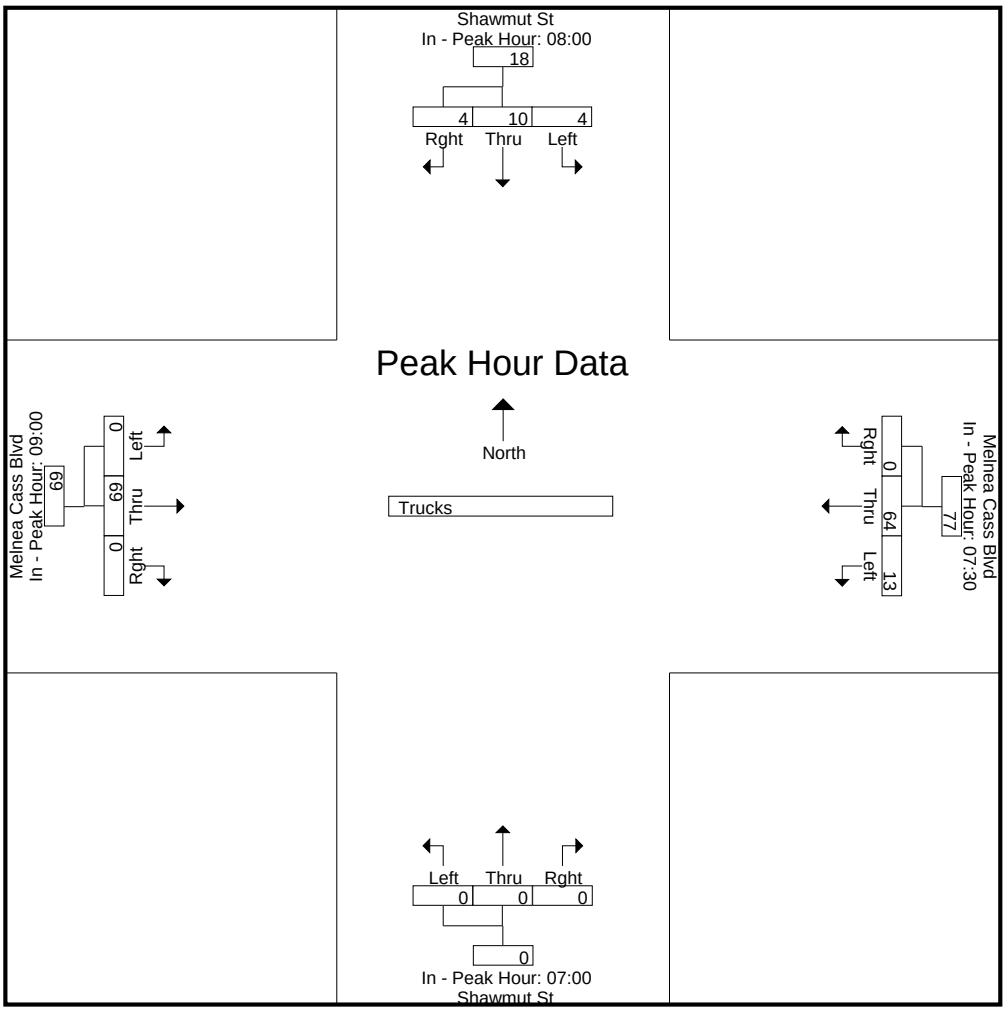


Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00				07:30				07:00				09:00				
+0 mins.	1	2	1	4	3	17	0	20	0	0	0	0	0	13	0	13	
+15 mins.	**3**	2	1	**6**	1	13	0	14	0	0	0	0	0	16	0	16	
+30 mins.	0	**4**	0	4	**6**	16	0	**22**	0	0	0	0	0	**20**	0	**20**	
+45 mins.	0	2	**2**	4	3	**18**	0	21	0	0	0	0	0	20	0	20	
Total Volume	4	10	4	18	13	64	0	77	0	0	0	0	0	69	0	69	
% App. Total	22.2	55.6	22.2		16.9	83.1	0		0	0	0		0	100	0		
PHF	.333	.625	.500	.750	.542	.889	.000	.875	.000	.000	.000	.000	.000	.863	.000	.863	



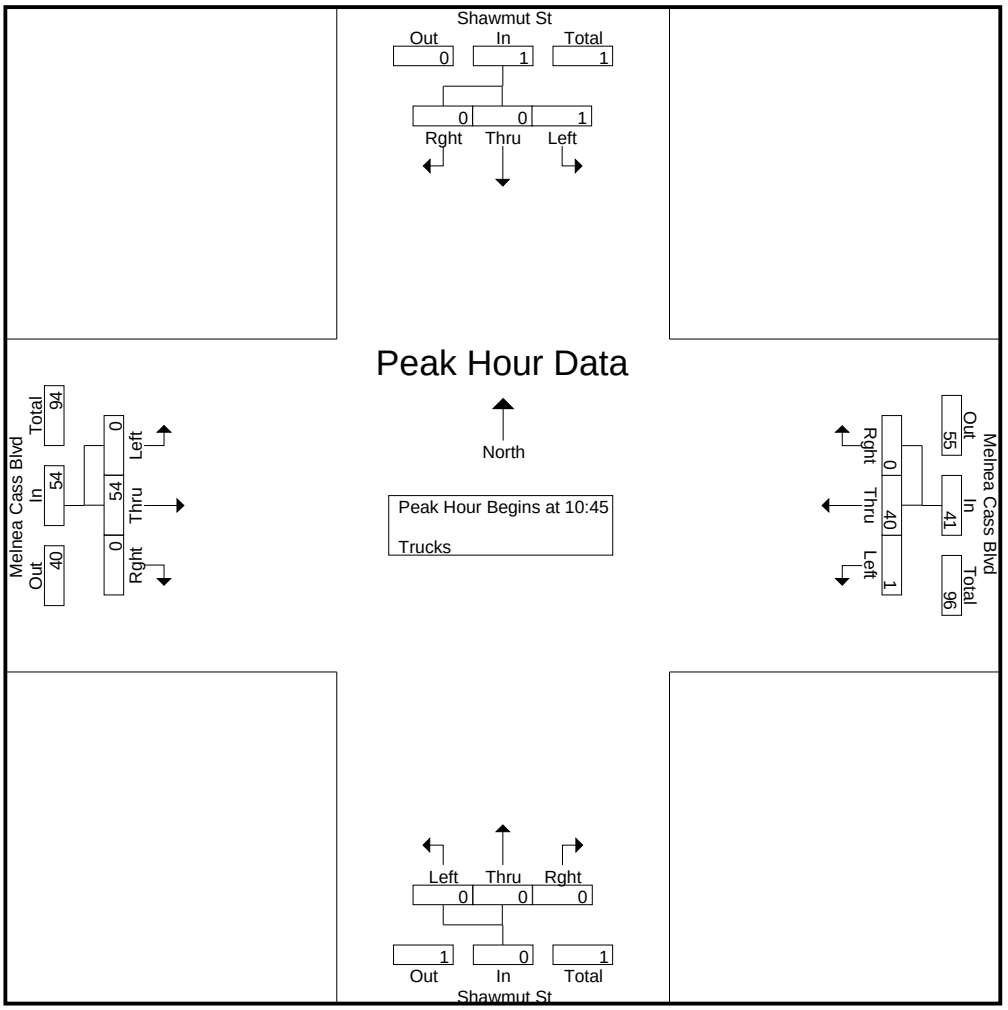
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 10:45

10:45	**1**	0	0	**1**	**1**	9	0	10	0	0	0	0	0	8	0	8	19
11:00	0	0	0	0	0	**11**	0	**11**	0	0	0	0	0	15	0	15	26
11:15	0	0	0	0	0	9	0	9	0	0	0	0	0	15	0	15	24
11:30	0	0	0	0	0	11	0	11	0	0	0	0	0	**16**	0	**16**	**27**
Total Volume	1	0	0	1	1	40	0	41	0	0	0	0	0	54	0	54	96
% App. Total	100	0	0		2.4	97.6	0		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.250	.909	.000	.932	.000	.000	.000	.000	.000	.844	.000	.844	.889

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 4



Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

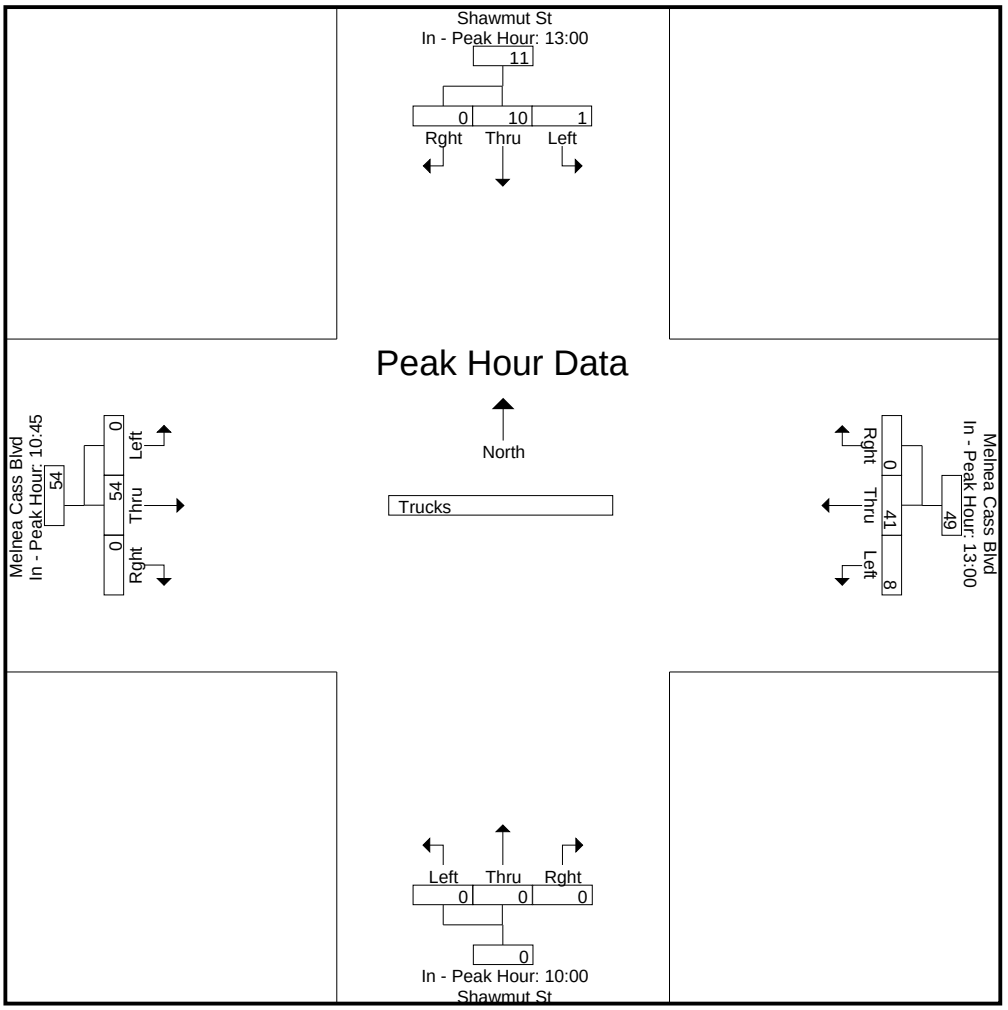
Peak Hour for Each Approach Begins at:

	13:00				13:00				10:00				10:45			
+0 mins.	**1**	**4**	0	**5**	**3**	8	0	11	0	0	0	0	0	8	0	8
+15 mins.	0	2	0	2	1	**12**	0	13	0	0	0	0	0	15	0	15
+30 mins.	0	2	0	2	2	12	0	**14**	0	0	0	0	0	15	0	15
+45 mins.	0	2	0	2	2	9	0	11	0	0	0	0	0	**16**	0	**16**
Total Volume	1	10	0	11	8	41	0	49	0	0	0	0	0	54	0	54
% App. Total	9.1	90.9	0		16.3	83.7	0		0	0	0		0	100	0	
PHF	.250	.625	.000	.550	.667	.854	.000	.875	.000	.000	.000	.000	.000	.844	.000	.844

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 5



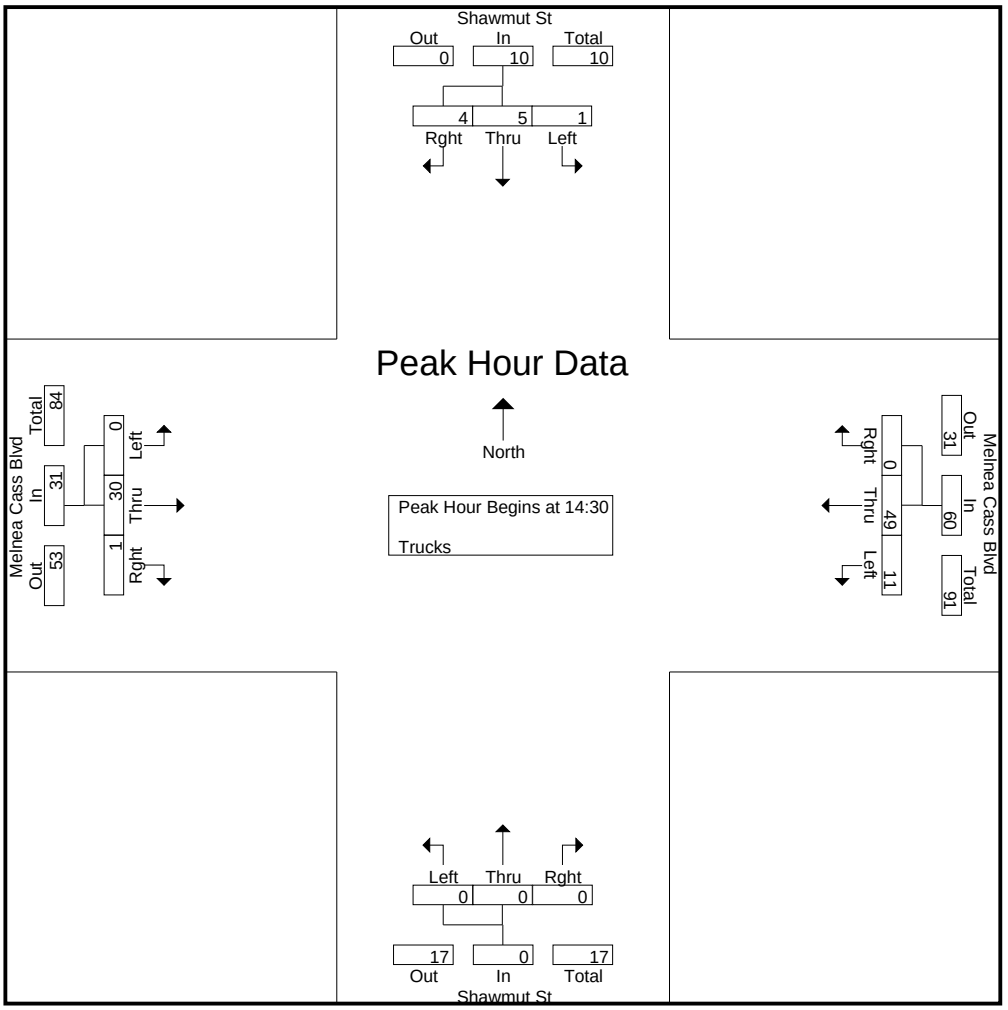
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 14:30

14:30	**1**	0	**2**	3	**6**	10	0	16	0	0	0	0	0	**10**	0	**10**	**29**
14:45	0	1	0	1	1	11	0	12	0	0	0	0	0	7	0	7	20
15:00	0	0	1	1	3	**16**	0	**19**	0	0	0	0	0	8	**1**	9	29
15:15	0	**4**	1	**5**	1	12	0	13	0	0	0	0	0	5	0	5	23
Total Volume	1	5	4	10	11	49	0	60	0	0	0	0	0	30	1	31	101
% App. Total	10	50	40		18.3	81.7	0		0	0	0		0	96.8	3.2		
PHF	.250	.313	.500	.500	.458	.766	.000	.789	.000	.000	.000	.000	.000	.750	.250	.775	.871

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 6



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1

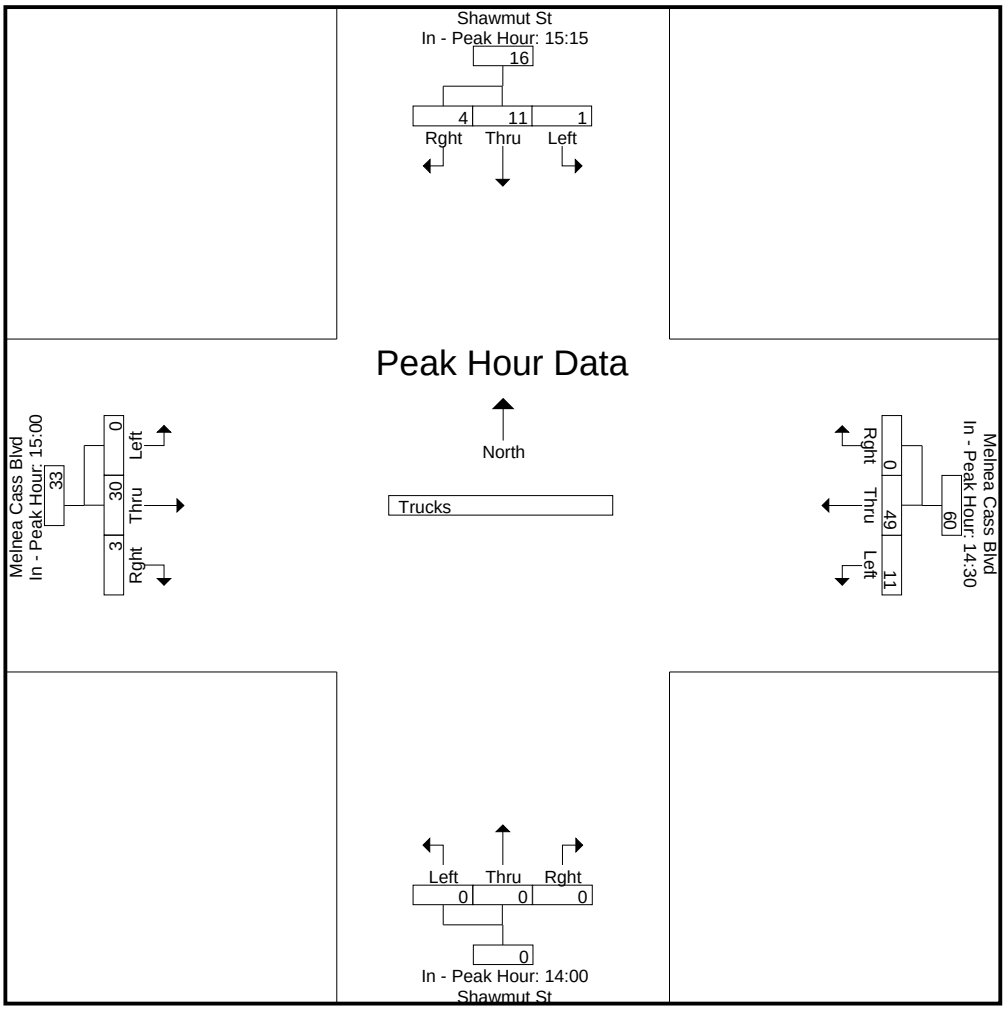
Peak Hour for Each Approach Begins at:

	15:15				14:30				14:00				15:00			
+0 mins.	0	4	**1**	5	**6**	10	0	16	0	0	0	0	0	8	**1**	9
+15 mins.	0	**5**	1	**6**	1	11	0	12	0	0	0	0	0	5	0	5
+30 mins.	0	1	1	2	3	**16**	0	**19**	0	0	0	0	0	8	1	9
+45 mins.	**1**	1	1	3	1	12	0	13	0	0	0	0	0	**9**	1	**10**
Total Volume	1	11	4	16	11	49	0	60	0	0	0	0	0	30	3	33
% App. Total	6.2	68.8	25		18.3	81.7	0		0	0	0		0	90.9	9.1	
PHF	.250	.550	1.000	.667	.458	.766	.000	.789	.000	.000	.000	.000	.000	.833	.750	.825

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 7



Accurate Counts

978-664-2565

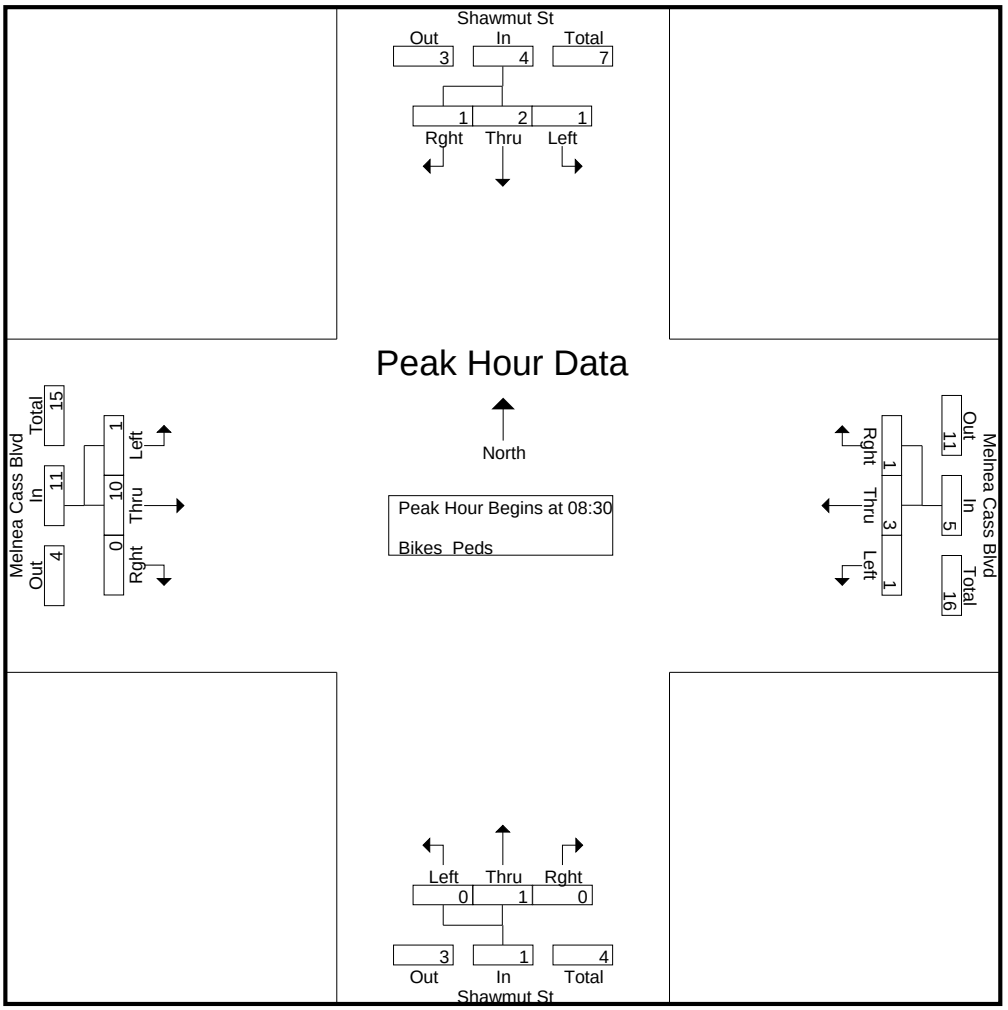
N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 1

Groups Printed- Bikes Peds

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	1	4	0	0	3	0	0	0	1	0	0	3	9	14	7	21
07:15	0	0	0	3	0	1	0	1	0	0	0	0	1	0	0	10	14	2	16
07:30	0	0	0	2	0	2	0	0	0	0	0	3	1	2	0	5	10	5	15
07:45	0	1	0	2	0	2	0	2	0	0	0	0	1	1	0	2	6	5	11
Total	0	1	0	8	4	5	0	6	0	0	0	4	3	3	3	26	44	19	63
08:00	0	0	0	0	0	0	0	1	0	0	0	2	0	5	0	2	5	5	10
08:15	0	0	0	2	0	0	0	4	0	0	0	0	0	0	0	7	13	0	13
08:30	0	0	0	5	0	1	0	6	0	0	0	2	1	3	0	7	20	5	25
08:45	1	0	1	3	0	1	1	1	0	0	0	0	0	1	0	3	7	5	12
Total	1	0	1	10	0	2	1	12	0	0	0	4	1	9	0	19	45	15	60
09:00	0	1	0	6	1	0	0	1	0	0	0	8	0	6	0	3	18	8	26
09:15	0	1	0	1	0	1	0	4	0	1	0	2	0	0	0	4	11	3	14
09:30	0	1	0	3	0	1	0	1	0	0	0	2	0	1	0	6	12	3	15
09:45	0	1	0	3	0	2	0	3	0	0	0	2	0	0	0	2	10	3	13
Total	0	4	0	13	1	4	0	9	0	1	0	14	0	7	0	15	51	17	68
10:00	0	0	0	3	0	0	0	6	0	0	0	2	0	2	0	1	12	2	14
10:15	0	0	0	2	0	0	0	4	0	0	0	1	0	2	0	3	10	2	12
10:30	0	0	0	3	0	1	0	6	0	1	0	2	0	3	0	0	11	5	16
10:45	0	2	0	1	0	0	0	2	0	0	0	5	0	1	0	1	9	3	12
Total	0	2	0	9	0	1	0	18	0	1	0	10	0	8	0	5	42	12	54
11:00	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	9	11	2	13
11:15	0	1	0	1	0	0	0	2	0	1	0	4	0	0	0	3	10	2	12
11:30	0	0	0	2	0	2	0	2	0	0	0	2	0	1	0	2	8	3	11
11:45	1	2	0	1	0	2	0	5	0	0	0	2	0	0	0	3	11	5	16
Total	1	3	0	5	0	5	0	10	0	1	0	8	0	2	0	17	40	12	52
12:00	0	0	0	1	0	0	0	2	0	0	0	2	0	1	0	1	6	1	7
12:15	0	3	0	0	0	0	0	0	0	1	0	1	0	3	0	1	2	7	9
12:30	0	1	0	3	0	1	0	5	0	0	0	1	0	1	0	2	11	3	14
12:45	0	0	0	4	0	1	0	1	0	1	0	5	0	1	0	6	16	3	19
Total	0	4	0	8	0	2	0	8	0	2	0	9	0	6	0	10	35	14	49
13:00	0	1	0	3	0	2	0	9	0	0	0	8	0	0	0	3	23	3	26
13:15	0	0	0	5	0	0	0	7	0	0	0	7	0	2	0	6	25	2	27
13:30	0	0	0	3	0	1	0	7	0	0	0	6	0	2	0	4	20	3	23
13:45	0	0	0	5	0	2	0	0	0	0	0	6	0	1	0	13	24	3	27
Total	0	1	0	16	0	5	0	23	0	0	0	27	0	5	0	26	92	11	103
14:00	0	0	0	3	0	0	0	5	0	0	0	2	0	0	0	7	17	0	17
14:15	0	0	0	2	0	0	0	2	0	0	0	3	2	1	0	8	15	3	18
14:30	0	0	0	2	0	1	0	3	0	0	0	3	0	0	0	9	17	1	18
14:45	0	0	0	5	0	0	0	1	0	0	0	2	0	0	0	7	15	0	15
Total	0	0	0	12	0	1	0	11	0	0	0	10	2	1	0	31	64	4	68
15:00	0	0	0	8	0	2	0	3	0	0	0	9	0	0	0	1	21	2	23
15:15	0	0	0	3	0	0	1	1	0	0	0	18	0	0	0	4	26	1	27
15:30	0	0	0	2	0	0	0	1	0	0	0	4	0	3	0	1	8	3	11
15:45	0	0	0	1	0	0	0	2	0	0	0	8	0	1	0	2	13	1	14
Total	0	0	0	14	0	2	1	7	0	0	0	39	0	4	0	8	68	7	75
16:00	0	0	0	0	0	0	0	0	0	0	0	6	0	2	0	8	14	2	16
16:15	0	0	0	1	0	1	0	4	0	0	0	5	0	0	0	6	16	1	17
16:30	0	0	0	2	0	0	0	0	0	0	0	10	0	1	0	5	17	1	18
16:45	0	0	0	5	0	1	0	4	0	0	0	6	0	1	0	14	29	2	31
Total	0	0	0	8	0	2	0	8	0	0	0	27	0	4	0	33	76	6	82
17:00	0	0	0	4	0	1	0	0	0	0	0	3	0	0	0	6	13	1	14
17:15	0	0	0	7	0	1	0	6	0	0	0	10	0	1	0	8	31	2	33
17:30	0	0	0	8	0	3	0	4	0	2	0	9	0	0	0	8	29	5	34
17:45	0	0	0	2	0	1	0	1	0	0	0	5	0	4	0	6	14	5	19
Total	0	0	0	21	0	6	0	11	0	2	0	27	0	5	0	28	87	13	100
Grand Total	2	15	1	124	5	35	2	123	0	7	0	179	6	54	3	218	644	130	774
Apprch %	11.1	83.3	5.6		11.9	83.3	4.8		0	100	0		9.5	85.7	4.8				
Total %	1.5	11.5	0.8		3.8	26.9	1.5		0	5.4	0		4.6	41.5	2.3		83.2	16.8	

	Shawmut St From North				Melnea Cass Blvd From East				Shawmut St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30																	
08:30	0	0	0	0	0	**1**	0	1	0	0	0	0	**1**	3	0	4	5
08:45	**1**	0	**1**	**2**	0	1	**1**	**2**	0	0	0	0	0	1	0	1	5
09:00	0	**1**	0	1	**1**	0	0	1	0	0	0	0	0	**6**	0	**6**	**8**
09:15	0	1	0	1	0	1	0	1	0	**1**	0	**1**	0	0	0	0	3
Total Volume	1	2	1	4	1	3	1	5	0	1	0	1	1	10	0	11	21
% App. Total	25	50	25		20	60	20		0	100	0		9.1	90.9	0		
PHF	.250	.500	.250	.500	.250	.750	.250	.625	.000	.250	.000	.250	.250	.417	.000	.458	.656

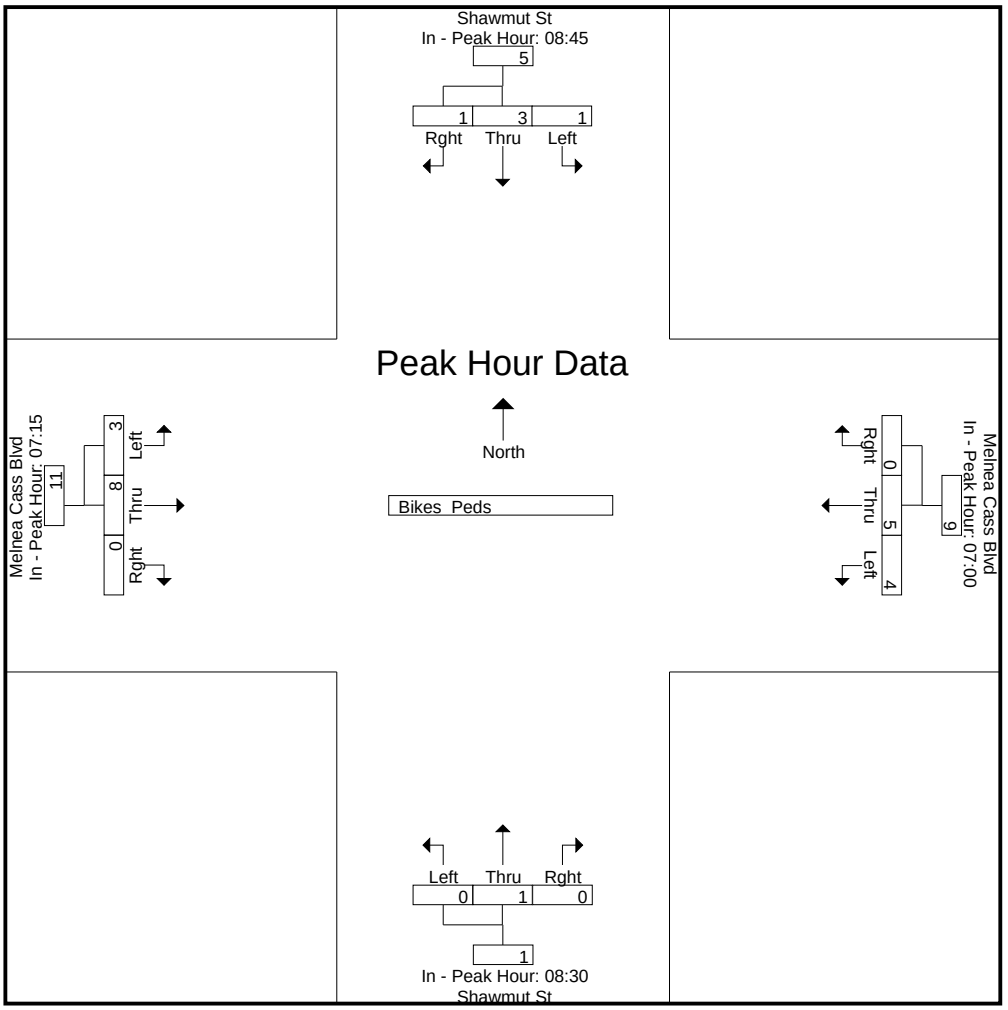


Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:45				07:00				08:30				07:15			
+0 mins.	**1**	0	**1**	**2**	**4**	0	0	**4**	0	0	0	0	**1**	0	0	1
+15 mins.	0	**1**	0	1	0	1	0	1	0	0	0	0	1	2	0	3
+30 mins.	0	1	0	1	0	**2**	0	2	0	0	0	0	1	1	0	2
+45 mins.	0	1	0	1	0	2	0	2	0	**1**	0	**1**	0	**5**	0	**5**
Total Volume	1	3	1	5	4	5	0	9	0	1	0	1	3	8	0	11
% App. Total	20	60	20		44.4	55.6	0		0	100	0		27.3	72.7	0	
PHF	.250	.750	.250	.625	.250	.625	.000	.563	.000	.250	.000	.250	.750	.400	.000	.550

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 3



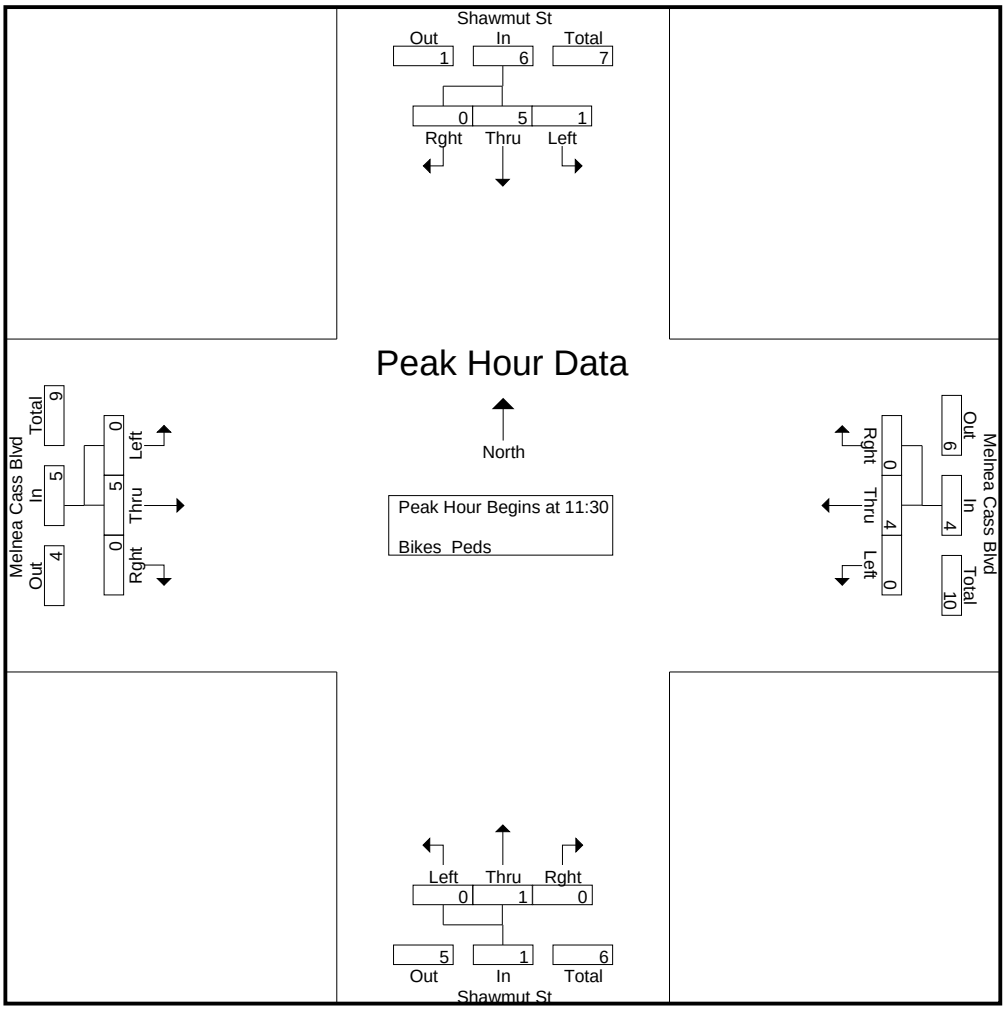
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:30

11:30	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	1	0	1	3
11:45	**1**	2	0	**3**	0	2	0	2	0	0	0	0	0	0	0	0	5
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:15	0	**3**	0	3	0	0	0	0	0	**1**	0	**1**	0	**3**	0	**3**	**7**
Total Volume	1	5	0	6	0	4	0	4	0	1	0	1	0	5	0	5	16
% App. Total	16.7	83.3	0		0	100	0		0	100	0		0	100	0		
PHF	.250	.417	.000	.500	.000	.500	.000	.500	.000	.250	.000	.250	.000	.417	.000	.417	.571

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 4



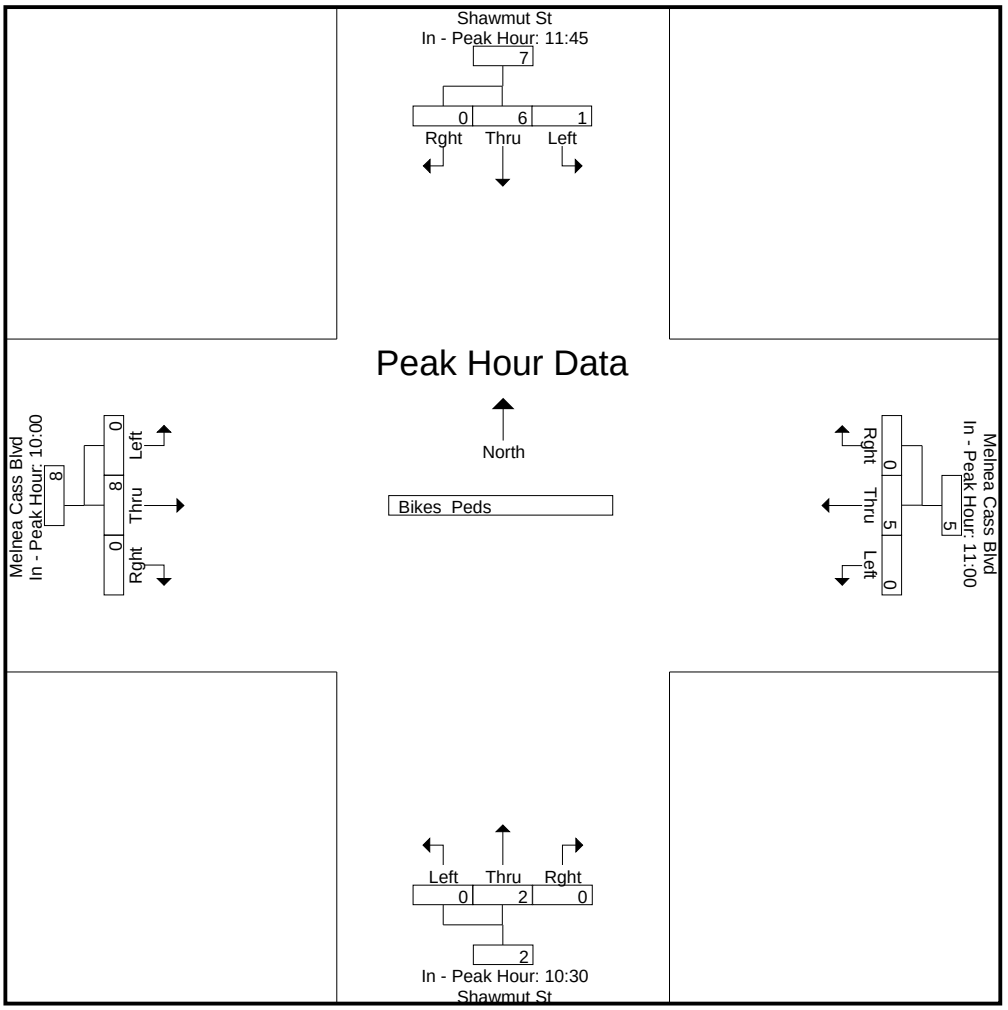
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45				11:00				10:30				10:00			
+0 mins.	**1**	2	0	**3**	0	1	0	1	0	**1**	0	**1**	0	2	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+30 mins.	0	**3**	0	3	0	**2**	0	**2**	0	0	0	0	0	**3**	0	**3**
+45 mins.	0	1	0	1	0	2	0	2	0	1	0	1	0	1	0	1
Total Volume	1	6	0	7	0	5	0	5	0	2	0	2	0	8	0	8
% App. Total	14.3	85.7	0		0	100	0		0	100	0		0	100	0	
PHF	.250	.500	.000	.583	.000	.625	.000	.625	.000	.500	.000	.500	.000	.667	.000	.667

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 5



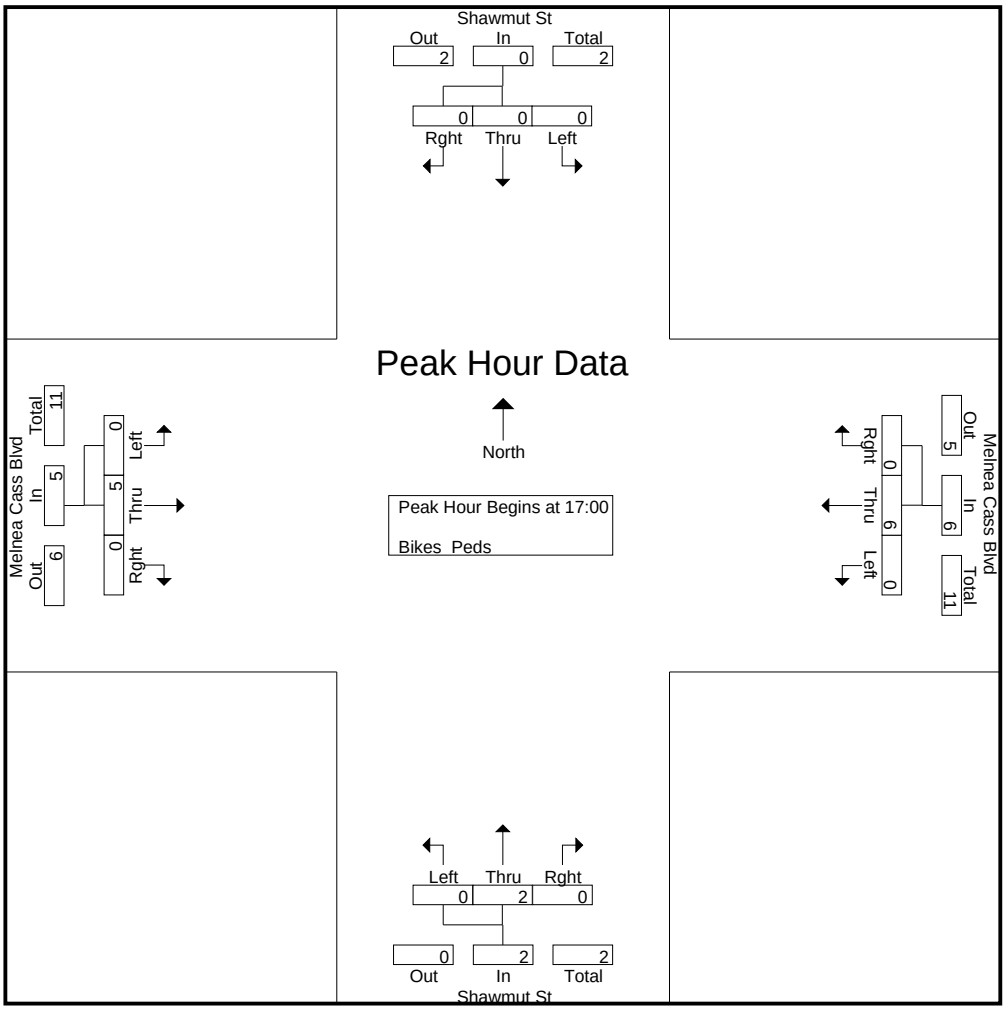
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
17:30	0	0	0	0	0	**3**	0	**3**	0	**2**	0	**2**	0	0	0	0	**5**
17:45	0	0	0	0	0	1	0	1	0	0	0	0	0	**4**	0	**4**	5
Total Volume	0	0	0	0	0	6	0	6	0	2	0	2	0	5	0	5	13
% App. Total	0	0	0		0	100	0		0	100	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.250	.000	.313	.000	.313	.650

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 6



Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1

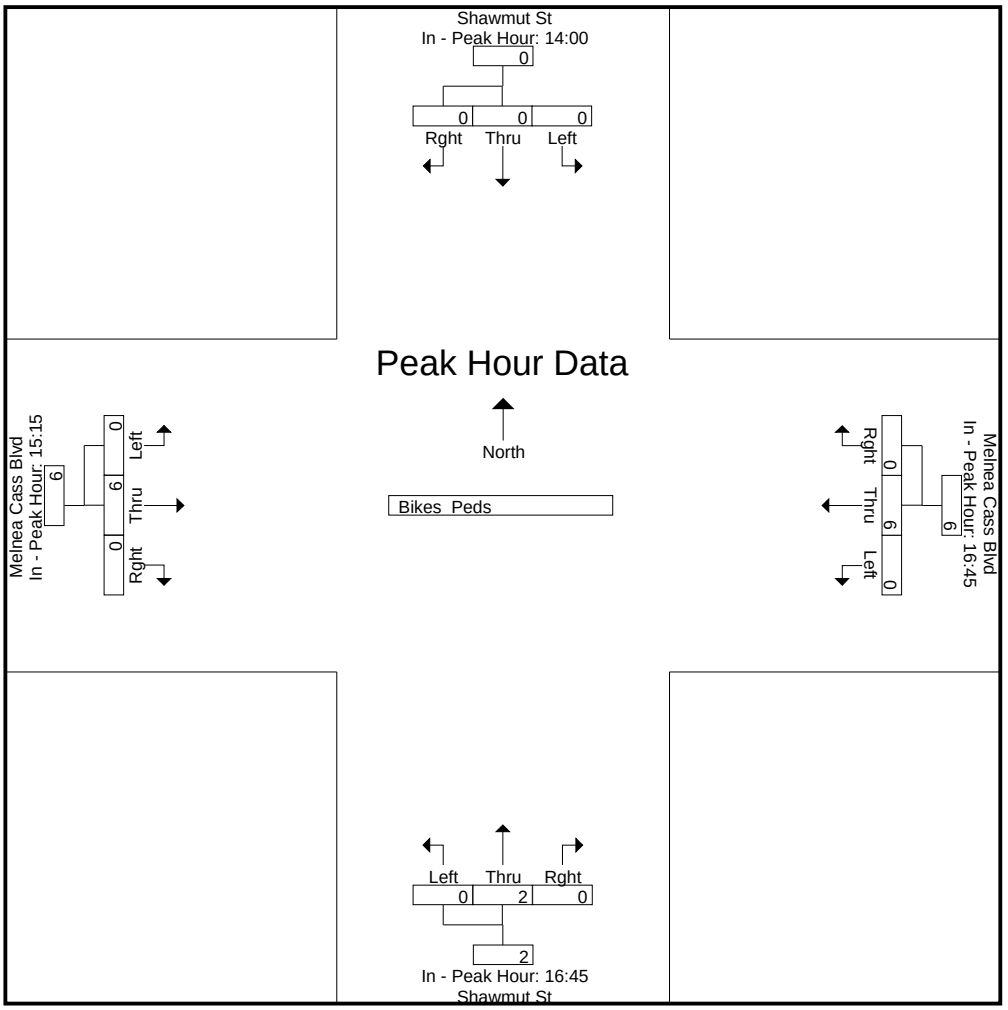
Peak Hour for Each Approach Begins at:

	14:00				16:45				16:45				15:15			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**3**	0	**3**
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	**3**	0	**3**	0	**2**	0	**2**	0	2	0	2
Total Volume	0	0	0	0	0	6	0	6	0	2	0	2	0	6	0	6
% App. Total	0	0	0		0	100	0		0	100	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.250	.000	.500	.000	.500

Accurate Counts
978-664-2565

N/S Street : Shawmut Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410004
Site Code : 01410004
Start Date : 9/21/2011
Page No : 7



Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011

Groups Printed- Cars - Trucks

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
07:00	5	50	13	0	49	255	9	1	19	69	20	0	27	195	10	0	722
07:15	16	48	7	0	50	278	12	0	24	118	19	0	30	210	5	0	817
07:30	7	44	10	0	43	263	11	0	23	110	14	0	32	228	13	0	798
07:45	4	48	19	0	30	274	13	0	11	128	17	0	29	222	9	0	804
Total	32	190	49	0	172	1070	45	1	77	425	70	0	118	855	37	0	3141
08:00	7	44	19	0	36	249	5	0	19	103	13	0	32	215	7	0	749
08:15	6	49	23	0	25	246	13	0	16	99	16	0	16	196	3	1	709
08:30	7	45	10	0	37	256	5	0	11	86	21	0	31	174	6	0	689
08:45	7	45	10	0	29	240	8	1	14	105	20	0	38	187	6	3	713
Total	27	183	62	0	127	991	31	1	60	393	70	0	117	772	22	4	2860
09:00	1	48	9	0	23	217	6	0	10	74	29	0	33	185	6	0	641
09:15	4	39	17	0	21	233	11	0	9	98	28	0	33	172	4	0	669
09:30	6	49	13	0	39	239	9	1	19	77	25	0	35	171	10	0	693
09:45	11	46	18	0	33	251	13	0	6	78	19	0	27	204	5	0	711
Total	22	182	57	0	116	940	39	1	44	327	101	0	128	732	25	0	2714
10:00	11	49	13	0	30	244	12	0	16	77	19	0	30	186	3	0	690
10:15	6	55	17	0	46	235	11	0	12	66	26	0	24	152	9	0	659
10:30	6	58	13	0	45	237	11	0	11	45	18	0	21	161	8	0	634
10:45	4	41	18	0	27	219	15	0	11	55	13	0	14	170	15	0	602
Total	27	203	61	0	148	935	49	0	50	243	76	0	89	669	35	0	2585
11:00	7	64	14	1	27	231	11	0	11	59	19	0	19	183	10	0	656
11:15	4	43	11	0	33	194	8	0	4	47	24	0	23	173	12	0	576
11:30	7	35	4	0	31	195	5	0	12	53	13	0	22	189	15	0	581
11:45	8	52	18	0	36	211	12	0	10	49	17	0	11	219	11	1	655
Total	26	194	47	1	127	831	36	0	37	208	73	0	75	764	48	1	2468
12:00	9	67	16	0	24	196	4	0	10	60	24	0	19	210	11	0	650
12:15	6	54	15	1	29	202	16	0	10	77	23	0	14	202	8	0	657
12:30	6	70	12	0	30	232	9	0	8	67	22	0	17	221	5	0	699
12:45	4	42	18	1	31	191	12	0	9	68	20	0	15	223	9	0	643
Total	25	233	61	2	114	821	41	0	37	272	89	0	65	856	33	0	2649
13:00	7	52	23	0	30	199	16	0	7	62	18	0	16	186	17	0	633
13:15	8	58	20	0	28	194	8	1	9	50	30	0	27	182	7	3	625
13:30	13	37	16	0	20	222	8	0	8	56	22	0	18	212	6	0	638
13:45	9	45	20	0	33	222	13	1	10	60	14	0	11	267	12	0	717
Total	37	192	79	0	111	837	45	2	34	228	84	0	72	847	42	3	2613
14:00	12	60	14	0	38	208	9	0	12	49	28	0	34	255	10	0	729
14:15	6	41	21	0	30	210	16	0	9	56	19	0	22	266	15	0	711
14:30	10	65	28	0	25	213	16	0	6	60	21	0	26	242	18	1	731
14:45	9	52	14	0	37	229	10	0	17	95	23	0	30	214	14	1	745
Total	37	218	77	0	130	860	51	0	44	260	91	0	112	977	57	2	2916
15:00	3	64	25	0	38	196	6	0	6	66	26	0	28	212	17	0	687
15:15	4	73	31	0	43	183	9	0	11	60	23	0	37	251	12	0	737
15:30	11	61	38	0	27	193	11	0	8	66	14	0	26	232	12	2	701
15:45	7	80	38	0	26	170	8	0	14	78	29	0	42	203	17	0	712
Total	25	278	132	0	134	742	34	0	39	270	92	0	133	898	58	2	2837
16:00	12	88	43	0	24	189	10	0	11	104	15	0	35	160	11	0	702
16:15	6	71	21	0	33	199	10	0	12	71	22	0	29	219	11	0	704
16:30	5	77	26	0	27	230	9	0	8	97	16	0	38	200	12	1	746
16:45	4	93	39	0	21	208	13	0	13	87	13	0	38	141	14	0	684
Total	27	329	129	0	105	826	42	0	44	359	66	0	140	720	48	1	2836
17:00	5	72	41	0	25	211	11	0	6	81	20	0	24	162	5	1	664
17:15	3	86	37	0	42	261	10	0	13	86	24	0	30	258	11	1	862

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011

Groups Printed- Cars - Trucks

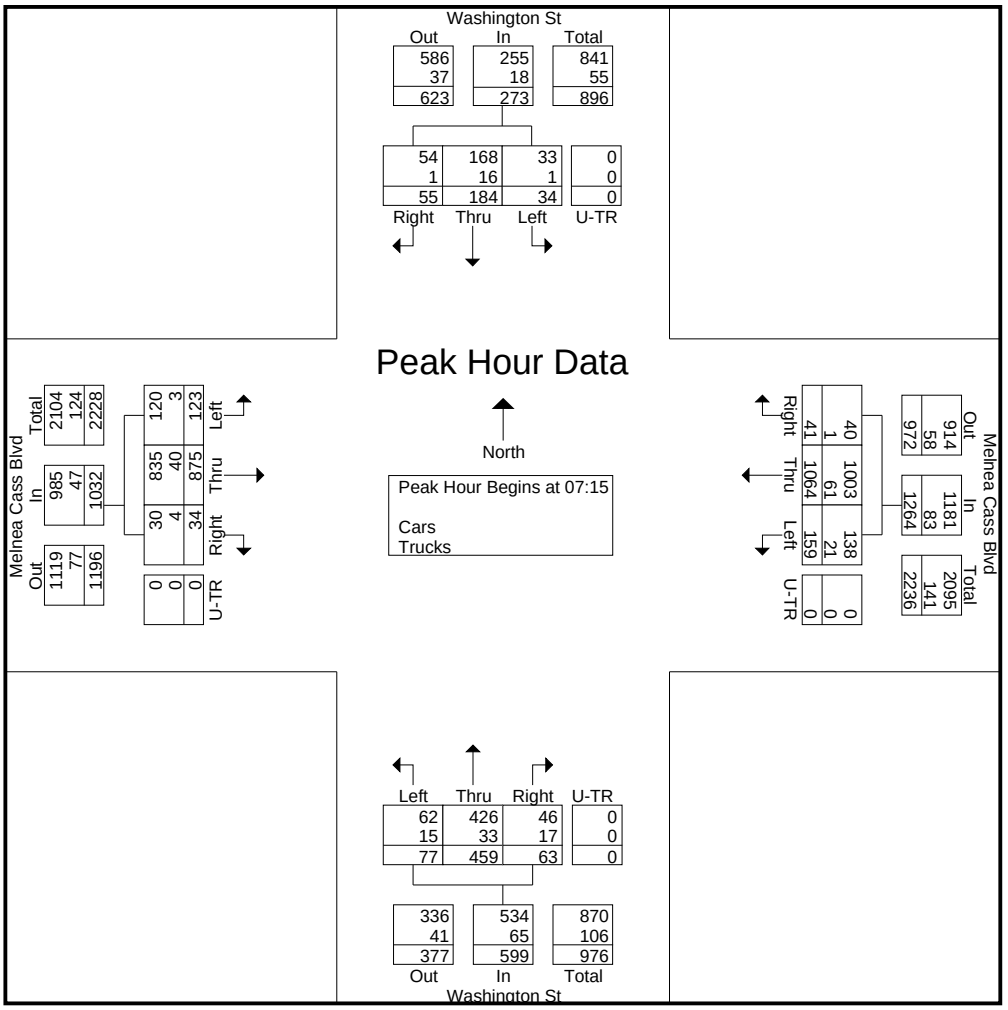
	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
17:30	4	104	44	0	38	252	10	0	8	65	21	0	23	236	10	0	815
17:45	13	89	35	0	45	257	13	0	16	84	14	0	31	225	14	0	836
Total	25	351	157	0	150	981	44	0	43	316	79	0	108	881	40	2	3177
Grand Total	310	2553	911	3	1434	9834	457	5	509	3301	891	0	1157	8971	445	15	30796
Apprch %	8.2	67.6	24.1	0.1	12.2	83.8	3.9	0	10.8	70.2	19	0	10.9	84.7	4.2	0.1	
Total %	1	8.3	3	0	4.7	31.9	1.5	0	1.7	10.7	2.9	0	3.8	29.1	1.4	0	
Cars	302	2355	862	3	1251	9476	445	4	413	3061	744	0	1129	8590	419	11	29065
% Cars	97.4	92.2	94.6	100	87.2	96.4	97.4	80	81.1	92.7	83.5	0	97.6	95.8	94.2	73.3	94.4
Trucks	8	198	49	0	183	358	12	1	96	240	147	0	28	381	26	4	1731
% Trucks	2.6	7.8	5.4	0	12.8	3.6	2.6	20	18.9	7.3	16.5	0	2.4	4.2	5.8	26.7	5.6

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	**16**	**48**	7	0	**71**	**50**	**278**	12	0	**340**	**24**	118	**19**	0	**161**	30	210	5	0	245	**817**
07:30	7	44	10	0	61	43	263	11	0	317	23	110	14	0	147	**32**	**228**	**13**	0	**273**	798
07:45	4	48	**19**	0	71	30	274	**13**	0	317	11	**128**	17	0	156	29	222	9	0	260	804
08:00	7	44	19	0	70	36	249	5	0	290	19	103	13	0	135	32	215	7	0	254	749
Total Volume	34	184	55	0	273	159	1064	41	0	1264	77	459	63	0	599	123	875	34	0	1032	3168
% App. Total	12.5	67.4	20.1	0		12.6	84.2	3.2	0		12.9	76.6	10.5	0		11.9	84.8	3.3	0		
PHF	.531	.958	.724	.000	.961	.795	.957	.788	.000	.929	.802	.896	.829	.000	.930	.961	.959	.654	.000	.945	.969
Cars	33	168	54	0	255	138	1003	40	0	1181	62	426	46	0	534	120	835	30	0	985	2955
% Cars	97.1	91.3	98.2	0	93.4	86.8	94.3	97.6	0	93.4	80.5	92.8	73.0	0	89.1	97.6	95.4	88.2	0	95.4	93.3
Trucks	1	16	1	0	18	21	61	1	0	83	15	33	17	0	65	3	40	4	0	47	213
% Trucks	2.9	8.7	1.8	0	6.6	13.2	5.7	2.4	0	6.6	19.5	7.2	27.0	0	10.9	2.4	4.6	11.8	0	4.6	6.7

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 3



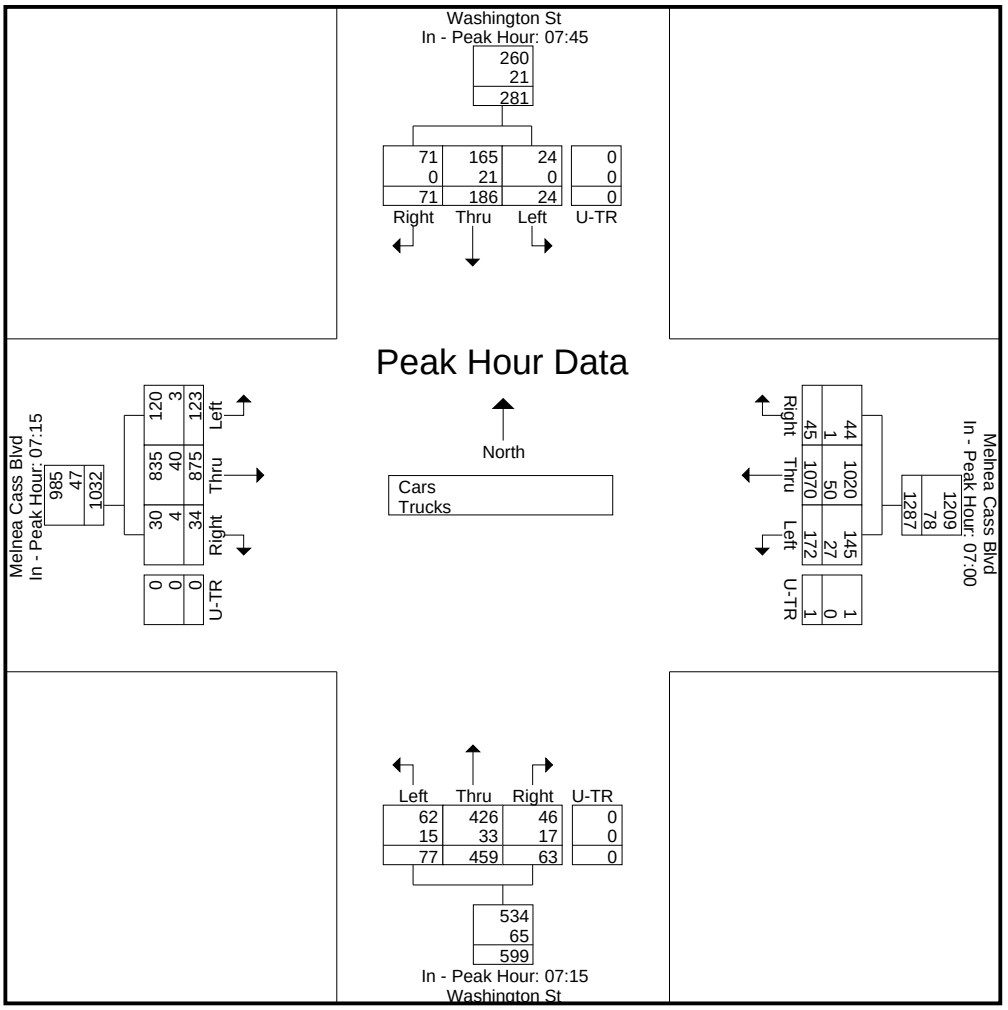
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45					07:00					07:15					07:15				
+0 mins.	4	48	19	0	71	49	255	9	**1**	314	**24**	118	**19**	0	**161**	30	210	5	0	245
+15 mins.	**7**	44	19	0	70	**50**	**278**	12	0	**340**	23	110	14	0	147	**32**	**228**	**13**	0	**273**
+30 mins.	6	**49**	**23**	0	**78**	43	263	11	0	317	11	**128**	17	0	156	29	222	9	0	260
+45 mins.	7	45	10	0	62	30	274	**13**	0	317	19	103	13	0	135	32	215	7	0	254
Total Volume	24	186	71	0	281	172	1070	45	1	1288	77	459	63	0	599	123	875	34	0	1032
% App. Total	8.5	66.2	25.3	0		13.4	83.1	3.5	0.1		12.9	76.6	10.5	0		11.9	84.8	3.3	0	
PHF	.857	.949	.772	.000	.901	.860	.962	.865	.250	.947	.802	.896	.829	.000	.930	.961	.959	.654	.000	.945
Cars	24	165	71	0	260	145	1020	44	1	1210	62	426	46	0	534	120	835	30	0	985
% Cars	100	88.7	100	0	92.5	84.3	95.3	97.8	100	93.9	80.5	92.8	73	0	89.1	97.6	95.4	88.2	0	95.4
Trucks	0	21	0	0	21	27	50	1	0	78	15	33	17	0	65	3	40	4	0	47
% Trucks	0	11.3	0	0	7.5	15.7	4.7	2.2	0	6.1	19.5	7.2	27	0	10.9	2.4	4.6	11.8	0	4.6

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 4



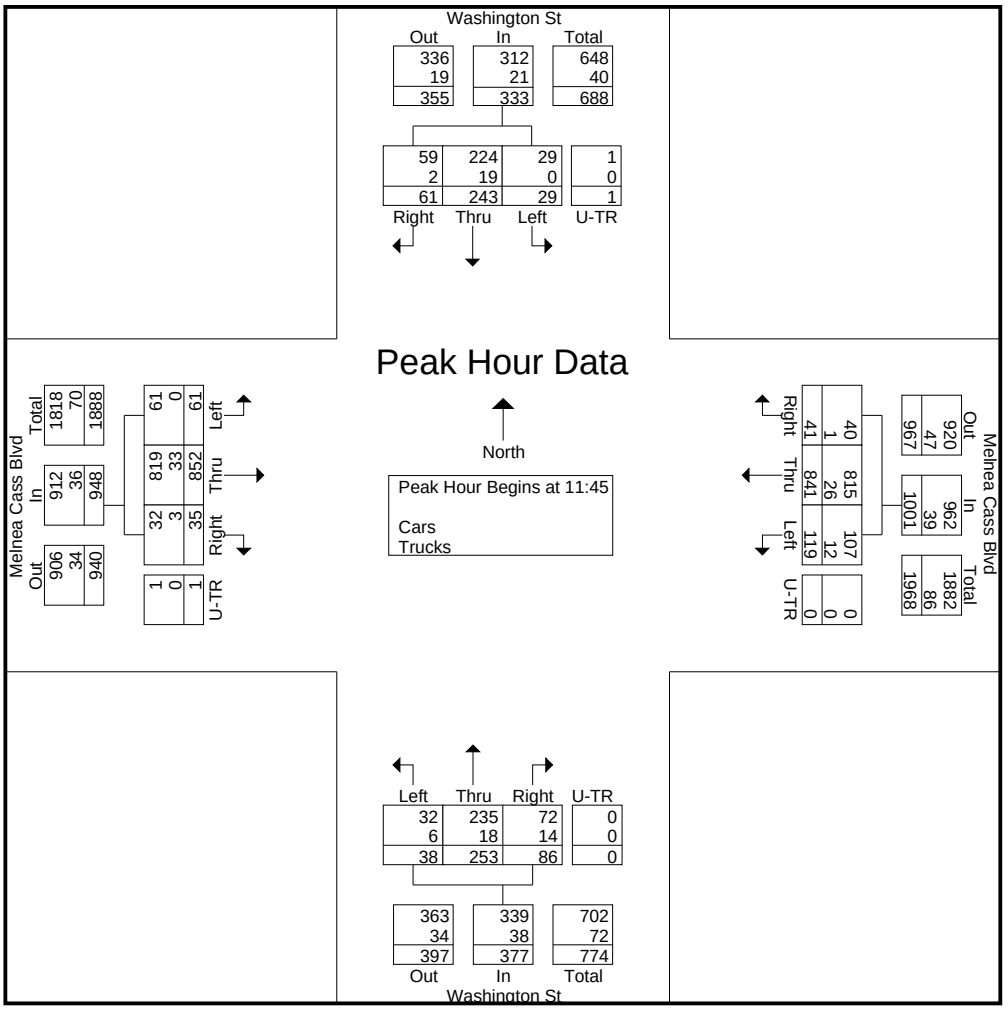
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:45

11:45	8	52	**18**	0	78	**36**	211	12	0	259	**10**	49	17	0	76	11	219	**11**	**1**	242	655
12:00	**9**	67	16	0	**92**	24	196	4	0	224	10	60	**24**	0	94	**19**	210	11	0	240	650
12:15	6	54	15	**1**	76	29	202	**16**	0	247	10	**77**	23	0	**110**	14	202	8	0	224	657
12:30	6	**70**	12	0	88	30	**232**	9	0	**271**	8	67	22	0	97	17	**221**	5	0	**243**	**699**
Total Volume	29	243	61	1	334	119	841	41	0	1001	38	253	86	0	377	61	852	35	1	949	2661
% App. Total	8.7	72.8	18.3	0.3		11.9	84	4.1	0		10.1	67.1	22.8	0		6.4	89.8	3.7	0.1		
PHF	.806	.868	.847	.250	.908	.826	.906	.641	.000	.923	.950	.821	.896	.000	.857	.803	.964	.795	.250	.976	.952
Cars	29	224	59	1	313	107	815	40	0	962	32	235	72	0	339	61	819	32	1	913	2527
% Cars	100	92.2	96.7	100	93.7	89.9	96.9	97.6	0	96.1	84.2	92.9	83.7	0	89.9	100	96.1	91.4	100	96.2	95.0
Trucks	0	19	2	0	21	12	26	1	0	39	6	18	14	0	38	0	33	3	0	36	134
% Trucks	0	7.8	3.3	0	6.3	10.1	3.1	2.4	0	3.9	15.8	7.1	16.3	0	10.1	0	3.9	8.6	0	3.8	5.0

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 5



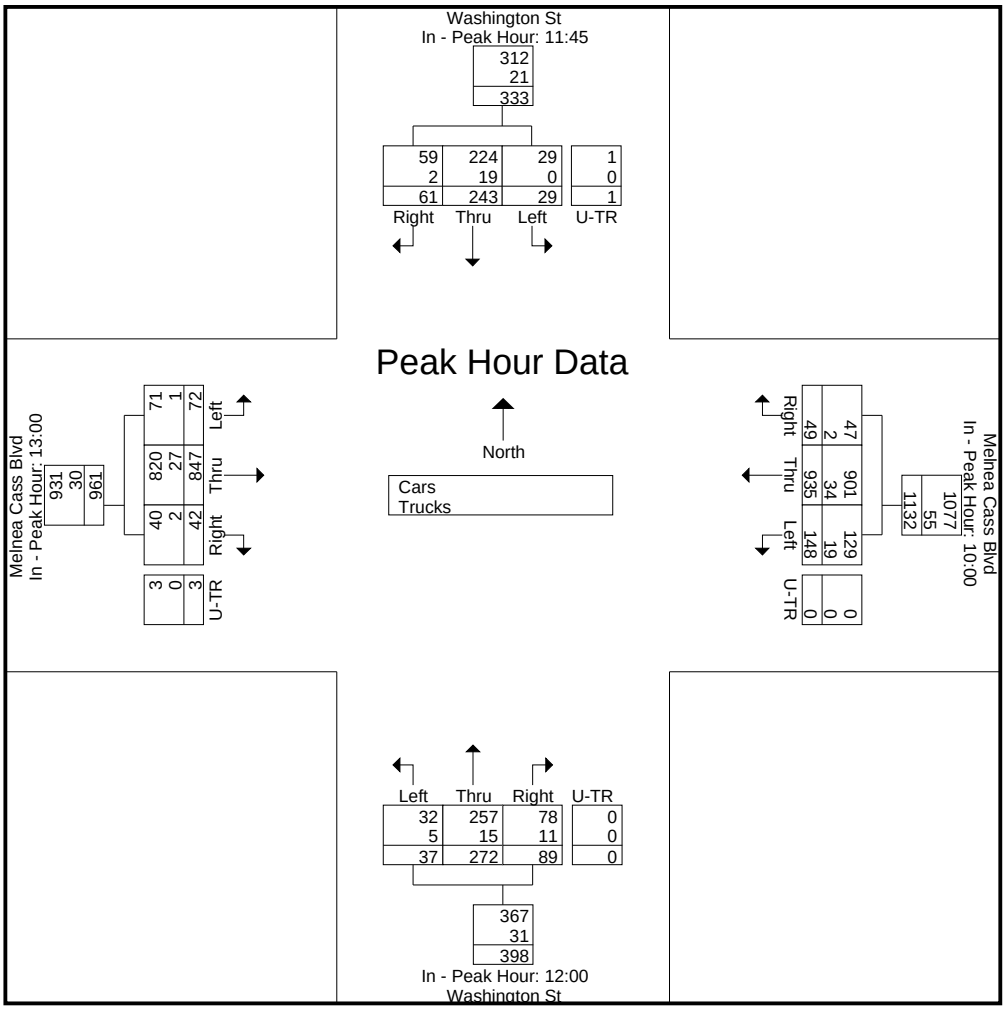
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:45					10:00					12:00					13:00				
+0 mins.	8	52	**18**	0	78	30	**244**	12	0	286	**10**	60	**24**	0	94	16	186	**17**	0	219
+15 mins.	**9**	67	16	0	**92**	**46**	235	11	0	292	10	**77**	23	0	**110**	**27**	182	7	**3**	219
+30 mins.	6	54	15	**1**	76	45	237	11	0	**293**	8	67	22	0	97	18	212	6	0	236
+45 mins.	6	**70**	12	0	88	27	219	**15**	0	261	9	68	20	0	97	11	**267**	12	0	**290**
Total Volume	29	243	61	1	334	148	935	49	0	1132	37	272	89	0	398	72	847	42	3	964
% App. Total	8.7	72.8	18.3	0.3		13.1	82.6	4.3	0		9.3	68.3	22.4	0		7.5	87.9	4.4	0.3	
PHF	.806	.868	.847	.250	.908	.804	.958	.817	.000	.966	.925	.883	.927	.000	.905	.667	.793	.618	.250	.831
Cars	29	224	59	1	313	129	901	47	0	1077	32	257	78	0	367	71	820	40	3	934
% Cars	100	92.2	96.7	100	93.7	87.2	96.4	95.9	0	95.1	86.5	94.5	87.6	0	92.2	98.6	96.8	95.2	100	96.9
Trucks	0	19	2	0	21	19	34	2	0	55	5	15	11	0	31	1	27	2	0	30
% Trucks	0	7.8	3.3	0	6.3	12.8	3.6	4.1	0	4.9	13.5	5.5	12.4	0	7.8	1.4	3.2	4.8	0	3.1

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 6



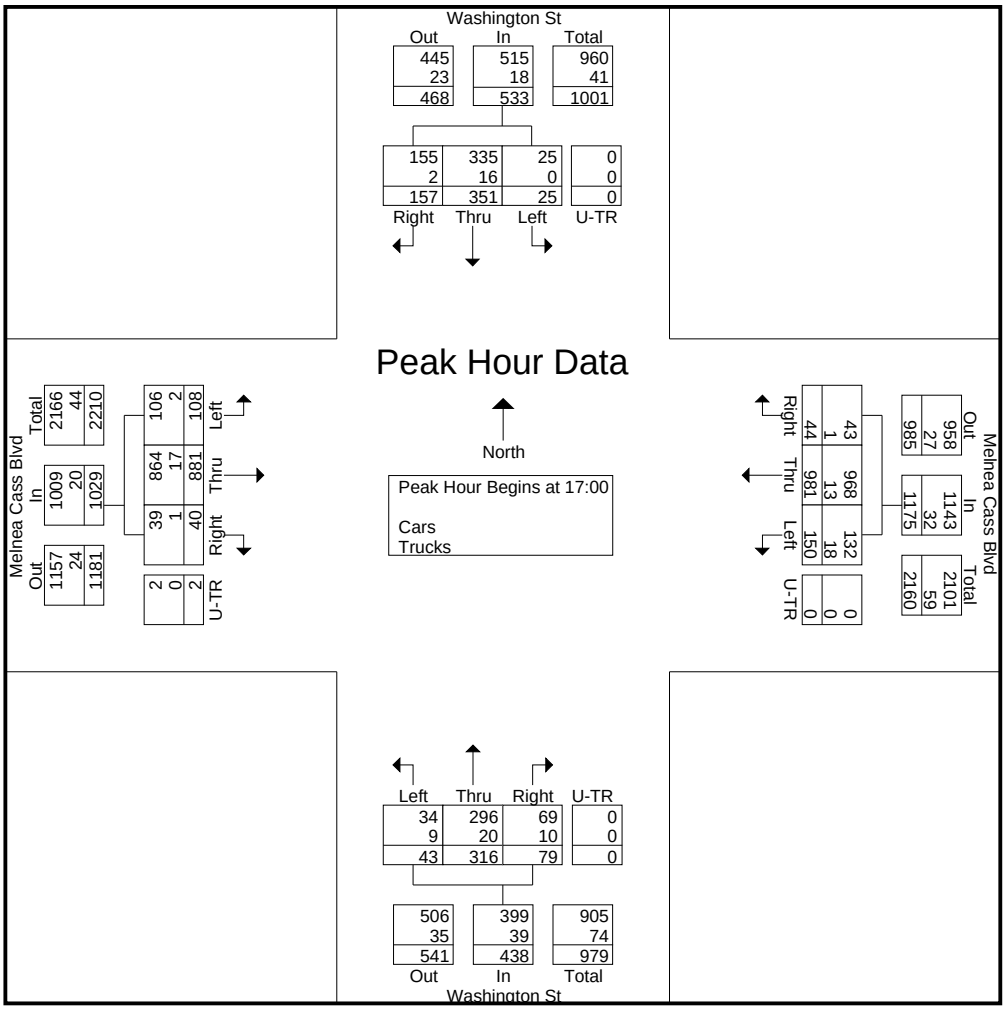
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	5	72	41	0	118	25	211	11	0	247	6	81	20	0	107	24	162	5	**1**	192	664
17:15	3	86	37	0	126	42	**261**	10	0	313	13	**86**	**24**	0	**123**	30	**258**	11	1	**300**	**862**
17:30	4	**104**	**44**	0	**152**	38	252	10	0	300	8	65	21	0	94	23	236	10	0	269	815
17:45	**13**	89	35	0	137	**45**	257	**13**	0	**315**	**16**	84	14	0	114	**31**	225	**14**	0	270	836
Total Volume	25	351	157	0	533	150	981	44	0	1175	43	316	79	0	438	108	881	40	2	1031	3177
% App. Total	4.7	65.9	29.5	0		12.8	83.5	3.7	0		9.8	72.1	18	0		10.5	85.5	3.9	0.2		
PHF	.481	.844	.892	.000	.877	.833	.940	.846	.000	.933	.672	.919	.823	.000	.890	.871	.854	.714	.500	.859	.921
Cars	25	335	155	0	515	132	968	43	0	1143	34	296	69	0	399	106	864	39	2	1011	3068
% Cars	100	95.4	98.7	0	96.6	88.0	98.7	97.7	0	97.3	79.1	93.7	87.3	0	91.1	98.1	98.1	97.5	100	98.1	96.6
Trucks	0	16	2	0	18	18	13	1	0	32	9	20	10	0	39	2	17	1	0	20	109
% Trucks	0	4.6	1.3	0	3.4	12.0	1.3	2.3	0	2.7	20.9	6.3	12.7	0	8.9	1.9	1.9	2.5	0	1.9	3.4

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 7



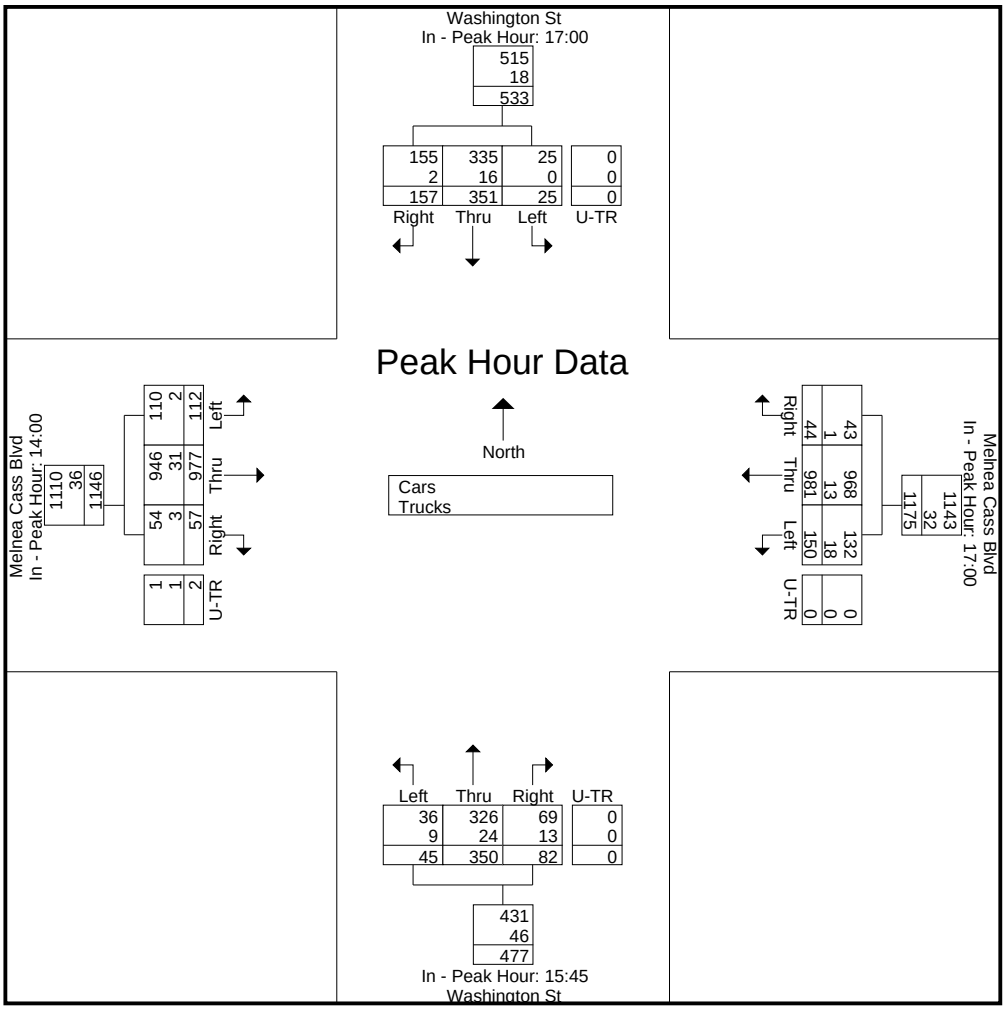
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	17:00					17:00					15:45					14:00				
+0 mins.	5	72	41	0	118	25	211	11	0	247	**14**	78	**29**	0	121	**34**	255	10	0	299
+15 mins.	3	86	37	0	126	42	**261**	10	0	313	11	**104**	15	0	**130**	22	**266**	15	0	**303**
+30 mins.	4	**104**	**44**	0	**152**	38	252	10	0	300	12	71	22	0	105	26	242	**18**	**1**	287
+45 mins.	**13**	89	35	0	137	**45**	257	**13**	0	**315**	8	97	16	0	121	30	214	14	1	259
Total Volume	25	351	157	0	533	150	981	44	0	1175	45	350	82	0	477	112	977	57	2	1148
% App. Total	4.7	65.9	29.5	0		12.8	83.5	3.7	0		9.4	73.4	17.2	0		9.8	85.1	5	0.2	
PHF	.481	.844	.892	.000	.877	.833	.940	.846	.000	.933	.804	.841	.707	.000	.917	.824	.918	.792	.500	.947
Cars	25	335	155	0	515	132	968	43	0	1143	36	326	69	0	431	110	946	54	1	1111
% Cars	100	95.4	98.7	0	96.6	88	98.7	97.7	0	97.3	80	93.1	84.1	0	90.4	98.2	96.8	94.7	50	96.8
Trucks	0	16	2	0	18	18	13	1	0	32	9	24	13	0	46	2	31	3	1	37
% Trucks	0	4.6	1.3	0	3.4	12	1.3	2.3	0	2.7	20	6.9	15.9	0	9.6	1.8	3.2	5.3	50	3.2

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 8



Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 1

Groups Printed- Cars

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
07:00	5	45	12	0	37	248	9	1	17	61	16	0	27	185	10	0	673
07:15	15	44	7	0	42	263	12	0	19	108	13	0	30	204	5	0	762
07:30	7	41	9	0	40	248	10	0	19	103	10	0	30	217	11	0	745
07:45	4	42	19	0	26	261	13	0	8	118	12	0	29	213	8	0	753
Total	31	172	47	0	145	1020	44	1	63	390	51	0	116	819	34	0	2933
08:00	7	41	19	0	30	231	5	0	16	97	11	0	31	201	6	0	695
08:15	6	47	23	0	19	229	13	0	12	91	13	0	15	186	2	1	657
08:30	7	35	10	0	32	247	5	0	9	78	18	0	31	164	6	0	642
08:45	7	41	10	0	27	233	8	1	13	101	15	0	38	173	5	0	672
Total	27	164	62	0	108	940	31	1	50	367	57	0	115	724	19	1	2666
09:00	1	43	8	0	16	205	6	0	6	69	21	0	32	171	6	0	584
09:15	4	36	17	0	18	221	11	0	7	88	19	0	30	161	4	0	616
09:30	5	44	13	0	35	228	9	1	17	71	23	0	32	154	9	0	641
09:45	10	44	18	0	28	241	11	0	5	74	17	0	27	184	5	0	664
Total	20	167	56	0	97	895	37	1	35	302	80	0	121	670	24	0	2505
10:00	11	46	13	0	26	239	12	0	13	73	15	0	29	175	3	0	655
10:15	6	48	15	0	37	226	10	0	10	59	20	0	23	143	9	0	606
10:30	6	55	11	0	42	227	11	0	11	43	16	0	20	154	8	0	604
10:45	3	37	18	0	24	209	14	0	10	55	11	0	14	161	13	0	569
Total	26	186	57	0	129	901	47	0	44	230	62	0	86	633	33	0	2434
11:00	7	57	14	1	25	224	11	0	7	56	14	0	19	171	9	0	615
11:15	4	43	11	0	29	187	8	0	4	40	21	0	22	160	12	0	541
11:30	6	32	4	0	27	184	4	0	11	49	11	0	21	175	14	0	538
11:45	8	46	18	0	32	204	12	0	8	44	13	0	11	213	11	1	621
Total	25	178	47	1	113	799	35	0	30	189	59	0	73	719	46	1	2315
12:00	9	67	15	0	21	187	4	0	8	54	20	0	19	205	11	0	620
12:15	6	47	15	1	28	198	16	0	10	75	21	0	14	189	7	0	627
12:30	6	64	11	0	26	226	8	0	6	62	18	0	17	212	3	0	659
12:45	4	41	17	1	25	186	12	0	8	66	19	0	15	211	8	0	613
Total	25	219	58	2	100	797	40	0	32	257	78	0	65	817	29	0	2519
13:00	6	48	20	0	29	193	16	0	5	58	16	0	16	179	15	0	601
13:15	7	52	13	0	24	191	7	1	5	45	26	0	27	177	7	3	585
13:30	13	32	12	0	20	215	8	0	7	51	19	0	17	206	6	0	606
13:45	9	41	15	0	23	217	13	0	8	54	13	0	11	258	12	0	674
Total	35	173	60	0	96	816	44	1	25	208	74	0	71	820	40	3	2466
14:00	12	53	11	0	35	201	9	0	10	46	25	0	34	244	10	0	690
14:15	6	39	20	0	29	200	15	0	8	49	18	0	22	261	14	0	681
14:30	10	60	27	0	21	202	15	0	4	55	19	0	26	231	16	1	687
14:45	9	47	13	0	35	222	10	0	13	90	21	0	28	210	14	0	712
Total	37	199	71	0	120	825	49	0	35	240	83	0	110	946	54	1	2770
15:00	3	62	25	0	33	177	6	0	4	60	22	0	28	206	16	0	642
15:15	4	68	30	0	38	177	9	0	7	56	17	0	36	247	12	0	701
15:30	11	54	37	0	24	189	10	0	7	59	13	0	26	225	11	2	668
15:45	7	73	34	0	23	162	8	0	11	72	26	0	41	197	15	0	669
Total	25	257	126	0	118	705	33	0	29	247	78	0	131	875	54	2	2680
16:00	12	83	40	0	19	184	10	0	9	97	12	0	35	156	11	0	668
16:15	6	65	19	0	30	194	10	0	9	65	17	0	27	216	11	0	669
16:30	4	74	25	0	27	228	9	0	7	92	14	0	35	196	11	1	723
16:45	4	83	39	0	17	204	13	0	11	81	10	0	38	135	14	0	649
Total	26	305	123	0	93	810	42	0	36	335	53	0	135	703	47	1	2709
17:00	5	69	40	0	19	208	11	0	5	77	17	0	23	157	5	1	637
17:15	3	81	37	0	38	257	9	0	9	81	20	0	30	255	10	1	831

Accurate Counts
978-664-2565

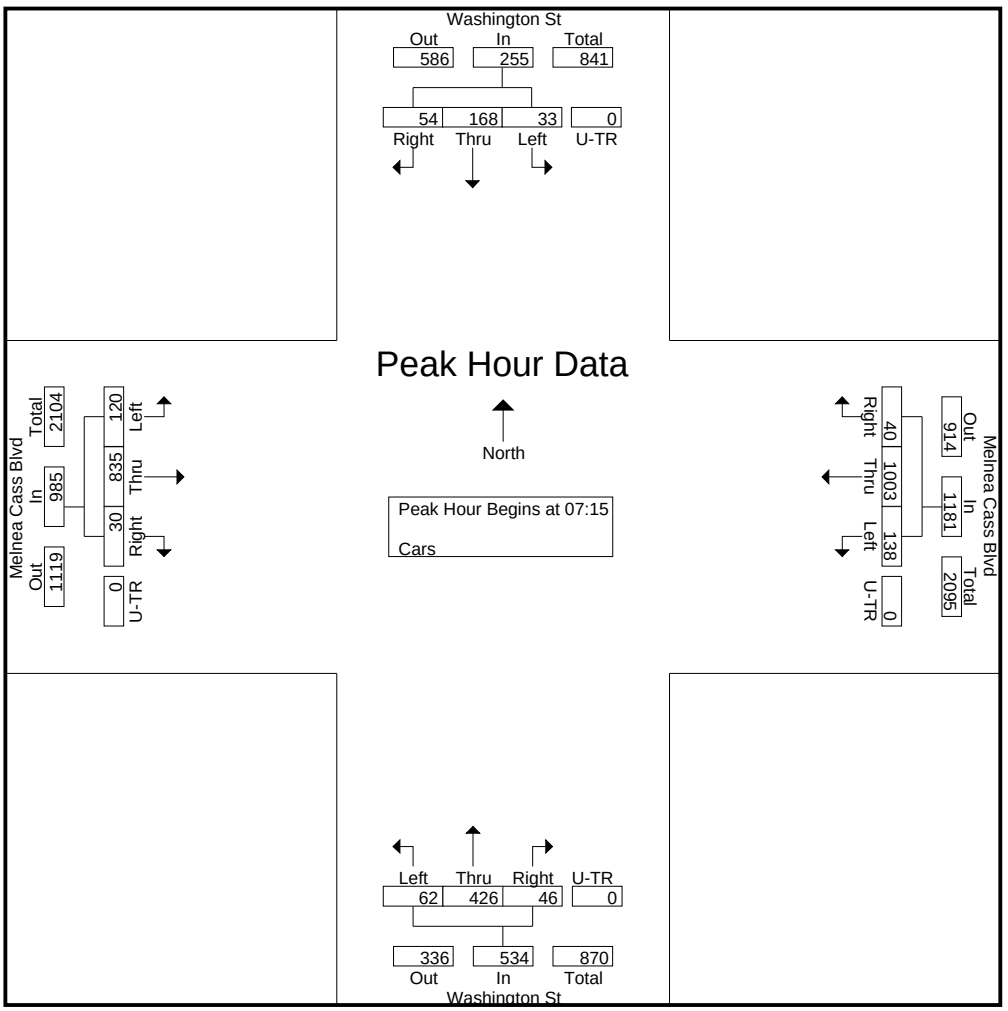
N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 2

Groups Printed- Cars

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
17:30	4	101	44	0	34	249	10	0	7	60	20	0	22	232	10	0	793
17:45	13	84	34	0	41	254	13	0	13	78	12	0	31	220	14	0	807
Total	25	335	155	0	132	968	43	0	34	296	69	0	106	864	39	2	3068
Grand Total	302	2355	862	3	1251	9476	445	4	413	3061	744	0	1129	8590	419	11	29065
Apprch %	8.6	66.9	24.5	0.1	11.2	84.8	4	0	9.8	72.6	17.6	0	11.1	84.6	4.1	0.1	
Total %	1	8.1	3	0	4.3	32.6	1.5	0	1.4	10.5	2.6	0	3.9	29.6	1.4	0	

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	**15**	**44**	7	0	66	**42**	**263**	12	0	**317**	**19**	108	**13**	0	**140**	30	204	5	0	239	**762**
07:30	7	41	9	0	57	40	248	10	0	298	19	103	10	0	132	30	**217**	**11**	0	**258**	745
07:45	4	42	**19**	0	65	26	261	**13**	0	300	8	**118**	12	0	138	29	213	8	0	250	753
08:00	7	41	19	0	**67**	30	231	5	0	266	16	97	11	0	124	**31**	201	6	0	238	695
Total Volume	33	168	54	0	255	138	1003	40	0	1181	62	426	46	0	534	120	835	30	0	985	2955
% App. Total	12.9	65.9	21.2	0		11.7	84.9	3.4	0		11.6	79.8	8.6	0		12.2	84.8	3	0		
PHF	.550	.955	.711	.000	.951	.821	.953	.769	.000	.931	.816	.903	.885	.000	.954	.968	.962	.682	.000	.954	.969

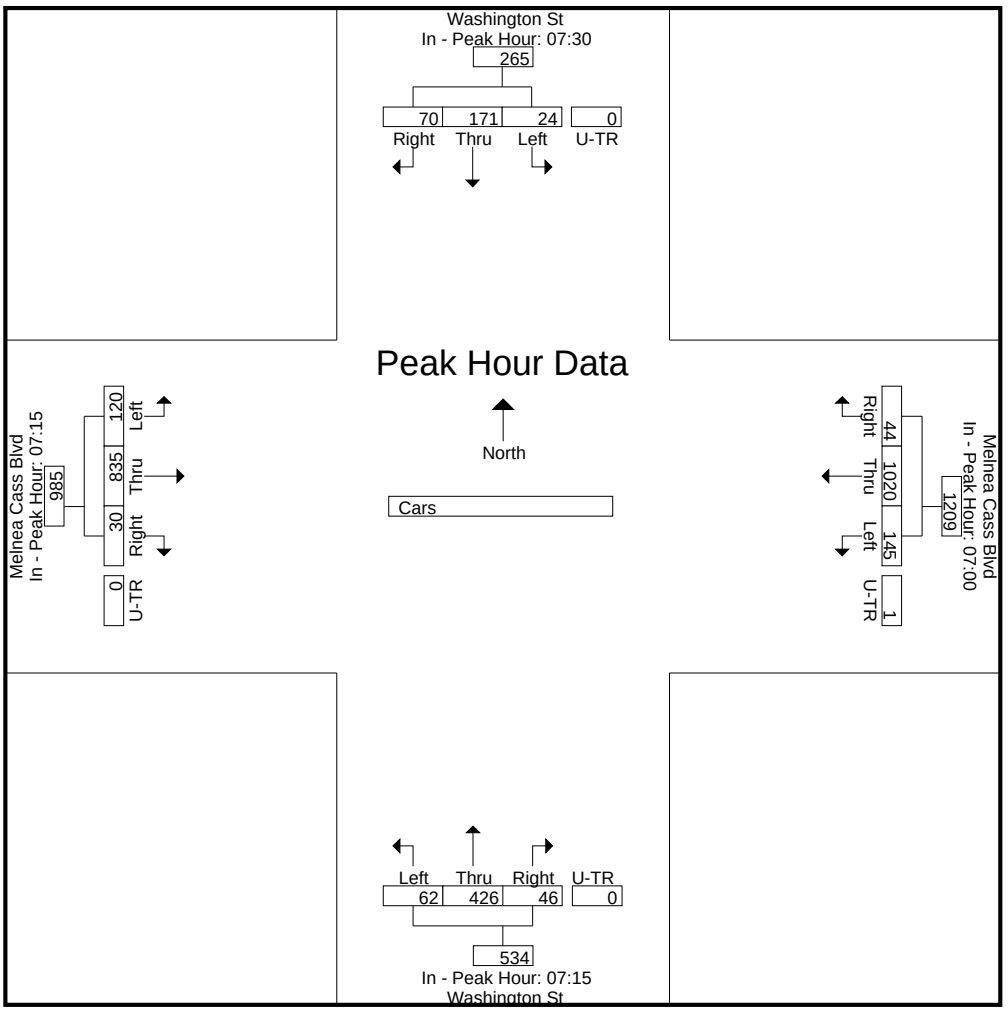


Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 3

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:30					07:00					07:15					07:15					
+0 mins.	**7**	41	9	0	57	37	248	9	**1**	295	**19**	108	**13**	0	**140**	30	204	5	0	239	
+15 mins.	4	42	19	0	65	**42**	**263**	12	0	**317**	19	103	10	0	132	30	**217**	**11**	0	**258**	
+30 mins.	7	41	19	0	67	40	248	10	0	298	8	**118**	12	0	138	29	213	8	0	250	
+45 mins.	6	**47**	**23**	0	**76**	26	261	**13**	0	300	16	97	11	0	124	**31**	201	6	0	238	
Total Volume	24	171	70	0	265	145	1020	44	1	1210	62	426	46	0	534	120	835	30	0	985	
% App. Total	9.1	64.5	26.4	0		12	84.3	3.6	0.1		11.6	79.8	8.6	0		12.2	84.8	3	0		
PHF	.857	.910	.761	.000	.872	.863	.970	.846	.250	.954	.816	.903	.885	.000	.954	.968	.962	.682	.000	.954	



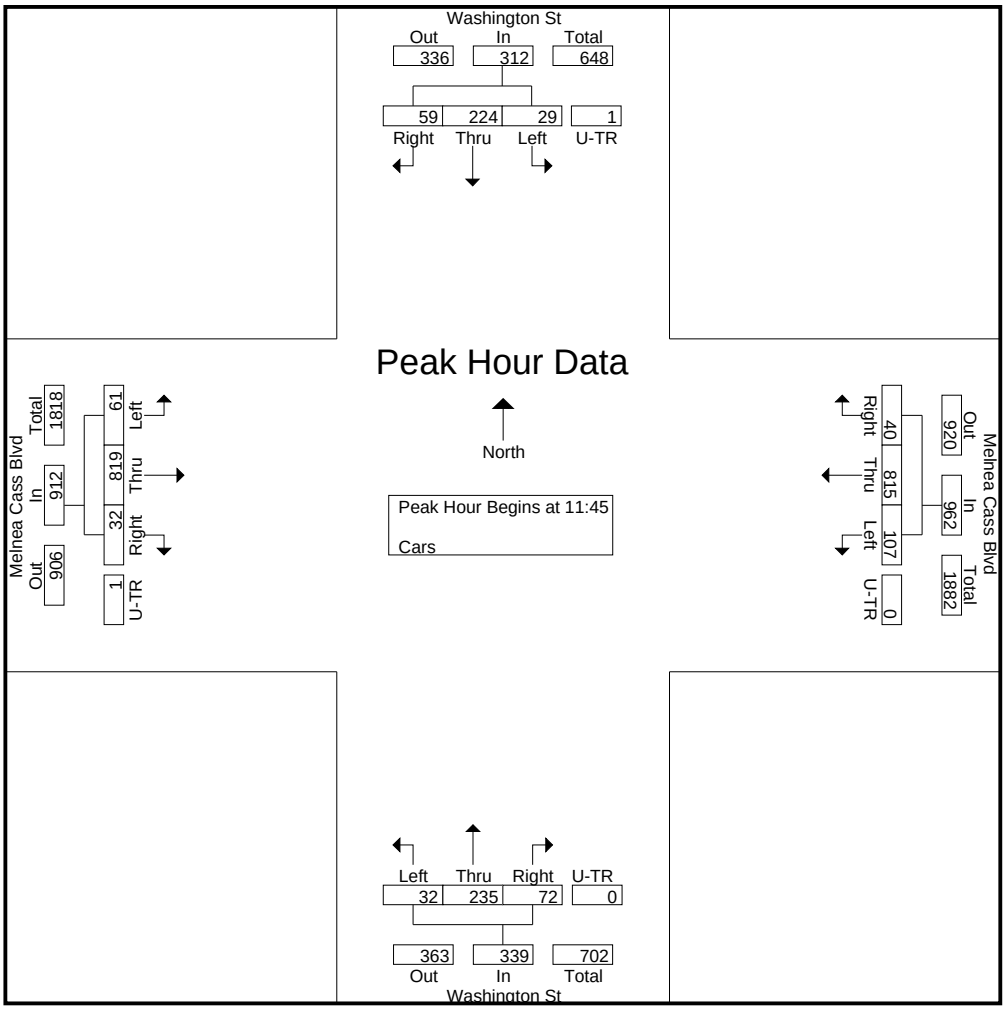
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:45

11:45	8	46	**18**	0	72	**32**	204	12	0	248	8	44	13	0	65	11	**213**	**11**	**1**	**236**	621
12:00	**9**	**67**	15	0	**91**	21	187	4	0	212	8	54	20	0	82	**19**	205	11	0	235	620
12:15	6	47	15	**1**	69	28	198	**16**	0	242	**10**	**75**	**21**	0	**106**	14	189	7	0	210	627
12:30	6	64	11	0	81	26	**226**	8	0	**260**	6	62	18	0	86	17	212	3	0	232	**659**
Total Volume	29	224	59	1	313	107	815	40	0	962	32	235	72	0	339	61	819	32	1	913	2527
% App. Total	9.3	71.6	18.8	0.3		11.1	84.7	4.2	0		9.4	69.3	21.2	0		6.7	89.7	3.5	0.1		
PHF	.806	.836	.819	.250	.860	.836	.902	.625	.000	.925	.800	.783	.857	.000	.800	.803	.961	.727	.250	.967	.959

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 4



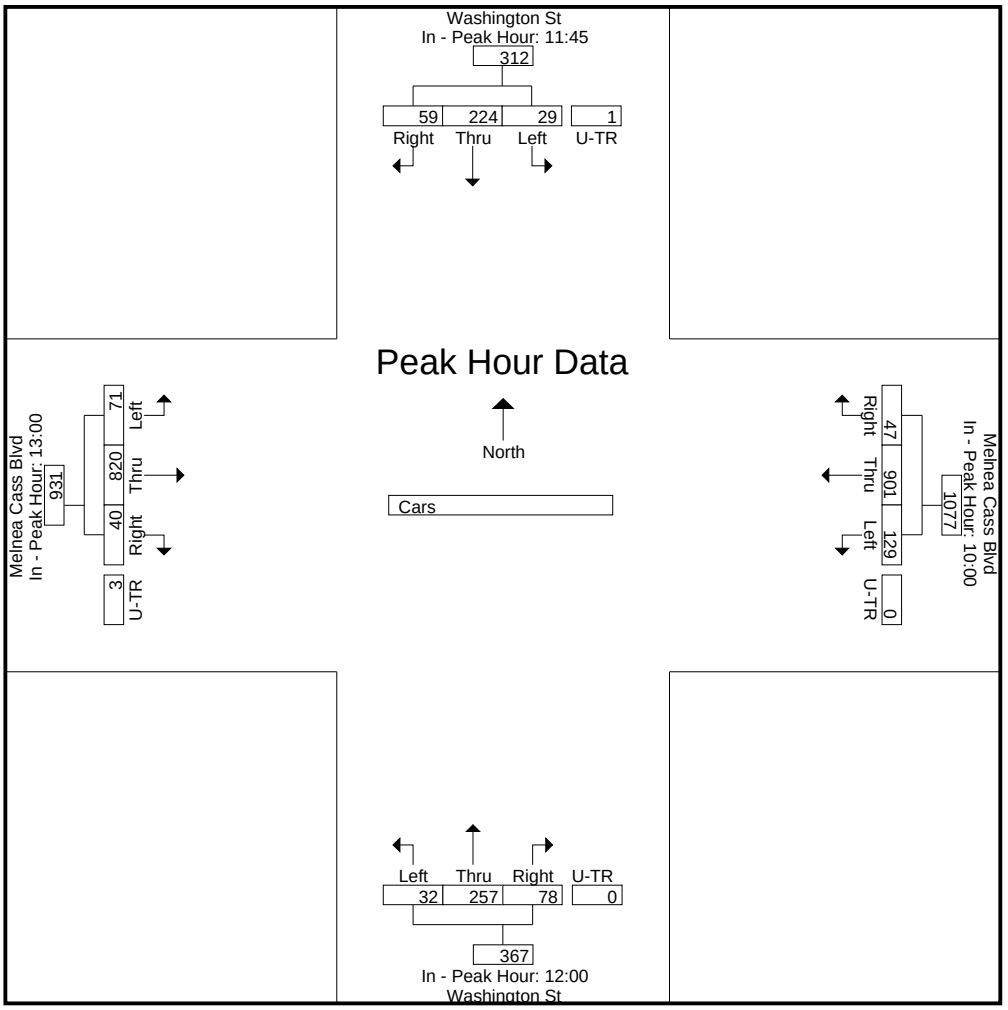
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:45					10:00					12:00					13:00				
+0 mins.	8	46	**18**	0	72	26	**239**	12	0	277	8	54	20	0	82	16	179	**15**	0	210
+15 mins.	**9**	**67**	15	0	**91**	37	226	10	0	273	**10**	**75**	**21**	0	**106**	**27**	177	7	**3**	214
+30 mins.	6	47	15	**1**	69	**42**	227	11	0	**280**	6	62	18	0	86	17	206	6	0	229
+45 mins.	6	64	11	0	81	24	209	**14**	0	247	8	66	19	0	93	11	**258**	12	0	**281**
Total Volume	29	224	59	1	313	129	901	47	0	1077	32	257	78	0	367	71	820	40	3	934
% App. Total	9.3	71.6	18.8	0.3		12	83.7	4.4	0		8.7	70	21.3	0		7.6	87.8	4.3	0.3	
PHF	.806	.836	.819	.250	.860	.768	.942	.839	.000	.962	.800	.857	.929	.000	.866	.657	.795	.667	.250	.831

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 5



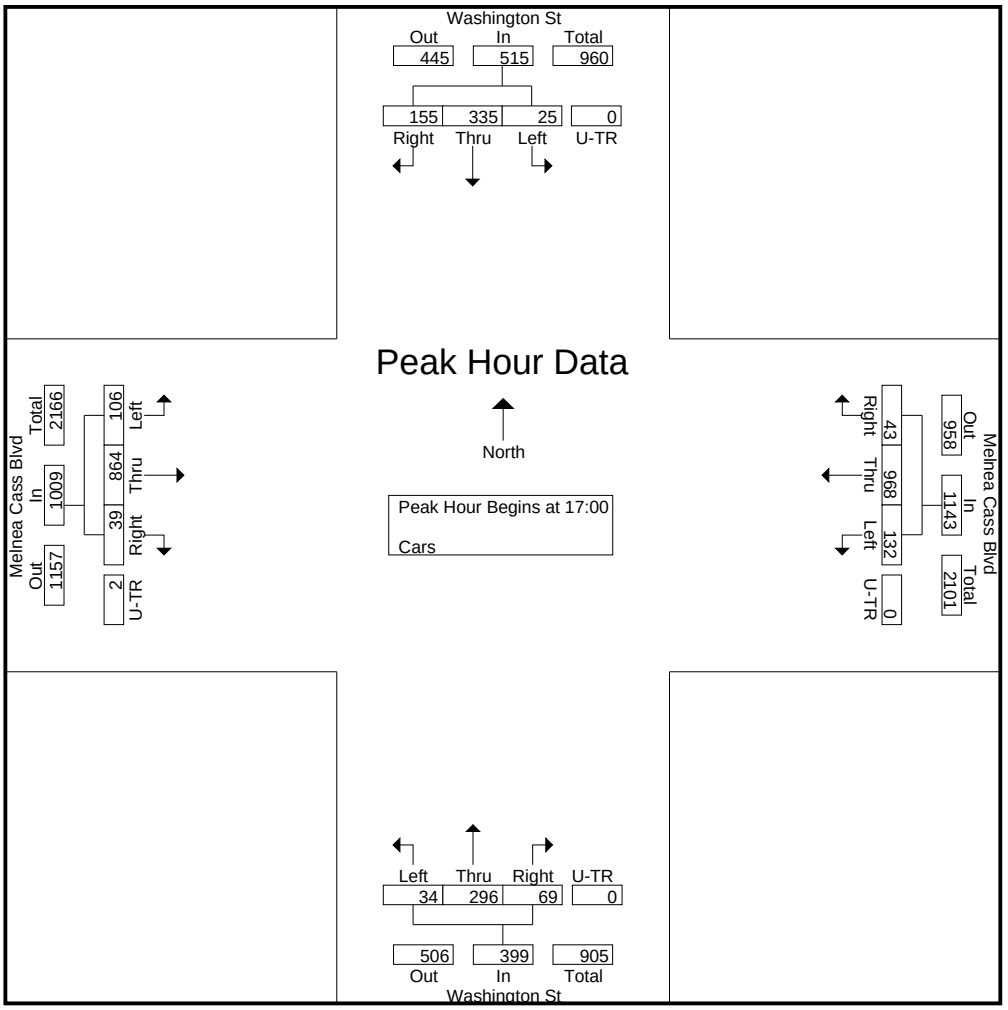
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	5	69	40	0	114	19	208	11	0	238	5	77	17	0	99	23	157	5	**1**	186	637
17:15	3	81	37	0	121	38	**257**	9	0	304	9	**81**	**20**	0	**110**	30	**255**	10	1	**296**	**831**
17:30	4	**101**	**44**	0	**149**	34	249	10	0	293	7	60	20	0	87	22	232	10	0	264	793
17:45	**13**	84	34	0	131	**41**	254	**13**	0	**308**	**13**	78	12	0	103	**31**	220	**14**	0	265	807
Total Volume	25	335	155	0	515	132	968	43	0	1143	34	296	69	0	399	106	864	39	2	1011	3068
% App. Total	4.9	65	30.1	0		11.5	84.7	3.8	0		8.5	74.2	17.3	0		10.5	85.5	3.9	0.2		
PHF	.481	.829	.881	.000	.864	.805	.942	.827	.000	.928	.654	.914	.863	.000	.907	.855	.847	.696	.500	.854	.923

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 6



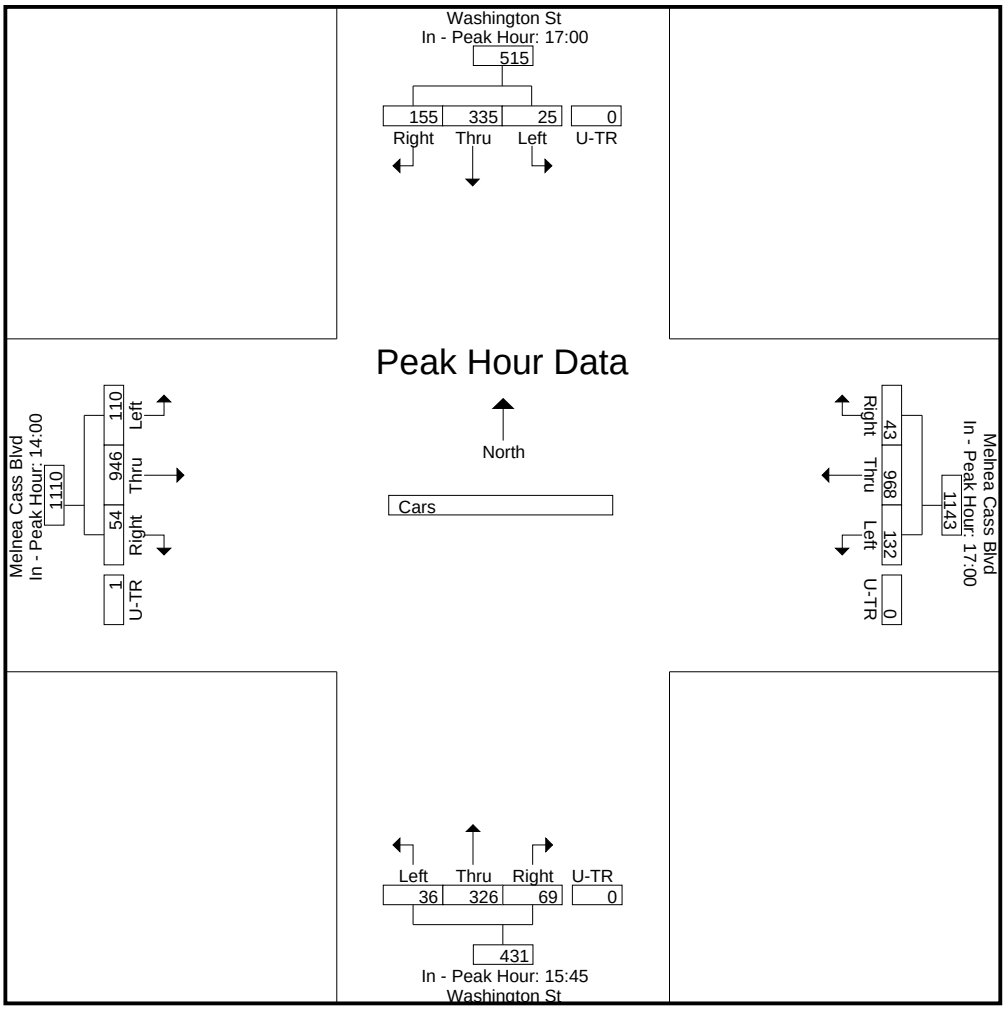
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	17:00					17:00					15:45					14:00				
+0 mins.	5	69	40	0	114	19	208	11	0	238	**11**	72	**26**	0	109	**34**	244	10	0	288
+15 mins.	3	81	37	0	121	38	**257**	9	0	304	9	**97**	12	0	**118**	22	**261**	14	0	**297**
+30 mins.	4	**101**	**44**	0	**149**	34	249	10	0	293	9	65	17	0	91	26	231	**16**	**1**	274
+45 mins.	**13**	84	34	0	131	**41**	254	**13**	0	**308**	7	92	14	0	113	28	210	14	0	252
Total Volume	25	335	155	0	515	132	968	43	0	1143	36	326	69	0	431	110	946	54	1	1111
% App. Total	4.9	65	30.1	0		11.5	84.7	3.8	0		8.4	75.6	16	0		9.9	85.1	4.9	0.1	
PHF	.481	.829	.881	.000	.864	.805	.942	.827	.000	.928	.818	.840	.663	.000	.913	.809	.906	.844	.250	.935

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 7



Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 1

Groups Printed- Trucks

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
07:00	0	5	1	0	12	7	0	0	2	8	4	0	0	10	0	0	49
07:15	1	4	0	0	8	15	0	0	5	10	6	0	0	6	0	0	55
07:30	0	3	1	0	3	15	1	0	4	7	4	0	2	11	2	0	53
07:45	0	6	0	0	4	13	0	0	3	10	5	0	0	9	1	0	51
Total	1	18	2	0	27	50	1	0	14	35	19	0	2	36	3	0	208
08:00	0	3	0	0	6	18	0	0	3	6	2	0	1	14	1	0	54
08:15	0	2	0	0	6	17	0	0	4	8	3	0	1	10	1	0	52
08:30	0	10	0	0	5	9	0	0	2	8	3	0	0	10	0	0	47
08:45	0	4	0	0	2	7	0	0	1	4	5	0	0	14	1	3	41
Total	0	19	0	0	19	51	0	0	10	26	13	0	2	48	3	3	194
09:00	0	5	1	0	7	12	0	0	4	5	8	0	1	14	0	0	57
09:15	0	3	0	0	3	12	0	0	2	10	9	0	3	11	0	0	53
09:30	1	5	0	0	4	11	0	0	2	6	2	0	3	17	1	0	52
09:45	1	2	0	0	5	10	2	0	1	4	2	0	0	20	0	0	47
Total	2	15	1	0	19	45	2	0	9	25	21	0	7	62	1	0	209
10:00	0	3	0	0	4	5	0	0	3	4	4	0	1	11	0	0	35
10:15	0	7	2	0	9	9	1	0	2	7	6	0	1	9	0	0	53
10:30	0	3	2	0	3	10	0	0	0	2	2	0	1	7	0	0	30
10:45	1	4	0	0	3	10	1	0	1	0	2	0	0	9	2	0	33
Total	1	17	4	0	19	34	2	0	6	13	14	0	3	36	2	0	151
11:00	0	7	0	0	2	7	0	0	4	3	5	0	0	12	1	0	41
11:15	0	0	0	0	4	7	0	0	0	7	3	0	1	13	0	0	35
11:30	1	3	0	0	4	11	1	0	1	4	2	0	1	14	1	0	43
11:45	0	6	0	0	4	7	0	0	2	5	4	0	0	6	0	0	34
Total	1	16	0	0	14	32	1	0	7	19	14	0	2	45	2	0	153
12:00	0	0	1	0	3	9	0	0	2	6	4	0	0	5	0	0	30
12:15	0	7	0	0	1	4	0	0	0	2	2	0	0	13	1	0	30
12:30	0	6	1	0	4	6	1	0	2	5	4	0	0	9	2	0	40
12:45	0	1	1	0	6	5	0	0	1	2	1	0	0	12	1	0	30
Total	0	14	3	0	14	24	1	0	5	15	11	0	0	39	4	0	130
13:00	1	4	3	0	1	6	0	0	2	4	2	0	0	7	2	0	32
13:15	1	6	7	0	4	3	1	0	4	5	4	0	0	5	0	0	40
13:30	0	5	4	0	0	7	0	0	1	5	3	0	1	6	0	0	32
13:45	0	4	5	0	10	5	0	1	2	6	1	0	0	9	0	0	43
Total	2	19	19	0	15	21	1	1	9	20	10	0	1	27	2	0	147
14:00	0	7	3	0	3	7	0	0	2	3	3	0	0	11	0	0	39
14:15	0	2	1	0	1	10	1	0	1	7	1	0	0	5	1	0	30
14:30	0	5	1	0	4	11	1	0	2	5	2	0	0	11	2	0	44
14:45	0	5	1	0	2	7	0	0	4	5	2	0	2	4	0	1	33
Total	0	19	6	0	10	35	2	0	9	20	8	0	2	31	3	1	146
15:00	0	2	0	0	5	19	0	0	2	6	4	0	0	6	1	0	45
15:15	0	5	1	0	5	6	0	0	4	4	6	0	1	4	0	0	36
15:30	0	7	1	0	3	4	1	0	1	7	1	0	0	7	1	0	33
15:45	0	7	4	0	3	8	0	0	3	6	3	0	1	6	2	0	43
Total	0	21	6	0	16	37	1	0	10	23	14	0	2	23	4	0	157
16:00	0	5	3	0	5	5	0	0	2	7	3	0	0	4	0	0	34
16:15	0	6	2	0	3	5	0	0	3	6	5	0	2	3	0	0	35
16:30	1	3	1	0	0	2	0	0	1	5	2	0	3	4	1	0	23
16:45	0	10	0	0	4	4	0	0	2	6	3	0	0	6	0	0	35
Total	1	24	6	0	12	16	0	0	8	24	13	0	5	17	1	0	127
17:00	0	3	1	0	6	3	0	0	1	4	3	0	1	5	0	0	27
17:15	0	5	0	0	4	4	1	0	4	5	4	0	0	3	1	0	31

Accurate Counts
978-664-2565

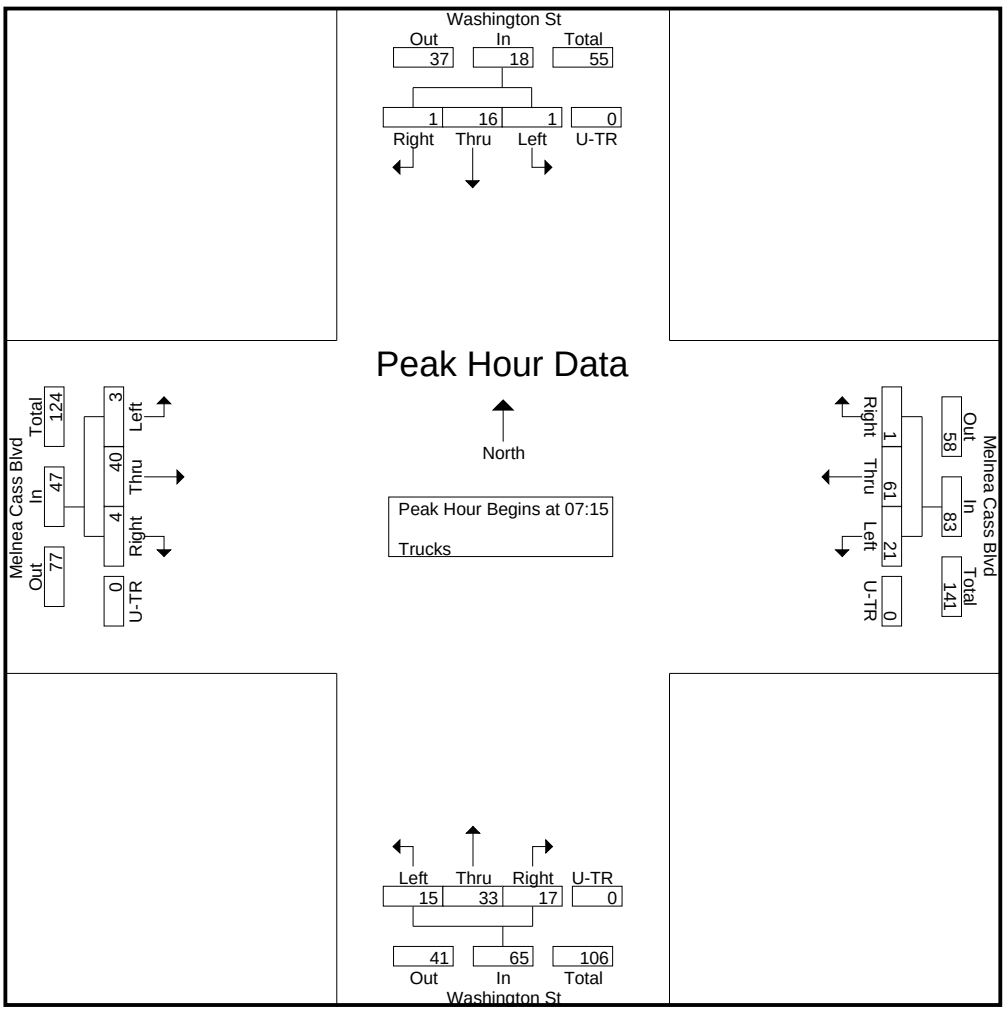
N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 2

Groups Printed- Trucks

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Int. Total
17:30	0	3	0	0	4	3	0	0	1	5	1	0	1	4	0	0	22
17:45	0	5	1	0	4	3	0	0	3	6	2	0	0	5	0	0	29
Total	0	16	2	0	18	13	1	0	9	20	10	0	2	17	1	0	109
Grand Total	8	198	49	0	183	358	12	1	96	240	147	0	28	381	26	4	1731
Apprch %	3.1	77.6	19.2	0	33	64.6	2.2	0.2	19.9	49.7	30.4	0	6.4	86.8	5.9	0.9	
Total %	0.5	11.4	2.8	0	10.6	20.7	0.7	0.1	5.5	13.9	8.5	0	1.6	22	1.5	0.2	

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	**1**	4	0	0	5	**8**	15	0	0	23	**5**	**10**	**6**	0	**21**	0	6	0	0	6	**55**
07:30	0	3	**1**	0	4	3	15	**1**	0	19	4	7	4	0	15	**2**	11	**2**	0	15	53
07:45	0	**6**	0	0	**6**	4	13	0	0	17	3	10	5	0	18	0	9	1	0	10	51
08:00	0	3	0	0	3	6	**18**	0	0	**24**	3	6	2	0	11	1	**14**	1	0	**16**	54
Total Volume	1	16	1	0	18	21	61	1	0	83	15	33	17	0	65	3	40	4	0	47	213
% App. Total	5.6	88.9	5.6	0		25.3	73.5	1.2	0		23.1	50.8	26.2	0		6.4	85.1	8.5	0		
PHF	.250	.667	.250	.000	.750	.656	.847	.250	.000	.865	.750	.825	.708	.000	.774	.375	.714	.500	.000	.734	.968

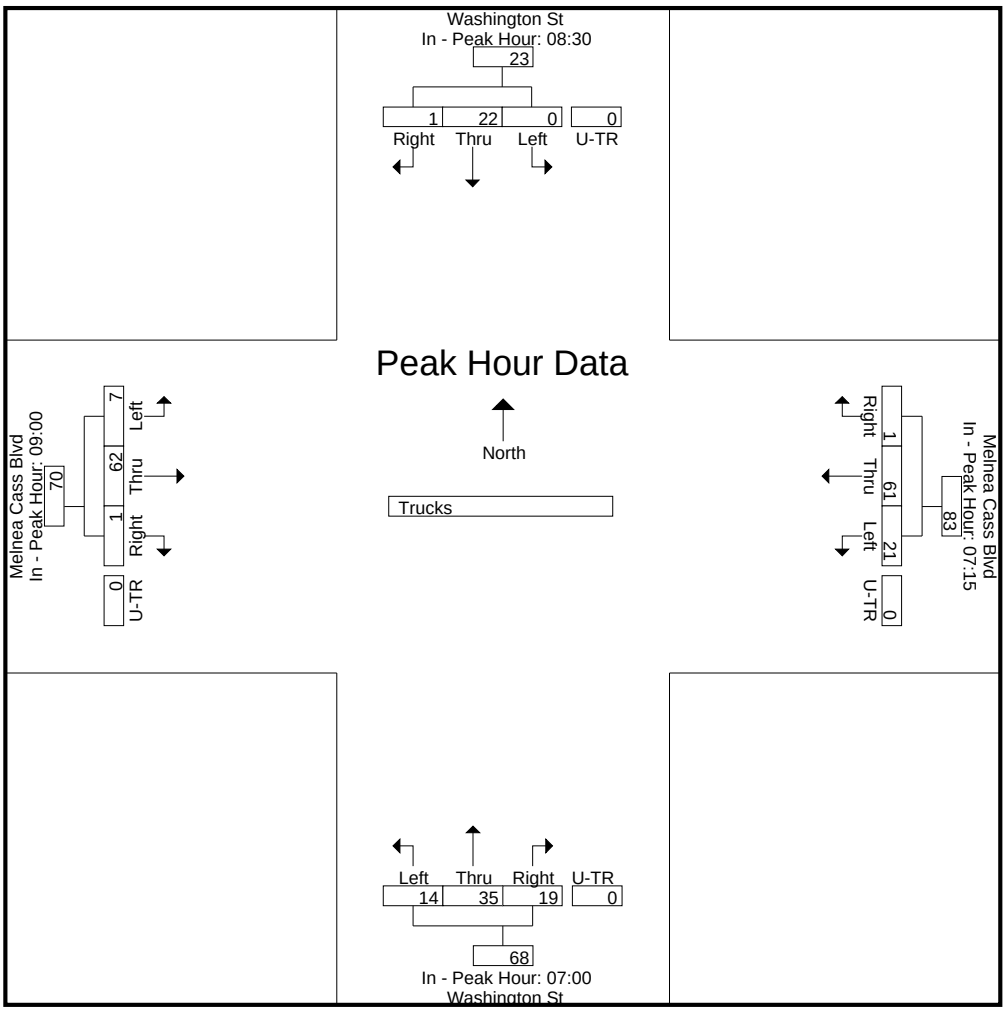


Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 3

	Washington St From North					Melnea Cass Blvd From East					Washington St From South					Melnea Cass Blvd From West					
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:30					07:15					07:00					09:00					
+0 mins.	0	**10**	0	0	**10**	**8**	15	0	0	23	2	8	4	0	14	1	14	0	0	15	
+15 mins.	0	4	0	0	4	3	15	**1**	0	19	**5**	**10**	**6**	0	**21**	**3**	11	0	0	14	
+30 mins.	0	5	**1**	0	6	4	13	0	0	17	4	7	4	0	15	3	17	**1**	0	**21**	
+45 mins.	0	3	0	0	3	6	**18**	0	0	**24**	3	10	5	0	18	0	**20**	0	0	20	
Total Volume	0	22	1	0	23	21	61	1	0	83	14	35	19	0	68	7	62	1	0	70	
% App. Total	0	95.7	4.3	0		25.3	73.5	1.2	0		20.6	51.5	27.9	0		10	88.6	1.4	0		
PHF	.000	.550	.250	.000	.575	.656	.847	.250	.000	.865	.700	.875	.792	.000	.810	.583	.775	.250	.000	.833	



Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 10:15

10:15	0	**7**	**2**	0	**9**	**9**	9	**1**	0	**19**	2	**7**	**6**	0	**15**	**1**	9	0	0	10	**53**
10:30	0	3	2	0	5	3	**10**	0	0	13	0	2	2	0	4	1	7	0	0	8	30
10:45	**1**	4	0	0	5	3	10	1	0	14	1	0	2	0	3	0	9	**2**	0	11	33
11:00	0	7	0	0	7	2	7	0	0	9	**4**	3	5	0	12	0	**12**	1	0	**13**	41
Total Volume	1	21	4	0	26	17	36	2	0	55	7	12	15	0	34	2	37	3	0	42	157
% App. Total	3.8	80.8	15.4	0		30.9	65.5	3.6	0		20.6	35.3	44.1	0		4.8	88.1	7.1	0		
PHF	.250	.750	.500	.000	.722	.472	.900	.500	.000	.724	.438	.429	.625	.000	.567	.500	.771	.375	.000	.808	.741

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
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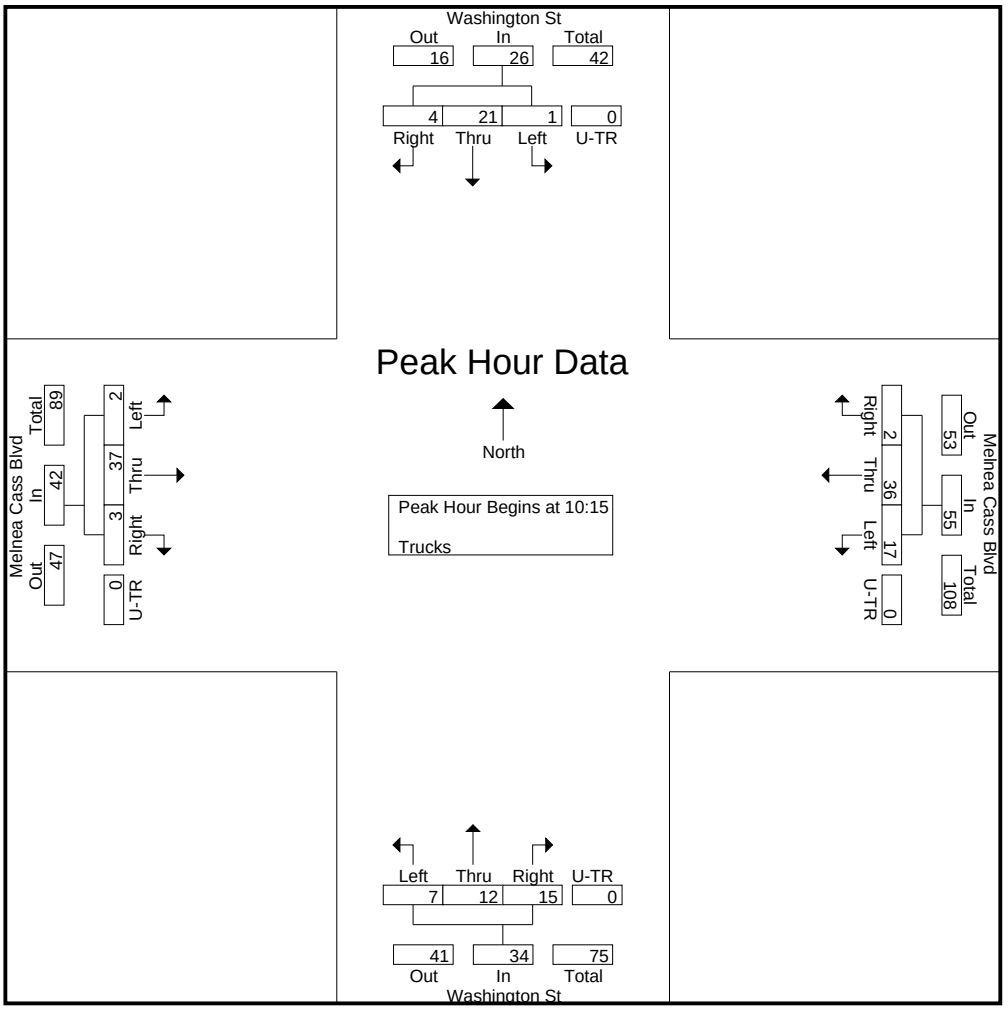

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	13:00					10:00					11:00					10:45				
+0 mins.	**1**	4	3	0	8	4	5	0	0	9	**4**	3	**5**	0	**12**	0	9	**2**	0	11
+15 mins.	1	**6**	**7**	0	**14**	**9**	9	**1**	0	**19**	0	**7**	3	0	10	0	12	1	0	13
+30 mins.	0	5	4	0	9	3	**10**	0	0	13	1	4	2	0	7	**1**	13	0	0	14
+45 mins.	0	4	5	0	9	3	10	1	0	14	2	5	4	0	11	1	**14**	1	0	**16**
Total Volume	2	19	19	0	40	19	34	2	0	55	7	19	14	0	40	2	48	4	0	54
% App. Total	5	47.5	47.5	0		34.5	61.8	3.6	0		17.5	47.5	35	0		3.7	88.9	7.4	0	
PHF	.500	.792	.679	.000	.714	.528	.850	.500	.000	.724	.438	.679	.700	.000	.833	.500	.857	.500	.000	.844

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
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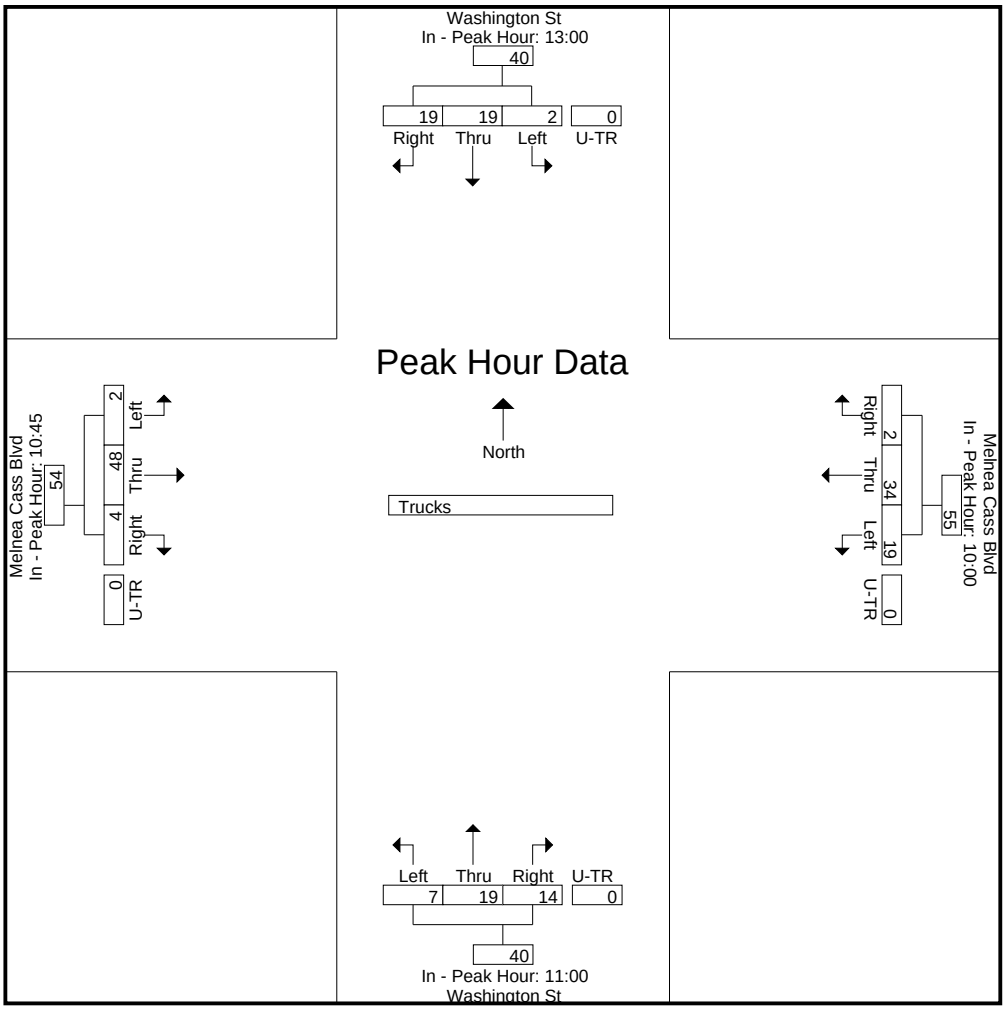

Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 14:30

14:30	0	**5**	**1**	0	**6**	4	11	**1**	0	16	2	5	2	0	9	0	**11**	**2**	0	**13**	44
14:45	0	5	1	0	6	2	7	0	0	9	**4**	5	2	0	11	**2**	4	0	**1**	7	33
15:00	0	2	0	0	2	**5**	**19**	0	0	**24**	2	**6**	4	0	12	0	6	1	0	7	**45**
15:15	0	5	1	0	6	5	6	0	0	11	4	4	**6**	0	**14**	1	4	0	0	5	36
Total Volume	0	17	3	0	20	16	43	1	0	60	12	20	14	0	46	3	25	3	1	32	158
% App. Total	0	85	15	0		26.7	71.7	1.7	0		26.1	43.5	30.4	0		9.4	78.1	9.4	3.1		
PHF	.000	.850	.750	.000	.833	.800	.566	.250	.000	.625	.750	.833	.583	.000	.821	.375	.568	.375	.250	.615	.878

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
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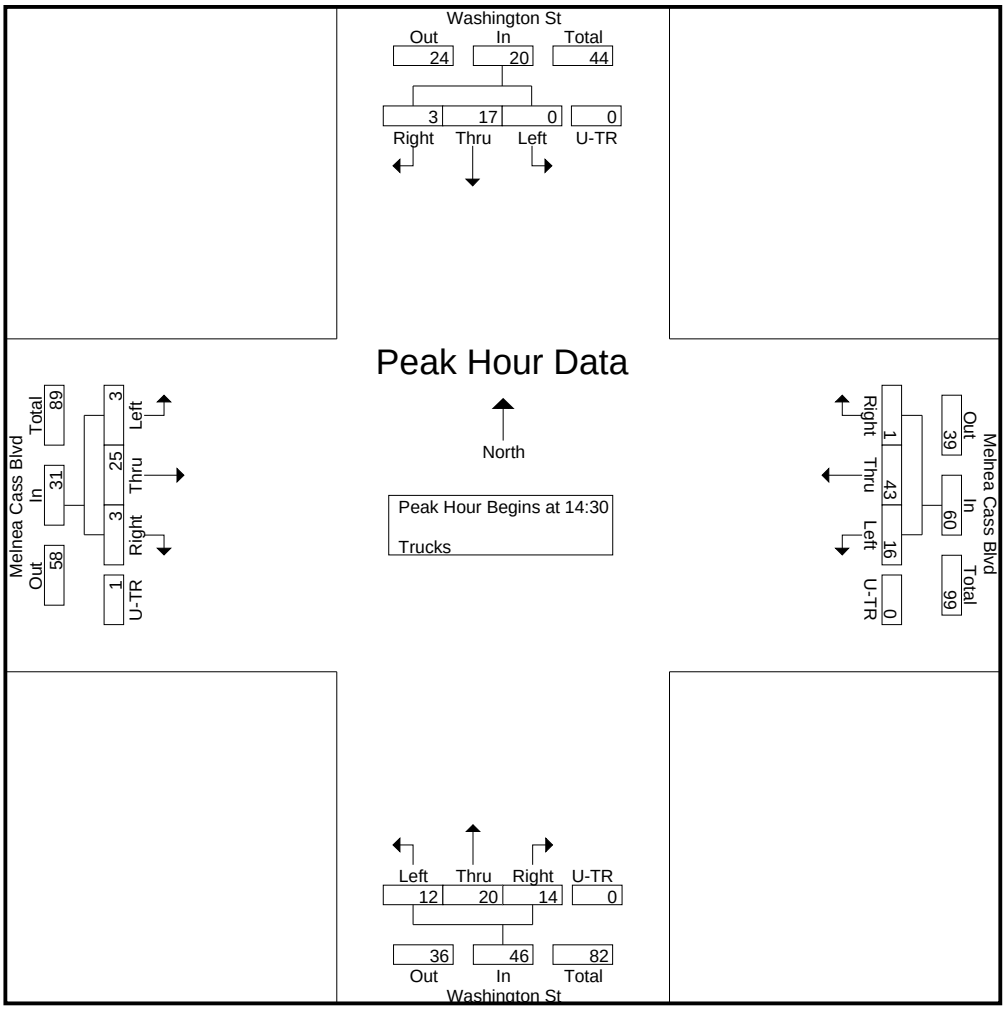


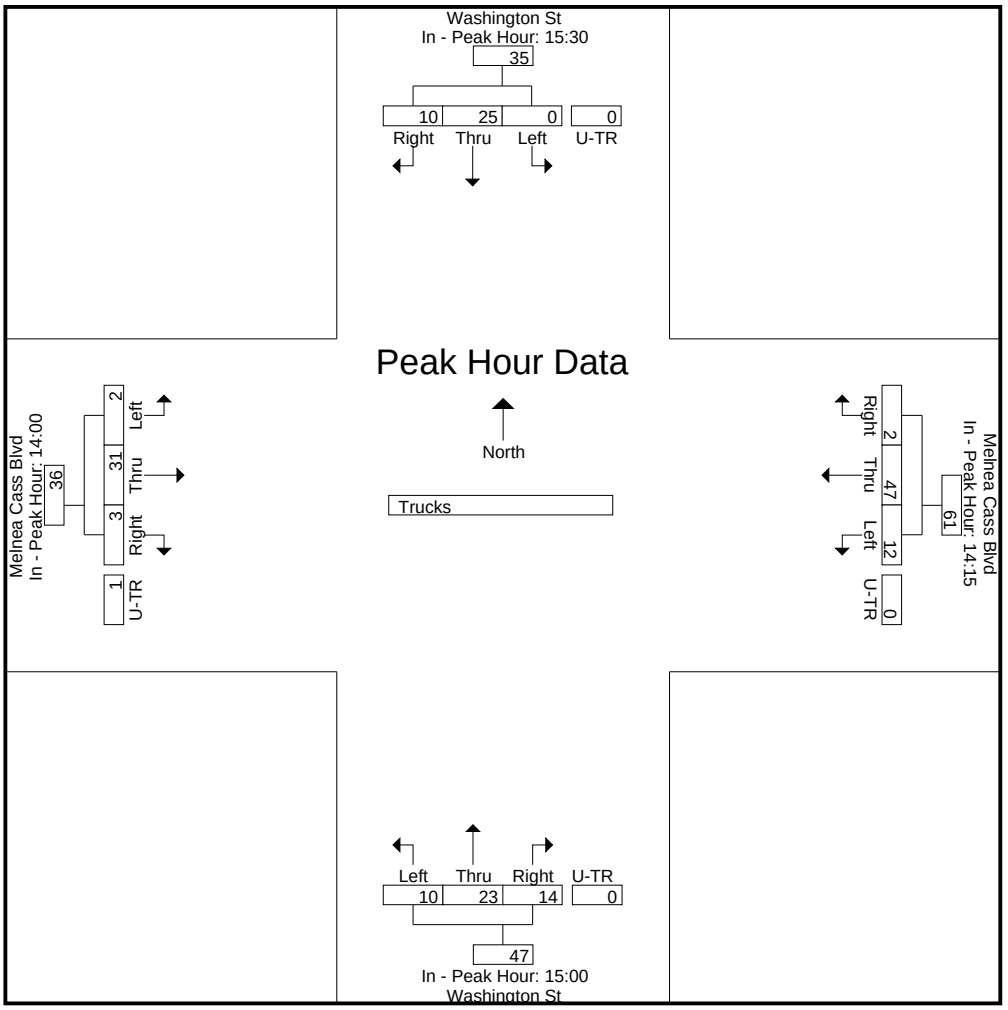
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	15:30					14:15					15:00					14:00				
+0 mins.	0	**7**	1	0	8	1	10	**1**	0	12	2	6	4	0	12	0	**11**	0	0	11
+15 mins.	0	7	**4**	0	**11**	4	11	1	0	16	**4**	4	**6**	0	**14**	0	5	1	0	6
+30 mins.	0	5	3	0	8	2	7	0	0	9	1	**7**	1	0	9	0	11	**2**	0	**13**
+45 mins.	0	6	2	0	8	**5**	**19**	0	0	**24**	3	6	3	0	12	**2**	4	0	**1**	7
Total Volume	0	25	10	0	35	12	47	2	0	61	10	23	14	0	47	2	31	3	1	37
% App. Total	0	71.4	28.6	0		19.7	77	3.3	0		21.3	48.9	29.8	0		5.4	83.8	8.1	2.7	
PHF	.000	.893	.625	.000	.795	.600	.618	.500	.000	.635	.625	.821	.583	.000	.839	.250	.705	.375	.250	.712

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 7



Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 1

Groups Printed- Bikes Peds

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	1	1	0	6	0	1	0	17	0	2	0	0	0	1	0	4	27	6	33
07:15	0	0	0	6	1	2	0	18	0	1	0	3	0	0	0	4	31	4	35
07:30	0	0	0	1	1	2	0	15	0	2	0	1	0	2	0	4	21	7	28
07:45	0	1	0	2	0	1	0	8	0	3	0	2	2	2	0	13	25	9	34
Total	1	2	0	15	2	6	0	58	0	8	0	6	2	5	0	25	104	26	130
08:00	0	0	0	0	0	0	0	18	1	5	0	3	0	3	0	8	29	9	38
08:15	0	0	0	5	0	1	0	8	0	1	0	0	0	0	0	12	25	2	27
08:30	0	0	0	2	0	0	0	8	0	2	0	1	0	3	0	12	23	5	28
08:45	0	0	0	8	0	3	0	17	1	5	1	1	0	2	0	17	43	12	55
Total	0	0	0	15	0	4	0	51	2	13	1	5	0	8	0	49	120	28	148
09:00	0	2	0	5	0	0	0	16	0	1	0	5	0	5	1	11	37	9	46
09:15	0	0	0	1	0	1	0	12	0	3	1	6	0	0	0	12	31	5	36
09:30	0	0	0	6	0	1	0	14	0	3	0	4	1	0	0	13	37	5	42
09:45	0	1	0	1	0	2	0	17	0	1	0	2	0	1	0	19	39	5	44
Total	0	3	0	13	0	4	0	59	0	8	1	17	1	6	1	55	144	24	168
10:00	0	3	0	3	0	1	0	11	0	1	0	2	0	3	0	22	38	8	46
10:15	1	0	0	4	0	1	0	20	0	1	0	2	0	2	0	10	36	5	41
10:30	0	2	0	2	0	1	0	15	0	1	0	3	0	1	0	21	41	5	46
10:45	0	1	0	7	0	0	0	15	0	4	0	6	0	1	0	19	47	6	53
Total	1	6	0	16	0	3	0	61	0	7	0	13	0	7	0	72	162	24	186
11:00	0	1	0	5	0	0	0	22	0	0	0	3	0	1	0	27	57	2	59
11:15	0	1	0	0	0	0	0	17	0	1	0	2	0	0	0	25	44	2	46
11:30	0	0	0	5	0	5	0	14	0	0	0	1	0	1	0	26	46	6	52
11:45	0	4	0	1	0	2	0	14	0	0	0	2	0	0	0	18	35	6	41
Total	0	6	0	11	0	7	0	67	0	1	0	8	0	2	0	96	182	16	198
12:00	0	0	0	5	0	1	1	10	0	1	0	4	0	0	0	26	45	3	48
12:15	0	0	0	2	1	0	0	11	0	1	0	3	0	5	0	15	31	7	38
12:30	0	2	0	2	0	0	0	22	1	0	0	2	0	1	0	13	39	4	43
12:45	0	2	0	2	0	1	0	9	0	3	0	2	0	1	0	16	29	7	36
Total	0	4	0	11	1	2	1	52	1	5	0	11	0	7	0	70	144	21	165
13:00	0	3	0	5	0	4	0	17	1	3	0	11	0	1	0	15	48	12	60
13:15	0	2	1	5	0	0	0	15	0	2	0	3	0	1	0	19	42	6	48
13:30	1	0	0	6	0	3	0	13	0	2	0	8	0	3	0	12	39	9	48
13:45	0	0	0	7	0	2	0	12	0	0	0	2	0	2	0	29	50	4	54
Total	1	5	1	23	0	9	0	57	1	7	0	24	0	7	0	75	179	31	210
14:00	0	1	0	5	0	0	0	15	0	2	0	9	0	0	0	14	43	3	46
14:15	1	3	0	4	0	2	0	11	0	3	0	5	0	1	0	19	39	10	49
14:30	0	1	0	10	0	0	0	11	0	0	0	1	0	0	0	16	38	1	39
14:45	0	1	0	11	0	0	0	12	0	4	0	7	0	1	0	35	65	6	71
Total	1	6	0	30	0	2	0	49	0	9	0	22	0	2	0	84	185	20	205
15:00	0	2	0	5	0	1	0	12	0	1	0	9	0	2	0	32	58	6	64
15:15	0	5	1	20	0	0	0	26	0	2	0	30	0	1	0	40	116	9	125
15:30	0	4	0	2	0	2	0	11	1	1	0	8	0	2	0	33	54	10	64
15:45	1	4	0	3	0	2	0	18	0	2	0	4	0	1	0	16	41	10	51
Total	1	15	1	30	0	5	0	67	1	6	0	51	0	6	0	121	269	35	304
16:00	0	5	0	1	0	2	0	23	0	2	0	3	0	1	0	31	58	10	68
16:15	0	1	3	5	0	2	1	9	0	4	0	3	0	4	0	23	40	15	55
16:30	0	6	0	1	0	2	0	4	0	0	0	8	0	2	0	29	42	10	52
16:45	0	1	1	1	0	4	0	13	0	2	0	32	0	1	0	38	84	9	93
Total	0	13	4	8	0	10	1	49	0	8	0	46	0	8	0	121	224	44	268
17:00	0	7	2	4	0	3	0	22	2	3	0	4	0	1	0	18	48	18	66
17:15	0	7	0	5	0	7	1	10	0	2	0	6	0	0	1	19	40	18	58
17:30	0	5	0	12	0	4	0	11	1	0	0	6	0	1	0	28	57	11	68
17:45	1	6	0	4	0	3	0	11	0	2	1	0	0	0	0	23	38	13	51
Total	1	25	2	25	0	17	1	54	3	7	1	16	0	2	1	88	183	60	243

Accurate Counts
978-664-2565

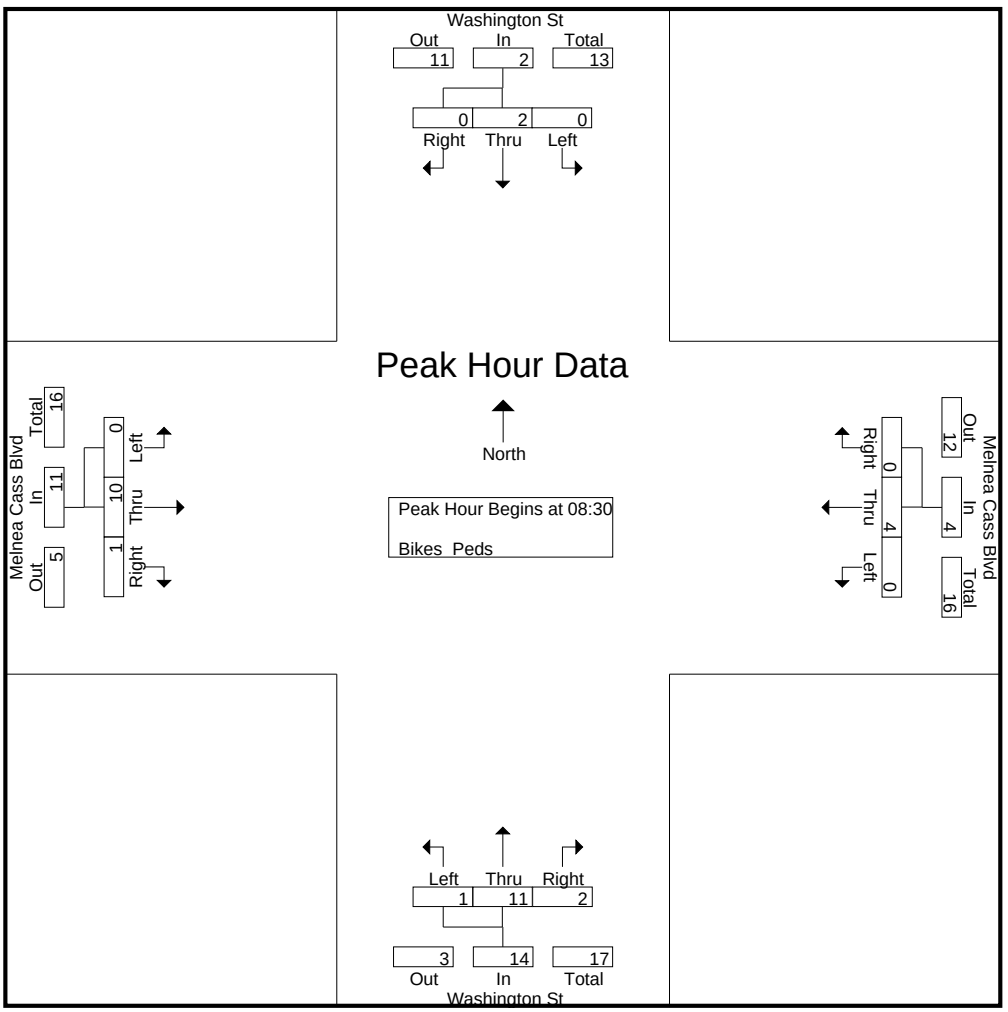
N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 2

Groups Printed- Bikes Peds

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West						
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
Grand Total	6	85	8	197	3	69	3	624	8	79	3	219	3	60	2	856	1896	329	2225
Apprch %	6.1	85.9	8.1		4	92	4		8.9	87.8	3.3		4.6	92.3	3.1				
Total %	1.8	25.8	2.4		0.9	21	0.9		2.4	24	0.9		0.9	18.2	0.6		85.2	14.8	

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30																	
08:30	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5
08:45	0	0	0	0	0	**3**	0	**3**	**1**	**5**	**1**	**7**	0	2	0	2	**12**
09:00	0	**2**	0	**2**	0	0	0	0	0	1	0	1	0	**5**	**1**	**6**	9
09:15	0	0	0	0	0	1	0	1	0	3	1	4	0	0	0	0	5
Total Volume	0	2	0	2	0	4	0	4	1	11	2	14	0	10	1	11	31
% App. Total	0	100	0		0	100	0		7.1	78.6	14.3		0	90.9	9.1		
PHF	.000	.250	.000	.250	.000	.333	.000	.333	.250	.550	.500	.500	.000	.500	.250	.458	.646

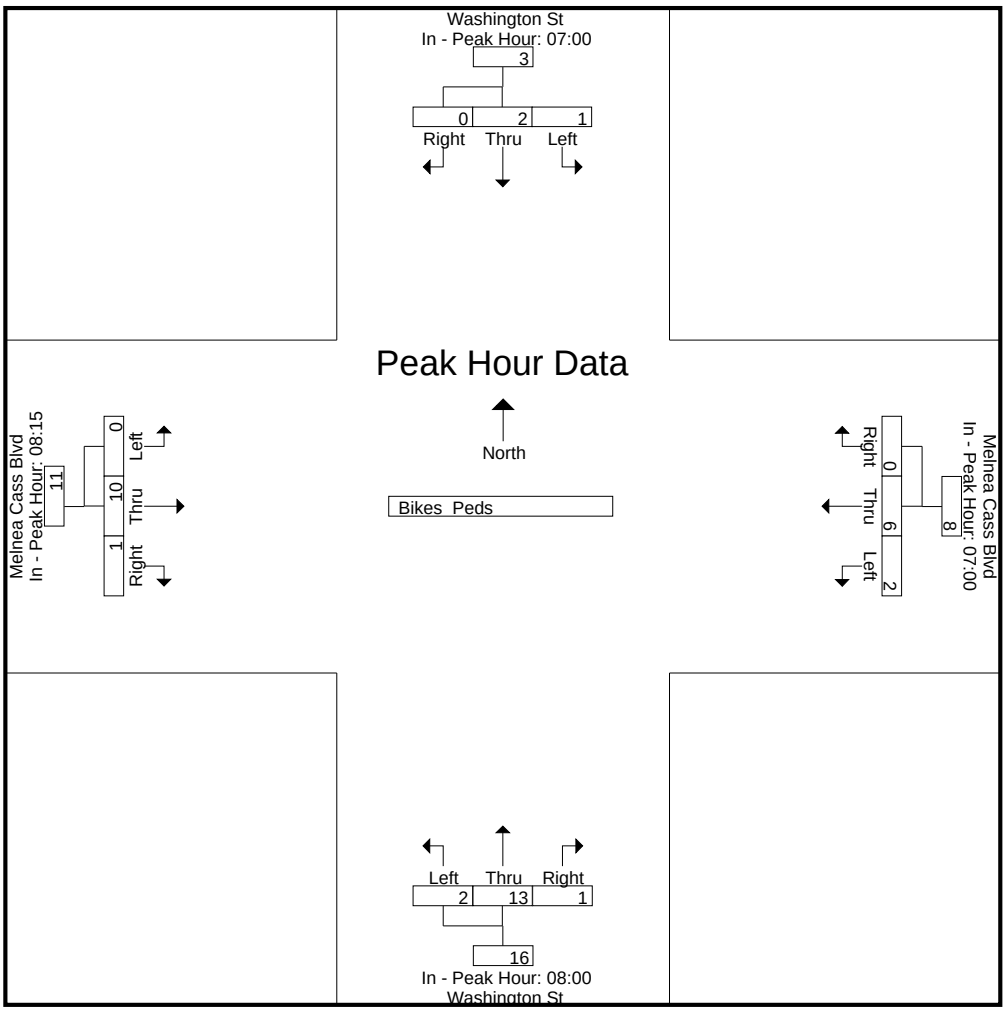


Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011

	Washington St From North				Melnea Cass Blvd From East				Washington St From South				Melnea Cass Blvd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00				07:00				08:00				08:15				
+0 mins.	**1**	**1**	0	**2**	0	1	0	1	**1**	**5**	0	6	0	0	0	0	
+15 mins.	0	0	0	0	**1**	**2**	0	**3**	0	1	0	1	0	3	0	3	
+30 mins.	0	0	0	0	1	2	0	3	0	2	0	2	0	2	0	2	
+45 mins.	0	1	0	1	0	1	0	1	1	5	**1**	**7**	0	**5**	**1**	**6**	
Total Volume	1	2	0	3	2	6	0	8	2	13	1	16	0	10	1	11	
% App. Total	33.3	66.7	0		25	75	0		12.5	81.2	6.2		0	90.9	9.1		
PHF	.250	.500	.000	.375	.500	.750	.000	.667	.500	.650	.250	.571	.000	.500	.250	.458	



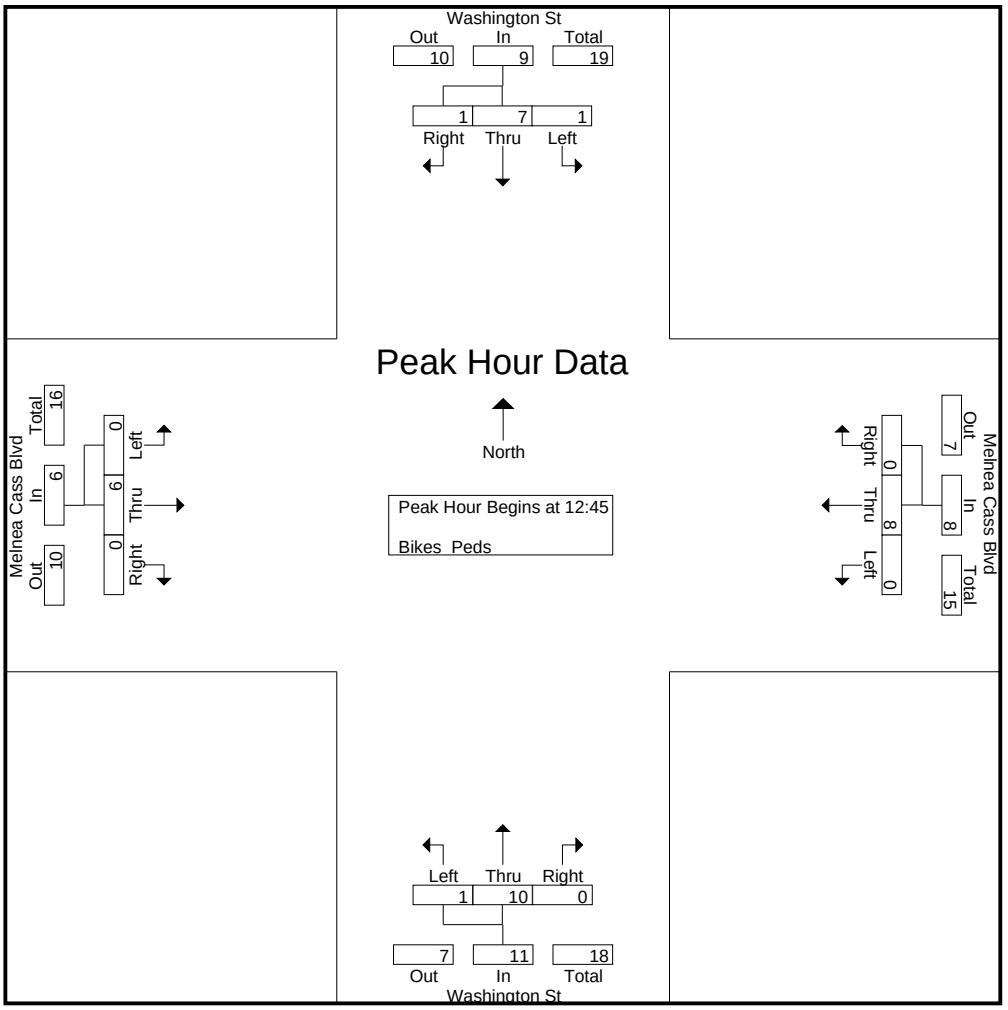
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:45

12:45	0	2	0	2	0	1	0	1	0	**3**	0	3	0	1	0	1	7
13:00	0	**3**	0	**3**	0	**4**	0	**4**	**1**	3	0	**4**	0	1	0	1	**12**
13:15	0	2	**1**	3	0	0	0	0	0	2	0	2	0	1	0	1	6
13:30	**1**	0	0	1	0	3	0	3	0	2	0	2	0	**3**	0	**3**	9
Total Volume	1	7	1	9	0	8	0	8	1	10	0	11	0	6	0	6	34
% App. Total	11.1	77.8	11.1		0	100	0		9.1	90.9	0		0	100	0		
PHF	.250	.583	.250	.750	.000	.500	.000	.500	.250	.833	.000	.688	.000	.500	.000	.500	.708

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 4



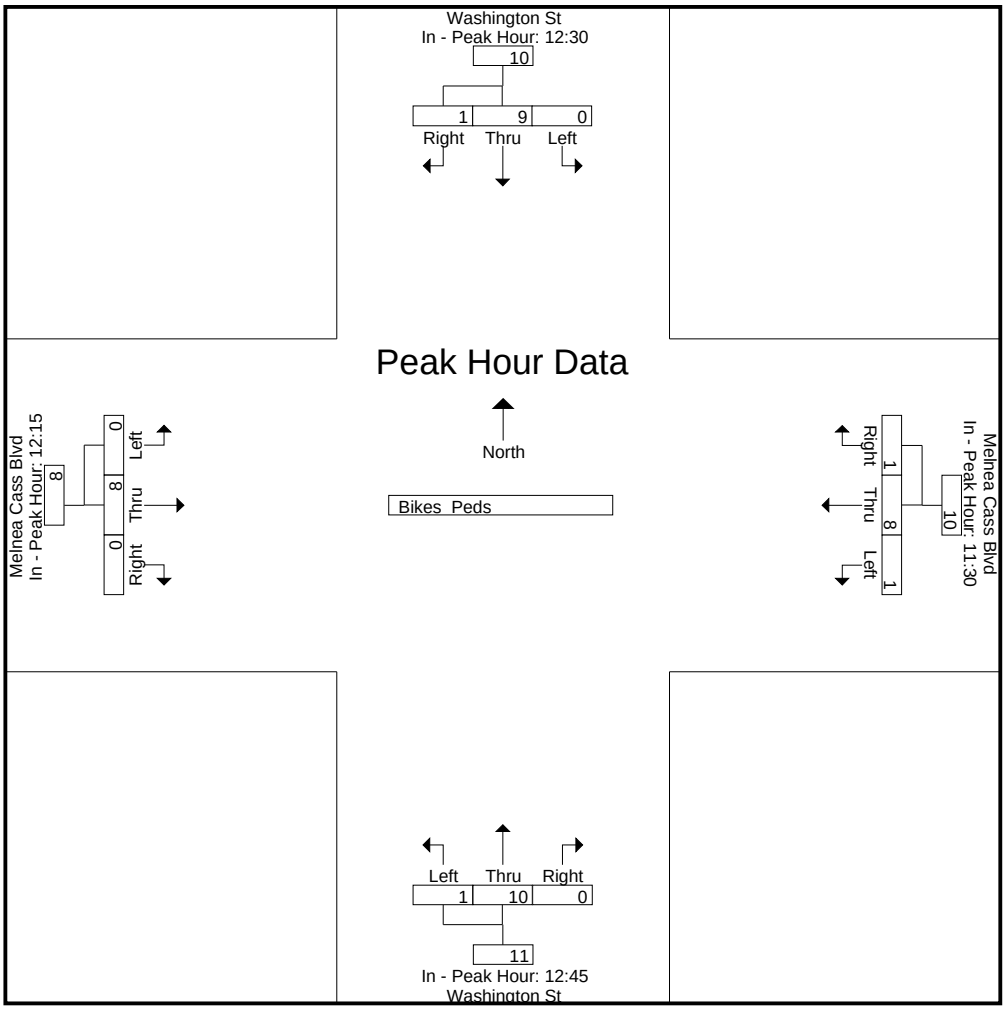
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:30				11:30				12:45				12:15			
+0 mins.	0	2	0	2	0	**5**	0	**5**	0	**3**	0	3	0	**5**	0	**5**
+15 mins.	0	2	0	2	0	2	0	2	**1**	3	0	**4**	0	1	0	1
+30 mins.	0	**3**	0	**3**	0	1	**1**	2	0	2	0	2	0	1	0	1
+45 mins.	0	2	**1**	3	**1**	0	0	1	0	2	0	2	0	1	0	1
Total Volume	0	9	1	10	1	8	1	10	1	10	0	11	0	8	0	8
% App. Total	0	90	10		10	80	10		9.1	90.9	0		0	100	0	
PHF	.000	.750	.250	.833	.250	.400	.250	.500	.250	.833	.000	.688	.000	.400	.000	.400

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 5



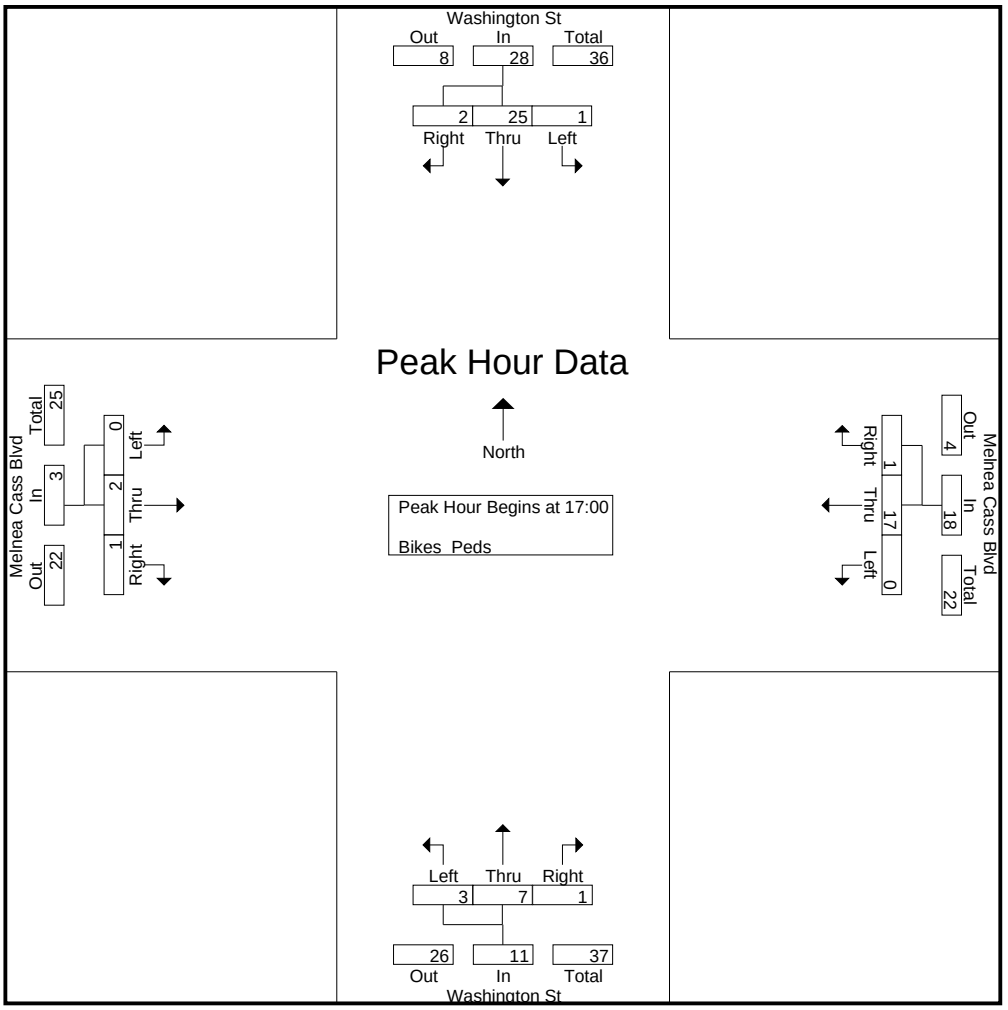
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

17:00	0	**7**	**2**	**9**	0	3	0	3	**2**	**3**	0	**5**	0	**1**	0	**1**	**18**
17:15	0	7	0	7	0	**7**	**1**	**8**	0	2	0	2	0	0	**1**	1	18
17:30	0	5	0	5	0	4	0	4	1	0	0	1	0	1	0	1	11
17:45	**1**	6	0	7	0	3	0	3	0	2	**1**	3	0	0	0	0	13
Total Volume	1	25	2	28	0	17	1	18	3	7	1	11	0	2	1	3	60
% App. Total	3.6	89.3	7.1		0	94.4	5.6		27.3	63.6	9.1		0	66.7	33.3		
PHF	.250	.893	.250	.778	.000	.607	.250	.563	.375	.583	.250	.550	.000	.500	.250	.750	.833

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 6



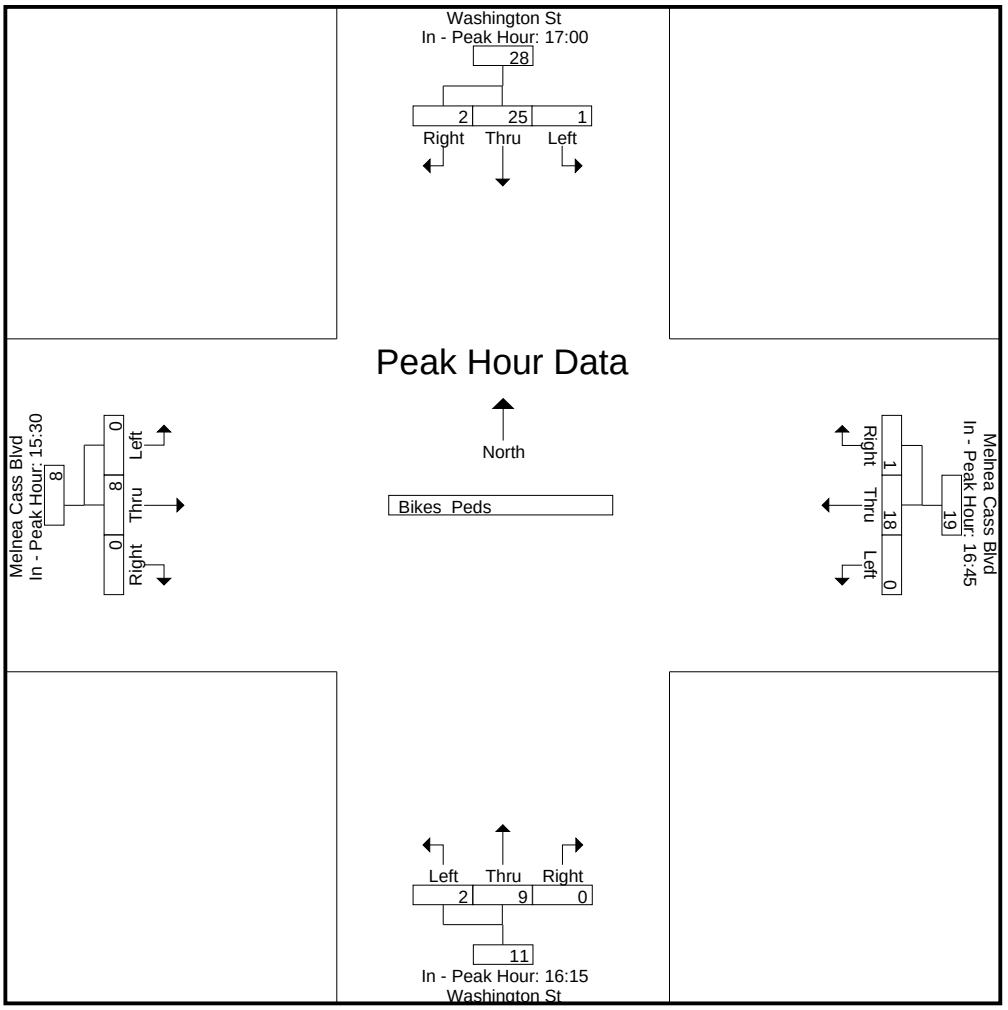
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	17:00				16:45				16:15				15:30			
+0 mins.	0	**7**	**2**	**9**	0	4	0	4	0	**4**	0	4	0	2	0	2
+15 mins.	0	7	0	7	0	3	0	3	0	0	0	0	0	1	0	1
+30 mins.	0	5	0	5	0	**7**	**1**	**8**	0	2	0	2	0	1	0	1
+45 mins.	**1**	6	0	7	0	4	0	4	**2**	3	0	**5**	0	**4**	0	**4**
Total Volume	1	25	2	28	0	18	1	19	2	9	0	11	0	8	0	8
% App. Total	3.6	89.3	7.1		0	94.7	5.3		18.2	81.8	0		0	100	0	
PHF	.250	.893	.250	.778	.000	.643	.250	.594	.250	.563	.000	.550	.000	.500	.000	.500

Accurate Counts
978-664-2565

N/S Street : Washington Street
E/W Street: Melnea Cass Boulevard
City/State : Boston, MA
Weather : Clear

File Name : 01410005
Site Code : 01410005
Start Date : 9/21/2011
Page No : 7



N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

File Name : 122951 A
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	57	26	0	17	14	6	1	9	112	1	0	0	0	0	0	244
07:15 AM	0	76	15	0	19	15	11	0	11	124	1	0	0	0	0	0	272
07:30 AM	1	80	17	0	17	5	10	0	9	132	4	0	0	0	0	0	275
07:45 AM	1	71	15	0	16	20	10	0	5	137	1	2	0	0	0	0	278
Total	3	284	73	0	69	54	37	1	34	505	7	2	0	0	0	0	1069
08:00 AM	1	65	13	0	22	19	8	0	14	127	5	0	0	0	0	0	274
08:15 AM	3	75	16	0	16	7	6	0	6	121	6	0	0	0	0	0	256
08:30 AM	3	77	17	0	16	17	8	0	6	125	2	0	0	0	0	0	271
08:45 AM	2	68	21	0	18	13	11	0	12	112	4	1	0	0	0	0	262
Total	9	285	67	0	72	56	33	0	38	485	17	1	0	0	0	0	1063
Grand Total	12	569	140	0	141	110	70	1	72	990	24	3	0	0	0	0	2132
Apprch %	1.7	78.9	19.4	0	43.8	34.2	21.7	0.3	6.6	90.9	2.2	0.3	0	0	0	0	
Total %	0.6	26.7	6.6	0	6.6	5.2	3.3	0	3.4	46.4	1.1	0.1	0	0	0	0	
Cars	10	462	130	0	129	103	67	1	67	859	24	3	0	0	0	0	1855
% Cars	83.3	81.2	92.9	0	91.5	93.6	95.7	100	93.1	86.8	100	100	0	0	0	0	87
Heavy Vehicles	2	107	10	0	12	7	3	0	5	131	0	0	0	0	0	0	277
% Heavy Vehicles	16.7	18.8	7.1	0	8.5	6.4	4.3	0	6.9	13.2	0	0	0	0	0	0	13

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	76	15	0	91	19	15	**11**	**0**	**45**	**11**	**124**	**1**	**0**	**136**	**0**	**0**	**0**	**0**	**0**	**272**
07:30 AM	**1**	**80**	**17**	**0**	**98**	17	5	10	0	32	9	132	4	0	145	0	0	0	0	0	275
07:45 AM	1	71	15	0	87	16	**20**					**137**		**2**							**278**
08:00 AM	1	65	13	0	79	**22**	19	8	0	**49**	**14**		**5**	0	**146**	0	0	0	0	0	274
Total Volume	3	292	60	0	355	74	59	39	0	172	39	520	11	2	572	0	0	0	0	0	1099
% App. Total	0.8	82.3	16.9	0		43	34.3	22.7	0		6.8	90.9	1.9	0.3		0	0	0	0		
PHF	.750	.913	.882	.000	.906	.841	.738	.886	.000	.878	.696	.949	.550	.250	.979	.000	.000	.000	.000	.000	.988
Cars	3	236	57	0	296	67	56	37	0	160	35	454	11	2	502	0	0	0	0	0	958
% Cars	100	80.8	95.0	0	83.4	90.5	94.9	94.9	0	93.0	89.7	87.3	100	100	87.8	0	0	0	0	0	87.2
Heavy Vehicles	0	56	3	0	59	7	3	2	0	12	4	66	0	0	70	0	0	0	0	0	141
% Heavy Vehicles	0	19.2	5.0	0	16.6	9.5	5.1	5.1	0	7.0	10.3	12.7	0	0	12.2	0	0	0	0	0	12.8

N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 A
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	43	22	0	15	13	6	1	9	93	1	0	0	0	0	0	204
07:15 AM	0	63	14	0	19	14	11	0	10	110	1	0	0	0	0	0	242
07:30 AM	1	67	15	0	16	4	9	0	8	115	4	0	0	0	0	0	239
07:45 AM	1	56	15	0	13	20	9	0	5	123	1	2	0	0	0	0	245
Total	3	229	66	0	63	51	35	1	32	441	7	2	0	0	0	0	930
08:00 AM	1	50	13	0	19	18	8	0	12	106	5	0	0	0	0	0	232
08:15 AM	3	65	15	0	16	7	5	0	6	107	6	0	0	0	0	0	230
08:30 AM	2	66	16	0	15	17	8	0	6	110	2	0	0	0	0	0	242
08:45 AM	1	52	20	0	16	10	11	0	11	95	4	1	0	0	0	0	221
Total	7	233	64	0	66	52	32	0	35	418	17	1	0	0	0	0	925
Grand Total	10	462	130	0	129	103	67	1	67	859	24	3	0	0	0	0	1855
Apprch %	1.7	76.7	21.6	0	43	34.3	22.3	0.3	7	90.1	2.5	0.3	0	0	0	0	
Total %	0.5	24.9	7	0	7	5.6	3.6	0.1	3.6	46.3	1.3	0.2	0	0	0	0	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	63	14	0	77	**19**	14	**11**	**0**	**44**	**10**	**110**	**1**	**0**	**121**	**0**	**0**	**0**	**0**	**0**	**242**
07:30 AM	**1**	**67**	**15**	**0**	**83**	16	4	9	0	29	8	115	4	0	127	0	0	0	0	0	239
07:45 AM	1	56	15	0	72	13	**20**					**123**		**2**	**131**	0	0	0	0	0	**245**
08:00 AM	1	50	13	0	64	19	18	8	0	**45**	**12**		**5**	0	123	0	0	0	0	0	232
Total Volume	3	236	57	0	296	67	56	37	0	160	35	454	11	2	502	0	0	0	0	0	958
% App. Total	1	79.7	19.3	0		41.9	35	23.1	0		7	90.4	2.2	0.4		0	0	0	0		
PHF	.750	.881	.950	.000	.892	.882	.700	.841	.000	.889	.729	.923	.550	.250	.958	.000	.000	.000	.000	.000	.978

N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
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Start Date : 6/14/2012
Page No : 1

Groups Printed- Heavy Vehicles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	14	4	0	2	1	0	0	0	19	0	0	0	0	0	0	40
07:15 AM	0	13	1	0	0	1	0	0	1	14	0	0	0	0	0	0	30
07:30 AM	0	13	2	0	1	1	1	0	1	17	0	0	0	0	0	0	36
07:45 AM	0	15	0	0	3	0	1	0	0	14	0	0	0	0	0	0	33
Total	0	55	7	0	6	3	2	0	2	64	0	0	0	0	0	0	139
08:00 AM	0	15	0	0	3	1	0	0	2	21	0	0	0	0	0	0	42
08:15 AM	0	10	1	0	0	0	1	0	0	14	0	0	0	0	0	0	26
08:30 AM	1	11	1	0	1	0	0	0	0	15	0	0	0	0	0	0	29
08:45 AM	1	16	1	0	2	3	0	0	1	17	0	0	0	0	0	0	41
Total	2	52	3	0	6	4	1	0	3	67	0	0	0	0	0	0	138
Grand Total	2	107	10	0	12	7	3	0	5	131	0	0	0	0	0	0	277
Apprch %	1.7	89.9	8.4	0	54.5	31.8	13.6	0	3.7	96.3	0	0	0	0	0	0	
Total %	0.7	38.6	3.6	0	4.3	2.5	1.1	0	1.8	47.3	0	0	0	0	0	0	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	13	1	0	14	0	**1**	**0**	**0**	**1**	**1**	**14**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**30**
07:30 AM	**0**	**13**	**2**	**0**	**15**	1	1	**1**	**0**	**3**	**1**	**17**	**0**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**36**
07:45 AM	**0**	**15**	0	0	15	**3**	0	1	0	**4**	0	14	0	0	14	0	0	0	0	0	33
08:00 AM	0	15	0	0	15	3	1	0	0	4	**2**	**21**			**23**	0	0	0	0	0	**42**
Total Volume	0	56	3	0	59	7	3	2	0	12	4	66	0	0	70	0	0	0	0	0	141
% App. Total	0	94.9	5.1	0		58.3	25	16.7	0		5.7	94.3	0	0		0	0	0	0		
PHF	.000	.933	.375	.000	.983	.583	.750	.500	.000	.750	.500	.786	.000	.000	.761	.000	.000	.000	.000	.000	.839

N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 122951 A
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Peds and Bicycles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	1	0	5	1	0	0	2	0	2	0	2	0	0	0	2	15
07:15 AM	0	1	0	2	0	0	1	3	0	0	0	0	0	0	0	4	11
07:30 AM	0	3	0	3	0	0	0	3	0	1	0	2	0	0	0	9	21
07:45 AM	0	1	0	4	0	0	0	0	0	5	0	2	0	0	0	7	19
Total	0	6	0	14	1	0	1	8	0	8	0	6	0	0	0	22	66
08:00 AM	0	0	0	1	0	0	0	1	0	3	0	1	0	0	0	5	11
08:15 AM	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	3	8
08:30 AM	0	0	0	3	0	0	0	2	0	5	0	2	0	0	0	0	12
08:45 AM	0	2	0	2	1	0	0	4	0	3	0	0	0	0	0	4	16
Total	0	2	0	8	1	0	0	10	0	11	0	3	0	0	0	12	47
Grand Total	0	8	0	22	2	0	1	18	0	19	0	9	0	0	0	34	113
Apprch %	0	26.7	0	73.3	9.5	0	4.8	85.7	0	67.9	0	32.1	0	0	0	100	
Total %	0	7.1	0	19.5	1.8	0	0.9	15.9	0	16.8	0	8	0	0	0	30.1	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	1	0	**5**	**6**	**1**	0	0	2	3	0	2	0	**2**	**4**	**0**	**0**	**0**	**2**	**2**	**15**
07:15 AM	**0**	**1**	**0**	**2**	**3**	**0**	**0**	**1**	**3**	**4**	0	0	0	0	0	0	0	0	4	4	11
07:30 AM	0	**3**	0	3	6	0	0	0	3	3	0	1	0	2	3	0	0	0	**9**	**9**	**21**
07:45 AM	0	1	0	4	5	0	0	0	0	0	0	**5**			**7**	0	0	0	7	7	19
Total Volume	0	6	0	14	20	1	0	1	8	10	0	8	0	6	14	0	0	0	22	22	66
% App. Total	0	30	0	70		10	0	10	80		0	57.1	0	42.9		0	0	0	100		
PHF	.000	.500	.000	.700	.833	.250	.000	.250	.667	.625	.000	.400	.000	.750	.500	.000	.000	.000	.611	.611	.786

N/S: Washington Street
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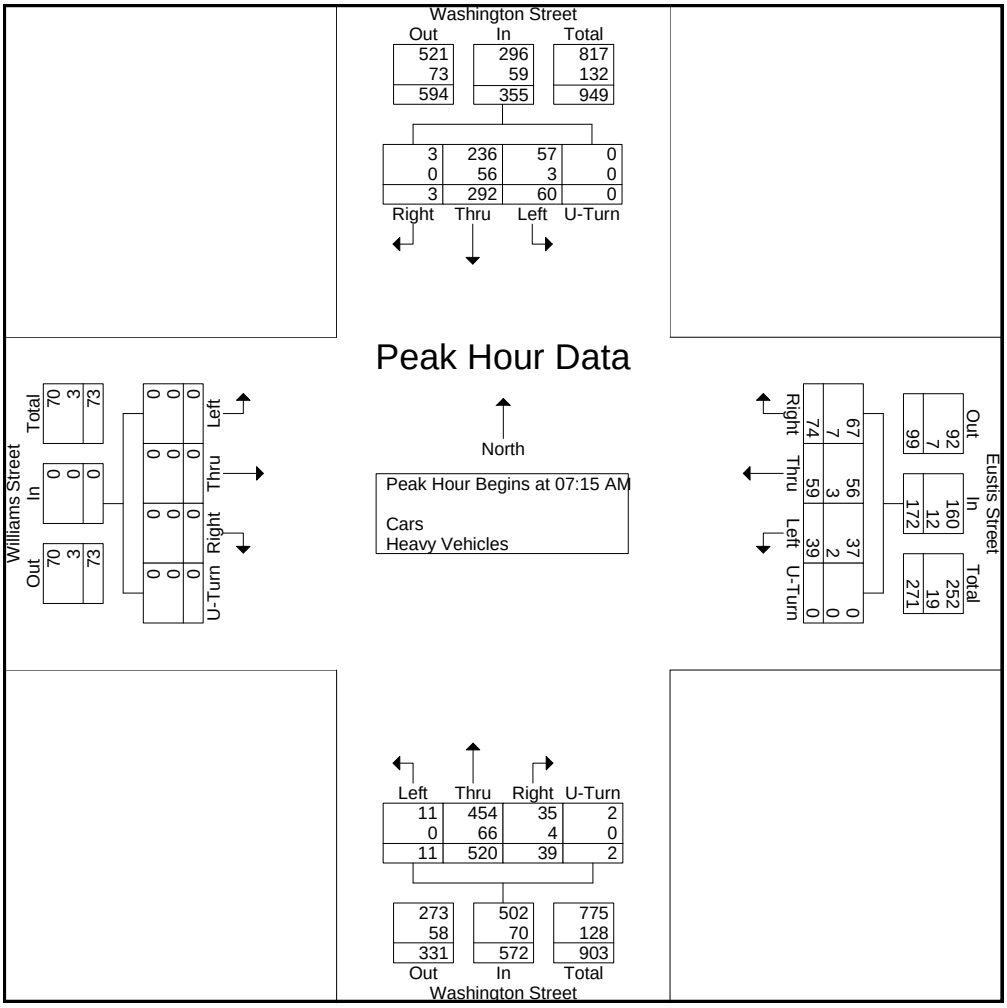
	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	76	15	0	91	19	15	**11**	**0**	**45**	**11**	**124**	**1**	**0**	**136**	**0**	**0**	**0**	**0**	**0**	**272**
07:30 AM	**1**	**80**	**17**	**0**	**98**	17	5	10	0	32	9	132	4	0	145	0	0	0	0	0	275
07:45 AM	1	71	15	0	87	16	**20**					**137**		**2**							**278**
08:00 AM	1	65	13	0	79	**22**	19	8	0	**49**	**14**		**5**	0	**146**	0	0	0	0	0	274
Total Volume	3	292	60	0	355	74	59	39	0	172	39	520	11	2	572	0	0	0	0	0	1099
% App. Total	0.8	82.3	16.9	0		43	34.3	22.7	0		6.8	90.9	1.9	0.3		0	0	0	0		
PHF	.750	.913	.882	.000	.906	.841	.738	.886	.000	.878	.696	.949	.550	.250	.979	.000	.000	.000	.000	.000	.988
Cars	3	236	57	0	296	67	56	37	0	160	35	454	11	2	502	0	0	0	0	0	958
% Cars	100	80.8	95.0	0	83.4	90.5	94.9	94.9	0	93.0	89.7	87.3	100	100	87.8	0	0	0	0	0	87.2
Heavy Vehicles	0	56	3	0	59	7	3	2	0	12	4	66	0	0	70	0	0	0	0	0	141
% Heavy Vehicles	0	19.2	5.0	0	16.6	9.5	5.1	5.1	0	7.0	10.3	12.7	0	0	12.2	0	0	0	0	0	12.8



N/S: Washington Street
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Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 AA
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	6	77	35	0	12	14	26	0	19	109	5	0	0	0	0	0	303
04:15 PM	4	92	32	0	25	18	10	0	25	124	6	0	1	0	0	0	337
04:30 PM	5	96	37	0	25	12	12	0	24	127	2	0	0	0	0	0	340
04:45 PM	8	106	47	0	28	21	14	0	21	129	6	0	0	0	0	0	380
Total	23	371	151	0	90	65	62	0	89	489	19	0	1	0	0	0	1360
05:00 PM	2	106	60	0	18	36	21	0	15	127	4	0	0	0	0	0	389
05:15 PM	7	116	48	0	21	37	17	0	20	133	5	0	0	0	0	0	404
05:30 PM	5	84	47	1	17	22	19	0	27	126	6	0	0	0	0	0	354
05:45 PM	5	78	41	0	21	12	4	0	18	100	6	0	0	0	0	0	285
Total	19	384	196	1	77	107	61	0	80	486	21	0	0	0	0	0	1432
Grand Total	42	755	347	1	167	172	123	0	169	975	40	0	1	0	0	0	2792
Apprch %	3.7	65.9	30.3	0.1	36.1	37.2	26.6	0	14.3	82.3	3.4	0	100	0	0	0	
Total %	1.5	27	12.4	0	6	6.2	4.4	0	6.1	34.9	1.4	0	0	0	0	0	
Cars	39	686	336	0	157	170	116	0	164	848	39	0	1	0	0	0	2556
% Cars	92.9	90.9	96.8	0	94	98.8	94.3	0	97	87	97.5	0	100	0	0	0	91.5
Heavy Vehicles	3	69	11	1	10	2	7	0	5	127	1	0	0	0	0	0	236
% Heavy Vehicles	7.1	9.1	3.2	100	6	1.2	5.7	0	3	13	2.5	0	0	0	0	0	8.5

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**8**	**106**	**47**	**0**	**161**	**28**	21	14	0	63	21	129	**6**	0	156	0	0	0	0	0	380
05:00 PM	2	106	**60**					**21**		**75**	15	127	4	0	146	0	0	0	0	0	389
05:15 PM	7	**116**	48	0	**171**	21	**37**					**133**									**404**
05:30 PM	5	84	47	**1**							**27**				**159**	0	0	0	0	0	354
Total Volume	22	412	202	1	637	84	116	71	0	271	83	515	21	0	619	0	0	0	0	0	1527
% App. Total	3.5	64.7	31.7	0.2		31	42.8	26.2	0		13.4	83.2	3.4	0		0	0	0	0		
PHF	.688	.888	.842	.250	.931	.750	.784	.845	.000	.903	.769	.968	.875	.000	.973	.000	.000	.000	.000	.000	.945
Cars	21	369	197	0	587	79	116	67	0	262	79	456	21	0	556	0	0	0	0	0	1405
% Cars	95.5	89.6	97.5	0	92.2	94.0	100	94.4	0	96.7	95.2	88.5	100	0	89.8	0	0	0	0	0	92.0
Heavy Vehicles	1	43	5	1	50	5	0	4	0	9	4	59	0	0	63	0	0	0	0	0	122
% Heavy Vehicles	4.5	10.4	2.5	100	7.8	6.0	0	5.6	0	3.3	4.8	11.5	0	0	10.2	0	0	0	0	0	8.0

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File Name : 122951 AA
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	5	70	34	0	12	14	26	0	19	94	5	0	0	0	0	0	279
04:15 PM	4	85	32	0	22	16	9	0	25	104	6	0	1	0	0	0	304
04:30 PM	4	89	33	0	23	12	10	0	24	109	2	0	0	0	0	0	306
04:45 PM	7	92	44	0	25	21	14	0	21	118	6	0	0	0	0	0	348
Total	20	336	143	0	82	63	59	0	89	425	19	0	1	0	0	0	1237
05:00 PM	2	100	60	0	18	36	20	0	13	104	4	0	0	0	0	0	357
05:15 PM	7	105	47	0	19	37	15	0	20	123	5	0	0	0	0	0	378
05:30 PM	5	72	46	0	17	22	18	0	25	111	6	0	0	0	0	0	322
05:45 PM	5	73	40	0	21	12	4	0	17	85	5	0	0	0	0	0	262
Total	19	350	193	0	75	107	57	0	75	423	20	0	0	0	0	0	1319
Grand Total	39	686	336	0	157	170	116	0	164	848	39	0	1	0	0	0	2556
Apprch %	3.7	64.7	31.7	0	35.4	38.4	26.2	0	15.6	80.7	3.7	0	100	0	0	0	
Total %	1.5	26.8	13.1	0	6.1	6.7	4.5	0	6.4	33.2	1.5	0	0	0	0	0	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**7**	**92**	**44**	**0**	**143**	**25**	21	14	0	60	21	118	**6**	0	145	0	0	0	0	0	348
05:00 PM	2	100	**60**		**162**	18	36	**20**		**74**	13	104	4	0	121	0	0	0	0	0	357
05:15 PM	7	**105**	47	0	159	19	**37**					**123**			**148**	0	0	0	0	0	**378**
05:30 PM	5	72	46	0	123	17	22	18	0	57	**25**										
Total Volume	21	369	197	0	587	79	116	67	0	262	79	456	21	0	556	0	0	0	0	0	1405
% App. Total	3.6	62.9	33.6	0		30.2	44.3	25.6	0		14.2	82	3.8	0		0	0	0	0		
PHF	.750	.879	.821	.000	.906	.790	.784	.838	.000	.885	.790	.927	.875	.000	.939	.000	.000	.000	.000	.000	.929

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Groups Printed- Heavy Vehicles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	1	7	1	0	0	0	0	0	0	15	0	0	0	0	0	0	24
04:15 PM	0	7	0	0	3	2	1	0	0	20	0	0	0	0	0	0	33
04:30 PM	1	7	4	0	2	0	2	0	0	18	0	0	0	0	0	0	34
04:45 PM	1	14	3	0	3	0	0	0	0	11	0	0	0	0	0	0	32
Total	3	35	8	0	8	2	3	0	0	64	0	0	0	0	0	0	123
05:00 PM	0	6	0	0	0	0	1	0	2	23	0	0	0	0	0	0	32
05:15 PM	0	11	1	0	2	0	2	0	0	10	0	0	0	0	0	0	26
05:30 PM	0	12	1	1	0	0	1	0	2	15	0	0	0	0	0	0	32
05:45 PM	0	5	1	0	0	0	0	0	1	15	1	0	0	0	0	0	23
Total	0	34	3	1	2	0	4	0	5	63	1	0	0	0	0	0	113
Grand Total	3	69	11	1	10	2	7	0	5	127	1	0	0	0	0	0	236
Apprch %	3.6	82.1	13.1	1.2	52.6	10.5	36.8	0	3.8	95.5	0.8	0	0	0	0	0	
Total %	1.3	29.2	4.7	0.4	4.2	0.8	3	0	2.1	53.8	0.4	0	0	0	0	0	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	7	0	0	7	**3**	**2**	**1**	**0**	**6**	0	20	0	0	20	0	0	0	0	0	33
04:30 PM	**1**		**4**					**2**													**34**
04:45 PM	1	**14**	3	0	**18**	3	0	0	0	3	0	11	0	0	11	0	0	0	0	0	32
05:00 PM	0	6	0	0	6	0	0	1	0	1	**2**	**23**			**25**	0	0	0	0	0	32
Total Volume	2	34	7	0	43	8	2	4	0	14	2	72	0	0	74	0	0	0	0	0	131
% App. Total	4.7	79.1	16.3	0		57.1	14.3	28.6	0		2.7	97.3	0	0		0	0	0	0		
PHF	.500	.607	.438	.000	.597	.667	.250	.500	.000	.583	.250	.783	.000	.000	.740	.000	.000	.000	.000	.000	.963

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Groups Printed- Peds and Bicycles

	Washington Street From North				Eustis Street From East				Washington Street From South				Williams Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	7	0	0	0	10	0	1	0	1	0	0	0	24	43
04:15 PM	0	1	0	10	0	0	1	7	0	0	0	1	0	0	0	20	40
04:30 PM	0	5	0	10	0	0	0	10	0	2	0	1	0	0	0	13	41
04:45 PM	0	4	2	5	1	0	0	4	0	0	0	0	0	0	0	16	32
Total	0	10	2	32	1	0	1	31	0	3	0	3	0	0	0	73	156
05:00 PM	0	1	0	9	0	2	0	12	0	1	0	2	0	1	0	12	40
05:15 PM	0	0	0	16	0	0	1	9	0	1	0	7	0	0	0	6	40
05:30 PM	1	3	0	11	0	0	0	6	0	1	0	7	0	0	0	5	34
05:45 PM	0	2	0	10	0	0	0	3	0	2	0	5	0	1	0	19	42
Total	1	6	0	46	0	2	1	30	0	5	0	21	0	2	0	42	156
Grand Total	1	16	2	78	1	2	2	61	0	8	0	24	0	2	0	115	312
Apprch %	1	16.5	2.1	80.4	1.5	3	3	92.4	0	25	0	75	0	1.7	0	98.3	
Total %	0.3	5.1	0.6	25	0.3	0.6	0.6	19.6	0	2.6	0	7.7	0	0.6	0	36.9	

	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	7	7	0	0	0	**10**	**10**	0	1	0	**1**	**2**	**0**	**0**	**0**	**24**	**24**	**43**
04:15 PM	0	1	0	**10**				**1**			0										
04:30 PM	**0**	**5**	0	10	**15**	0	0	0	10	10	0	**2**	**0**	**1**	**3**	0	0	0	13	13	41
04:45 PM	0	4	**2**			**1**	0	0	4	5	0	0	0	0	0	0	0	0	16	16	32
Total Volume	0	10	2	32	44	1	0	1	31	33	0	3	0	3	6	0	0	0	73	73	156
% App. Total	0	22.7	4.5	72.7		3	0	3	93.9		0	50	0	50		0	0	0	100		
PHF	.000	.500	.250	.800	.733	.250	.000	.250	.775	.825	.000	.375	.000	.750	.500	.000	.000	.000	.760	.760	.907

N/S: Washington Street
E/W: Eustis Street/Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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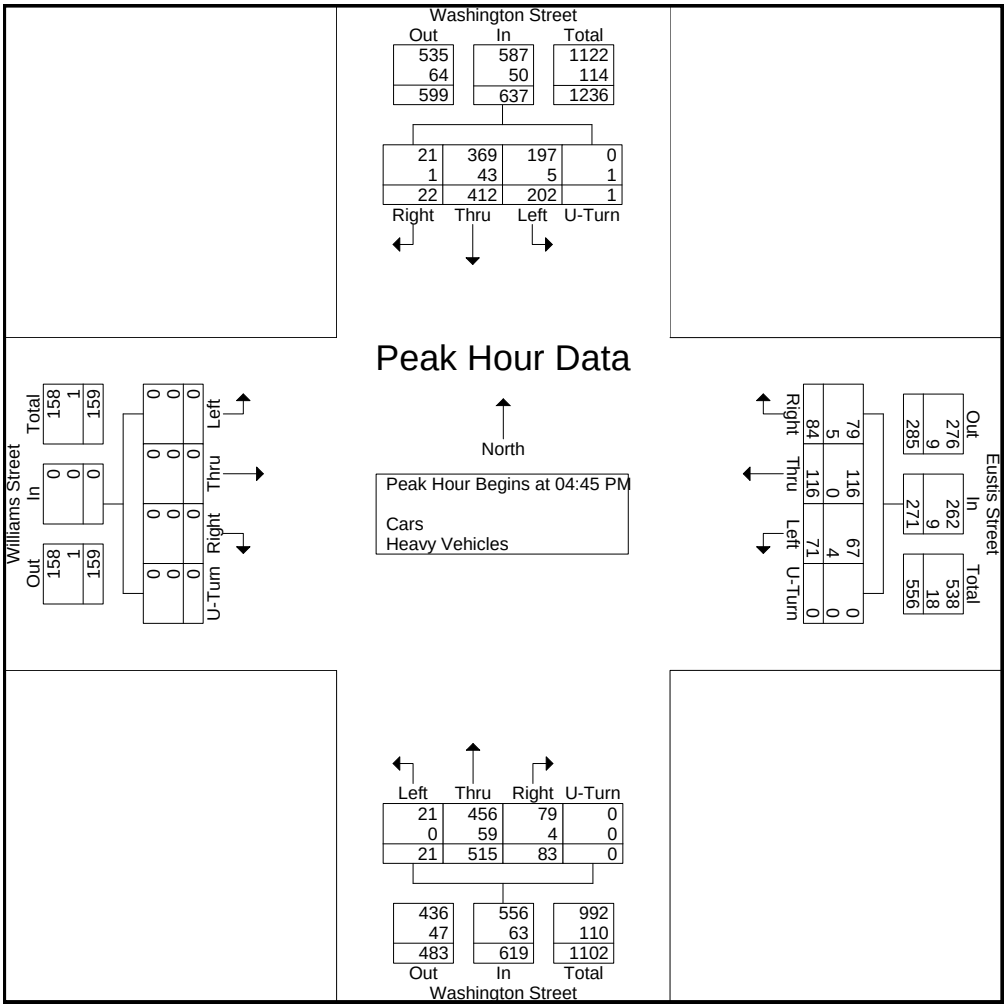
	Washington Street From North					Eustis Street From East					Washington Street From South					Williams Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**8**	**106**	**47**	**0**	**161**	**28**	21	14	0	63	21	129	**6**	0	156	0	0	0	0	0	380
05:00 PM	2	106	**60**					**21**		**75**	15	127	4	0	146	0	0	0	0	0	389
05:15 PM	7	**116**	48	0	**171**	21	**37**					**133**									**404**
05:30 PM	5	84	47	**1**							**27**				**159**	0	0	0	0	0	354
Total Volume	22	412	202	1	637	84	116	71	0	271	83	515	21	0	619	0	0	0	0	0	1527
% App. Total	3.5	64.7	31.7	0.2		31	42.8	26.2	0		13.4	83.2	3.4	0		0	0	0	0		
PHF	.688	.888	.842	.250	.931	.750	.784	.845	.000	.903	.769	.968	.875	.000	.973	.000	.000	.000	.000	.000	.945
Cars	21	369	197	0	587	79	116	67	0	262	79	456	21	0	556	0	0	0	0	0	1405
% Cars	95.5	89.6	97.5	0	92.2	94.0	100	94.4	0	96.7	95.2	88.5	100	0	89.8	0	0	0	0	0	92.0
Heavy Vehicles	1	43	5	1	50	5	0	4	0	9	4	59	0	0	63	0	0	0	0	0	122
% Heavy Vehicles	4.5	10.4	2.5	100	7.8	6.0	0	5.6	0	3.3	4.8	11.5	0	0	10.2	0	0	0	0	0	8.0



N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 122951 B
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	76	0	0	0	0	17	0	0	1	0	0	0	0	0	0	95
07:15 AM	1	57	0	0	0	1	16	0	0	0	0	0	0	0	0	0	75
07:30 AM	0	67	0	0	0	0	8	0	0	0	0	0	0	0	0	0	75
07:45 AM	0	65	0	0	0	0	27	0	0	0	0	0	0	0	0	0	92
Total	2	265	0	0	0	1	68	0	0	1	0	0	0	0	0	0	337
08:00 AM	0	79	0	1	0	0	25	0	0	0	0	0	0	0	0	0	105
08:15 AM	0	74	0	0	0	2	19	0	0	0	0	0	0	0	0	0	95
08:30 AM	1	79	0	0	0	1	28	0	0	0	0	0	0	0	0	0	109
08:45 AM	2	86	0	0	0	1	19	0	0	0	0	0	0	0	0	0	108
Total	3	318	0	1	0	4	91	0	0	0	0	0	0	0	0	0	417
Grand Total	5	583	0	1	0	5	159	0	0	1	0	0	0	0	0	0	754
Apprch %	0.8	99	0	0.2	0	3	97	0	0	100	0	0	0	0	0	0	
Total %	0.7	77.3	0	0.1	0	0.7	21.1	0	0	0.1	0	0	0	0	0	0	
Cars	5	533	0	0	0	5	153	0	0	1	0	0	0	0	0	0	697
% Cars	100	91.4	0	0	0	100	96.2	0	0	100	0	0	0	0	0	0	92.4
Heavy Vehicles	0	50	0	1	0	0	6	0	0	0	0	0	0	0	0	0	57
% Heavy Vehicles	0	8.6	0	100	0	0	3.8	0	0	0	0	0	0	0	0	0	7.6

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	79	0	**1**	**80**	**0**	**0**	**25**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**105**
08:15 AM	**0**	**74**	**0**	**0**	**74**	**0**	**2**	**19**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**95**
08:30 AM	**1**	**79**	**0**	**0**	**80**	**0**	**1**	**28**	**0**	**29**	0	0	0	0	0	0	0	0	0	0	**109**
08:45 AM	**2**	**86**	0	0	**88**	0	1	19	0	20	0	0	0	0	0	0	0	0	0	0	108
Total Volume	3	318	0	1	322	0	4	91	0	95	0	0	0	0	0	0	0	0	0	0	417
% App. Total	0.9	98.8	0	0.3		0	4.2	95.8	0		0	0	0	0		0	0	0	0		
PHF	.375	.924	.000	.250	.915	.000	.500	.813	.000	.819	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.956
Cars	3	291	0	0	294	0	4	88	0	92	0	0	0	0	0	0	0	0	0	0	386
% Cars	100	91.5	0	0	91.3	0	100	96.7	0	96.8	0	0	0	0	0	0	0	0	0	0	92.6
Heavy Vehicles	0	27	0	1	28	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	31
% Heavy Vehicles	0	8.5	0	100	8.7	0	0	3.3	0	3.2	0	0	0	0	0	0	0	0	0	0	7.4

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 B
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	1	71	0	0	0	0	17	0	0	1	0	0	0	0	0	0	90
07:15 AM	1	51	0	0	0	1	14	0	0	0	0	0	0	0	0	0	67
07:30 AM	0	59	0	0	0	0	7	0	0	0	0	0	0	0	0	0	66
07:45 AM	0	61	0	0	0	0	27	0	0	0	0	0	0	0	0	0	88
Total	2	242	0	0	0	1	65	0	0	1	0	0	0	0	0	0	311
08:00 AM	0	70	0	0	0	0	24	0	0	0	0	0	0	0	0	0	94
08:15 AM	0	69	0	0	0	2	19	0	0	0	0	0	0	0	0	0	90
08:30 AM	1	73	0	0	0	1	27	0	0	0	0	0	0	0	0	0	102
08:45 AM	2	79	0	0	0	1	18	0	0	0	0	0	0	0	0	0	100
Total	3	291	0	0	0	4	88	0	0	0	0	0	0	0	0	0	386
Grand Total	5	533	0	0	0	5	153	0	0	1	0	0	0	0	0	0	697
Apprch %	0.9	99.1	0	0	0	3.2	96.8	0	0	100	0	0	0	0	0	0	
Total %	0.7	76.5	0	0	0	0.7	22	0	0	0.1	0	0	0	0	0	0	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	70	0	0	70	0	0	24	0	24	0	0	0	0	0	0	0	0	0	0	94
08:15 AM	0	69	0	0	69	0	**2**	**19**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**90**
08:30 AM	**1**	**73**	**0**	**0**	**74**	**0**	**1**	**27**	**0**	**28**	0	0	0	0	0	0	0	0	0	0	**102**
08:45 AM	**2**	**79**	0	0	**81**	0	1	18	0	19	0	0	0	0	0	0	0	0	0	0	100
Total Volume	3	291	0	0	294	0	4	88	0	92	0	0	0	0	0	0	0	0	0	0	386
% App. Total	1	99	0	0		0	4.3	95.7	0		0	0	0	0		0	0	0	0		
PHF	.375	.921	.000	.000	.907	.000	.500	.815	.000	.821	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.946

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 B
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Heavy Vehicles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
07:15 AM	0	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	8
07:30 AM	0	8	0	0	0	0	1	0	0	0	0	0	0	0	0	0	9
07:45 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	23	0	0	0	0	3	0	0	0	0	0	0	0	0	0	26
08:00 AM	0	9	0	1	0	0	1	0	0	0	0	0	0	0	0	0	11
08:15 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
08:30 AM	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7
08:45 AM	0	7	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8
Total	0	27	0	1	0	0	3	0	0	0	0	0	0	0	0	0	31
Grand Total	0	50	0	1	0	0	6	0	0	0	0	0	0	0	0	0	57
Apprch %	0	98	0	2	0	0	100	0	0	0	0	0	0	0	0	0	
Total %	0	87.7	0	1.8	0	0	10.5	0	0	0	0	0	0	0	0	0	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	6	0	0	6	0	0	**2**	**0**	**2**	0	0	0	0	0	0	0	0	0	0	8
07:30 AM	0	8	0	0	8	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	9
07:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:00 AM	0	**9**	0	**1**	**10**	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	**11**
Total Volume	0	27	0	1	28	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	32
% App. Total	0	96.4	0	3.6		0	0	100	0		0	0	0	0		0	0	0	0		
PHF	.000	.750	.000	.250	.700	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.727

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
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Groups Printed- Peds and Bicycles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	5	0	0	0	5	0	0	0	1	0	0	0	8	19
07:15 AM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	5	8
07:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	4
07:45 AM	0	0	0	1	0	0	0	4	0	0	0	3	0	0	0	2	10
Total	0	0	0	7	0	0	0	13	0	0	0	4	0	0	0	17	41
08:00 AM	0	1	0	5	0	0	0	7	0	0	0	4	0	0	0	2	19
08:15 AM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	6	9
08:30 AM	0	0	0	1	1	0	0	11	0	1	0	0	0	0	0	4	18
08:45 AM	0	0	0	5	0	0	0	4	0	1	0	4	0	0	0	2	16
Total	0	1	0	12	1	0	0	24	0	2	0	8	0	0	0	14	62
Grand Total	0	1	0	19	1	0	0	37	0	2	0	12	0	0	0	31	103
Apprch %	0	5	0	95	2.6	0	0	97.4	0	14.3	0	85.7	0	0	0	100	
Total %	0	1	0	18.4	1	0	0	35.9	0	1.9	0	11.7	0	0	0	30.1	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	**1**	0	**5**	**6**	0	0	0	7	7	0	0	0	**4**	**4**	**0**	**0**	**0**	**2**	**2**	**19**
08:15 AM	0	0	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0	**6**	**6**	9
08:30 AM	0	0	0	1	1	**1**	0	0	**11**	**12**	0	**1**									
08:45 AM	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**0**	**4**	**4**	**0**	**1**	**0**	**4**	**5**	0	0	0	2	2	16
Total Volume	0	1	0	12	13	1	0	0	24	25	0	2	0	8	10	0	0	0	14	14	62
% App. Total	0	7.7	0	92.3		4	0	0	96		0	20	0	80		0	0	0	100		
PHF	.000	.250	.000	.600	.542	.250	.000	.000	.545	.521	.000	.500	.000	.500	.500	.000	.000	.000	.583	.583	.816

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
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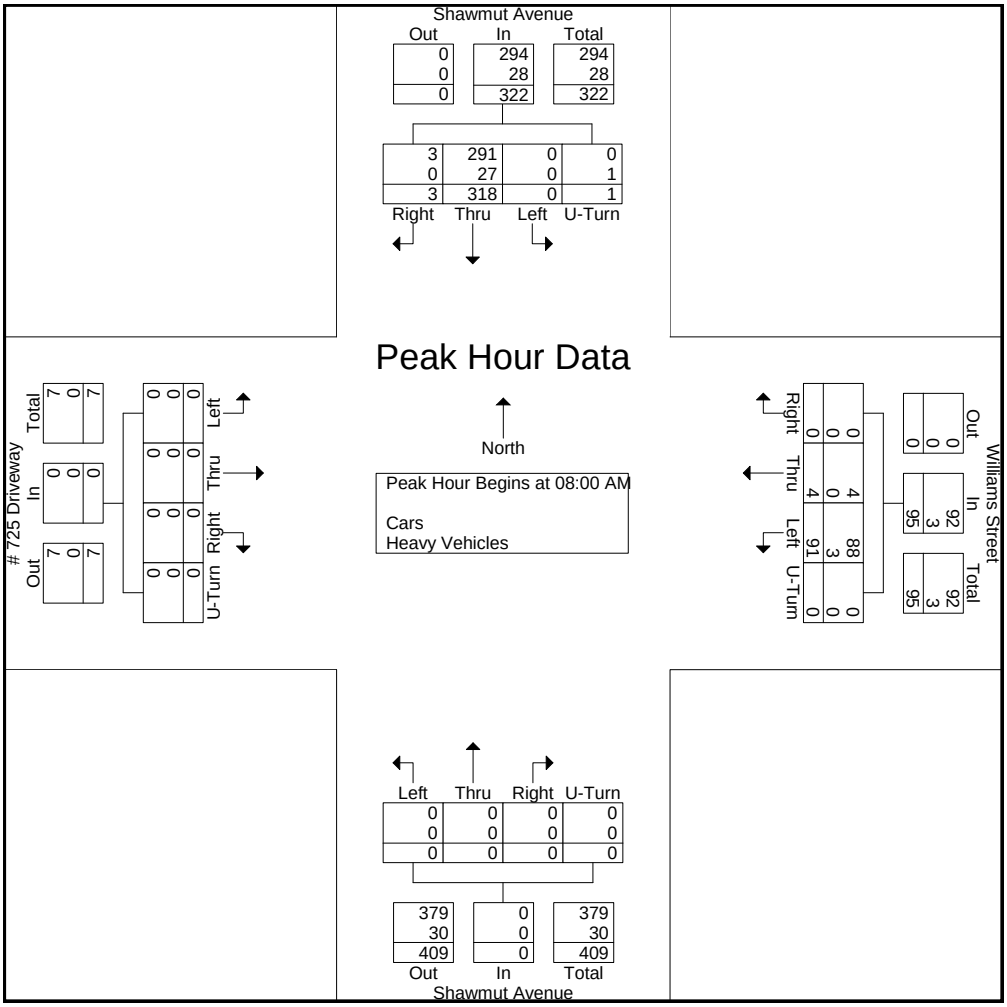
	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	79	0	**1**	**80**	**0**	**0**	**25**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**105**
08:15 AM	**0**	**74**	**0**	**0**	**74**	**0**	**2**	**19**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**95**
08:30 AM	**1**	**79**	**0**	**0**	**80**	**0**	**1**	**28**	**0**	**29**	0	0	0	0	0	0	0	0	0	0	**109**
08:45 AM	**2**	**86**	0	0	**88**	0	1	19	0	20	0	0	0	0	0	0	0	0	0	0	108
Total Volume	3	318	0	1	322	0	4	91	0	95	0	0	0	0	0	0	0	0	0	0	417
% App. Total	0.9	98.8	0	0.3		0	4.2	95.8	0		0	0	0	0		0	0	0	0		
PHF	.375	.924	.000	.250	.915	.000	.500	.813	.000	.819	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.956
Cars	3	291	0	0	294	0	4	88	0	92	0	0	0	0	0	0	0	0	0	0	386
% Cars	100	91.5	0	0	91.3	0	100	96.7	0	96.8	0	0	0	0	0	0	0	0	0	0	92.6
Heavy Vehicles	0	27	0	1	28	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	31
% Heavy Vehicles	0	8.5	0	100	8.7	0	0	3.3	0	3.2	0	0	0	0	0	0	0	0	0	0	7.4



N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 122951 BB
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	1	122	0	0	0	2	28	0	0	0	0	0	0	0	0	0	153
04:15 PM	2	134	0	0	0	0	34	0	0	0	0	0	0	0	0	0	170
04:30 PM	1	155	0	0	0	2	31	0	0	0	0	0	0	0	0	0	189
04:45 PM	2	138	0	0	0	2	43	0	0	0	0	0	0	0	0	0	185
Total	6	549	0	0	0	6	136	0	0	0	0	0	0	0	0	0	697
05:00 PM	1	181	0	0	0	1	47	0	0	0	0	0	0	0	0	0	230
05:15 PM	2	178	0	0	0	1	68	0	0	0	0	0	0	0	0	0	249
05:30 PM	0	143	0	0	0	1	30	0	0	0	0	0	0	0	0	0	174
05:45 PM	1	108	0	0	0	1	35	0	0	0	0	0	0	0	0	0	145
Total	4	610	0	0	0	4	180	0	0	0	0	0	0	0	0	0	798
Grand Total	10	1159	0	0	0	10	316	0	0	0	0	0	0	0	0	0	1495
Apprch %	0.9	99.1	0	0	0	3.1	96.9	0	0	0	0	0	0	0	0	0	
Total %	0.7	77.5	0	0	0	0.7	21.1	0	0	0	0	0	0	0	0	0	
Cars	10	1131	0	0	0	10	313	0	0	0	0	0	0	0	0	0	1464
% Cars	100	97.6	0	0	0	100	99.1	0	0	0	0	0	0	0	0	0	97.9
Heavy Vehicles	0	28	0	0	0	0	3	0	0	0	0	0	0	0	0	0	31
% Heavy Vehicles	0	2.4	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0	2.1

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	155	0	0	156	0	**2**	**31**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**189**
04:45 PM	**2**	**138**	**0**	**0**	**140**	**0**	**2**	**43**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**185**
05:00 PM	**1**	**181**	0	0	**182**	0	1	47	0	48	0	0	0	0	0	0	0	0	0	0	230
05:15 PM	2	178	0	0	180	0	1	**68**		**69**	0	0	0	0	0	0	0	0	0	0	**249**
Total Volume	6	652	0	0	658	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	853
% App. Total	0.9	99.1	0	0		0	3.1	96.9	0		0	0	0	0		0	0	0	0		
PHF	.750	.901	.000	.000	.904	.000	.750	.695	.000	.707	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.856
Cars	6	636	0	0	642	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	837
% Cars	100	97.5	0	0	97.6	0	100	100	0	100	0	0	0	0	0	0	0	0	0	0	98.1
Heavy Vehicles	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
% Heavy Vehicles	0	2.5	0	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 BB
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	1	120	0	0	0	2	28	0	0	0	0	0	0	0	0	0	151
04:15 PM	2	129	0	0	0	0	32	0	0	0	0	0	0	0	0	0	163
04:30 PM	1	150	0	0	0	2	31	0	0	0	0	0	0	0	0	0	184
04:45 PM	2	134	0	0	0	2	43	0	0	0	0	0	0	0	0	0	181
Total	6	533	0	0	0	6	134	0	0	0	0	0	0	0	0	0	679
05:00 PM	1	177	0	0	0	1	47	0	0	0	0	0	0	0	0	0	226
05:15 PM	2	175	0	0	0	1	68	0	0	0	0	0	0	0	0	0	246
05:30 PM	0	140	0	0	0	1	30	0	0	0	0	0	0	0	0	0	171
05:45 PM	1	106	0	0	0	1	34	0	0	0	0	0	0	0	0	0	142
Total	4	598	0	0	0	4	179	0	0	0	0	0	0	0	0	0	785
Grand Total	10	1131	0	0	0	10	313	0	0	0	0	0	0	0	0	0	1464
Apprch %	0.9	99.1	0	0	0	3.1	96.9	0	0	0	0	0	0	0	0	0	
Total %	0.7	77.3	0	0	0	0.7	21.4	0	0	0	0	0	0	0	0	0	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	150	0	0	151	0	**2**	**31**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**184**
04:45 PM	**2**	**134**	**0**	**0**	**136**	**0**	**2**	**43**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**181**
05:00 PM	**1**	**177**	0	0	**178**	0	1	47	0	48	0	0	0	0	0	0	0	0	0	0	226
05:15 PM	2	175	0	0	177	0	1	**68**		**69**	0	0	0	0	0	0	0	0	0	0	**246**
Total Volume	6	636	0	0	642	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	837
% App. Total	0.9	99.1	0	0		0	3.1	96.9	0		0	0	0	0		0	0	0	0		
PHF	.750	.898	.000	.000	.902	.000	.750	.695	.000	.707	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.851

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 BB
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Heavy Vehicles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	5	0	0	0	0	2	0	0	0	0	0	0	0	0	0	7
04:30 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:45 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	16	0	0	0	0	2	0	0	0	0	0	0	0	0	0	18
05:00 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Total	0	12	0	0	0	0	1	0	0	0	0	0	0	0	0	0	13
Grand Total	0	28	0	0	0	0	3	0	0	0	0	0	0	0	0	0	31
Apprch %	0	100	0	0	0	0	100	0	0	0	0	0	0	0	0	0	
Total %	0	90.3	0	0	0	0	9.7	0	0	0	0	0	0	0	0	0	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	**5**	0	0	**5**	0	0	**2**	**0**	**2**	0	0	0	0	0	0	0	0	0	0	**7**
04:30 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:45 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00 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	18	0	0	18	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	20
% App. Total	0	100	0	0		0	0	100	0		0	0	0	0		0	0	0	0		
PHF	.000	.900	.000	.000	.900	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.714

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 BB
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Peds and Bicycles

	Shawmut Avenue From North				Williams Street From East				Shawmut Avenue From South				# 725 Driveway From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	8	0	0	1	18	0	0	0	9	0	0	0	11	47
04:15 PM	0	2	0	14	0	0	0	8	0	1	0	2	0	0	0	6	33
04:30 PM	0	1	0	6	0	0	0	12	0	0	0	4	0	0	0	5	28
04:45 PM	0	1	0	5	0	0	0	6	0	0	0	4	0	0	0	6	22
Total	0	4	0	33	0	0	1	44	0	1	0	19	0	0	0	28	130
05:00 PM	0	3	0	10	0	0	1	7	0	6	0	1	0	0	0	6	34
05:15 PM	0	3	0	10	0	0	0	12	0	1	0	4	0	0	0	3	33
05:30 PM	0	0	0	4	0	0	0	13	0	1	0	5	0	0	0	5	28
05:45 PM	0	2	0	3	0	0	0	1	0	0	0	2	0	0	0	9	17
Total	0	8	0	27	0	0	1	33	0	8	0	12	0	0	0	23	112
Grand Total	0	12	0	60	0	0	2	77	0	9	0	31	0	0	0	51	242
Apprch %	0	16.7	0	83.3	0	0	2.5	97.5	0	22.5	0	77.5	0	0	0	100	
Total %	0	5	0	24.8	0	0	0.8	31.8	0	3.7	0	12.8	0	0	0	21.1	

	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	8	8	0	0	**1**	**18**	**19**	0	0	0	**9**	**9**	0	0	0	**11**	**11**	**47**
04:15 PM	0	**2**	0	**14**	**16**	0	0	0	8	8	0	**1**									
04:30 PM	**0**	**1**	**0**	**6**	**7**	**0**	**0**	**0**	**12**	**12**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**5**	**5**	**28**
04:45 PM	**0**	**1**	**0**	**5**	**6**	**0**	**0**	**0**	**6**	**6**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**6**	**6**	**22**
Total Volume	0	4	0	33	37	0	0	1	44	45	0	1	0	19	20	0	0	0	28	28	130
% App. Total	0	10.8	0	89.2		0	0	2.2	97.8		0	5	0	95		0	0	0	100		
PHF	.000	.500	.000	.589	.578	.000	.000	.250	.611	.592	.000	.250	.000	.528	.556	.000	.000	.000	.636	.636	.691

N/S: Shawmut Avenue
E/W: Williams Street/# 725 Driveway
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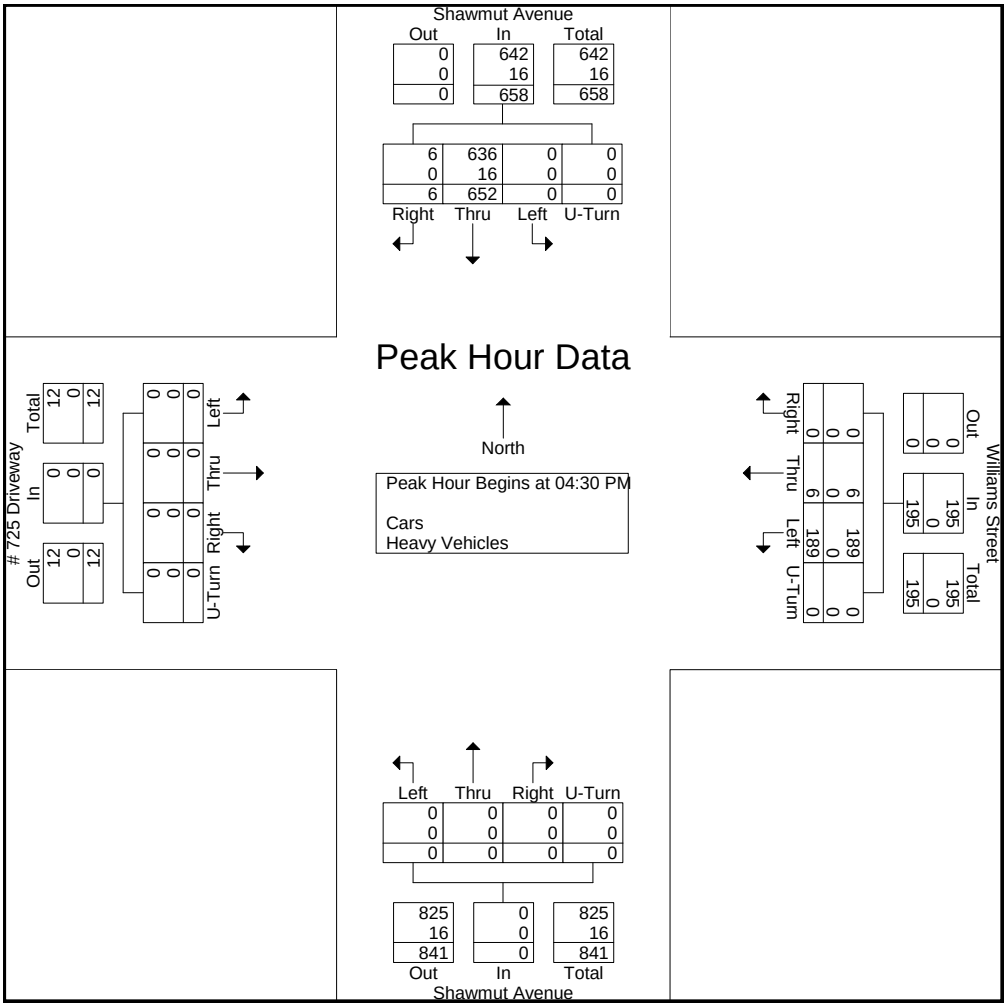
	Shawmut Avenue From North					Williams Street From East					Shawmut Avenue From South					# 725 Driveway From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	155	0	0	156	0	**2**	**31**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**189**
04:45 PM	**2**	**138**	**0**	**0**	**140**	**0**	**2**	**43**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**185**
05:00 PM	**1**	**181**	0	0	**182**	0	1	47	0	48	0	0	0	0	0	0	0	0	0	0	230
05:15 PM	2	178	0	0	180	0	1	**68**		**69**	0	0	0	0	0	0	0	0	0	0	**249**
Total Volume	6	652	0	0	658	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	853
% App. Total	0.9	99.1	0	0		0	3.1	96.9	0		0	0	0	0		0	0	0	0		
PHF	.750	.901	.000	.000	.904	.000	.750	.695	.000	.707	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.856
Cars	6	636	0	0	642	0	6	189	0	195	0	0	0	0	0	0	0	0	0	0	837
% Cars	100	97.5	0	0	97.6	0	100	100	0	100	0	0	0	0	0	0	0	0	0	0	98.1
Heavy Vehicles	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
% Heavy Vehicles	0	2.5	0	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9



N/S: Washington Street
W: Tropical Foods Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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File Name : 122951 C
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	4	84	0	129	2	0	2	2	0	223
07:15 AM	5	90	0	144	4	1	0	0	0	244
07:30 AM	3	96	0	145	7	0	4	2	0	257
07:45 AM	12	92	1	146	7	0	3	4	0	265
Total	24	362	1	564	20	1	9	8	0	989
08:00 AM	4	74	0	157	5	0	3	9	0	252
08:15 AM	3	95	0	144	2	0	5	2	0	251
08:30 AM	6	96	0	145	7	0	4	3	0	261
08:45 AM	5	92	0	127	2	0	5	10	0	241
Total	18	357	0	573	16	0	17	24	0	1005
Grand Total	42	719	1	1137	36	1	26	32	0	1994
Apprch %	5.5	94.4	0.1	96.8	3.1	0.1	44.8	55.2	0	
Total %	2.1	36.1	0.1	57	1.8	0.1	1.3	1.6	0	
Cars	38	601	1	992	34	1	22	31	0	1720
% Cars	90.5	83.6	100	87.2	94.4	100	84.6	96.9	0	86.3
Heavy Vehicles	4	118	0	145	2	0	4	1	0	274
% Heavy Vehicles	9.5	16.4	0	12.8	5.6	0	15.4	3.1	0	13.7

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**12**	92	**1**	**105**	146	**7**	0	153	3	4	0	7	**265**
08:00 AM	4	74	0	78	**157**	5	0	**162**	3	**9**		**12**	252
08:15 AM	3	95	0	98	144	2	0	146	**5**	2	0	7	251
08:30 AM	6	**96**											
Total Volume	**25**	**357**	**1**	**383**	**592**	**21**	**0**	**613**	**15**	**18**	**0**	**33**	**1029**
% App. Total	**6.5**	**93.2**	**0.3**		**96.6**	**3.4**	**0**		**45.5**	**54.5**	**0**		
PHF	**.521**	**.930**	**.250**	**.912**	**.943**	**.750**	**.000**	**.946**	**.750**	**.500**	**.000**	**.688**	**.971**
Cars	**23**	**301**	**1**	**325**	**519**	**19**	**0**	**538**	**13**	**18**	**0**	**31**	**894**
% Cars	**92.0**	**84.3**	**100**	**84.9**	**87.7**	**90.5**	**0**	**87.8**	**86.7**	**100**	**0**	**93.9**	**86.9**
Heavy Vehicles	**2**	**56**	**0**	**58**	**73**	**2**	**0**	**75**	**2**	**0**	**0**	**2**	**135**
% Heavy Vehicles	8.0	15.7	0	15.1	12.3	9.5	0	12.2	13.3	0	0	6.1	13.1

N/S: Washington Street
W: Tropical Foods Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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Groups Printed- Cars

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	3	67	0	107	2	0	1	2	0	182
07:15 AM	5	77	0	130	4	1	0	0	0	217
07:30 AM	2	82	0	128	7	0	3	2	0	224
07:45 AM	11	75	1	127	7	0	2	4	0	227
Total	21	301	1	492	20	1	6	8	0	850
08:00 AM	3	59	0	136	4	0	3	9	0	214
08:15 AM	3	83	0	127	2	0	5	2	0	222
08:30 AM	6	84	0	129	6	0	3	3	0	231
08:45 AM	5	74	0	108	2	0	5	9	0	203
Total	17	300	0	500	14	0	16	23	0	870
Grand Total	38	601	1	992	34	1	22	31	0	1720
Apprch %	5.9	93.9	0.2	96.6	3.3	0.1	41.5	58.5	0	
Total %	2.2	34.9	0.1	57.7	2	0.1	1.3	1.8	0	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**11**	75	**1**	**87**	**127**	**7**	0	134	2	4	0	6	227
08:00 AM	3	59	0	62	**136**	4	0	**140**	3	**9**		**12**	214
08:15 AM	3	83	0	86	127	2	0	129	**5**	2	0	7	222
08:30 AM	6	**84**		**90**	129	6	0	135	3	3	0	6	**231**
Total Volume	23	301	1	325	519	19	0	538	13	18	0	31	894
% App. Total	7.1	92.6	0.3		96.5	3.5	0		41.9	58.1	0		
PHF	.523	.896	.250	.903	.954	.679	.000	.961	.650	.500	.000	.646	.968

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Groups Printed- Heavy Vehicles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	1	17	0	22	0	0	1	0	0	41
07:15 AM	0	13	0	14	0	0	0	0	0	27
07:30 AM	1	14	0	17	0	0	1	0	0	33
07:45 AM	1	17	0	19	0	0	1	0	0	38
Total	3	61	0	72	0	0	3	0	0	139
08:00 AM	1	15	0	21	1	0	0	0	0	38
08:15 AM	0	12	0	17	0	0	0	0	0	29
08:30 AM	0	12	0	16	1	0	1	0	0	30
08:45 AM	0	18	0	19	0	0	0	1	0	38
Total	1	57	0	73	2	0	1	1	0	135
Grand Total	4	118	0	145	2	0	4	1	0	274
Apprch %	3.3	96.7	0	98.6	1.4	0	80	20	0	
Total %	1.5	43.1	0	52.9	0.7	0	1.5	0.4	0	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	**1**	**17**	**0**	**18**	**22**	0	0	**22**	**1**	0	0	**1**	**41**
07:15 AM	0	13	0	13	14	0	0	14	0	0	0	0	27
07:30 AM	1	14	0	15	17	0	0	17	1	0	0	1	33
07:45 AM	1	17	0	18	19	0	0	19	1	0	0	1	38
Total Volume	3	61	0	64	72	0	0	72	3	0	0	3	139
% App. Total	4.7	95.3	0		100	0	0		100	0	0		
PHF	.750	.897	.000	.889	.818	.000	.000	.818	.750	.000	.000	.750	.848

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Groups Printed- Peds and Bicycles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
07:00 AM	0	1	0	2	0	1	0	0	4	8
07:15 AM	0	1	3	2	0	1	0	0	16	23
07:30 AM	0	2	2	1	0	3	0	0	21	29
07:45 AM	1	3	0	7	0	4	0	0	14	29
Total	1	7	5	12	0	9	0	0	55	89
08:00 AM	0	0	3	6	0	0	0	1	7	17
08:15 AM	0	0	0	0	0	0	0	0	24	24
08:30 AM	0	1	1	7	0	4	0	0	16	29
08:45 AM	0	1	1	5	0	4	0	0	25	36
Total	0	2	5	18	0	8	0	1	72	106
Grand Total	1	9	10	30	0	17	0	1	127	195
Apprch %	5	45	50	63.8	0	36.2	0	0.8	99.2	
Total %	0.5	4.6	5.1	15.4	0	8.7	0	0.5	65.1	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	**3**	**3**	6	0	0	6	0	**1**	**7**	**8**	**17**
08:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	**24**	**24**
08:30 AM	**0**	**1**	**1**	**2**	**7**	0	**4**	**11**	0	0	16	16	29
08:45 AM	0	1	1	2	5	0	4	9	0	0	**25**	**25**	**36**
Total Volume	0	2	5	7	18	0	8	26	0	1	72	73	106
% App. Total	0	28.6	71.4		69.2	0	30.8		0	1.4	98.6		
PHF	.000	.500	.417	.583	.643	.000	.500	.591	.000	.250	.720	.730	.736

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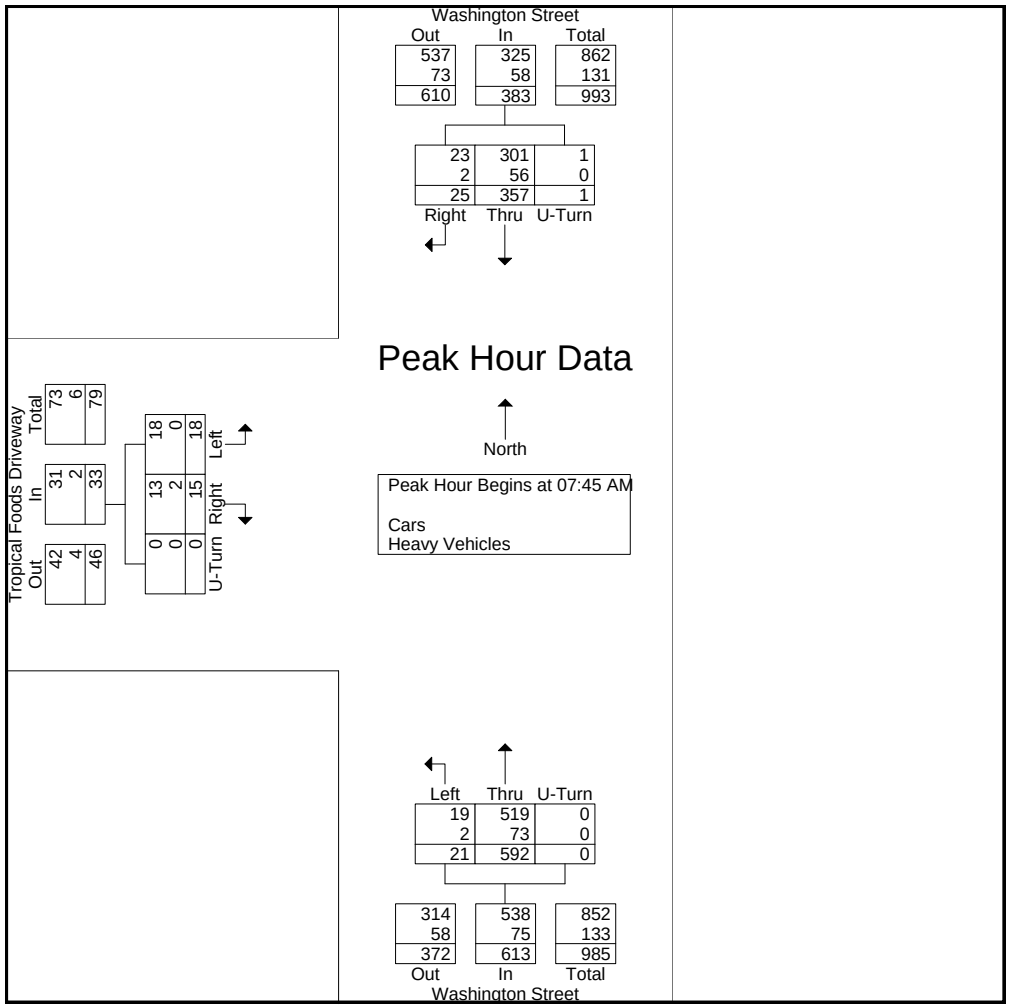
	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**12**	92	**1**	**105**	146	**7**	0	153	3	4	0	7	**265**
08:00 AM	4	74	0	78	**157**	5	0	**162**	3	**9**		**12**	252
08:15 AM	3	95	0	98	144	2	0	146	**5**	2	0	7	251
08:30 AM	6	**96**											
Total Volume	**25**	**357**	**1**	**383**	**592**	**21**	**0**	**613**	**15**	**18**	**0**	**33**	**1029**
% App. Total	**6.5**	**93.2**	**0.3**		**96.6**	**3.4**	**0**		**45.5**	**54.5**	**0**		
PHF	**.521**	**.930**	**.250**	**.912**	**.943**	**.750**	**.000**	**.946**	**.750**	**.500**	**.000**	**.688**	**.971**
Cars	**23**	**301**	**1**	**325**	**519**	**19**	**0**	**538**	**13**	**18**	**0**	**31**	**894**
% Cars	**92.0**	**84.3**	**100**	**84.9**	**87.7**	**90.5**	**0**	**87.8**	**86.7**	**100**	**0**	**93.9**	**86.9**
Heavy Vehicles	**2**	**56**	**0**	**58**	**73**	**2**	**0**	**75**	**2**	**0**	**0**	**2**	**135**
% Heavy Vehicles	8.0	15.7	0	15.1	12.3	9.5	0	12.2	13.3	0	0	6.1	13.1



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City, State: Roxbury, MA
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Groups Printed- Cars - Heavy Vehicles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	10	88	0	129	8	0	7	5	0	247
04:15 PM	13	125	0	130	25	0	8	8	0	309
04:30 PM	15	141	0	141	13	0	6	10	0	326
04:45 PM	10	153	0	152	15	0	10	12	0	352
Total	48	507	0	552	61	0	31	35	0	1234
05:00 PM	15	151	0	140	9	0	13	11	4	343
05:15 PM	13	168	0	149	14	0	12	12	0	368
05:30 PM	13	132	0	136	17	0	11	2	0	311
05:45 PM	5	122	0	121	10	0	15	8	0	281
Total	46	573	0	546	50	0	51	33	4	1303
Grand Total	94	1080	0	1098	111	0	82	68	4	2537
Apprch %	8	92	0	90.8	9.2	0	53.2	44.2	2.6	
Total %	3.7	42.6	0	43.3	4.4	0	3.2	2.7	0.2	
Cars	94	994	0	956	111	0	82	67	4	2308
% Cars	100	92	0	87.1	100	0	100	98.5	100	91
Heavy Vehicles	0	86	0	142	0	0	0	1	0	229
% Heavy Vehicles	0	8	0	12.9	0	0	0	1.5	0	9

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	**15**	141	0	156	141	13	0	154	6	10	0	16	326
04:45 PM	10	153	0	163	**152**	**15**	0	**167**	10	**12**			
05:00 PM	**15**	**151**	**0**	**166**	**140**	**9**	**0**	**149**	**13**	11	**4**	**28**	343
05:15 PM	13	**168**		**181**	149	14	0	163	12	12	0	24	**368**
Total Volume	53	613	0	666	582	51	0	633	41	45	4	90	1389
% App. Total	8	92	0		91.9	8.1	0		45.6	50	4.4		
PHF	.883	.912	.000	.920	.957	.850	.000	.948	.788	.938	.250	.804	.944
Cars	53	561	0	614	508	51	0	559	41	45	4	90	1263
% Cars	100	91.5	0	92.2	87.3	100	0	88.3	100	100	100	100	90.9
Heavy Vehicles	0	52	0	52	74	0	0	74	0	0	0	0	126
% Heavy Vehicles	0	8.5	0	7.8	12.7	0	0	11.7	0	0	0	0	9.1

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Groups Printed- Cars

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	10	80	0	112	8	0	7	5	0	222
04:15 PM	13	117	0	108	25	0	8	7	0	278
04:30 PM	15	128	0	125	13	0	6	10	0	297
04:45 PM	10	133	0	132	15	0	10	12	0	312
Total	48	458	0	477	61	0	31	34	0	1109
05:00 PM	15	144	0	115	9	0	13	11	4	311
05:15 PM	13	156	0	136	14	0	12	12	0	343
05:30 PM	13	119	0	121	17	0	11	2	0	283
05:45 PM	5	117	0	107	10	0	15	8	0	262
Total	46	536	0	479	50	0	51	33	4	1199
Grand Total	94	994	0	956	111	0	82	67	4	2308
Apprch %	8.6	91.4	0	89.6	10.4	0	53.6	43.8	2.6	
Total %	4.1	43.1	0	41.4	4.8	0	3.6	2.9	0.2	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	**15**	128	0	143	125	13	0	138	6	10	0	16	297
04:45 PM	10	133	0	143	132	**15**	0	147	10	**12**			
05:00 PM	**15**	**144**	**0**	**159**	**115**	**9**	**0**	**124**	**13**	11	**4**	**28**	311
05:15 PM	13	**156**		**169**	**136**	14	0	**150**	12	12	0	24	**343**
Total Volume	53	561	0	614	508	51	0	559	41	45	4	90	1263
% App. Total	8.6	91.4	0		90.9	9.1	0		45.6	50	4.4		
PHF	.883	.899	.000	.908	.934	.850	.000	.932	.788	.938	.250	.804	.921

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Groups Printed- Heavy Vehicles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	0	8	0	17	0	0	0	0	0	25
04:15 PM	0	8	0	22	0	0	0	1	0	31
04:30 PM	0	13	0	16	0	0	0	0	0	29
04:45 PM	0	20	0	20	0	0	0	0	0	40
Total	0	49	0	75	0	0	0	1	0	125
05:00 PM	0	7	0	25	0	0	0	0	0	32
05:15 PM	0	12	0	13	0	0	0	0	0	25
05:30 PM	0	13	0	15	0	0	0	0	0	28
05:45 PM	0	5	0	14	0	0	0	0	0	19
Total	0	37	0	67	0	0	0	0	0	104
Grand Total	0	86	0	142	0	0	0	1	0	229
Apprch %	0	100	0	100	0	0	0	100	0	
Total %	0	37.6	0	62	0	0	0	0.4	0	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	8	0	8	22	0	0	22	0	**1**	**0**	**1**	31
04:30 PM	0	13	0	13	16	0	0	16	0	0	0	0	29
04:45 PM	0	**20**		**20**	20	0	0	20	0	0	0	0	**40**
05:00 PM	0	7	0	7	**25**	0	0	**25**	0	0	0	0	32
Total Volume	0	48	0	48	83	0	0	83	0	1	0	1	132
% App. Total	0	100	0		100	0	0		0	100	0		
PHF	.000	.600	.000	.600	.830	.000	.000	.830	.000	.250	.000	.250	.825

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Groups Printed- Peds and Bicycles

	Washington Street From North			Washington Street From South			Tropical Foods Driveway From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
04:00 PM	0	0	0	2	0	2	0	0	28	32
04:15 PM	0	2	0	3	0	0	0	0	33	38
04:30 PM	0	4	2	0	0	0	0	0	44	50
04:45 PM	0	8	2	2	0	1	0	1	40	54
Total	0	14	4	7	0	3	0	1	145	174
05:00 PM	0	3	3	2	0	2	1	0	31	42
05:15 PM	0	2	1	1	0	0	0	0	52	56
05:30 PM	0	1	1	1	0	7	0	0	38	48
05:45 PM	0	4	2	2	0	3	0	0	49	60
Total	0	10	7	6	0	12	1	0	170	206
Grand Total	0	24	11	13	0	15	1	1	315	380
Apprch %	0	68.6	31.4	46.4	0	53.6	0.3	0.3	99.4	
Total %	0	6.3	2.9	3.4	0	3.9	0.3	0.3	82.9	

	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	3	**3**	**6**	**2**	0	2	4	**1**	0	31	32	42
05:15 PM	0	2	1	3	1	0	0	1	0	0	**52**	**52**	56
05:30 PM	0	1	1	2	1	0	**7**	**8**	0	0	38	38	48
05:45 PM	0	**4**											**60**
Total Volume	0	10	7	17	6	0	12	18	1	0	170	171	206
% App. Total	0	58.8	41.2		33.3	0	66.7		0.6	0	99.4		
PHF	.000	.625	.583	.708	.750	.000	.429	.563	.250	.000	.817	.822	.858

N/S: Washington Street
W: Tropical Foods Driveway
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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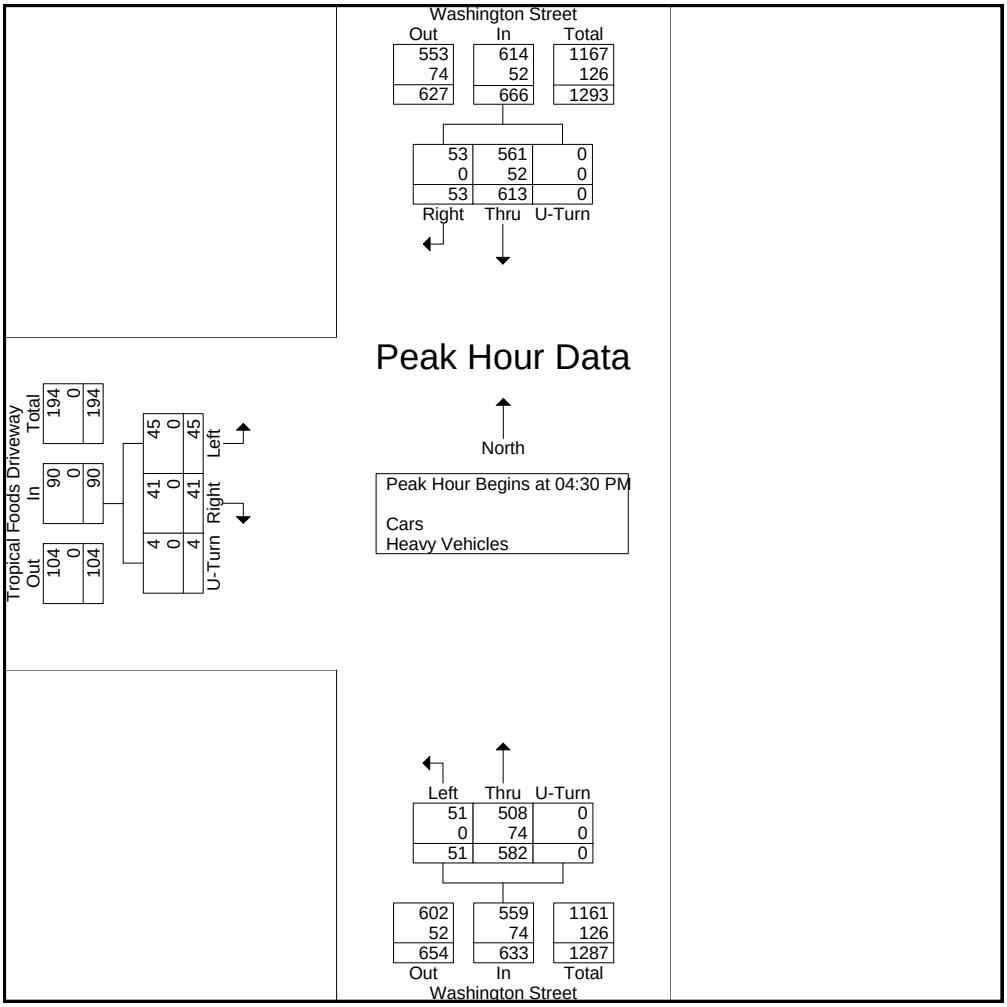
	Washington Street From North				Washington Street From South				Tropical Foods Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	**15**	141	0	156	141	13	0	154	6	10	0	16	326
04:45 PM	10	153	0	163	**152**	**15**	0	**167**	10	**12**			
05:00 PM	**15**	**151**	**0**	**166**	**140**	**9**	**0**	**149**	**13**	11	**4**	**28**	343
05:15 PM	13	**168**		**181**	149	14	0	163	12	12	0	24	**368**
Total Volume	53	613	0	666	582	51	0	633	41	45	4	90	1389
% App. Total	8	92	0		91.9	8.1	0		45.6	50	4.4		
PHF	.883	.912	.000	.920	.957	.850	.000	.948	.788	.938	.250	.804	.944
Cars	53	561	0	614	508	51	0	559	41	45	4	90	1263
% Cars	100	91.5	0	92.2	87.3	100	0	88.3	100	100	100	100	90.9
Heavy Vehicles	0	52	0	52	74	0	0	74	0	0	0	0	126
% Heavy Vehicles	0	8.5	0	7.8	12.7	0	0	11.7	0	0	0	0	9.1



N: Tropical Foods Driveway
E/W: Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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Groups Printed- Cars - Heavy Vehicles

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	1	16	0	0	0	0	17
07:15 AM	1	0	0	0	16	0	0	0	0	17
07:30 AM	2	0	0	3	7	0	0	0	0	12
07:45 AM	3	0	0	0	23	0	0	0	0	26
Total	6	0	0	4	62	0	0	0	0	72
08:00 AM	1	0	0	4	25	0	0	0	0	30
08:15 AM	2	0	0	0	14	0	0	0	0	16
08:30 AM	0	0	0	2	27	0	0	0	0	29
08:45 AM	1	0	0	4	17	0	0	0	0	22
Total	4	0	0	10	83	0	0	0	0	97
Grand Total	10	0	0	14	145	0	0	0	0	169
Apprch %	100	0	0	8.8	91.2	0	0	0	0	
Total %	5.9	0	0	8.3	85.8	0	0	0	0	
Cars	9	0	0	13	141	0	0	0	0	163
% Cars	90	0	0	92.9	97.2	0	0	0	0	96.4
Heavy Vehicles	1	0	0	1	4	0	0	0	0	6
% Heavy Vehicles	10	0	0	7.1	2.8	0	0	0	0	3.6

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**3**	0	0	**3**	0	23	0	23	0	0	0	0	26
08:00 AM	1	0	0	1	**4**	25	0	**29**	0	0	0	0	**30**
08:15 AM	2	0	0	2	0	14	0	14	0	0	0	0	16
08:30 AM	0	0	0	0	2	**27**	0	29	0	0	0	0	29
Total Volume	6	0	0	6	6	89	0	95	0	0	0	0	101
% App. Total	100	0	0		6.3	93.7	0		0	0	0		
PHF	.500	.000	.000	.500	.375	.824	.000	.819	.000	.000	.000	.000	.842
Cars	6	0	0	6	6	88	0	94	0	0	0	0	100
% Cars	100	0	0	100	100	98.9	0	98.9	0	0	0	0	99.0
Heavy Vehicles	0	0	0	0	0	1	0	1	0	0	0	0	1
% Heavy Vehicles	0	0	0	0	0	1.1	0	1.1	0	0	0	0	1.0

N: Tropical Foods Driveway
E/W: Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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Groups Printed- Cars

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	1	16	0	0	0	0	17
07:15 AM	0	0	0	0	15	0	0	0	0	15
07:30 AM	2	0	0	3	6	0	0	0	0	11
07:45 AM	3	0	0	0	23	0	0	0	0	26
Total	5	0	0	4	60	0	0	0	0	69
08:00 AM	1	0	0	4	24	0	0	0	0	29
08:15 AM	2	0	0	0	14	0	0	0	0	16
08:30 AM	0	0	0	2	27	0	0	0	0	29
08:45 AM	1	0	0	3	16	0	0	0	0	20
Total	4	0	0	9	81	0	0	0	0	94
Grand Total	9	0	0	13	141	0	0	0	0	163
Apprch %	100	0	0	8.4	91.6	0	0	0	0	
Total %	5.5	0	0	8	86.5	0	0	0	0	

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**3**	0	0	**3**	0	23	0	23	0	0	0	0	26
08:00 AM	1	0	0	1	**4**	24	0	28	0	0	0	0	**29**
08:15 AM	2	0	0	2	0	14	0	14	0	0	0	0	16
08:30 AM	0	0	0	0	2	**27**	0	**29**	0	0	0	0	29
Total Volume	6	0	0	6	6	88	0	94	0	0	0	0	100
% App. Total	100	0	0		6.4	93.6	0		0	0	0		
PHF	.500	.000	.000	.500	.375	.815	.000	.810	.000	.000	.000	.000	.862

N: Tropical Foods Driveway
E/W: Williams Street
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Groups Printed- Heavy Vehicles

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	1	0	0	0	0	2
07:30 AM	0	0	0	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	2	0	0	0	0	3
08:00 AM	0	0	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	1	1	0	0	0	0	2
Total	0	0	0	1	2	0	0	0	0	3
Grand Total	1	0	0	1	4	0	0	0	0	6
Apprch %	100	0	0	20	80	0	0	0	0	
Total %	16.7	0	0	16.7	66.7	0	0	0	0	

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	**1**	0	0	**1**	0	**1**	0	**1**	0	0	0	0	**2**
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	1	0	0	1	0	3	0	3	0	0	0	0	4
% App. Total	100	0	0		0	100	0		0	0	0		
PHF	.250	.000	.000	.250	.000	.750	.000	.750	.000	.000	.000	.000	.500

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E/W: Williams Street
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Groups Printed- Peds and Bicycles

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	5	0	0	0	0	0	0	5
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	4	0	0	0	0	0	0	4
Total	0	0	10	0	0	0	0	0	0	10
08:00 AM	0	0	4	0	0	0	0	0	0	4
08:15 AM	0	0	1	0	0	0	0	0	0	1
08:30 AM	0	0	2	0	1	0	0	0	0	3
08:45 AM	0	0	7	0	0	0	0	0	0	7
Total	0	0	14	0	1	0	0	0	0	15
Grand Total	0	0	24	0	1	0	0	0	0	25
Apprch %	0	0	100	0	100	0	0	0	0	
Total %	0	0	96	0	4	0	0	0	0	

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	4	4	0	0	0	0	0	0	0	0	4
08:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	2	2	0	**1**	0	**1**	0	0	0	0	3
08:45 AM	0	0	**7**	**7**	0	0	0	0	0	0	0	0	**7**
Total Volume	0	0	14	14	0	1	0	1	0	0	0	0	15
% App. Total	0	0	100		0	100	0		0	0	0		
PHF	.000	.000	.500	.500	.000	.250	.000	.250	.000	.000	.000	.000	.536

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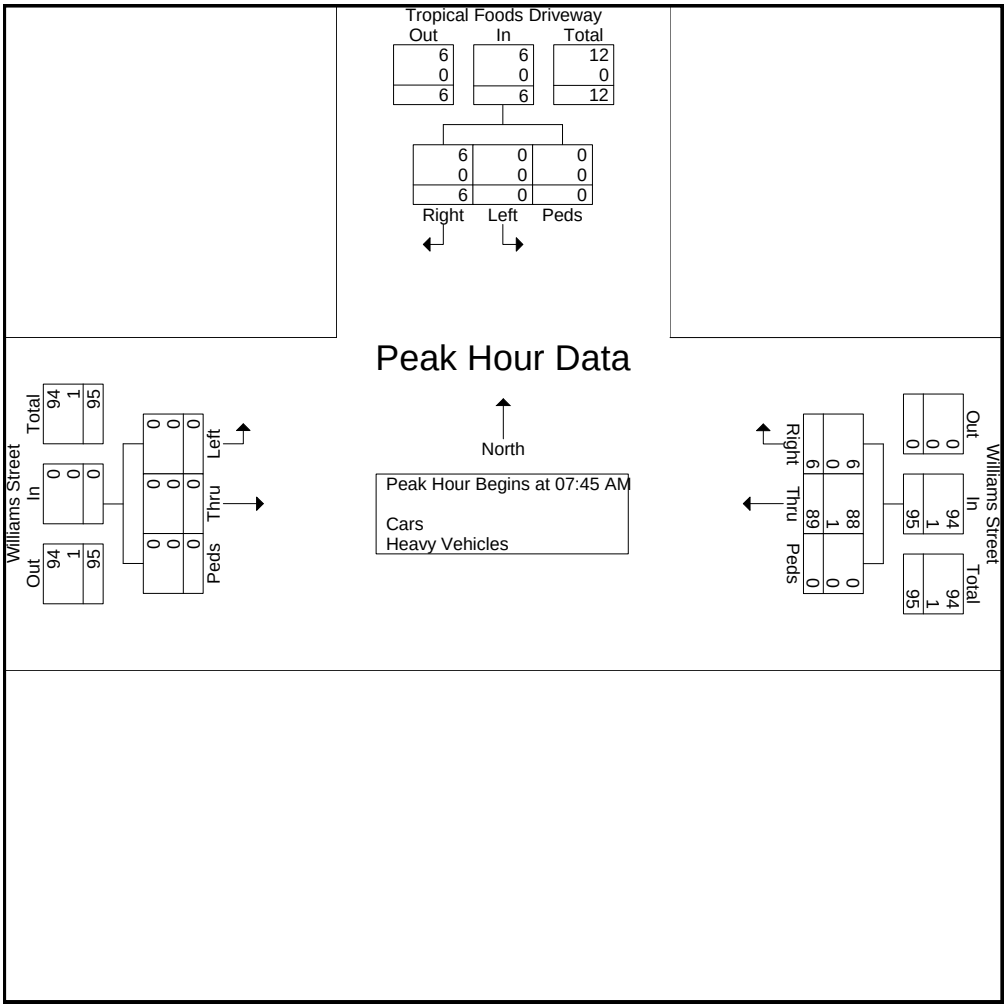
	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	**3**	0	0	**3**	0	23	0	23	0	0	0	0	26
08:00 AM	1	0	0	1	**4**	25	0	**29**	0	0	0	0	**30**
08:15 AM	2	0	0	2	0	14	0	14	0	0	0	0	16
08:30 AM	0	0	0	0	2	**27**	0	29	0	0	0	0	29
Total Volume	6	0	0	6	6	89	0	95	0	0	0	0	101
% App. Total	100	0	0		6.3	93.7	0		0	0	0		
PHF	.500	.000	.000	.500	.375	.824	.000	.819	.000	.000	.000	.000	.842
Cars	6	0	0	6	6	88	0	94	0	0	0	0	100
% Cars	100	0	0	100	100	98.9	0	98.9	0	0	0	0	99.0
Heavy Vehicles	0	0	0	0	0	1	0	1	0	0	0	0	1
% Heavy Vehicles	0	0	0	0	0	1.1	0	1.1	0	0	0	0	1.0



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E/W: Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

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Groups Printed- Cars - Heavy Vehicles

	Tropical Foods Driveway From North		Williams Street From East		Williams Street From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
04:00 PM	2	0	1	28	0	0	31
04:15 PM	7	0	2	25	0	0	34
04:30 PM	10	0	0	24	0	0	34
04:45 PM	6	0	0	36	0	0	42
Total	25	0	3	113	0	0	141
05:00 PM	2	0	3	44	0	0	49
05:15 PM	4	0	1	55	0	0	60
05:30 PM	2	0	0	33	0	0	35
05:45 PM	4	0	1	25	0	0	30
Total	12	0	5	157	0	0	174
Grand Total	37	0	8	270	0	0	315
Apprch %	100	0	2.9	97.1	0	0	
Total %	11.7	0	2.5	85.7	0	0	
Cars	37	0	8	264	0	0	309
% Cars	100	0	100	97.8	0	0	98.1
Heavy Vehicles	0	0	0	6	0	0	6
% Heavy Vehicles	0	0	0	2.2	0	0	1.9

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**6**	0	**6**	0	36	36	0	0	0	42
05:00 PM	2	0	2	**3**	44	47	0	0	0	49
05:15 PM	4	0	4	1	**55**	**56**	0	0	0	**60**
05:30 PM	**2**	**0**	**2**	**0**	**33**	**33**	**0**	**0**	**0**	**35**
Total Volume	**14**	**0**	**14**	**4**	**168**	**172**	**0**	**0**	**0**	**186**
% App. Total	**100**	**0**		**2.3**	**97.7**		**0**	**0**		
PHF	**.583**	**.000**	**.583**	**.333**	**.764**	**.768**	**.000**	**.000**	**.000**	**.775**
Cars	**14**	**0**	**14**	**4**	**166**	**170**	**0**	**0**	**0**	**184**
% Cars	**100**	**0**	**100**	**100**	**98.8**	**98.8**	**0**	**0**	**0**	**98.9**
Heavy Vehicles	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**2**
% Heavy Vehicles	**0**	**0**	**0**	**0**	**1.2**	**1.2**	**0**	**0**	**0**	**1.1**

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Groups Printed- Cars

	Tropical Foods Driveway From North		Williams Street From East		Williams Street From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
04:00 PM	2	0	1	28	0	0	31
04:15 PM	7	0	2	23	0	0	32
04:30 PM	10	0	0	23	0	0	33
04:45 PM	6	0	0	36	0	0	42
Total	25	0	3	110	0	0	138
05:00 PM	2	0	3	43	0	0	48
05:15 PM	4	0	1	55	0	0	60
05:30 PM	2	0	0	32	0	0	34
05:45 PM	4	0	1	24	0	0	29
Total	12	0	5	154	0	0	171
Grand Total	37	0	8	264	0	0	309
Apprch %	100	0	2.9	97.1	0	0	
Total %	12	0	2.6	85.4	0	0	

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**6**	0	**6**	0	36	36	0	0	0	42
05:00 PM	2	0	2	**3**	43	46	0	0	0	48
05:15 PM	4	0	4	1	**55**	**56**	0	0	0	**60**
05:30 PM	**2**	**0**	**2**	**0**	**32**	**32**	**0**	**0**	**0**	**34**
Total Volume	**14**	**0**	**14**	**4**	**166**	**170**	**0**	**0**	**0**	**184**
% App. Total	**100**	**0**		**2.4**	**97.6**		**0**	**0**		
PHF	**.583**	**.000**	**.583**	**.333**	**.755**	**.759**	**.000**	**.000**	**.000**	**.767**

N: Tropical Foods Driveway
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Groups Printed- Heavy Vehicles

	Tropical Foods Driveway From North		Williams Street From East		Williams Street From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	2	0	0	2
04:30 PM	0	0	0	1	0	0	1
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	3
05:00 PM	0	0	0	1	0	0	1
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	0	1
05:45 PM	0	0	0	1	0	0	1
Total	0	0	0	3	0	0	3
Grand Total	0	0	0	6	0	0	6
Apprch %	0	0	0	100	0	0	
Total %	0	0	0	100	0	0	

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	**2**	**2**	0	0	0	**2**
04:30 PM	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
04:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
05:00 PM	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
Total Volume	**0**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**4**
% App. Total	**0**	**0**		**0**	**100**		**0**	**0**		
PHF	**.000**	**.000**	**.000**	**.000**	**.500**	**.500**	**.000**	**.000**	**.000**	**.500**

N: Tropical Foods Driveway
E/W: Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 122951 DD
Site Code : 11065
Start Date : 6/14/2012
Page No : 1

Groups Printed- Peds and Bicycles

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
04:00 PM	0	0	10	0	0	0	0	0	0	10
04:15 PM	0	0	12	0	1	0	0	0	0	13
04:30 PM	0	0	10	0	0	0	0	0	0	10
04:45 PM	0	0	7	0	0	0	0	0	0	7
Total	0	0	39	0	1	0	0	0	0	40
05:00 PM	0	0	3	0	1	0	0	0	0	4
05:15 PM	0	0	7	0	0	0	0	0	0	7
05:30 PM	0	0	7	0	0	0	0	0	0	7
05:45 PM	0	0	7	0	0	0	0	0	0	7
Total	0	0	24	0	1	0	0	0	0	25
Grand Total	0	0	63	0	2	0	0	0	0	65
Apprch %	0	0	100	0	100	0	0	0	0	
Total %	0	0	96.9	0	3.1	0	0	0	0	

	Tropical Foods Driveway From North				Williams Street From East				Williams Street From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	0	10	10	0	0	0	0	0	0	0	0	10
04:15 PM	0	0	**12**	**12**	0	**1**	0	**1**	0	0	0	0	**13**
04:30 PM	0	0	10	10	0	0	0	0	0	0	0	0	10
04:45 PM	0	0	7	7	0	0	0	0	0	0	0	0	7
Total Volume	0	0	39	39	0	1	0	1	0	0	0	0	40
% App. Total	0	0	100		0	100	0		0	0	0		
PHF	.000	.000	.813	.813	.000	.250	.000	.250	.000	.000	.000	.000	.769

N: Tropical Foods Driveway
E/W: Williams Street
City, State: Roxbury, MA
Client: Howard Stein-Hudson/ S. Casey

PRECISION DATA INDUSTRIES, LLC
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File Name : 122951 DD
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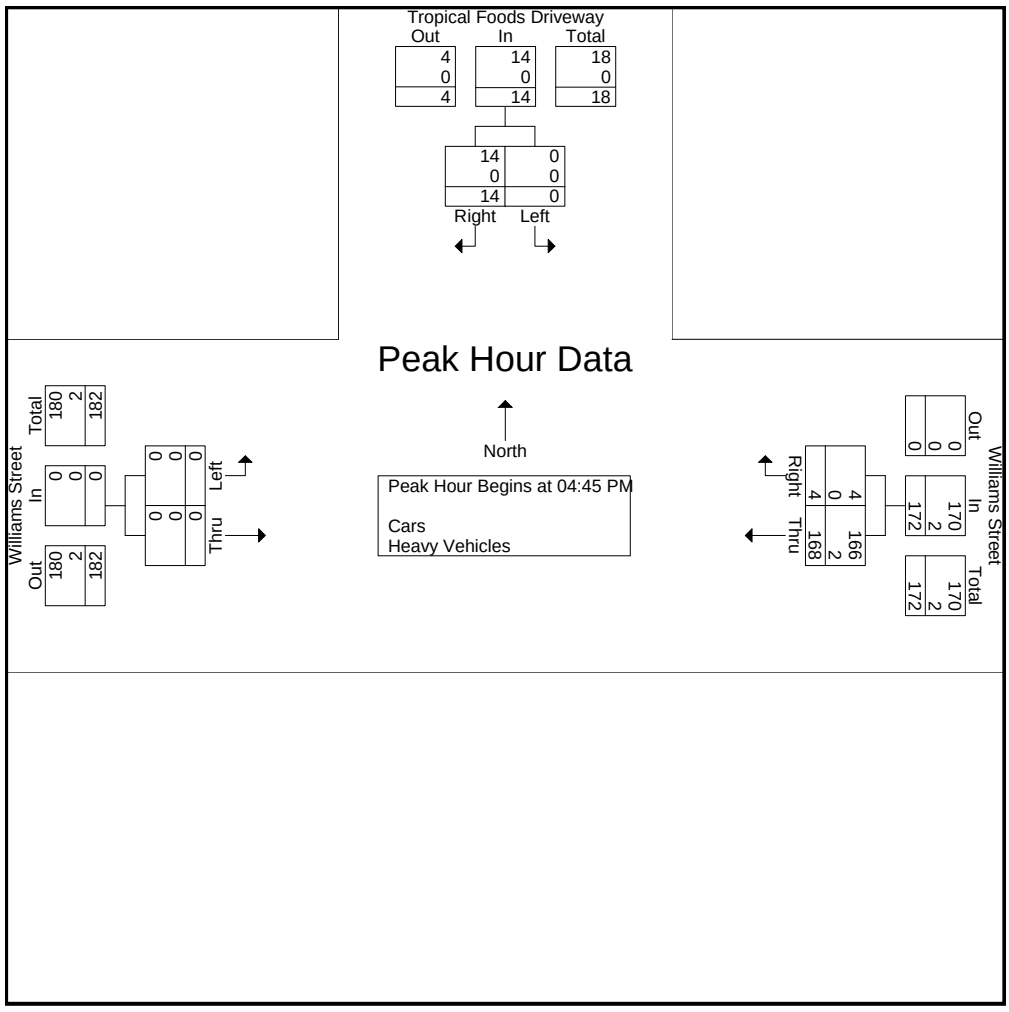
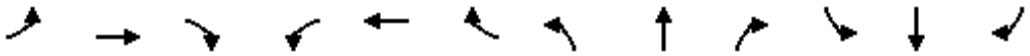
Page No : 1

	Tropical Foods Driveway From North			Williams Street From East			Williams Street From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**6**	0	**6**	0	36	36	0	0	0	42
05:00 PM	2	0	2	**3**	44	47	0	0	0	49
05:15 PM	4	0	4	1	**55**	**56**	0	0	0	**60**
05:30 PM	**2**	**0**	**2**	**0**	**33**	**33**	**0**	**0**	**0**	**35**
Total Volume	**14**	**0**	**14**	**4**	**168**	**172**	**0**	**0**	**0**	**186**
% App. Total	**100**	**0**		**2.3**	**97.7**		**0**	**0**		
PHF	**.583**	**.000**	**.583**	**.333**	**.764**	**.768**	**.000**	**.000**	**.000**	**.775**
Cars	**14**	**0**	**14**	**4**	**166**	**170**	**0**	**0**	**0**	**184**
% Cars	**100**	**0**	**100**	**100**	**98.8**	**98.8**	**0**	**0**	**0**	**98.9**
Heavy Vehicles	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**2**
% Heavy Vehicles	**0**	**0**	**0**	**0**	**1.2**	**1.2**	**0**	**0**	**0**	**1.1**



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.998									0.994	
Flt Protected					0.995						0.993	
Satd. Flow (prot)	0	2786	0	0	2624	0	0	0	0	0	2755	0
Flt Permitted					0.652						0.993	
Satd. Flow (perm)	0	2786	0	0	1720	0	0	0	0	0	2755	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3									4	
Headway Factor	1.19	1.14	1.14	1.19	1.19	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			518			347			262	
Travel Time (s)		15.6			11.8			7.9			6.0	
Volume (vph)	0	1012	17	113	1118	0	0	0	0	32	191	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	12%	12%	6%	0%	0%	0%	0%	6%	3%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1065	18	119	1177	0	0	0	0	40	239	11
Lane Group Flow (vph)	0	1083	0	0	1296	0	0	0	0	0	290	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	61.0	0.0	12.0	73.0	0.0	0.0	0.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	61.0%	0.0%	12.0%	73.0%	0.0%	0.0%	0.0%	0.0%	27.0%	27.0%	0.0%
Maximum Green (s)		57.0		8.0						23.0	23.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	



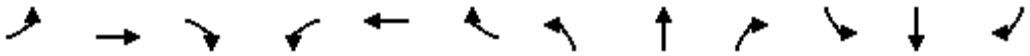
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		65.5			73.5						14.5	
Actuated g/C Ratio		0.66			0.74						0.14	
v/c Ratio		0.59			0.97						0.72	
Control Delay		5.5			23.4						50.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		5.5			23.4						50.4	
LOS		A			C						D	
Approach Delay		5.5			23.4						50.4	
Approach LOS		A			C						D	
90th %ile Green (s)		60.0		8.0						20.0	20.0	
90th %ile Term Code		Coord		Max						Ped	Ped	
70th %ile Green (s)		63.8		8.0						16.2	16.2	
70th %ile Term Code		Coord		Max						Gap	Gap	
50th %ile Green (s)		65.8		8.0						14.2	14.2	
50th %ile Term Code		Coord		Max						Gap	Gap	
30th %ile Green (s)		67.7		8.0						12.3	12.3	
30th %ile Term Code		Coord		Max						Gap	Gap	
10th %ile Green (s)		70.4		8.0						9.6	9.6	
10th %ile Term Code		Coord		Max						Gap	Gap	
Queue Length 50th (ft)		63			97						93	
Queue Length 95th (ft)		37			#110						112	
Internal Link Dist (ft)		605			438			267			182	
Turn Bay Length (ft)												
Base Capacity (vph)		1827			1337						637	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.59			0.97						0.46	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 59 (59%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 19.1 Intersection LOS: B
Intersection Capacity Utilization 95.9% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	96		0	120		80	70		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1330	2562	0	1243	2639	0	1090	1382	990	1364	1404	1275
Flt Permitted	0.180			0.157			0.580			0.236		
Satd. Flow (perm)	252	2562	0	205	2639	0	666	1382	990	339	1404	1275
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			6				45			57
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			535			201			237	
Travel Time (s)		11.8			12.2			4.6			5.4	
Volume (vph)	125	885	34	165	1099	42	77	459	86	47	184	55
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.93	0.93	0.93	0.93	0.93	0.93	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	12%	13%	6%	2%	20%	7%	27%	3%	9%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	132	932	36	177	1182	45	83	494	92	49	192	57
Lane Group Flow (vph)	132	968	0	177	1227	0	83	494	92	49	192	57
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	41.0	41.0		13.0			34.0	34.0	34.0	34.0	34.0	34.0
Total Split (s)	45.0	45.0	0.0	13.0	58.0	0.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	45.0%	45.0%	0.0%	13.0%	58.0%	0.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	41.0	41.0		50.0	54.0		38.0	38.0	38.0	38.0	38.0	38.0
Actuated g/C Ratio	0.41	0.41		0.50	0.54		0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	1.28	0.92		0.90	0.86		0.33	0.94	0.23	0.38	0.36	0.11
Control Delay	199.7	33.9		49.8	17.1		17.4	48.8	6.2	33.2	24.7	6.2
Queue Delay	0.0	0.0		0.0	0.2		0.0	16.9	0.0	0.0	0.0	0.0
Total Delay	199.7	33.9		49.8	17.3		17.4	65.8	6.2	33.2	24.7	6.2
LOS	F	C		D	B		B	E	A	C	C	A
Approach Delay		53.8			21.4			51.6			22.6	
Approach LOS		D			C			D			C	
90th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~108	285		76	144		39	306	19	22	87	0
Queue Length 95th (ft)	m#224	#427		m77	m140		m45	m#522	m21	60	146	25
Internal Link Dist (ft)		438			455			121			157	
Turn Bay Length (ft)	100			96			120		80	70		
Base Capacity (vph)	103	1053		196	1428		253	525	404	129	534	520
Starvation Cap Reductn	0	0		0	17		0	42	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.92		0.90	0.87		0.33	1.02	0.23	0.38	0.36	0.11

Intersection Summary

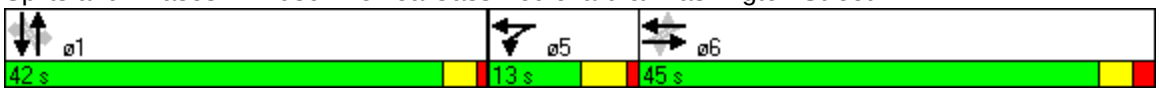
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 6 (6%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 127.7% ICU Level of Service H
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.

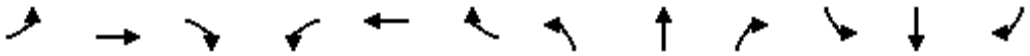
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	16	12	12	16	12	10	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.946				0.850		0.988	
Flt Protected					0.990		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1523	0	1454	1535	1064	1292	1312	0
Flt Permitted					0.990		0.091			0.212		
Satd. Flow (perm)	0	0	0	0	1523	0	139	1535	1064	288	1312	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					30				18		7	
Headway Factor	1.14	1.14	1.14	1.14	0.97	1.14	1.14	0.97	1.30	1.25	1.12	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		276			415			597			179	
Travel Time (s)		6.3			9.4			13.6			4.1	
Volume (vph)	0	0	0	39	64	74	11	556	39	60	289	20
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.89	0.74	0.84	0.55	0.95	0.70	0.88	0.91	0.75
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	5%	5%	9%	0%	13%	10%	5%	19%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0		0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	44	86	88	20	585	56	68	318	27
Lane Group Flow (vph)	0	0	0	0	218	0	20	585	56	68	345	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	6.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	10.0		
Total Split (s)	0.0	0.0	0.0	24.0	24.0	0.0	48.0	48.0	48.0	10.0	58.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	24.0%	24.0%	0.0%	48.0%	48.0%	48.0%	10.0%	58.0%	0.0%
Maximum Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

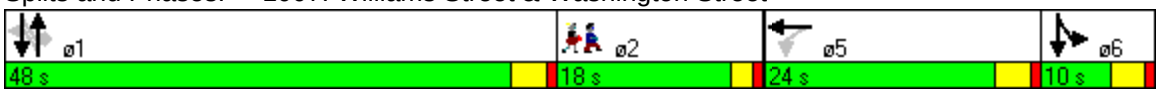


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					16.4		62.0	62.0	62.0	68.0	72.0	
Actuated g/C Ratio					0.16		0.62	0.62	0.62	0.68	0.72	
v/c Ratio					0.80		0.23	0.61	0.08	0.27	0.36	
Control Delay					33.4		22.4	18.1	8.7	8.6	8.0	
Queue Delay					0.1		0.0	1.1	0.0	0.0	0.5	
Total Delay					33.5		22.4	19.2	8.7	8.6	8.5	
LOS					C		C	B	A	A	A	
Approach Delay					33.5			18.4			8.5	
Approach LOS					C			B			A	
90th %ile Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				19.2	19.2		62.8	62.8	62.8	6.0		
70th %ile Term Code				Gap	Gap		Coord	Coord	Coord	Max		
50th %ile Green (s)				14.6	14.6		67.4	67.4	67.4	6.0		
50th %ile Term Code				Gap	Gap		Coord	Coord	Coord	Max		
30th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
30th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
10th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
10th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					83		4	175	7	10	71	
Queue Length 95th (ft)					m103		16	#539	27	m33	m165	
Internal Link Dist (ft)		196			335			517			99	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					329		86	952	667	256	947	
Starvation Cap Reductn					0		0	0	0	0	265	
Spillback Cap Reductn					3		0	165	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					0.67		0.23	0.74	0.08	0.27	0.51	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 83 (83%), Referenced to phase 1:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 63.8%		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.

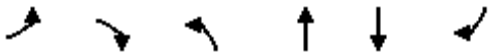
Splits and Phases: 1007: Williams Street & Washington Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	95	0	0	0	0	321
Peak Hour Factor	0.68	0.25	0.25	0.25	0.25	0.78
Hourly flow rate (vph)	140	0	0	0	0	412
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						347
pX, platoon unblocked	0.89					
vC, conflicting volume	412	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	337	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	100			100	
cM capacity (veh/h)	579	1091			1636	

Direction, Lane #	WB 1	SB 1
Volume Total	140	412
Volume Left	140	0
Volume Right	0	0
cSH	579	1700
Volume to Capacity	0.24	0.24
Queue Length 95th (ft)	23	0
Control Delay (s)	13.2	0.0
Lane LOS	B	
Approach Delay (s)	13.2	0.0
Approach LOS	B	

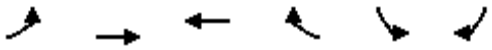
Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	10	23	607	359	24
Peak Hour Factor	0.42	0.50	0.82	0.94	0.92	0.50
Hourly flow rate (vph)	36	20	28	646	390	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				179	201	
pX, platoon unblocked	0.83	0.85	0.85			
vC, conflicting volume	1116	414	438			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	870	311	340			
tC, single (s)	6.4	6.4	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.5	2.2			
p0 queue free %	86	97	97			
cM capacity (veh/h)	262	586	1028			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	56	674	438
Volume Left	36	28	0
Volume Right	20	0	48
cSH	327	1028	1700
Volume to Capacity	0.17	0.03	0.26
Queue Length 95th (ft)	15	2	0
Control Delay (s)	18.3	0.7	0.0
Lane LOS	C	A	
Approach Delay (s)	18.3	0.7	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

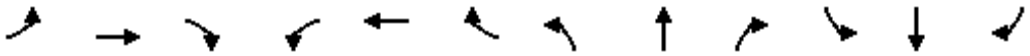


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	88	7	0	7
Peak Hour Factor	0.25	0.25	0.66	0.44	0.25	0.58
Hourly flow rate (vph)	0	0	133	16	0	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			276			
pX, platoon unblocked						
vC, conflicting volume	149				141	141
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	149				141	141
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	99
cM capacity (veh/h)	1444				856	876

Direction, Lane #	WB 1	SB 1
Volume Total	149	12
Volume Left	0	0
Volume Right	16	12
cSH	1700	876
Volume to Capacity	0.09	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	9.2
Lane LOS		A
Approach Delay (s)	0.0	9.2
Approach LOS		A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.995									0.994	
Flt Protected					0.993						0.996	
Satd. Flow (prot)	0	2835	0	0	2516	0	0	0	0	0	2846	0
Flt Permitted					0.525						0.996	
Satd. Flow (perm)	0	2835	0	0	1330	0	0	0	0	0	2846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5									4	
Headway Factor	1.19	1.14	1.14	1.19	1.20	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			518			346			274	
Travel Time (s)		15.6			11.8			7.9			6.2	
Volume (vph)	0	1012	37	180	1028	0	0	0	0	41	441	20
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	13%	10%	0%	0%	0%	0%	3%	1%	0%
Bus Blockages (#/hr)	0	0	0	1	2	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1112	41	196	1117	0	0	0	0	45	485	22
Lane Group Flow (vph)	0	1153	0	0	1313	0	0	0	0	0	552	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	54.0	0.0	17.0	71.0	0.0	0.0	0.0	0.0	29.0	29.0	0.0
Total Split (%)	0.0%	54.0%	0.0%	17.0%	71.0%	0.0%	0.0%	0.0%	0.0%	29.0%	29.0%	0.0%
Maximum Green (s)		50.0		13.0						25.0	25.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		52.9			65.9						22.1	
Actuated g/C Ratio		0.53			0.66						0.22	
v/c Ratio		0.77			1.27						0.87	
Control Delay		16.3			145.6						52.6	
Queue Delay		0.0			0.0						0.0	
Total Delay		16.3			145.6						52.6	
LOS		B			F						D	
Approach Delay		16.3			145.6						52.6	
Approach LOS		B			F						D	
90th %ile Green (s)		50.0		13.0						25.0	25.0	
90th %ile Term Code		Coord		Max						Max	Max	
70th %ile Green (s)		50.0		13.0						25.0	25.0	
70th %ile Term Code		Coord		Max						Max	Max	
50th %ile Green (s)		51.8		13.0						23.2	23.2	
50th %ile Term Code		Coord		Max						Gap	Gap	
30th %ile Green (s)		54.4		13.0						20.6	20.6	
30th %ile Term Code		Coord		Max						Gap	Gap	
10th %ile Green (s)		58.2		13.0						16.8	16.8	
10th %ile Term Code		Coord		Max						Gap	Gap	
Queue Length 50th (ft)		252			~377						175	
Queue Length 95th (ft)		328			#582						235	
Internal Link Dist (ft)		605			438			266			194	
Turn Bay Length (ft)												
Base Capacity (vph)		1502			1030						715	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.77			1.27						0.77	

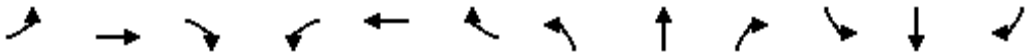
Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 75 (75%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 79.2		Intersection LOS: E	
Intersection Capacity Utilization 105.4%		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.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	125		0	100		50	75		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1357	2573	0	1255	2764	0	1081	1395	1113	1405	1457	1288
Flt Permitted	0.228			0.127			0.222			0.225		
Satd. Flow (perm)	326	2573	0	168	2764	0	253	1395	1113	333	1457	1288
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			7				31			87
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		518			535			251			272	
Travel Time (s)		11.8			12.2			6.8			7.4	
Volume (vph)	108	903	40	154	1006	45	43	419	79	27	417	157
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.89	0.89	0.89	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	1%	12%	1%	2%	21%	6%	13%	0%	5%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	126	1050	47	166	1082	48	48	471	89	31	474	178
Lane Group Flow (vph)	126	1097	0	166	1130	0	48	471	89	31	474	178
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	40.0	40.0		13.0			32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	48.0	48.0	0.0	13.0	61.0	0.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	48.0%	48.0%	0.0%	13.0%	61.0%	0.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%
Maximum Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0

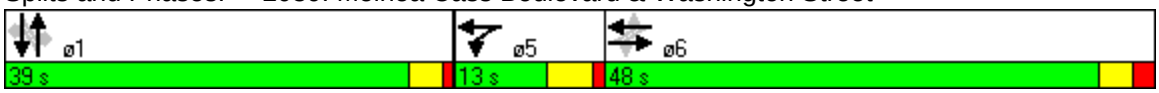


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	44.0	44.0		53.0	57.0		35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.44	0.44		0.53	0.57		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	0.88	0.97		0.89	0.72		0.54	0.97	0.22	0.26	0.93	0.35
Control Delay	50.7	25.5		56.0	18.7		36.2	52.8	7.9	30.8	58.6	14.5
Queue Delay	0.0	33.7		12.8	0.1		0.0	12.5	0.0	0.0	0.0	0.0
Total Delay	50.7	59.3		68.8	18.9		36.2	65.3	7.9	30.8	58.6	14.5
LOS	D	E		E	B		D	E	A	C	E	B
Approach Delay		58.4			25.3			54.6			45.8	
Approach LOS		E			C			D			D	
90th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	6	27		79	180		26	299	18	14	288	40
Queue Length 95th (ft)	m#121	#445		m#98	m247		m36	m#454	m23	40	#468	92
Internal Link Dist (ft)		438			455			171			192	
Turn Bay Length (ft)	100			125			100		50	75		
Base Capacity (vph)	143	1135		187	1578		89	488	410	117	510	507
Starvation Cap Reductn	0	0		0	51		0	26	0	0	0	0
Spillback Cap Reductn	0	120		15	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.88	1.08		0.97	0.74		0.54	1.02	0.22	0.26	0.93	0.35

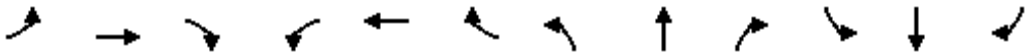
Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 34 (34%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 44.3 Intersection LOS: D
Intersection Capacity Utilization 115.7% ICU Level of Service H
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: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	16	16	16	16	16	10	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.963				0.850		0.990	
Flt Protected					0.988		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1610	0	1569	1535	1251	1330	1584	0
Flt Permitted					0.988		0.091			0.262		
Satd. Flow (perm)	0	0	0	0	1610	0	150	1535	1251	367	1584	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					17				41		6	
Headway Factor	1.14	1.14	1.14	0.97	0.97	0.97	0.97	0.97	1.12	1.25	0.97	0.97
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		247			415			597			130	
Travel Time (s)		5.6			9.4			16.3			3.5	
Volume (vph)	0	0	0	71	143	77	21	481	83	187	408	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.73	0.72	0.69	0.88	0.91	0.74	0.82	0.83	0.59
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	0%	3%	5%	13%	6%	2%	9%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0			
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	97	199	112	24	529	112	228	492	36
Lane Group Flow (vph)	0	0	0	0	408	0	24	529	112	228	528	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	5.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	9.0		
Total Split (s)	0.0	0.0	0.0	23.0	23.0	0.0	48.0	48.0	48.0	11.0	59.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	23.0%	23.0%	0.0%	48.0%	48.0%	48.0%	11.0%	59.0%	0.0%
Maximum Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					19.0		54.8	54.8	54.8	61.8	65.8	
Actuated g/C Ratio					0.19		0.55	0.55	0.55	0.62	0.66	
v/c Ratio					1.27		0.29	0.63	0.16	0.77	0.51	
Control Delay					177.6		29.4	22.5	10.0	33.3	16.3	
Queue Delay					1.7		0.0	1.4	0.0	0.0	2.2	
Total Delay					179.3		29.4	23.8	10.0	33.3	18.5	
LOS					F		C	C	B	C	B	
Approach Delay					179.3			21.7			22.9	
Approach LOS					F			C			C	
90th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
70th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
50th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
50th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
30th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
30th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
10th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
10th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					~315		6	180	17	58	105	
Queue Length 95th (ft)					#359		38	#430	46	m#126	m288	
Internal Link Dist (ft)		167			335			517			50	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					320		82	841	704	295	1044	
Starvation Cap Reductn					0		0	0	0	0	365	
Spillback Cap Reductn					1		0	148	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					1.28		0.29	0.76	0.16	0.77	0.78	

Intersection Summary

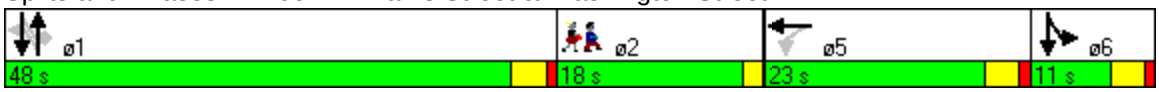
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 57.4 Intersection LOS: E
Intersection Capacity Utilization 75.0% ICU Level 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.

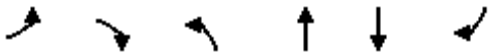
Splits and Phases: 1007: Williams Street & Washington Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	192	0	0	0	0	658
Peak Hour Factor	0.66	0.50	0.25	0.25	0.25	0.84
Hourly flow rate (vph)	291	0	0	0	0	783
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						346
pX, platoon unblocked	0.79					
vC, conflicting volume	783	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	726	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	6	100			100	
cM capacity (veh/h)	310	1091			1636	

Direction, Lane #	WB 1	SB 1
Volume Total	291	783
Volume Left	291	0
Volume Right	0	0
cSH	310	1700
Volume to Capacity	0.94	0.46
Queue Length 95th (ft)	232	0
Control Delay (s)	73.8	0.0
Lane LOS	F	
Approach Delay (s)	73.8	0.0
Approach LOS	F	

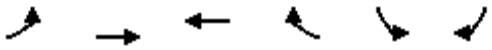
Intersection Summary			
Average Delay	20.0		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	33	51	50	508	565	46
Peak Hour Factor	0.69	0.98	0.83	0.90	0.85	0.77
Hourly flow rate (vph)	48	52	60	564	665	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				130	251	
pX, platoon unblocked	0.78	0.66	0.66			
vC, conflicting volume	1380	695	724			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1031	535	580			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	74	86	91			
cM capacity (veh/h)	184	361	659			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	100	625	724
Volume Left	48	60	0
Volume Right	52	0	60
cSH	247	659	1700
Volume to Capacity	0.40	0.09	0.43
Queue Length 95th (ft)	46	8	0
Control Delay (s)	29.2	2.4	0.0
Lane LOS	D	A	
Approach Delay (s)	29.2	2.4	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	180	5	0	12
Peak Hour Factor	0.25	0.25	0.71	0.42	0.25	0.50
Hourly flow rate (vph)	0	0	254	12	0	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			247			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	265				259	259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	170				163	163
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	97
cM capacity (veh/h)	1256				736	785

Direction, Lane #	WB 1	SB 1
Volume Total	265	24
Volume Left	0	0
Volume Right	12	24
cSH	1700	785
Volume to Capacity	0.16	0.03
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	9.7
Lane LOS		A
Approach Delay (s)	0.0	9.7
Approach LOS		A

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.998									0.993	
Flt Protected					0.996						0.992	
Satd. Flow (prot)	0	2786	0	0	2627	0	0	0	0	0	2745	0
Flt Permitted					0.621						0.992	
Satd. Flow (perm)	0	2786	0	0	1638	0	0	0	0	0	2745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3									4	
Headway Factor	1.19	1.14	1.14	1.19	1.19	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			518			347			262	
Travel Time (s)		15.6			11.8			7.9			6.0	
Volume (vph)	0	1059	17	116	1172	0	0	0	0	51	254	14
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	12%	12%	6%	0%	0%	0%	0%	6%	3%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1151	18	126	1274	0	0	0	0	55	276	15
Lane Group Flow (vph)	0	1169	0	0	1400	0	0	0	0	0	346	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	61.0	0.0	12.0	73.0	0.0	0.0	0.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	61.0%	0.0%	12.0%	73.0%	0.0%	0.0%	0.0%	0.0%	27.0%	27.0%	0.0%
Maximum Green (s)		57.0		8.0						23.0	23.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		63.7			71.7						16.3	
Actuated g/C Ratio		0.64			0.72						0.16	
v/c Ratio		0.66			1.12						0.77	
Control Delay		7.9			72.8						50.8	
Queue Delay		0.0			0.0						0.0	
Total Delay		7.9			72.8						50.8	
LOS		A			E						D	
Approach Delay		7.9			72.8						50.8	
Approach LOS		A			E						D	
90th %ile Green (s)		58.5		8.0						21.5	21.5	
90th %ile Term Code		Coord		Max						Gap	Gap	
70th %ile Green (s)		61.5		8.0						18.5	18.5	
70th %ile Term Code		Coord		Max						Gap	Gap	
50th %ile Green (s)		63.7		8.0						16.3	16.3	
50th %ile Term Code		Coord		Max						Gap	Gap	
30th %ile Green (s)		65.9		8.0						14.1	14.1	
30th %ile Term Code		Coord		Max						Gap	Gap	
10th %ile Green (s)		68.8		8.0						11.2	11.2	
10th %ile Term Code		Coord		Max						Gap	Gap	
Queue Length 50th (ft)		72			~174						111	
Queue Length 95th (ft)		48			m#598						151	
Internal Link Dist (ft)		605			438			267			182	
Turn Bay Length (ft)												
Base Capacity (vph)		1775			1253						634	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.66			1.12						0.55	

Intersection Summary

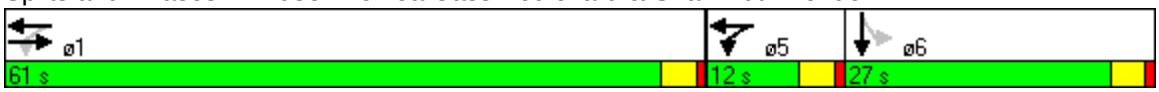
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 59 (59%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 44.1 Intersection LOS: D
Intersection Capacity Utilization 102.5% ICU Level 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.

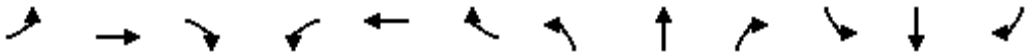
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	96		0	120		80	70		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1330	2562	0	1243	2637	0	1090	1382	990	1364	1404	1275
Flt Permitted	0.151			0.120			0.564			0.202		
Satd. Flow (perm)	211	2562	0	157	2637	0	647	1382	990	290	1404	1275
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7				45			48
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			535			201			237	
Travel Time (s)		11.8			12.2			4.6			5.4	
Volume (vph)	131	939	40	169	1153	53	79	484	88	48	189	56
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	12%	13%	6%	2%	20%	7%	27%	3%	9%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	142	1021	43	184	1253	58	86	526	96	52	205	61
Lane Group Flow (vph)	142	1064	0	184	1311	0	86	526	96	52	205	61
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	41.0	41.0		13.0			34.0	34.0	34.0	34.0	34.0	34.0
Total Split (s)	45.0	45.0	0.0	13.0	58.0	0.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	45.0%	45.0%	0.0%	13.0%	58.0%	0.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	41.0	41.0		50.0	54.0		38.0	38.0	38.0	38.0	38.0	38.0
Actuated g/C Ratio	0.41	0.41		0.50	0.54		0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	1.63	1.01		1.05	0.92		0.35	1.00	0.24	0.47	0.38	0.12
Control Delay	343.2	50.3		86.5	20.0		17.3	60.8	6.0	40.6	25.2	8.7
Queue Delay	0.0	0.5		0.0	0.4		0.0	28.9	0.0	0.0	0.0	0.0
Total Delay	343.2	50.8		86.5	20.4		17.3	89.7	6.0	40.6	25.2	8.7
LOS	F	D		F	C		B	F	A	D	C	A
Approach Delay		85.3			28.5			69.5			24.5	
Approach LOS		F			C			E			C	
90th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~133	~357		~97	166		41	~336	19	25	93	5
Queue Length 95th (ft)	m#226	#491		m#97	m153		m43	#573	m20	#71	155	31
Internal Link Dist (ft)		438			455			121			157	
Turn Bay Length (ft)	100			96			120		80	70		
Base Capacity (vph)	87	1053		176	1427		246	525	404	110	534	514
Starvation Cap Reductn	0	0		0	12		0	42	0	0	0	0
Spillback Cap Reductn	0	2		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.63	1.01		1.05	0.93		0.35	1.09	0.24	0.47	0.38	0.12

Intersection Summary

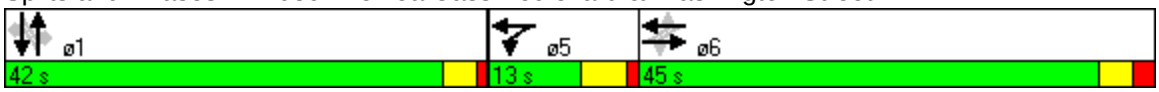
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 6 (6%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.63
Intersection Signal Delay: 54.3 Intersection LOS: D
Intersection Capacity Utilization 131.6% ICU Level of Service H
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.

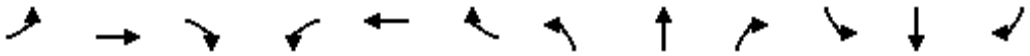
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	16	12	12	16	12	10	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.943				0.850		0.992	
Flt Protected					0.989		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1516	0	1454	1535	1064	1292	1312	0
Flt Permitted					0.989		0.091			0.169		
Satd. Flow (perm)	0	0	0	0	1516	0	139	1535	1064	230	1312	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					32				13		4	
Headway Factor	1.14	1.14	1.14	1.14	0.97	1.14	1.14	0.97	1.30	1.25	1.12	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		276			415			597			179	
Travel Time (s)		6.3			9.4			13.6			4.1	
Volume (vph)	0	0	0	40	66	76	11	583	40	62	384	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	5%	5%	9%	0%	13%	10%	5%	19%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0		0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	43	72	83	12	634	43	67	417	23
Lane Group Flow (vph)	0	0	0	0	198	0	12	634	43	67	440	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	6.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	10.0		
Total Split (s)	0.0	0.0	0.0	24.0	24.0	0.0	48.0	48.0	48.0	10.0	58.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	24.0%	24.0%	0.0%	48.0%	48.0%	48.0%	10.0%	58.0%	0.0%
Maximum Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

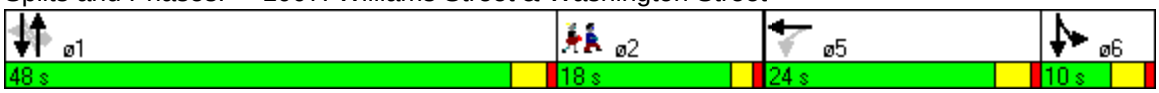


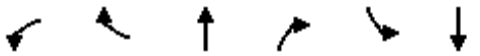
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					15.8		62.6	62.6	62.6	68.6	72.6	
Actuated g/C Ratio					0.16		0.63	0.63	0.63	0.69	0.73	
v/c Ratio					0.74		0.14	0.66	0.06	0.30	0.46	
Control Delay					31.2		17.7	19.1	8.7	9.9	9.5	
Queue Delay					0.1		0.0	3.4	0.0	0.0	0.6	
Total Delay					31.3		17.7	22.5	8.7	9.9	10.1	
LOS					C		B	C	A	A	B	
Approach Delay					31.3			21.5			10.1	
Approach LOS					C			C			B	
90th %ile Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				16.8	16.8		65.2	65.2	65.2	6.0		
70th %ile Term Code				Gap	Gap		Coord	Coord	Coord	Max		
50th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
50th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
30th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
30th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
10th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
10th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					70		2	195	6	9	93	
Queue Length 95th (ft)					m90		20	#610	32	m35	m223	
Internal Link Dist (ft)		196			335			517			99	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					329		87	962	671	222	954	
Starvation Cap Reductn					0		0	0	0	0	224	
Spillback Cap Reductn					5		0	231	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					0.61		0.14	0.87	0.06	0.30	0.60	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 83 (83%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 66.2% 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: 1007: Williams Street & Washington Street

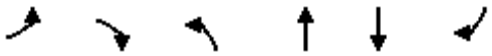




Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	97	0	0	0	0	387
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	105	0	0	0	0	421
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						347
pX, platoon unblocked	0.87					
vC, conflicting volume	421	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	333	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	100			100	
cM capacity (veh/h)	573	1091			1636	

Direction, Lane #	WB 1	SB 1
Volume Total	105	421
Volume Left	105	0
Volume Right	0	0
cSH	573	1700
Volume to Capacity	0.18	0.25
Queue Length 95th (ft)	17	0
Control Delay (s)	12.7	0.0
Lane LOS	B	
Approach Delay (s)	12.7	0.0
Approach LOS	B	

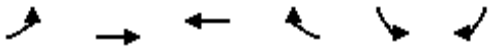
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	10	23	635	373	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	11	25	690	405	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				179	201	
pX, platoon unblocked	0.80	0.84	0.84			
vC, conflicting volume	1159	418	432			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	896	306	322			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	98	98			
cM capacity (veh/h)	244	615	1038			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	27	715	432
Volume Left	16	25	0
Volume Right	11	0	26
cSH	321	1038	1700
Volume to Capacity	0.08	0.02	0.25
Queue Length 95th (ft)	7	2	0
Control Delay (s)	17.2	0.6	0.0
Lane LOS	C	A	
Approach Delay (s)	17.2	0.6	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	90	7	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	98	8	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			276			
pX, platoon unblocked						
vC, conflicting volume	105				102	102
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	105				102	102
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1486				897	954

Direction, Lane #	WB 1	SB 1
Volume Total	105	8
Volume Left	0	0
Volume Right	8	8
cSH	1700	954
Volume to Capacity	0.06	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	8.8
Lane LOS		A
Approach Delay (s)	0.0	8.8
Approach LOS		A

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	15.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.995									0.994	
Flt Protected					0.993						0.994	
Satd. Flow (prot)	0	2835	0	0	2517	0	0	0	0	0	2839	0
Flt Permitted					0.513						0.994	
Satd. Flow (perm)	0	2835	0	0	1300	0	0	0	0	0	2839	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5									4	
Headway Factor	1.19	1.14	1.14	1.19	1.20	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			518			346			274	
Travel Time (s)		15.6			11.8			7.9			6.2	
Volume (vph)	0	1088	38	185	1091	0	0	0	0	75	561	28
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	13%	10%	0%	0%	0%	0%	3%	1%	0%
Bus Blockages (#/hr)	0	0	0	1	2	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1183	41	201	1186	0	0	0	0	82	610	30
Lane Group Flow (vph)	0	1224	0	0	1387	0	0	0	0	0	722	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	54.0	0.0	17.0	71.0	0.0	0.0	0.0	0.0	29.0	29.0	0.0
Total Split (%)	0.0%	54.0%	0.0%	17.0%	71.0%	0.0%	0.0%	0.0%	0.0%	29.0%	29.0%	0.0%
Maximum Green (s)		50.0		13.0						25.0	25.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		50.0			63.0						25.0	
Actuated g/C Ratio		0.50			0.63						0.25	
v/c Ratio		0.86			1.42						1.01	
Control Delay		22.8			209.7						75.0	
Queue Delay		0.0			0.0						0.0	
Total Delay		22.8			209.7						75.0	
LOS		C			F						E	
Approach Delay		22.8			209.7						75.0	
Approach LOS		C			F						E	
90th %ile Green (s)		50.0		13.0						25.0	25.0	
90th %ile Term Code		Coord		Max						Max	Max	
70th %ile Green (s)		50.0		13.0						25.0	25.0	
70th %ile Term Code		Coord		Max						Max	Max	
50th %ile Green (s)		50.0		13.0						25.0	25.0	
50th %ile Term Code		Coord		Max						Max	Max	
30th %ile Green (s)		50.0		13.0						25.0	25.0	
30th %ile Term Code		Coord		Max						Max	Max	
10th %ile Green (s)		50.0		13.0						25.0	25.0	
10th %ile Term Code		Coord		Max						Max	Max	
Queue Length 50th (ft)		303			~503						~247	
Queue Length 95th (ft)		494			#641						#374	
Internal Link Dist (ft)		605			438			266			194	
Turn Bay Length (ft)												
Base Capacity (vph)		1420			977						713	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.86			1.42						1.01	

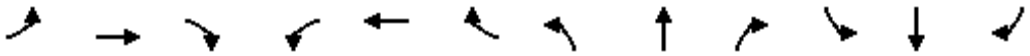
Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 75 (75%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.42
Intersection Signal Delay: 111.9 Intersection LOS: F
Intersection Capacity Utilization 116.0% ICU Level of Service H
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: 2088: Melnea Cass Boulevard & Shawmut Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	125		0	100		50	75		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.993			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1357	2571	0	1255	2759	0	1081	1395	1113	1405	1457	1288
Flt Permitted	0.193			0.114			0.232			0.208		
Satd. Flow (perm)	276	2571	0	151	2759	0	264	1395	1113	308	1457	1288
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9				30			72
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		518			535			251			272	
Travel Time (s)		11.8			12.2			6.8			7.4	
Volume (vph)	115	995	51	158	1068	58	44	447	81	28	428	161
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	1%	12%	1%	2%	21%	6%	13%	0%	5%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	125	1082	55	172	1161	63	48	486	88	30	465	175
Lane Group Flow (vph)	125	1137	0	172	1224	0	48	486	88	30	465	175
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	40.0	40.0		13.0			32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	48.0	48.0	0.0	13.0	61.0	0.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	48.0%	48.0%	0.0%	13.0%	61.0%	0.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%
Maximum Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	44.0	44.0		53.0	57.0		35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.44	0.44		0.53	0.57		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	1.03	1.00		0.96	0.78		0.52	1.00	0.22	0.28	0.91	0.35
Control Delay	81.9	28.8		72.7	19.7		32.7	59.1	6.6	31.9	55.6	16.2
Queue Delay	0.0	32.8		15.8	0.2		0.0	15.0	0.0	0.0	0.0	0.0
Total Delay	81.9	61.6		88.5	19.9		32.7	74.1	6.6	31.9	55.6	16.2
LOS	F	E		F	B		C	E	A	C	E	B
Approach Delay		63.6			28.4			61.4			44.2	
Approach LOS		E			C			E			D	
90th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~9	~26		86	198		25	311	16	14	280	46
Queue Length 95th (ft)	m#108	m#503		m#118	m269		m31	m#513	m21	41	#474	102
Internal Link Dist (ft)		438			455			171			192	
Turn Bay Length (ft)	100			125			100		50	75		
Base Capacity (vph)	121	1135		179	1577		92	488	409	108	510	498
Starvation Cap Reductn	0	0		0	36		0	24	0	0	0	0
Spillback Cap Reductn	0	96		11	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.09		1.02	0.79		0.52	1.05	0.22	0.28	0.91	0.35

Intersection Summary

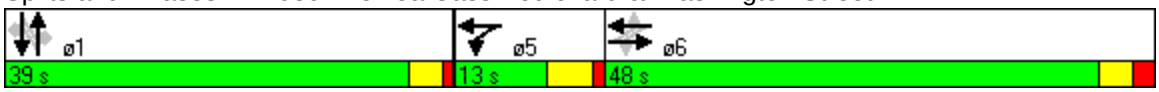
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 34 (34%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 47.5 Intersection LOS: D
Intersection Capacity Utilization 119.4% ICU Level of Service H
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: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	16	16	16	16	16	10	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.964				0.850		0.993	
Flt Protected					0.988		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1603	0	1647	1548	1263	1317	1569	0
Flt Permitted					0.988		0.091			0.240		
Satd. Flow (perm)	0	0	0	0	1603	0	158	1548	1263	333	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					16				32		4	
Headway Factor	1.14	1.14	1.14	0.97	0.97	0.97	0.97	0.97	1.12	1.25	0.97	0.97
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		247			415			597			130	
Travel Time (s)		5.6			9.4			16.3			3.5	
Volume (vph)	0	0	0	73	147	79	22	510	85	192	428	22
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	6%	0%	6%	0%	12%	5%	3%	10%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0			
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	79	160	86	24	554	92	209	465	24
Lane Group Flow (vph)	0	0	0	0	325	0	24	554	92	209	489	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	5.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	9.0		
Total Split (s)	0.0	0.0	0.0	23.0	23.0	0.0	48.0	48.0	48.0	11.0	59.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	23.0%	23.0%	0.0%	48.0%	48.0%	48.0%	11.0%	59.0%	0.0%
Maximum Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					19.0		54.8	54.8	54.8	61.8	65.8	
Actuated g/C Ratio					0.19		0.55	0.55	0.55	0.62	0.66	
v/c Ratio					1.02		0.28	0.65	0.13	0.76	0.47	
Control Delay					90.6		27.8	23.3	10.3	31.8	16.0	
Queue Delay					0.9		0.0	2.5	0.0	0.0	1.8	
Total Delay					91.5		27.8	25.8	10.3	31.8	17.8	
LOS					F		C	C	B	C	B	
Approach Delay					91.5			23.7			22.0	
Approach LOS					F			C			C	
90th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
70th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
50th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
50th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
30th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
30th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
10th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
10th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					~186		6	192	14	55	92	
Queue Length 95th (ft)					m#323		38	#489	53	m113	m265	
Internal Link Dist (ft)		167			335			517			50	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					318		87	848	707	275	1034	
Starvation Cap Reductn					0		0	0	0	0	373	
Spillback Cap Reductn					1		0	179	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					1.03		0.28	0.83	0.13	0.76	0.74	

Intersection Summary

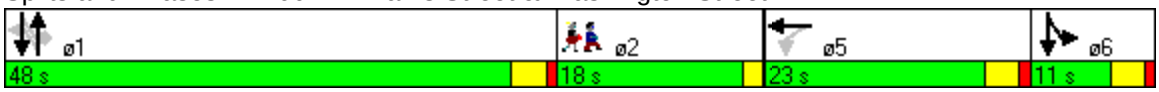
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 36.0 Intersection LOS: D
Intersection Capacity Utilization 77.1% ICU Level of Service D
Analysis Period (min) 15

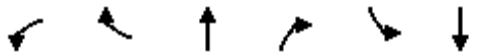
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1007: Williams Street & Washington Street

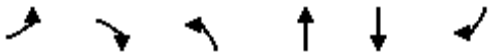




Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	197	0	0	0	0	783
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	214	0	0	0	0	851
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						346
pX, platoon unblocked	0.74					
vC, conflicting volume	851	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	798	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	19	100			100	
cM capacity (veh/h)	264	1091			1623	

Direction, Lane #	WB 1	SB 1
Volume Total	214	851
Volume Left	214	0
Volume Right	0	0
cSH	264	1700
Volume to Capacity	0.81	0.50
Queue Length 95th (ft)	159	0
Control Delay (s)	58.5	0.0
Lane LOS	F	
Approach Delay (s)	58.5	0.0
Approach LOS	F	

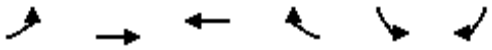
Intersection Summary			
Average Delay	11.7		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	33	51	50	538	589	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	55	54	585	640	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				130	251	
pX, platoon unblocked	0.79	0.66	0.66			
vC, conflicting volume	1359	665	690			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	971	495	532			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	86	92			
cM capacity (veh/h)	206	383	693			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	91	639	690
Volume Left	36	54	0
Volume Right	55	0	50
cSH	286	693	1700
Volume to Capacity	0.32	0.08	0.41
Queue Length 95th (ft)	33	6	0
Control Delay (s)	23.3	2.1	0.0
Lane LOS	C	A	
Approach Delay (s)	23.3	2.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	185	5	0	12
Peak Hour Factor	0.92	0.92	0.76	0.33	0.92	0.58
Hourly flow rate (vph)	0	0	243	15	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			247			
pX, platoon unblocked						
vC, conflicting volume	259				251	251
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	259				251	251
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	97
cM capacity (veh/h)	1318				742	793

Direction, Lane #	WB 1	SB 1
Volume Total	259	21
Volume Left	0	0
Volume Right	15	21
cSH	1700	793
Volume to Capacity	0.15	0.03
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	9.7
Lane LOS		A
Approach Delay (s)	0.0	9.7
Approach LOS		A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.998									0.994	
Flt Protected					0.996						0.991	
Satd. Flow (prot)	0	2786	0	0	2627	0	0	0	0	0	2745	0
Flt Permitted					0.619						0.991	
Satd. Flow (perm)	0	2786	0	0	1633	0	0	0	0	0	2745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2									4	
Headway Factor	1.19	1.14	1.14	1.19	1.19	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			232			347			262	
Travel Time (s)		15.6			5.3			7.9			6.0	
Volume (vph)	0	1068	17	116	1175	0	0	0	0	56	254	14
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	12%	12%	6%	0%	0%	0%	0%	6%	3%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1161	18	126	1277	0	0	0	0	61	276	15
Lane Group Flow (vph)	0	1179	0	0	1403	0	0	0	0	0	352	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	61.0	0.0	12.0	73.0	0.0	0.0	0.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	61.0%	0.0%	12.0%	73.0%	0.0%	0.0%	0.0%	0.0%	27.0%	27.0%	0.0%
Maximum Green (s)		57.0		8.0						23.0	23.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		63.5			71.5						16.5	
Actuated g/C Ratio		0.64			0.72						0.16	
v/c Ratio		0.67			1.13						0.77	
Control Delay		8.2			84.3						50.7	
Queue Delay		0.0			0.0						0.0	
Total Delay		8.2			84.3						50.7	
LOS		A			F						D	
Approach Delay		8.2			84.3						50.7	
Approach LOS		A			F						D	
90th %ile Green (s)		58.2		8.0						21.8	21.8	
90th %ile Term Code		Coord		Max						Gap	Gap	
70th %ile Green (s)		61.3		8.0						18.7	18.7	
70th %ile Term Code		Coord		Max						Gap	Gap	
50th %ile Green (s)		63.5		8.0						16.5	16.5	
50th %ile Term Code		Coord		Max						Gap	Gap	
30th %ile Green (s)		65.6		8.0						14.4	14.4	
30th %ile Term Code		Coord		Max						Gap	Gap	
10th %ile Green (s)		68.7		8.0						11.3	11.3	
10th %ile Term Code		Coord		Max						Gap	Gap	
Queue Length 50th (ft)		74			~271						113	
Queue Length 95th (ft)		52			#635						153	
Internal Link Dist (ft)		605			152			267			182	
Turn Bay Length (ft)												
Base Capacity (vph)		1769			1246						634	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.67			1.13						0.56	

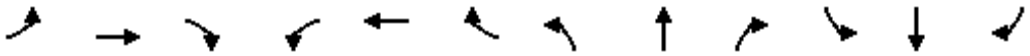
Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 59 (59%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 49.7		Intersection LOS: D	
Intersection Capacity Utilization 103.1%		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.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	96		0	120		80	70		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1330	2562	0	1243	2637	0	1090	1382	990	1364	1404	1275
Flt Permitted	0.151			0.121			0.571			0.213		
Satd. Flow (perm)	211	2562	0	158	2637	0	655	1382	990	306	1404	1275
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7				45			48
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			535			201			237	
Travel Time (s)		6.5			12.2			4.6			5.4	
Volume (vph)	131	939	38	186	1153	53	82	475	88	48	183	56
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	12%	13%	6%	2%	20%	7%	27%	3%	9%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	142	1021	41	202	1253	58	89	516	96	52	199	61
Lane Group Flow (vph)	142	1062	0	202	1311	0	89	516	96	52	199	61
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	41.0	41.0		13.0			34.0	34.0	34.0	34.0	34.0	34.0
Total Split (s)	45.0	45.0	0.0	13.0	58.0	0.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	45.0%	45.0%	0.0%	13.0%	58.0%	0.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	41.0	41.0		50.0	54.0		38.0	38.0	38.0	38.0	38.0	38.0
Actuated g/C Ratio	0.41	0.41		0.50	0.54		0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	1.63	1.01		1.14	0.92		0.36	0.98	0.24	0.45	0.37	0.12
Control Delay	344.4	50.5		118.8	20.1		17.3	55.8	6.0	38.2	25.0	8.7
Queue Delay	0.0	0.0		0.0	0.4		0.0	26.2	0.0	0.0	0.0	0.0
Total Delay	344.4	50.5		118.8	20.5		17.3	82.0	6.0	38.2	25.0	8.7
LOS	F	D		F	C		B	F	A	D	C	A
Approach Delay		85.2			33.6			63.4			24.0	
Approach LOS		F			C			E			C	
90th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	40.0	40.0		8.0			38.0	38.0	38.0	38.0	38.0	38.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~133	~362		~113	165		42	325	20	24	90	5
Queue Length 95th (ft)	m#225	#492		m#116	m155		m45	#559	m19	68	151	31
Internal Link Dist (ft)		206			455			121			157	
Turn Bay Length (ft)	100			96			120		80	70		
Base Capacity (vph)	87	1053		177	1427		249	525	404	116	534	514
Starvation Cap Reductn	0	0		0	12		0	43	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.63	1.01		1.14	0.93		0.36	1.07	0.24	0.45	0.37	0.12

Intersection Summary

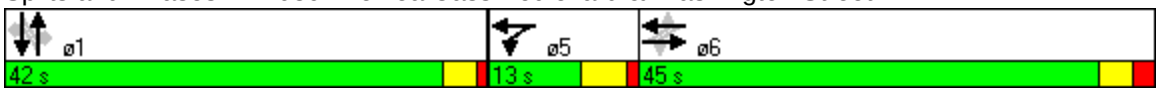
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 6 (6%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.63
Intersection Signal Delay: 55.1 Intersection LOS: E
Intersection Capacity Utilization 131.1% ICU Level of Service H
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.

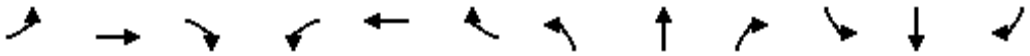
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	16	12	12	16	12	10	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.944				0.850		0.990	
Flt Protected					0.990		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1519	0	1454	1535	1064	1292	1312	0
Flt Permitted					0.990		0.091			0.171		
Satd. Flow (perm)	0	0	0	0	1519	0	139	1535	1064	233	1312	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					32				13		5	
Headway Factor	1.14	1.14	1.14	1.14	0.97	1.14	1.14	0.97	1.30	1.25	1.12	1.14
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		276			415			597			179	
Travel Time (s)		6.3			9.4			13.6			4.1	
Volume (vph)	0	0	0	40	70	78	19	581	40	64	297	20
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	5%	5%	9%	0%	13%	10%	5%	19%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0		0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	43	76	85	21	632	43	70	323	22
Lane Group Flow (vph)	0	0	0	0	204	0	21	632	43	70	345	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	6.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	10.0		
Total Split (s)	0.0	0.0	0.0	24.0	24.0	0.0	48.0	48.0	48.0	10.0	58.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	24.0%	24.0%	0.0%	48.0%	48.0%	48.0%	10.0%	58.0%	0.0%
Maximum Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

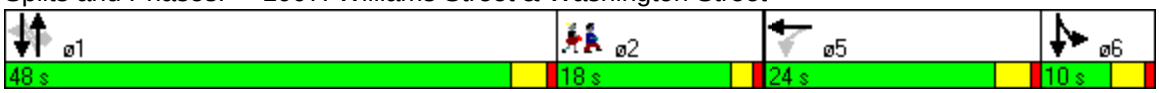


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					15.9		62.5	62.5	62.5	68.5	72.5	
Actuated g/C Ratio					0.16		0.62	0.62	0.62	0.68	0.72	
v/c Ratio					0.76		0.24	0.66	0.06	0.31	0.36	
Control Delay					31.9		22.6	19.1	8.7	9.8	8.3	
Queue Delay					0.1		0.0	2.5	0.0	0.0	0.5	
Total Delay					32.0		22.6	21.6	8.7	9.8	8.8	
LOS					C		C	C	A	A	A	
Approach Delay					32.0			20.9			9.0	
Approach LOS					C			C			A	
90th %ile Green (s)				20.0	20.0		44.0	44.0	44.0	6.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				17.4	17.4		64.6	64.6	64.6	6.0		
70th %ile Term Code				Gap	Gap		Coord	Coord	Coord	Max		
50th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
50th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
30th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
30th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
10th %ile Green (s)				14.0	14.0		68.0	68.0	68.0	6.0		
10th %ile Term Code				Min	Min		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					74		5	194	6	10	76	
Queue Length 95th (ft)					m95		36	#606	32	m33	m153	
Internal Link Dist (ft)		196			335			517			99	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					329		87	960	670	223	953	
Starvation Cap Reductn					0		0	0	0	0	275	
Spillback Cap Reductn					4		0	208	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					0.63		0.24	0.84	0.06	0.31	0.51	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 83 (83%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 66.2% 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.

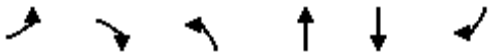
Splits and Phases: 1007: Williams Street & Washington Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	94	0	0	0	0	387
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	102	0	0	0	0	421
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						347
pX, platoon unblocked	0.87					
vC, conflicting volume	421	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	332	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	100			100	
cM capacity (veh/h)	573	1091			1636	

Direction, Lane #	WB 1	SB 1
Volume Total	102	421
Volume Left	102	0
Volume Right	0	0
cSH	573	1700
Volume to Capacity	0.18	0.25
Queue Length 95th (ft)	16	0
Control Delay (s)	12.6	0.0
Lane LOS	B	
Approach Delay (s)	12.6	0.0
Approach LOS	B	

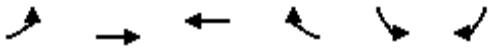
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	7	8	23	635	372	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	9	25	690	404	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				179	201	
pX, platoon unblocked	0.81	0.83	0.83			
vC, conflicting volume	1164	423	442			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	886	305	328			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	99	98			
cM capacity (veh/h)	249	610	1022			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	16	715	442
Volume Left	8	25	0
Volume Right	9	0	38
cSH	363	1022	1700
Volume to Capacity	0.04	0.02	0.26
Queue Length 95th (ft)	4	2	0
Control Delay (s)	15.4	0.6	0.0
Lane LOS	C	A	
Approach Delay (s)	15.4	0.6	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	90	18	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	98	20	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			276			
pX, platoon unblocked						
vC, conflicting volume	117				108	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	117				108	108
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1471				890	946

Direction, Lane #	WB 1	SB 1
Volume Total	117	4
Volume Left	0	0
Volume Right	20	4
cSH	1700	946
Volume to Capacity	0.07	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	8.8
Lane LOS		A
Approach Delay (s)	0.0	8.8
Approach LOS		A

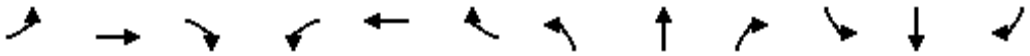
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1107	15	0	0	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1203	16	0	0	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	232			286		
pX, platoon unblocked			0.75		0.75	0.75
vC, conflicting volume			1220		1211	610
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			956		945	140
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			534		194	660

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	802	417	9
Volume Left	0	0	0
Volume Right	0	16	9
cSH	1700	1700	660
Volume to Capacity	0.47	0.25	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	10.5
Lane LOS			B
Approach Delay (s)	0.0		10.5
Approach LOS			B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	11	11	11	12	12	12	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.995									0.994	
Flt Protected					0.993						0.994	
Satd. Flow (prot)	0	2835	0	0	2517	0	0	0	0	0	2838	0
Flt Permitted					0.512						0.994	
Satd. Flow (perm)	0	2835	0	0	1298	0	0	0	0	0	2838	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5									4	
Headway Factor	1.19	1.14	1.14	1.19	1.20	1.19	1.14	1.14	1.14	1.19	1.14	1.19
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			232			346			274	
Travel Time (s)		15.6			5.3			7.9			6.2	
Volume (vph)	0	1094	38	185	1112	0	0	0	0	79	561	28
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	13%	10%	0%	0%	0%	0%	3%	1%	0%
Bus Blockages (#/hr)	0	0	0	1	2	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1189	41	201	1209	0	0	0	0	86	610	30
Lane Group Flow (vph)	0	1230	0	0	1410	0	0	0	0	0	726	0
Turn Type				D.P+P						Perm		
Protected Phases		1		5	1 5						6	
Permitted Phases				1						6		
Detector Phases		1		1 5	1 5					6	6	
Minimum Initial (s)		6.0		2.0						6.0	6.0	
Minimum Split (s)		39.0		6.0						27.0	27.0	
Total Split (s)	0.0	54.0	0.0	17.0	71.0	0.0	0.0	0.0	0.0	29.0	29.0	0.0
Total Split (%)	0.0%	54.0%	0.0%	17.0%	71.0%	0.0%	0.0%	0.0%	0.0%	29.0%	29.0%	0.0%
Maximum Green (s)		50.0		13.0						25.0	25.0	
Yellow Time (s)		3.0		3.0						3.0	3.0	
All-Red Time (s)		1.0		1.0						1.0	1.0	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		2.0		1.0						2.0	2.0	
Minimum Gap (s)		2.0		1.0						2.0	2.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)		0.0		0.0						0.0	0.0	
Time To Reduce (s)		0.0		0.0						0.0	0.0	
Recall Mode		C-Max		None						None	None	
Walk Time (s)		9.0								9.0	9.0	
Flash Dont Walk (s)		10.0								11.0	11.0	
Pedestrian Calls (#/hr)		0								5	5	
Act Effct Green (s)		50.0			63.0						25.0	
Actuated g/C Ratio		0.50			0.63						0.25	
v/c Ratio		0.87			1.44						1.02	
Control Delay		23.1			228.2						76.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		23.1			228.2						76.4	
LOS		C			F						E	
Approach Delay		23.1			228.2						76.4	
Approach LOS		C			F						E	
90th %ile Green (s)		50.0		13.0						25.0	25.0	
90th %ile Term Code		Coord		Max						Max	Max	
70th %ile Green (s)		50.0		13.0						25.0	25.0	
70th %ile Term Code		Coord		Max						Max	Max	
50th %ile Green (s)		50.0		13.0						25.0	25.0	
50th %ile Term Code		Coord		Max						Max	Max	
30th %ile Green (s)		50.0		13.0						25.0	25.0	
30th %ile Term Code		Coord		Max						Max	Max	
10th %ile Green (s)		50.0		13.0						25.0	25.0	
10th %ile Term Code		Coord		Max						Max	Max	
Queue Length 50th (ft)		321			~527						~251	
Queue Length 95th (ft)		508			#662						#378	
Internal Link Dist (ft)		605			152			266			194	
Turn Bay Length (ft)												
Base Capacity (vph)		1420			976						713	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.87			1.44						1.02	

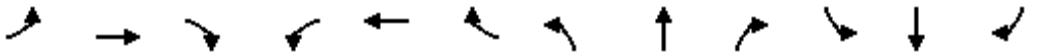
Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 75 (75%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 120.5 Intersection LOS: F
Intersection Capacity Utilization 117.1% ICU Level of Service H
Analysis Period (min) 15

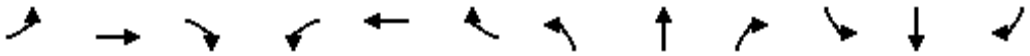
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2088: Melnea Cass Boulevard & Shawmut Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	10	10	14	11	11	12	9	11	11	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	125		0	100		50	75		0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.993			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1357	2570	0	1255	2759	0	1081	1395	1113	1405	1457	1288
Flt Permitted	0.193			0.115			0.264			0.225		
Satd. Flow (perm)	276	2570	0	152	2759	0	300	1395	1113	333	1457	1288
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			9				29			72
Headway Factor	1.25	1.25	1.05	1.19	1.19	1.14	1.30	1.19	1.19	1.19	1.14	1.14
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		286			535			251			272	
Travel Time (s)		6.5			12.2			6.8			7.4	
Volume (vph)	115	995	48	169	1068	58	65	433	76	28	402	161
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	1%	12%	1%	2%	21%	6%	13%	0%	5%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	125	1082	52	184	1161	63	71	471	83	30	437	175
Lane Group Flow (vph)	125	1134	0	184	1224	0	71	471	83	30	437	175
Turn Type	Perm			D.P+P			Perm		Perm	Perm		Perm
Protected Phases		6		5	5 6			1			1	
Permitted Phases	6			6			1		1	1		1
Detector Phases	6	6		5 6	5 6		1	1	1	1	1	1
Minimum Initial (s)	30.0	30.0		8.0			24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	40.0	40.0		13.0			32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	48.0	48.0	0.0	13.0	61.0	0.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	48.0%	48.0%	0.0%	13.0%	61.0%	0.0%	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%
Maximum Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0		4.0			3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		1.0			1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0			3.0	3.0	3.0	3.0	3.0	3.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0			0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None			C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	21.0	21.0					14.0	14.0	14.0	14.0	14.0	14.0
Flash Dont Walk (s)	14.0	14.0					14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	5	5					0	0	0	0	0	0
Act Effct Green (s)	44.0	44.0		53.0	57.0		35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.44	0.44		0.53	0.57		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	1.03	1.00		1.02	0.78		0.68	0.97	0.20	0.26	0.86	0.35
Control Delay	123.3	55.6		88.0	19.7		47.0	53.9	6.9	30.4	48.3	16.2
Queue Delay	0.0	23.6		17.3	0.2		0.0	11.9	0.0	0.0	0.0	0.0
Total Delay	123.3	79.3		105.3	19.9		47.0	65.8	6.9	30.4	48.3	16.2
LOS	F	E		F	B		D	E	A	C	D	B
Approach Delay		83.6			31.1			55.9			38.7	
Approach LOS		F			C			E			D	
90th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	43.0	43.0		8.0			35.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Max	Max		Max			Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	~12	43		~97	198		40	298	15	14	256	46
Queue Length 95th (ft)	m#112	m#497		m#119	m270		m#81	m#489	m20	40	#432	102
Internal Link Dist (ft)		206			455			171			192	
Turn Bay Length (ft)	100			125			100		50	75		
Base Capacity (vph)	121	1134		180	1577		105	488	408	117	510	498
Starvation Cap Reductn	0	0		0	37		0	25	0	0	0	0
Spillback Cap Reductn	0	75		9	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.07		1.08	0.79		0.68	1.02	0.20	0.26	0.86	0.35

Intersection Summary

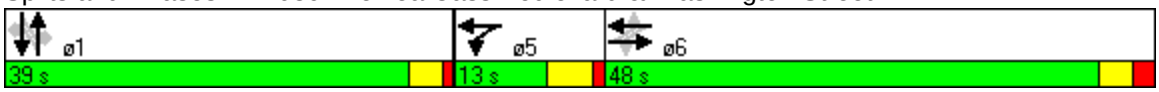
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 34 (34%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 53.1 Intersection LOS: D
Intersection Capacity Utilization 125.6% ICU Level of Service H
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: 2089: Melnea Cass Boulevard & Washington Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	16	16	16	16	16	10	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	25		50	100		0
Storage Lanes	0		0	0		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50	50	50	50	
Trailing Detector (ft)				0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.966				0.850		0.993	
Flt Protected					0.988		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1607	0	1647	1548	1263	1317	1569	0
Flt Permitted					0.988		0.091			0.267		
Satd. Flow (perm)	0	0	0	0	1607	0	158	1548	1263	370	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15				34		4	
Headway Factor	1.14	1.14	1.14	0.97	0.97	0.97	0.97	0.97	1.12	1.25	0.97	0.97
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		247			415			597			130	
Travel Time (s)		5.6			9.4			16.3			3.5	
Volume (vph)	0	0	0	73	151	76	29	482	85	197	414	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	6%	0%	6%	0%	12%	5%	3%	10%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)									0			
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	79	164	83	32	524	92	214	450	23
Lane Group Flow (vph)	0	0	0	0	326	0	32	524	92	214	473	0
Turn Type				Perm			Perm		Perm	D.P+P		
Protected Phases					5			1		6	1 6	
Permitted Phases				5			1		1	1		
Detector Phases				5	5		1	1	1	6	1 6	
Minimum Initial (s)				14.0	14.0		20.0	20.0	20.0	5.0		
Minimum Split (s)				18.0	18.0		24.0	24.0	24.0	9.0		
Total Split (s)	0.0	0.0	0.0	23.0	23.0	0.0	48.0	48.0	48.0	11.0	59.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	23.0%	23.0%	0.0%	48.0%	48.0%	48.0%	11.0%	59.0%	0.0%
Maximum Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
Yellow Time (s)				3.0	3.0		3.0	3.0	3.0	3.0		
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0		
Lead/Lag				Lead	Lead		Lead	Lead	Lead	Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0		2.0	2.0	2.0	2.0		
Minimum Gap (s)				2.0	2.0		2.0	2.0	2.0	2.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0		
Recall Mode				None	None		C-Max	C-Max	C-Max	None		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					19.0		54.8	54.8	54.8	61.8	65.8	
Actuated g/C Ratio					0.19		0.55	0.55	0.55	0.62	0.66	
v/c Ratio					1.03		0.37	0.62	0.13	0.73	0.46	
Control Delay					92.3		34.2	22.0	10.0	28.9	15.5	
Queue Delay					1.0		0.0	1.1	0.0	0.0	1.6	
Total Delay					93.3		34.2	23.2	10.0	28.9	17.1	
LOS					F		C	C	B	C	B	
Approach Delay					93.3			21.8			20.8	
Approach LOS					F			C			C	
90th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
90th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
70th %ile Green (s)				19.0	19.0		44.0	44.0	44.0	7.0		
70th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
50th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
50th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
30th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
30th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
10th %ile Green (s)				19.0	19.0		62.0	62.0	62.0	7.0		
10th %ile Term Code				Max	Max		Coord	Coord	Coord	Max		
Queue Length 50th (ft)					~188		9	176	14	49	78	
Queue Length 95th (ft)					m#326		#59	416	52	m117	m262	
Internal Link Dist (ft)		167			335			517			50	
Turn Bay Length (ft)							25		50	100		
Base Capacity (vph)					317		87	848	708	295	1034	
Starvation Cap Reductn					0		0	0	0	0	376	
Spillback Cap Reductn					1		0	141	0	0	0	
Storage Cap Reductn					0		0	0	0	0	0	
Reduced v/c Ratio					1.03		0.37	0.74	0.13	0.73	0.72	

Intersection Summary

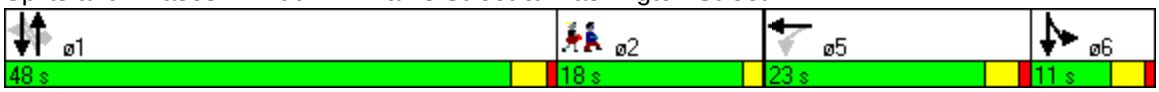
Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 35.4 Intersection LOS: D
Intersection Capacity Utilization 75.9% ICU Level of 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.

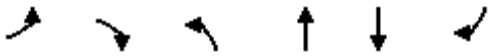
Splits and Phases: 1007: Williams Street & Washington Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	205	0	0	0	0	783
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	223	0	0	0	0	851
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						346
pX, platoon unblocked	0.74					
vC, conflicting volume	851	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	798	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	16	100			100	
cM capacity (veh/h)	264	1091			1623	

Direction, Lane #	WB 1	SB 1
Volume Total	223	851
Volume Left	223	0
Volume Right	0	0
cSH	264	1700
Volume to Capacity	0.84	0.50
Queue Length 95th (ft)	173	0
Control Delay (s)	63.6	0.0
Lane LOS	F	
Approach Delay (s)	63.6	0.0
Approach LOS	F	

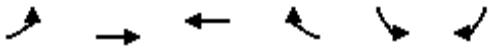
Intersection Summary			
Average Delay	13.2		
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	35	42	19	538	588	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	46	21	585	639	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				130	251	
pX, platoon unblocked	0.80	0.68	0.68			
vC, conflicting volume	1281	655	671			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	915	494	517			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	88	97			
cM capacity (veh/h)	237	395	722			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	84	605	671
Volume Left	38	21	0
Volume Right	46	0	32
cSH	303	722	1700
Volume to Capacity	0.28	0.03	0.39
Queue Length 95th (ft)	28	2	0
Control Delay (s)	21.4	0.8	0.0
Lane LOS	C	A	
Approach Delay (s)	21.4	0.8	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	184	15	0	21
Peak Hour Factor	0.92	0.92	0.76	0.33	0.92	0.58
Hourly flow rate (vph)	0	0	242	45	0	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			247			
pX, platoon unblocked						
vC, conflicting volume	288				265	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				265	265
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	1286				729	779

Direction, Lane #	WB 1	SB 1
Volume Total	288	36
Volume Left	0	0
Volume Right	45	36
cSH	1700	779
Volume to Capacity	0.17	0.05
Queue Length 95th (ft)	0	4
Control Delay (s)	0.0	9.8
Lane LOS		A
Approach Delay (s)	0.0	9.8
Approach LOS		A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1160	13	0	0	0	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1261	14	0	0	0	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	232			286		
pX, platoon unblocked			0.63		0.63	0.63
vC, conflicting volume			1275		1268	638
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			852		841	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			494		192	685

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	841	434	46
Volume Left	0	0	0
Volume Right	0	14	46
cSH	1700	1700	685
Volume to Capacity	0.49	0.26	0.07
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.0	10.6
Lane LOS			B
Approach Delay (s)	0.0		10.6
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

Proposed Parcel 10

Detailed Trip Generation Estimation

Howard/Stein-Hudson Associates
March 18, 2013

Phase 1 and 2

Component	Size	Category	Trip Rates (Trips/ksf or unit)	Unadjusted Vehicle Trips	National vehicle occupancy rate[1]	**Converted to Person trips**	Capture	Person Trips less Capture Rate	Transit Share[2]	**Transit Trips**	Walk/Bike/ Other Share[2]	**Walk/ Bike/ Other Trips**	Vehicle Share[2]	Vehicle Person Trips	Local vehicle occupancy rate[3]	**Total Adjusted Vehicle Trips**
Daily Trip Generation																
Warehousing [4]	16.6	Total	6.39	106	1.13	**120**	0%	120		**20**		**32**		**68**	1.18	**58**
	KSF	In	3.19	53	1.13	**60**	0%	60	17%	**10**	27%	**16**	56%	**34**	1.18	**29**
		Out	3.20	53	1.13	**60**	0%	60	17%	**10**	27%	**16**	56%	**34**	1.18	**29**
Residential [6]	30.0	Total	6.67	200	1.13	**226**	0%	226		**38**		**58**		**128**	1.18	**108**
	units	In	3.33	100	1.13	**113**	0%	113	17%	**19**	26%	**29**	57%	**64**	1.18	**54**
		Out	3.34	100	1.13	**113**	0%	113	17%	**19**	26%	**29**	57%	**64**	1.18	**54**
Office [8]	47.0	Total	11.04	519	1.13	**586**	0%	586		**141**		**100**		**341**	1.18	**289**
	KSF	In	5.53	260	1.13	**294**	0%	294	24%	**71**	17%	**50**	58%	**171**	1.18	**145**
		Out	5.51	259	1.13	**293**	0%	293	24%	**70**	17%	**50**	58%	**170**	1.18	**144**
Retail [9]	24.0	Total	42.71	1025	1.78	**1,825**	25%	1,369		**164**		**479**		**725**	1.78	**407**
	KSF	In	21.38	513	1.78	**913**	25%	685	12%	**82**	35%	**240**	53%	**363**	1.78	**204**
		Out	21.33	512	1.78	**911**	25%	683	12%	**82**	35%	**239**	53%	**362**	1.78	**203**
Grocery [10]	27.7	Total	102.27	2833	1.78	**5,043**	25%	3782		**454**		**1,324**		**2,005**	1.78	**1,126**
	KSF	In	51.16	1417	1.78	**2,522**	25%	1892	12%	**227**	35%	**662**	53%	**1,003**	1.78	**563**
		Out	51.11	1416	1.78	**2,520**	25%	1890	12%	**227**	35%	**662**	53%	**1,002**	1.78	**563**
Daily		Total		**4,683**		**7,800**		**6,083**		**817**		**1,993**				**1,988**
Total		In		**2,343**		**3,902**		**3,044**		**409**		**997**				**995**
		Out		**2,340**		**3,897**		**3,039**		**408**		**996**				**993**
AM Peak-hour Trip Generation																
Warehousing [4]	16.6	Total	1.87	31	1.13	**35**	0%	35		**7**		**9**		**17**	1.18	**14**
	KSF	In	1.45	24	1.13	**27**	0%	27	20%	**5**	27%	**7**	53%	**14**	1.18	**12**
		Out	0.42	7	1.13	**8**	0%	8	28%	**2**	28%	**2**	43%	**3**	1.18	**3**
Residential [6]	30.0	Total	0.63	19	1.13	**21**	0%	21		**6**		**6**		**10**	1.18	**8**
	units	In	0.13	4	1.13	**5**	0%	5	19%	**1**	27%	**1**	54%	**3**	1.18	**3**
		Out	0.50	15	1.13	**17**	0%	17	27%	**5**	29%	**5**	44%	**7**	1.18	**6**
Office [8]	47.0	Total	2.23	105	1.13	**119**	0%	119		**34**		**22**		**63**	1.18	**53**
	KSF	In	1.96	92	1.13	**104**	0%	104	27%	**28**	18%	**19**	55%	**57**	1.18	**48**
		Out	0.27	13	1.13	**15**	0%	15	40%	**6**	17%	**3**	43%	**6**	1.18	**5**
Retail [9]	24.0	Total	1.00	24	1.78	**43**	25%	32		**6**		**11**		**15**	1.78	**8**
	KSF	In	0.63	15	1.78	**27**	25%	20	13%	**3**	36%	**7**	51%	**10**	1.78	**6**
		Out	0.37	9	1.78	**16**	25%	12	21%	**3**	37%	**4**	42%	**5**	1.78	**3**
Grocery [10]	27.7	Total	3.43	95	1.78	**169**	25%	127		**20**		**46**		**60**	1.78	**34**
	KSF	In	2.13	59	1.78	**105**	25%	79	13%	**10**	36%	**28**	51%	**40**	1.78	**22**
		Out	1.30	36	1.78	**64**	25%	48	21%	**10**	37%	**18**	42%	**20**	1.78	**11**
AM Peak		Total		**274**		**387**		**334**		**73**		**94**				**117**
Total		In		**194**		**268**		**235**		**47**		**62**				**91**
		Out		**80**		**120**		**100**		**26**		**32**				**28**
PM Peak-hour Trip Generation																
Warehousing [4]	16.6	Total	1.14	19	1.13	**21**	0%	21		**5**		**6**		**11**	1.18	**9**
	KSF	In	0.30	5	1.13	**6**	0%	6	28%	**2**	28%	**2**	43%	**3**	1.18	**3**
		Out	0.84	14	1.13	**16**	0%	16	20%	**3**	27%	**4**	53%	**8**	1.18	**7**
Residential [5]	30.0	Total	1.17	35	1.13	**40**	0%	40		**11**		**11**		**19**	1.18	**16**
	units	In	0.77	23	1.13	**26**	0%	26	29%	**8**	27%	**7**	44%	**11**	1.18	**9**
		Out	0.40	12	1.13	**14**	0%	14	19%	**3**	27%	**4**	54%	**8**	1.18	**7**
Office [8]	47.0	Total	2.81	132	1.13	**149**	0%	149		**43**		**26**		**79**	1.18	**67**
	KSF	In	0.47	22	1.13	**25**	0%	25	40%	**10**	17%	**4**	43%	**11**	1.18	**9**
		Out	2.34	110	1.13	**124**	0%	124	27%	**33**	18%	**22**	55%	**68**	1.18	**58**
Retail [9]	24.0	Total	3.75	90	1.78	**160**	25%	120		**20**		**44**		**56**	1.78	**31**
	KSF	In	1.79	43	1.78	**77**	25%	58	21%	**12**	37%	**21**	42%	**24**	1.78	**13**
		Out	1.96	47	1.78	**84**	25%	63	13%	**8**	36%	**23**	51%	**32**	1.78	**18**
Grocery [10]	27.7	Total	9.49	263	1.78	**468**	25%	351		**60**		**128**		**163**	1.78	**92**
	KSF	In	4.84	134	1.78	**239**	25%	179	21%	**38**	37%	**66**	42%	**75**	1.78	**42**
		Out	4.65	129	1.78	**230**	25%	173	13%	**22**	36%	**62**	51%	**88**	1.78	**49**
PM Peak		Total		**539**		**838**		**681**		**139**		**215**				**215**
Total		In		**227**		**373**		**294**		**70**		**100**				**76**
		Out		**312**		**468**		**390**		**69**		**115**				**139**
Saturday Midday Peak-hour Trip Generation																
Warehousing [5]	16.6	Total	1.27	21	1.13	**24**	0%	24		**4**		**6**		**13**	1.18	**11**
	KSF	In	0.66	11	1.13	**12**	0%	12	16%	**2**	28%	**3**	56%	**7**	1.18	**6**
		Out	0.61	10	1.13	**11**	0%	11	14%	**2**	27%	**3**	58%	**6**	1.18	**5**
Residential [7]	30.0	Total	6.40	192	1.13	**217**	0%	217		**31**		**56**		**129**	1.18	**109**
	units	In	3.20	96	1.13	**108**	0%	108	17%	**18**	26%	**28**	57%	**62**	1.18	**53**
		Out	3.20	96	1.13	**108**	0%	108	12%	**13**	26%	**28**	62%	**67**	1.18	**57**
Office [8]	47.0	Total	2.72	128	1.13	**145**	0%	145		**34**		**24**		**86**	1.18	**73**
	KSF	In	1.36	64	1.13	**72**	0%	72	23%	**17**	17%	**12**	61%	**44**	1.18	**37**
		Out	1.36	64	1.13	**72**	0%	72	24%	**17**	17%	**12**	59%	**42**	1.18	**36**
Retail [9]	24.0	Total	50.00	1200	1.78	**2,136**	25%	1602		**184**		**560**		**866**	1.78	**487**
	KSF	In	25.00	600	1.78	**1,068**	25%	801	12%	**96**	35%	**280**	54%	**433**	1.78	**243**
		Out	25.00	600	1.78	**1,068**	25%	801	11%	**88**	35%	**280**	54%	**433**	1.78	**243**
Grocery [8]	27.7	Total	177.62	4920	1.78	**8,758**	25%	6569		**755**		**2,298**		**3,546**	1.78	**1,992**
	KSF	In	88.81	2460	1.78	**4,379**	25%	3284	12%	**394**	35%	**1,149**	54%	**1,773**	1.78	**996**
		Out	88.81	2460	1.78	**4,379**	25%	3284	11%	**361**	35%	**1,149**	54%	**1,773**	1.78	**996**
Sat Peak		Total		**6,461**		**11,280**		**8,557**		**1,008**		**2,944**				**2,672**
Total		In		**3,231**		**5,639**		**4,277**		**527**		**1,472**				**1,335**
		Out		**3,230**		**5,638**		**4,276**		**481**		**1,472**				**1,337**

Notes:

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.78: family/personal business/shopping; 1.84: errands; 2.2 :social/recreational; 1.67 All Purpose
2. Mode shares based on peak-hour BTD Data for Area 15
3. Local vehicle occupancy rates based on 2000 Census of population and housing, 1.18 and 2009 National vehivle occupancy rates
4. ITE Trip Generation, 9th Edition, LUC 150 (Warehousing), Fitted Curve
5. ITE Trip Generation, 9th Edition, LUC 150 (Warehousing), Average Rate
6. ITE Trip Generation Rate, 9th Edition, LUC 220 (Apartment), Fitted Curve
7. ITE Trip Generation Rate, 9th Edition, LUC 220 (Apartment), Average Rate
8. ITE Trip Generation Rate, 9th Edition, LUC 710 (General Office Building), Fitted Curve
9. ITE Trip Generation, 9th Edition, LUC 820 (Shopping Center), Average Rate
10. ITE Trip Generation, 9th Edition, LUC 850 (Supermarket), Average Rate

Parcel 10 Redevelopment
Trip Generation Comparison Table
Howard/Stein-Hudson
March 29th 2013

Unadjusted Trips			
DAILY	Existing[1]	Proposed	Net New
Total	1415	4,683	3,268
In	708	2,343	1,635
Out	708	2,340	1,632
AM			
Total	86	274	188
In	54	194	140
PM	32	80	48
PM			
Total	197	539	342
In	101	227	126
Out	96	312	216

Adjusted Trips			
DAILY	Existing[1]	Proposed	Net New
Total	1415	1,988	573
In	708	995	287
Out	708	993	285
AM			
Total	86	117	31
In	54	91	37
Out	32	28	-4
PM			
Total	197	215	18
In	101	76	-25
Out	96	139	43

1. The existing trip generation is based on turning movement count data collected at the site driveways during a.m. and p.m. peak hours. The a.m. and p.m. totals are assumed to account for 20% of daily trips.