EXPANDED PROJECT NOTIFICATION FORM (PNF)

190-206 WEST SECOND STREET RESIDENTIAL PROJECT

190-206 West Second Street, South Boston, MA

DECEMBER 2013

Submitted to:
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Submitted & Prepared by:
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McDermott, Quilty, & Miller
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Geotechnical Consulting Inc.
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1.0 EXECUTIVE SUMMARY

1.1 Introduction

This Expanded Project Notification Form ("PNF") is being submitted by Triad Alpha Partners, LLC (the "Project Proponent") in accordance with the Article 80 Large Project Review requirements of the Boston Zoning Code. The proposal is for a multi-family residential development with 97 residential units and 4,000 square foot retail space with associated garage parking for 115 spaces to serve these uses (the "Proposed Project").

The Project Site sits on approximately 49,751 square feet of land (five parcels) located at 181 West First Street, 185 West First Street, 184 West Second Street, 190 West Second Street and 206 West Second Street in the South Boston neighborhood of Boston. The Project Site is located within 0.4 miles of the Broadway MBTA Station and within 1/2 mile to the Boston Convention Center. For purposes of this proposal, the Project Site will be referred to as 190 West Second Street.

The Proponent will commence "Large Project Review" under Article 80 of the Code with the simultaneous filing of a Letter of Intent to file an Expanded Project Notification Form and the Expanded PNF. The Proponent has outreached to City agencies, neighborhood representatives and groups, elected officials, and other interested parties over the past several months with respect to the Project. The principals of Triad Alpha Partners LLC have attended and participated in the East & West Street Planning and Zoning process and look forward to continuing their collaboration throughout the Article 80 review process.

1.2 Proposed Project

1.2.1 Project Site Description and Context

The Project Site is located in the South Boston neighborhood of Boston along 1st and 2nd Street with close proximity to the Seaport District. As referenced above, the Project Site is bordered by West 1st Street (North), C Street (East), West 2nd Street (South), and a City owned property, 174 West Second Street and 175 West First Street (West). The parcel is 49,751 square feet of land and the parcels are currently owned by 184 West Second Street, LLC, 181 West First Street, LLC and Second 206 West, LLC. The project Site has approximately 246 feet of frontage on West 1st and 195 feet of frontage on West 2nd Street and approximately 200 feet of frontage on C Street.

The parcel currently contains an undistinguished two-story masonry structure (approximately 22,000 square feet) along the eastern portion of the property and a unpaved parking area along the West First Street part of the parcel. The existing building appears to have no architectural significance.

Directly across West 1st Street from the Project Site are commercial warehouse buildings and associated parking lots owned and leased by Casey & Hayes Movers, and AMRAMP Corporation. The block across West 2nd Street has a number of empty residential lots facing West 2nd Street, and three to four and one-half story high residential row houses facing West 2nd Street. To the West of the parcel along B Street is the Signal Building, a four story residential building housing 75 apartments. Facing the C Street side of the Project Site is the West Square project which is in the process of being constructed. West Square is a four story residential building containing approximately 259 apartment units. Several of these structures have wood clapboard exteriors and several have brick and masonry exteriors.

1.2.2 Surrounding Area

The Project Site is located 3 blocks north of the West Broadway retail corridor, 2 blocks from Flaherty Park and Buckley Lee playground and the Boston Convention and Exhibition Center , within ½ mile of the West Broadway MBTA station. The Project Site is located in the South

Boston Neighborhood of the City of Boston within the First Street Neighborhood Development Area (NDA).

The MBTA Red Line Subway - Broadway Station, Bus Routes 9 and 11and 47 bus stop are located on West Broadway approximately 1000 feet east of the Site.

The subway line provides frequent service to South Station (2-minute ride; a regular T-pass is accepted), to Park Street, to Downtown Crossing through Cambridge to Alewife, or in the other direction thru South Boston and Quincy to Braintree.

The immediate area is a dense urban neighborhood with gaps in the typical fabric due to various degrees of demolition over the years. The existing residential buildings on West Second Street are 3 to 4-1/2 story multi-family buildings, some of which are accented with bays. The context is denser to the south and east of the Site and less dense north and east of the site due to large areas of 1 to 2-story industrial warehouses and surface parking. Other amenities in the neighborhood include:

- Flaherty Park, a neighborhood park 0.2 miles southwest of the Project Site;
- Buckley Park and Playground, a neighborhood park 0.25 miles east of the Project Site;
- Institute of Contemporary Art and Bank of America Pavilion less than 1 mile from the Project Site;
- The Boston Convention and Exhibition Center;
- The Arts for Humanity;
- South Boston Public Library;
- Various churches and schools and;
- The West Broadway commercial district with its many stores, restaurants and other services including banks, a super market, clothing stores, theater, pharmacy, health center, insurance agency, travel agency, real estate office, beauty salons and barbershops.

The immediate site context along West Second and West First Street has seen high level new residential development in the last several years. This overall project offers enormous potential for a transit-oriented development that can take a major step in weaving back together a more sustainable and invigorated neighborhood.

1.2.3 Project Description

The Proposed Project calls for the development of 97 residential units and garage parking for 115 spaces within the building. Six foot setbacks will be provided at West 2nd and C Streets, and a continuous eight foot setback along the north end of the site extending the length of West 1st Street. Open space for the building residents has been provided in the form of landscape areas within the setbacks, an interior courtyard, balconies, terraces and a roof deck. .

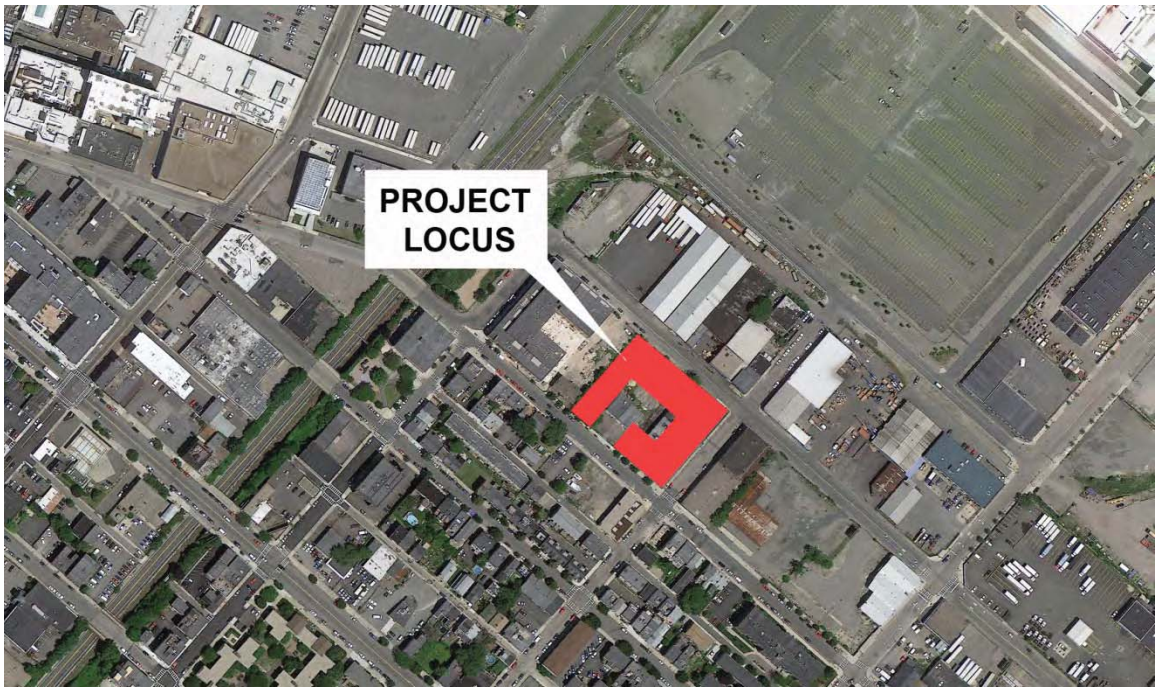
The existing 2-story warehouse building will be demolished to make space for the new three story building, and the site will be subject to any necessary remediation.

The parking garage, level with West 1st Street and facing the industrial side of the neighborhood, will be entered from West 1st Street and will accommodate approximately 115 parking spaces and a trash/loading zone. There is also a 4,000 square foot retail component at the corner of West 1st Street and C Street. In addition, a bike storage area and associated mechanical and storage spaces will be provided at the garage level.

A three-story structure will be built on top of the garage with its entrance and primary accesses from West 2nd Street and West 1st Street. The U-shaped building will follow the setbacks of the property on the north, east and west streets, and create a courtyard/open air atrium in the middle of the property to bring light and air into the interior apartments.

The building will be equipped with 2 elevators, a one-elevator bank at each lobby entrance on West 2nd Street, and a service elevator directly accessible from the West 1st Street for loading, trash, and tenant moving. All elevators will be accessible from the parking garage with no more than one required for roof deck access. The building will be equipped with addressable fire alarm and full sprinkler systems.

Figure 1-1 Project Locus Map



1.3 Summary of Project Impacts and Mitigation

1.3.1 Wind Impacts

The Project is not expected to have any adverse wind impacts on adjacent buildings or open space areas since the proposed building heights are consistent with the buildings within the neighborhood. A wind analysis therefore for the proposed Project was not conducted. The Proposed Project's Street Elevations are depicted clearly in Figures 3-11 and 3-12.

1.3.2 Air Quality Impacts

Given the proposed Project's small scale, no adverse air quality impacts are expected. The proximity of the overall Project Site to public transportation and within 1 mile of the Financial District further decreases the number of vehicle trips added to the nearby intersections. As discussed in Section 5.0 Transportation Component, existing bus and MBTA Commuter Rail line capacities are more than sufficient to handle the number of trips expected to be generated by the proposed Project.

1.3.3 Noise Analysis

The Proposed Project will not have a large-scale noise producing HVAC or other potential noise producing equipment. Each unit will be served by high-efficiency HVAC equipment that will fully comply with sound level limits set by the DEP Noise Policy and the City of Boston Noise Regulations at all times of the day.

1.3.4 Shadow Impacts

A shadow impact analysis was conducted to investigate shadow impacts from the proposed Project. The study tracked the sun and resulting shadow during three time periods (9:00 am, 12:00 noon and 5:00 pm) during the vernal equinox (March 21st), summer solstice (June 21st), autumnal equinox (September 21st), and three time periods (9:00 am, 12:00 noon and 3:00 pm) during the winter solstice (December 21st).

The shadow analysis presents new shadows from the Project, as well as shadows of the existing neighborhood, and illustrates the impact of the Project (see Figures 1-2 to 1-13). The analysis primarily focuses on the impact to the surrounding streets as no existing public spaces or major pedestrian areas exist adjacent to and in the vicinity of the site. New shadows from the proposed Project are generally limited to the streets and sidewalks surrounding the Project site. No new shadow is anticipated to be cast on West 2nd Street (south of the Proposed Building) except during June after 5:00 pm. Minimal shadow impact from the Project will fall on the fronts of neighboring residential buildings.

During the vernal and autumnal equinox (March 21st and September 21st) net new shadow will partially extend on to the City owned lot located at 174 West Second and 175 West First Street to the East at 9:00 am. At noon, the shadows will extend onto West 1st Street and a portion of the proposed building's internal courtyard. At 5:00 pm in the afternoon, new shadow will extend across C Street to the east. No new shadow will be cast on existing open spaces in the vicinity of the Project site.

In June, during the summer solstice, the building's new morning (9:00 am) shadows will partially fall across the City owned lot located at 174 West Second and 175 West First Street. At noon, when the sun is at its peak, shadows will be contained within a few feet of the project site. By 5:00 pm, new shadows will reach across C Street as well as into the project's internal courtyard.

During winter solstice (December 21st) the sun angle is at its lowest and the days are at their shortest. Daylight is least, and shadows are at their longest. At 9:00 am, the new shadows will

cross West 1st Street and impact mostly the industrial buildings across the street. At noon, new shadows will be minimal at the two residential sides of the site (C and West 2nd Streets) and again cast partial shadows at the north industrial buildings. At 3:00 pm, new shadows will elongate across West 2nd Street. No new shadow will be cast on existing open spaces in the vicinity of the Project site.

Typically, each morning the building shadow will fall over the westerly abutters and its sidewalks. At noon, the shadow falls across West 1St Street. As the day progresses, the shadow will cross C Street.

Figure 1-2 Shadow Analysis - March 21 - Vernal Equinox – 9:00 AM

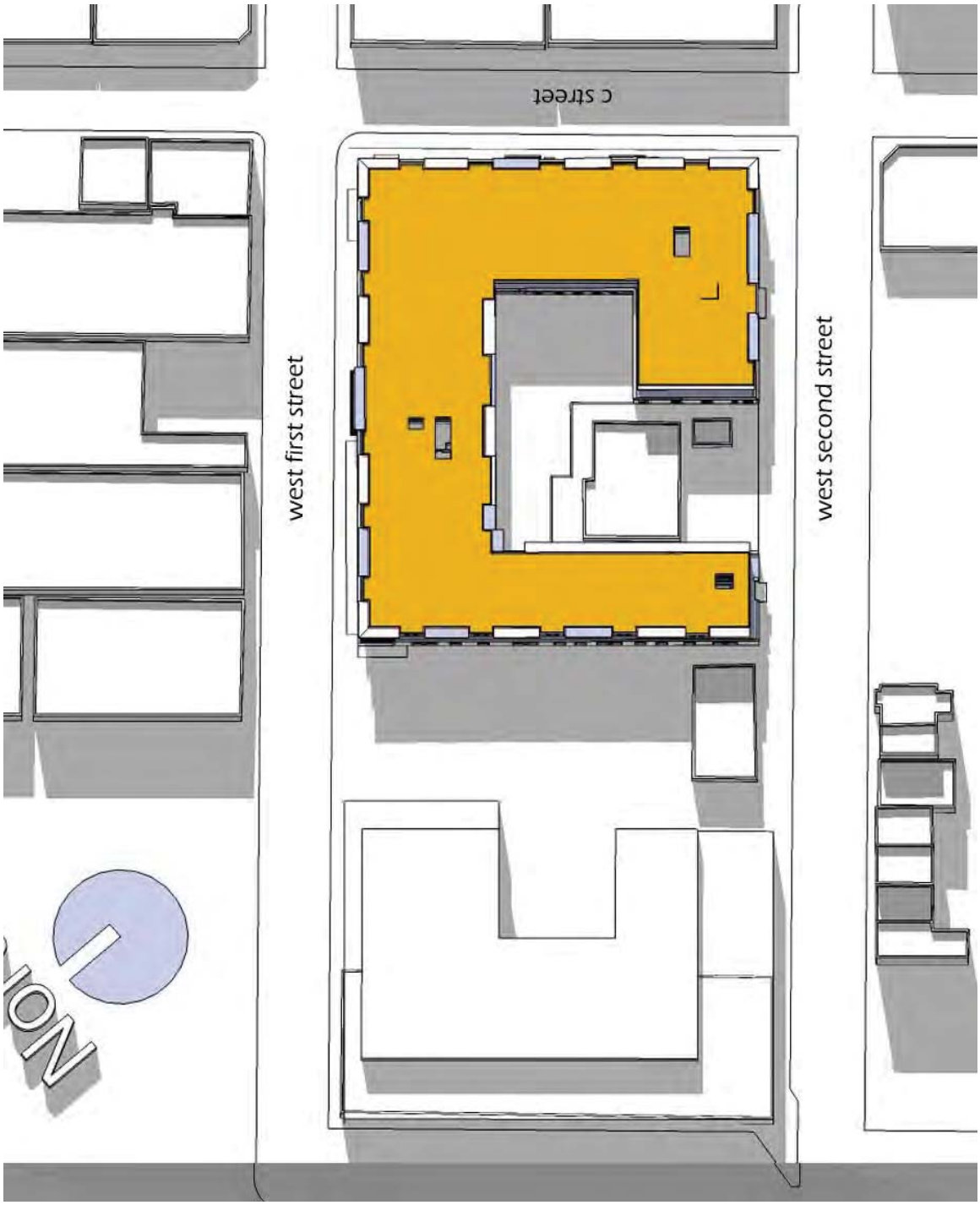


Figure 1-3 Shadow Analysis - March 21 - Vernal Equinox – 12:00 PM

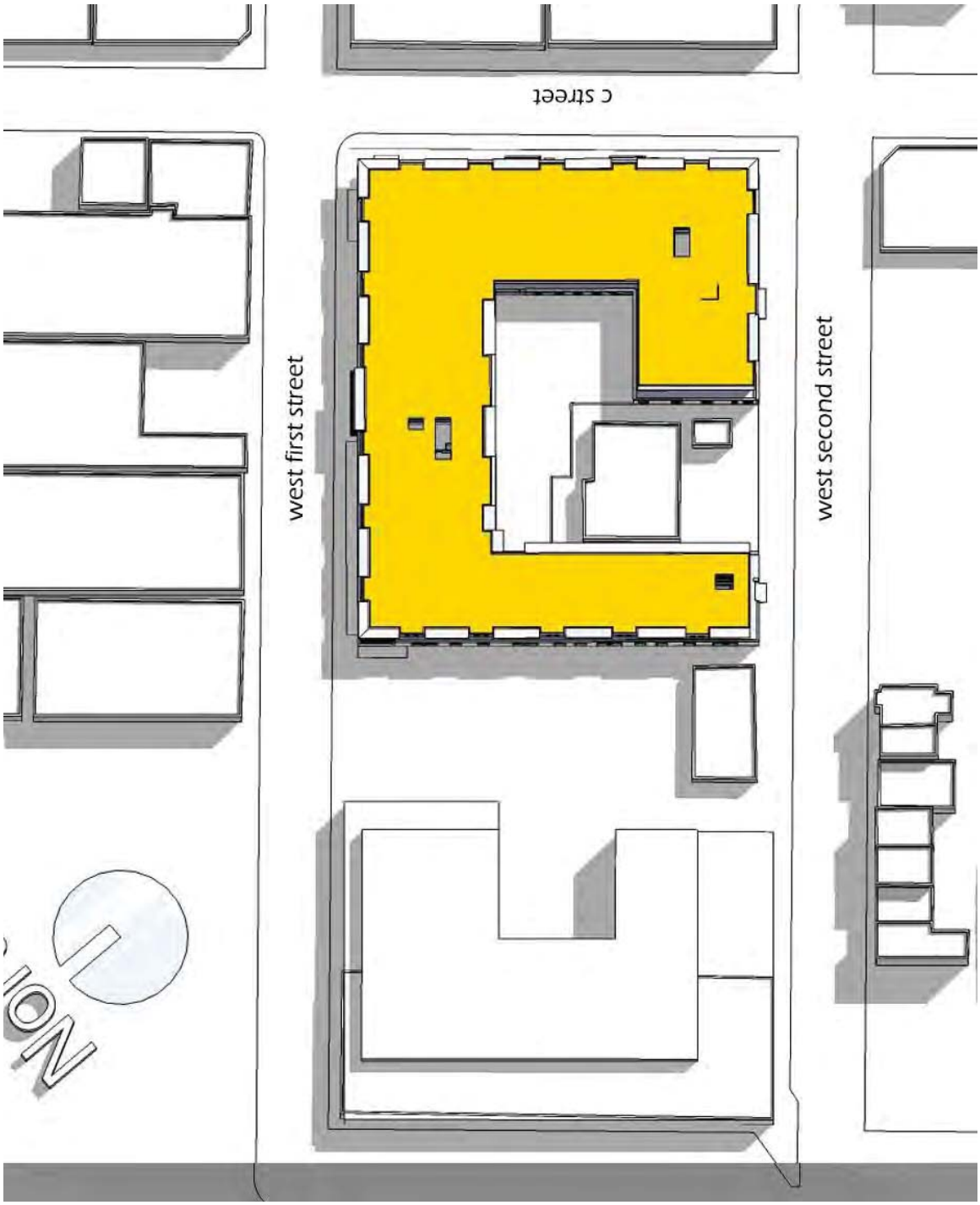


Figure 1-4 Shadow Analysis - March 21 - Vernal Equinox – 5:00 PM

Figure 1-5 Shadow Analysis - June 21 - Summer Solstice – 9:00 AM

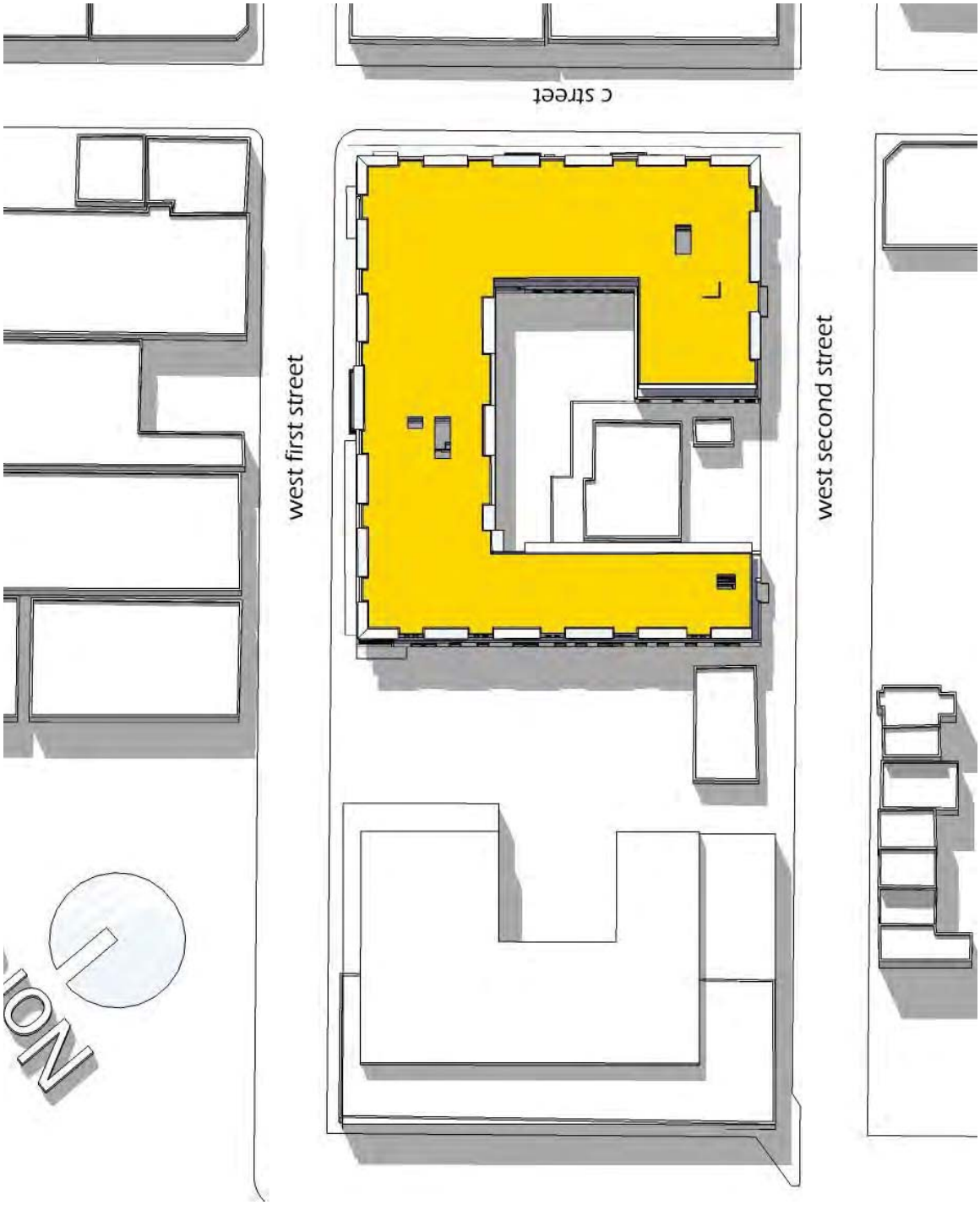


Figure 1-6 Shadow Analysis - June 21- Summer Solstice – 12:00 PM

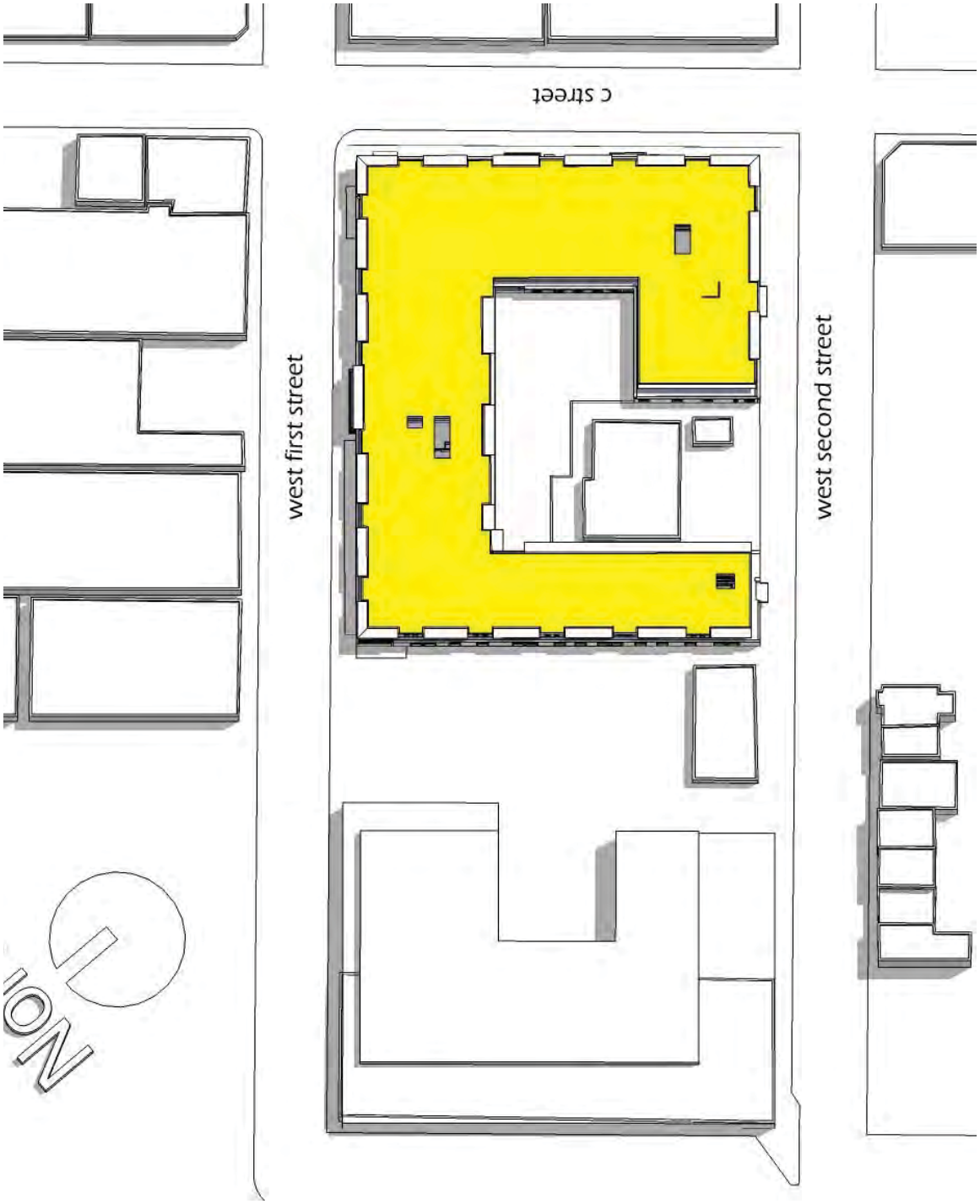


Figure 1-7 Shadow Analysis - June 21- Summer Solstice – 5:00 PM

Figure 1-8 Shadow Analysis - September 21 – Autumnal Equinox – 9:00 AM

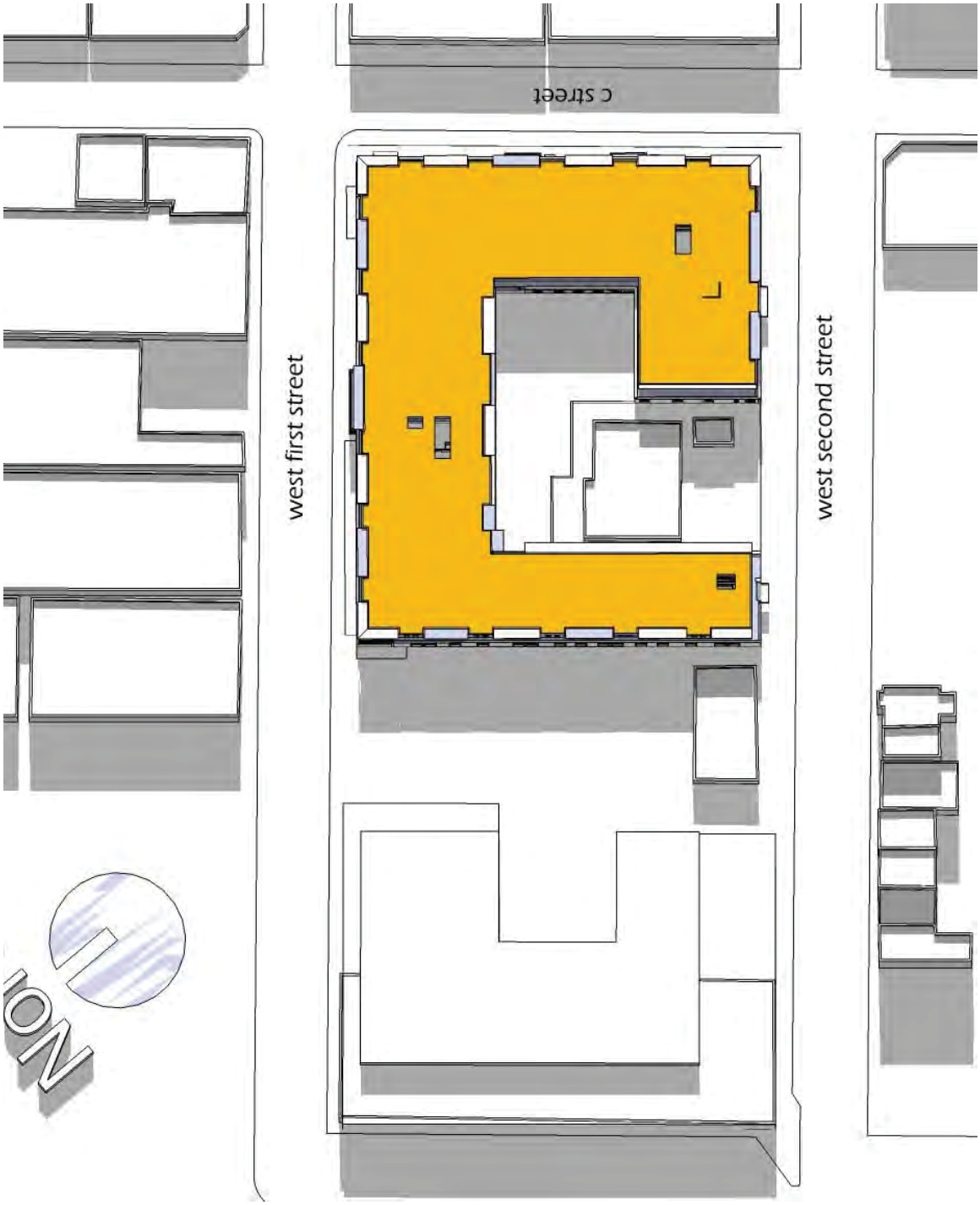


Figure 1-9 Shadow Analysis - September 21 – Autumnal Equinox – 12:00 PM

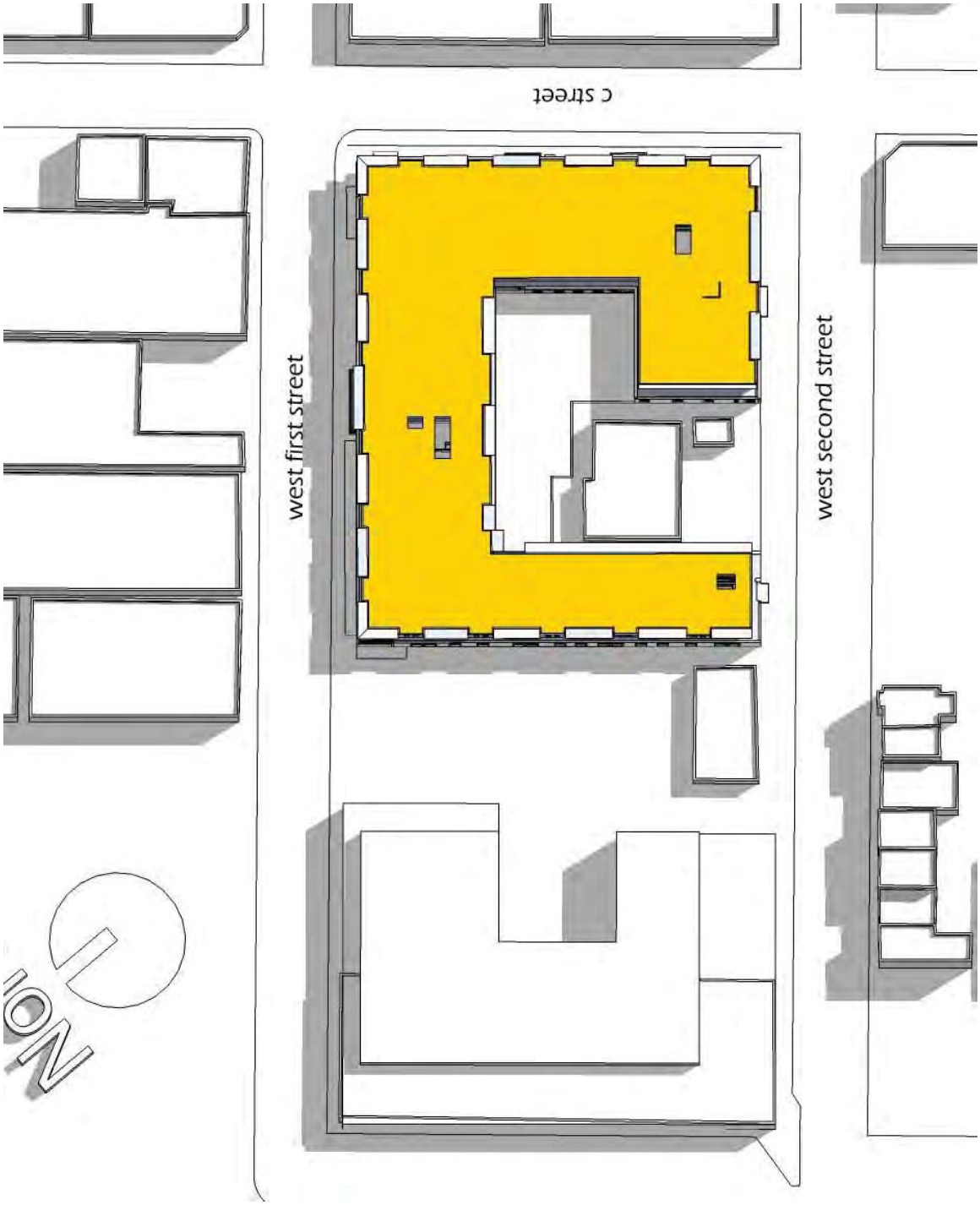


Figure 1-10 Shadow Analysis - September 21 – Autumnal Equinox – 5:00 PM

Figure 1-11 Shadow Analysis - December 21- Winter Solstice – 9:00 AM

Figure 1-12 Shadow Analysis - December 21- Winter Solstice – 12:00 PM

Figure 1-13 Shadow Analysis - December 21- Winter Solstice – 5:00 PM

1.3.5 Daylight Analysis

Daylight obstruction is expected to be limited because the Proposed Project is similar in height to the buildings along West Second Street, and C Street. Therefore, daylight obstruction will be consistent with the area context and the Proposed Project should not have a significant impact on daylight in the area

1.3.6 Stormwater Management and Water Quality Analysis

The Proposed Project will not affect the water quality in the area. A Stormwater Management Plan (also see Section 6.4 Storm Drainage System) will be incorporated in compliance with the Department of Environmental Protection's Stormwater's Management Standards prior to being discharged on-site or into the Boston Water and Sewer Commission system. The Proposed Project will also meet or exceed standards as they relate to erosion control, discharge to sensitive areas, and operation and maintenance, to assure a proper functioning system during and post-construction.

1.3.7 Geotechnical and Groundwater Impacts

The Project's environmental and geotechnical consultant, Wadleigh & Associates and Geotechnical Consultants, Inc., has been selected as the environmental and geotechnical consultant for the 190 West Second Street project. A site specific boring program and accompanying environmental/geotechnical report has been completed prior to this filing, and an overview of the overall Project Site has been included in this document. Background information regarding the geotechnical characteristics of the Project Site is included in Section 4.2. No negative impact to groundwater is anticipated during construction of the Proposed Project.

1.3.8 Solid and Hazardous Materials

Section 4.3 contains information on the solid and hazardous materials located on-site. Additional environmental remedial work will be conducted under the Massachusetts Contingency Plan (MCP) at the Site accommodate this residential development. Excavated soil will require characterization to assess its disposition for off-site reuse, disposal, treatment or recycling in accordance with MADEP policy and the MCP.

1.3.9 Construction Impacts

Section 4.4 describes impacts likely to result from the Proposed Project's construction and steps that will be taken to avoid or minimize environmental and transportation-related impacts. The Proponent will employ a general contractor that will be responsible for developing a construction phasing and staging plan and for coordinating construction activities with all appropriate regulatory agencies. The Project's geotechnical consultant, Geotechnical Consulting, Inc., will provide consulting services associated with foundation design recommendations, prepare geotechnical specifications, and review the construction contractor's proposed procedures.

The Project Proponent will comply with all applicable state and local regulations governing construction of the Proposed Project. The Project Proponent will require that the general contractor comply with specific mitigation measures and staging plans to minimize impacts on abutters.

1.3.10 Transportation Impacts

The Project's transportation consultant, Howard/Stein-Hudson Associates, Inc., completed a transportation study (see Section 5.0) for the proposed 190 West Second Street residential-use development in accordance with the city of Boston's Transportation Access Plan Guidelines (1989). Although the Boston Transportation Department (BTD) has not issued a Transportation

Access Plan Scope, this report adheres to the general format requested by BTD. The evaluation includes the following:

- Definition and presentation of existing traffic, including roadway capacities, parking, transit, pedestrian circulation, loading, and Site conditions;
- An evaluation of the project's long-term impacts on traffic, including roadway capacities, parking, transit, pedestrian circulation, loading, and Site conditions;
- An evaluation of the project's short-term traffic impacts related to construction activity; and
- Identification of appropriate measures to mitigate project impacts including but not limited to roadway improvements, pedestrian amenities, a transportation demand management program, and participation in Transportation Management Associations.

1.3.11 Infrastructure Systems Component

Section 6.0 describes the existing utility systems servicing the Project area; discusses any probable impacts that the Proposed Project may have on the utilities; and identifies mitigation measures to address potential impacts of the proposed Project.

The Project Proponent has initiated contact with those responsible for the area's utility systems, including the Boston Water and Sewer Commission (BWSC) to understand and evaluate each system and design the Proposed Project to prevent disruption of utility services. A BWSC Site Plan and General Service Application is required for the proposed new water, sewer and drain connections. In addition, a Pollution Prevention Plan will be submitted specifying best management measures for protecting the BWSC drainage system during construction. A Drainage Discharge permit will also be required prior to discharge of any construction dewatering.

2.0 GENERAL INFORMATION

2.1 Proponent Information

2.1.1 Project Proponent

The principals of Triad Alpha Partners, LLC have a 25-year track record of acquiring and developing in the greater Boston community, with an aggregate value in excess of $100 million dollars. The principals continue to acquire, manage, and develop sites in the local area, with particular emphasis in the urban Boston market. As the primary investor and operating partner, the principals invest their own equity capital and handle all aspects of the development process internally, which includes, but is not limited to, acquisition; permitting; financing; construction, and management.

Over the past twenty years, the principals have owned and operated several properties in and around the City of Boston, including:

- 154 West Second Street, a 75-unit apartment development in South Boston
- 85 Bolton Street, a 46,000 square foot bio-tech facility in Cambridge
- 4 Liberty Square, a 25,000 square foot office building in downtown Boston
- 440 Commercial Street, a 20-unit condo conversion in the North End
- 126 North Washington, a 6-unit condo conversion in Boston
- 877 Harrison Ave, a 9-unit condo conversion in the Back Bay
- 10 East Springfield Street, a 4-unit condo conversion in the South End
- 459 Massachusetts Avenue, a 4-unit condo conversion in the Back Bay
- 460 Massachusetts Avenue, a 4-unit condo conversion in the Back Bay
- 515 Centre Street, a 8-unit condo conversion in Newton
- 64 East Brookline Street, a 12-unit condo conversion in the South End
- 5-7 Station Street, a 50,000 square foot self-storage facility in Brookline

In addition, the principals are currently involved in the construction of the following projects:

- 5-10 St. George Street, a 33-unit residential development in the South End
- 902 East Second Street, a 36-unit residential development in South Boston
- 199 West Brookline, a 9-unit residential development in the South End

The principals have particular expertise in urban development, with their main focus on apartment and condominium development. With their recent success of The Signal Building, a 75-unit apartment project (adjacent to the Proposed Project) located just blocks from this site, the principals are actively involved and encouraging future development in this particular subsector of Boston, while maintaining and preserving the existing feel of the South Boston neighborhood. The principals hope to continue to create residential housing in the City of Boston; build on its strong economic development base; successfully advocate for an upgraded transportation infrastructure, bring more employment opportunities to the area, and insure that this community is strong and healthy for both long-term and new residents.

2.1.2 Project and Team Information

Proponent:	Triad Alpha Partners, LLC 126 N. Washington Street, 5th Floor Boston, MA 02114 (617) 413-6795 c/o Peter Zagorianakos

Architect:	R&B Design, PC. 126 N. Washington Street, 5th Floor Boston, MA 02114 (978) 258-2550 c/o Ron Bennett, AIA
Legal Counsel:	McDermott, Quilty & Miller 131 Oliver Street 5th Floor Boston, MA 02110 (617) 946-4600 c/o Dennis Quilty
Transportation Consultant:	Howard/Stein-Hudson Associates, Inc. 38 Chauncy Street, 9th Floor Boston, MA 02111 (617) 482-7080 c/o Guy Busa
Civil Engineer:	Hayes & Associates 40 Harrison Avenue Woburn, MA 01801 (781) 998-0246 c/o Larry Hayes
ME&P Engineer:	Zade Associates, LLC 140 Beach Street Boston, MA 02111 (617) 338-4406 c/o Muzi Muctehitzade
Environmental Consultant:	Wadleigh & Associates, Inc. 126 N. Washington Street, 5th Floor Boston, MA 02114 (617) 413-6795 c/o Peter Zagorianakos
Geotechnical Engineer:	Geotechnical Consulting, Inc. 201 Boston Post Road West Marlborough, MA 01752 (508)229-0900 c/o Richard Pizzi

2.2 Public Benefits

The Proposed Project will result in numerous public benefits for the South Boston neighborhood and overall for the City of Boston. These benefits include:

- Creation of approximately 97 housing units, consistent with the Mayor's initiative to create more housing in Boston, including in this case, housing for young professionals in close proximity to the Innovation District;
- Replacing an unattractive industrial site with a new, appealing residential building and parking facility, providing functional and aesthetic improvements to the neighborhood;
- Creating an improved streetscape along West 1st and West 2nd Streets with new sidewalks that will be more inviting to pedestrians;

- Construction of courtyards and building setbacks that will provide open landscaped space that improves the visual experience for neighboring residences;
- Promoting a safer 24-hour use in the neighborhood with permanent residents;
- Improving the security and appearance with additional lighting, new trees, and public sidewalks;
- Creating a transit-oriented community;
- Construction-related employment for 18-24 months;
- Generating new property taxes to increase the City's revenues;
- Overall increase in economic development activity in the Broadway/ West Second Street area.

2.3 Regulatory Controls and Permits

2.3.1 Current Zoning

190 West Second Street (the Project Site) is located in the South Boston Neighborhood of the City of Boston. The Project Site is located within the First Street Neighborhood Development Area (NDA) as indicated on Map 4F (South Boston). Per Article 68, Section 39, Table B, of the Zoning Ordinance, residential dwelling units are an allowable use within the First Street NDA sub district.

2.3.2 Proposed Uses and Dimensional Requirements

A breakdown of the various use and dimensional requirements is included in the table below. Within the First Street Neighborhood Development Area, the proposed project will be built as-of right in this NDA sub district.

Project Dimensional Summary:

New three story building first floor footprint:	34,693 SF
Total Building Area:	99,502 SF
Land Area:	49,751 SF
Floor Area Ratio:	2.00
Building height along West First Street:	44'-9" feet
Building height West Second Street:	35'- 0" feet

Unit Mix:

Garage Floor – 4,000 square foot retail space
1st Floor – 33 residential units (allowable use NDA sub district).
2nd Floor – 31 residential units (allowable use NDA sub district).
3rd Floor – 33 residential units (allowable use NDA sub district).

Total Unit Mix: 97 Market-rate units

Usable open space:	
Street landscaped area	5,937 square feet
Courtyards (interior)	6,407 square feet
Apartment Balconies/Terraces	4,029 square feet
Green roof area	5,610 square feet
Roof Deck	4,000 square feet
Total Open Space	**23,853 square feet**
Parking Space Mix:	**115 total parking spaces**

Article 68 of the Zoning Ordinance and Table E, indicates the following are the relevant dimensional requirements for the residential units proposed within the First Street NDA sub district:

Table 2-1 Zoning Dimensional Requirements

Residential Project Proposed for 190-206 W Second Street

	Article 68 Zoning Requirements As Residential Use	Proposed use as 97 residential units.	Notes
Actual Lot Size - Sq Ft	49751	49751	
Allowable Size of Bldg		99502	FAR 2.0 times 49751 sf of land = 99,502.
Use	Allowed - Multi family	Allowed	Article 68 Table B - First Street NDA
Lot Area	None	49751	Article 68 Table E - First Street NDA
Min Lot Width.	None	55 feet	Article 68 Table E - First Street NDA
Min Lot Frontage.	none	240 feet	Article 68 Table E - First Street NDA
Max Floor area ratio.	2.00	2.00	Article 68 Table E - First Street NDA
Building height (stories) max.	3	3 stories	Article 68 Table E - First Street NDA
Building height (feet) max.	35 feet	35 feet	West Second Street
	45 feet	45 feet	West First Street
			Article 68 Table E - First Street NDA
Usable open space.	200 sq ft per unit	240.94 sq ft per unit	Article 68 Table E - First Street NDA
Min front yard depth. W Second St.	5 feet	6 feet	Article 68 Table E - First Street NDA
Min front yard depth. W First St.	5 feet	10 feet	Article 68 Table E - First Street NDA
Min front yard depth. C St.	5 feet	6 feet	Article 68 Table E - First Street NDA
Min side yard depth.	3.0 feet	5 feet & 5 feet	Article 68 Table E - First Street NDA
Min rear yard depth.	no rear yard	no rear yard	Article 68 Table E - First Street NDA
Min Parking spaces.	1.0 spaces/unit	1.19 spaces/unit	Article 68-33 Table G
Number Parking spaces	97 spaces	115 spaces	Article 68-33 Table G
Off St Loading	1 loading dock	Determined in Large Project review.	Article 68-33 Table H

2.3.3 Anticipated Permits & Approvals

In accordance with Article 80-B, the proposed project shall be subject to Large Project Review.

2.4 Legal Information

Legal Judgments or Actions Pending Concerning the Project

The Project Proponent is not aware of any legal judgments or pending actions that relate to the Project.

History of Tax Arrears on Property Owned in Boston by Developer

The Project Proponent owns no real estate in Boston on which real estate tax payments are in arrears.

Evidence of Control Over the Project Site

The Project Site is five parcels of land and parcels of land are currently owned by 184 West Second Street, LLC, 181 West First Street, LLC and Second 206 West, LLC. Peter Zagorianakos is the Manager of each LLC.

Nature and Extent of Public Easements On, Over, Under or Surrounding the Property

The project Site is not subject to any easements for public use.

2.5 Public Review Process

The Project Proponent is currently under contract to purchase the Project Site and has been actively participating in the East & West First Street Planning and Rezoning. The Project Proponent has attended multiple community meetings over the last 24 months in the efforts to finalize the zoning along East & West First Street and looks forward to continuing to work with the local community through the formal process.

The Proponent has initiated review with the public agencies, and will continue the outreach to public agencies, elected officials and community groups/interested parties throughout the Article 80 review process. These agencies and community groups included:

Boston Redevelopment Authority
Boston Department of Neighborhood Development
Boston Civic Design Commission
Boston Transportation Department
Boston Department of Public Works
Boston Water and Sewer Commission
Boston Department of Inspectional Services
Massachusetts Department of Environmental Protection
Massachusetts Water Resources Authority

3.0 URBAN DESIGN COMPONENT

3.1 Project Description and Approximate Dimensions

The proposed as-of-right project will be a multi-family residential development to be constructed on approximately 49,751 square feet of land located at 181 and 185 West First Street and 184, 190 and 206 West Second Street in South Boston, MA. The property has frontage on West First Street, C Street, and West Second Street.

The existing building on the site is a two-story structure containing approximately 22,000 square feet. The building was previously used as offices and light manufacturing but is currently being used for storage and the yard space is currently being used for parking. The existing structure will be demolished to accommodate the new residential project.

A 246 foot by 200 foot U shaped one story parking garage will be constructed. The parking garage will be entered from West First Street and will accommodate approximately 115 parking spaces. The floor elevation of the parking garage will be approximately 12" inches lower than the adjoining West First Street elevation.

A three story structure will be built on top of the garage; an "U" shaped building creating a court yard in the middle of the structure and a mid-block semi private garden open to West Second Street.

The planned project will consist of 104 residential units, 4,000 square foot retail space with a total of 115 parking spaces. The proposed building heights will be within the maximum heights required by zoning; on average 45' and 35' along West 1st and West 2nd respectively. The proposed structure is designed to be at least approximately 11 feet shorter than West Square project directly across C Street and approximately 11 feet shorter than the Signal Building located at the corner of B Street and West 2nd Street, and within the context height of buildings along West 2nd.

The buildings will be equipped with addressable fire alarm systems and full sprinkler systems.

Approximate dimensions and unit counts are provided in Table 2.1 in the previous section.

3.2 Building Design

3.2.1 Facade Design, Fenestration and Entrances

The design of the three-story brick and metal clad building is compatible with the existing industrial and residential urban scale. It will noticeably enhance the neighborhood by reconnecting the gaps in the urban fabric and by infilling this portion of the block.

Facade Design

The building will be clad with two stories of brick on a masonry base replicating traditional brick masonry buildings throughout Boston. The third floor of the building has been designed with a metal cladding in order to vary the palette of materials and contribute toward a visually reduced scale. The deep roof overhang shelters the third story balconies and adds a strong horizontal effect. In addition, recessed third floor balconies around the building are included to break the roofline of the building and reduce its massing and scale fronting the streets.

Fenestration

The windows of the building vary along the three street elevations to relate to the context fronting each street. The elevations incorporate large casement windows with brick perimeter setback trim in the masonry facades; and floor to ceiling glass doors and fixed windows in the metal clad bays. The east, west, and south elevations include recessed metal panels at the windows extending vertically several floors to relate the various materials of the building. The north elevation will include protruding balconies and larger glazed openings to be more in relation with the industrial

zone across West First Street. Additional storefront glazing will be incorporated on the north elevation street level to bring light into the garage and to create the retain element.

Entrances
The primary pedestrian entrance to the building is from 190 West Second Street under a canopy. There will be secondary pedestrian entrances to the building is from 184 West Second Street and 181 West First Street. Along C Street there will be two entrances directly into two townhouse units. Vehicular access to the parking garage will be through one garage door on West First Street. Trash disposal, service elevator and bicycle storage access will also be from West First; as well as fire department access to sprinkler and electrical rooms. Storefront windows and glazed doors will activate the retail portion of the building along West First Street. Canopies have been designed above the residential and retail entrances.

3.2.2 Floor Plans

The residential units are a mix of one and two bedroom units. All units are flats except two which are townhouses; typically having the bedrooms defined and an open space living/kitchen/dining area. The unit sizes range from 625 square feet to 1,278 square feet with an average of 825 square feet. Generally, the units span from the window line of one of the facades to the double loaded corridor of the building. Interior facing units have access to light and air through an open atrium courtyard. A large number of units will have balconies and terraces to enliven the street elevations.

3.3 Site Design

3.3.1 Pedestrian Circulation

The primary entry to the building is directly off the sidewalk of West Second Street. Voluntary setbacks are provided on all four sides of the building to provide clearance to neighboring buildings, as well as provide street trees and plantings, and seating to enhance the pedestrian environment.

Accessibility has been designed into the site circulation and building by providing entrances and elevators at various locations around the perimeter of the Project.

3.3.2 Open Space

The open space designed for this development falls into either a private, semi-private, or public category:

- Private balconies and terraces
- Semi-private common courtyard
- Large building setbacks on West First, C and West Second Street.
- The potential for a public retail seating area along West First Street
- A roof deck.

The common courtyard in the center of the building will be developed into useable open space with private terraces and plantings. The courtyard will also provide lighting into many units. A roof deck will be created on the roof level accessible to the building occupants and with uninterrupted views to downtown Boston.

3.3.3 Parking and Vehicular Circulation

Parking for all the residential units is provided in an enclosed parking garage. The vehicle access and egress will be onto West First Street and will satisfy all accessibility requirements.

The garage will have 115 parking spaces with 26 tandem and 89 single parking spaces, a trash and recycling room, a loading zone, and a bike storage area. All three elevators will access the garage and residential floors.

Figure 3-1 Site Plan – Parking Level

Figure 3-2 Northwest View

Figure 3-3 Northwest View

Figure 3-4 West First Street Entrance

Figure 3-5 Northeast Corner View

Figure 3-6 Southeast Corner View

Figure 3-7 Southwest View

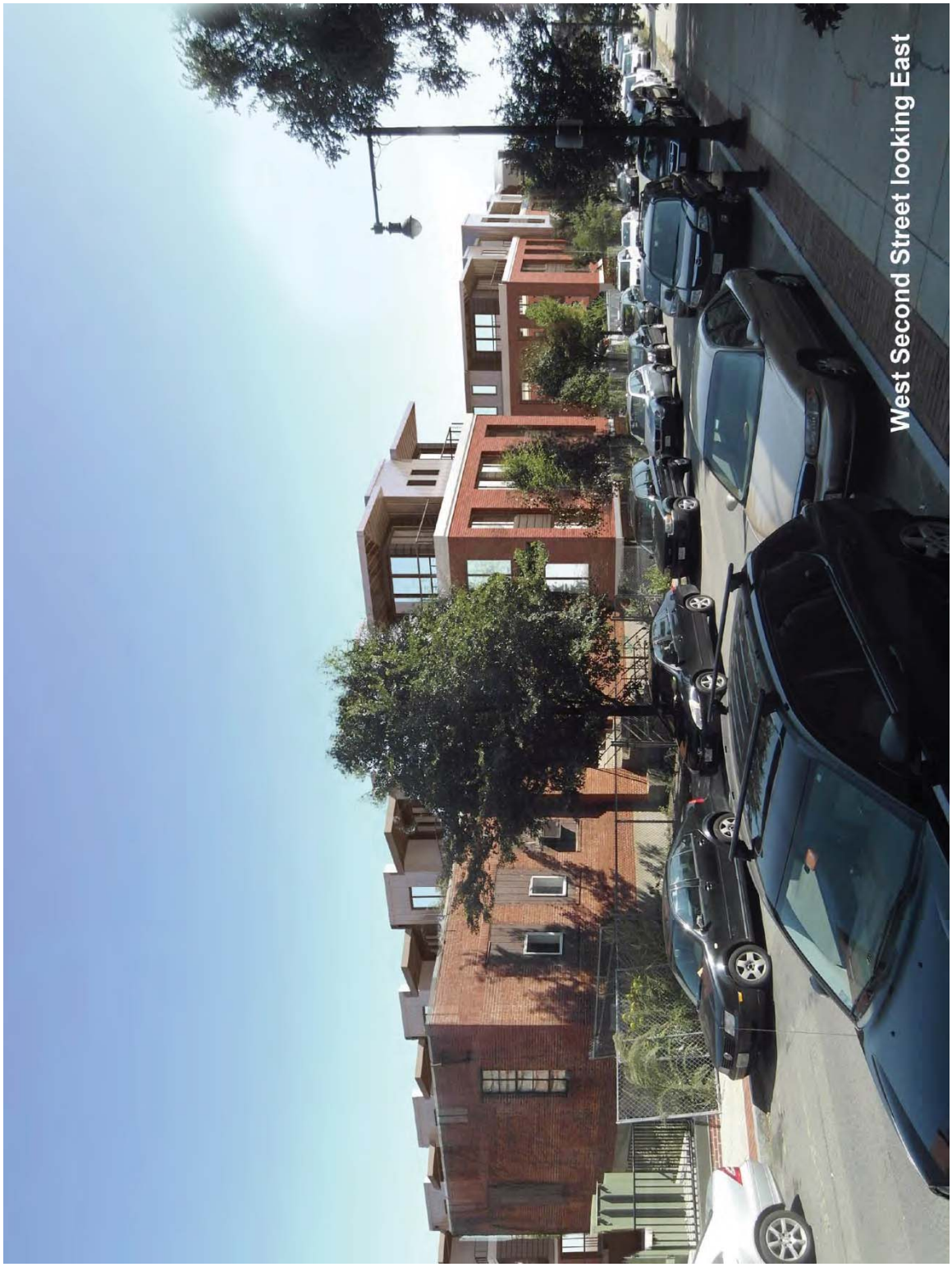


Figure 3-8 First Level

Figure 3-9 Second Level

Figure 3-10 Third Level

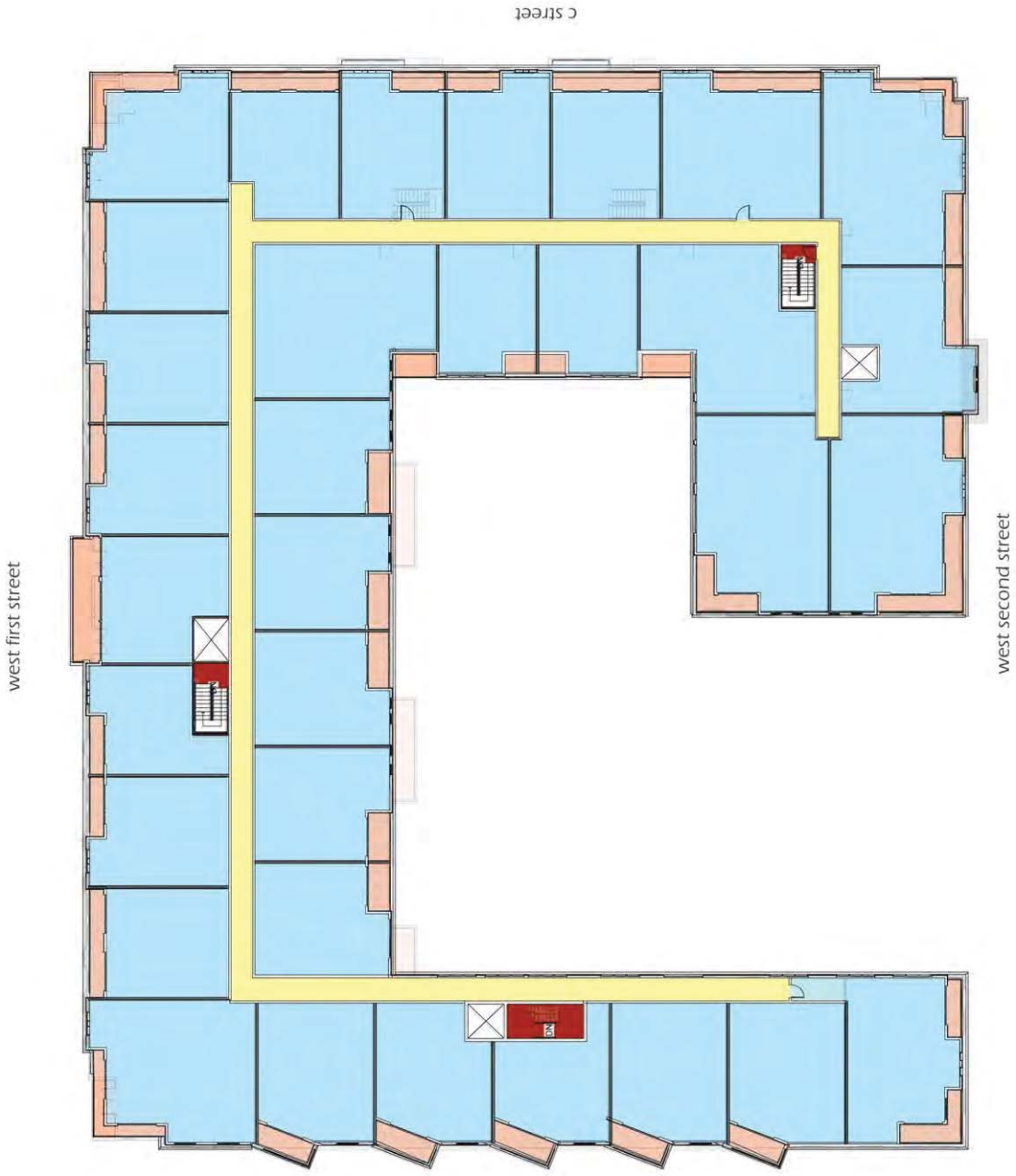


Figure 3-11 North and South Building Elevation

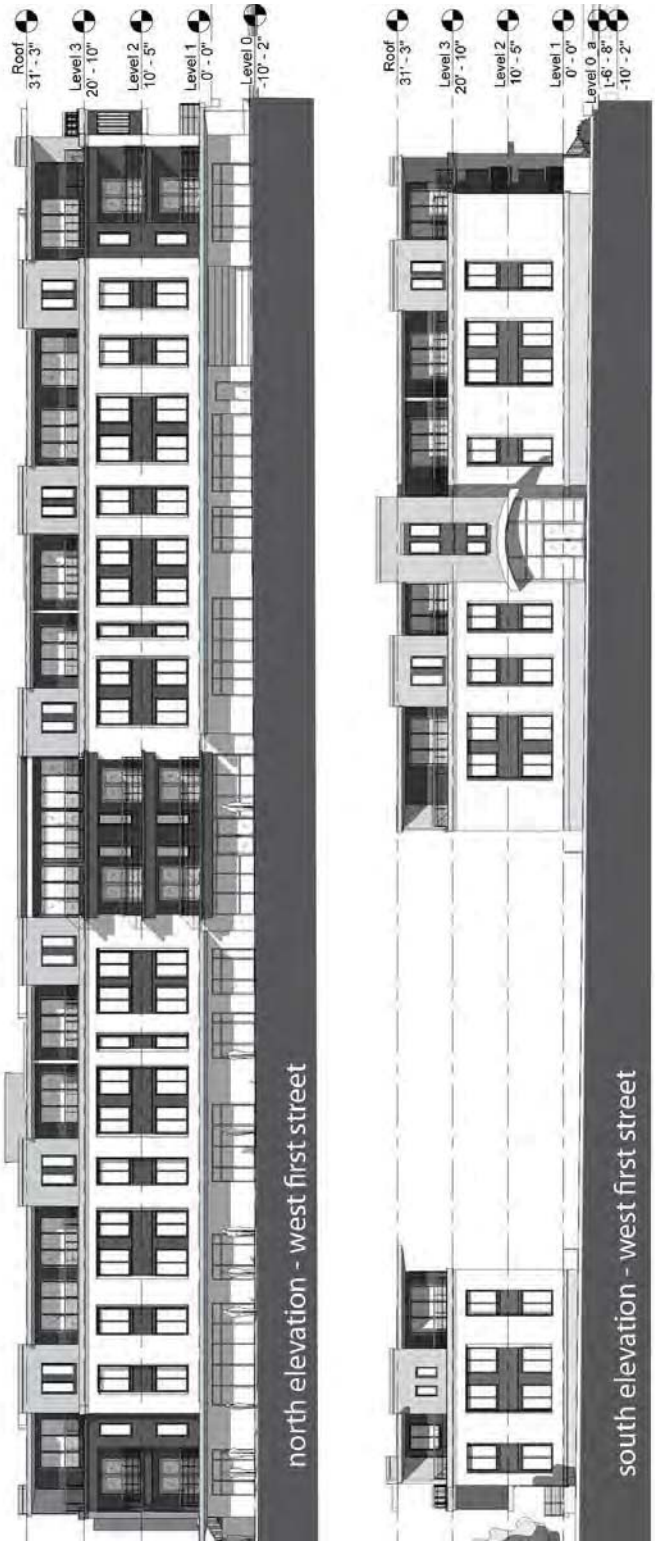
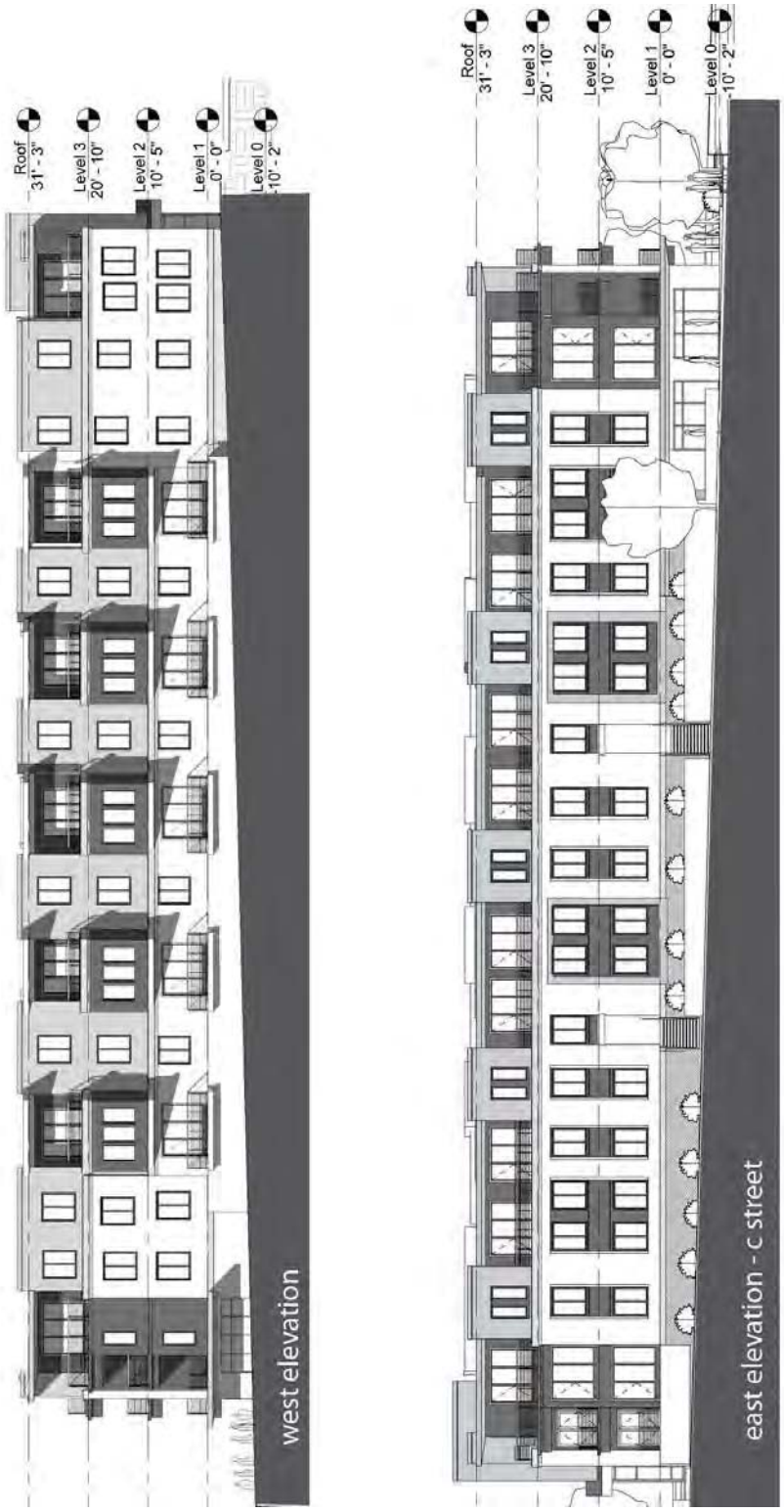


Figure 3-12 East and West Building Elevation



3.4 Sustainable Design and Energy Conservation Measures

The Project Proponent is committed to the practice of sustainable design as demonstrated by both their work with the U. S. EPA's EnergyStar program, and the BRA. The Project Team has begun the process of integrating sustainable strategies throughout the development to minimize building energy use, reduce emissions, and maintain safe and comfortable indoor environments. At the same time, these strategies will also assist in reducing maintenance and management costs. The paragraphs below outline the project's approach to sustainable design, and identify some of the principal proposed strategies.

3.4.1 Implementation and Evaluation

The principal instruments for the implementation and evaluation of energy efficient and sustainable design practices will be the EnergyStar program.

EnergyStar

The U. S. EPA EnergyStar program provides financial incentives and technical assistance to encourage the construction of energy efficient buildings, and is overseen in the Boston area by the Construction Services Group ("CSG") under contract with the EPA.

In addition to consulting with the designers on insulation and ventilation strategies to improve building envelope performance, the CSG provides information and training to the Contractor(s) on means and methods of achieving airtight construction to prevent air infiltration.

EnergyStar provides rebates for the use of certain items when specified and installed in accordance with EnergyStar standards, including:

1. Energy efficient windows;
2. High efficiency boilers and hot water storage tanks;
3. Energy efficient appliances; and
4. Energy efficient light fixtures.

Perhaps most important, on completion, CSG conducts blower door tests on a number of units and in common areas to insure that air leakage is below an allowable maximum value. This test verifies that the sealing of all penetrations through exterior wall, floors and roof has been properly executed and that the building envelope is performing as specified.

Sustainable Sites

Urban Redevelopment Sanborn Maps indicate that the proposed site was previously built upon. A one-two story industrial building is the only structure that currently exists on the site. The remaining 55% of the site (about 28,000 sq ft) is a unpaved parking/storage lot. The Proposed Project will return this vacant site to the more vibrant density of an urban neighborhood.

Alternative Transportation

The MBTA Red Line Subway - Broadway Station, Bus Routes 9 and 11and 47 bus stop are located on West Broadway approximately 1000 feet east of the Site.

The subway line provides frequent service to South Station (2-minute ride; a regular T-pass is accepted), to Park Street, to Downtown Crossing through Cambridge to Alewife, or in the other direction thru South Boston and Quincy to Braintree.

Please see Section 5.2.6 for further information on buses and the commuter rail.

The use of bicycles by building residents will be promoted by the installation of a covered, secure indoor bicycle storage area within the development.

The Proponent is investigating the possibility of providing a ZipCar parking space at the project's garage facility. This ZipCar would accommodate not only the project's residents but would also be available to other local residents. In addition, dedicated parking spaces and plug-in charge stations will be provided for the use of electric vehicles, as well as preferential parking for alternative fuel or high efficiency vehicles.

Stormwater Management

The stormwater management system for the Proposed Project will increase on-site recharge and improve off water quality through the use of the following measures:

- On-site treatment of storm water collected from parking areas and other potentially hazardous effluent.

Water Efficiency

Water conservation measures that minimize both water use and wastewater production will include:

- Dual flush toilets that will reduce water usage project-wide, both in residential and non-residential areas.

Energy and Atmosphere

State-of-the art sustainable technologies and practices to be employed by the Proponent for the project's heating, cooling, and ventilation systems include:

- High-efficiency gas fired boilers;
- Indirect-fired, longer life domestic hot water tanks, with additional heavy insulation to save energy;
- Variable frequency drives and high-efficiency motors for circulating pumps
- Direct digital controls (DDC), also called energy management systems (EMS) with modem communication for each boiler plant;
- Added insulation for all piping beyond that required by Code;
- Carbon Dioxide sensor control for ventilation of community spaces;
- High-efficiency lighting that exceeds code requirements;
- Daylight and occupancy control options;
- Automated light sensing set back thermostats for apartment temperature controls;

Material and Resources

Storage and Collection of Recyclables
A recycling program is planned for the proposed Project. The building will have a recycling transfer room within the building. This program will be coordinated with an outside vendor for weekly pick up.

Construction Waste Management
The Contractor will be required to develop and implement a Waste Management Plan with the goal of recycling or salvaging 75% of construction waste in order to divert construction and demolition debris from landfill disposal.

Regional Materials
The Project Team has established as a goal the specification and installation of materials such that 5% of all materials used in the project will be manufactured regionally within a radius of 500 miles.

Indoor Environmental Quality

Construction Indoor Air Quality Management
The contractor will be required to develop and implement an Indoor Air Quality Management Plan, to prevent indoor air quality problems resulting from the construction process.

Low-Emitting Materials
Adhesives, sealants, paints and carpets will be specified with low/no VOC content to reduce the quantity of indoor air contaminants

Daylight and Views

The building orientation, fenestration and exterior articulation will work in concert to both maximize daylighting and control solar heat gain. All buildings are designed to have significant solar access throughout the day. Larger windows will be incorporated in the facades that best capture and control daylight.

Dwelling units will have large, high windows to maximize daylighting in the living spaces.

Residential common spaces are designed to rely largely on natural light for daytime hours.

4.0 ENVIRONMENTAL PROTECTION COMPONENT

This section of the PNF evaluates potential environmental impacts related to the Proposed Project in the subject areas of water quality and stormwater management, geotechnical and groundwater conditions, solid and hazardous waste, and construction related impacts. Since the Project Site is within the existing zoning height allowance and is generally consistent with the residential character in the surrounding neighborhood, the Project is not expected to have significant impact on surrounding wind patterns and pedestrian comfort levels, or daylight impacts in the Project Site vicinity. Therefore, these specific evaluations were not included in this PNF.

4.1 Water Quality/Stormwater Management

The project will install a subsurface stormwater infiltration system (SSI) along West First Street. Building roof and storm drains will be directed to the SSI system with overflows being directed to the municipal storm drain system.

The Proposed Project will not affect the water quality in the area. A Stormwater Management Plan will be incorporated in compliance with the Department of Environmental Protection's Stormwater Management Standards providing pretreatment of the stormwater prior to being discharged on-site or into the Boston Water and Sewer Commission system. The Proposed Project will also meet or exceed standards as they relate to erosion control, discharge to sensitive areas, and operation and maintenance to assure a proper functioning system during and post-construction.

The project will yield a decrease in peak discharge rates and volumes of runoff and improve groundwater recharge. This is accomplished primarily by installing the SSI system.

4.2 Groundwater and Geotechnical Analysis

Wadleigh & Associates and Geotechnical Consultants, Inc. have been selected as the environmental and geotechnical consultant for the 190 West Second Street project. A site specific boring program and accompanying environmental report was completed by Wadleigh & Associates prior to this filing.

Based upon a review of the subsurface soils data (boring logs) collected by Wadleigh & Associates, the overall Project Site is anticipated to contain mainly underlain by glacial outwash or ablation till soils (predominantly loose-medium dense, fine-medium sands, silts and gravels) over hard basal till. Shallow depths to bedrock are unlikely, as refusal was encountered at depths of 64 to 68 feet during drilling activities at the Site, and no bedrock outcrops were observed at the Project Site or within the immediate Site vicinity.

4.3 Flood Zones and ACECS

Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) for the City of Boston (Community Panel 25025C0083G, updated September 2009) was reviewed to determine if the project site lies within the 100-year flood plain. The site falls within a Zone C, defined by FEMA as "an area of minimal flooding." Thus, the project will not lead to an increased flood or storm damage risk.

No Areas of Critical Environmental Concern or State Certified Vernal Pools exist within the site. Likewise, the site is not included on the list of either Priority Habitats for Stated-Listed Rare Species of the list of Estimated Habitats for Rare Wildlife.

4.4 Solid and Hazardous Waste Analysis

The environmental releases at the Subject Property (Site) historically has been identified by two MassDEP RTNs:

#3-0258	White Fuels	West Second & C Streets
#3-0996	Eastern Index Corp.	206 West Second Street

The Subject Property was identified by the MassDEP as a Location to be Investigated (LTBI) in January 1987 (RTN 3-0258), based on the unresolved report of a spill of miscellaneous oil on September 14, 1984 (assigned MassDEP Spill No. N84-0614). According to the MassDEP online Searchable Site/Reportable Release database, this RTN was closed on August 1998, when it was linked to RTN 3-0996.

On April 13, 1994, the MassDEP assigned RTN 3-0996 to "petroleum, VOCs, sludge and ash released at a fuel depot from a fill resulting in a release to soil and a groundwater release." A Notice of Responsibility (NOR) was issued to Ms Joan Deegan of Eastern Index Corporation, a former tenant of 206 West Second Street. The NOR cited the Norwood Engineering (1984b) and Haley & Aldrich (1985) reports as evidence of the release. In June 1997, MassDEP designated the Release Site as classified Default Tier 1B for lack of response actions on the part of Responsible Parties.

In July 1998, ENSOL, Inc., on behalf of Site owner MMR Realty Trust, prepared a Phase I Initial Site Investigation Report and Tier Classification submittal, indicating that the Release Site qualified for classification as Tier 2. The MassDEP accepted this reclassification in August 1998.

On October 9, 1998, MMR Realty Trust received a petition from ten residents of South Boston, requesting that the Site be designated as a Public Involvement Plan (PIP) Site, pursuant to Section 14(a) of MGL 21E and 310 CMR 40.1404. On November 6, 1998, MMR officially designated the Site as a PIP Site, submitting a Plan for public involvement on January 29, 1999. Consistent with the MCP, the PIP called for:

Phase II Comprehensive Site Assessment of the nature and extent of the contamination and evaluation of the potential risks posed to the nearby public and the environment within two years of Tier Classification (by July 2000);

Phase III Identification and Selection of Comprehensive Remedial Action Alternatives that will achieve a permanent solution (cleanup) within two years of Tier Classification (by July 2000);

Phase IV Implementation of the Selected Remedial Action Alternative within three years of Tier Classification (by July 2001); and

Phase V Operation, Maintenance and/or Monitoring of remedial actions and environmental conditions at the Site within four years of Tier Classification (by July 2003);

leading to the submittal of a Response Action Outcome (RAO) Statement on or before five years after Tier Classification (July 2003). During the course of these actions, the PIP Plan required that interested parties be given the opportunity to comment on Site cleanup decisions and approaches. The MassDEP Northeast Regional Office, the South Boston Public Library, and ENSOL were designated as repositories for public access to all Site information.

ENSOL prepared a Phase II Scope of Work in February 2000. In February 2002, ENSOL requested an extension until August 2002 for completion of the Phase II/III Investigations. In June 2003, Green Environmental prepared an alternative Phase II Scope of Work.

Between October 30, 2003, and January 26, 2004, Action Environmental Group, Inc., doing business as Avier Environmental and working for R.W. Crandlemere Associates on behalf of Random Financial Corporation, conducted ASTM Phase II Environmental Site Assessments at the Subject Property to

evaluate the potential financial liabilities associated with acquisition of the Subject Property. The ASTM Assessments were based partly on the Green Environmental Phase II Scope of Work. During the assessments, eight new soil borings were drilled at the Site; three of which were converted to groundwater monitoring wells. Supplemental ASTM Assessments were performed in February 2005 and May 2005, during which ten additional soil borings were installed at the Site and in West First Street, eight of which were converted to monitoring wells. First West, LLC, acquired an interest in the Site through its purchase in February 2004 by Second West, LLC, from MMR Realty Trust; and a Tier II Transfer and Extension was submitted by First West, LLC, on September 23, 2004, as First West, LLC, assumed responsibility for response actions at the Site.

Avier Environmental, working for R.W. Crandlemere, LLC, on behalf of First West, LLC, submitted a Phase II Scope of Work and Revised MCP PIP Plan for public comment on August 25, 2005. No public comment was received, and the MassDEP logged the submittals as received on October 21, 2005. Phase II activities were performed between November 30, 2005, and January 19, 2006 — including the installation of five additional borings, three of which were converted to monitoring wells; evaluation of aquifer characteristics; and conduct of a ground-penetrating radar (GPR) survey to identify potential subsurface structures that could be continuing contaminant sources.

Avier Environmental submitted the Phase II Comprehensive Site Assessment report for public comment on June 29, 2006. No public comment was received, and the MassDEP logged the submittal as received on August 28, 2006. The Phase II Report concluded that contaminant impact to soil and groundwater at the Site resulted from the releases of coal tar and to a lesser degree releases of petroleum and from urban fill originating from off-site contaminated areas. Two apparently circular areas of suspected solid coal tar were identified by GPR south of the foundation of the former garage building. A diffuse area of attenuation interpreted as petroleum contamination was identified by GPR as extending under the center of the foundation slab of the former garage building. GPR The vertical extent of contamination was identified as ranging from the surface to approximately 16 feet below grade. The horizontal extent of contamination was identified as including most of the Subject Property and at least to the north side of West First Street. Contaminants were identified as including volatile and semi-volatile petroleum hydrocarbon compounds (especially naphthalene) and the metals antimony, arsenic, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc. A supporting Method 1 Risk Assessment determined that a Condition of No Significant Risk of harm to health, public welfare, and the environmental did not exist at the Site. Therefore, additional Comprehensive Remedial Actions were determined to be necessary at the Site. First West, LLC, was unable to continue response actions at that time because of lack of funding.

On September 19, 2006, the MassDEP issued First West, LLC, Notice of Noncompliance (NON) NON-NE-06-3C010 for failure to submit a Phase III Remedial Action Plan, a Phase IV Remedy Implementation Plan, and a RAO in timely fashions. The NON established an interim deadline for completion of these submittals of October 16, 2007.

Avier Environmental submitted the Phase III Remedial Action Plan report for public comment on November 7, 2006. No public comment was received, and the MassDEP logged the submittal as received on February 15, 2007. Separate remedial alternatives were evaluated for the coal-tar source area and for the petroleum-impacted source area. The most cost-effective and feasible remedial action alternative was determined to be excavation and off-site treatment/recycling (anticipated to be at different facilities for coal tar and petroleum-impacted materials) followed by groundwater treatment by chemical oxidation.

Loss of First West, LLC's financial partner delayed implementation of the Phase III Plan until 2009. First West, LLC, opined that additional costs associated with PIP compliance were impeding its ability to obtain financial backing and to fund the cleanup. On July 23, 2008, Avier Environmental, at the request of First West, LLC, notified recipients on the PIP List and the MassDEP of the intent of First West, LLC, to terminate the PIP process for lack of interest (noting that none of the previous submittals had elicited public

comment and the at repositories reported no requests for document review). The notice of that intent also was published in the newspaper with a request for comment. Upon still receiving no comment from any party, Avier Environmental submitted a notice to the MassDEP on September 4, 2008, requesting that the Site be removed from further PIP requirements.

On July 1, 2009, Action Boston, Inc., doing business as Action Environmental Boston, acquired the assets of Avier Environmental and assumed project management for R.W. Crandlemere, LLC, on behalf of First West, LLC.

On June 2, 2009, Action Environmental, working for R.W. Crandlemere, LLC, on behalf of First West, LLC, and its new financial partners, submitted a Tier II Extension and began implementation of the Phase III Plan. Groundwater conditions at the Site were updated during June 2009 monitoring and sampling activities. On June 29, 2009, the MassDEP issued NON-NE-09-3C022 to First West, LLC, for failure to submit the Phase IV Remedy Implementation Plan and RAO. The NON established an interim deadline of July 17, 2010, for returning the Site to compliance.

On July 31, 2009, Action Environmental Boston, working for R.W. Crandlemere, LLC, on behalf of First West, LLC, submitted a Class C-2 RAO for the Site, which included updated groundwater monitoring data.

On July 31, 2009, Action Environmental Boston, working for R.W. Crandlemere, LLC, on behalf of First West, LLC, also submitted a Release Abatement Measure (RAM) Plan for the Site. Pursuant to 310 CMR 40.0446, this report describes the principal elements of that Plan, documents its implementation in 2009 and 2010, and identifies how Plan objectives have been met. An intermediary RAM Status Report was submitted to the MassDEP on January 6, 2010.

On July 15, 2010, the final requirement of NON-NE-09-3C022 was met with the submittal of a Phase IV Remedy Implementation Plan (RIP). In July 2010 a RAM Completion Statement was submitted to MADEP, ongoing response actions at the Site will be performed under the Phase IV RIP.

Therefore, additional environmental remedial work will be conducted under the Massachusetts Contigency Plan (MCP) at the Site accommodate this residential development. Excavated soil will require characterization to assess its disposition for off-site reuse, disposal, treatment or recycling in accordance with MADEP policy and the MCP.

4.3.1 Construction Period Waste

The construction contractor will be required to develop and implement a Waste Management Plan with the goal of recycling or salvaging 75% of construction waste in order to divert construction and demolition debris from landfill disposal.

4.3.2 Operational Solid Waste

A development wide recycling program is planned for this project. Each building will have either a recycling transfer room within the building or an exterior recycling transfer shed. This program will be coordinated with an outside vendor for weekly pick-up.

4.3.3 Recycled Materials

The project team has established as a goal the specification and installation of materials such that 5% of all materials used in the project will be post-consumer recycled.

4.4 Construction Impacts

The following section describes impacts likely to result from the Proposed Project's construction and steps that will be taken to avoid or minimize environmental and transportation-related impacts. The Project Proponent will employ a general contractor that will be responsible for developing a construction phasing and staging plan and for coordinating construction activities with all appropriate regulatory agencies. The Project's geotechnical consultant, Geotechnical Consulting, will provide consulting services associated with foundation design recommendations, prepare geotechnical specifications, and review the construction contractor's proposed procedures.

The Project Proponent will comply with all applicable state and local regulations governing construction of the proposed project. The proponent will require that the general contractor comply will specific mitigation measures and staging plans to minimize impacts on abutters.

Proper pre-construction planning with the neighborhood will be essential to the successful construction of this Project. The Project Proponent will convene neighborhood meetings on the subject of minimizing adverse construction activity impacts, including at least one prior to the start of construction and at least two during construction, and more such meetings if feedback from the neighborhood indicates the need for them. Signage will include general contractor and Project Proponent contact information with emergency numbers.

4.4.1 Construction Activity Schedule

The construction period for his project is expected to be approximately 18-24 months in duration. Typical construction hours will be from 7:00 A.M. to 5:30 P.M. Monday through Saturday. Second shift construction activity is expected to be kept to a minimum.

The general construction contractor will conduct a pre-construction survey of abutting properties. Construction excavation and other construction procedures are to be developed so as to assure that this work will not undermine or adversely affect these structures.

4.4.2 Construction Staging Areas

The proposed staging plan is designated to isolate the construction while providing safe access for pedestrians and automobiles during normal day-to-day activities and emergencies.

Construction of 190 West Second Street project will be made easier because of the following: the Project Site can be accessed from any of the four adjoining streets to allow main thoroughfares to be maintained clear; the overall Project Site plan includes open areas outside the building footprints which can serve as staging areas during construction. As abutting properties and structures are owned by others, care will be taken to minimize construction impacts on all abutters.

With very rare exceptions, construction vehicles well enter and exit the Project Site from gated entrances located along East First Street which are not major thoroughfares for the neighborhood. The main access point will be from East First Street. In order to minimize the impact on traffic flow along East Second Street, construction vehicles will enter and/or exit from East First Street during non-rush hour time periods.

Gates will be provided at the construction areas to provide both entrance and exit from the overall Project Site. All construction activity will be kept within the overall Project Site. Appropriate signage will be installed along the pedestrian travel-way. The vehicular lanes on public streets will not be obstructed.

Heavy trucking, such as during concrete placements, will be controlled so as not to impact the neighborhood around the overall Project Site more than necessary, and stacking of trucks will be kept to a minimum. In the event stacking of trucks does occur, such as with large concrete pours,

the trucks reach the overall Project Site, they will be brought onto the site where materials will be off loaded.

4.4.3 Demolition

The current Site building (190 West Second Street) will be demolished. Access to the Project Site for demolition and disposal vehicles and equipment (for interior demolition debris) will be from the gated entrances located along East First Street.

Demolition/construction debris will be disposed of into dumpsters and trailer dumps, which will be located at various locations throughout the overall Project Site. Demolition 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. The Proponent will take an active role with regard to the processing and recycling of demolition and construction waste. The disposal contract will include specific requirements that will ensure that construction procedures allow for the necessary segregation, processing, 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 DEP's Regulations for Solid Waste Facilities, 310 CMR 16.00.

4.4.4 Excavation

Shoring will be used during excavation to the extent required due to proximity to the sidewalk or abutting structures. Setbacks from most side and rear lot lines are such that there will probably be sufficient room to slope the sides of excavations at an angle that does not require shoring at these locations. Excavated material which is not to be reused on-site will be transported in covered trucks to an approved landfill or processing site.

4.4.5 Dewatering

Dewatering will be such that all construction operations are conducted in the dry. Sump pits and pumps will be maintained inside the limits of excavation to collect and discharge water. Operation of the dewatering systems will:

- Result in no damage to adjacent buildings, properties, structures, utilities and completed work.
- Prevent and remove any water accumulating in the excavation.
- Collect and discharge surface water, seepage, groundwater, and other water which may enter excavations.
- Develop dry undisturbed excavation subgrades for execution of subsequent construction operations in the dry.
- Maintain and control the water level in backfill to minimum of two (2) feet below the top of backfill placement and compaction operations.
- Maintain existing groundwater levels outside the excavation limits.

4.4.6 Construction Waste

Normal construction debris will be disposed of into dumpsters, which will be located at various locations throughout the overall Project Site.

4.4.7 Construction Traffic Impacts

Because the construction workers will arrive and depart prior to peak traffic periods, the construction trips are not expected to impact traffic conditions. The general contractor and its subcontractor will be required to recruit workers from the neighborhood to the maximum feasible

extent. In addition to other benefits, employing workers who live nearby will reduce the number of personal vehicles driving to the site.

4.4.8 Construction Air Quality

Impacts associated with construction activities may generate fugitive dust, which will result in localized increase in airborne particle levels. Fugitive dust emissions from construction activities will depend on such factors as the properties of the emitting surfaces (e.g., moisture content and volume of spills), meteorological and variables and construction practices employed.

To reduce emissions of fugitive dust and minimize impacts on the local environment, the construction contractor will adhere to a number of strictly enforced mitigation measures. These include:

- Wetting agents will be used regularly to control and suppress dust that may come from the construction materials and from demolition;
- All trucks for transportation of construction debris will be fully covered;
- Storage of construction debris on-site will be kept to a minimum
- Actual construction practices will be monitored to ensure those unnecessary transfers and mechanical disturbances of loose materials are minimized and to ensure that any emissions of dust are negligible; and
- A wheel wash area will be established to minimize dust and mud accumulations in City streets, or periods street sweeping may be utilized to maintain an acceptable street/sidewalk condition.

4.4.9 Construction Noise

The construction/renovation of 190 West Second Street project will require the use of equipment that can be heard from off-site locations. Construction is expected to commence on September 1, 2014 and be completed in August 31, 2016 – approximately a 24-month duration. The Proposed Project is committed to mitigate noise impacts of the construction of the project. Increased community sound levels, however, are an inherent consequence of construction activities. The area currently has significant ambient noise due to urban activities including traffic noise from West Second Street, West First Street and C Street, building, mechanical equipment, and aircraft flying overhead. Noise from construction will be kept within applicable regulations regarding time of the day and level.

Construction will occur during the daytime hours as defined by the Boston Noise Regulation. In some instances, weekend and second shifts may be required. When these events arise, all required permits will be in place.

4.4.10 Construction Noise Mitigation

Every reasonable effort will be made to minimize the noise impact of construction activities. Mitigation measures will include:

- Scheduling of work during daytime hours;
- Using appropriate mufflers on all equipment and providing ongoing maintenance of intake and exhaust mufflers;
- Maintaining muffling enclosures on continuously operating equipment, such as air compressors and welding generators;
- Replacing specific construction operations and techniques by less noisy ones where feasible – e.g. using vibration pile driving instead of impact driving if practical;
- Selecting the quietest practical items of equipment – e.g., electric instead of diesel powered equipment;

- Selecting equipment operations to keep average levels low, to synchronize noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- Turn off idle equipment, and;
- Locating noisy equipment at locations that protect sensitive locations by shielding or distance.

4.4.11 Rodent Control

The City of Boston has declared that the infestation of rodents in the City is a serious problem. In order to control this infestation, the City enforces the requirements established under the Massachusetts State Sanitary Code, Chapter 11, 105 CMR 410.550 and the State Building Code, Section 108..6. Policy Number 87-4 (City of Boston) established that extermination of rodents shall be required for issuance of permits of demolition, excavation, foundation and basement rehabilitation. The Proposed Project will develop a rodent control program prior to its construction start. During construction, rodent control service visits will be made by a certified rodent control firm to monitor the situation.

4.4.12 Utilities

The construction process should not affect the existing utilities. Connections to the existing services will be performed following approval and survey by the Boston Water and Sewer Commission, Nstar and Keyspan. Police details will be utilized to control traffic during street excavations.

4.5 Sustainability

The Project will reduce energy use across systems with strategies such as energy efficient equipment and appropriate insulation in a tight building envelope. No chlorofluorocarbons (CFCs) will be used in cooling equipment. Instead, refrigerants with low ozone depleting/global warming potential will be prioritized.

The Project will achieve compliance with Article 37 of the Boston Zoning Code by being LEED Certifiable under the LEED NC (New Construction) rating system (see Appendix C).

Sustainable highlights of the Project include:
Redevelopment of a currently underutilized transit-oriented site. The Project is in a dense urban area, close to regional and local public transportation. The new residential building will be located proximate to public transportation on the MBTA's Broadway Station - Red line and Bus Routes 9, 11 and 47, encouraging minimal vehicle use.

The Project will embody urban principles encouraging public transportation and pedestrian activity. The use of cars at this site is expected to be minimal in comparison to the public transportation and pedestrian trips. Other transportation related characteristics include:

- The development team will have discussions with Zipcar to potentially include shared-car facilities within the building.
- The Proponent will include two electric car charging stations in the parking garage.
- One bicycle parking space will be included for each residential unit; the majority will be covered.

Mechanical Systems:

- No CFCs will be used in cooling equipment.
- The Project will seek to save energy across systems with energy efficient equipment and appropriate insulation.
- Energy Star appliances, lighting and low-flow fixtures will be integrated into residential units.
- Operable and high-quality insulated glass will allow residents to control air movement within the units.

- High efficiency lighting with occupancy sensors will be incorporated where suitable.

Below is a description of how the Project will achieve the anticipated credits on the LEED for New Construction (NC) version 3.0. The proposed Project is currently estimated at a minimum, to be LEED certifiable, as required by Article 37 of the Boston Zoning Code.

Sustainable Sites (SS)

- SS PreReq 1 Construction Activity Pollution Prevention: An Erosion and Sedimentation Control Plan will be part of the Project.
- SS 1 Site Selection: The site is a previously developed urban infill site.
- SS 2 Development Density: The building is within a dense urban community with a minimum of 88,000 square feet per acre net, as well as on a previously developed site that offers a variety of community connections to basic services.
- SS 3 Brownfield Redevelopment: The site is currently a listed Site with MADEP. A clean up was previously started and will be completed as part of the development process.
- SS 4.1 Alternative Transportation - Public Transportation Access: The Project is located proximate to public transportation on the MBTA's Broadway Station - Red line and Bus Routes 9, 11 and 47, encouraging minimal vehicle use.
- SS 4.2 Alternative Transportation - Bicycle Storage and Changing Rooms: Covered storage is provided for 80 bicycles per the City of Boston's transportation department's bike parking regulations. This exceeds the requirement of SS 4.2 for bike storage equal to 15% of building occupants.
- SS 4.3 Alternative Transportation - Low-Emitting and Fuel Efficient Vehicles: Preferred parking for low-emitting and fuel-efficient vehicles for 5% of the total vehicle parking capacity of the site will be provided. Additionally Proponent is currently proposing two electric car charging stations and electrical distribution sized to handle an additional charging stations.
- SS 6.1 Stormwater Design, Quality Control – The development may implement a stormwater management plan that results in a 25% decrease in the volume of stormwater runoff from the two-year, 24 hour design storm.
- SS 7.1 Heat Island Effect—Non-roof: All parking spaces are provided under cover in the garage.
- SS 7.2 Heat Island Effect—Roof: Roofing materials will investigated with a solar reflectance index (SRI) equal to or greater than a value of 78 for a minimum of 75% of the roof surface.

Water Efficiency (WE)

- WE PreReq Water Use Reduction – 20% Reduction: The Project will employ strategies to use 20% less water in aggregate than the water use baseline calculated for the building.
- WE 1 Water Efficient Landscaping: The landscaping will be designed to not require permanent irrigation systems.
- WE 3 Water Use Reduction: – The development may implement additional water saving measures to further reduce the use of potable water.

Energy and Atmosphere (EA)

- EA Prereq 1 Fundamental Commissioning of Building Energy Systems: The Proponent will verify that the Project's energy-related systems are installed, calibrated and perform according to the owner's Project requirements, basis of design and construction documents.
- EA Prereq 2 Minimum Energy Performance: The Project will establish the minimum level of energy performance rating goal for the proposed building and systems to reduce environmental and economic impacts associated with excessive energy use.
- EA Prereq 3 Fundamental Refrigerant Management: The Project will reduce stratospheric ozone depletion by minimizing the emission of compounds that contribute to ozone depletion.
- EA 1 Optimize Energy Performance: The proposed building performance will be modeled to show a 20% improvement over the baseline.
- EA 4 Enhanced Refrigerant Maintenance Test: The Proponent will investigate enhanced refrigerant testing.

Materials and Resources (MR)

- MR Prereq 1 Storage and Collection of Recyclables: As required by Boston, recyclable collection will be provided at grade.
- MR 2 Construction Waste Management documents: All contractors being considered for the Project will have an in-place construction waste management plan. These plans typically include knowledge of local options for diversion and a program of documenting the diversion rate for construction waste.
- MR 4 Recycled Content: The development may include the use of 10% recycled-content materials based on overall cost.
- MR 5 Regional Materials: Regional Materials use are a priority and the Proponent will try to achieve a high Regional Material content value.
- MR 6 Certified Wood: The development may include the use a minimum of 50% FSC certified wood for wood permanently installed inside the building envelop.

Indoor Environmental Quality (IEQ)

- IEQ Prereq 1 Minimum Indoor Air Quality Performance: The Project will meet or exceed minimum indoor air quality performance requirements.
- IEQ Prereq 2 Environmental Tobacco Smoke (ETS) Control: The Project will be designated NO SMOKING.
- IEQ 4.1 Low-Emitting Materials—Adhesives and Sealants: The Project will incorporate low emitting adhesives and sealants.
- IEQ 4.2 Low-Emitting Materials—Paints and Coatings: The Project will incorporate low emitting paints and coatings.
- IEQ 4.3 Low-Emitting Materials—Flooring Systems: The Project will incorporate low emitting flooring systems.
- IEQ 4.4 Low-Emitting Materials—Composite Wood and Agrifiber Products: The Project will strive to integrate, to the maximum extent possible, products that meet the above criteria.
- IEQ 5 Indoor Chemical and Pollutant Source Control: Entryways may capture and control pollutants entering the building; the garage and maintenance areas may be isolated from the rest of the building and exhausted.
- IEQ 6.1 Controllability of Systems—Lighting: Each unit will benefit by resident control of their lighting systems.
- IEQ 6.2 Controllability of Systems—Thermal Comfort: Each unit will benefit by resident control of thermal systems.
- IEQ 8.1 Daylight and Views—Daylight: Daylight will be maximized for each unit. Due to the narrow footprint of the upper floors and expanse of windows, daylighting will penetrate more than 75% of the occupied space.
- IEQ 8.2 Daylight and Views—Views: Connections to the outdoors will be maximized for each unit through large areas of glazing in each unit.

Innovation and Design Process (ID)

- ID 1.1 Training for residents in Green Building: A resident manual will be provided with required LEED materials, and a one hour walkthrough will be provided to familiarize management staff with equipment including operations and maintenance.
- ID 1.2 Exemplary Performance Transit Oriented Development: The Project is within one-half mile of two commuter rail stations and a bus station.

RP 1.1 Regional Priority: SSc2 Development Density: An additional point will be achieved due to the Project's density.

4.6 Climate Change Resiliency & Preparedness

The Project Proponent is committed to the practice of Climate Change resilient design. The Project Team has begun the process of integrating resiliency strategies throughout the development to minimize building energy use, minimize impacts from potential flooding, high winds and higher average temperatures, and

maintain safe and comfortable indoor environments. At the same time, these strategies will also assist in reducing maintenance and management costs. The paragraphs below outline the project's approach to resilient design, and identify some of the principal proposed strategies (see attached Climate Change Resiliency & Preparedness Checklist in Appendix E).

Climate Change Resiliency & Preparedness highlights of the Project include:

Build for more rain flow

- Pervious patios will be used (pavers or brick) along West First Street.
- Site will be graded to slow runoff & enhance infiltration.
- The Property will perform regular drainage maintenance.
- French drains and infiltration areas will be built that feed into our drainage retention systems.

Cool ground surfaces

- Pervious patios (pavers or brick) along West First Street will be light colored.
- Vegetation will be used in balance of landscape areas around the perimeter of the building.
- Trees and shrubs will be used for shading & cooling around the landscape areas & in the sidewalks.

Flood Proof Strategies

- Service and Utility Equipment will be located in concrete rooms with water tight doors or on the West Second Street portion of the property.
- Garage level constructed from reinforced concrete. Only other use on garage level is retail which is at grade on west First Street (EL 16.80 Garage floor EL). The first floor which will be occupied by residents, will be constructed at EL 26.99.
- Back flow valves will be installed on all drainage and sewer connections.
- Exterior items and objects will be secured/anchored to prevent them from being swept away in a flood.

Hazard Resilient Landscape Design & Shading

- Flood and wind resistant and drought tolerant plantings and trees will be explored.
- The maintenance program will include pruning and general maintenance to improve the health of all vegetation.
- The perimeter landscaping will be constructed of 80% or greater permeable materials.
- An onsite underground drainage retention system will be used to collect 95% of the Site's storm water and will be design to promote groundwater recharge.
- The building eastern, southern and northern elevations will be shaded with woody trees. Trees will be pruned high enough to provide shade but also allow winter sun through.

Stabilize C Street Slope

- The slope of C Street will be stabilized using landscape walls and plantings.
- Runoff at the perimeter will be collected by the perimeter French drain system and directed to the onsite underground drainage retention system.

Building Structure

- The base of the building is constructed of reinforced concrete. The framing/bracing of the first to third floors were designed to within stand winds of up to 105 mph.
- All metal siding will be secured.
- The roof will be a secured single ply roof system.
- The main structure is elevated above the proposed FEMA flood plain elevations.
- All garage level piers are reinforced concrete.

- All materials that are in contact with soil will be reinforced concrete (pest resistant).

Cool Roofing
- A single ply light color roof will be explored.
- A small green roof area has been proposed.

Building Insulation & Managing Heat Gain
- The building will exceed the wall and roof R factors required under the building code.
- Energy efficient windows

High Wind Resistance
- The base of the building is constructed of reinforced concrete. The framing/bracing of the first to third floors were designed to within stand winds of up to 105 mph.
- All metal siding and masonry siding will be secured.
- The roof will be a secured single ply roof system.
- All garage level piers are reinforced concrete.
- Anchor roof top appliances.

Backup Power & Systems
- The necessary piping and conduits will be installed for a future backup natural gas power supply system.
- The service equipment will be placed in a concrete room with a water tight door.
- Hot water tanks will be installed within the units above the flood elevation.
- HVAC systems will be installed within the units above the flood elevation.
- Be installed within the units above the flood elevation.
- Be installed within the units above the flood elevation.

4.7 Historic Resources Component

The existing building on the project site was constructed circa 1888 according to Boston Inspectional Service's building records. Since that time, it has been used for storage, vehicle storage, warehousing, and office uses.

The overall Project Site does not contain any historical structures and is not within a nationally or locally designated historic district. According to historical records at the Massachusetts Historical Commission and the Massachusetts Cultural Resource Information System (MACRIS), the Project Site (190 West Second Street) currently contains no building of historic significance.

Other architecturally historical buildings remaining listed by MACRIS within the immediate Project Site vicinity include the following: The Signal Building built in 1912, (154 West Second Street); William R Lawrence Row Houses built in 1852 (161, 163, 165 and 167 West Second Street) and the former Hersey Brothers Machinery Manufacturing Co building from c1899 (314-330 West Second Street). The Proposed Project will not adversely impact any historical structures or districts.

5.0 TRANSPORTATION

5.1 Introduction

Howard/Stein-Hudson Associates, Inc. (HSH) has conducted an evaluation of the transportation impacts of the proposed mixed-use development containing residential and retail uses to be located at 190-206 West Second Street in South Boston (the "Project" and/or the "Site"). This transportation study adheres to the Boston Transportation Department (BTD) *Transportation Access Plan Guidelines* and Article 80 development review process. This study includes an evaluation of existing conditions, future conditions with and without the Project, projected parking demand, loading operations, transit services, and pedestrian activity.

5.1.1 Project Description

The Project Site is located at 190-206 West Second Street in South Boston and is bounded by C Street to the east, West Second Street to the south, West First Street to the north, and the a vacant lot and the Signal Building to the west as shown in **Figure 5.1**. The Site also surrounds three sides of an existing commercial property located at 188 West Second Street.

The Site currently contains mostly vacant industrial uses and areas of open space. The Project will replace the existing uses and will include 97 rental apartment units and approximately 5,010 square feet (sf) of ground floor commercial space located along the West First Street frontage. A total of 115 parking spaces will be provided on-site in a ground-level garage. The parking will be provided for the residents of the Project. No additional parking will be provided for the commercial uses. On-site storage will also be provided for approximately 80 bicycles in the garage.

Vehicular access to the garage will be provided by a single driveway along West First Street, approximately 250 feet west of C Street. Primary pedestrian access to the residential component will be provided by two entrances along C Street, an entrance along West First Street, and an entrance along West Second Street along with additional access through the parking garage. Loading, deliveries, and trash pick-up will take place curbside along West First Street.

5.1.2 Study Area

The study area consists of the following four intersections, also shown on **Figure 5.1**:

- C Street/West First Street;
- C Street/West Second Street;
- D Street/West First Street; and
- A Street/West Second Street.

The intersection of B Street/West Second Street is also located in proximity to the Site but was not included in the analysis study area due to the lack of vehicular conflicts at the intersection.

5.1.3 Study Methodology

This transportation study and supporting analyses were conducted in accordance with BTD guidelines and is described below.

The existing conditions analysis includes an inventory of the existing (2013) transportation conditions such as traffic characteristics, parking and curb usage, transit, pedestrian circulation, bicycle facilities, loading, and site conditions. Existing counts for vehicles, bicycles, and pedestrians were collected in April and October 2013 at the study area intersections. The traffic counts form the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analysis evaluates potential transportation impacts associated with the Project. Long-term impacts are evaluated for the year 2018, based on a five-year horizon from the existing year (2013). Expected roadway, parking, transit, pedestrian, bicycle accommodation, and loading capabilities and deficiencies are identified. This section includes the following scenarios:

- The 2018 No-Build conditions scenario includes both general background traffic growth and traffic growth associated with specific developments and transportation improvements that are planned in the vicinity of the Project Site.
- The 2018 Build conditions scenario includes Project-generated traffic volume estimates added to the traffic volumes developed as part of the 2018 No-Build conditions scenario.

The final part of the transportation study identifies measures to mitigate Project-related impacts and to address any traffic, pedestrian, bicycle, transit, safety, or construction related issues that are necessary to accommodate the Project.

An evaluation of short-term traffic impacts associated with construction activities is also provided.

Figure 5.1 Study Area Intersections

5.2 Existing Conditions

5.2.1 Existing Roadway Conditions

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

West Second Street

- Is adjacent to the south side of the Project Site.
- Is classified as a local roadway adjacent to the Project Site and an urban minor arterial west of B Street.
- Runs in an east-west direction between Dorchester Avenue to the west and Dorchester Street to the east.
- Is one-way westbound with parking along both sides in the vicinity of the Site.
- Sidewalks are provided along both sides of West Second Street.

West First Street

- Is adjacent to the north side of the Project Site.
- Is classified as an urban minor arterial roadway.
- Runs in an east-west direction between B Street to the west and Dorchester Street to the east.
- Is a two-way roadway with single travel lanes in each direction and parking provided on both sides of the roadway in the vicinity of the Project.
- Sidewalks are provided along both sides of West First Street.

C Street

- Is adjacent to the east side of the Project Site.
- Is classified as a local roadway.
- Runs in a north-south direction between Cypher Street to the north and Flaherty Way to the south.
- Is one-way northbound with parking along both sides in the vicinity of the Site.
- Sidewalks are provided along both sides of C Street.

5.2.2 Existing Intersection Conditions

Existing conditions at each of the study area intersections are described below.

C Street/West First Street

- Is a four-legged, unsignalized intersection under BTD jurisdiction.
- C Street is one-way in the northbound direction and consists of a single travel lane under STOP control.
- West First Street eastbound and westbound consist of single travel lanes separated by a double-yellow centerline.
- Parking is allowed on both sides of all approaches to the intersection.
- Crosswalks are not provided at the intersection.
- Sidewalks are provided along both sides of all approaches.

C Street/West Second Street

- Is a four-legged, unsignalized intersection under BTD jurisdiction.
- C Street is one-way in the northbound direction and consists of a single travel lane under STOP control.
- West Second Street is one-way in the westbound direction and consists of a single travel lane under STOP control.
- Parking is allowed on both sides of all approaches to the intersection.
- Crosswalks are provided across all legs of the intersection.
- Sidewalks are provided along both sides of all approaches.

D Street/West First Street

- Is a four-legged, signalized intersection under BTD jurisdiction.
- D Street is one-way northbound south of the intersection and consists of a shared left-turn/through lane and an exclusive right-turn lane.
- D Street southbound consists of an exclusive left-turn lane and an exclusive right-turn lane.
- Parking is not allowed along D Street at the intersection.
- West First Street eastbound consists of an exclusive left-turn lane and a through lane.
- West First Street westbound consists of a through lane and an exclusive right-turn lane.
- Parking is not allowed along D Street or West First Street at the intersection.
- Crosswalks and pedestrian signal equipment are provided for all crossings at the intersection.
- Sidewalks are provided along both sides of all approaches.

A Street/West Second Street

- Is a four-legged, signalized intersection under BTD jurisdiction.
- A Street northbound consists of a single travel lane that accommodates left-turn and through movements.
- A Street southbound consists of a single travel lane that accommodates through and right-turn movements.
- West Second Street eastbound consists of a single travel lane that accommodates left-turn and right-turn movements.
- West Second Street is one-way in the westbound direction east of A Street and consists of an exclusive left-turn lane and a shared through/right-turn lane.
- Parking is not allowed along A Street or West Second Street at the intersection.
- Crosswalks are provided across all legs of the intersection, although pedestrian signal equipment is not provided.
- Sidewalks are provided along both sides of all approaches.

5.2.3 Existing Traffic Conditions

Traffic movement data was collected at the intersection of A Street/West Second Street in April 2013 and at the remainder of the intersections in October 2013. Manual turning movement counts (TMCs) and vehicle classification counts were conducted during the weekday a.m. and p.m. peak periods (7:00-9:00 a.m. and 4:00-6:00 p.m., respectively) for the study area intersections.

The vehicle classification counts included car, truck, pedestrian, and bicycle movements. Based on the TMCs, the peak hours of vehicular traffic throughout the study area are 7:45-8:45 a.m. and 5:00-6:00 p.m. The detailed traffic counts are provided in the Appendix.

Seasonal Adjustment

In order to account for seasonal variation in traffic volumes throughout the year, data provided by the MassDOT were reviewed. Typically, nearby continuous traffic count stations are used to determine monthly fluctuations in traffic volumes. The most recent (2011) MassDOT Weekday Seasonal Factors were used to determine the need for seasonal adjustments to the September 2013 TMCs. The 2011 seasonal adjustment factor for April and October for roadways similar to the study area is 0.92, which indicates that average month traffic volumes are approximately 92 percent of typical April and October traffic volumes. The traffic counts were not adjusted to reflect average month conditions. The 2013 Existing weekday a.m. and p.m. peak hour traffic volumes are shown in **Figure 5.2** and **Figure 5.3**, respectively.

Figure 5.2 Existing Conditions (2013) Traffic Volumes, a.m. Peak Hour (7:45 8:45 a.m.)

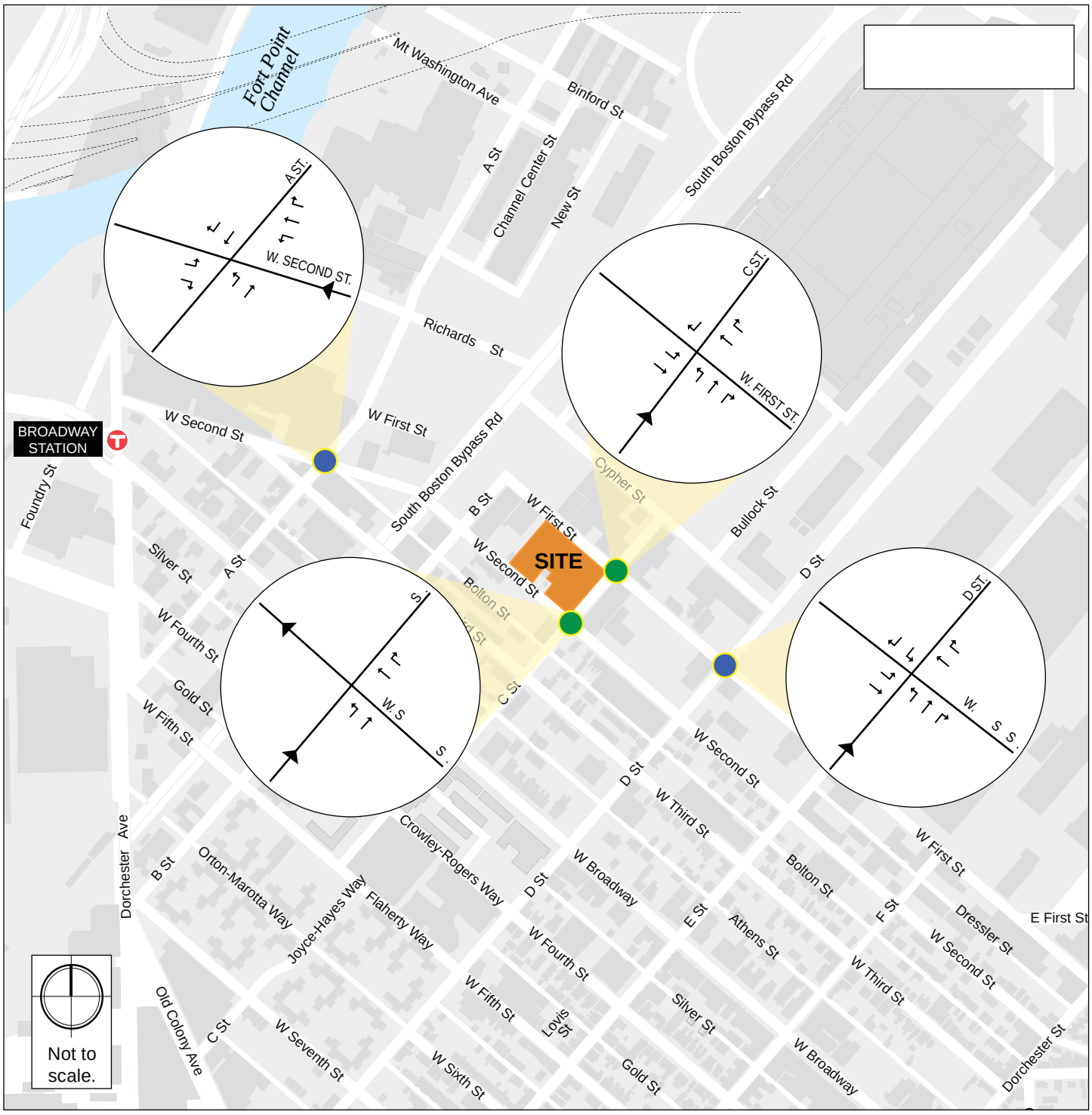
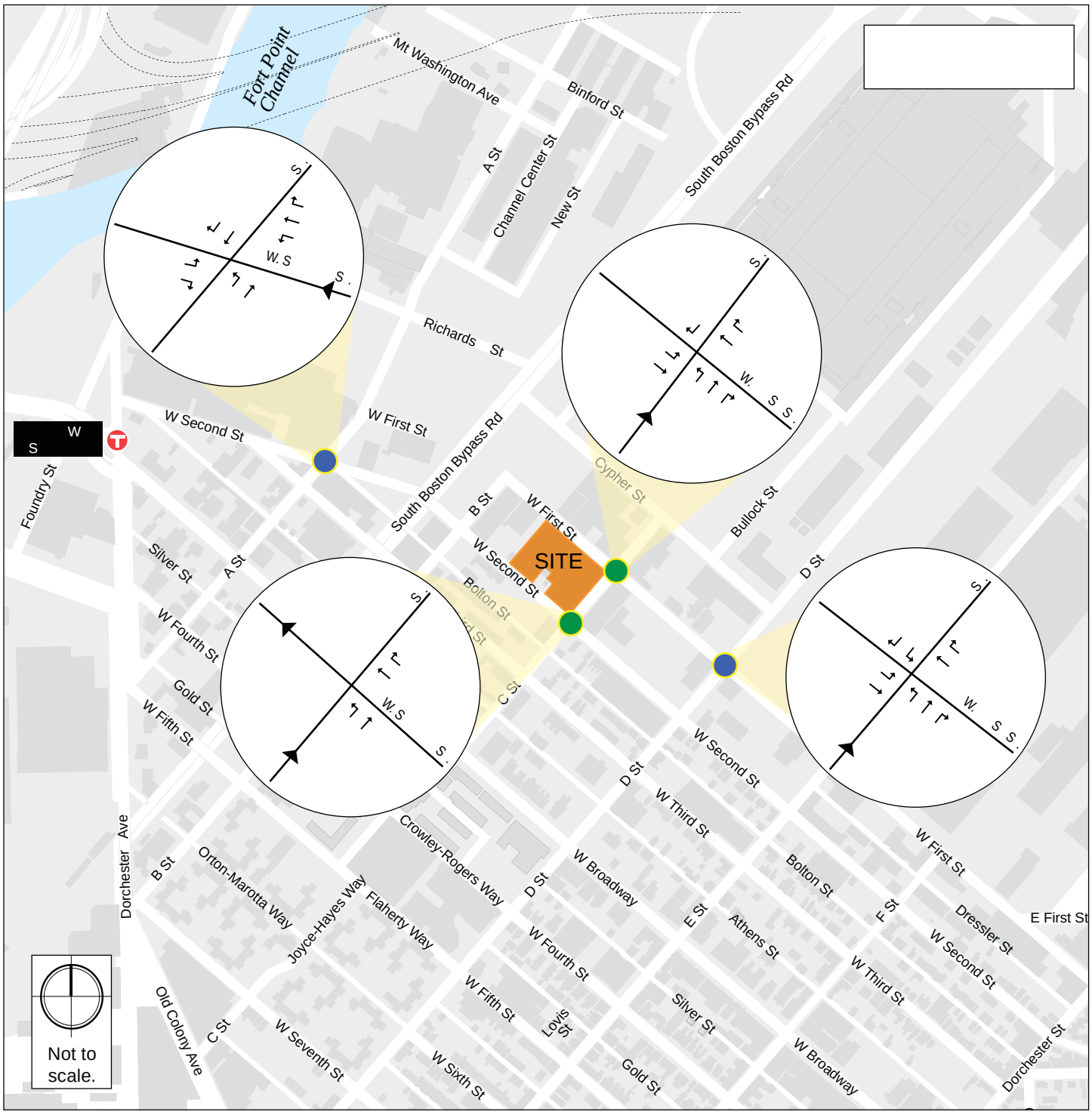


Figure 5.3 Existing Conditions (2013) Traffic Volumes, p.m. Peak Hour (5:00–6:00 p.m.)



5.2.4 Existing Traffic Operations

The criterion for evaluating traffic operations is level of service (LOS), which is determined by assessing average delay incurred by vehicles at intersections and along intersection approaches. Trafficware's Synchro (version 6) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 *Highway Capacity Manual* (HCM).

The volume-to-capacity (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 50^{th} percentile queue length, measured in feet, represents the maximum queue length during a cycle of the traffic signal with typical (or median) entering traffic volumes.

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 percent of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only 5 percent of the time and would typically not occur during off-peak hours.

Field observations were performed by HSH to collect intersection geometry such as number of turning lanes, lane length, and lane width.

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. **Table 5-1** 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.

Table 5-1 Level of Service Criteria

Level of Service	Average Stopped Delay (sec./veh.)	
	Signalized Intersections	**Unsignalized Intersections**
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: 2000 Highway Capacity Manual, Transportation Research Board.		

Table 5-2 and **Table 5-3** present the 2013 Existing conditions operational analysis for the study area intersections during the a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in the Appendix.

As shown in **Table 5-2**, the signalized intersections in the study area currently operate at LOS C or better, with all movements at the intersections operating at LOS D or better during the a.m. peak hour. The unsignalized intersections in the study area currently operate at LOS B or better, with minimal delay and queuing during the a.m. peak hour. The longest queues at the study area intersections occur along the A Street northbound approach to West Second Street and the D Street northbound approach to West First Street and range from approximately 150 to 180 feet (approximately 6-8 vehicles).

As shown in **Table 5-3**, the signalized intersections in the study area currently operate at LOS B, with all movements at the intersections operating at LOS D or better during the p.m. peak hour. The unsignalized intersections in the study area currently operate at LOS B or better, with minimal delay and queuing during the p.m. peak hour. The longest queues at the study area intersections occur along the A Street southbound approach to West Second Street and the D Street southbound approach to West First Street and range from 250 to 300 feet (approximately 10 to 12 vehicles).

Based on the existing conditions traffic operational analysis, the intersections operate under capacity with no apparent operational issues during the a.m. and p.m. peak hours.

Table 5-2 Existing Conditions (2013), Capacity Analysis Summary, a.m. Peak Hour

Intersection	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized Intersections					
West Second Street/A Street	**B**	**10.6**	—	—	—
West Second Street EB left	B	16.2	0.23	13	25
West Second Street EB right	A	6.5	0.05	0	4
West Second Street WB left	B	17.8	0.41	45	59
West Second Street WB thru/right	B	16.7	0.51	59	74
A Street NB left/thru	A	7.8	0.44	67	148
A Street SB thru/right	A	6.3	0.33	41	102
West First Street/D Street	**C**	**22.6**	—	—	—
West First Street EB left	C	30.0	0.02	2	3
West First Street EB thru	C	30.0	0.01	2	3
West First Street WB thru	D	49.7	0.56	73	123
West First Street WB right	A	1.2	0.20	0	17
D Street NB left/thru	D	49.1	0.65	119	179
D Street NB right	B	11.0	0.22	0	18
D Street SB left	B	15.3	0.25	64	152
D Street SB right	A	4.3	0.12	0	29
Unsignalized Intersections					
West First Street/C Street	—	—	—	—	—
West First Street EB left/thru	A	0.1	0.02	—	1
West First Street WB thru/right	A	0.0	0.14	—	0
C Street NB left/thru/right	B	12.5	0.23	—	22
West Second Street/C Street	—	—	—	—	—
West Second Street WB thru/right	A	0.0	0.13	—	0
C Street NB left/thru	B	14.3	0.37	—	42

Table 5-3 Existing Conditions (2013), Capacity Analysis Summary, p.m. Peak Hour

Intersection	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized Intersections					
West Second Street/A Street	**B**	**18.3**	—	—	—
West Second Street EB left	D	47.5	0.39	35	63
West Second Street EB right	C	22.0	0.01	0	7
West Second Street WB left	D	47.6	0.53	101	130
West Second Street WB thru/right	D	49.9	0.67	137	183
A Street NB left/thru	A	4.1	0.17	43	84
A Street SB thru/right	A	6.3	0.49	153	290
West First Street/D Street	**B**	**17.6**	—	—	—
West First Street EB left	C	24.1	0.04	4	14
West First Street EB thru	C	27.3	0.16	24	48
West First Street WB thru	D	39.8	0.39	49	82
West First Street WB right	A	1.2	0.09	0	7
D Street NB left/thru	D	40.1	0.44	60	81
D Street NB right	B	11.8	0.24	0	31
D Street SB left	B	16.4	0.37	130	257
D Street SB right	A	3.5	0.18	0	42
Unsignalized Intersections					
West First Street/C Street	—	—	—	—	—
West First Street EB left/thru	A	3.9	0.00	—	0
West First Street WB thru/right	A	0.0	0.15	—	0
C Street NB left/thru/right	B	10.3	0.15	—	13
West Second Street/C Street	—	—	—	—	—
West Second Street WB thru/right	A	0.0	0.07	—	0
C Street NB left/thru	B	11.1	0.20	—	19

5.2.5 Existing Parking and Curb Usage

On-street parking surrounding the Project Site generally consists of unrestricted parking, residential parking, and visitor parking. West First Street, adjacent to the Site, is currently unrestricted. Resident parking is also provided along sections of B Street, C Street, West Second Street, and West Third Street. The on-street parking regulations within the study area are shown on **Figure 5.4**.

5.2.6 Existing Public Transportation

The Project Site is located in the vicinity of the MBTA Broadway Station and several MBTA bus routes. Broadway Station provides access to the MBTA Red Line and three MBTA bus routes. The following describes each public transportation route located in the vicinity of the Project Site, with a map of the nearby public transportation services shown in **Figure 5.5**.

MBTA Bus Route 9 – This route provides service between the City Point bus terminal in South Boston and Copley Square in the Back Bay. Weekday and Saturday service run from approximately 5:10 a.m. to 1:15 a.m., with Sunday service running from approximately 6:00 a.m. to 1:15 a.m. Headways range from approximately 5 minutes to 30 minutes. The route runs along West Broadway in the vicinity of the Site, with the nearest stops located at the intersections of West Broadway/B Street and West Broadway/C Street.

MBTA Bus Route 11 – This route provides service between the City Point bus terminal in South Boston and downtown Boston. Weekday and Saturday service run from approximately 5:10 a.m. to 1:25 a.m., with Sunday service running from approximately 6:15 a.m. to 1:30 a.m. Headways range from approximately 10 minutes to 50 minutes. The route runs along A Street and West Broadway in the vicinity of the Site, with the nearest stops located at the intersections of West Second Street/West Third Street and West Broadway/A Street.

MBTA Bus Route 47 – This route provides service between Broadway Station in South Boston and Central Square in Cambridge via Ruggles Station in the Fenway area. Weekday service runs from approximately 6:00 a.m. to 1:00 a.m. with headways of approximately 10 to 45 minutes. Saturday service runs from approximately 5:35 a.m. to 1:10 a.m. with headways of approximately 25 to 40 minutes. Sunday service runs from approximately 8:00 a.m. to 1:10 a.m. with headways of approximately 40 minutes to one hour. The route runs Dorchester Avenue, west of the Project Site, with the nearest stop located at Broadway Station.

MBTA Red Line – The Red Line branch of the MBTA subway system stops at Broadway Station. The Red Line provides access between Alewife Station to the north and both Ashmont Station and Braintree Station to the south. The Red Line also provides convenient access to downtown Boston, Cambridge, and Quincy. South Station, which provides access to bus terminals, commuter rail lines, regional rail lines, and Logan Airport via the MBTA Silver Line is one stop north of

Broadway Station on the Red Line. The Red Line operates with headways of approximately 9 to 16 minutes.

Figure 5.4 On-Street Parking Regulations

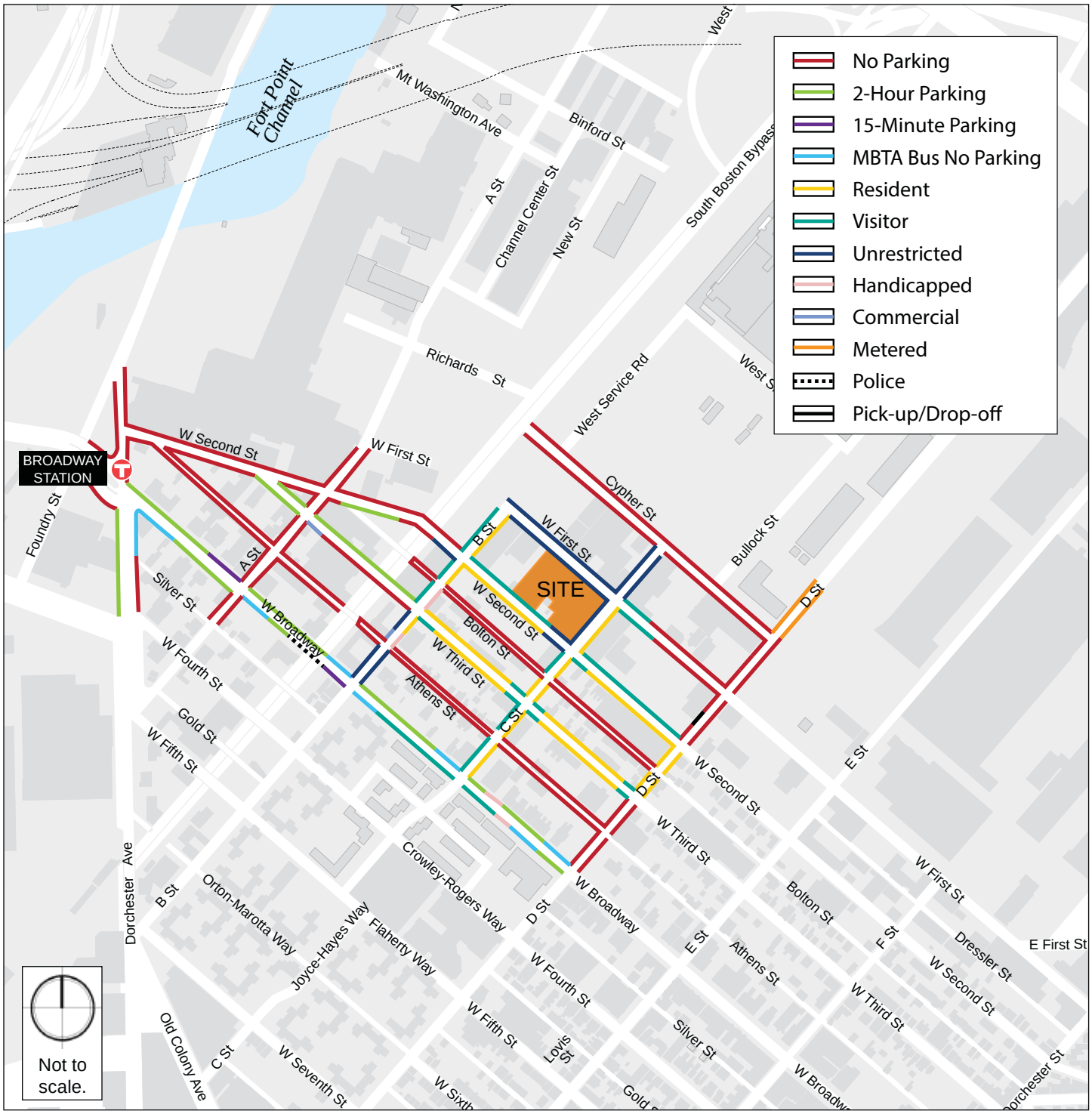
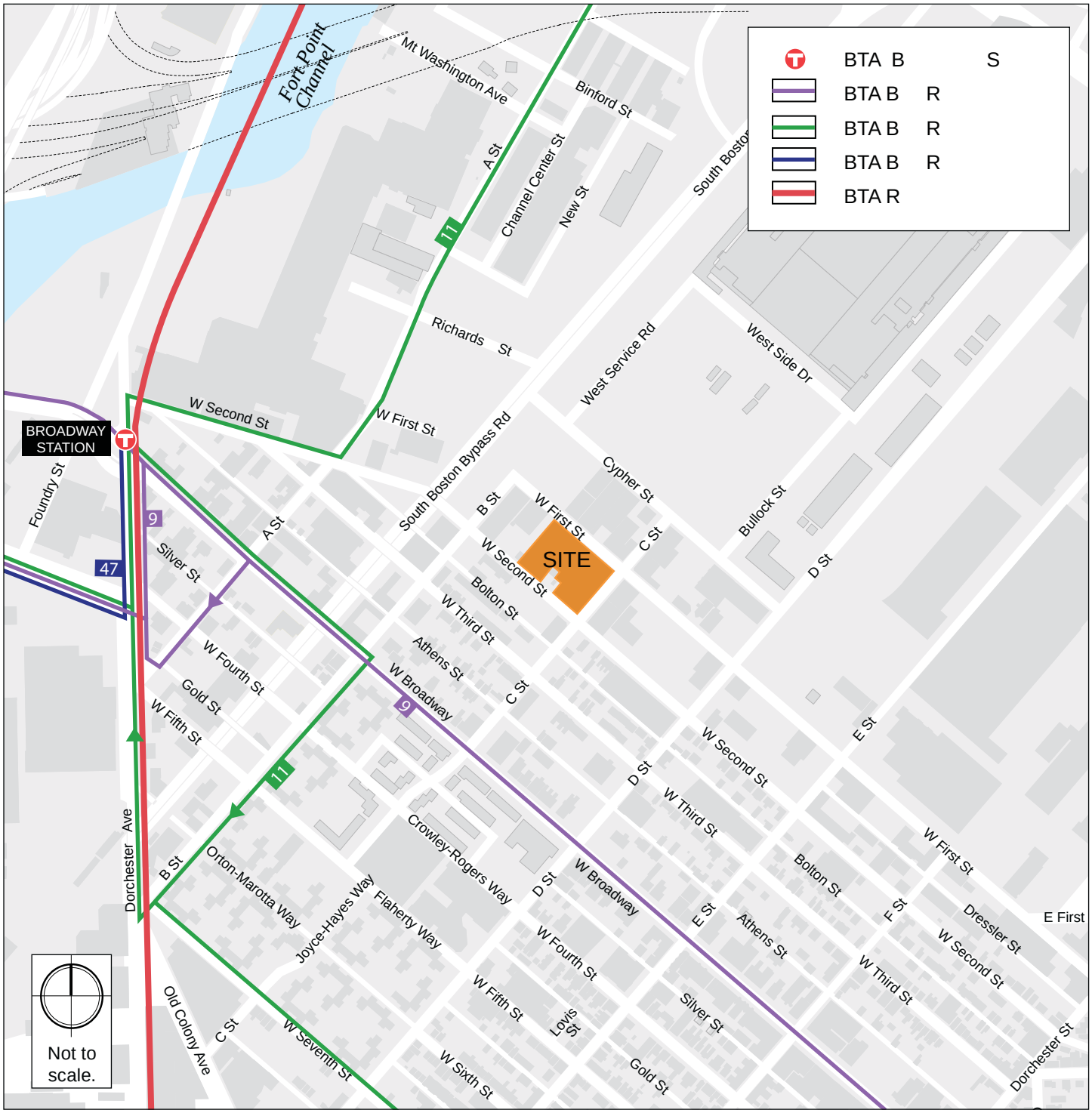


Figure 5.5 Public Transportation in the Study Area



5.2.7 Existing Pedestrian Conditions

The Project Site is located adjacent to C Street, West First Street, and West Second Street in South Boston. Sidewalks are provided along all streets within the study area. The sidewalks along West Second Street are generally in good condition and supply more than adequate capacity. The sidewalks along C Street and West First Street are generally in fair to poor condition along the Site frontage. Crosswalks are also provided at the study area intersections with the exception of C Street/West First Street. It is anticipated that residents and visitors of the Site will primarily use C Street and West Second Street to walk to the public transportation and commercial businesses at Broadway Station and along West Broadway and Dorchester Avenue.

To estimate the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrent with the TMCs at the study area intersections and are presented in **Figure 5.6**. The pedestrian activity within the study area is heaviest along A Street, West Second Street, and D Street.

5.2.8 Existing Bicycle Facilities

In recent years, bicycle use has increased dramatically throughout the City of Boston. The South Bay Harbor Trail is located to the west of the Project Site and is a multi-use path that will ultimately connect the Fort Point district of Boston to the Southwest Corridor Park. Along with the South Bay Harbor Trail, the following roadways within the study area are designated bicycle routes on the City of Boston's "Bike Routes of Boston" map:

- **Dorchester Avenue** and **West Broadway** are designated as advanced routes suitable for traffic-condient cyclists with on-road experience.
- **West First Street, West Second Street, A Street, and D Street** are designated as intermediate routes suitable for riders with some on-road experience.

Bicycle counts were conducted concurrent with the vehicular TMCs and are presented in **Figure 5.7**. As shown in **Figure 5.7**, bicycle volumes are generally light around the Project Site, with the heaviest movements along A Street, D Street, and West Second Street.

Hubway is a bicycle sharing system in the Boston area, which was launched in 2011 and consists of over 100 stations and 1,000 bicycles. There are two Hubway stations in close proximity to the Project Site, also shown in **Figure 5.8**:

- **Boston Convention & Exhibition Center (BCEC)** – Located along Summer Street near the BCEC, this Hubway station has an overall capacity of 19 bicycles.
- **Dorchester Avenue at Gillette Park** – Located along Dorchester Avenue near West Second Street, this Hubway station has an overall capacity of 15 bicycles.

Figure 5.6 Existing Conditions (2013) Pedestrian Volumes, a.m. and p.m. Peak Hours

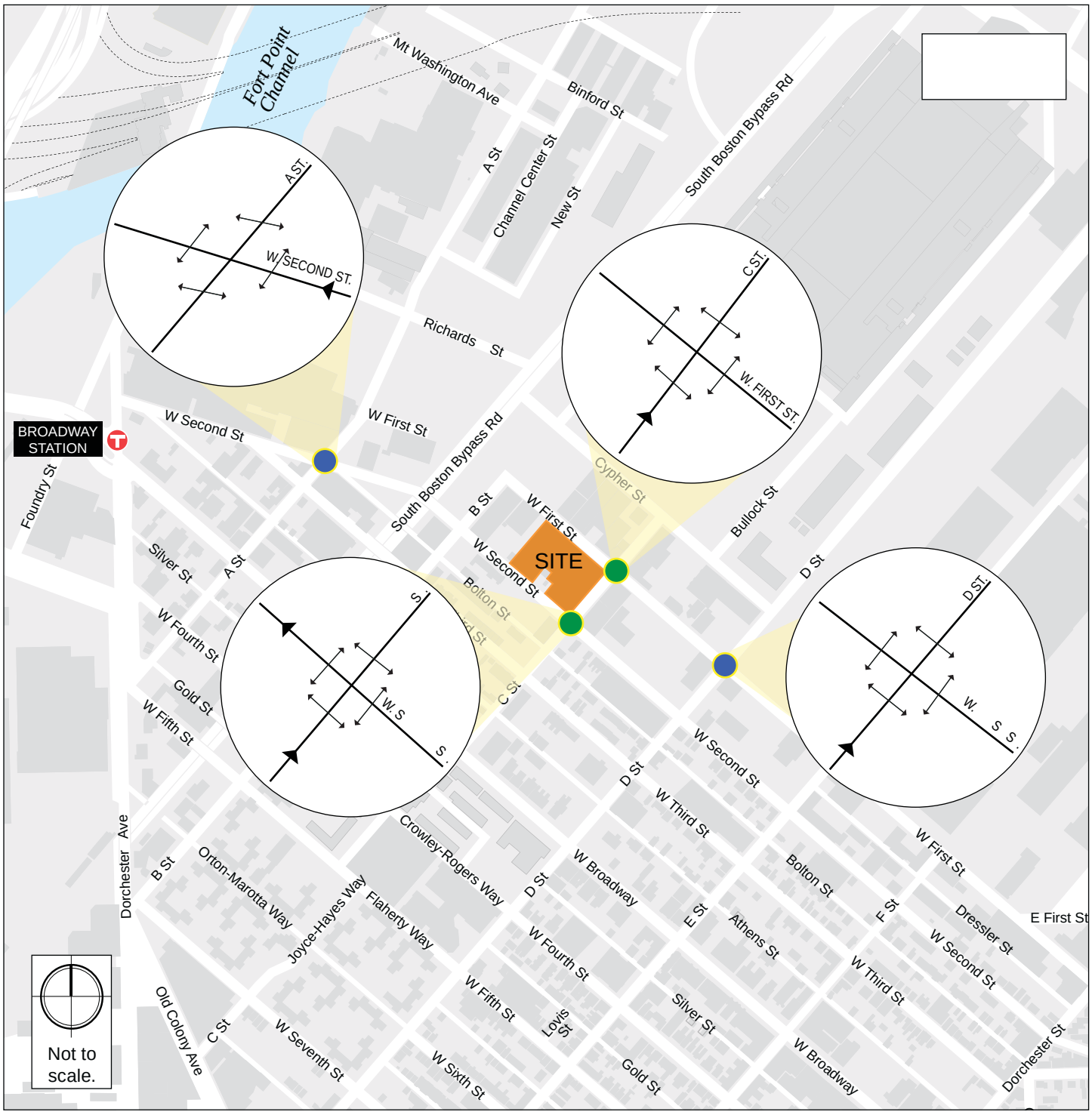
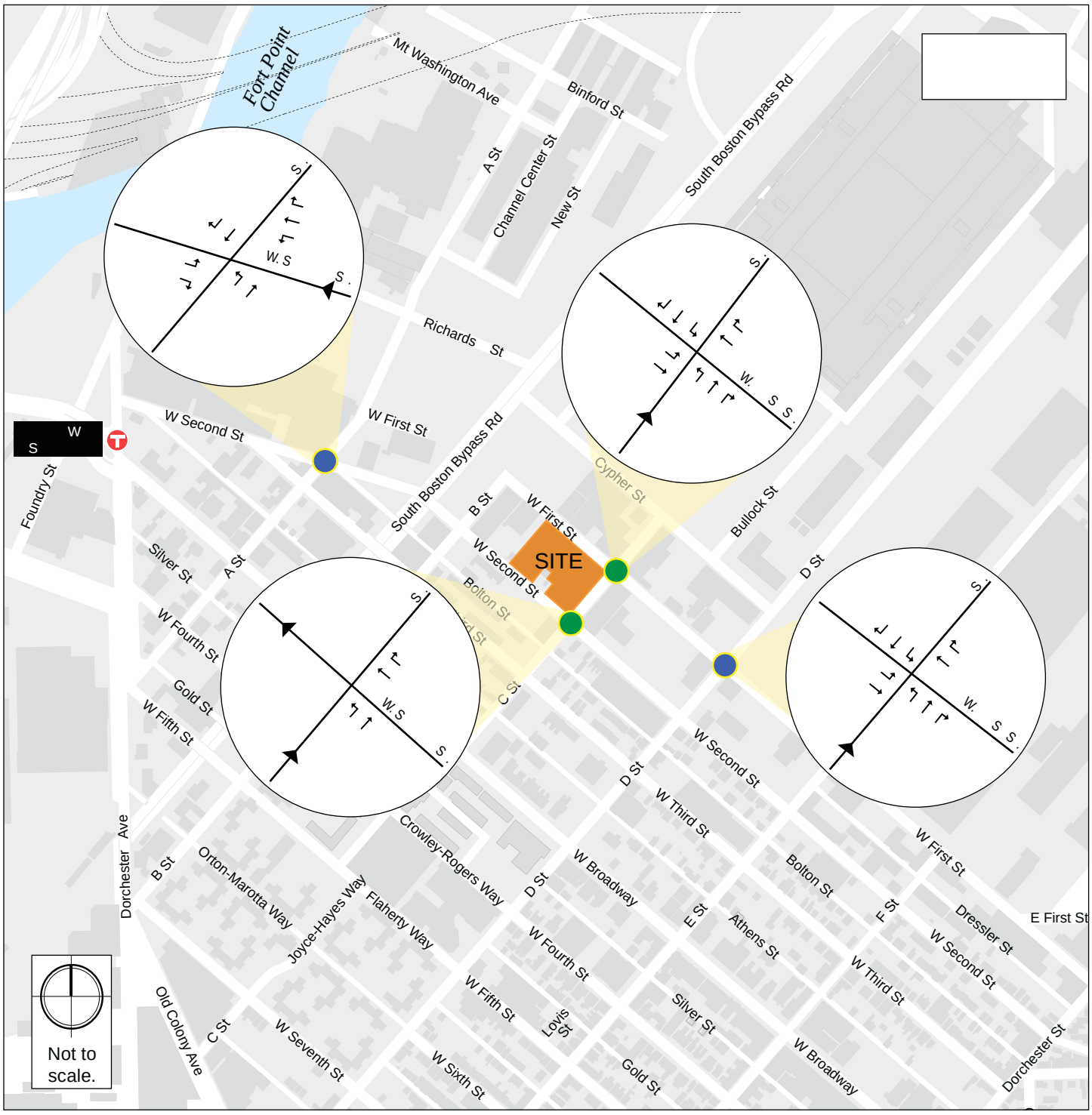


Figure 5.7 Existing Conditions (2013) Bicycle Volumes, a.m. and p.m. Peak Hours



5.2.9 Car Sharing Services

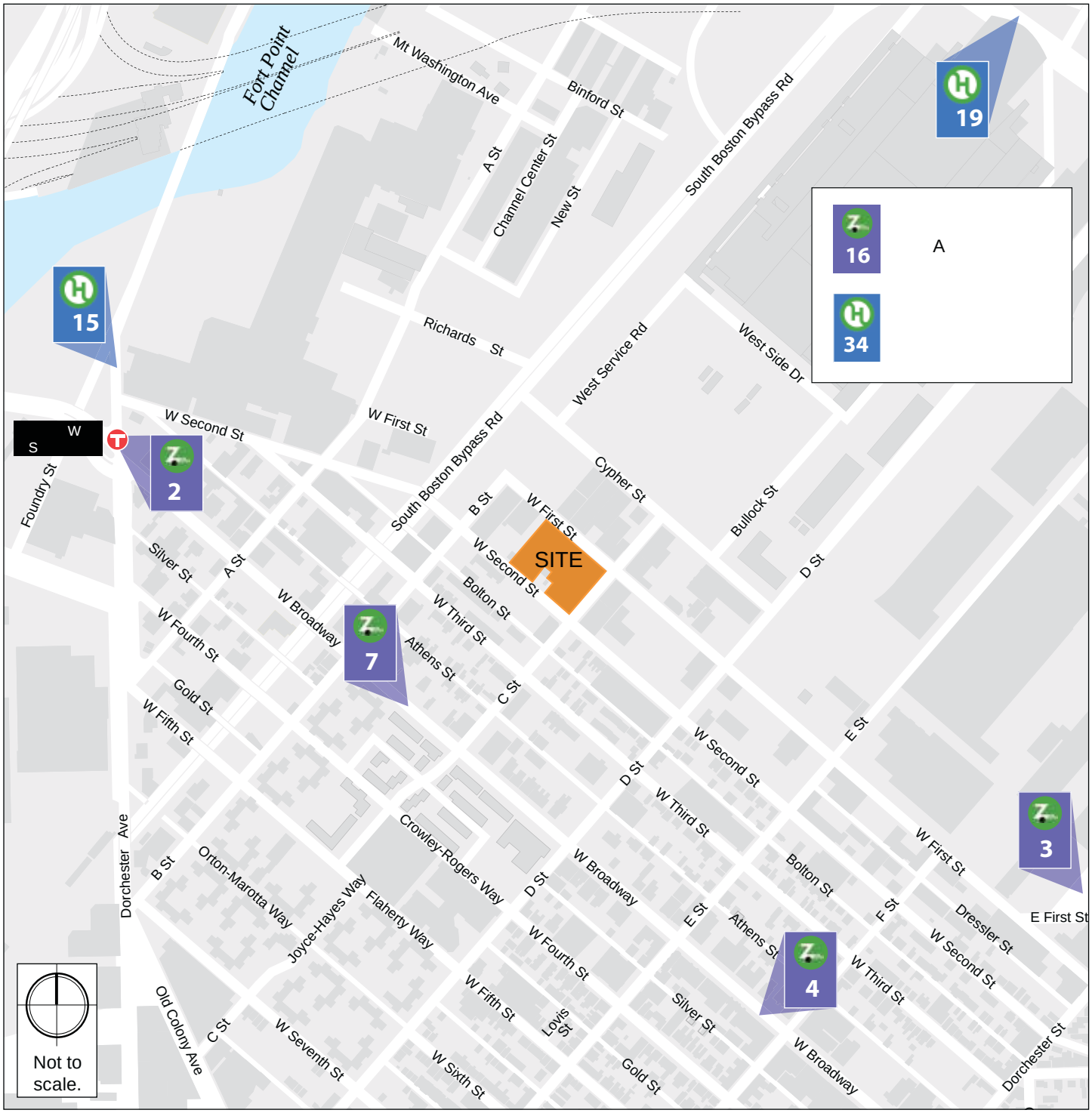
Car sharing, predominantly served by Zipcar in the Boston area, provides easy access to short term vehicular transportation. Vehicles are rented on an hourly or daily, and all vehicle costs (gas, maintenance, insurance, and parking) are included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location.

There are four car sharing locations with a total of 16 vehicles in proximity to the Project Site:

- 11 West Broadway (2 vehicles)
- 170 West Broadway (7 vehicles)
- West Broadway/F Street (4 vehicles)
- The Distillery – East First Street/Dorchester Street (3 vehicles)

The nearby Zipcar locations are shown in **Figure 5.8**.

Figure 5.8 ZipCar and Hubway Locations



5.3 Future Conditions

For transportation impact analyses, it is standard practice to evaluate two future conditions: No-Build conditions (without the proposed project) and Build conditions (with the proposed project). In accordance with BTD guidelines, these conditions are projected to a future date five years from the Existing conditions year. For this evaluation of this Project, 2018 was selected as the horizon year for the future conditions analyses.

This section presents a description of the 2018 future conditions scenarios and includes an evaluation of the transportation facilities under the No-Build and Build conditions.

5.3.1 No Build Conditions

The No-Build conditions reflect a future scenario that incorporates any anticipated traffic volume changes independent of the Project and any planned infrastructure improvements that will affect travel patterns throughout the study area. Infrastructure improvements include roadway, public transportation, pedestrian and bicycle improvements. Traffic volume changes are based on two factors: an annual growth rate and growth associated with specific developments near the Project.

Background Traffic Growth

The methodology to account for future traffic growth, independent of the Project, consists of two parts. The first part of the methodology accounts for general background traffic growth that may be affected by changes in demographics, automobile usage, and automobile ownership. Based on a review of recent traffic studies conducted for nearby projects and to account for any additional unforeseen traffic growth, a one-percent per year annual traffic growth rate was used to develop the future conditions traffic volumes.

The second part of the methodology identifies any specific planned developments that are expected to affect traffic patterns throughout the study area within the future analysis time horizon. The following projects are located in the vicinity of the study area and traffic volumes associated with these projects were specifically accounted for in the future conditions scenarios:

- **South Boston Boutique Hotel –** This project is located at the corner of West Broadway and Dorchester Avenue and consists of the construction of a 156-room hotel with ancillary retail uses. This project is currently under review by the Boston Redevelopment Authority (BRA).
- **One Channel Center –** This project will consist of the construction of 525,000 sf of office space, a new parking garage containing 970 spaces and two new open spare areas totaling approximately 78,000 sf to be located off A Street. This project has been approved by the BRA and is currently under construction.

- **West Square –** This project is located at 320 D Street and consists of approximately 259 residential units and 143 parking spaces. This project has been approved by the BRA and is currently under construction.
- **11 West Broadway –** This project is adjacent to Broadway Station and consists of 50 residential units, 8,000 sf of retail space, and underground parking. Construction of this project was recently completed.
- **D Street Development –** This project is located at 371-401 D Street and consists of a 250-room limited service hotel, a 250-room extended stay hotel, approximately 26,300 sf of ground-floor retail, and a 1,350 car parking garage. This project has been approved by the BRA.
- **411 D Street –** This project consists of the construction of 197 residential rental units and 129 parking spaces. This project has been approved by the BRA and is currently under construction.

The following projects are also in the vicinity of the Project Site, but are only expected to add minimal traffic to the study area intersections. Traffic volumes for these projects were assumed to be accounted for in the general background growth rate.

- **22-26 West Broadway –** This project consists of the construction of a 6-story building containing 31 rental apartment units and 3,834 sf of retail space. This project has been approved by the BRA.
- **339 D Street –** This project consists of the construction of a 24-unit residential development with 30 parking spaces. This project is currently under construction.
- **Patriot Homes –** This project is located at 273 D Street and consists of 24 new units of affordable housing for veterans. This project has been approved by the BRA.
- **333-339 West Broadway –** This project consists of the construction of 15 ownership residential units, approximately 32,000 sf of commercial space, and 23 parking spaces. This project has been approved by the BRA.
- **360 West Second Street –** This project consists of the construction of 25 residential rental units and 25 parking spaces. This project is currently under construction.
- **395 West Broadway –** This project consists of the construction of 24 residential rental units and 20 parking spaces with ground floor commercial space. This project has been approved by the BRA.
- **401 West First Street** – This project consists of the construction of 45 residential units and 68 parking spaces. This project is currently under construction.

The one-percent per year annual growth rate was applied to the 2013 Existing conditions traffic volumes, then the traffic volumes associated with the background development projects were

added to develop the 2018 No-Build conditions traffic volumes. The 2018 No-Build a.m. and p.m. peak hour traffic volumes are shown on **Figure 5.9** and **Figure 5.10**, respectively.

Figure 5.9 No-Build Conditions (2018) Traffic Volumes, a.m. Peak Hour

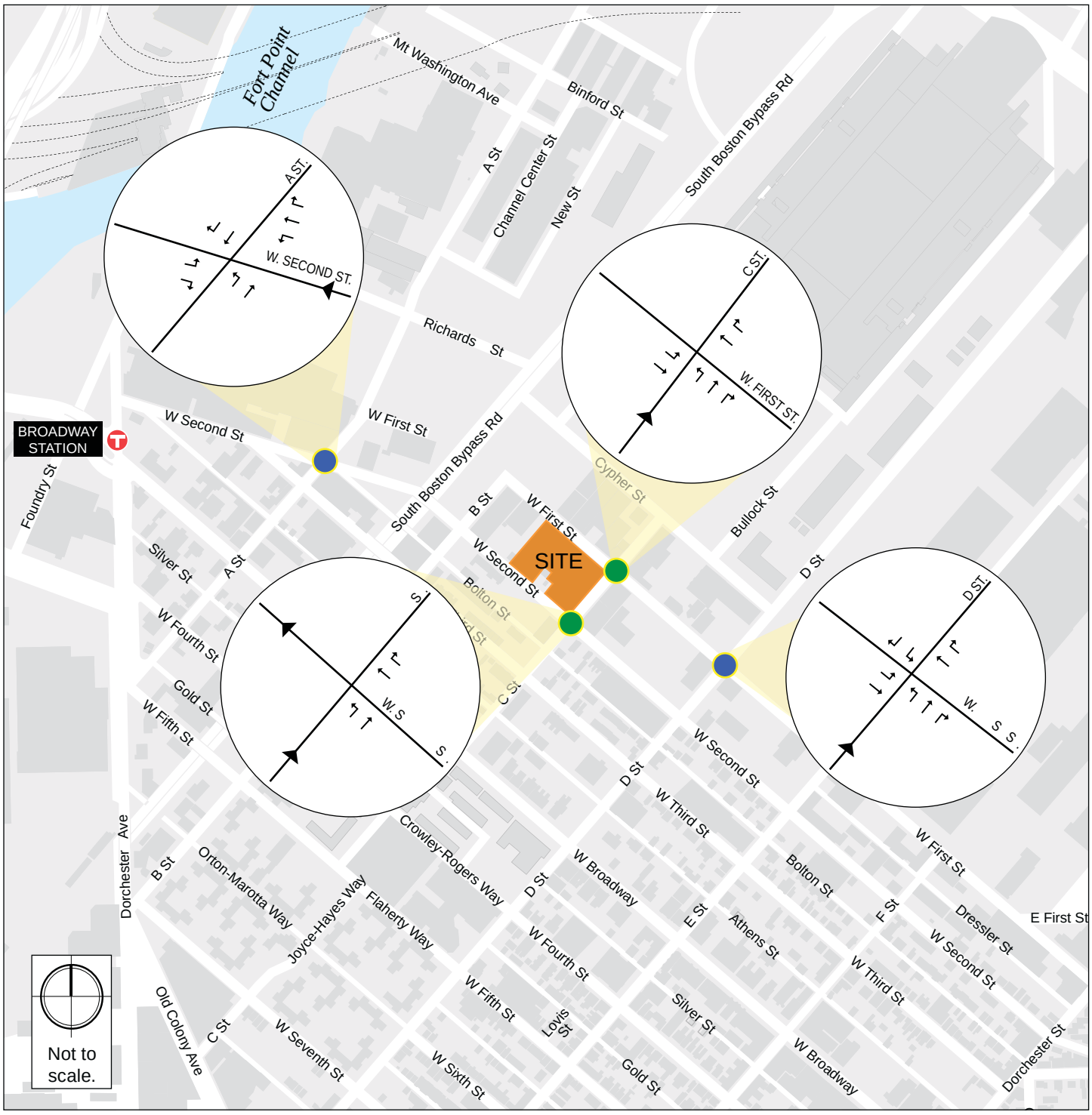
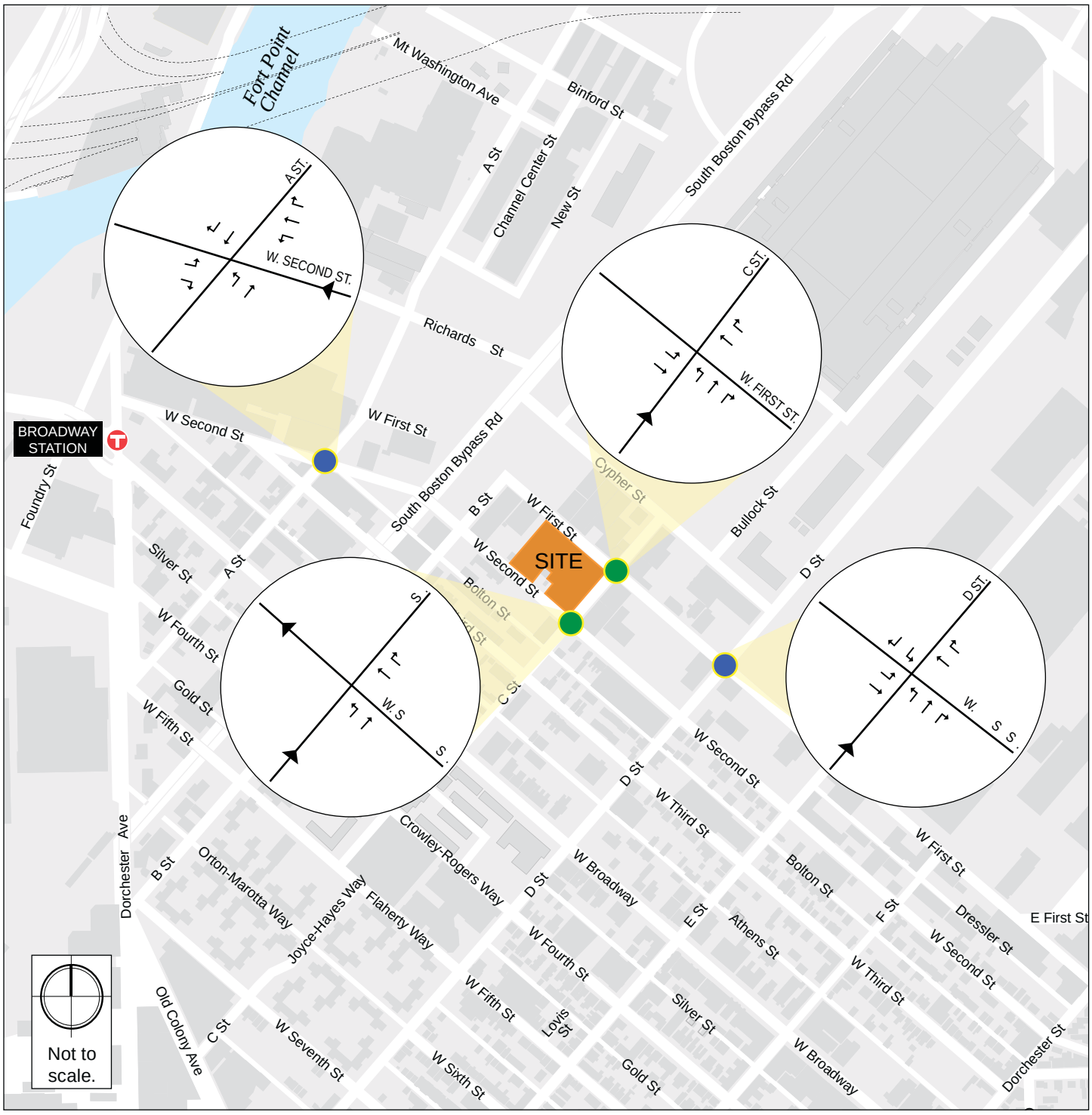


Figure 5.10 No-Build Conditions (2018) Traffic Volumes, p.m. Peak Hour



Proposed Infrastructure Improvements

A review of planned improvements to roadway, transit, bicycle, and pedestrian facilities was conducted to determine if there are any nearby projects in the vicinity of the study area. Based on this review, the following improvements are proposed within the study area:

West Second Street/A Street – Improvements are proposed at this intersection as part of the Channel Center development. New traffic signal equipment, signage, and pavement markings will be provided at the intersection. Pedestrian signal equipment will also be added at the intersection.

No-Build Conditions Traffic Operations

The 2018 No-Build conditions scenario analysis uses the same methodology as the 2013 Existing conditions scenario analysis. **Table 5-4** presents the 2018 No-Build conditions operations analysis for the a.m. and p.m. peak hours. The detailed analysis sheets are provided in the Appendix.

Table 5-4 No-Build Conditions (2018), Capacity Analysis Summary, a.m. Peak Hour

Intersection	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized Intersections					
West Second Street/A Street	**B**	**11.5**	—	—	—
West Second Street EB left	B	17.4	0.30	17	30
West Second Street EB right	A	6.3	0.05	0	4
West Second Street WB left	B	17.9	0.43	47	62
West Second Street WB thru/right	B	17.0	0.53	62	78
A Street NB left/thru	B	10.1	0.60	108	226
A Street SB thru/right	A	7.3	0.41	59	137
West First Street/D Street	**C**	**23.4**	—	—	—
West First Street EB left	C	28.3	0.05	7	5
West First Street EB thru	C	27.0	0.01	2	3
West First Street WB thru	D	49.8	0.58	77	128
West First Street WB right	A	1.4	0.22	0	20
D Street NB left/thru	D	48.8	0.69	137	198
D Street NB right	B	10.1	0.22	0	18
D Street SB left	B	18.9	0.31	79	184
D Street SB right	A	4.6	0.17	0	34
Unsignalized Intersections					
West First Street/C Street	—	—	—	—	—
West First Street EB left/thru	A	7.3	0.02	—	1
West First Street WB thru/right	A	0.0	0.15	—	0
C Street NB left/thru/right	B	12.9	0.24	—	24
West Second Street/C Street	—	—	—	—	—
West Second Street WB thru/right	A	0.0	0.14	—	0
C Street NB left/thru	B	14.9	0.39	—	46

Grey shading indicates that LOS decreased from Existing Conditions.

Table 5-5 No-Build Conditions (2018), Capacity Analysis Summary, p.m. Peak Hour

Intersection	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized Intersections					
West Second Street/A Street	**B**	**18.7**	—	—	—
West Second Street EB left	D	53.6	0.52	48	79
West Second Street EB right	C	21.3	0.01	0	7
West Second Street WB left	D	47.2	0.54	106	135
West Second Street WB thru/right	D	49.7	0.68	144	189
A Street NB left/thru	A	4.6	0.22	56	108
A Street SB thru/right	A	9.6	0.67	284	542
West First Street/D Street	**B**	**19.6**	—	—	—
West First Street EB left	C	24.4	0.05	6	19
West First Street EB thru	C	26.2	0.14	24	49
West First Street WB thru	D	40.0	0.41	51	85
West First Street WB right	A	1.3	0.12	0	8
D Street NB left/thru	D	42.4	0.56	86	110
D Street NB right	B	11.0	0.23	0	32
D Street SB left	B	19.7	0.46	157	291
D Street SB right	A	3.6	0.23	0	45
Unsignalized Intersections					
West First Street/C Street	—	—	—	—	—
West First Street EB left/thru	A	2.4	0.00	—	0
West First Street WB thru/right	A	0.0	0.16	—	0
C Street NB left/thru/right	B	10.4	0.16	—	15
West Second Street/C Street	—	—	—	—	—
West Second Street WB thru/right	A	0.0	0.07	—	0
C Street NB left/thru	B	11.3	0.21	—	20

As shown in **Table 5-4**, the signalized intersections in the study area will continue to operate at LOS C or better, with all movements at the intersections operating at LOS D or better during the a.m. peak hour under the 2018 No-Build conditions. The unsignalized intersections in the study area will continue to operate at LOS B or better, with minimal delay and queuing during the a.m. peak hour under the 2018 No-Build conditions. The longest queues at the study area intersections will continue to occur along the A Street northbound approach to West Second Street and the D Street northbound approach to West First Street and range from approximately 200 to 225 feet (approximately 8-9 vehicles).

As shown in **Table 5-3**, the signalized intersections in the study area will continue to operate at LOS B, with all movements at the intersections operating at LOS D or better during the p.m. peak hour. The unsignalized intersections in the study area will continue to operate at LOS B or better, with minimal delay and queuing during the p.m. peak hour. The longest queues at the study area intersections occur along the A Street southbound approach to West Second Street and the D Street southbound approach to West First Street and range from 290 to 540 feet (approximately 12 to 22 vehicles).

Based on the 2018 No-Build conditions traffic operational analysis, the study area intersections have the capacity to accommodate the additional traffic growth expected in the area.

5.3.2 Build Conditions

As previously summarized, the Project will consist of 97 residential apartment units and approximately 5,010 sf of ground floor commercial space. A total of 115 parking spaces will be provided on-site in a ground level garage accessed off of West First Street for the residents. No additional parking will be provided for the commercial uses on the Site. Secure storage for approximately 80 bicycles will also be provided on the Site.

Site Access and Circulation

As previously shown in the Project Site plan in **Figure 3.1**, access will be provided to a parking garage by a single driveway located along West First Street, approximately 250 west of C Street. The parking garage will be located at ground-level and will contain 105 parking spaces for the residential uses on the Site.

Loading and service, including trash, recycling, and deliveries will occur along the curb on West First Street. It is anticipated that a change in curb-use regulation along West First Street will be necessary to accommodate loading, delivery, and trash operations. A loading dock will not be provided on the Project Site.

Primary pedestrian access to the residential component will be provided by two entrances along C Street, an entrance along West First Street, and an entrance along West Second Street along with

access through the parking garage. Pedestrian access to the retail portion of the Site will be provided by a single entrance off of West First Street.

Trip Generation Methodology

Trip generation is a complex, multi-step process that produces an estimate of vehicle trips, transit trips, walk trips, and bicycle trips associated with a proposed development and a specific land use program. A project's location and proximity to different travel modes determines how people will travel to and from the Project Site.

To estimate the number of trips expected to be generated by the Project, data published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual*[1] were used. ITE provides data to estimate the total number of unadjusted vehicular trips associated with the Project. In an urban setting well-served by transit, adjustments are necessary to account for other travel mode shares such as walking, bicycling, and transit.

To estimate the unadjusted number of vehicular trips for the Project, the following ITE land use codes (LUCs) were used:

LUC 220 – Apartment. The apartment land use is defined as rental dwellings located within the same building with at least three other dwelling units. Trip generation estimates are based on average vehicle rates per unit.

LUC 820 – Shopping Center. The shopping center land use is defined as an integrated group of commercial establishments that is planned, developed, owned and managed as one unit. Trip generation estimates are based on average vehicular rates per 1,000 sf of gross leasable area. This land use was used to develop the trip generation characteristics of the commercial space on the Site.

[1] *Trip Generation Manual*, 9th Edition; Institute of Transportation Engineers; Washington, D.C.; 2012.

Mode Share

The BTD publishes vehicle, transit, and walking/bicycling mode split rates for different areas of Boston. The Project Site is located within BTD's designated Area 8. The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)[2]. The BTD's travel mode share data for Area 8 are shown in **Table 5-6**.

Table 5-6 Travel Mode Shares

Land Use	Direction	Walk/ Bicycle Share	Transit Share	Auto Share	Local Vehicle Occupancy Rate
Daily					
Apartment	In	24%	23%	53%	1.13
	Out	24%	23%	53%	1.13
Commercial/Retail	In	29%	11%	60%	1.78
	Out	29%	11%	60%	1.78
a.m. Peak Hour					
Apartment	In	22%	29%	49%	1.13
	Out	30%	26%	44%	1.13
Commercial/Retail	In	27%	14%	59%	1.78
	Out	36%	12%	52%	1.78
p.m. Peak Hour					
Apartment	In	30%	26%	44%	1.13
	Out	22%	29%	49%	1.13
Commercial/Retail	In	36%	12%	52%	1.78
	Out	27%	14%	59%	1.78

[2] *Summary of Travel Trends: 2009 National Household Survey*; FHWA; Washington, D.C.; June 2011.

Trip Generation

The mode share percentages shown in Table 5-6 were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates. The existing uses on the Project Site currently generate minimal traffic volumes and were not accounted for in the trip generation estimates. The trip generation for the Project by mode is shown in **Table 5-7**. The detailed trip generation information is provided in the Appendix.

Table 5-7 Project Trip Generation

Land Use		Walk/Bicycle Trips	Transit Trips	Vehicle Trips
Daily				
Apartments *104 units*	In	94	90	183
	Out	94	90	183
Commercial/Retail *5,010 sf*	In	55	21	64
	Out	55	21	64
Total	In	149	111	247
	Out	149	111	247
a.m. Peak Hour				
Apartments *104 units*	In	3	3	5
	Out	14	12	19
Commercial/Retail *5,010 sf*	In	1	1	2
	Out	1	0	1
Total	In	4	4	7
	Out	15	12	20
p.m. Peak Hour				
Apartments *104 units*	In	14	12	19
	Out	6	7	11
Commercial/Retail *5,010 sf*	In	6	2	4
	Out	5	3	6
Total	In	20	14	23
	Out	11	10	17

Vehicle Trip Generation

To develop the overall trip generation characteristics, the adjusted vehicular trips associated with the Project were estimated. The Project-generated new vehicle trips are summarized in **Table 5-8**, with the detailed trip generation information provided in the Appendix.

Table 5-8 Project Vehicle Trip Generation

Time Period	Direction	Apartment [1]	Commercial/ Retail [2]	Total
Daily	In	183	64	247
	Out	183	64	247
	Total	**366**	**128**	**494**
a.m. Peak Hour	In	5	2	7
	Out	19	1	20
	Total	**24**	**3**	**27**
p.m. Peak Hour	In	19	4	23
	Out	11	6	17
	Total	**30**	**10**	**40**

1 Based on ITE LUC 220 – Apartments for 104 units.
2 Based on ITE LUC 820 – Shopping Center for 5,010 sf.

As shown in **Table 5-8**, the Project is expected to generate approximately 494 new daily vehicle trips (247 entering and 247 exiting), with 27 new vehicle trips (7 entering and 20 exiting) during the a.m. peak hour and 40 new vehicle trips (23 entering and 17 exiting) during the p.m. peak hour.

Trip Distribution

The trip distribution identifies the various travel paths for vehicles arriving and leaving the Project Site. Trip distribution patterns for the Project were based on BTD's origin-destination data for Area 8 and trip distribution patterns presented in traffic studies for nearby projects. The trip distribution patterns for the Project are illustrated in **Figure 5.11**.

The Project-generated vehicle trips were assigned to the study area roadway network based on the trip distribution patterns shown in **Figure 5.11** and are shown in **Figure 5.12** and **Figure 5.13** for the a.m. and p.m. peak hours, respectively. The Project-generated trips were added to the 2018 No-Build conditions traffic volumes to develop the 2018 Build conditions peak hour traffic volume networks and are shown in **Figure 5.14** and **Figure 5.15** for the a.m. and p.m. peak hours, respectively.

Figure 5.11 Trip Distribution

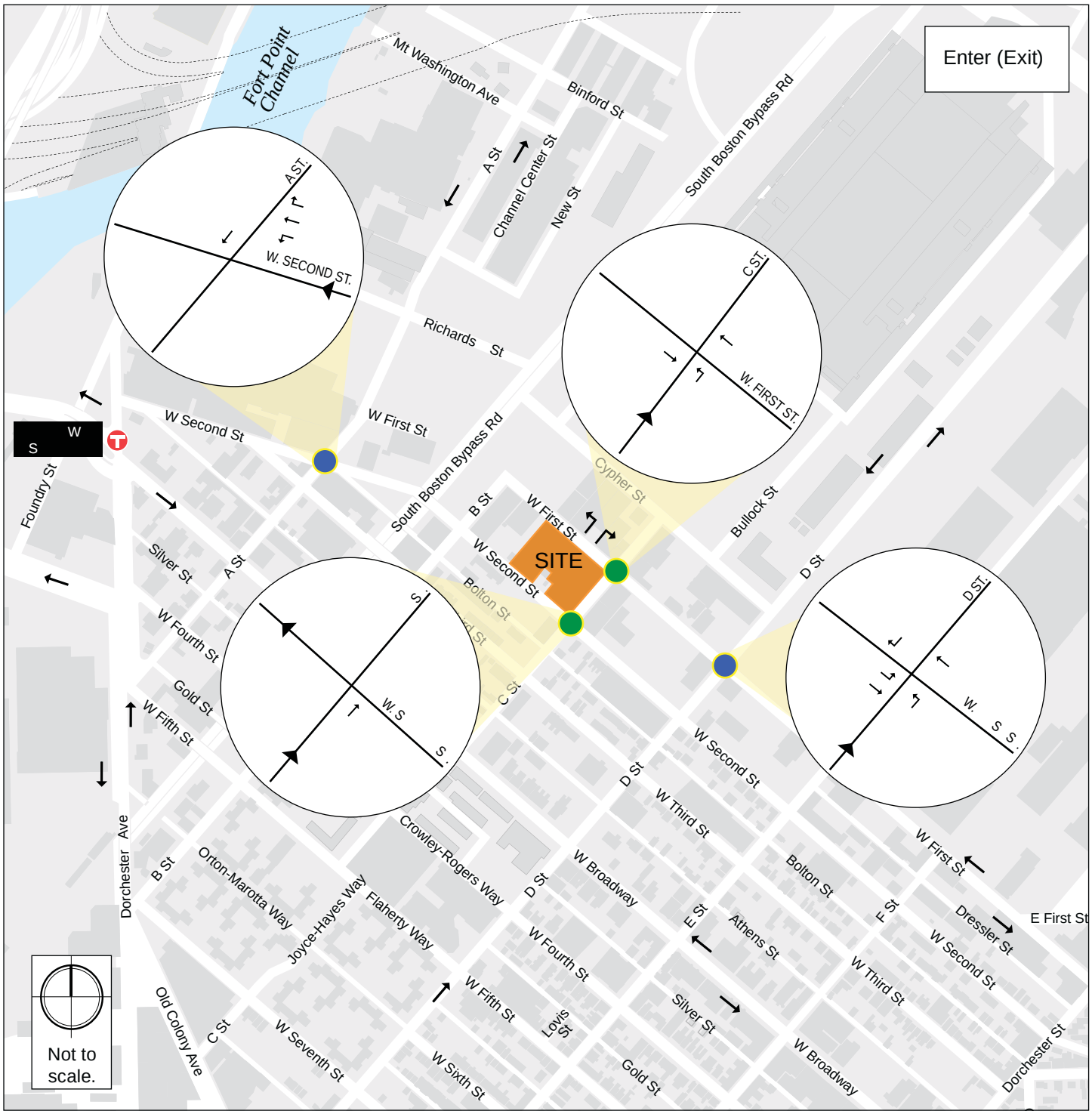


Figure 5.12 Project-generated Trips, a.m. Peak Hour

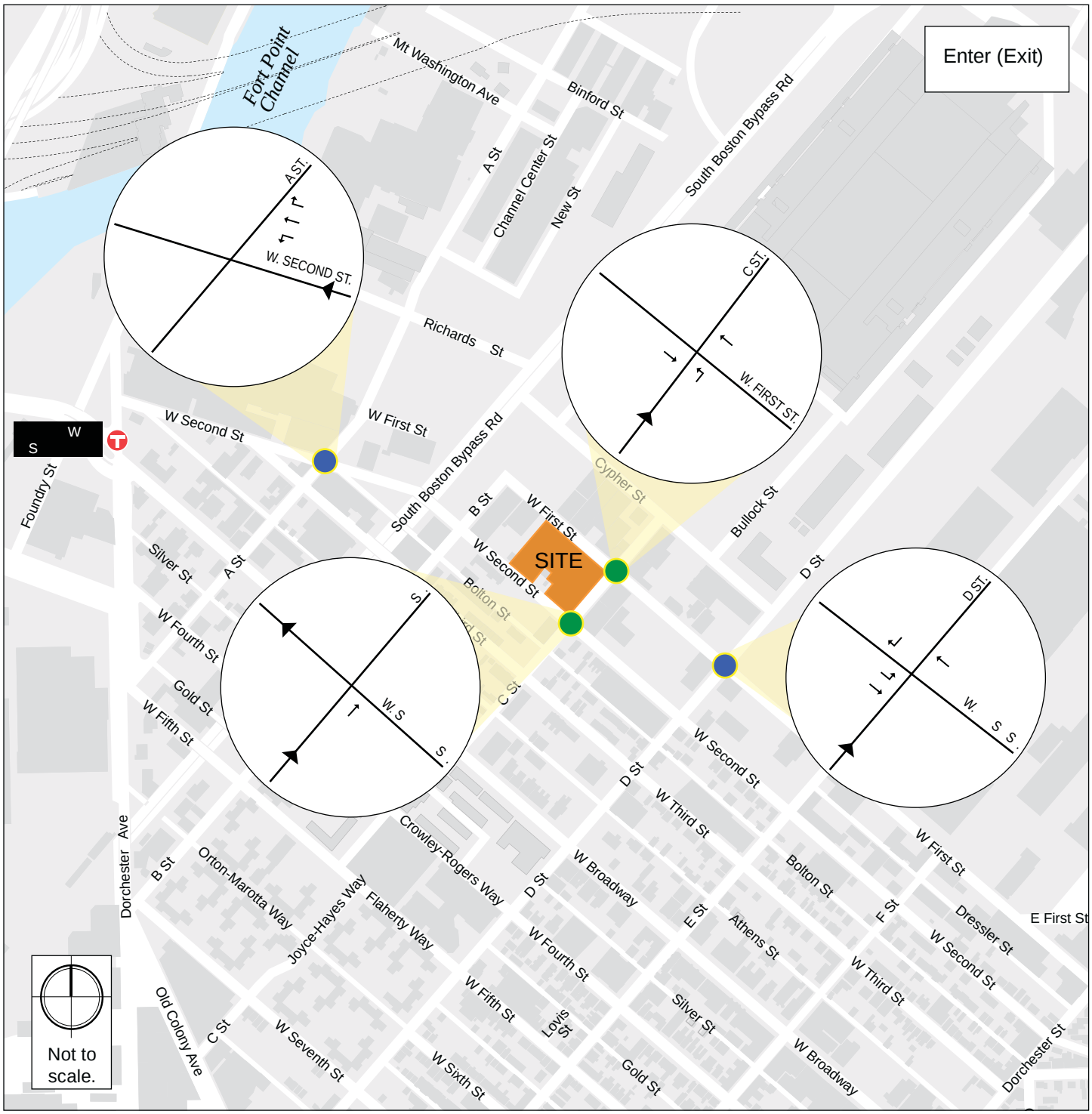


Figure 5.13 Project-generated Trips, p.m. Peak Hour

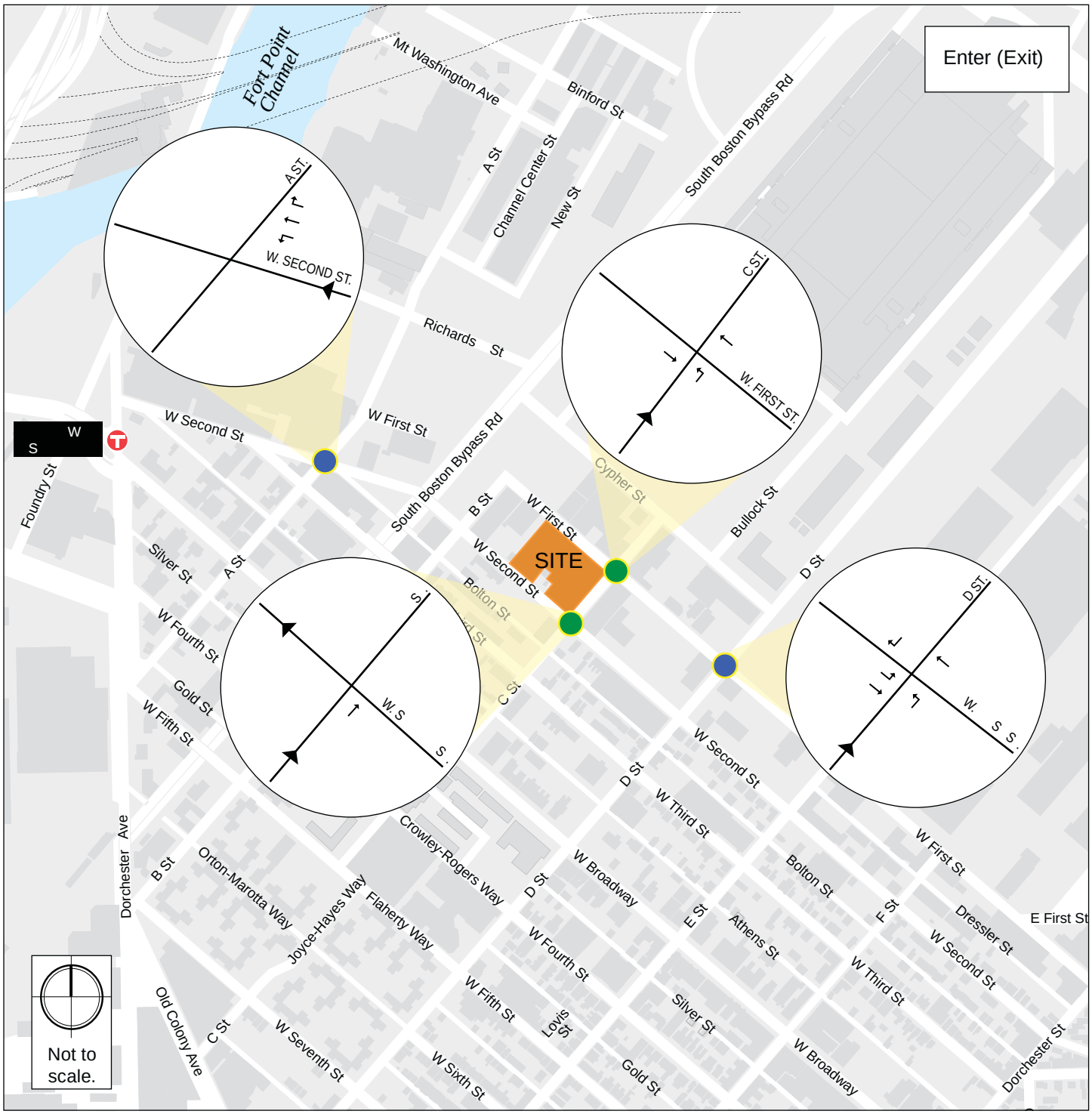


Figure 5.14 Build Conditions (2018) Traffic Volumes, a.m. Peak Hour

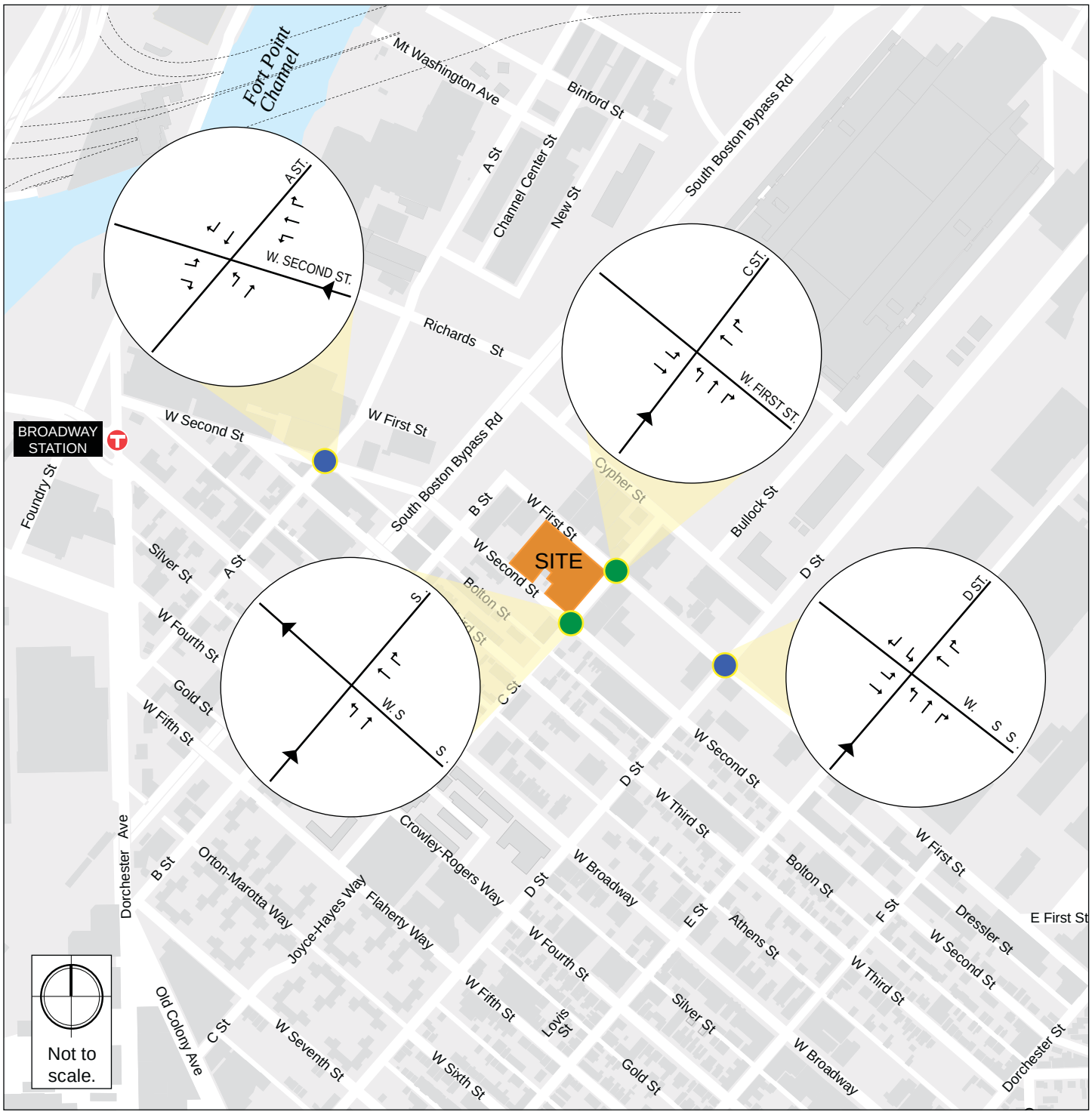
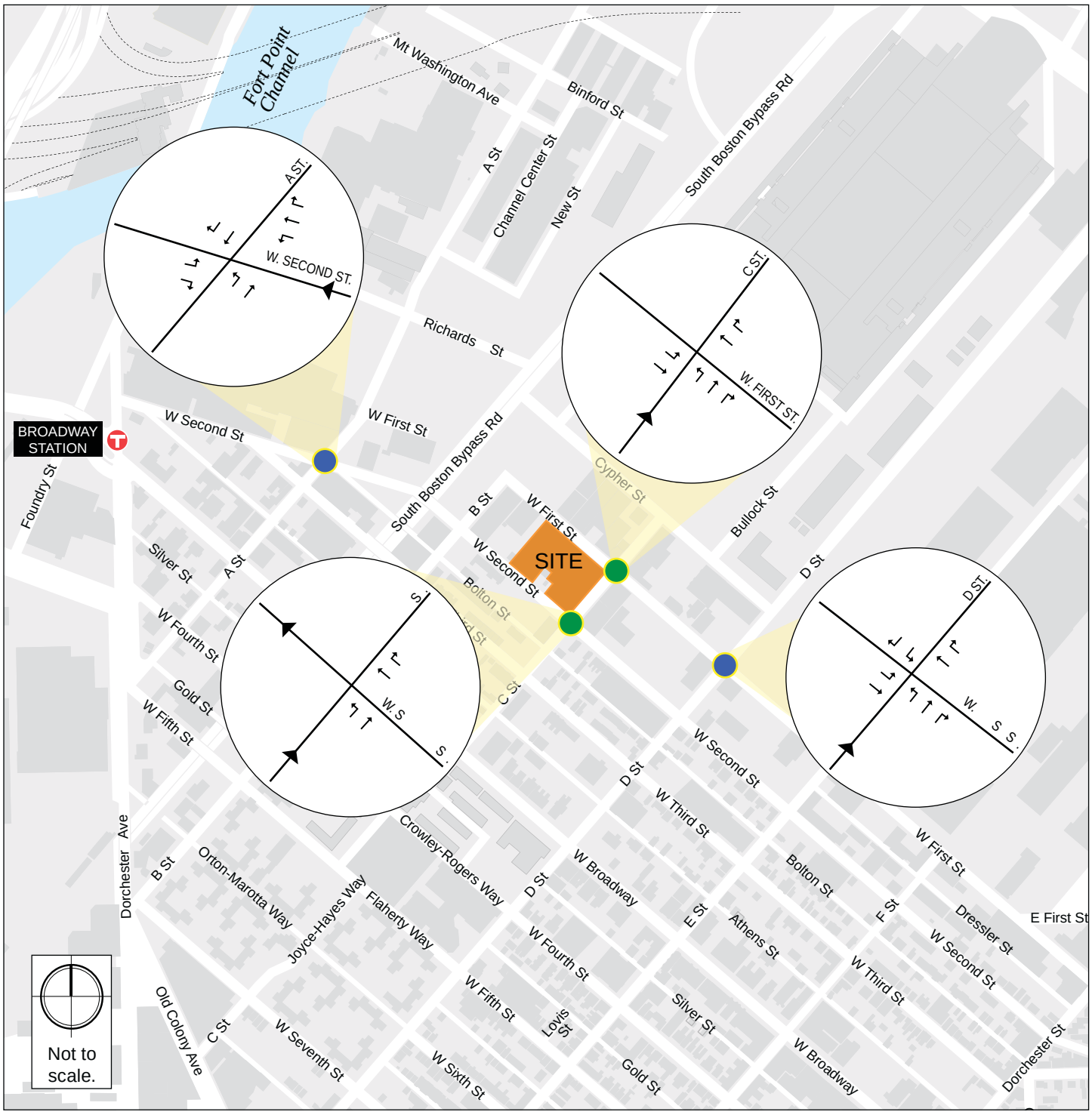


Figure 5.15 Build Conditions (2018) Traffic Volumes, p.m. Peak Hour



Build Conditions Traffic Operations

The 2018 Build conditions scenario analyses use the same methodology as the 2013 Existing and 2018 No-Build conditions scenario analyses. The results of the 2018 Build condition traffic analysis at study area intersections are presented in **Table 5-9** and **Table 5-10** for the a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in the Appendix.

Table 5-9 Build Conditions (2018), Capacity Analysis Summary, a.m. Peak Hour

Intersection	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized Intersections					
West Second Street/A Street	**B**	**11.7**	—	—	—
West Second Street EB left	B	17.4	0.30	17	30
West Second Street EB right	A	6.2	0.05	0	4
West Second Street WB left	B	17.9	0.43	48	64
West Second Street WB thru/right	B	17.3	0.54	65	82
A Street NB left/thru	B	10.3	0.60	111	226
A Street SB thru/right	A	7.5	0.41	61	137
West First Street/D Street	**C**	**23.8**	—	—	—
West First Street EB left	C	27.5	0.07	8	6
West First Street EB thru	C	28.1	0.07	14	9
West First Street WB thru	D	49.9	0.58	78	130
West First Street WB right	A	1.5	0.22	0	20
D Street NB left/thru	D	48.8	0.69	137	198
D Street NB right	B	10.1	0.22	0	18
D Street SB left	C	20.3	0.32	100	184
D Street SB right	A	4.6	0.18	0	35
Unsignalized Intersections					
West First Street/C Street	—	—	—	—	—
West First Street EB left/thru	A	5.6	0.02	—	1
West First Street WB thru/right	A	0.0	0.15	—	0
C Street NB left/thru/right	B	13.2	0.25	—	25
West Second Street/C Street	—	—	—	—	—
West Second Street WB thru/right	A	0.0	0.14	—	0
C Street NB left/thru	B	15.0	0.40	—	47

Grey shading indicates that LOS has decreased from No-Build Conditions.

Table 5-10 Build Conditions (2018), Capacity Analysis Summary, p.m. Peak Hour

Intersection	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized Intersections					
West Second Street/A Street	**B**	**19.1**	—	—	—
West Second Street EB left	D	53.8	0.53	47	79
West Second Street EB right	C	21.0	0.01	0	7
West Second Street WB left	D	46.6	0.54	108	136
West Second Street WB thru/right	D	49.7	0.69	150	196
A Street NB left/thru	A	4.7	0.22	58	112
A Street SB thru/right	A	9.9	0.67	291	558
West First Street/D Street	**B**	**19.9**	—	—	—
West First Street EB left	C	24.3	0.06	7	19
West First Street EB thru	C	26.1	0.16	27	53
West First Street WB thru	D	40.5	0.44	56	91
West First Street WB right	A	1.3	0.12	0	8
D Street NB left/thru	D	42.4	0.57	89	112
D Street NB right	B	10.9	0.23	0	31
D Street SB left	C	20.2	0.47	160	293
D Street SB right	A	3.6	0.24	0	46
Unsignalized Intersections					
West First Street/C Street	—	—	—	—	—
West First Street EB left/thru	A	1.5	0.00	—	0
West First Street WB thru/right	A	0.0	0.17	—	0
C Street NB left/thru/right	B	10.8	0.19	—	17
West Second Street/C Street	—	—	—	—	—
West Second Street WB thru/right	A	0.0	0.07	—	0
C Street NB left/thru	B	11.4	0.22	—	21

Grey shading indicates that LOS has decreased from No-Build Conditions.

As shown in **Table 5-9**, the signalized intersections in the study area will continue to operate at LOS C or better, with all movements at the intersections operating at LOS D or better during the a.m. peak hour under the 2018 Build conditions. The unsignalized intersections in the study area will continue to operate at LOS B or better, with minimal delay and queuing during the a.m. peak hour under the 2018 No-Build conditions.

As shown in **Table 5-10**, the signalized intersections in the study area will continue to operate at LOS B, with all movements at the intersections operating at LOS D or better during the p.m. peak hour. The unsignalized intersections in the study area will continue to operate at LOS B or better, with minimal delay queuing during the p.m. peak hour.

Based on the 2018 Build conditions traffic operational analysis, the Project will have minimal impact at the study area intersections. The study area is shown to have adequate capacity to

accommodate the additional Project related traffic volumes. No additional capacity of operational improvements are needed at the study area intersections or along the study area roadways to accommodate the vehicular trips generated by the Project.

Parking

This section presents the Project's parking supply and an evaluation of the Project's parking demand. The Project will provide a total of 105 parking spaces on the Site in a street level garage for a parking ratio of 1.01 spaces per unit. This parking ratio is consistent with the district-based parking goals developed by the BTD for South Boston (0.75-1.25 parking spaces per unit for developments near an MBTA station).

The parking demand for the commercial/retail component of the Project is expected to be minimal. Parking will not be provided on-site for the commercial/retail component and will occur on the surrounding roadway network, if at all.

Public Transportation

Based on the transit mode shares presented earlier, the future transit trips associated with the Project were estimated and are summarized in **Table 5-11**.

Table 5-11 Project Transit Trips

Time Period	Direction	Apartment	Commercial/ Retail	Total
Daily	In	90	21	111
	Out	90	21	111
	Total	**180**	**43**	**222**
a.m. Peak Hour	In	3	1	4
	Out	12	0	12
	Total	**15**	**1**	**16**
p.m. Peak Hour	In	12	2	14
	Out	7	3	10
	Total	**19**	**5**	**24**

As shown in **Table 5-11**, the Project will generate an estimated 222 new transit trips on a daily basis. Approximately 16 new transit trips (4 alighting and 12 boarding) will occur during the a.m. peak hour and 24 new trips (14 alighting and 10 boarding) will occur during the p.m. peak hour.

The transit trips will be accommodated by the MBTA Red Line at Broadway Station and the MBTA bus routes that run along West Broadway, A Street, and Dorchester Avenue.

Pedestrians

Based on the walk mode shares presented earlier, the future walk trips were estimated and are summarized in **Table 5-12**.

Table 5-12 Project Pedestrian Trips

Time Period	Direction	Apartments	Commercial/ Retail	Total
Daily	In	94	55	149
	Out	94	55	149
	Total	**188**	**110**	**248**
a.m. Peak Hour	In	3	1	4
	Out	14	1	15
	Total	**17**	**2**	**19**
p.m. Peak Hour	In	14	6	20
	Out	6	5	11
	Total	**20**	**11**	**31**

Over the course of a day, the Project will generate an estimated 248 new pedestrian trips and an additional 222 new transit trips that will require a walk to or from the Site. This results in an additional 470 new pedestrian trips per day. Approximately 19 new pedestrian trips will occur during the a.m. peak hour and 31 new pedestrian trips will occur during the p.m. peak hour in addition to the transit trips that will also require a walk from the Site. The pedestrian facilities surrounding the Site will have adequate capacity to accommodate the pedestrian trips generated by the Project.

Bicycle Accommodations

BTD has established guidelines requiring projects subject to Transportation Access Plan Agreements to provide secure covered bicycle parking for residents and employees and short-term bicycle racks for visitors. The Project will provide approximately 80 covered and secure bicycle storage spaces on-site. Additional storage will be provided by outdoor bicycle racks accessible to visitors to the Site in accordance with BTD guidelines.

All bicycle racks, signs, and parking areas will conform to BTD guidelines and will be located 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.

Loading and Service Activity

Loading and service operations will occur curbside along West First Street. All trash truck activity and residential move-in/move-out activity will also take place along West First Street.

A summary of anticipated loading/service activity by land use is presented in **Table 5-11**; the sources of the assumptions are presented below. Delivery trip estimates were based on data

provided in the Truck Trip Generation Rates by Land Use in the Central Artery/Tunnel Project Study Area report[3]. Deliveries to the Project Site will be mostly limited to SU-36 trucks and smaller delivery vehicles.

Residential. Residential units primarily generate delivery trips related to small packages and prepared food. Based on the CTPS report, residential uses generate approximately 0.01 light truck trips per 1,000 sf of gross floor area and 0.001 medium/heavy truck trips per 1,000 sf of gross floor area.

Commecial/Retail. Retail depend on more frequent deliveries from smaller trucks. Based on the CTPS report, retail uses generate approximately 0.15 light truck trips per 1,000 sf of floor area and 0.15 medium/heavy truck trips per 1,000 sf of gross floor area.

[3] *Truck Trip Generation Rates by Land Use in the Central Artery/Tunnel Project Study Area*; Central Transportation Planning Staff; September 1993.

Table 5-13 Delivery Activity by Land Use

Land Use	Number of Deliveries	General Delivery Times
Residential	1	10% before 7:00 a.m. 70% between 7:00 a.m. and 1:00 p.m. 20% after 1:00 p.m.
Commercial/Retail	2	
Total	3	

The Project is expected to generate approximately 3 deliveries per day. It is anticipated that the majority of these deliveries will occur between 7:00 a.m. and 1:00 p.m. These numbers do not include trash truck trips. For this area, trash truck trips generally occur between 5:00 a.m. and 7:00 a.m. and do not coincide with the regular delivery activities. The low number of anticipated deliveries will have minimal impact on the vehicular operations along West First Street.

5.4 Transportation Mitigation Measures

While the traffic impacts associated with the new trips are minimal, the Proponent will continue to work with the City of Boston to create a Project that efficiently serves vehicle trips, improves the pedestrian environment, and encourages transit and bicycle use. As part of the Project, the Proponent will bring all abutting sidewalks and pedestrian ramps to the City of Boston standards in accordance with the Boston Complete Streets design guidelines. This will include the reconstruction and widening of the sidewalks, the installation of new, accessible ramps, the planting of trees, and providing bicycle storage racks surrounding the site, where appropriate. The Proponent is also requesting that parking along West First Street be signed as resident permit parking between B Street and C Street.

The Proponent is responsible for preparation of the Transportation Access Plan Agreement (TAPA), a formal legal agreement between the Proponent and the BTD. The TAPA formalizes the findings of the transportation study, mitigation commitments, elements of access and physical design, travel demand management measures, and any other responsibilities that are agreed to by both the Proponent and the BTD. Because the TAPA must incorporate the results of the technical analysis, it must be executed after these other processes have been completed. The Proponent will work closely with BTD to determine the level of transportation mitigation that will be necessary to accommodate the Project. Any transportation improvements to be undertaken as part of this Project will be defined and documented in the TAPA.

The Proponent will also produce a Construction Management Plan (CMP) for review and approval by BTD. The CMP will detail the schedule, staging, parking, delivery, and other associated impacts of the construction of the Project.

5.5 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project related traffic impacts. TDM will be facilitated by the nature of the Project (which does not generate significant peak hour trips) and its proximity to numerous public transit alternatives.

On-site management will keep a supply of transit information (schedules, maps, and fare information) to be made available to the residents and patrons of the Site. The Proponent will work with the City to develop a TDM program appropriate to the Project and consistent with its level of impact.

The Proponent is prepared to take advantage of good transit access in marketing the site to future residents by working with them to implement the following demand management measures to encourage the use of non-vehicular modes of travel.

The TDM measures for the Project may include but are not limited to the following:

- **Orientation Packets**: The Proponent will provide orientation packets to new residents and tenants containing information on available transportation choices, including transit routes/schedules and nearby Zipcar locations. On-site management will work with residents and tenants as they move in to help facilitate transportation for new arrivals.
- **Bicycle Accommodation**: The Proponent will provide bicycle storage in secure, sheltered areas for residents. Secure bicycle storage will also be made available to employees to encourage bicycling as an alternative mode of transportation. Subject to necessary approvals, public use bicycle racks for visitors will be placed near building entrances.
- **Transportation Coordinator**: The Proponent will designate a transportation coordinator to oversee transportation issues, including parking, service and loading, and deliveries and will work with residents as they move in to raise awareness of public transportation, bicycling, and walking opportunities.
- **Project Web Site**: The web site will include transportation-related information for residents, workers, and visitors.
- **Electric Charging Stations**: The Proponent will provide a total of two electric charging stations on the Site.

5.6 Evaluation of Short-term Construction Impacts

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 a Construction Management Plan (CMP) to be filed with BTD in accordance with the City's transportation maintenance plan requirements. The CMP will also address the need for pedestrian detours, lane closures, and/or parking restrictions, if necessary to accommodate a safe and secure work zone.

To minimize transportation impacts during the construction period, the following measures will be considered for the CMP:

- Construction workers will be encouraged to use public transportation and/or carpool;
- A subsidy for MBTA passes will be considered for full-time employees; and
- Secure spaces will be provided on-site for workers' supplies and tools so they do not have to be brought to the Site each day.

The CMP will be executed with the City prior to commencement of construction and will document all committed measures.

6.0 INFRASTRUCTURE SYSTEMS COMPONENT

6.1 Introduction

The following analysis describes the existing utility systems servicing the Project area, discusses any probable impacts that the Proposed Project may have on the utilities, and identifies mitigation measures to address potential impacts of the Proposed Project.

The Proponent has initiated contact with those responsible for the area's utility systems, including the Boston Water and Sewer Commission (BWSC) to understand and evaluate each system and design the Proposed Project to prevent disruption of utility services. A BWSC Site Plan and General Service Application is required for the proposed new water, sewer and drain connections. In addition, a Pollution Prevention Plan will be submitted specifying best management measures for protecting the BWSC drainage system during construction. A Drainage Discharge permit will also be required prior to discharge of any construction dewatering.

Meetings will be scheduled as necessary during building design and permitting processes. Updated design information on the proposed utility connections, as appropriate, will be provided as the project plans develop. Sewer, water, storm drainage, and electric utilities are discussed below.

6.2 Sanitary Sewer System

6.2.1 Existing Sewer System

The BWSC owns, operates and maintains the sewer system in the vicinity of the overall Project Site. 190 West Second Street is presently served by a 36 x 48-inch combined sewer/drain line in West Second Street and a 36 x 48-inch combined sewer/drain line in West First Street which flow in a westerly direction from the Project Site (see Figure 6-1). The sanitary sewage system ultimately connects to the MWRA system where it is treated at the MWRA Deer Island Treatment Plant.

6.2.2 Project-Generated Sewage Flow

The Proposed Project's sanitary sewage system will connect to the area's existing BWSC sanitary sewage system. The Proposed Project will generate an estimated flow in gallons per day (gpd) as calculated below. This calculation was based on 314 CMR 7.15 (Sewer System Connection and Extension Permit Program), which provides design flow parameters for various building uses.

Table 6-1 Estimated Daily Sewage Discharges

Estimated Daily Sewage Discharges			
Type of Unit	# Units	# Bedrooms	Sewage Generation (gpd)
1 Bedroom	71	1	7,810
2 Bedroom	26	2	5,720
		TOTAL	13,530

6.2.3 Sanitary Sewage Connection

Sanitary sewage connections from the project sites will be made to the existing combined sewers in West Second and West First Street which currently service those areas. A Massachusetts Department of Environmental Protection (DEP) Sewer Connection Permit will not be required for any of these sites since the calculated sewage flow is below 50,000 gpd. In order to obtain service approval, the Proponent will submit a General Service Application and Site Plan to the BWSC for review and approval.

6.2.4 Sewer System Mitigation

To help conserve water and reduce the amount of wastewater generated by the Proposed Project, the landscaping will be designed to not require permanent irrigation systems. An additional reduction to 30% will be achieved with 1.28 gallon per flush toilets, 1.0 gallon per minute lavatories and 1.75 gallon per minute showers. Additionally, the sewage collection system will be constructed and operated in compliance will all applicable regulations.

6.3 Water System

6.3.1 Existing Water Service

The BWSC provides water service to the City of Boston through a well-developed network of pipes which is supplied by the MWRA transmission system. There are three existing water mains in the vicinity of the Project Site. There is a 16-inch low service main in West First Street and West Second Street and a 12-inch low service main in C Street. Service to the Project Site will most likely come from the low service main in C Street.

6.3.2 Project Generated Water Demand

Water demand generated by the Project has been estimated based on the projected sewage generation, and adding 10% to account for system losses and consumption. The heating and cooling systems for the building have not yet been designed; however, air conditioning make-up water requirements are anticipated to be minimal. The projected water demand for the Project is therefore 110% X 13,530 gpd = 14,883 gpd.

Based on conversations with BWSC, the Proponent's civil engineer is confident that the existing water distribution system can provide the required flow to the proposed Project.

6.3.3 Proposed Water Service

Domestic water and fire service will be provided from the existing 12-inch low service water main in C Street.

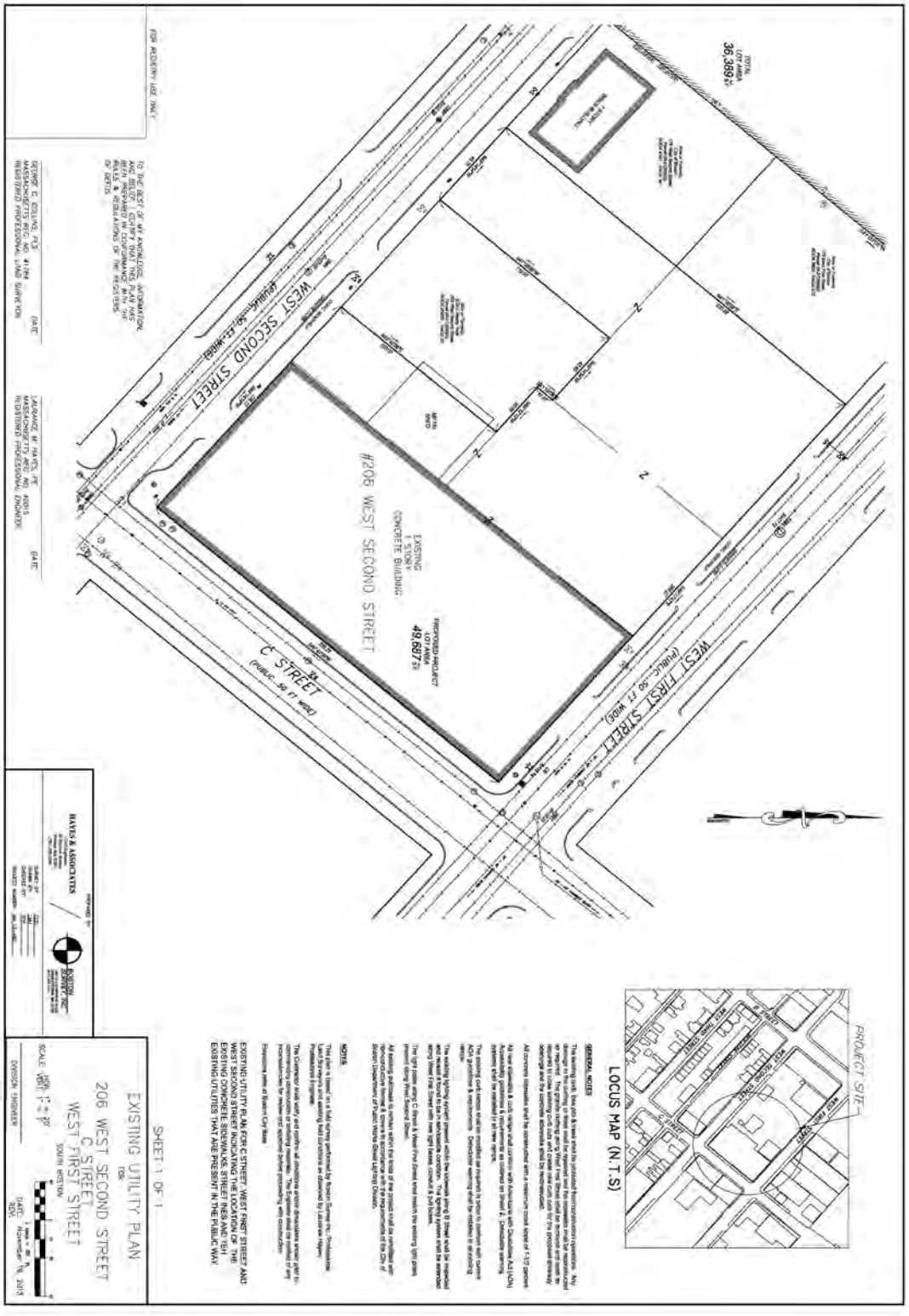
Discussions with BWSC have indicated more than adequate capacity in the water supply system to serve the Proposed Project. Flow tests will be performed for final design of the proposed building fire suppression system during the detailed design phases.

Water service to the building will be metered in accordance with the Commission's Site Plan Requirements. The Project Proponent will provide for the connection of the meter to the Commission's automatic meter reading system consistent with current BWSC policy. Backflow prevention devices will be installed on all fire services where required to protect from cross-connection hazards. Water supply systems servicing the Project will be gated so as to minimize public hazard or inconvenience in the event of a water main break. The Proponent will also submit a General Service Application and Site Plan to the BWSC for review and approval.

6.3.4 Water Supply System Mitigation

The State Building Code requires the use of water conserving fixtures. Water conservation measures such as low flow water closets and restricted flow shower heads will help reduce the domestic water demand on the existing distribution system. These systems will be installed consistent with the code requirements.

Figure 6-1 Site Plan including Utilities



6.4 Storm Drainage System

6.4.1 Existing Storm Drainage System

Storm drainage for the Project Site is provided by an existing 36 x 48-inch combined sewer/drain line in West First Street and a 36 x 48-inch combined sewer/drain line in West Second Street which flow in a westerly direction from the Project Site. (see Figure 6-1).

6.4.2 Proposed Storm Drainage

The overall Project site consists mostly of impervious surfaces, with some areas of planting, and the proposed building redevelopment is not expected to result in any significant increase in runoff from the overall Project Site. The Existing conditions of the project sites do not currently provide any meaningful recharge of runoff. The Site will be evaluated during the detailed design phase of the project. The Site will have connections to the existing combined sewer in West First and West Second Street.

Any new drainage structures on the overall Project Site will be fitted with standard BWSC Type 5 catch basin. These basins are fitted with sediment sumps and oil/gas traps. Existing structures to remain will be cleaned of debris and retrofitted with oil/gas traps where not already existing. Oil/gas traps will be permitted through BWSC and MWRA. If not already in place, BWSC plaques will be installed at storm drains that bear the warning "Don't Dump – Drains to Boston Harbor".

Any sewer and drain connections that are terminated will be cut and capped in accordance with BWSC standards. The Proponent will also submit a General Service Application and Site Plan to the BWSC for review and approval.

6.4.3 Mass DEP Stormwater Management Policy Standards

In February of 2008, the Mass DEP revised their Stormwater Management Standards to better address water quality and water quantity issues associated with project sites. The revisions promote increased stormwater recharge, treatment of more runoff from polluting land uses, low impact development (LID) techniques, pollution prevention, the removal of illicit discharges, and improved operation and maintenance of stormwater best management practices (BMPs).

A brief explanation of each Standard and the system compliance is provided below:

Standard #1: No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

Compliance: The proposed design will comply with this Standard. No new untreated stormwater will be directly discharged to, nor will erosion be caused to wetlands or waters of the Commonwealth as a result of stormwater discharges related to the proposed Project.

Standard #2: Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

Compliance: The proposed design will not increase the impervious area compared to the pre-development condition. Therefore, there will be no detention system needed to mitigate the peak rate of runoff from the site.

Standard #3: Loss of annual recharge to ground water shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post development site shall

approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Compliance: The Project will meet and exceed this standard by complying with the Boston Redevelopment Authority's requirement of recharging 1-inch of stormwater over the entire new impervious area.

Standard #4: Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This standard is met when:
a) Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;
b) Structural stormwater best management practices are sized to capture the required water quality volume as determined in accordance with the Massachusetts Stormwater Handbook; and
c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

Compliance: The Project will meet or exceed all standards.

Standard #5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention, all land uses with potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

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

Standard #6: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply and stormwater discharges near or to any other critical area require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00.5 Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of the public water supply.

Compliance: The Project will not discharge untreated stormwater to a sensitive area or any other area.

Standard #7: A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural stormwater best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

Compliance: The Project will meet or exceed all standards.

Standard #8: A plan to control construction related impacts, including erosion, sedimentation, and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

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

Standard #9: A long Term Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed.

Compliance: A long Term Operations and Maintenance Plan shall be developed and maintained for this Project.

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

Compliance: There will be no illicit discharges associated with this Project.

6.5 Electric Systems

6.5.1 Existing Electric Systems

NSTAR provides electric service within the City of Boston. It is anticipated there are existing electric lines along West Second Street and West First Street. In addition, existing street light conduits and streetlights are owned, operated and maintained by the Boston Public Works Department, Street Lighting Division. The Proponent will coordinate any modifications to the street light system with the Boston Public Works Department.

6.5.2 Proposed Electric Connections

The electrical space heating and energy systems for the proposed project have not yet been designed, however, it is expected that the project will require service consistent with housing units of this size and will not impose any excessive load burden on the existing available electrical system. In addition, appropriate energy-saving measures will be incorporated into the building design and construction.

6.6 Telephone Systems

Verizon New England provides telephone service to the Project area and the Project Site. Telephone service is provided to the Project Site via overhead wires. It is expected that the Project will require service consistent with housing units of this size and will not impose any excessive load burden on the existing system.

6.7 Cable Systems

Comcast and RCN provide cable service in this area and it is anticipated to be available for the Project Site. The Project will not impose any excessive load burden on the existing system. Any upgrades required to the service will be coordinated with the service provider.

6.8 Steam Systems

Steam services have not been identified in this area and it is not proposed that steam be used to service this facility.

6.9 Gas Systems

6.9.1 Existing Natural Gas Systems

National Grid provides natural gas service in the project area. Discussions with National Grid Energy Delivery will occur during the detailed design phase to confirm that there is adequate natural gas for this project.

6.9.2 Proposed Natural Gas Connections

The space heating system for the Proposed Project has not yet been designed. However, it is not expected that the Project would require excessive amounts of gas. In addition, energy-saving measures will be incorporated into the building design and construction.

6.10 Utility Protection During Construction

During construction, infrastructure will be protected using sheeting and shoring, temporary relocations, and construction staging as required. The contractor will be required to coordinate all protection measures, temporary supports, and temporary shutdowns of all utilities with the appropriate utility owners and/or agencies. The contractor will also be required to provide adequate notification to the utility owner prior to any work commencing on their utility. Also, in the event a utility cannot be maintained in service during switchover to a temporary or permanent system, the contractor will be required to coordinate the shutdown with the utility owners and Project abusers to minimize impacts and inconveniences accordingly.

7.0 COORDINATION WITH GOVERNMENT AGENCIES

7.1 Agency Coordination

7.1.1 Architectural Access Board Requirements

This Proposed Project will comply with the requirements of the Architectural Access Board. The Project will also be designed to comply with the Standards of the Americans with Disabilities Act.

7.1.2 Massachusetts Environmental Policy Act (MEPA)

Based on the information currently available the Proposed Project will not result in any environmental impact that would require MEPA review.

7.1.3 Boston Landmarks Commission

The Proponent will file an Article 85 Demolition Delay Application with the Boston Landmarks Commission under Article 85 of the Boston Zoning Code.

7.1.4 Boston Civic Design Commission (BCDC)

The Proposed Project is subject to review by the Boston Civic Design Commission

8.0 PROJECT CERTIFICATION

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

_____ _____

Signature of Proponent Date

Peter Zagorianakos, Manager
Triad Alpha Partners, LLC
126 N. Washington Street #5
Boston, MA 02114

APPENDIX A - Letter of Intent to File Expanded PNF

September 17, 2013

Mr. Peter Meade, Director
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007
Attn: Heather Campisano, Deputy Director for Development Review

Re: Letter of Intent (LOI) to File Expanded Project Notification Form (PNF)
Article 80-Large Project Review
For 181-185 West First Street & 184, 190 & 206 West Second Street, South Boston, MA

Dear Mr. Meade,

I am writing to notify the Boston Redevelopment Authority of the intent of Triad Alpha Partners LLC (TRIAD) to file an Expanded Project Notification Form ("PNF") with the BRA under Article 80-Large Project Review requirements of the Boston Zoning Code. The proposal is for a multi-family residential development with 104 residential units and 4,000 square foot retail space with associated garage parking for 115 spaces to serve these uses (the "Project").

The site sits on approximately 49,751 square feet of land (five parcels) located at 181 West First Street, 185 West First Street, 184 West Second Street, 190 West Second Street and 206 West Second Street in the South Boston neighborhood of Boston. The Project Site is located within 0.4 mile of the Broadway MBTA Stations and within 1/2 mile to the Boston Convention Center. The existing use as a warehouse and storage yard will be demolished in order to make space for the new three story multi-family residential building.

The Project site is located within the First Street Neighborhood Development Area (NDA) of South Boston, per Article 68 Section 39 Table B, and will be built as-of-right. The Project will meet the zoning dimensional requirements of the Boston Zoning Code (Article 68 and Table E) and we will not be looking for any variances or conditional uses.

The Proponent would like to commence "Large Project Review" under Article 80 of the Code with the filing this Letter of Intent. The Expanded Project Notification Form (PNF) will be filed within the next couple of weeks. The project proponent is looking forward to conducting an outreach program to City agencies, neighborhood representatives and groups, elected officials, and other interested parties over the next couple of months with respect to the Project. The principals of TRIAD have attended and participated in the East & West Street Planning and Zoning process and look forward to continuing their collaboration throughout the Article 80 review process.

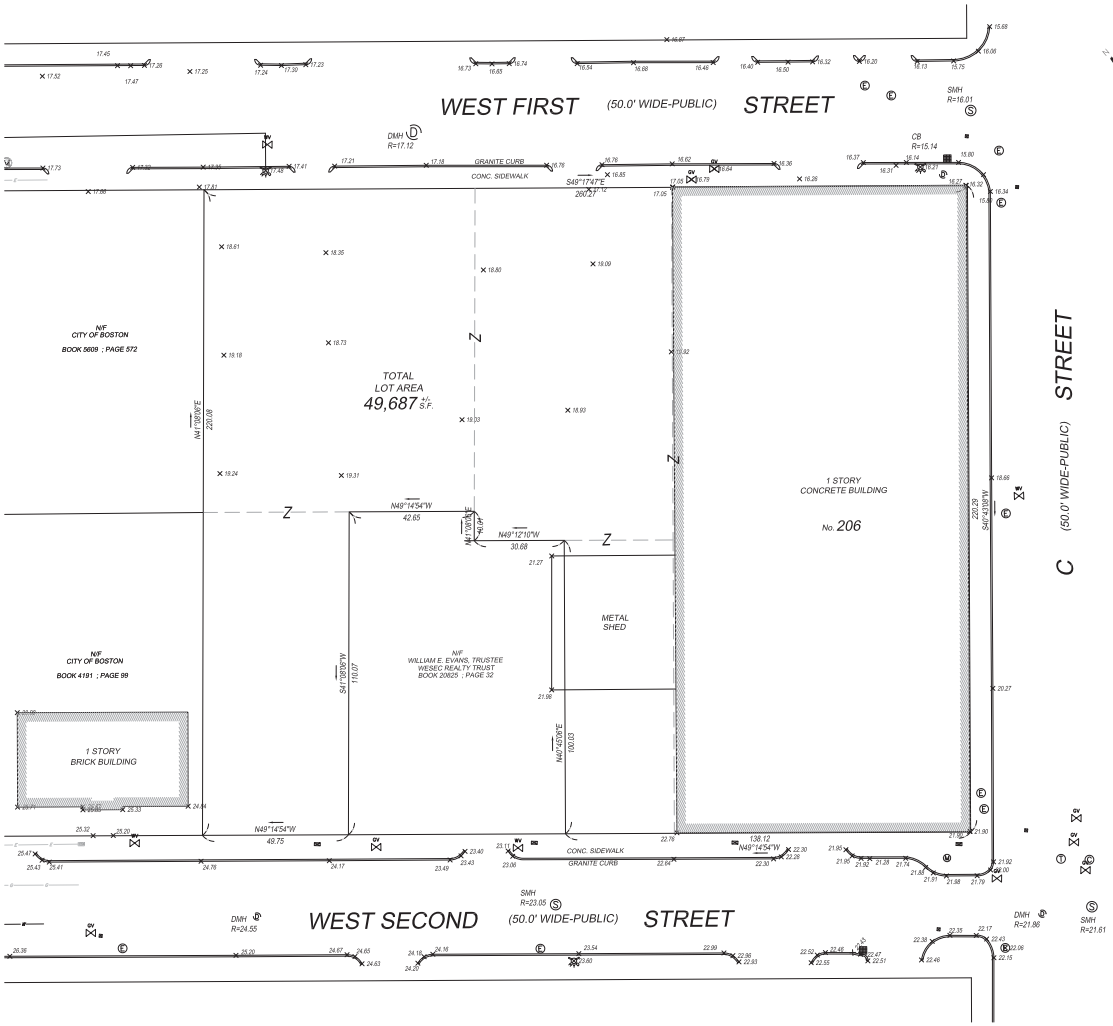
We look forward to continuing to meet with you and your staff in the coming weeks on what we feel is a beneficial project to the South Boston neighborhood and meets the new zoning requirements implemented recently during the East & West Street Planning and Zoning process.

Sincerely,
Triad Alpha Partners LLC

Peter Zagorianakos, Manager

Cc: Lance Campbell, Project Manager, BRA

APPENDIX B - Site Survey



LEGEND:

- CATCH BASIN
- DRAIN MANHOLE
- ELECTRIC HAND HOLE
- GAS GATE
- HYDRANT
- LIGHT POLE
- MANHOLE UNKNOWN
- MONITORING WELL
- SEWER MANHOLE
- TREE
- UTILITY POLE
- WATER GATE
- BK BOOK
- CONC CONCRETE
- FND FOUND
- (M) MEASURED
- PG PAGE
- (R) RECORD
- VGC VERTICAL GRANITE CURB

I CERTIFY THAT THIS PLAN WAS MADE FROM AN INSTRUMENT SURVEY ON THE GROUND ON THE DATE OF SEPTEMBER 26, 2013 AND ALL STRUCTURES ARE LOCATED AS SHOWN HEREON.

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) MAPS, THE MAJOR IMPROVEMENTS ON THIS PROPERTY FALL IN AN AREA DESIGNATED AS ZONE "X" (AREA DETERMINED TO BE OUTSIDE 0.2 % ANNUAL CHANCE FLOODPLAIN). MAP # 25025C0083G EFFECTIVE DATE: SEPTEMBER 25, 2009

DRASTMAN: CJB	REVIEWED BY: GCC
PREPARED	10/21/13
SCALE: 1 INCH = 20 FEET	

REFERENCES:

DEED: BOOK 49795 PAGE 216
BOOK 44443 PAGE 264
CERTIFICATE: 127871
PLAN: LCC NO. 29398 A
PLAN IN BOOK 1653 PAGE 205
PLAN IN BOOK 12153 PAGE 193
CITY STREET LAYOUT L-5264

SITE PLAN OF LAND

LOCATED AT
206 WEST SECOND STREET
SOUTH BOSTON, MA

PREPARED FOR:

SECOND 206 WEST STREET LLC
126 NORTH WASHINGTON STREET
BOSTON, MA 02114

BOSTON SURVEY, INC.
UNIT C-4 SHIPWAYS PLACE
CHARLESTOWN, MA. 02129
(617) 242-1313
www.bostonsurveyinc.com

COMMONWEALTH OF MASSACHUSETTS
GEORGE C. COLLINS No. 41764
PROFESSIONAL LAND SURVEYOR

JOB # 13-00579 | 13-00579 SITE PLAN.dwg

APPENDIX C - Transportation Component

TRANSPORTATION TECHNICAL APPENDIX

- TRAFFIC COUNTS
- TRIP GENERATION CALCULATIONS
- INTERSECTION CAPACITY ANALYSIS WORKSHEETS

TRAFFIC COUNTS

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 1

Groups Printed- Cars - Trucks

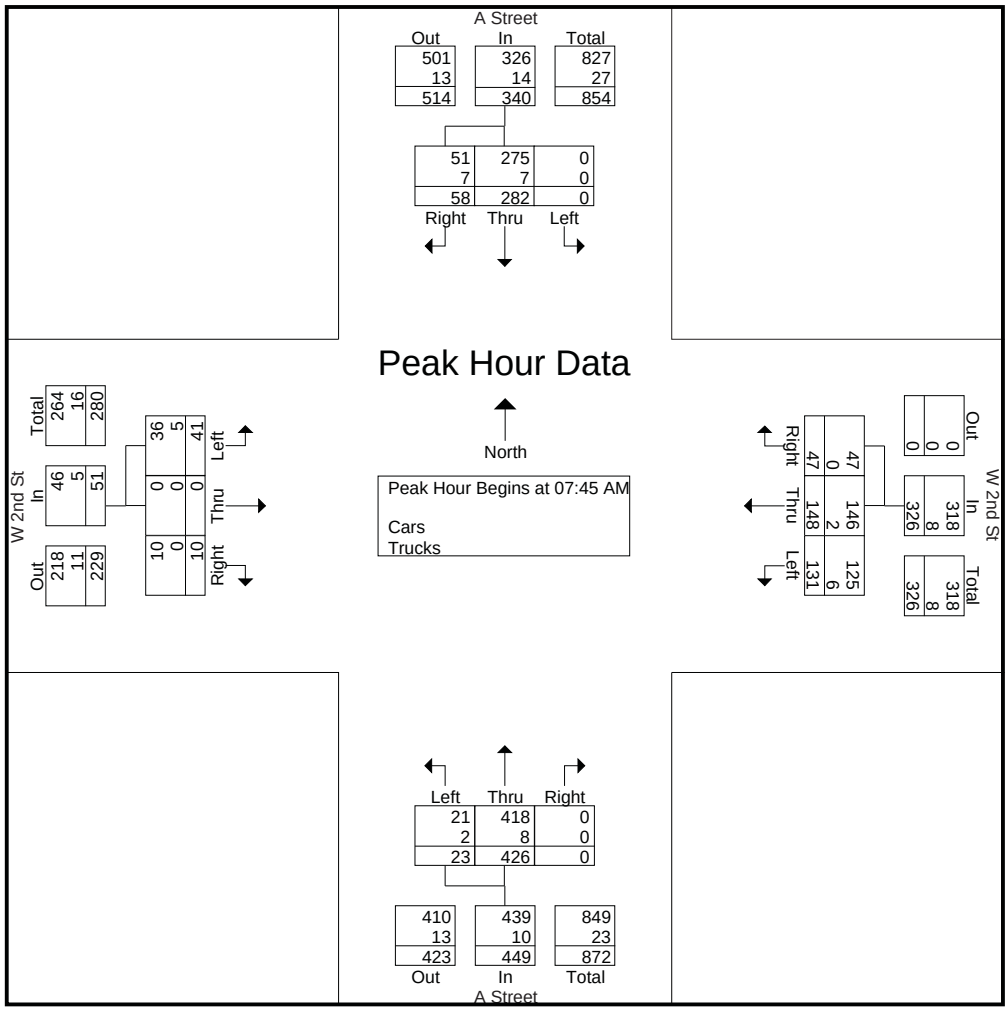
	A Street From North			W 2nd St From East			A Street From South			W 2nd St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	58	7	12	26	6	6	90	0	10	0	1	216
07:15 AM	0	58	20	22	29	14	0	79	0	6	0	0	228
07:30 AM	0	68	12	23	37	12	4	79	0	9	0	2	246
07:45 AM	0	77	16	27	31	11	4	100	0	11	0	5	282
Total	0	261	55	84	123	43	14	348	0	36	0	8	972
08:00 AM	0	66	8	45	50	8	7	101	0	5	0	1	291
08:15 AM	0	59	16	30	30	11	7	100	0	11	0	3	267
08:30 AM	0	80	18	29	37	17	5	125	0	14	0	1	326
08:45 AM	0	68	15	25	25	9	4	123	0	11	0	0	280
Total	0	273	57	129	142	45	23	449	0	41	0	5	1164
Grand Total	0	534	112	213	265	88	37	797	0	77	0	13	2136
Apprch %	0	82.7	17.3	37.6	46.8	15.5	4.4	95.6	0	85.6	0	14.4	
Total %	0	25	5.2	10	12.4	4.1	1.7	37.3	0	3.6	0	0.6	
Cars	0	518	96	201	258	87	35	774	0	69	0	12	2050
% Cars	0	97	85.7	94.4	97.4	98.9	94.6	97.1	0	89.6	0	92.3	96
Trucks	0	16	16	12	7	1	2	23	0	8	0	1	86
% Trucks	0	3	14.3	5.6	2.6	1.1	5.4	2.9	0	10.4	0	7.7	4

	A Street From North				W 2nd St From East				A Street From South				W 2nd St 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 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	77	16	93	27	31	11	69	4	100	0	104	11	0	**5**	**16**	282
08:00 AM	0	66	8	74	**45**	**50**	8	**103**	**7**	101	0	108	5	0	1	6	291
08:15 AM	0	59	16	75	30	30	11	71	7	100	0	107	11	0	3	14	267
08:30 AM	0	**80**	**18**	**98**	29	37	**17**	83	5	**125**	0	**130**	**14**	0	1	15	**326**
Total Volume	0	282	58	340	131	148	47	326	23	426	0	449	41	0	10	51	1166
% App. Total	0	82.9	17.1		40.2	45.4	14.4		5.1	94.9	0		80.4	0	19.6		
PHF	.000	.881	.806	.867	.728	.740	.691	.791	.821	.852	.000	.863	.732	.000	.500	.797	.894
Cars	0	275	51	326	125	146	47	318	21	418	0	439	36	0	10	46	1129
% Cars	0	97.5	87.9	95.9	95.4	98.6	100	97.5	91.3	98.1	0	97.8	87.8	0	100	90.2	96.8
Trucks	0	7	7	14	6	2	0	8	2	8	0	10	5	0	0	5	37
% Trucks	0	2.5	12.1	4.1	4.6	1.4	0	2.5	8.7	1.9	0	2.2	12.2	0	0	9.8	3.2

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 2



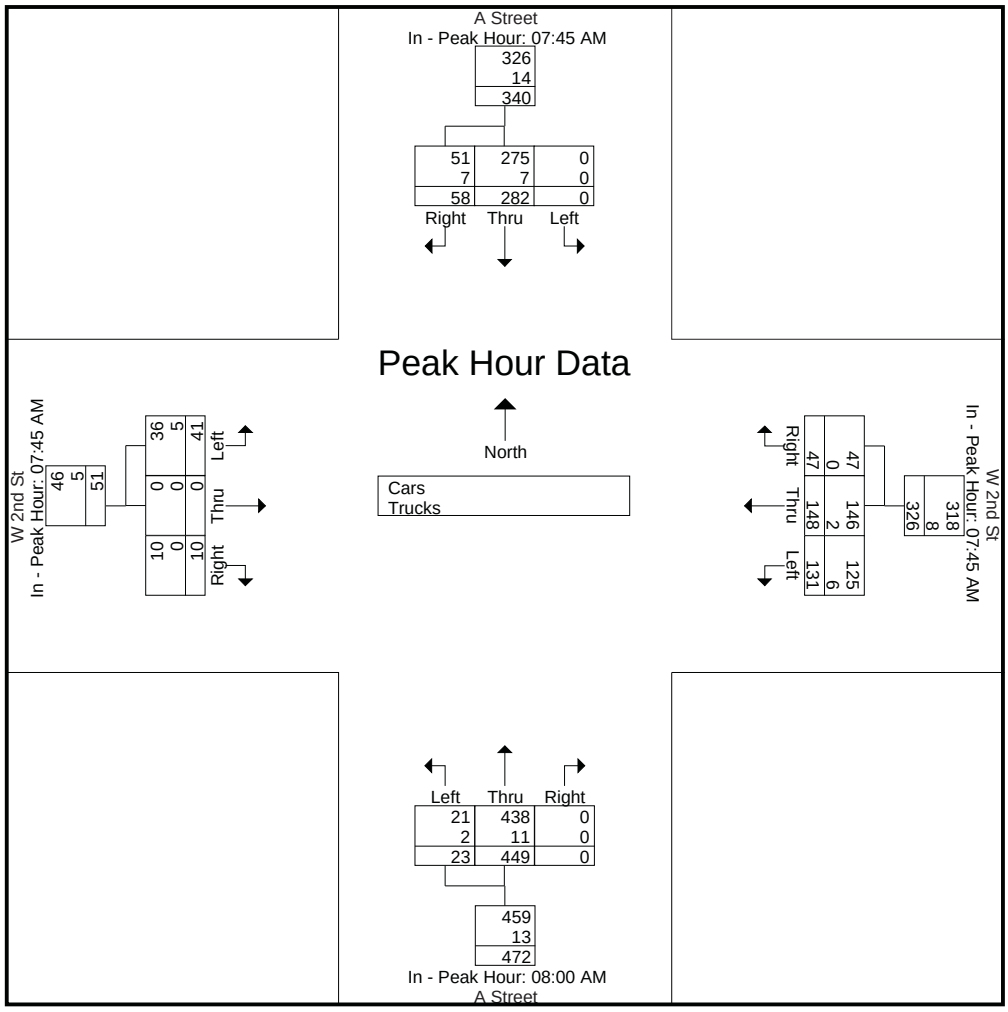
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				08:00 AM				07:45 AM			
+0 mins.	0	77	16	93	27	31	11	69	**7**	101	0	108	11	0	**5**	**16**
+15 mins.	0	66	8	74	**45**	**50**	8	**103**	7	100	0	107	5	0	1	6
+30 mins.	0	59	16	75	30	30	11	71	5	**125**	0	**130**	11	0	3	14
+45 mins.	0	**80**	**18**	**98**	29	37	**17**	83	4	123	0	127	**14**	0	1	15
Total Volume	0	282	58	340	131	148	47	326	23	449	0	472	41	0	10	51
% App. Total	0	82.9	17.1		40.2	45.4	14.4		4.9	95.1	0		80.4	0	19.6	
PHF	.000	.881	.806	.867	.728	.740	.691	.791	.821	.898	.000	.908	.732	.000	.500	.797
Cars	0	275	51	326	125	146	47	318	21	438	0	459	36	0	10	46
% Cars	0	97.5	87.9	95.9	95.4	98.6	100	97.5	91.3	97.6	0	97.2	87.8	0	100	90.2
Trucks	0	7	7	14	6	2	0	8	2	11	0	13	5	0	0	5
% Trucks	0	2.5	12.1	4.1	4.6	1.4	0	2.5	8.7	2.4	0	2.8	12.2	0	0	9.8

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 3



Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 1

Groups Printed- Cars

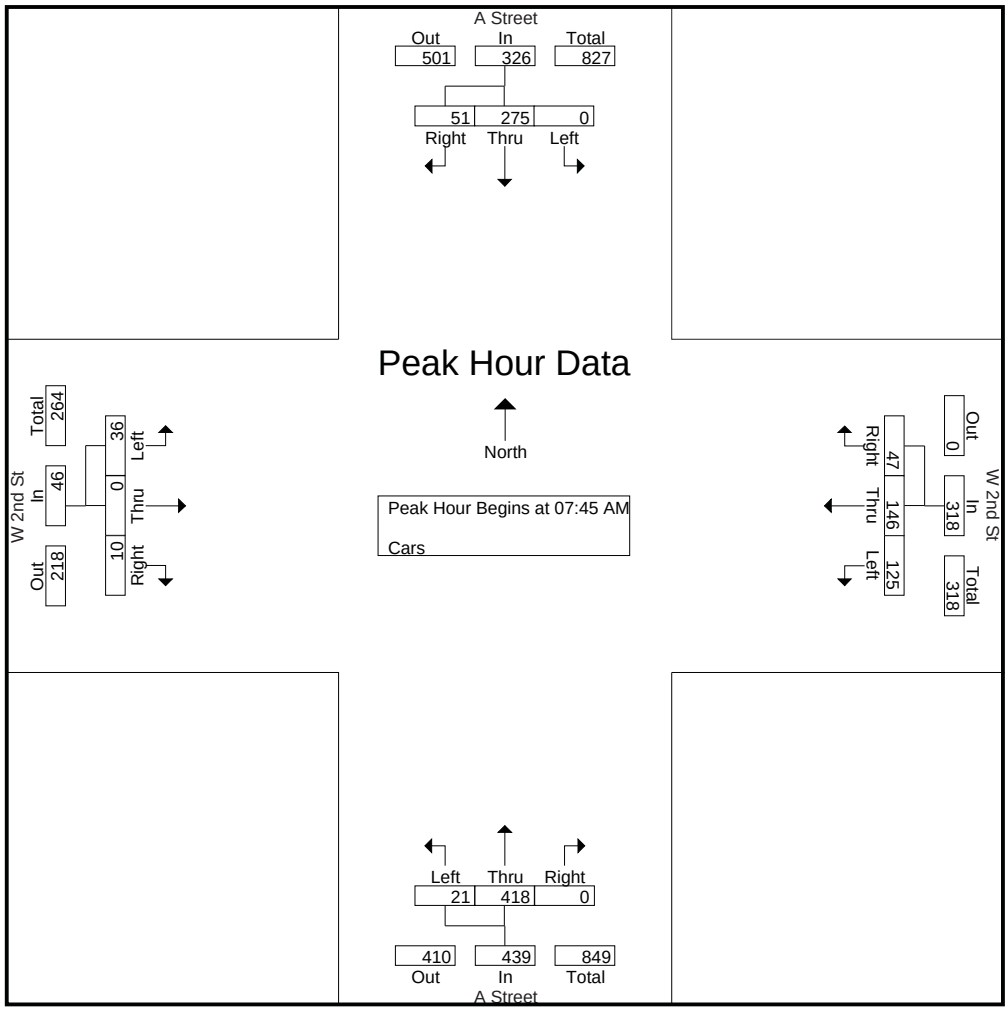
	A Street From North			W 2nd St From East			A Street From South			W 2nd St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	56	5	11	26	6	6	85	0	8	0	1	204
07:15 AM	0	52	18	20	28	13	0	75	0	6	0	0	212
07:30 AM	0	67	9	21	35	12	4	78	0	9	0	1	236
07:45 AM	0	75	16	25	31	11	4	98	0	10	0	5	275
Total	0	250	48	77	120	42	14	336	0	33	0	7	927
08:00 AM	0	66	7	45	49	8	7	100	0	4	0	1	287
08:15 AM	0	55	14	27	30	11	5	99	0	9	0	3	253
08:30 AM	0	79	14	28	36	17	5	121	0	13	0	1	314
08:45 AM	0	68	13	24	23	9	4	118	0	10	0	0	269
Total	0	268	48	124	138	45	21	438	0	36	0	5	1123
Grand Total	0	518	96	201	258	87	35	774	0	69	0	12	2050
Apprch %	0	84.4	15.6	36.8	47.3	15.9	4.3	95.7	0	85.2	0	14.8	
Total %	0	25.3	4.7	9.8	12.6	4.2	1.7	37.8	0	3.4	0	0.6	

	A Street From North				W 2nd St From East				A Street From South				W 2nd St 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 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	75	**16**	91	25	31	11	67	4	98	0	102	10	0	**5**	**15**	275
08:00 AM	0	66	7	73	**45**	**49**	8	**102**	**7**	100	0	107	4	0	1	5	287
08:15 AM	0	55	14	69	27	30	11	68	5	99	0	104	9	0	3	12	253
08:30 AM	0	**79**	14	**93**	28	36	**17**	81	5	**121**	0	**126**	**13**	0	1	14	**314**
Total Volume	0	275	51	326	125	146	47	318	21	418	0	439	36	0	10	46	1129
% App. Total	0	84.4	15.6		39.3	45.9	14.8		4.8	95.2	0		78.3	0	21.7		
PHF	.000	.870	.797	.876	.694	.745	.691	.779	.750	.864	.000	.871	.692	.000	.500	.767	.899

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013



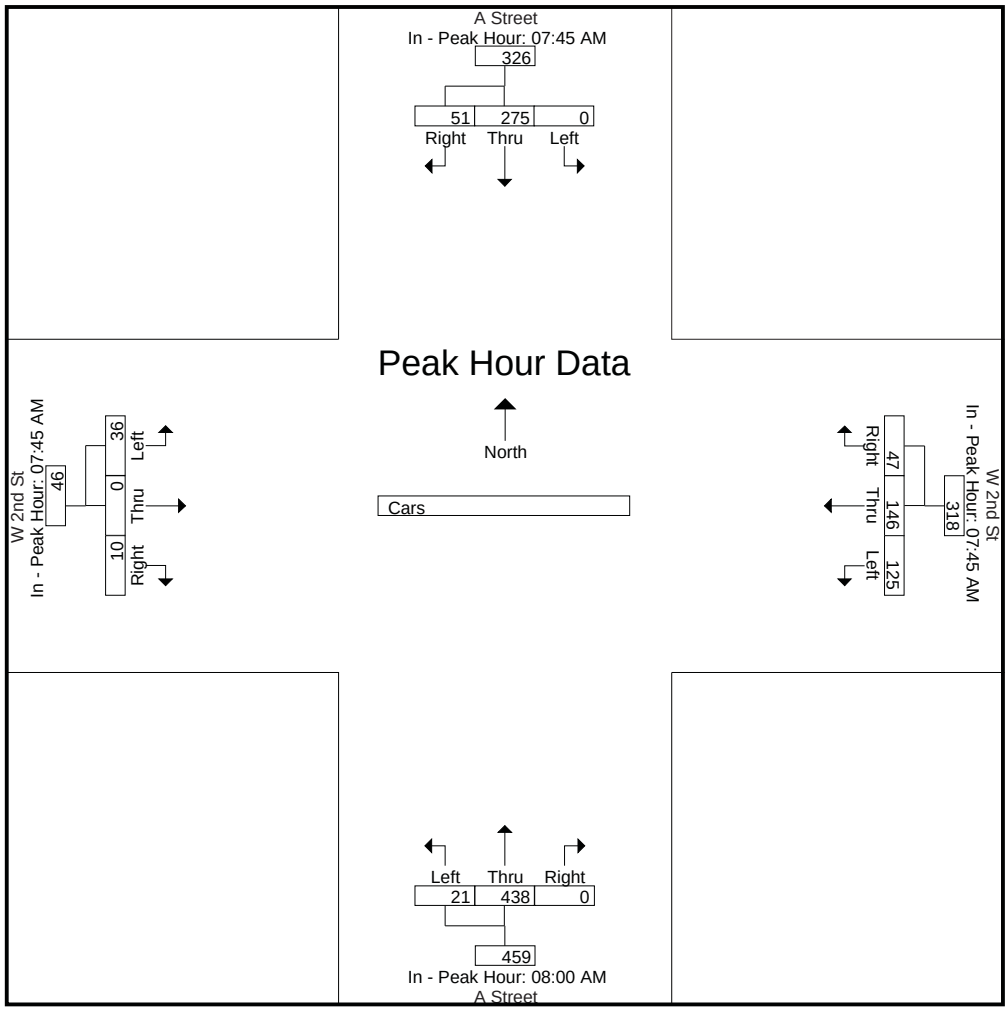
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				08:00 AM				07:45 AM			
+0 mins.	0	75	**16**	91	25	31	11	67	**7**	100	0	107	10	0	**5**	**15**
+15 mins.	0	66	7	73	**45**	**49**	8	**102**	5	99	0	104	4	0	1	5
+30 mins.	0	55	14	69	27	30	11	68	5	**121**	0	**126**	9	0	3	12
+45 mins.	0	**79**	14	**93**	28	36	**17**	81	4	118	0	122	**13**	0	1	14
Total Volume	0	275	51	326	125	146	47	318	21	438	0	459	36	0	10	46
% App. Total	0	84.4	15.6		39.3	45.9	14.8		4.6	95.4	0		78.3	0	21.7	
PHF	.000	.870	.797	.876	.694	.745	.691	.779	.750	.905	.000	.911	.692	.000	.500	.767

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 3



Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 1

Groups Printed- Trucks

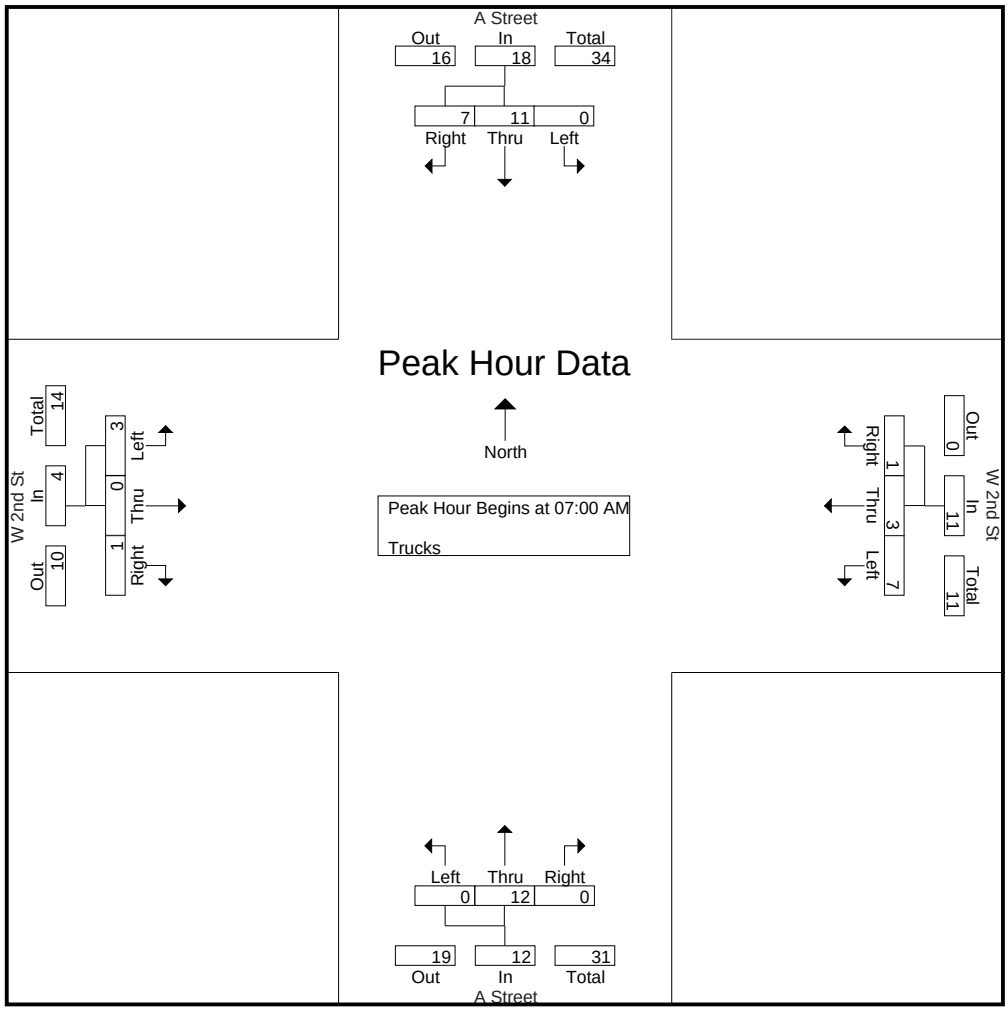
	A Street From North			W 2nd St From East			A Street From South			W 2nd St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	2	2	1	0	0	0	5	0	2	0	0	12
07:15 AM	0	6	2	2	1	1	0	4	0	0	0	0	16
07:30 AM	0	1	3	2	2	0	0	1	0	0	0	1	10
07:45 AM	0	2	0	2	0	0	0	2	0	1	0	0	7
Total	0	11	7	7	3	1	0	12	0	3	0	1	45
08:00 AM	0	0	1	0	1	0	0	1	0	1	0	0	4
08:15 AM	0	4	2	3	0	0	2	1	0	2	0	0	14
08:30 AM	0	1	4	1	1	0	0	4	0	1	0	0	12
08:45 AM	0	0	2	1	2	0	0	5	0	1	0	0	11
Total	0	5	9	5	4	0	2	11	0	5	0	0	41
Grand Total	0	16	16	12	7	1	2	23	0	8	0	1	86
Apprch %	0	50	50	60	35	5	8	92	0	88.9	0	11.1	
Total %	0	18.6	18.6	14	8.1	1.2	2.3	26.7	0	9.3	0	1.2	

	A Street From North				W 2nd St From East				A Street From South				W 2nd St 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 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	2	2	4	1	0	0	1	0	**5**	0	**5**	**2**	0	0	**2**	12
07:15 AM	0	**6**	2	**8**	**2**	1	**1**	**4**	0	4	0	4	0	0	0	0	**16**
07:30 AM	0	1	**3**	4	2	**2**	0	4	0	1	0	1	0	0	**1**	1	10
07:45 AM	0	2	0	2	2	0	0	2	0	2	0	2	1	0	0	1	7
Total Volume	0	11	7	18	7	3	1	11	0	12	0	12	3	0	1	4	45
% App. Total	0	61.1	38.9		63.6	27.3	9.1		0	100	0		75	0	25		
PHF	.000	.458	.583	.563	.875	.375	.250	.688	.000	.600	.000	.600	.375	.000	.250	.500	.703

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013



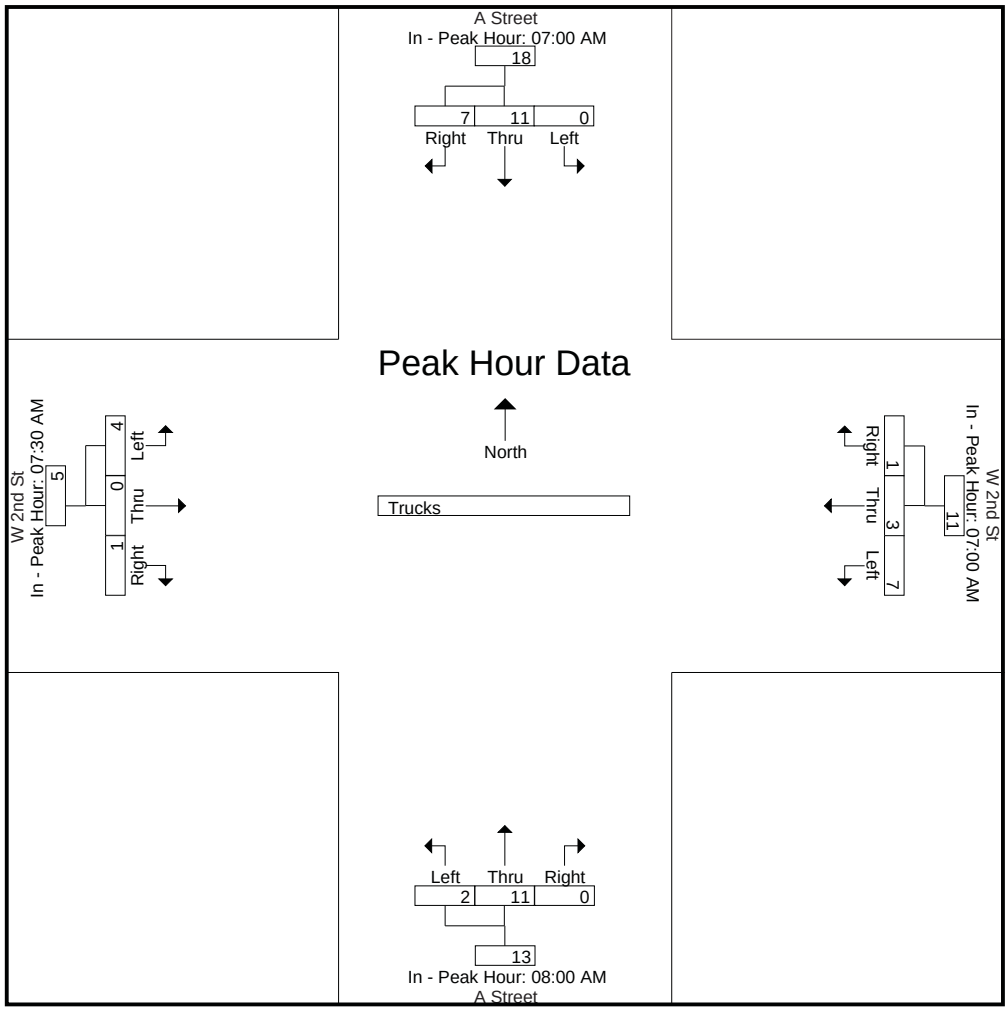
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				08:00 AM				07:30 AM			
+0 mins.	0	2	2	4	1	0	0	1	0	1	0	1	0	0	**1**	1
+15 mins.	0	**6**	2	**8**	**2**	1	**1**	**4**	**2**	1	0	3	1	0	0	1
+30 mins.	0	1	**3**	4	2	**2**	0	4	0	4	0	4	1	0	0	1
+45 mins.	0	2	0	2	2	0	0	2	0	**5**	0	**5**	**2**	0	0	**2**
Total Volume	0	11	7	18	7	3	1	11	2	11	0	13	4	0	1	5
% App. Total	0	61.1	38.9		63.6	27.3	9.1		15.4	84.6	0		80	0	20	
PHF	.000	.458	.583	.563	.875	.375	.250	.688	.250	.550	.000	.650	.500	.000	.250	.625

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 3



Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 1

Groups Printed- Bikes Peds

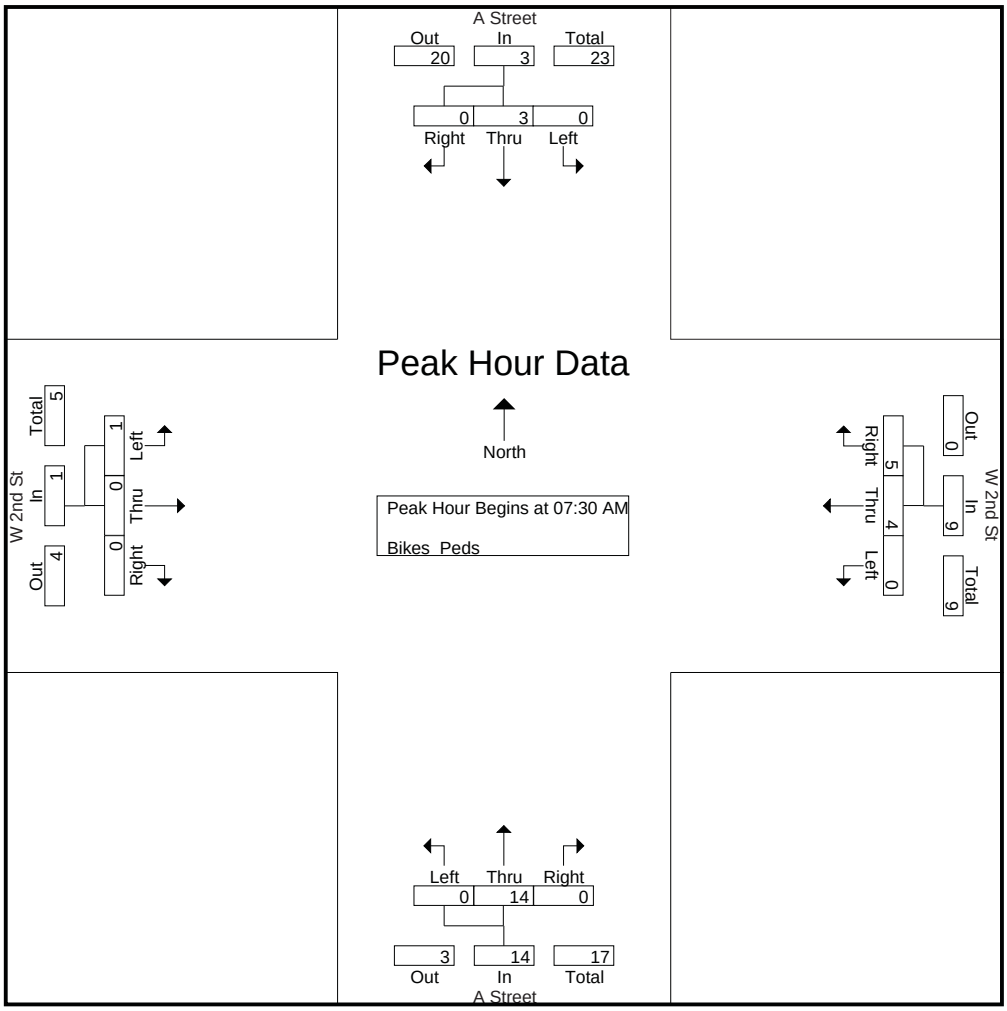
	A Street From North				W 2nd St From East				A Street From South				W 2nd St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	2	0	1	0	5	0	1	0	0	0	0	0	6	13	3	16
07:15 AM	0	0	0	6	0	2	0	7	0	4	0	3	1	0	0	5	21	7	28
07:30 AM	0	0	0	3	0	2	1	11	0	3	0	2	0	0	0	4	20	6	26
07:45 AM	0	2	0	5	0	0	2	10	0	4	0	7	0	0	0	1	23	8	31
Total	0	3	0	16	0	5	3	33	0	12	0	12	1	0	0	16	77	24	101
08:00 AM	0	1	0	2	0	1	1	23	0	2	0	0	0	0	0	13	38	5	43
08:15 AM	0	0	0	2	0	1	1	19	0	5	0	2	1	0	0	12	35	8	43
08:30 AM	0	0	0	2	0	0	0	20	0	2	0	4	0	0	0	9	35	2	37
08:45 AM	0	1	0	4	0	0	1	32	0	6	0	4	1	0	0	11	51	9	60
Total	0	2	0	10	0	2	3	94	0	15	0	10	2	0	0	45	159	24	183
Grand Total	0	5	0	26	0	7	6	127	0	27	0	22	3	0	0	61	236	48	284
Apprch %	0	100	0		0	53.8	46.2		0	100	0		100	0	0				
Total %	0	10.4	0		0	14.6	12.5		0	56.2	0		6.2	0	0		83.1	16.9	

	A Street From North				W 2nd St From East				A Street From South				W 2nd St 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 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	**2**	1	**3**	0	3	0	3	0	0	0	0	6
07:45 AM	0	**2**	0	**2**	0	0	**2**	2	0	4	0	4	0	0	0	0	**8**
08:00 AM	0	1	0	1	0	1	1	2	0	2	0	2	0	0	0	0	5
08:15 AM	0	0	0	0	0	1	1	2	0	**5**	0	**5**	**1**	0	0	**1**	8
Total Volume	0	3	0	3	0	4	5	9	0	14	0	14	1	0	0	1	27
% App. Total	0	100	0		0	44.4	55.6		0	100	0		100	0	0		
PHF	.000	.375	.000	.375	.000	.500	.625	.750	.000	.700	.000	.700	.250	.000	.000	.250	.844

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013



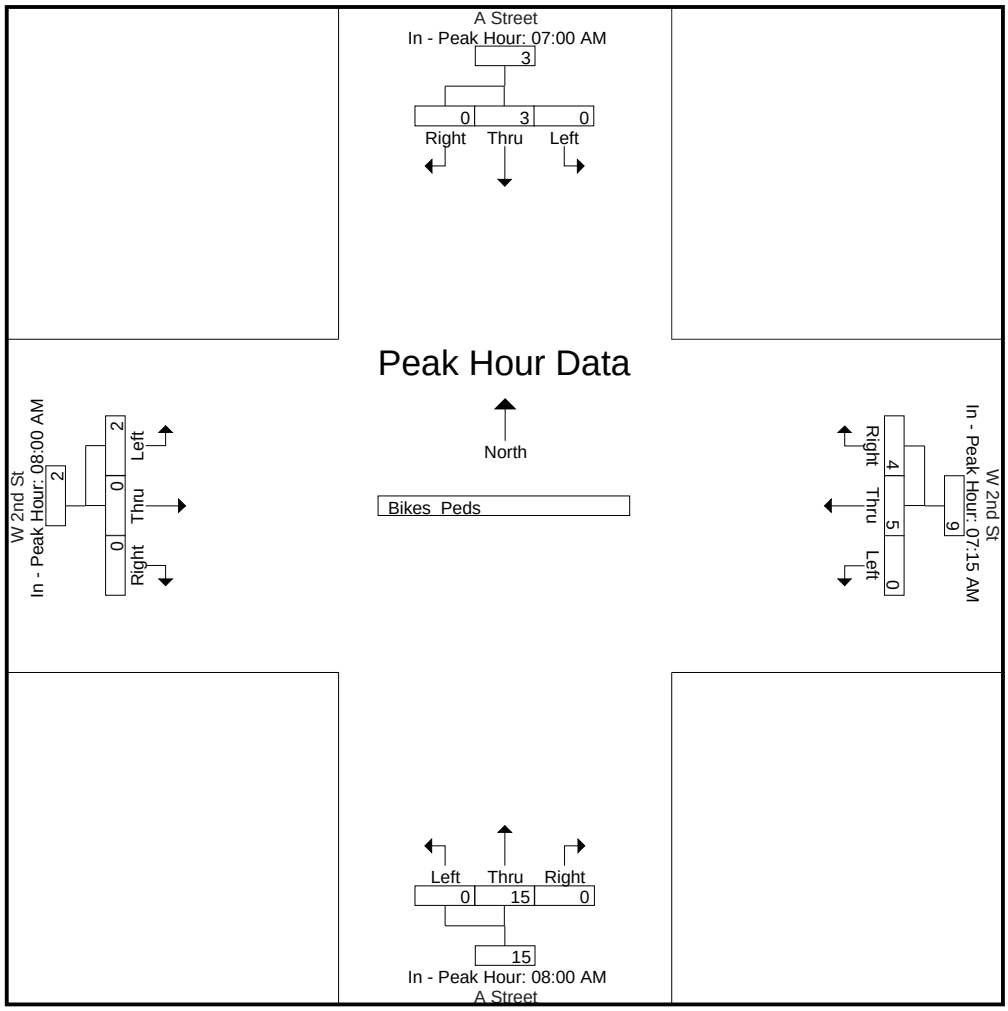
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				08:00 AM				08:00 AM			
+0 mins.	0	1	0	1	0	**2**	0	2	0	2	0	2	0	0	0	0
+15 mins.	0	0	0	0	0	2	1	**3**	0	5	0	5	**1**	0	0	**1**
+30 mins.	0	0	0	0	0	0	**2**	2	0	2	0	2	0	0	0	0
+45 mins.	0	**2**	0	**2**	0	1	1	2	0	**6**	0	**6**	1	0	0	1
Total Volume	0	3	0	3	0	5	4	9	0	15	0	15	2	0	0	2
% App. Total	0	100	0		0	55.6	44.4		0	100	0		100	0	0	
PHF	.000	.375	.000	.375	.000	.625	.500	.750	.000	.625	.000	.625	.500	.000	.000	.500

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Cloudy

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 3



Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 1

Groups Printed- Cars - Trucks

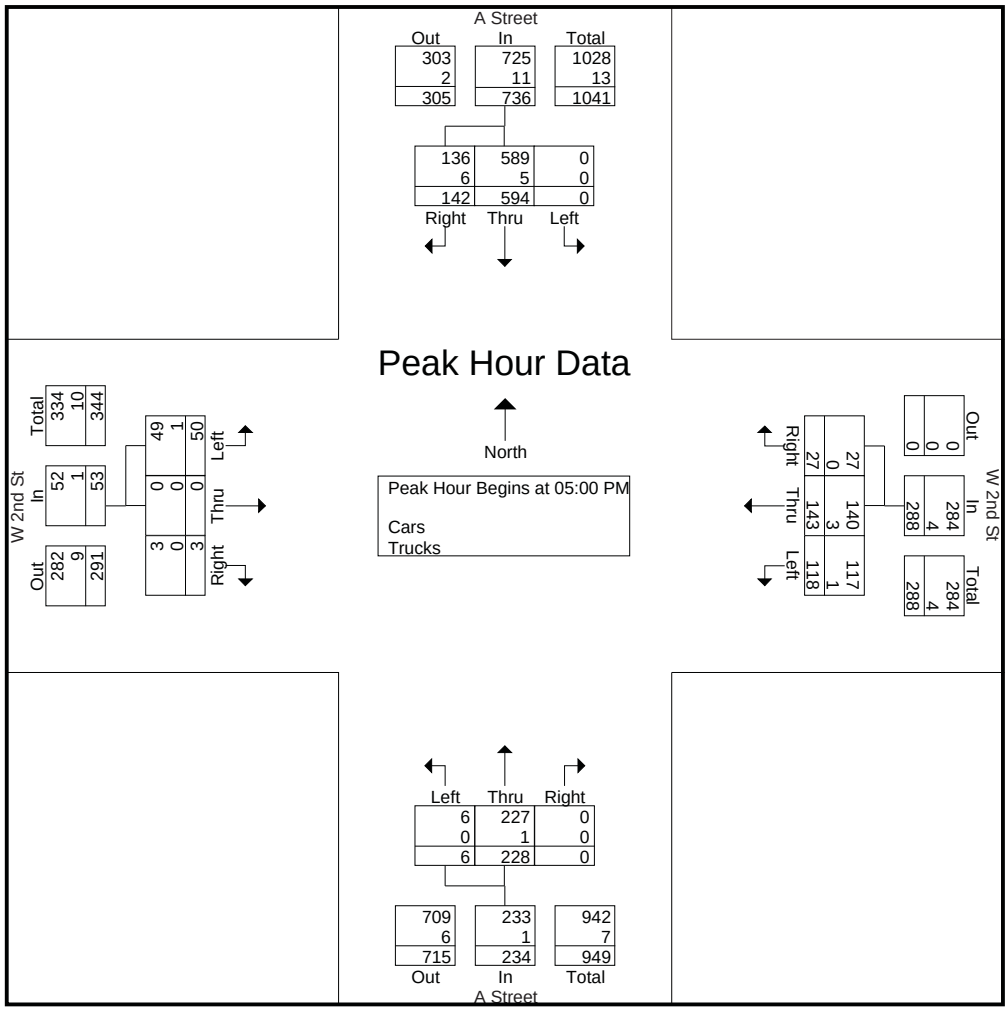
	A Street From North			W 2nd St From East			A Street From South			W 2nd St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	0	160	28	27	26	11	5	28	0	12	0	1	298
04:15 PM	0	134	34	23	17	10	1	51	0	7	0	0	277
04:30 PM	0	111	26	19	30	6	0	65	0	13	0	1	271
04:45 PM	0	144	31	25	30	8	1	68	0	10	0	0	317
Total	0	549	119	94	103	35	7	212	0	42	0	2	1163
05:00 PM	0	151	34	39	39	2	2	59	0	8	0	1	335
05:15 PM	0	145	27	36	30	6	0	55	0	13	0	1	313
05:30 PM	0	154	36	20	43	12	1	57	0	14	0	1	338
05:45 PM	0	144	45	23	31	7	3	57	0	15	0	0	325
Total	0	594	142	118	143	27	6	228	0	50	0	3	1311
Grand Total	0	1143	261	212	246	62	13	440	0	92	0	5	2474
Apprch %	0	81.4	18.6	40.8	47.3	11.9	2.9	97.1	0	94.8	0	5.2	
Total %	0	46.2	10.5	8.6	9.9	2.5	0.5	17.8	0	3.7	0	0.2	
Cars	0	1131	241	208	240	62	13	434	0	91	0	5	2425
% Cars	0	99	92.3	98.1	97.6	100	100	98.6	0	98.9	0	100	98
Trucks	0	12	20	4	6	0	0	6	0	1	0	0	49
% Trucks	0	1	7.7	1.9	2.4	0	0	1.4	0	1.1	0	0	2

	A Street From North				W 2nd St From East				A Street From South				W 2nd St 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 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	151	34	185	**39**	39	2	**80**	2	**59**	0	**61**	8	0	**1**	9	335
05:15 PM	0	145	27	172	36	30	6	72	0	55	0	55	13	0	1	14	313
05:30 PM	0	**154**	36	**190**	20	**43**	**12**	75	1	57	0	58	14	0	1	**15**	**338**
05:45 PM	0	144	**45**	189	23	31	7	61	**3**	57	0	60	**15**	0	0	15	325
Total Volume	0	594	142	736	118	143	27	288	6	228	0	234	50	0	3	53	1311
% App. Total	0	80.7	19.3		41	49.7	9.4		2.6	97.4	0		94.3	0	5.7		
PHF	.000	.964	.789	.968	.756	.831	.563	.900	.500	.966	.000	.959	.833	.000	.750	.883	.970
Cars	0	589	136	725	117	140	27	284	6	227	0	233	49	0	3	52	1294
% Cars	0	99.2	95.8	98.5	99.2	97.9	100	98.6	100	99.6	0	99.6	98.0	0	100	98.1	98.7
Trucks	0	5	6	11	1	3	0	4	0	1	0	1	1	0	0	1	17
% Trucks	0	0.8	4.2	1.5	0.8	2.1	0	1.4	0	0.4	0	0.4	2.0	0	0	1.9	1.3

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 2



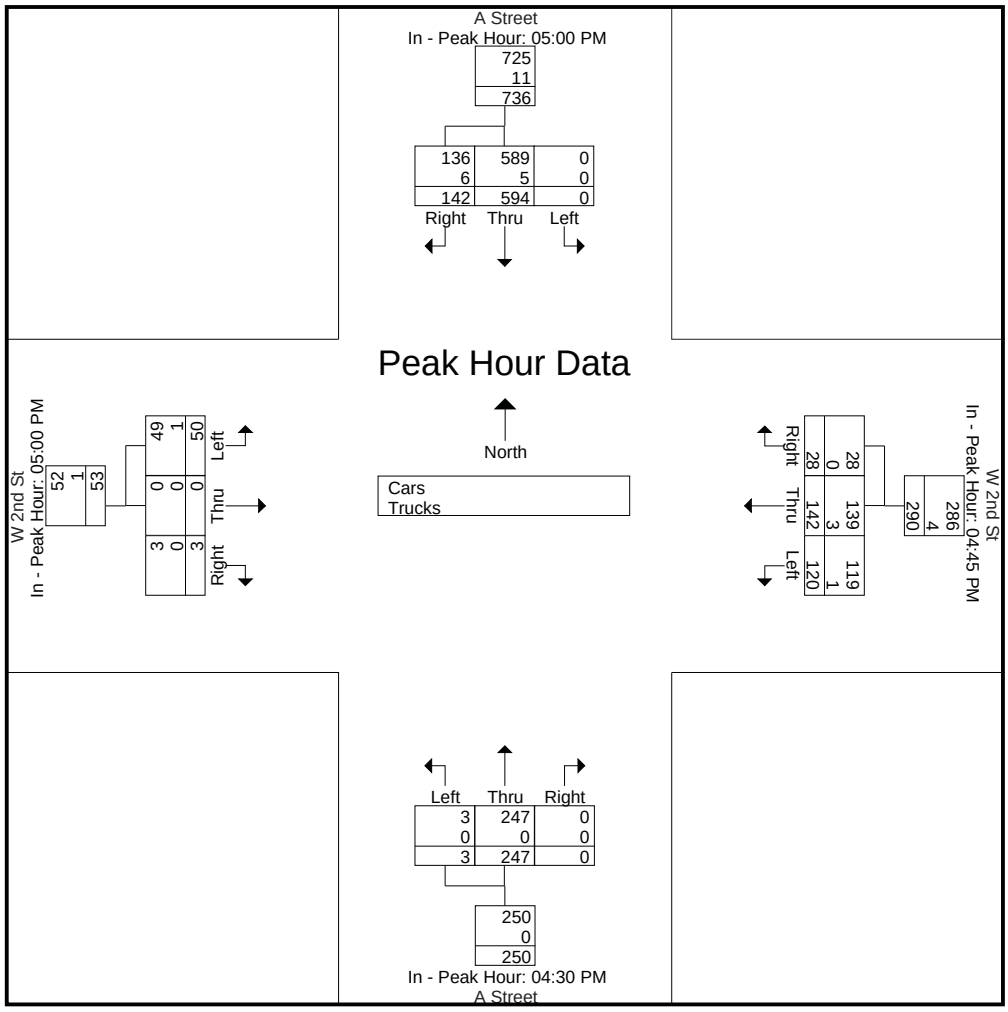
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:30 PM				05:00 PM			
+0 mins.	0	151	34	185	25	30	8	63	0	65	0	65	8	0	**1**	9
+15 mins.	0	145	27	172	**39**	39	2	**80**	1	**68**	0	**69**	13	0	1	14
+30 mins.	0	**154**	36	**190**	36	30	6	72	**2**	59	0	61	14	0	1	**15**
+45 mins.	0	144	**45**	189	20	**43**	**12**	75	0	55	0	55	**15**	0	0	15
Total Volume	0	594	142	736	120	142	28	290	3	247	0	250	50	0	3	53
% App. Total	0	80.7	19.3		41.4	49	9.7		1.2	98.8	0		94.3	0	5.7	
PHF	.000	.964	.789	.968	.769	.826	.583	.906	.375	.908	.000	.906	.833	.000	.750	.883
Cars	0	589	136	725	119	139	28	286	3	247	0	250	49	0	3	52
% Cars	0	99.2	95.8	98.5	99.2	97.9	100	98.6	100	100	0	100	98	0	100	98.1
Trucks	0	5	6	11	1	3	0	4	0	0	0	0	1	0	0	1
% Trucks	0	0.8	4.2	1.5	0.8	2.1	0	1.4	0	0	0	0	2	0	0	1.9

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 3



Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 1

Groups Printed- Cars

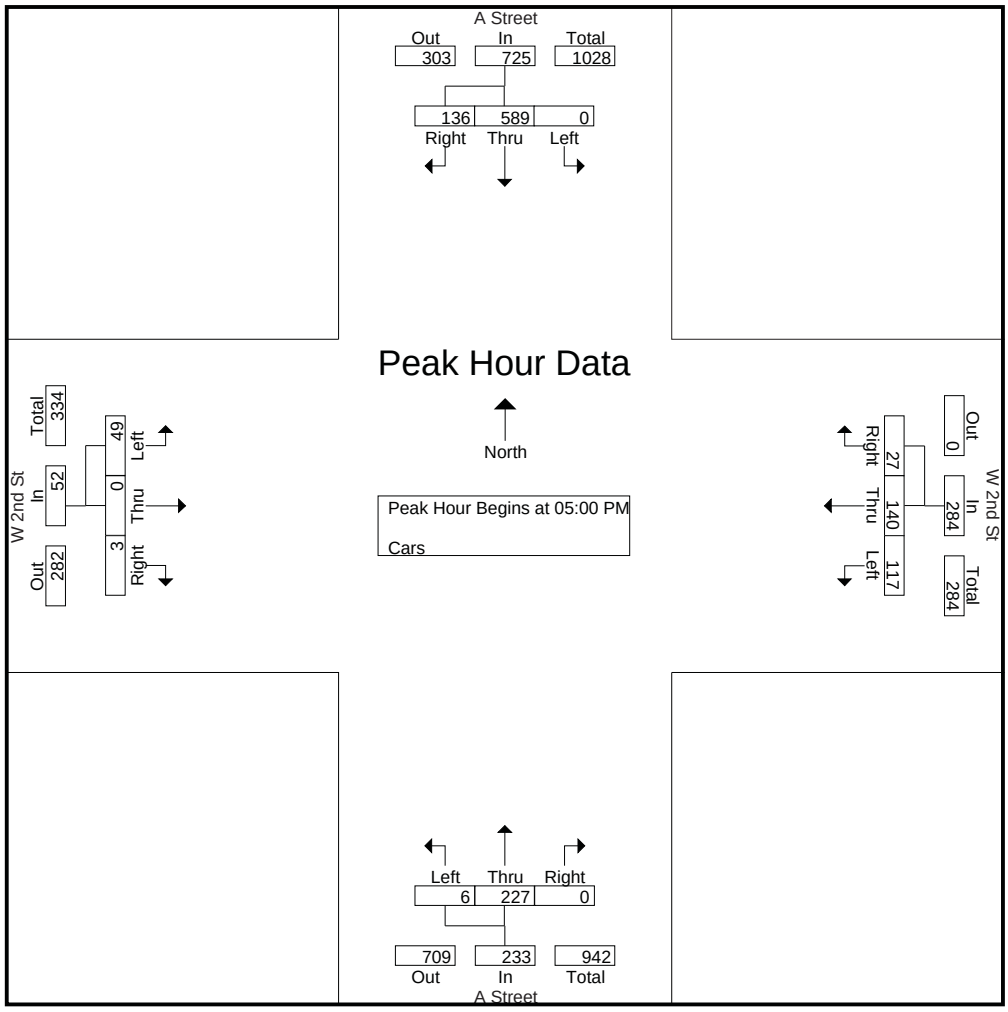
	A Street From North			W 2nd St From East			A Street From South			W 2nd St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	0	159	25	27	26	11	5	27	0	12	0	1	293
04:15 PM	0	132	31	22	17	10	1	47	0	7	0	0	267
04:30 PM	0	110	21	18	28	6	0	65	0	13	0	1	262
04:45 PM	0	141	28	24	29	8	1	68	0	10	0	0	309
Total	0	542	105	91	100	35	7	207	0	42	0	2	1131
05:00 PM	0	150	33	39	38	2	2	59	0	8	0	1	332
05:15 PM	0	144	26	36	30	6	0	55	0	13	0	1	311
05:30 PM	0	152	34	20	42	12	1	56	0	14	0	1	332
05:45 PM	0	143	43	22	30	7	3	57	0	14	0	0	319
Total	0	589	136	117	140	27	6	227	0	49	0	3	1294
Grand Total	0	1131	241	208	240	62	13	434	0	91	0	5	2425
Apprch %	0	82.4	17.6	40.8	47.1	12.2	2.9	97.1	0	94.8	0	5.2	
Total %	0	46.6	9.9	8.6	9.9	2.6	0.5	17.9	0	3.8	0	0.2	

	A Street From North				W 2nd St From East				A Street From South				W 2nd St 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 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	150	33	183	**39**	38	2	**79**	2	**59**	0	**61**	8	0	**1**	9	**332**
05:15 PM	0	144	26	170	36	30	6	72	0	55	0	55	13	0	1	14	311
05:30 PM	0	**152**	34	**186**	20	**42**	**12**	74	1	56	0	57	**14**	0	1	**15**	332
05:45 PM	0	143	**43**	186	22	30	7	59	**3**	57	0	60	14	0	0	14	319
Total Volume	0	589	136	725	117	140	27	284	6	227	0	233	49	0	3	52	1294
% App. Total	0	81.2	18.8		41.2	49.3	9.5		2.6	97.4	0		94.2	0	5.8		
PHF	.000	.969	.791	.974	.750	.833	.563	.899	.500	.962	.000	.955	.875	.000	.750	.867	.974

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 2



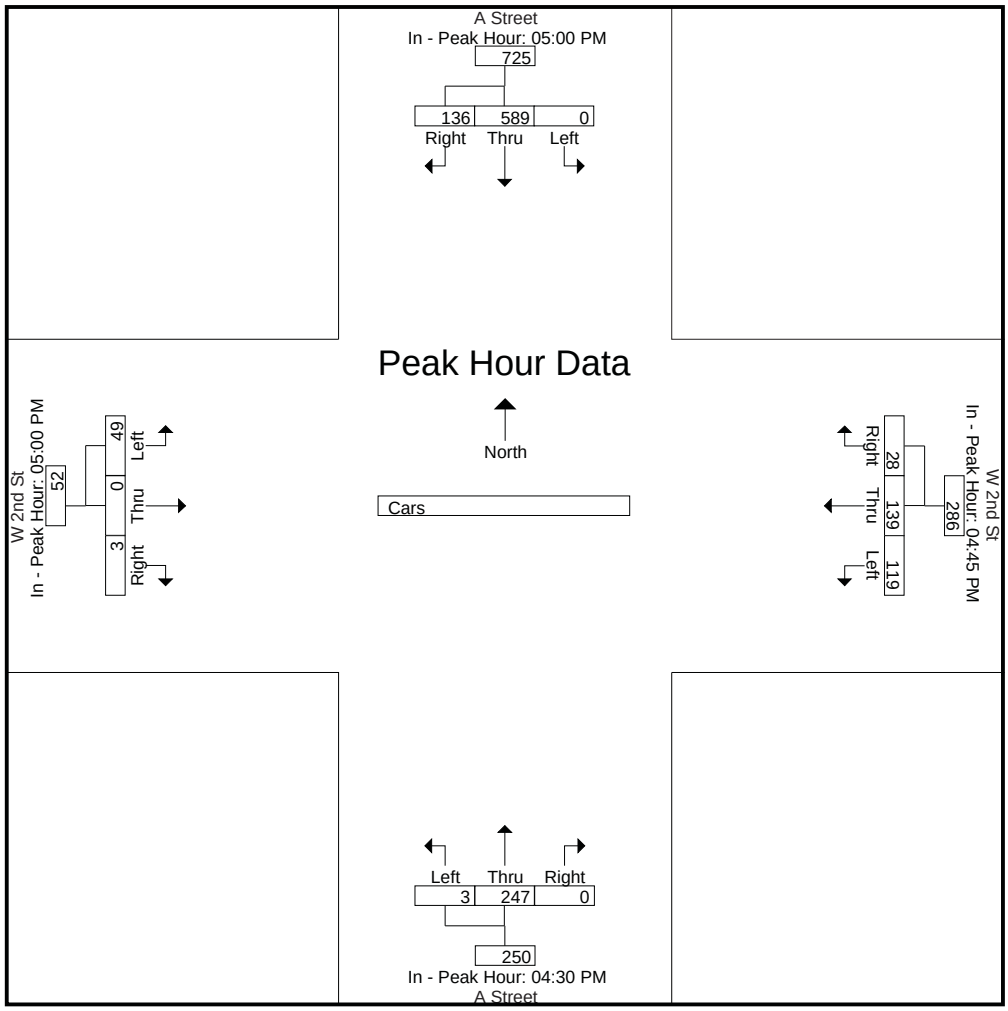
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:30 PM				05:00 PM			
+0 mins.	0	150	33	183	24	29	8	61	0	65	0	65	8	0	**1**	9
+15 mins.	0	144	26	170	**39**	38	2	**79**	1	**68**	0	**69**	13	0	1	14
+30 mins.	0	**152**	34	**186**	36	30	6	72	**2**	59	0	61	**14**	0	1	**15**
+45 mins.	0	143	**43**	186	20	**42**	**12**	74	0	55	0	55	14	0	0	14
Total Volume	0	589	136	725	119	139	28	286	3	247	0	250	49	0	3	52
% App. Total	0	81.2	18.8		41.6	48.6	9.8		1.2	98.8	0		94.2	0	5.8	
PHF	.000	.969	.791	.974	.763	.827	.583	.905	.375	.908	.000	.906	.875	.000	.750	.867

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 3



Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 1

Groups Printed- Trucks

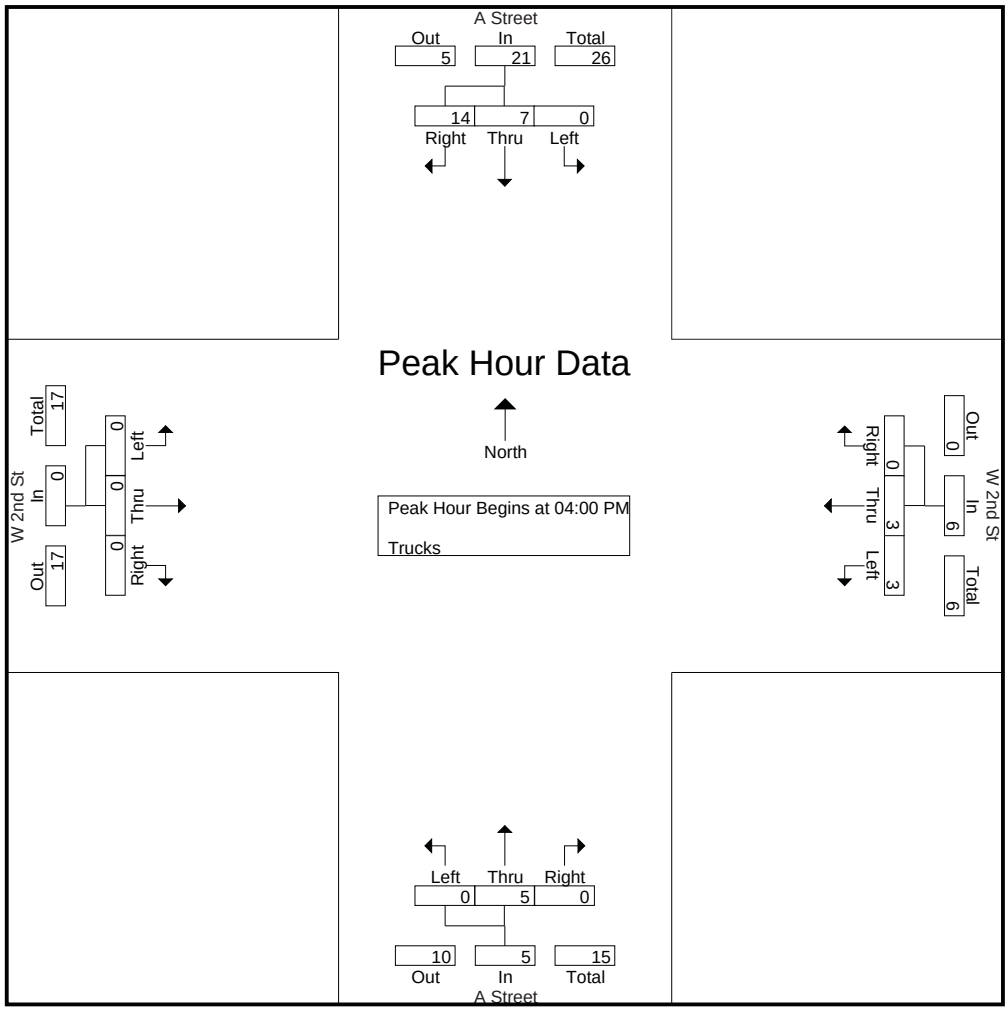
	A Street From North			W 2nd St From East			A Street From South			W 2nd St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	0	1	3	0	0	0	0	1	0	0	0	0	5
04:15 PM	0	2	3	1	0	0	0	4	0	0	0	0	10
04:30 PM	0	1	5	1	2	0	0	0	0	0	0	0	9
04:45 PM	0	3	3	1	1	0	0	0	0	0	0	0	8
Total	0	7	14	3	3	0	0	5	0	0	0	0	32
05:00 PM	0	1	1	0	1	0	0	0	0	0	0	0	3
05:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	2	2	0	1	0	0	1	0	0	0	0	6
05:45 PM	0	1	2	1	1	0	0	0	0	1	0	0	6
Total	0	5	6	1	3	0	0	1	0	1	0	0	17
Grand Total	0	12	20	4	6	0	0	6	0	1	0	0	49
Apprch %	0	37.5	62.5	40	60	0	0	100	0	100	0	0	
Total %	0	24.5	40.8	8.2	12.2	0	0	12.2	0	2	0	0	

	A Street From North				W 2nd St From East				A Street From South				W 2nd St 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 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	1	3	4	0	0	0	0	0	1	0	1	0	0	0	0	5
04:15 PM	0	2	3	5	**1**	0	0	1	0	**4**	0	**4**	0	0	0	0	**10**
04:30 PM	0	1	**5**	**6**	1	**2**	0	**3**	0	0	0	0	0	0	0	0	9
04:45 PM	0	**3**	3	6	1	1	0	2	0	0	0	0	0	0	0	0	8
Total Volume	0	7	14	21	3	3	0	6	0	5	0	5	0	0	0	0	32
% App. Total	0	33.3	66.7		50	50	0		0	100	0		0	0	0		
PHF	.000	.583	.700	.875	.750	.375	.000	.500	.000	.313	.000	.313	.000	.000	.000	.000	.800

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 2



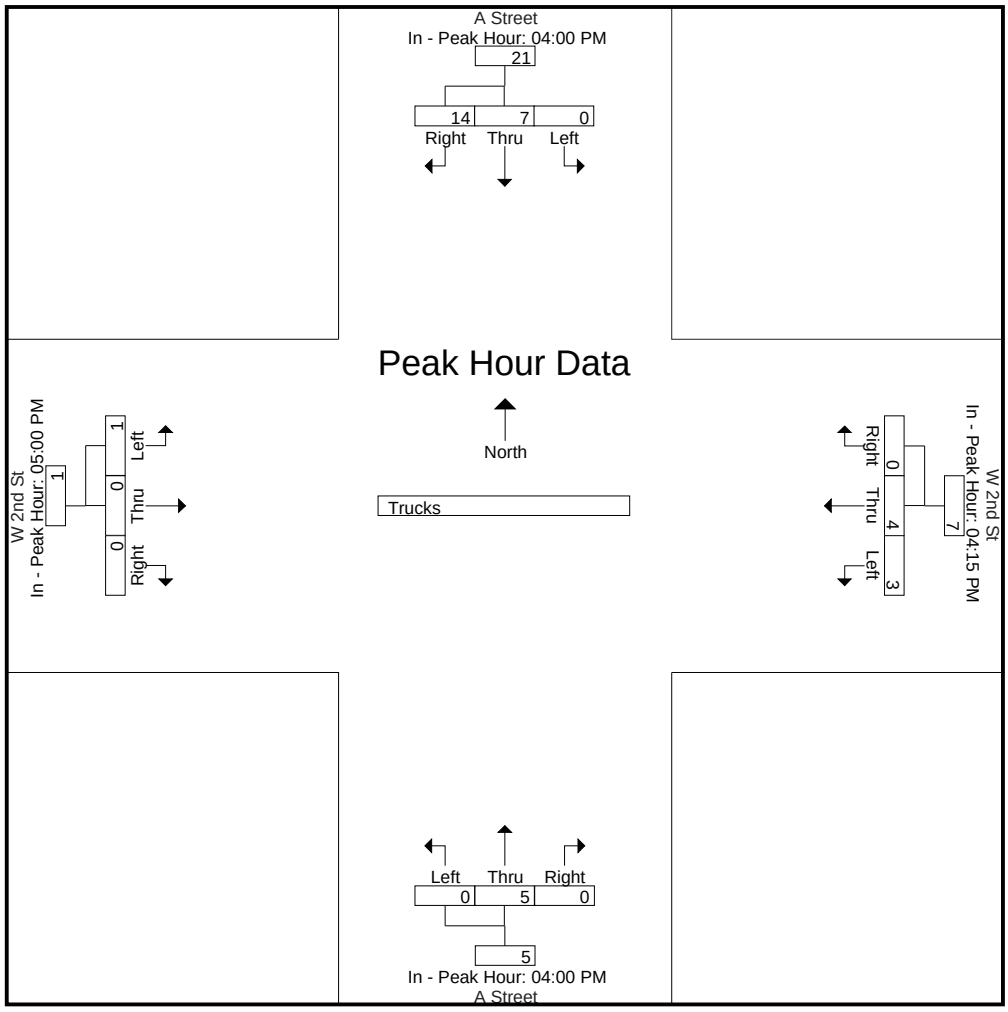
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:00 PM				05:00 PM			
+0 mins.	0	1	3	4	**1**	0	0	1	0	1	0	1	0	0	0	0
+15 mins.	0	2	3	5	1	**2**	0	**3**	0	**4**	0	**4**	0	0	0	0
+30 mins.	0	1	**5**	**6**	1	1	0	2	0	0	0	0	0	0	0	0
+45 mins.	0	**3**	3	6	0	1	0	1	0	0	0	0	**1**	0	0	**1**
Total Volume	0	7	14	21	3	4	0	7	0	5	0	5	1	0	0	1
% App. Total	0	33.3	66.7		42.9	57.1	0		0	100	0		100	0	0	
PHF	.000	.583	.700	.875	.750	.500	.000	.583	.000	.313	.000	.313	.250	.000	.000	.250

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 3



Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 1

Groups Printed- Bikes Peds

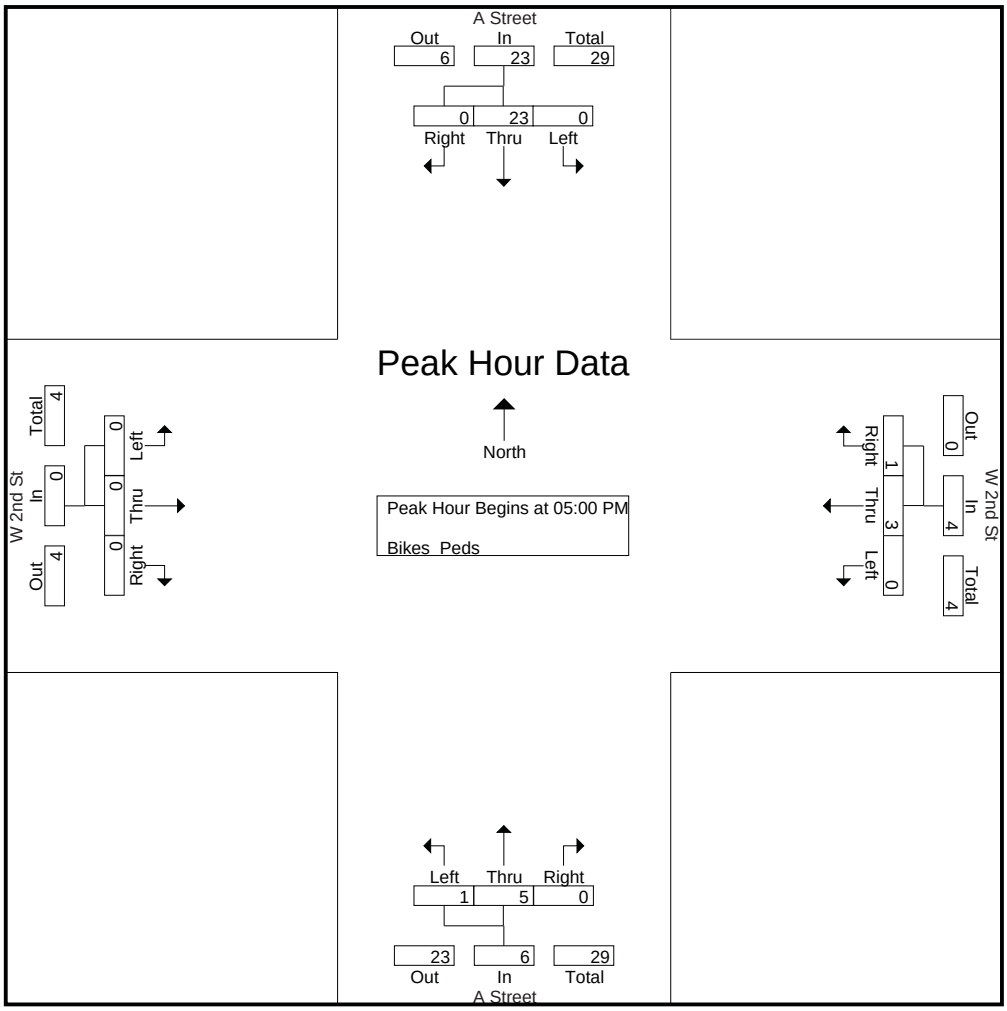
	A Street From North				W 2nd St From East				A Street From South				W 2nd St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	3	0	0	0	4	0	1	0	2	0	1	0	3	12	3	15
04:15 PM	0	3	0	6	0	0	1	8	0	1	0	1	0	0	0	1	16	5	21
04:30 PM	0	2	1	2	0	0	0	9	0	0	0	0	0	0	0	0	11	3	14
04:45 PM	0	4	0	4	0	0	0	13	0	1	0	0	0	0	0	9	26	5	31
Total	0	10	1	15	0	0	1	34	0	3	0	3	0	1	0	13	65	16	81
05:00 PM	0	3	0	3	0	0	0	18	0	1	0	7	0	0	0	7	35	4	39
05:15 PM	0	7	0	2	0	0	1	24	0	3	0	1	0	0	0	15	42	11	53
05:30 PM	0	6	0	5	0	2	0	21	0	0	0	3	0	0	0	8	37	8	45
05:45 PM	0	7	0	9	0	1	0	16	1	1	0	1	0	0	0	12	38	10	48
Total	0	23	0	19	0	3	1	79	1	5	0	12	0	0	0	42	152	33	185
Grand Total	0	33	1	34	0	3	2	113	1	8	0	15	0	1	0	55	217	49	266
Apprch %	0	97.1	2.9		0	60	40		11.1	88.9	0		0	100	0				
Total %	0	67.3	2		0	6.1	4.1		2	16.3	0		0	2	0		81.6	18.4	

	A Street From North				W 2nd St From East				A Street From South				W 2nd St 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 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	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
05:15 PM	0	**7**	0	**7**	0	0	**1**	1	0	**3**	0	**3**	0	0	0	0	**11**
05:30 PM	0	6	0	6	0	**2**	0	**2**	0	0	0	0	0	0	0	0	8
05:45 PM	0	7	0	7	0	1	0	1	**1**	1	0	2	0	0	0	0	10
Total Volume	0	23	0	23	0	3	1	4	1	5	0	6	0	0	0	0	33
% App. Total	0	100	0		0	75	25		16.7	83.3	0		0	0	0		
PHF	.000	.821	.000	.821	.000	.375	.250	.500	.250	.417	.000	.500	.000	.000	.000	.000	.750

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013



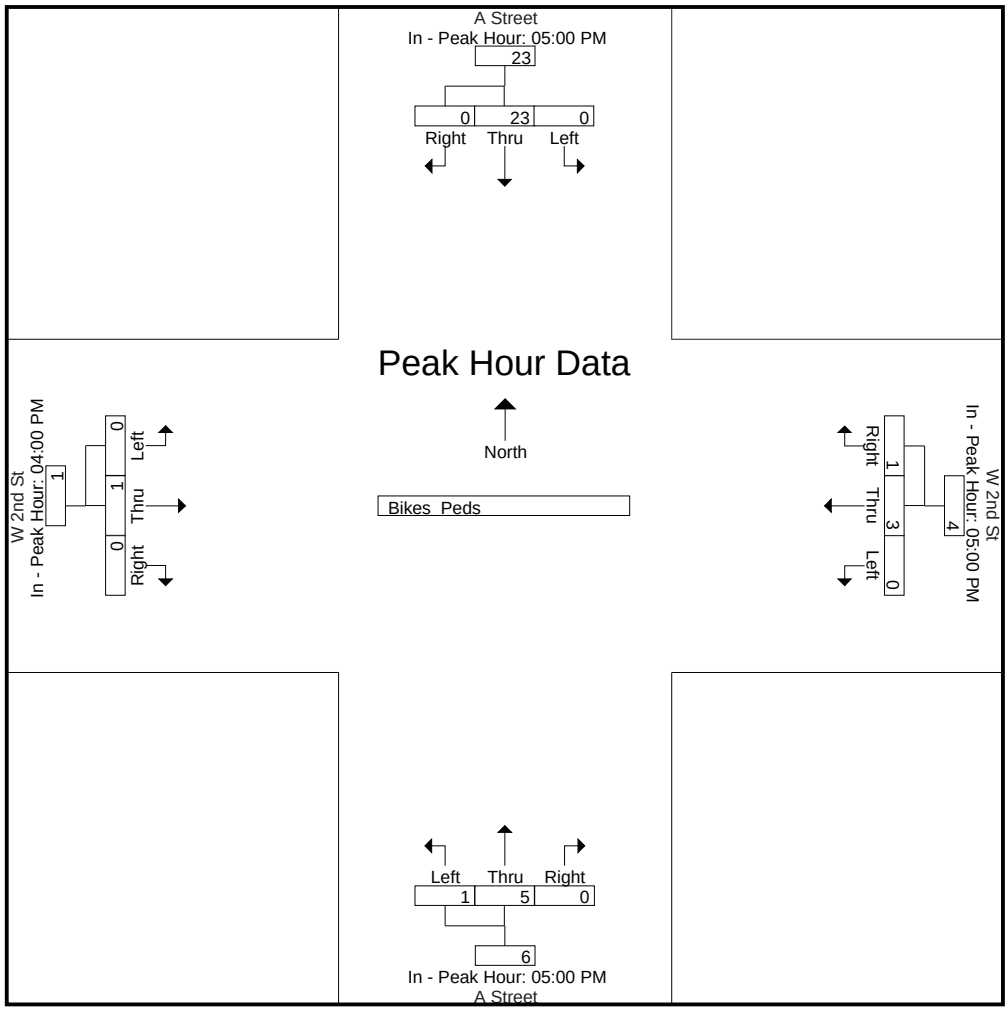
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				04:00 PM			
+0 mins.	0	3	0	3	0	0	0	0	0	1	0	1	0	**1**	0	**1**
+15 mins.	0	**7**	0	**7**	0	0	**1**	1	0	**3**	0	**3**	0	0	0	0
+30 mins.	0	6	0	6	0	**2**	0	**2**	0	0	0	0	0	0	0	0
+45 mins.	0	7	0	7	0	1	0	1	**1**	1	0	2	0	0	0	0
Total Volume	0	23	0	23	0	3	1	4	1	5	0	6	0	1	0	1
% App. Total	0	100	0		0	75	25		16.7	83.3	0		0	100	0	
PHF	.000	.821	.000	.821	.000	.375	.250	.500	.250	.417	.000	.500	.000	.250	.000	.250

Accurate Counts
978-664-2565

N/S Street : A Street
E/W Street : West 2nd Street
City/State : Boston, MA
Weather : Clear

File Name : 12117003
Site Code : 12117003
Start Date : 4/25/2013
Page No : 3



N/S: D Street
E/W: W. 1st Street
City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

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 : 133562 C
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	D Street From North				W. 1st Street From East				D Street From South				W. 1st 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	19	0	38	0	37	11	0	0	14	26	2	0	1	2	0	0	150
07:15 AM	14	0	52	0	32	17	0	0	12	30	1	0	0	5	0	0	163
07:30 AM	17	0	32	0	35	20	0	0	9	36	0	0	0	0	0	0	149
07:45 AM	22	0	43	0	44	30	0	0	15	44	2	0	0	1	0	0	201
Total	72	0	165	0	148	78	0	0	50	136	5	0	1	8	0	0	663
08:00 AM	25	0	32	0	37	28	0	0	7	35	2	0	0	0	0	0	166
08:15 AM	16	0	55	0	46	23	0	0	12	42	2	0	0	0	1	0	197
08:30 AM	22	0	55	0	51	27	0	0	8	47	0	0	0	0	0	0	210
08:45 AM	18	0	31	0	47	20	0	0	12	40	1	0	0	0	0	0	169
Total	81	0	173	0	181	98	0	0	39	164	5	0	0	0	1	0	742
Grand Total	153	0	338	0	329	176	0	0	89	300	10	0	1	8	1	0	1405
Apprch %	31.2	0	68.8	0	65.1	34.9	0	0	22.3	75.2	2.5	0	10	80	10	0	
Total %	10.9	0	24.1	0	23.4	12.5	0	0	6.3	21.4	0.7	0	0.1	0.6	0.1	0	
Cars	127	0	285	0	271	136	0	0	77	288	10	0	0	8	1	0	1203
% Cars	83	0	84.3	0	82.4	77.3	0	0	86.5	96	100	0	0	100	100	0	85.6
Heavy Vehicles	26	0	53	0	58	40	0	0	12	12	0	0	1	0	0	0	202
% Heavy Vehicles	17	0	15.7	0	17.6	22.7	0	0	13.5	4	0	0	100	0	0	0	14.4

	D Street From North					W. 1st Street From East					D Street From South					W. 1st 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 07:45 AM																					
07:45 AM	22	0	43	0	65	44	30	0	0	74	15	44	2	0	61	0	1	0	0	1	201
08:00 AM	25	0	32	0	57	37	28	0	0	65	7	35	2	0	44	0	0	0	0	0	166
08:15 AM	16	0	55	0	71	46	23	0	0	69	12	42	2	0	56	0	0	1	0	1	197
08:30 AM	22	0	55	0	77	51	27	0	0	78	8	47	0	0	55	0	0	0	0	0	210
Total Volume	85	0	185	0	270	178	108	0	0	286	42	168	6	0	216	0	1	1	0	2	774
% App. Total	31.5	0	68.5	0		62.2	37.8	0	0		19.4	77.8	2.8	0		0	50	50	0		
PHF	.850	.000	.841	.000	.877	.873	.900	.000	.000	.917	.700	.894	.750	.000	.885	.000	.250	.250	.000	.500	.921
Cars	69	0	157	0	226	152	83	0	0	235	39	163	6	0	208	0	1	1	0	2	671
% Cars	81.2	0	84.9	0	83.7	85.4	76.9	0	0	82.2	92.9	97.0	100	0	96.3	0	100	100	0	100	86.7
Heavy Vehicles	16	0	28	0	44	26	25	0	0	51	3	5	0	0	8	0	0	0	0	0	103
% Heavy Vehicles	18.8	0	15.1	0	16.3	14.6	23.1	0	0	17.8	7.1	3.0	0	0	3.7	0	0	0	0	0	13.3

N/S: D Street
E/W: W. 1st Street
City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
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File Name : 133562 C
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Cars

	D Street From North				W. 1st Street From East				D Street From South				W. 1st 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	16	0	34	0	26	8	0	0	9	26	2	0	0	2	0	0	123
07:15 AM	13	0	43	0	27	14	0	0	10	28	1	0	0	5	0	0	141
07:30 AM	15	0	26	0	34	16	0	0	8	33	0	0	0	0	0	0	132
07:45 AM	17	0	36	0	39	21	0	0	15	43	2	0	0	1	0	0	174
Total	61	0	139	0	126	59	0	0	42	130	5	0	0	8	0	0	570
08:00 AM	22	0	28	0	31	25	0	0	7	34	2	0	0	0	0	0	149
08:15 AM	11	0	45	0	39	15	0	0	9	41	2	0	0	0	1	0	163
08:30 AM	19	0	48	0	43	22	0	0	8	45	0	0	0	0	0	0	185
08:45 AM	14	0	25	0	32	15	0	0	11	38	1	0	0	0	0	0	136
Total	66	0	146	0	145	77	0	0	35	158	5	0	0	0	1	0	633
Grand Total	127	0	285	0	271	136	0	0	77	288	10	0	0	8	1	0	1203
Apprch %	30.8	0	69.2	0	66.6	33.4	0	0	20.5	76.8	2.7	0	0	88.9	11.1	0	
Total %	10.6	0	23.7	0	22.5	11.3	0	0	6.4	23.9	0.8	0	0	0.7	0.1	0	

	D Street From North					W. 1st Street From East					D Street From South					W. 1st 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 07:45 AM																					
07:45 AM	17	0	36	0	53	39	21	0	0	60	15	43	2	0	60	0	1	0	0	1	174
08:00 AM	22	0	28	0	50	31	25	0	0	56	7	34	2	0	43	0	0	0	0	0	149
08:15 AM	11	0	45	0	56	39	15	0	0	54	9	41	2	0	52	0	0	1	0	1	163
08:30 AM	19	0	48	0	67	43	22	0	0	65	8	45	0	0	53	0	0	0	0	0	185
Total Volume	69	0	157	0	226	152	83	0	0	235	39	163	6	0	208	0	1	1	0	2	671
% App. Total	30.5	0	69.5	0		64.7	35.3	0	0		18.8	78.4	2.9	0		0	50	50	0		
PHF	.784	.000	.818	.000	.843	.884	.830	.000	.000	.904	.650	.906	.750	.000	.867	.000	.250	.250	.000	.500	.907

N/S: D Street
E/W: W. 1st Street
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Client: Howard Stein-Hudson/ M. Santos

PRECISION DATA INDUSTRIES, LLC
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File Name : 133562 C
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Heavy Vehicles

	D Street From North				W. 1st Street From East				D Street From South				W. 1st 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	3	0	4	0	11	3	0	0	5	0	0	0	1	0	0	0	27
07:15 AM	1	0	9	0	5	3	0	0	2	2	0	0	0	0	0	0	22
07:30 AM	2	0	6	0	1	4	0	0	1	3	0	0	0	0	0	0	17
07:45 AM	5	0	7	0	5	9	0	0	0	1	0	0	0	0	0	0	27
Total	11	0	26	0	22	19	0	0	8	6	0	0	1	0	0	0	93
08:00 AM	3	0	4	0	6	3	0	0	0	1	0	0	0	0	0	0	17
08:15 AM	5	0	10	0	7	8	0	0	3	1	0	0	0	0	0	0	34
08:30 AM	3	0	7	0	8	5	0	0	0	2	0	0	0	0	0	0	25
08:45 AM	4	0	6	0	15	5	0	0	1	2	0	0	0	0	0	0	33
Total	15	0	27	0	36	21	0	0	4	6	0	0	0	0	0	0	109
Grand Total	26	0	53	0	58	40	0	0	12	12	0	0	1	0	0	0	202
Apprch %	32.9	0	67.1	0	59.2	40.8	0	0	50	50	0	0	100	0	0	0	
Total %	12.9	0	26.2	0	28.7	19.8	0	0	5.9	5.9	0	0	0.5	0	0	0	

	D Street From North					W. 1st Street From East					D Street From South					W. 1st 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 08:00 AM																					
08:00 AM	3	0	4	0	7	6	3	0	0	9	0	1	0	0	1	0	0	0	0	0	17
08:15 AM	5	0	10	0	15	7	8	0	0	15	3	1	0	0	4	0	0	0	0	0	34
08:30 AM	3	0	7	0	10	8	5	0	0	13	0	2	0	0	2	0	0	0	0	0	25
08:45 AM	4	0	6	0	10	15	5	0	0	20	1	2	0	0	3	0	0	0	0	0	33
Total Volume	15	0	27	0	42	36	21	0	0	57	4	6	0	0	10	0	0	0	0	0	109
% App. Total	35.7	0	64.3	0		63.2	36.8	0	0		40	60	0	0		0	0	0	0		
PHF	.750	.000	.675	.000	.700	.600	.656	.000	.000	.713	.333	.750	.000	.000	.625	.000	.000	.000	.000	.000	.801

N/S: D Street
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File Name : 133562 C
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Peds and Bikes

	D Street From North				W. 1st Street From East				D Street From South				W. 1st 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	1	0	0	0	0	1	0	4	0	0	0	1	0	0	0	3	10
07:15 AM	0	0	0	0	0	0	0	6	1	0	0	2	0	0	0	5	14
07:30 AM	0	0	0	0	0	2	0	5	0	0	0	2	0	0	0	4	13
07:45 AM	0	0	0	1	0	0	0	8	0	0	0	2	0	0	0	5	16
Total	1	0	0	1	0	3	0	23	1	0	0	7	0	0	0	17	53
08:00 AM	0	0	1	0	1	1	0	4	0	2	0	0	0	0	0	4	13
08:15 AM	0	0	0	0	3	0	0	12	0	5	0	0	0	0	0	1	21
08:30 AM	0	0	0	0	1	0	0	6	0	2	0	0	0	0	0	4	13
08:45 AM	0	0	0	1	1	0	0	9	0	5	0	0	0	0	0	0	16
Total	0	0	1	1	6	1	0	31	0	14	0	0	0	0	0	9	63
Grand Total	1	0	1	2	6	4	0	54	1	14	0	7	0	0	0	26	116
Apprch %	25	0	25	50	9.4	6.2	0	84.4	4.5	63.6	0	31.8	0	0	0	100	
Total %	0.9	0	0.9	1.7	5.2	3.4	0	46.6	0.9	12.1	0	6	0	0	0	22.4	

	D Street From North					W. 1st Street From East					D Street From South					W. 1st 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 07:30 AM																					
07:30 AM	0	0	0	0	0	0	2	0	5	7	0	0	0	2	2	0	0	0	4	4	13
07:45 AM	0	0	0	1	1	0	0	0	8	8	0	0	0	2	2	0	0	0	5	5	16
08:00 AM	0	0	1	0	1	1	1	0	4	6	0	2	0	0	2	0	0	0	4	4	13
08:15 AM	0	0	0	0	0	3	0	0	12	15	0	5	0	0	5	0	0	0	1	1	21
Total Volume	0	0	1	1	2	4	3	0	29	36	0	7	0	4	11	0	0	0	14	14	63
% App. Total	0	0	50	50		11.1	8.3	0	80.6		0	63.6	0	36.4		0	0	0	100		
PHF	.000	.000	.250	.250	.500	.333	.375	.000	.604	.600	.000	.350	.000	.500	.550	.000	.000	.000	.700	.700	.750

N/S: D Street
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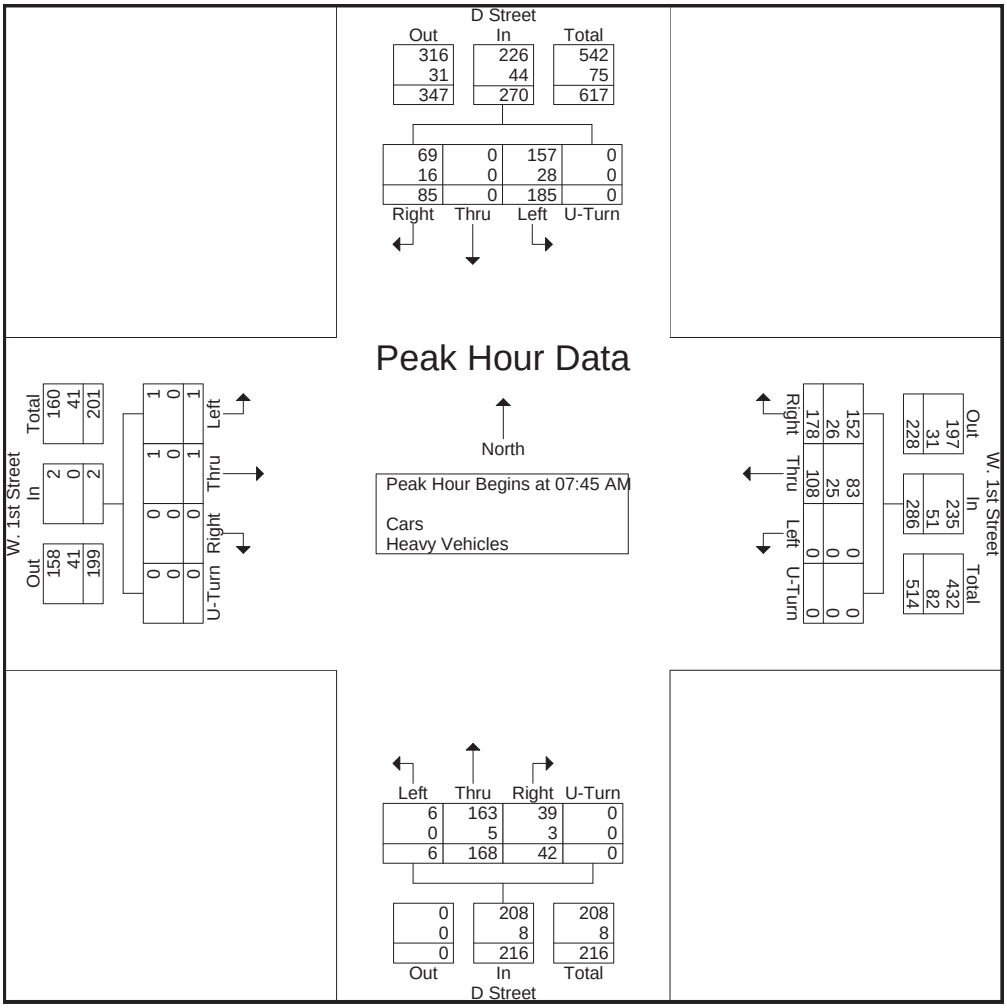
	D Street From North					W. 1st Street From East					D Street From South					W. 1st Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	22	0	43	0	65	44	30	0	0	74	15	44	2	0	61	0	1	0	0	1	201
08:00 AM	25	0	32	0	57	37	28	0	0	65	7	35	2	0	44	0	0	0	0	0	166
08:15 AM	16	0	55	0	71	46	23	0	0	69	12	42	2	0	56	0	0	1	0	1	197
08:30 AM	22	0	55	0	77	51	27	0	0	78	8	47	0	0	55	0	0	0	0	0	210
Total Volume	85	0	185	0	270	178	108	0	0	286	42	168	6	0	216	0	1	1	0	2	774
% App. Total	31.5	0	68.5	0		62.2	37.8	0	0		19.4	77.8	2.8	0		0	50	50	0		
PHF	.850	.000	.841	.000	.877	.873	.900	.000	.000	.917	.700	.894	.750	.000	.885	.000	.250	.250	.000	.500	.921
Cars	69	0	157	0	226	152	83	0	0	235	39	163	6	0	208	0	1	1	0	2	671
% Cars	81.2	0	84.9	0	83.7	85.4	76.9	0	0	82.2	92.9	97.0	100	0	96.3	0	100	100	0	100	86.7
Heavy Vehicles	16	0	28	0	44	26	25	0	0	51	3	5	0	0	8	0	0	0	0	0	103
% Heavy Vehicles	18.8	0	15.1	0	16.3	14.6	23.1	0	0	17.8	7.1	3.0	0	0	3.7	0	0	0	0	0	13.3



N/S: D Street
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Page No : 1

Groups Printed- Cars - Heavy Vehicles

	D Street From North				W. 1st Street From East				D Street From South				W. 1st 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	27	0	62	0	29	15	0	0	12	14	1	0	0	20	1	0	181
04:15 PM	22	0	62	0	26	18	0	0	13	17	1	0	0	13	3	0	175
04:30 PM	26	0	86	0	33	25	0	0	14	21	0	0	0	16	3	0	224
04:45 PM	16	0	52	0	20	12	0	0	12	19	0	0	0	13	1	0	145
Total	91	0	262	0	108	70	0	0	51	71	2	0	0	62	8	0	725
05:00 PM	38	0	74	0	27	19	0	0	13	17	0	0	0	10	2	0	200
05:15 PM	33	0	84	0	21	20	0	0	14	27	0	0	0	11	2	0	212
05:30 PM	43	0	96	0	16	14	0	0	13	15	1	0	0	9	2	0	209
05:45 PM	41	0	76	0	15	22	0	0	13	20	0	0	0	10	1	0	198
Total	155	0	330	0	79	75	0	0	53	79	1	0	0	40	7	0	819
Grand Total	246	0	592	0	187	145	0	0	104	150	3	0	0	102	15	0	1544
Apprch %	29.4	0	70.6	0	56.3	43.7	0	0	40.5	58.4	1.2	0	0	87.2	12.8	0	
Total %	15.9	0	38.3	0	12.1	9.4	0	0	6.7	9.7	0.2	0	0	6.6	1	0	
Cars	236	0	572	0	175	136	0	0	94	147	3	0	0	88	15	0	1466
% Cars	95.9	0	96.6	0	93.6	93.8	0	0	90.4	98	100	0	0	86.3	100	0	94.9
Heavy Vehicles	10	0	20	0	12	9	0	0	10	3	0	0	0	14	0	0	78
% Heavy Vehicles	4.1	0	3.4	0	6.4	6.2	0	0	9.6	2	0	0	0	13.7	0	0	5.1

	D Street From North					W. 1st Street From East					D Street From South					W. 1st 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 05:00 PM																					
05:00 PM	38	0	74	0	112	27	19	0	0	46	13	17	0	0	30	0	10	2	0	12	200
05:15 PM	33	0	84	0	117	21	20	0	0	41	14	27	0	0	41	0	11	2	0	13	212
05:30 PM	43	0	96	0	139	16	14	0	0	30	13	15	1	0	29	0	9	2	0	11	209
05:45 PM	41	0	76	0	117	15	22	0	0	37	13	20	0	0	33	0	10	1	0	11	198
Total Volume	155	0	330	0	485	79	75	0	0	154	53	79	1	0	133	0	40	7	0	47	819
% App. Total	32	0	68	0		51.3	48.7	0	0		39.8	59.4	0.8	0		0	85.1	14.9	0		
PHF	.901	.000	.859	.000	.872	.731	.852	.000	.000	.837	.946	.731	.250	.000	.811	.000	.909	.875	.000	.904	.966
Cars	151	0	319	0	470	77	69	0	0	146	49	79	1	0	129	0	35	7	0	42	787
% Cars	97.4	0	96.7	0	96.9	97.5	92.0	0	0	94.8	92.5	100	100	0	97.0	0	87.5	100	0	89.4	96.1
Heavy Vehicles	4	0	11	0	15	2	6	0	0	8	4	0	0	0	4	0	5	0	0	5	32
% Heavy Vehicles	2.6	0	3.3	0	3.1	2.5	8.0	0	0	5.2	7.5	0	0	0	3.0	0	12.5	0	0	10.6	3.9

N/S: D Street
E/W: W. 1st Street
City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

PRECISION DATA INDUSTRIES, LLC
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File Name : 133562 CC
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Cars

	D Street From North				W. 1st Street From East				D Street From South				W. 1st 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	25	0	58	0	26	15	0	0	11	13	1	0	0	17	1	0	167
04:15 PM	20	0	59	0	21	17	0	0	10	15	1	0	0	13	3	0	159
04:30 PM	25	0	86	0	31	24	0	0	12	21	0	0	0	11	3	0	213
04:45 PM	15	0	50	0	20	11	0	0	12	19	0	0	0	12	1	0	140
Total	85	0	253	0	98	67	0	0	45	68	2	0	0	53	8	0	679
05:00 PM	36	0	72	0	27	18	0	0	12	17	0	0	0	10	2	0	194
05:15 PM	32	0	80	0	20	17	0	0	14	27	0	0	0	9	2	0	201
05:30 PM	42	0	94	0	15	13	0	0	11	15	1	0	0	8	2	0	201
05:45 PM	41	0	73	0	15	21	0	0	12	20	0	0	0	8	1	0	191
Total	151	0	319	0	77	69	0	0	49	79	1	0	0	35	7	0	787
Grand Total	236	0	572	0	175	136	0	0	94	147	3	0	0	88	15	0	1466
Apprch %	29.2	0	70.8	0	56.3	43.7	0	0	38.5	60.2	1.2	0	0	85.4	14.6	0	
Total %	16.1	0	39	0	11.9	9.3	0	0	6.4	10	0.2	0	0	6	1	0	

	D Street From North					W. 1st Street From East					D Street From South					W. 1st 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 05:00 PM																					
05:00 PM	36	0	72	0	108	27	18	0	0	45	12	17	0	0	29	0	10	2	0	12	194
05:15 PM	32	0	80	0	112	20	17	0	0	37	14	27	0	0	41	0	9	2	0	11	201
05:30 PM	42	0	94	0	136	15	13	0	0	28	11	15	1	0	27	0	8	2	0	10	201
05:45 PM	41	0	73	0	114	15	21	0	0	36	12	20	0	0	32	0	8	1	0	9	191
Total Volume	151	0	319	0	470	77	69	0	0	146	49	79	1	0	129	0	35	7	0	42	787
% App. Total	32.1	0	67.9	0		52.7	47.3	0	0		38	61.2	0.8	0		0	83.3	16.7	0		
PHF	.899	.000	.848	.000	.864	.713	.821	.000	.000	.811	.875	.731	.250	.000	.787	.000	.875	.875	.000	.875	.979

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File Name : 133562 CC
Site Code : 13151
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Groups Printed- Heavy Vehicles

	D Street From North				W. 1st Street From East				D Street From South				W. 1st 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	2	0	4	0	3	0	0	0	1	1	0	0	0	3	0	0	14
04:15 PM	2	0	3	0	5	1	0	0	3	2	0	0	0	0	0	0	16
04:30 PM	1	0	0	0	2	1	0	0	2	0	0	0	0	5	0	0	11
04:45 PM	1	0	2	0	0	1	0	0	0	0	0	0	0	1	0	0	5
Total	6	0	9	0	10	3	0	0	6	3	0	0	0	9	0	0	46
05:00 PM	2	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	6
05:15 PM	1	0	4	0	1	3	0	0	0	0	0	0	0	2	0	0	11
05:30 PM	1	0	2	0	1	1	0	0	2	0	0	0	0	1	0	0	8
05:45 PM	0	0	3	0	0	1	0	0	1	0	0	0	0	2	0	0	7
Total	4	0	11	0	2	6	0	0	4	0	0	0	0	5	0	0	32
Grand Total	10	0	20	0	12	9	0	0	10	3	0	0	0	14	0	0	78
Apprch %	33.3	0	66.7	0	57.1	42.9	0	0	76.9	23.1	0	0	0	100	0	0	
Total %	12.8	0	25.6	0	15.4	11.5	0	0	12.8	3.8	0	0	0	17.9	0	0	

	D Street From North					W. 1st Street From East					D Street From South					W. 1st 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 04:00 PM																					
04:00 PM	2	0	4	0	6	3	0	0	0	3	1	1	0	0	2	0	3	0	0	3	14
04:15 PM	2	0	3	0	5	5	1	0	0	6	3	2	0	0	5	0	0	0	0	0	16
04:30 PM	1	0	0	0	1	2	1	0	0	3	2	0	0	0	2	0	5	0	0	5	11
04:45 PM	1	0	2	0	3	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	5
Total Volume	6	0	9	0	15	10	3	0	0	13	6	3	0	0	9	0	9	0	0	9	46
% App. Total	40	0	60	0		76.9	23.1	0	0		66.7	33.3	0	0		0	100	0	0		
PHF	.750	.000	.563	.000	.625	.500	.750	.000	.000	.542	.500	.375	.000	.000	.450	.000	.450	.000	.000	.450	.719

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Groups Printed- Peds and Bikes

	D Street From North				W. 1st Street From East				D Street From South				W. 1st 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	1	0	0	2	0	1	0	0	0	0	0	1	0	0	5
04:15 PM	0	1	0	0	0	0	0	2	0	1	0	0	0	0	0	1	5
04:30 PM	0	2	0	0	1	0	0	5	0	0	0	2	0	0	0	1	11
04:45 PM	1	2	2	0	0	0	0	3	0	0	0	1	0	0	0	0	9
Total	1	5	3	0	1	2	0	11	0	1	0	3	0	1	0	2	30
05:00 PM	1	4	0	4	0	0	0	5	1	0	0	0	0	0	0	4	19
05:15 PM	0	4	0	2	0	0	0	7	0	0	0	1	0	1	0	6	21
05:30 PM	1	3	2	1	0	0	0	9	0	0	0	0	0	0	0	7	23
05:45 PM	1	6	1	1	0	1	0	7	1	0	0	1	0	0	0	1	20
Total	3	17	3	8	0	1	0	28	2	0	0	2	0	1	0	18	83
Grand Total	4	22	6	8	1	3	0	39	2	1	0	5	0	2	0	20	113
Apprch %	10	55	15	20	2.3	7	0	90.7	25	12.5	0	62.5	0	9.1	0	90.9	
Total %	3.5	19.5	5.3	7.1	0.9	2.7	0	34.5	1.8	0.9	0	4.4	0	1.8	0	17.7	

	D Street From North					W. 1st Street From East					D Street From South					W. 1st 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 05:00 PM																					
05:00 PM	1	4	0	4	9	0	0	0	5	5	1	0	0	0	1	0	0	0	4	4	19
05:15 PM	0	4	0	2	6	0	0	0	7	7	0	0	0	1	1	0	1	0	6	7	21
05:30 PM	1	3	2	1	7	0	0	0	9	9	0	0	0	0	0	0	0	0	7	7	23
05:45 PM	1	6	1	1	9	0	1	0	7	8	1	0	0	1	2	0	0	0	1	1	20
Total Volume	3	17	3	8	31	0	1	0	28	29	2	0	0	2	4	0	1	0	18	19	83
% App. Total	9.7	54.8	9.7	25.8		0	3.4	0	96.6		50	0	0	50		0	5.3	0	94.7		
PHF	.750	.708	.375	.500	.861	.000	.250	.000	.778	.806	.500	.000	.000	.500	.500	.000	.250	.000	.643	.679	.902

N/S: D Street
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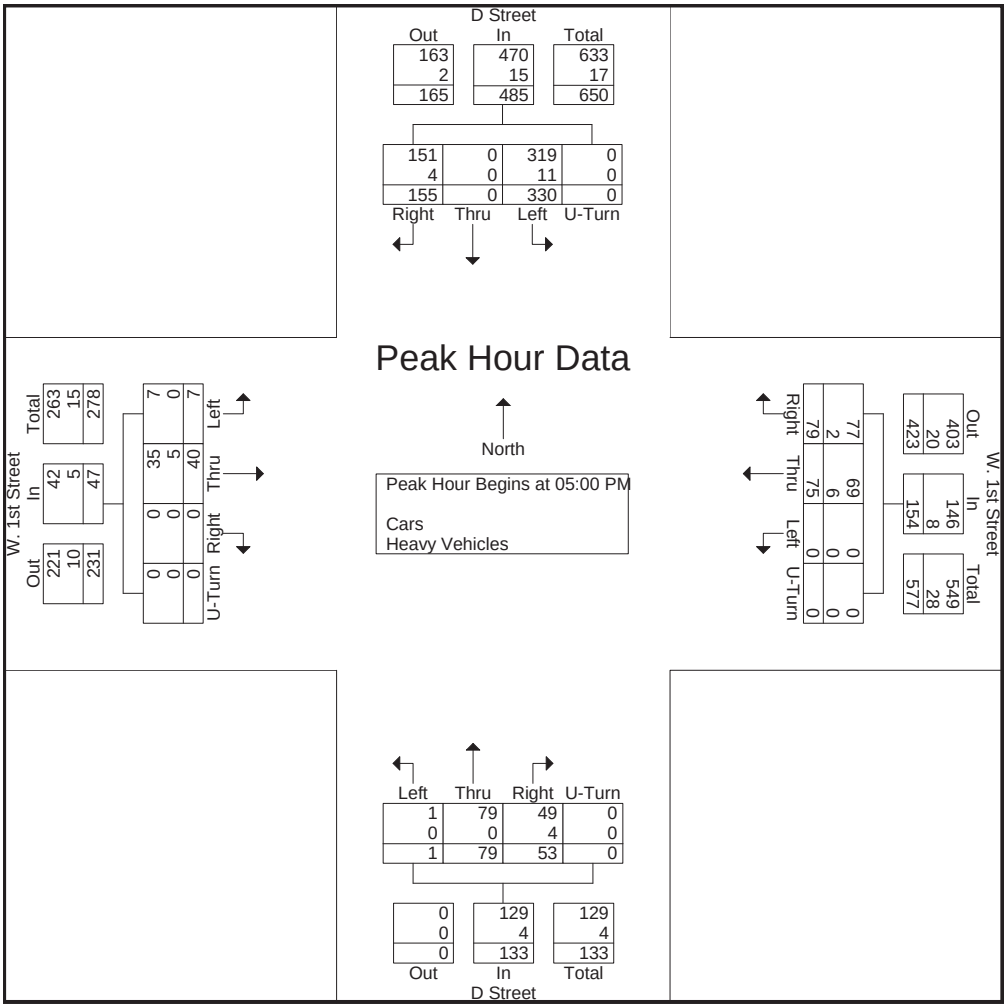
	D Street From North					W. 1st Street From East					D Street From South					W. 1st Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	38	0	74	0	112	27	19	0	0	46	13	17	0	0	30	0	10	2	0	12	200
05:15 PM	33	0	84	0	117	21	20	0	0	41	14	27	0	0	41	0	11	2	0	13	212
05:30 PM	43	0	96	0	139	16	14	0	0	30	13	15	1	0	29	0	9	2	0	11	209
05:45 PM	41	0	76	0	117	15	22	0	0	37	13	20	0	0	33	0	10	1	0	11	198
Total Volume	155	0	330	0	485	79	75	0	0	154	53	79	1	0	133	0	40	7	0	47	819
% App. Total	32	0	68	0		51.3	48.7	0	0		39.8	59.4	0.8	0		0	85.1	14.9	0		
PHF	.901	.000	.859	.000	.872	.731	.852	.000	.000	.837	.946	.731	.250	.000	.811	.000	.909	.875	.000	.904	.966
Cars	151	0	319	0	470	77	69	0	0	146	49	79	1	0	129	0	35	7	0	42	787
% Cars	97.4	0	96.7	0	96.9	97.5	92.0	0	0	94.8	92.5	100	100	0	97.0	0	87.5	100	0	89.4	96.1
Heavy Vehicles	4	0	11	0	15	2	6	0	0	8	4	0	0	0	4	0	5	0	0	5	32
% Heavy Vehicles	2.6	0	3.3	0	3.1	2.5	8.0	0	0	5.2	7.5	0	0	0	3.0	0	12.5	0	0	10.6	3.9



N/S: C Street
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Client: Howard Stein-Hudson/ M. Santos

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File Name : 133562 A
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Groups Printed- Cars - Heavy Vehicles

	C Street From North				W. 1st Street From East				C Street From South				W. 1st 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	0	0	0	3	33	1	0	4	5	3	0	0	0	1	0	50
07:15 AM	0	0	0	0	0	33	0	0	2	12	7	0	0	1	0	0	55
07:30 AM	0	0	0	0	2	33	0	0	0	12	12	0	0	0	0	0	59
07:45 AM	0	0	0	0	2	48	0	0	1	12	3	0	0	0	5	0	71
Total	0	0	0	0	7	147	1	0	7	41	25	0	0	1	6	0	235
08:00 AM	0	0	0	0	4	48	0	0	0	15	0	0	0	0	3	0	70
08:15 AM	0	0	0	0	1	36	0	0	0	16	2	0	0	0	2	0	57
08:30 AM	1	0	0	0	1	52	0	0	0	29	4	0	0	0	1	0	88
08:45 AM	0	0	0	0	0	42	0	0	0	16	3	0	0	0	1	1	63
Total	1	0	0	0	6	178	0	0	0	76	9	0	0	0	7	1	278
Grand Total	1	0	0	0	13	325	1	0	7	117	34	0	0	1	13	1	513
Apprch %	100	0	0	0	3.8	95.9	0.3	0	4.4	74.1	21.5	0	0	6.7	86.7	6.7	
Total %	0.2	0	0	0	2.5	63.4	0.2	0	1.4	22.8	6.6	0	0	0.2	2.5	0.2	
Cars	1	0	0	0	8	253	0	0	6	103	32	0	0	1	9	1	414
% Cars	100	0	0	0	61.5	77.8	0	0	85.7	88	94.1	0	0	100	69.2	100	80.7
Heavy Vehicles	0	0	0	0	5	72	1	0	1	14	2	0	0	0	4	0	99
% Heavy Vehicles	0	0	0	0	38.5	22.2	100	0	14.3	12	5.9	0	0	0	30.8	0	19.3

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 07:45 AM																					
07:45 AM	0	0	0	0	0	2	48	0	0	50	1	12	3	0	16	0	0	5	0	5	71
08:00 AM	0	0	0	0	0	4	48	0	0	52	0	15	0	0	15	0	0	3	0	3	70
08:15 AM	0	0	0	0	0	1	36	0	0	37	0	16	2	0	18	0	0	2	0	2	57
08:30 AM	1	0	0	0	1	1	52	0	0	53	0	29	4	0	33	0	0	1	0	1	88
Total Volume	1	0	0	0	1	8	184	0	0	192	1	72	9	0	82	0	0	11	0	11	286
% App. Total	100	0	0	0		4.2	95.8	0	0		1.2	87.8	11	0		0	0	100	0		
PHF	.250	.000	.000	.000	.250	.500	.885	.000	.000	.906	.250	.621	.563	.000	.621	.000	.000	.550	.000	.550	.813
Cars	1	0	0	0	1	4	141	0	0	145	0	62	8	0	70	0	0	9	0	9	225
% Cars	100	0	0	0	100	50.0	76.6	0	0	75.5	0	86.1	88.9	0	85.4	0	0	81.8	0	81.8	78.7
Heavy Vehicles	0	0	0	0	0	4	43	0	0	47	1	10	1	0	12	0	0	2	0	2	61
% Heavy Vehicles	0	0	0	0	0	50.0	23.4	0	0	24.5	100	13.9	11.1	0	14.6	0	0	18.2	0	18.2	21.3

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Groups Printed- Cars

	C Street From North				W. 1st Street From East				C Street From South				W. 1st 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	0	0	0	2	26	0	0	4	4	3	0	0	0	0	0	39
07:15 AM	0	0	0	0	0	29	0	0	2	11	7	0	0	1	0	0	50
07:30 AM	0	0	0	0	2	26	0	0	0	11	11	0	0	0	0	0	50
07:45 AM	0	0	0	0	0	33	0	0	0	12	3	0	0	0	5	0	53
Total	0	0	0	0	4	114	0	0	6	38	24	0	0	1	5	0	192
08:00 AM	0	0	0	0	3	43	0	0	0	13	0	0	0	0	2	0	61
08:15 AM	0	0	0	0	0	24	0	0	0	12	2	0	0	0	1	0	39
08:30 AM	1	0	0	0	1	41	0	0	0	25	3	0	0	0	1	0	72
08:45 AM	0	0	0	0	0	31	0	0	0	15	3	0	0	0	0	1	50
Total	1	0	0	0	4	139	0	0	0	65	8	0	0	0	4	1	222
Grand Total	1	0	0	0	8	253	0	0	6	103	32	0	0	1	9	1	414
Apprch %	100	0	0	0	3.1	96.9	0	0	4.3	73	22.7	0	0	9.1	81.8	9.1	
Total %	0.2	0	0	0	1.9	61.1	0	0	1.4	24.9	7.7	0	0	0.2	2.2	0.2	

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 07:45 AM																					
07:45 AM	0	0	0	0	0	0	33	0	0	33	0	12	3	0	15	0	0	5	0	5	53
08:00 AM	0	0	0	0	0	3	43	0	0	46	0	13	0	0	13	0	0	2	0	2	61
08:15 AM	0	0	0	0	0	0	24	0	0	24	0	12	2	0	14	0	0	1	0	1	39
08:30 AM	1	0	0	0	1	1	41	0	0	42	0	25	3	0	28	0	0	1	0	1	72
Total Volume	1	0	0	0	1	4	141	0	0	145	0	62	8	0	70	0	0	9	0	9	225
% App. Total	100	0	0	0		2.8	97.2	0	0		0	88.6	11.4	0		0	0	100	0		
PHF	.250	.000	.000	.000	.250	.333	.820	.000	.000	.788	.000	.620	.667	.000	.625	.000	.000	.450	.000	.450	.781

N/S: C Street
E/W: W. 1st Street
City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
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File Name : 133562 A
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Heavy Vehicles

	C Street From North				W. 1st Street From East				C Street From South				W. 1st 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	0	0	0	1	7	1	0	0	1	0	0	0	0	1	0	11
07:15 AM	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	5
07:30 AM	0	0	0	0	0	7	0	0	0	1	1	0	0	0	0	0	9
07:45 AM	0	0	0	0	2	15	0	0	1	0	0	0	0	0	0	0	18
Total	0	0	0	0	3	33	1	0	1	3	1	0	0	0	1	0	43
08:00 AM	0	0	0	0	1	5	0	0	0	2	0	0	0	0	1	0	9
08:15 AM	0	0	0	0	1	12	0	0	0	4	0	0	0	0	1	0	18
08:30 AM	0	0	0	0	0	11	0	0	0	4	1	0	0	0	0	0	16
08:45 AM	0	0	0	0	0	11	0	0	0	1	0	0	0	0	1	0	13
Total	0	0	0	0	2	39	0	0	0	11	1	0	0	0	3	0	56
Grand Total	0	0	0	0	5	72	1	0	1	14	2	0	0	0	4	0	99
Apprch %	0	0	0	0	6.4	92.3	1.3	0	5.9	82.4	11.8	0	0	0	100	0	
Total %	0	0	0	0	5.1	72.7	1	0	1	14.1	2	0	0	0	4	0	

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 07:45 AM																					
07:45 AM	0	0	0	0	0	2	15	0	0	17	1	0	0	0	1	0	0	0	0	0	18
08:00 AM	0	0	0	0	0	1	5	0	0	6	0	2	0	0	2	0	0	1	0	1	9
08:15 AM	0	0	0	0	0	1	12	0	0	13	0	4	0	0	4	0	0	1	0	1	18
08:30 AM	0	0	0	0	0	0	11	0	0	11	0	4	1	0	5	0	0	0	0	0	16
Total Volume	0	0	0	0	0	4	43	0	0	47	1	10	1	0	12	0	0	2	0	2	61
% App. Total	0	0	0	0		8.5	91.5	0	0		8.3	83.3	8.3	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.717	.000	.000	.691	.250	.625	.250	.000	.600	.000	.000	.500	.000	.500	.847

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File Name : 133562 A
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Peds and Bikes

	C Street From North				W. 1st Street From East				C Street From South				W. 1st 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	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	3	0	2	0	1	0	0	0	1	0	2	9
08:00 AM	0	0	0	1	0	0	0	3	0	1	0	1	0	0	0	1	7
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:45 AM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	4
Total	0	0	0	2	0	0	0	3	0	2	0	3	0	0	1	2	13
Grand Total	0	0	0	2	0	3	0	5	0	3	0	3	0	1	1	4	22
Apprch %	0	0	0	100	0	37.5	0	62.5	0	50	0	50	0	16.7	16.7	66.7	
Total %	0	0	0	9.1	0	13.6	0	22.7	0	13.6	0	13.6	0	4.5	4.5	18.2	

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 07:15 AM																					
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:30 AM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:00 AM	0	0	0	1	1	0	0	0	3	3	0	1	0	1	2	0	0	0	1	1	7
Total Volume	0	0	0	1	1	0	2	0	3	5	0	2	0	1	3	0	1	0	3	4	13
% App. Total	0	0	0	100		0	40	0	60		0	66.7	0	33.3		0	25	0	75		
PHF	.000	.000	.000	.250	.250	.000	.250	.000	.250	.417	.000	.500	.000	.250	.375	.000	.250	.000	.750	1.00	.464

N/S: C Street
E/W: W. 1st Street
City, State: South Boston, MA
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PRECISION D A T A INDUSTRIES, LLC
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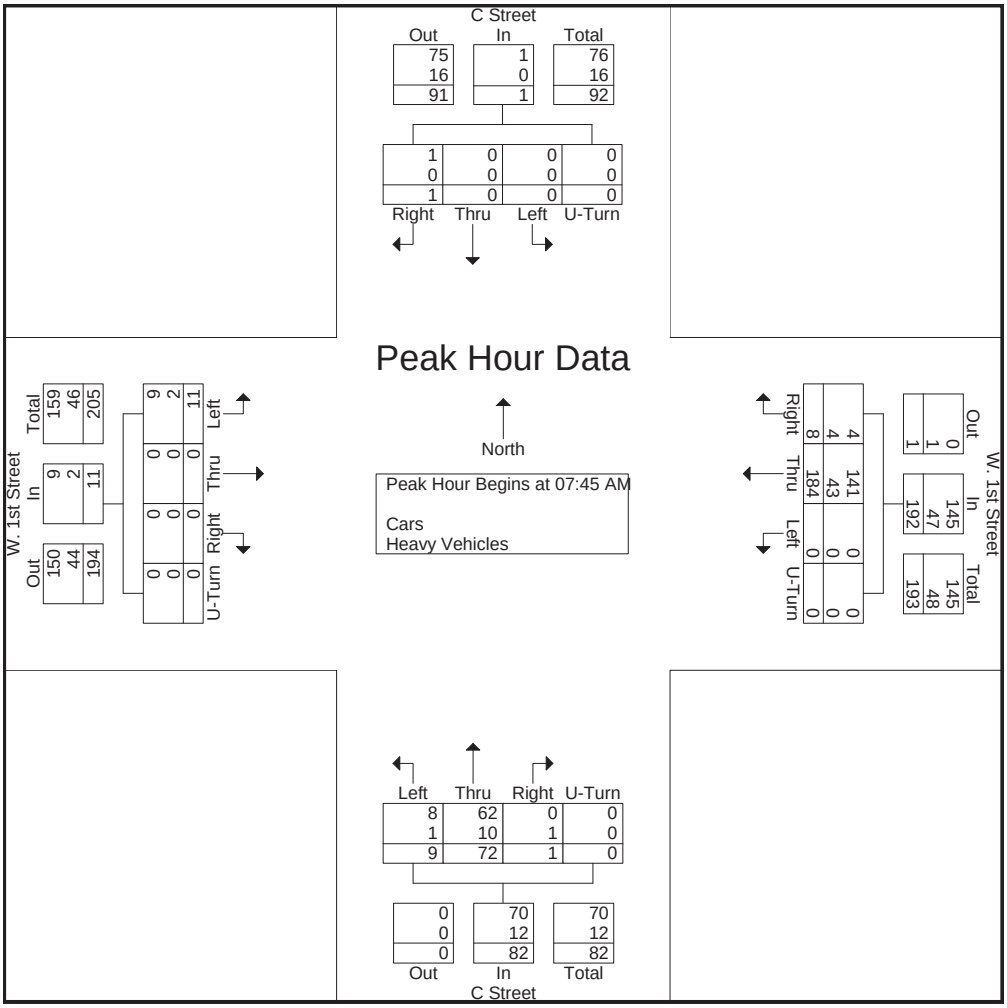
File Name : 133562 A
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 07:45 AM																					
07:45 AM	0	0	0	0	0	2	48	0	0	50	1	12	3	0	16	0	0	5	0	5	71
08:00 AM	0	0	0	0	0	4	48	0	0	52	0	15	0	0	15	0	0	3	0	3	70
08:15 AM	0	0	0	0	0	1	36	0	0	37	0	16	2	0	18	0	0	2	0	2	57
08:30 AM	1	0	0	0	1	1	52	0	0	53	0	29	4	0	33	0	0	1	0	1	88
Total Volume	1	0	0	0	1	8	184	0	0	192	1	72	9	0	82	0	0	11	0	11	286
% App. Total	100	0	0	0		4.2	95.8	0	0		1.2	87.8	11	0		0	0	100	0		
PHF	.250	.000	.000	.000	.250	.500	.885	.000	.000	.906	.250	.621	.563	.000	.621	.000	.000	.550	.000	.550	.813
Cars	1	0	0	0	1	4	141	0	0	145	0	62	8	0	70	0	0	9	0	9	225
% Cars	100	0	0	0	100	50.0	76.6	0	0	75.5	0	86.1	88.9	0	85.4	0	0	81.8	0	81.8	78.7
Heavy Vehicles	0	0	0	0	0	4	43	0	0	47	1	10	1	0	12	0	0	2	0	2	61
% Heavy Vehicles	0	0	0	0	0	50.0	23.4	0	0	24.5	100	13.9	11.1	0	14.6	0	0	18.2	0	18.2	21.3



N/S: C Street
E/W: W. 1st Street
City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

PRECISION
D A T A
INDUSTRIES, LLC
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Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

File Name : 133562 AA
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	C Street From North				W. 1st Street From East				C Street From South				W. 1st 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	0	0	0	0	2	45	0	0	18	9	1	0	0	4	0	0	79
04:15 PM	0	0	0	0	0	41	0	0	13	8	1	0	0	1	1	0	65
04:30 PM	0	0	0	0	1	50	0	0	15	13	1	0	0	3	0	0	83
04:45 PM	0	0	0	0	1	27	0	0	13	15	3	0	0	1	0	0	60
Total	0	0	0	0	4	163	0	0	59	45	6	0	0	9	1	0	287
05:00 PM	1	0	0	0	1	58	0	0	16	9	0	0	0	0	0	0	85
05:15 PM	1	0	0	0	0	55	0	0	12	11	2	0	0	1	1	0	83
05:30 PM	0	0	0	0	0	60	0	0	10	4	1	0	0	1	1	0	77
05:45 PM	0	0	0	0	0	64	0	0	13	5	3	0	0	1	0	0	86
Total	2	0	0	0	1	237	0	0	51	29	6	0	0	3	2	0	331
Grand Total	2	0	0	0	5	400	0	0	110	74	12	0	0	12	3	0	618
Apprch %	100	0	0	0	1.2	98.8	0	0	56.1	37.8	6.1	0	0	80	20	0	
Total %	0.3	0	0	0	0.8	64.7	0	0	17.8	12	1.9	0	0	1.9	0.5	0	
Cars	2	0	0	0	4	381	0	0	98	71	12	0	0	10	3	0	581
% Cars	100	0	0	0	80	95.2	0	0	89.1	95.9	100	0	0	83.3	100	0	94
Heavy Vehicles	0	0	0	0	1	19	0	0	12	3	0	0	0	2	0	0	37
% Heavy Vehicles	0	0	0	0	20	4.8	0	0	10.9	4.1	0	0	0	16.7	0	0	6

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 05:00 PM																					
05:00 PM	1	0	0	0	1	1	58	0	0	59	16	9	0	0	25	0	0	0	0	0	85
05:15 PM	1	0	0	0	1	0	55	0	0	55	12	11	2	0	25	0	1	1	0	2	83
05:30 PM	0	0	0	0	0	0	60	0	0	60	10	4	1	0	15	0	1	1	0	2	77
05:45 PM	0	0	0	0	0	0	64	0	0	64	13	5	3	0	21	0	1	0	0	1	86
Total Volume	2	0	0	0	2	1	237	0	0	238	51	29	6	0	86	0	3	2	0	5	331
% App. Total	100	0	0	0		0.4	99.6	0	0		59.3	33.7	7	0		0	60	40	0		
PHF	.500	.000	.000	.000	.500	.250	.926	.000	.000	.930	.797	.659	.500	.000	.860	.000	.750	.500	.000	.625	.962
Cars	2	0	0	0	2	0	228	0	0	228	46	29	6	0	81	0	2	2	0	4	315
% Cars	100	0	0	0	100	0	96.2	0	0	95.8	90.2	100	100	0	94.2	0	66.7	100	0	80.0	95.2
Heavy Vehicles	0	0	0	0	0	1	9	0	0	10	5	0	0	0	5	0	1	0	0	1	16
% Heavy Vehicles	0	0	0	0	0	100	3.8	0	0	4.2	9.8	0	0	0	5.8	0	33.3	0	0	20.0	4.8

N/S: C Street
E/W: W. 1st Street
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PRECISION DATA INDUSTRIES, LLC
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File Name : 133562 AA
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Cars

	C Street From North				W. 1st Street From East				C Street From South				W. 1st 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	0	0	0	0	2	42	0	0	16	6	1	0	0	4	0	0	71
04:15 PM	0	0	0	0	0	38	0	0	13	8	1	0	0	1	1	0	62
04:30 PM	0	0	0	0	1	48	0	0	11	13	1	0	0	2	0	0	76
04:45 PM	0	0	0	0	1	25	0	0	12	15	3	0	0	1	0	0	57
Total	0	0	0	0	4	153	0	0	52	42	6	0	0	8	1	0	266
05:00 PM	1	0	0	0	0	57	0	0	15	9	0	0	0	0	0	0	82
05:15 PM	1	0	0	0	0	50	0	0	10	11	2	0	0	0	1	0	75
05:30 PM	0	0	0	0	0	58	0	0	10	4	1	0	0	1	1	0	75
05:45 PM	0	0	0	0	0	63	0	0	11	5	3	0	0	1	0	0	83
Total	2	0	0	0	0	228	0	0	46	29	6	0	0	2	2	0	315
Grand Total	2	0	0	0	4	381	0	0	98	71	12	0	0	10	3	0	581
Apprch %	100	0	0	0	1	99	0	0	54.1	39.2	6.6	0	0	76.9	23.1	0	
Total %	0.3	0	0	0	0.7	65.6	0	0	16.9	12.2	2.1	0	0	1.7	0.5	0	

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 05:00 PM																					
05:00 PM	1	0	0	0	1	0	57	0	0	57	15	9	0	0	24	0	0	0	0	0	82
05:15 PM	1	0	0	0	1	0	50	0	0	50	10	11	2	0	23	0	0	1	0	1	75
05:30 PM	0	0	0	0	0	0	58	0	0	58	10	4	1	0	15	0	1	1	0	2	75
05:45 PM	0	0	0	0	0	0	63	0	0	63	11	5	3	0	19	0	1	0	0	1	83
Total Volume	2	0	0	0	2	0	228	0	0	228	46	29	6	0	81	0	2	2	0	4	315
% App. Total	100	0	0	0		0	100	0	0		56.8	35.8	7.4	0		0	50	50	0		
PHF	.500	.000	.000	.000	.500	.000	.905	.000	.000	.905	.767	.659	.500	.000	.844	.000	.500	.500	.000	.500	.949

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Groups Printed- Heavy Vehicles

	C Street From North				W. 1st Street From East				C Street From South				W. 1st 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	0	0	0	0	0	3	0	0	2	3	0	0	0	0	0	0	8
04:15 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	2	0	0	4	0	0	0	0	1	0	0	7
04:45 PM	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	10	0	0	7	3	0	0	0	1	0	0	21
05:00 PM	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	5	0	0	2	0	0	0	0	1	0	0	8
05:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	3
Total	0	0	0	0	1	9	0	0	5	0	0	0	0	1	0	0	16
Grand Total	0	0	0	0	1	19	0	0	12	3	0	0	0	2	0	0	37
Apprch %	0	0	0	0	5	95	0	0	80	20	0	0	0	100	0	0	
Total %	0	0	0	0	2.7	51.4	0	0	32.4	8.1	0	0	0	5.4	0	0	

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 04:00 PM																					
04:00 PM	0	0	0	0	0	0	3	0	0	3	2	3	0	0	5	0	0	0	0	0	8
04:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	2	0	0	2	4	0	0	0	4	0	1	0	0	1	7
04:45 PM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	10	0	0	10	7	3	0	0	10	0	1	0	0	1	21
% App. Total	0	0	0	0		0	100	0	0		70	30	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.833	.000	.000	.833	.438	.250	.000	.000	.500	.000	.250	.000	.000	.250	.656

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Groups Printed- Peds and Bikes

	C Street From North				W. 1st Street From East				C Street From South				W. 1st 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	0	0	2	0	0	0	0	0	1	0	1	0	0	4
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	1	0	0	0	1	0	1	0	1	6
05:00 PM	0	2	0	5	0	1	0	0	0	0	0	1	0	0	0	2	11
05:15 PM	0	1	0	2	0	0	0	0	0	0	1	0	0	1	0	2	7
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	1	5
Total	0	3	0	7	0	4	0	1	0	0	1	1	0	1	0	5	23
Grand Total	0	3	0	7	0	6	0	2	0	0	1	2	0	2	0	6	29
Apprch %	0	30	0	70	0	75	0	25	0	0	33.3	66.7	0	25	0	75	
Total %	0	10.3	0	24.1	0	20.7	0	6.9	0	0	3.4	6.9	0	6.9	0	20.7	

	C Street From North					W. 1st Street From East					C Street From South					W. 1st 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 05:00 PM																					
05:00 PM	0	2	0	5	7	0	1	0	0	1	0	0	0	1	1	0	0	0	2	2	11
05:15 PM	0	1	0	2	3	0	0	0	0	0	0	0	1	0	1	0	1	0	2	3	7
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	3	0	1	4	0	0	0	0	0	0	0	0	1	1	5
Total Volume	0	3	0	7	10	0	4	0	1	5	0	0	1	1	2	0	1	0	5	6	23
% App. Total	0	30	0	70		0	80	0	20		0	0	50	50		0	16.7	0	83.3		
PHF	.000	.375	.000	.350	.357	.000	.333	.000	.250	.313	.000	.000	.250	.250	.500	.000	.250	.000	.625	.500	.523

N/S: C Street
E/W: W. 1st Street
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PRECISION D A T A INDUSTRIES, LLC
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File Name : 133562 AA
Site Code : 13151
Start Date : 10/2/2013
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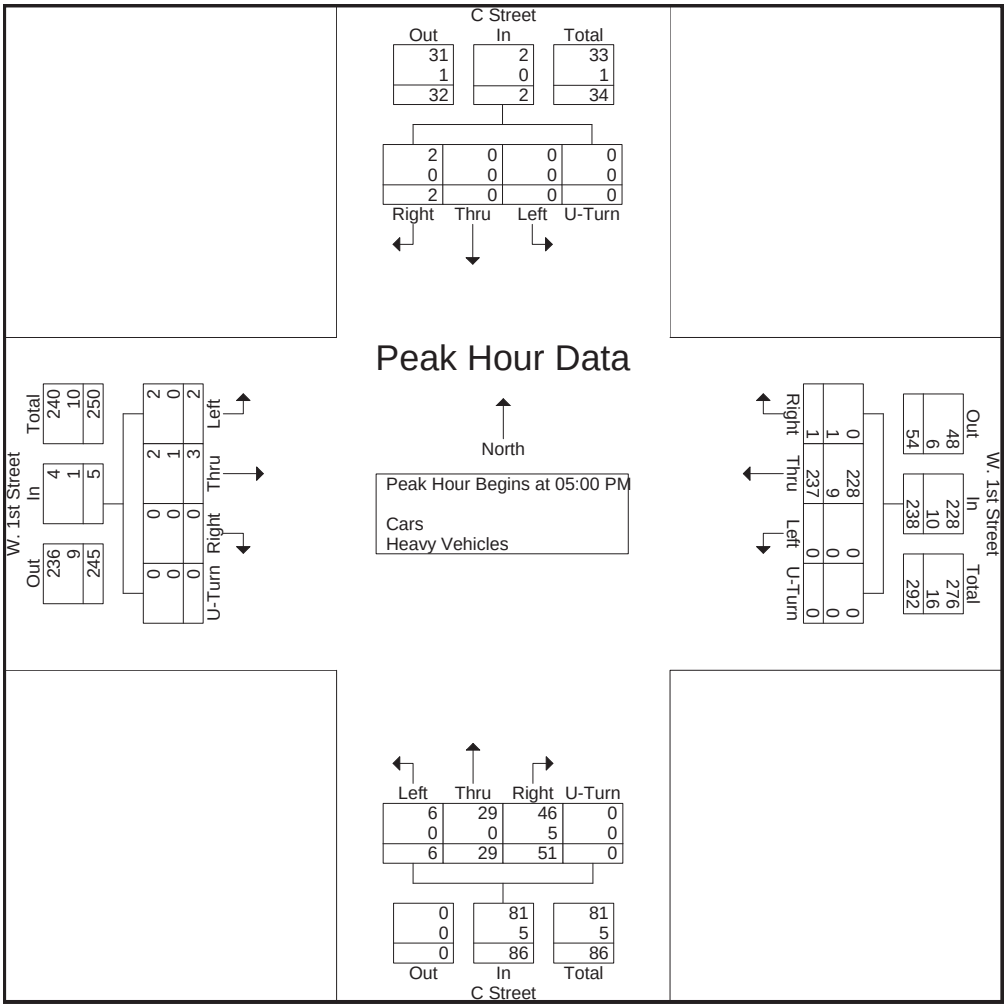
	C Street From North					W. 1st Street From East					C Street From South					W. 1st Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	0	0	0	1	1	58	0	0	59	16	9	0	0	25	0	0	0	0	0	85
05:15 PM	1	0	0	0	1	0	55	0	0	55	12	11	2	0	25	0	1	1	0	2	83
05:30 PM	0	0	0	0	0	0	60	0	0	60	10	4	1	0	15	0	1	1	0	2	77
05:45 PM	0	0	0	0	0	0	64	0	0	64	13	5	3	0	21	0	1	0	0	1	86
Total Volume	2	0	0	0	2	1	237	0	0	238	51	29	6	0	86	0	3	2	0	5	331
% App. Total	100	0	0	0		0.4	99.6	0	0		59.3	33.7	7	0		0	60	40	0		
PHF	.500	.000	.000	.000	.500	.250	.926	.000	.000	.930	.797	.659	.500	.000	.860	.000	.750	.500	.000	.625	.962
Cars	2	0	0	0	2	0	228	0	0	228	46	29	6	0	81	0	2	2	0	4	315
% Cars	100	0	0	0	100	0	96.2	0	0	95.8	90.2	100	100	0	94.2	0	66.7	100	0	80.0	95.2
Heavy Vehicles	0	0	0	0	0	1	9	0	0	10	5	0	0	0	5	0	1	0	0	1	16
% Heavy Vehicles	0	0	0	0	0	100	3.8	0	0	4.2	9.8	0	0	0	5.8	0	33.3	0	0	20.0	4.8



N/S: C Street
E/W: W. 2nd Street
City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

PRECISION DATA INDUSTRIES, LLC
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File Name : 133562 B
Site Code : 13151
Start Date : 10/2/2013
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Groups Printed- Cars - Heavy Vehicles

	C Street From North				W. 2nd Street From East				C Street From South				W. 2nd 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	0	0	0	2	37	0	0	0	9	12	0	0	0	0	0	60
07:15 AM	0	0	0	0	4	30	0	0	0	17	8	0	0	0	0	0	59
07:30 AM	0	0	0	0	11	23	0	0	0	15	15	0	0	0	0	0	64
07:45 AM	0	0	0	0	2	43	0	0	0	13	24	0	0	0	0	0	82
Total	0	0	0	0	19	133	0	0	0	54	59	0	0	0	0	0	265
08:00 AM	0	0	0	0	2	54	0	0	0	14	20	0	0	0	0	0	90
08:15 AM	0	0	0	0	3	49	0	0	0	16	13	0	0	0	0	0	81
08:30 AM	0	0	0	0	1	34	0	0	0	32	11	0	0	0	0	0	78
08:45 AM	0	0	0	0	2	25	0	0	0	18	21	0	0	0	0	0	66
Total	0	0	0	0	8	162	0	0	0	80	65	0	0	0	0	0	315
Grand Total	0	0	0	0	27	295	0	0	0	134	124	0	0	0	0	0	580
Apprch %	0	0	0	0	8.4	91.6	0	0	0	51.9	48.1	0	0	0	0	0	
Total %	0	0	0	0	4.7	50.9	0	0	0	23.1	21.4	0	0	0	0	0	
Cars	0	0	0	0	24	282	0	0	0	121	118	0	0	0	0	0	545
% Cars	0	0	0	0	88.9	95.6	0	0	0	90.3	95.2	0	0	0	0	0	94
Heavy Vehicles	0	0	0	0	3	13	0	0	0	13	6	0	0	0	0	0	35
% Heavy Vehicles	0	0	0	0	11.1	4.4	0	0	0	9.7	4.8	0	0	0	0	0	6

	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd 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 07:45 AM																					
07:45 AM	0	0	0	0	0	2	43	0	0	45	0	13	24	0	37	0	0	0	0	0	82
08:00 AM	0	0	0	0	0	2	54	0	0	56	0	14	20	0	34	0	0	0	0	0	90
08:15 AM	0	0	0	0	0	3	49	0	0	52	0	16	13	0	29	0	0	0	0	0	81
08:30 AM	0	0	0	0	0	1	34	0	0	35	0	32	11	0	43	0	0	0	0	0	78
Total Volume	0	0	0	0	0	8	180	0	0	188	0	75	68	0	143	0	0	0	0	0	331
% App. Total	0	0	0	0		4.3	95.7	0	0		0	52.4	47.6	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.667	.833	.000	.000	.839	.000	.586	.708	.000	.831	.000	.000	.000	.000	.000	.919
Cars	0	0	0	0	0	6	172	0	0	178	0	66	65	0	131	0	0	0	0	0	309
% Cars	0	0	0	0	0	75.0	95.6	0	0	94.7	0	88.0	95.6	0	91.6	0	0	0	0	0	93.4
Heavy Vehicles	0	0	0	0	0	2	8	0	0	10	0	9	3	0	12	0	0	0	0	0	22
% Heavy Vehicles	0	0	0	0	0	25.0	4.4	0	0	5.3	0	12.0	4.4	0	8.4	0	0	0	0	0	6.6

N/S: C Street
E/W: W. 2nd Street
City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

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File Name : 133562 B
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Cars

	C Street From North				W. 2nd Street From East				C Street From South				W. 2nd 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	0	0	0	2	36	0	0	0	8	12	0	0	0	0	0	58
07:15 AM	0	0	0	0	4	28	0	0	0	16	8	0	0	0	0	0	56
07:30 AM	0	0	0	0	10	22	0	0	0	14	13	0	0	0	0	0	59
07:45 AM	0	0	0	0	2	41	0	0	0	13	22	0	0	0	0	0	78
Total	0	0	0	0	18	127	0	0	0	51	55	0	0	0	0	0	251
08:00 AM	0	0	0	0	2	54	0	0	0	12	20	0	0	0	0	0	88
08:15 AM	0	0	0	0	1	45	0	0	0	14	12	0	0	0	0	0	72
08:30 AM	0	0	0	0	1	32	0	0	0	27	11	0	0	0	0	0	71
08:45 AM	0	0	0	0	2	24	0	0	0	17	20	0	0	0	0	0	63
Total	0	0	0	0	6	155	0	0	0	70	63	0	0	0	0	0	294
Grand Total	0	0	0	0	24	282	0	0	0	121	118	0	0	0	0	0	545
Apprch %	0	0	0	0	7.8	92.2	0	0	0	50.6	49.4	0	0	0	0	0	
Total %	0	0	0	0	4.4	51.7	0	0	0	22.2	21.7	0	0	0	0	0	

	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd 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 07:45 AM																					
07:45 AM	0	0	0	0	0	2	41	0	0	43	0	13	22	0	35	0	0	0	0	0	78
08:00 AM	0	0	0	0	0	2	54	0	0	56	0	12	20	0	32	0	0	0	0	0	88
08:15 AM	0	0	0	0	0	1	45	0	0	46	0	14	12	0	26	0	0	0	0	0	72
08:30 AM	0	0	0	0	0	1	32	0	0	33	0	27	11	0	38	0	0	0	0	0	71
Total Volume	0	0	0	0	0	6	172	0	0	178	0	66	65	0	131	0	0	0	0	0	309
% App. Total	0	0	0	0		3.4	96.6	0	0		0	50.4	49.6	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.750	.796	.000	.000	.795	.000	.611	.739	.000	.862	.000	.000	.000	.000	.000	.878

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File Name : 133562 B
Site Code : 13151
Start Date : 10/2/2013
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Groups Printed- Heavy Vehicles

	C Street From North				W. 2nd Street From East				C Street From South				W. 2nd 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	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	1	1	0	0	0	1	2	0	0	0	0	0	5
07:45 AM	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	4
Total	0	0	0	0	1	6	0	0	0	3	4	0	0	0	0	0	14
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	2	4	0	0	0	2	1	0	0	0	0	0	9
08:30 AM	0	0	0	0	0	2	0	0	0	5	0	0	0	0	0	0	7
08:45 AM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	3
Total	0	0	0	0	2	7	0	0	0	10	2	0	0	0	0	0	21
Grand Total	0	0	0	0	3	13	0	0	0	13	6	0	0	0	0	0	35
Apprch %	0	0	0	0	18.8	81.2	0	0	0	68.4	31.6	0	0	0	0	0	
Total %	0	0	0	0	8.6	37.1	0	0	0	37.1	17.1	0	0	0	0	0	

	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd 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 07:45 AM																					
07:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	0	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	2	4	0	0	6	0	2	1	0	3	0	0	0	0	0	9
08:30 AM	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	0	0	0	0	0	7
Total Volume	0	0	0	0	0	2	8	0	0	10	0	9	3	0	12	0	0	0	0	0	22
% App. Total	0	0	0	0		20	80	0	0		0	75	25	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.500	.000	.000	.417	.000	.450	.375	.000	.600	.000	.000	.000	.000	.000	.611

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Groups Printed- Peds and Bikes

	C Street From North				W. 2nd Street From East				C Street From South				W. 2nd 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	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	5
07:15 AM	0	0	0	2	0	1	0	0	0	0	0	3	0	0	0	1	7
07:30 AM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	1	5
07:45 AM	0	0	0	2	0	5	0	0	0	0	0	5	0	0	0	2	14
Total	0	0	0	7	0	6	0	0	0	0	0	14	0	0	0	4	31
08:00 AM	0	0	0	1	0	2	0	2	0	1	0	13	0	0	0	3	22
08:15 AM	0	0	0	1	0	6	0	1	0	0	0	17	0	0	0	2	27
08:30 AM	0	0	0	0	0	5	0	1	0	0	0	10	0	0	0	1	17
08:45 AM	0	0	0	5	0	6	0	0	0	0	1	7	0	0	0	1	20
Total	0	0	0	7	0	19	0	4	0	1	1	47	0	0	0	7	86
Grand Total	0	0	0	14	0	25	0	4	0	1	1	61	0	0	0	11	117
Apprch %	0	0	0	100	0	86.2	0	13.8	0	1.6	1.6	96.8	0	0	0	100	
Total %	0	0	0	12	0	21.4	0	3.4	0	0.9	0.9	52.1	0	0	0	9.4	

	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd 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 08:00 AM																					
08:00 AM	0	0	0	1	1	0	2	0	2	4	0	1	0	13	14	0	0	0	3	3	22
08:15 AM	0	0	0	1	1	0	6	0	1	7	0	0	0	17	17	0	0	0	2	2	27
08:30 AM	0	0	0	0	0	0	5	0	1	6	0	0	0	10	10	0	0	0	1	1	17
08:45 AM	0	0	0	5	5	0	6	0	0	6	0	0	1	7	8	0	0	0	1	1	20
Total Volume	0	0	0	7	7	0	19	0	4	23	0	1	1	47	49	0	0	0	7	7	86
% App. Total	0	0	0	100		0	82.6	0	17.4		0	2	2	95.9		0	0	0	100		
PHF	.000	.000	.000	.350	.350	.000	.792	.000	.500	.821	.000	.250	.250	.691	.721	.000	.000	.000	.583	.583	.796

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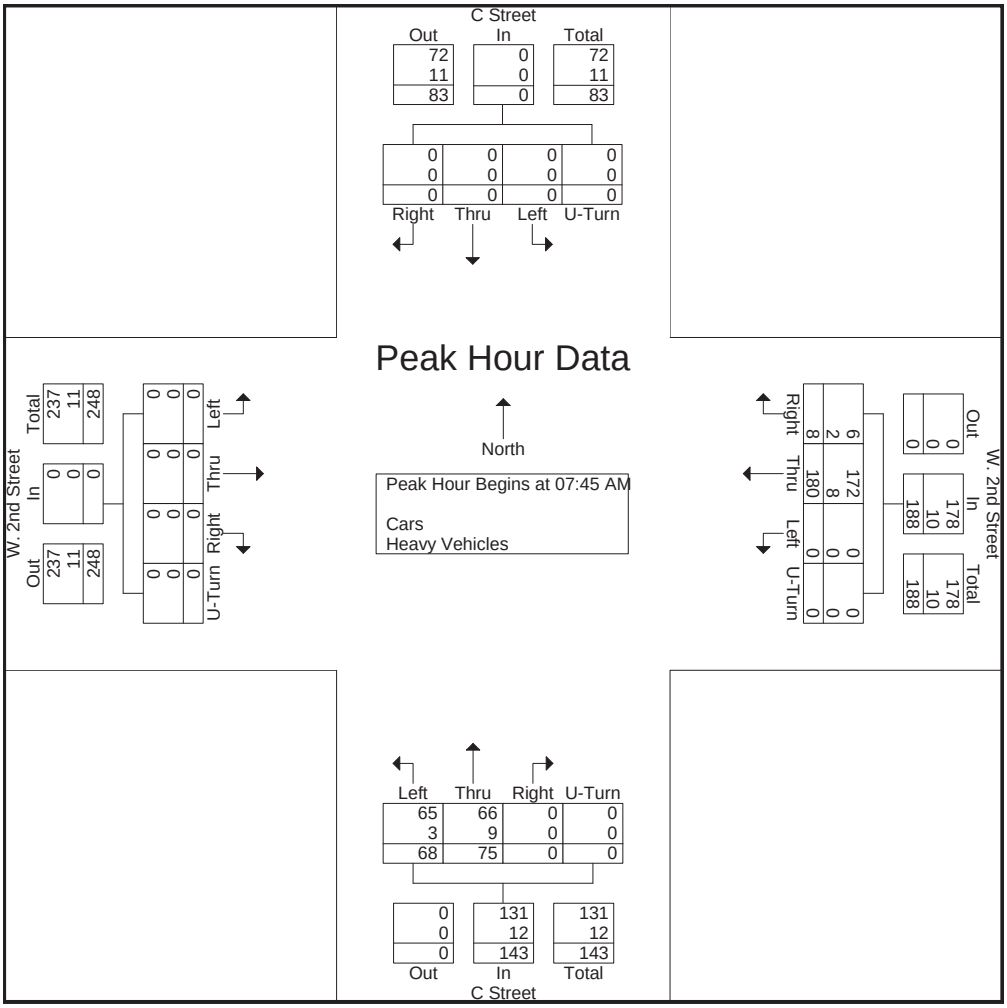
	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	2	43	0	0	45	0	13	24	0	37	0	0	0	0	0	82
08:00 AM	0	0	0	0	0	2	54	0	0	56	0	14	20	0	34	0	0	0	0	0	90
08:15 AM	0	0	0	0	0	3	49	0	0	52	0	16	13	0	29	0	0	0	0	0	81
08:30 AM	0	0	0	0	0	1	34	0	0	35	0	32	11	0	43	0	0	0	0	0	78
Total Volume	0	0	0	0	0	8	180	0	0	188	0	75	68	0	143	0	0	0	0	0	331
% App. Total	0	0	0	0		4.3	95.7	0	0		0	52.4	47.6	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.667	.833	.000	.000	.839	.000	.586	.708	.000	.831	.000	.000	.000	.000	.000	.919
Cars	0	0	0	0	0	6	172	0	0	178	0	66	65	0	131	0	0	0	0	0	309
% Cars	0	0	0	0	0	75.0	95.6	0	0	94.7	0	88.0	95.6	0	91.6	0	0	0	0	0	93.4
Heavy Vehicles	0	0	0	0	0	2	8	0	0	10	0	9	3	0	12	0	0	0	0	0	22
% Heavy Vehicles	0	0	0	0	0	25.0	4.4	0	0	5.3	0	12.0	4.4	0	8.4	0	0	0	0	0	6.6



N/S: C Street
E/W: W.2nd Street
City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

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 : 133562 BB
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	C Street From North				W. 2nd Street From East				C Street From South				W. 2nd 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	0	0	0	0	1	13	0	0	0	25	15	0	0	0	0	0	54
04:15 PM	0	0	0	0	2	13	0	0	0	20	7	0	0	0	0	0	42
04:30 PM	0	0	0	0	0	17	0	0	0	28	10	0	0	0	0	0	55
04:45 PM	0	0	0	0	0	17	0	0	0	32	7	0	0	0	0	0	56
Total	0	0	0	0	3	60	0	0	0	105	39	0	0	0	0	0	207
05:00 PM	0	0	0	0	2	25	0	0	0	25	5	0	0	0	0	0	57
05:15 PM	0	0	0	0	2	18	0	0	0	21	10	0	0	0	0	0	51
05:30 PM	0	0	0	0	0	18	0	0	0	15	12	0	0	0	0	0	45
05:45 PM	0	0	0	0	3	17	0	0	0	20	10	0	0	0	0	0	50
Total	0	0	0	0	7	78	0	0	0	81	37	0	0	0	0	0	203
Grand Total	0	0	0	0	10	138	0	0	0	186	76	0	0	0	0	0	410
Apprch %	0	0	0	0	6.8	93.2	0	0	0	71	29	0	0	0	0	0	
Total %	0	0	0	0	2.4	33.7	0	0	0	45.4	18.5	0	0	0	0	0	
Cars	0	0	0	0	10	134	0	0	0	172	76	0	0	0	0	0	392
% Cars	0	0	0	0	100	97.1	0	0	0	92.5	100	0	0	0	0	0	95.6
Heavy Vehicles	0	0	0	0	0	4	0	0	0	14	0	0	0	0	0	0	18
% Heavy Vehicles	0	0	0	0	0	2.9	0	0	0	7.5	0	0	0	0	0	0	4.4

	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd 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 04:30 PM																					
04:30 PM	0	0	0	0	0	0	17	0	0	17	0	28	10	0	38	0	0	0	0	0	55
04:45 PM	0	0	0	0	0	0	17	0	0	17	0	32	7	0	39	0	0	0	0	0	56
05:00 PM	0	0	0	0	0	2	25	0	0	27	0	25	5	0	30	0	0	0	0	0	57
05:15 PM	0	0	0	0	0	2	18	0	0	20	0	21	10	0	31	0	0	0	0	0	51
Total Volume	0	0	0	0	0	4	77	0	0	81	0	106	32	0	138	0	0	0	0	0	219
% App. Total	0	0	0	0		4.9	95.1	0	0		0	76.8	23.2	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.770	.000	.000	.750	.000	.828	.800	.000	.885	.000	.000	.000	.000	.000	.961
Cars	0	0	0	0	0	4	74	0	0	78	0	99	32	0	131	0	0	0	0	0	209
% Cars	0	0	0	0	0	100	96.1	0	0	96.3	0	93.4	100	0	94.9	0	0	0	0	0	95.4
Heavy Vehicles	0	0	0	0	0	0	3	0	0	3	0	7	0	0	7	0	0	0	0	0	10
% Heavy Vehicles	0	0	0	0	0	0	3.9	0	0	3.7	0	6.6	0	0	5.1	0	0	0	0	0	4.6

N/S: C Street
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Email: datarequests@pdillc.com

File Name : 133562 BB
Site Code : 13151
Start Date : 10/2/2013

Groups Printed- Cars

	C Street From North				W. 2nd Street From East				C Street From South				W. 2nd 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	0	0	0	0	1	13	0	0	0	20	15	0	0	0	0	0	49
04:15 PM	0	0	0	0	2	12	0	0	0	20	7	0	0	0	0	0	41
04:30 PM	0	0	0	0	0	17	0	0	0	25	10	0	0	0	0	0	52
04:45 PM	0	0	0	0	0	16	0	0	0	32	7	0	0	0	0	0	55
Total	0	0	0	0	3	58	0	0	0	97	39	0	0	0	0	0	197
05:00 PM	0	0	0	0	2	23	0	0	0	23	5	0	0	0	0	0	53
05:15 PM	0	0	0	0	2	18	0	0	0	19	10	0	0	0	0	0	49
05:30 PM	0	0	0	0	0	18	0	0	0	15	12	0	0	0	0	0	45
05:45 PM	0	0	0	0	3	17	0	0	0	18	10	0	0	0	0	0	48
Total	0	0	0	0	7	76	0	0	0	75	37	0	0	0	0	0	195
Grand Total	0	0	0	0	10	134	0	0	0	172	76	0	0	0	0	0	392
Apprch %	0	0	0	0	6.9	93.1	0	0	0	69.4	30.6	0	0	0	0	0	
Total %	0	0	0	0	2.6	34.2	0	0	0	43.9	19.4	0	0	0	0	0	

	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd 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 04:30 PM																					
04:30 PM	0	0	0	0	0	0	17	0	0	17	0	25	10	0	35	0	0	0	0	0	52
04:45 PM	0	0	0	0	0	0	16	0	0	16	0	32	7	0	39	0	0	0	0	0	55
05:00 PM	0	0	0	0	0	2	23	0	0	25	0	23	5	0	28	0	0	0	0	0	53
05:15 PM	0	0	0	0	0	2	18	0	0	20	0	19	10	0	29	0	0	0	0	0	49
Total Volume	0	0	0	0	0	4	74	0	0	78	0	99	32	0	131	0	0	0	0	0	209
% App. Total	0	0	0	0		5.1	94.9	0	0		0	75.6	24.4	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.804	.000	.000	.780	.000	.773	.800	.000	.840	.000	.000	.000	.000	.000	.950

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File Name : 133562 BB
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Heavy Vehicles

	C Street From North				W. 2nd Street From East				C Street From South				W. 2nd 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	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	0	0	8	0	0	0	0	0	0	10
05:00 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Total	0	0	0	0	0	2	0	0	0	6	0	0	0	0	0	0	8
Grand Total	0	0	0	0	0	4	0	0	0	14	0	0	0	0	0	0	18
Apprch %	0	0	0	0	0	100	0	0	0	100	0	0	0	0	0	0	
Total %	0	0	0	0	0	22.2	0	0	0	77.8	0	0	0	0	0	0	

	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd 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 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	8	0	0	8	0	0	0	0	0	10
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.400	.000	.000	.400	.000	.000	.000	.000	.000	.500

PRECISION
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N/S: C Street
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City, State: South Boston, MA
Client: Howard Stein-Hudson/ M. Santos

File Name : 133562 BB
Site Code : 13151
Start Date : 10/2/2013
Page No : 1

Groups Printed- Peds and Bikes

	C Street From North				W. 2nd Street From East				C Street From South				W. 2nd 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	1	0	0	0	0	0	0	0	1	0	0	0	2	4
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	4
04:30 PM	0	0	0	2	0	0	0	1	0	0	0	3	0	0	0	0	6
04:45 PM	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	0	4
Total	0	0	0	4	0	1	0	2	0	0	0	7	0	0	0	4	18
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	7	0	0	0	2	13
05:15 PM	0	0	0	1	0	0	0	1	0	1	0	5	0	0	0	2	10
05:30 PM	0	0	0	4	0	2	0	1	0	0	0	10	0	0	0	1	18
05:45 PM	0	0	0	3	0	1	0	2	0	0	0	11	0	0	0	2	19
Total	0	0	0	8	0	5	0	6	0	1	0	33	0	0	0	7	60
Grand Total	0	0	0	12	0	6	0	8	0	1	0	40	0	0	0	11	78
Apprch %	0	0	0	100	0	42.9	0	57.1	0	2.4	0	97.6	0	0	0	100	
Total %	0	0	0	15.4	0	7.7	0	10.3	0	1.3	0	51.3	0	0	0	14.1	

	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd 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 05:00 PM																					
05:00 PM	0	0	0	0	0	0	2	0	2	4	0	0	0	7	7	0	0	0	2	2	13
05:15 PM	0	0	0	1	1	0	0	0	1	1	0	1	0	5	6	0	0	0	2	2	10
05:30 PM	0	0	0	4	4	0	2	0	1	3	0	0	0	10	10	0	0	0	1	1	18
05:45 PM	0	0	0	3	3	0	1	0	2	3	0	0	0	11	11	0	0	0	2	2	19
Total Volume	0	0	0	8	8	0	5	0	6	11	0	1	0	33	34	0	0	0	7	7	60
% App. Total	0	0	0	100		0	45.5	0	54.5		0	2.9	0	97.1		0	0	0	100		
PHF	.000	.000	.000	.500	.500	.000	.625	.000	.750	.688	.000	.250	.000	.750	.773	.000	.000	.000	.875	.875	.789

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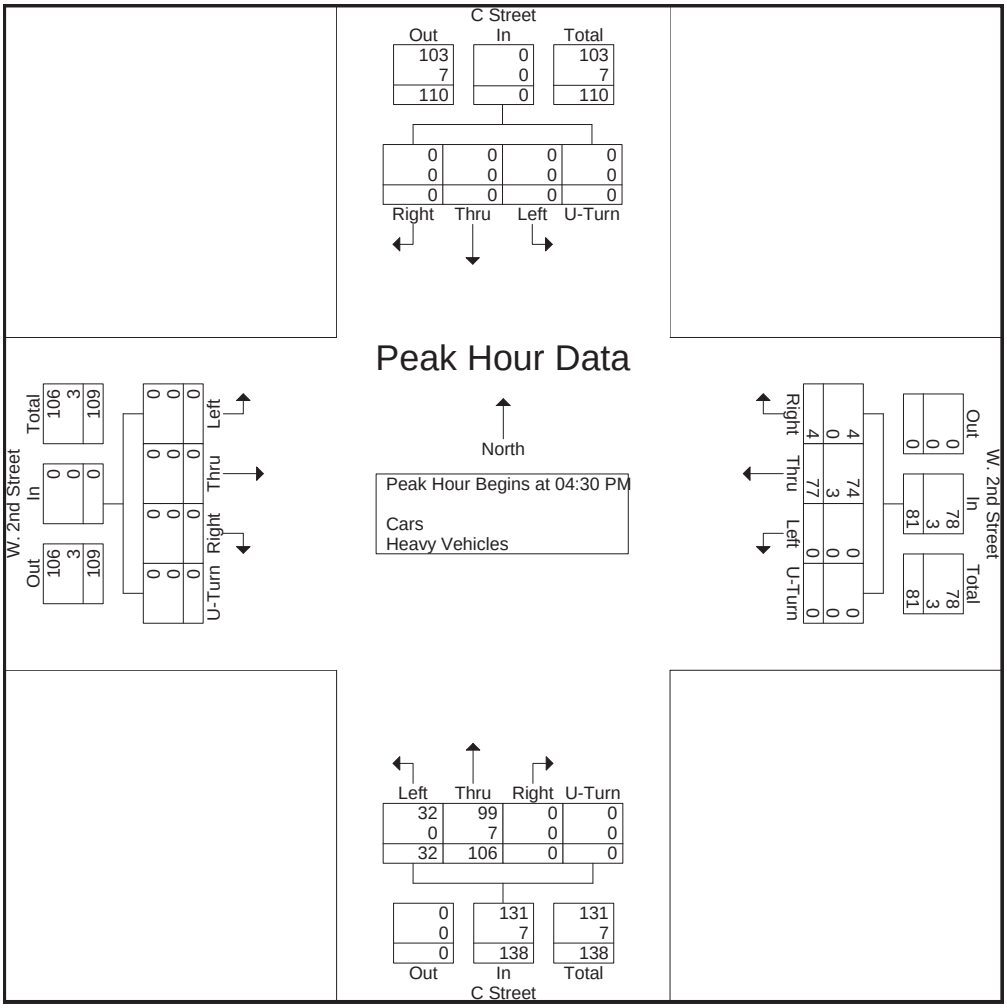
	C Street From North					W. 2nd Street From East					C Street From South					W. 2nd Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	17	0	0	17	0	28	10	0	38	0	0	0	0	0	55
04:45 PM	0	0	0	0	0	0	17	0	0	17	0	32	7	0	39	0	0	0	0	0	56
05:00 PM	0	0	0	0	0	2	25	0	0	27	0	25	5	0	30	0	0	0	0	0	57
05:15 PM	0	0	0	0	0	2	18	0	0	20	0	21	10	0	31	0	0	0	0	0	51
Total Volume	0	0	0	0	0	4	77	0	0	81	0	106	32	0	138	0	0	0	0	0	219
% App. Total	0	0	0	0		4.9	95.1	0	0		0	76.8	23.2	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.770	.000	.000	.750	.000	.828	.800	.000	.885	.000	.000	.000	.000	.000	.961
Cars	0	0	0	0	0	4	74	0	0	78	0	99	32	0	131	0	0	0	0	0	209
% Cars	0	0	0	0	0	100	96.1	0	0	96.3	0	93.4	100	0	94.9	0	0	0	0	0	95.4
Heavy Vehicles	0	0	0	0	0	0	3	0	0	3	0	7	0	0	7	0	0	0	0	0	10
% Heavy Vehicles	0	0	0	0	0	0	3.9	0	0	3.7	0	6.6	0	0	5.1	0	0	0	0	0	4.6



TRIP GENERATION CALCULATIONS

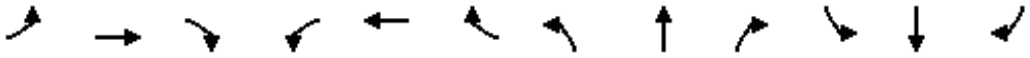
190-206 West 2nd Street
Trip Generation Assessment--Daily

HOWARD/STEIN-HUDSON ASSOCIATES
5-Dec-13

			Vehicular Trip Generation					Conversion to Person Trips		Mode Share Split							Vehicular Trips		
Land Use	**Size**	**Category**	**Unadjusted Vehicle Trips**	**Internal trips**	**Pass-by %**	**Pass-By Trips**	**Less capture trips**	**Assumed national vehicle occupancy rate[1]**	**Converted to New Person trips**	**Transit Share[2]**	**Transit Trips**	**Walk/Bike/ Other Share[2]**	**Walk/ Bike/ Other Trips**	**Vehicle Share[2]**	**Total Vehicle Person Trips**	**Pass-By vehicle Share**	**Total Vehicle Pass-By Person Trips**	**Assumed local auto occupancy rate for autos[3]**	**Total Adjusted Auto Trips**	**Total Adjusted Auto Trips (Pass-By)**
Daily																				
Apartment[4]	104	Total	692	0			692	1.13	**782**		**180**		**188**		**414**			1.13	**366**	
	Units	In	346		0.00		346	1.13	**391**	23%	**90**	24%	**94**	53%	**207**			1.13	**183**	
		Out	346		0.00		346	1.13	**391**	23%	**90**	24%	**94**	53%	**207**			1.13	**183**	
Retail[5]	5.01	Total	214	0	0.00	0	214	1.78	**380**		**42**		**110**		**228**		**0**	1.78	**128**	**0**
	KSF	In	107			0	107	1.78	**190**	11%	**21**	29%	**55**	60%	**114**		**0**	1.78	**64**	**0**
		Out	107			0	107	1.78	**190**	11%	**21**	29%	**55**	60%	**114**		**0**	1.78	**64**	**0**
Total		Total	**906**						**1,162**		**222**		**298**		**642**		**0**		**494**	**0**
		In	**453**						**581**		**111**		**149**		**321**		**0**		**247**	**0**
		Out	**453**						**581**		**111**		**149**		**321**		**0**		**247**	**0**
AM Peak Hour																				
Apartment[4]	104	Total	53	0			53	1.13	**59**		**15**		**17**		**27**			1.13	**24**	
	Units	In	11		0.00		11	1.13	**12**	29%	**3**	22%	**3**	49%	**6**			1.13	**5**	
		Out	42		0.00		42	1.13	**47**	26%	**12**	30%	**14**	44%	**21**			1.13	**19**	
Retail[5]	5.01	Total	5	0	0.00	0	5	1.78	**9**		**1**		**2**		**5**		**0**	1.78	**3**	**0**
	KSF	In	3			0	3	1.78	**5**	14%	**1**	27%	**1**	59%	**3**		**0**	1.78	**2**	**0**
		Out	2			0	2	1.78	**4**	12%	**0**	36%	**1**	52%	**2**		**0**	1.78	**1**	**0**
Total		Total	**58**						**68**		**16**		**19**		**32**		**0**		**27**	**0**
		In	**14**						**17**		**4**		**4**		**9**		**0**		**7**	**0**
		Out	**44**						**51**		**12**		**15**		**23**		**0**		**20**	**0**
PM Peak Hour																				
Apartment[4]	104	Total	64	0			64	1.13	**72**		**19**		**20**		**33**			1.13	**30**	
	Units	In	42		0.00		42	1.13	**47**	26%	**12**	30%	**14**	44%	**21**			1.13	**19**	
		Out	22		0.00		22	1.13	**25**	29%	**7**	22%	**6**	49%	**12**			1.13	**11**	
Retail[5]	5.01	Total	19	0	0.00	0	19	1.78	**34**		**5**		**11**		**19**		**0**	1.78	**10**	**0**
	KSF	In	9			0	9	1.78	**16**	12%	**2**	36%	**6**	52%	**8**		**0**	1.78	**4**	**0**
		Out	10			0	10	1.78	**18**	14%	**3**	27%	**5**	59%	**11**		**0**	1.78	**6**	**0**
Total		Total	**83**						**106**		**24**		**31**		**52**		**0**		**40**	**0**
		In	**51**						**63**		**14**		**20**		**29**		**0**		**23**	**0**
		Out	**32**						**43**		**10**		**11**		**23**		**0**		**17**	**0**
Summary																				
Net Trips Total																				
Net Trips In																				
Net Trips Out																				

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational
2. Mode shares based on peak-hour BTD Data for Area 8.
3. Local vehicle occupancy rates based on 2009 National vehicle occupancy rates.
4. ITE Trip Generation Rate, 9th Edition, LUC 220 (Residential), Average rate
5. ITE Trip Generation, 9th Edition, LUC 820 (Shopping Center), Average Rate

INTERSECTION CAPACITY ANALYSIS WORKSHEETS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	13	16	16	16	16	16	16	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	40		0	0		0	0		0
Storage Lanes	1		1	1		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	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	0.99		0.96	0.98	0.99			1.00			0.99	
Frt			0.850		0.962						0.975	
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1773	0	1777	1776	2035	0	0	2097	0	0	2001	0
Flt Permitted	0.532			0.950				0.971				
Satd. Flow (perm)	981	0	1703	1738	2035	0	0	2040	0	0	2001	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			20		37						32	
Headway Factor	0.88	0.88	0.88	0.96	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			366			244			244	
Travel Time (s)		3.0			8.3			5.5			5.5	
Volume (vph)	41	0	10	131	148	47	23	426	0	0	282	58
Confl. Peds. (#/hr)	11		13	13		11	35		72	72		35
Confl. Bikes (#/hr)						2			13			3
Peak Hour Factor	0.73	0.92	0.50	0.73	0.74	0.69	0.82	0.85	0.92	0.92	0.88	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	12%	0%	0%	5%	1%	0%	9%	2%	0%	0%	2%	12%
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)	56	0	20	179	200	68	28	501	0	0	320	72
Lane Group Flow (vph)	56	0	20	179	268	0	0	529	0	0	392	0
Turn Type	D.Pm		custom	Split			custom					
Protected Phases				2	2							
Permitted Phases	2		2				1	1			1	
Detector Phases	2		2	2	2		1	1			1	
Minimum Initial (s)	8.0		8.0	8.0	8.0		4.0	4.0			4.0	
Minimum Split (s)	21.0		21.0	21.0	21.0		29.0	29.0			29.0	
Total Split (s)	21.0	0.0	21.0	21.0	21.0	0.0	29.0	29.0	0.0	0.0	29.0	0.0
Total Split (%)	42.0%	0.0%	42.0%	42.0%	42.0%	0.0%	58.0%	58.0%	0.0%	0.0%	58.0%	0.0%
Maximum Green (s)	16.0		16.0	16.0	16.0		25.0	25.0			25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0		1.0	1.0			1.0	
Lead/Lag	Lag		Lag	Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes			Yes	
Vehicle Extension (s)	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	

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	
Time To Reduce (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Recall Mode	None		None	None	None		C-Max	C-Max			C-Max	
Walk Time (s)	7.0		7.0	7.0	7.0		17.0	17.0			17.0	
Flash Dont Walk (s)	8.0		8.0	8.0	8.0		8.0	8.0			8.0	
Pedestrian Calls (#/hr)	36		36	36	36		8	8			8	
Act Effct Green (s)	12.3		12.3	12.3	12.3			29.7			29.7	
Actuated g/C Ratio	0.25		0.25	0.25	0.25			0.59			0.59	
v/c Ratio	0.23		0.05	0.41	0.51			0.44			0.33	
Control Delay	16.2		6.5	17.8	16.7			7.8			6.3	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	16.2		6.5	17.8	16.7			7.8			6.3	
LOS	B		A	B	B			A			A	
Approach Delay					17.2			7.8			6.3	
Approach LOS					B			A			A	
Queue Length 50th (ft)	13		0	45	59			67			41	
Queue Length 95th (ft)	25		4	59	74			148			102	
Internal Link Dist (ft)		53			286			164			164	
Turn Bay Length (ft)				40								
Base Capacity (vph)	334		592	604	716			1212			1202	
Starvation Cap Reductn	0		0	0	0			0			0	
Spillback Cap Reductn	0		0	0	0			0			0	
Storage Cap Reductn	0		0	0	0			0			0	
Reduced v/c Ratio	0.17		0.03	0.30	0.37			0.44			0.33	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 8 (16%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 10.6 Intersection LOS: B
Intersection Capacity Utilization 69.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: West 2nd Street & A Street

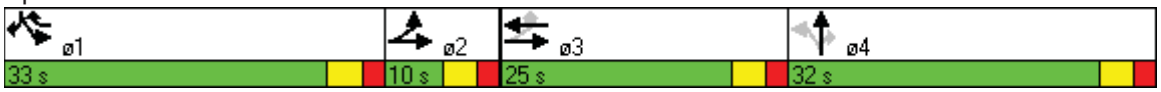
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	0		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
Trailing Detector (ft)	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.98		1.00	0.88	0.93		
Frt						0.850			0.850			0.850
Flt Protected	0.950							0.998		0.950		
Satd. Flow (prot)	1805	1900	0	0	1545	1404	0	1843	1509	1570	0	1357
Flt Permitted	0.627							0.998		0.950		
Satd. Flow (perm)	1188	1900	0	0	1545	1371	0	1840	1332	1464	0	1357
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						205			60			100
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		531			198			126			275	
Travel Time (s)		12.1			4.5			2.9			6.3	
Volume (vph)	1	1	0	0	108	178	6	168	42	185	0	85
Confl. Peds. (#/hr)	1		2	2		1	14		30	30		14
Confl. Bikes (#/hr)						1			9			
Peak Hour Factor	0.25	0.25	0.92	0.92	0.90	0.87	0.75	0.89	0.70	0.84	0.92	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	23%	15%	0%	3%	7%	15%	2%	19%
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)	4	4	0	0	120	205	8	189	60	220	0	100
Lane Group Flow (vph)	4	4	0	0	120	205	0	197	60	220	0	100
Turn Type	D.P+P					pm+ov	Perm		Perm	Prot		custom
Protected Phases	2	2 3			3	1		4		1		1
Permitted Phases	3					3	4		4			
Detector Phases	2	2 3			3	1	4	4	4	1		1
Minimum Initial (s)	4.0				8.0	8.0	8.0	8.0	8.0	8.0		8.0
Minimum Split (s)	10.0				23.0	21.0	23.0	23.0	23.0	21.0		21.0
Total Split (s)	10.0	35.0	0.0	0.0	25.0	33.0	32.0	32.0	32.0	33.0	0.0	33.0
Total Split (%)	10.0%	35.0%	0.0%	0.0%	25.0%	33.0%	32.0%	32.0%	32.0%	33.0%	0.0%	33.0%
Maximum Green (s)	5.0				20.0	28.0	27.0	27.0	27.0	28.0		28.0
Yellow Time (s)	3.0				3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lead/Lag	Lag				Lead	Lead	Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	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

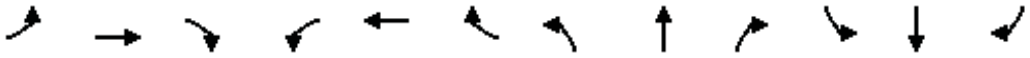
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0				0.0	0.0	0.0	0.0	0.0	0.0		0.0
Time To Reduce (s)	0.0				0.0	0.0	0.0	0.0	0.0	0.0		0.0
Recall Mode	None				None	C-Max	None	None	None	C-Max		C-Max
Walk Time (s)					7.0		7.0	7.0	7.0			
Flash Dont Walk (s)					10.0		10.0	10.0	10.0			
Pedestrian Calls (#/hr)					15		1	1	1			
Act Effct Green (s)	15.0	15.8			13.8	69.7		16.3	16.3	55.8		55.8
Actuated g/C Ratio	0.15	0.16			0.14	0.70		0.16	0.16	0.56		0.56
v/c Ratio	0.02	0.01			0.56	0.20		0.65	0.22	0.25		0.12
Control Delay	30.0	30.0			49.7	1.2		49.1	11.0	15.3		4.3
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	30.0	30.0			49.7	1.2		49.1	11.0	15.3		4.3
LOS	C	C			D	A		D	B	B		A
Approach Delay		30.0			19.1			40.2				
Approach LOS		C			B			D				
Queue Length 50th (ft)	2	2			73	0		119	0	64		0
Queue Length 95th (ft)	3	3			123	17		179	18	152		29
Internal Link Dist (ft)		451			118			46			195	
Turn Bay Length (ft)												
Base Capacity (vph)	216	437			324	1036		515	416	876		802
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.02	0.01			0.37	0.20		0.38	0.14	0.25		0.12

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:SBL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 22.6 Intersection LOS: C
Intersection Capacity Utilization 42.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: West 1st Street & D Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	11	0	0	0	191	8	9	72	2	0	0	0
Peak Hour Factor	0.55	0.92	0.92	0.92	0.88	0.50	0.56	0.62	0.25	0.92	0.92	0.25
Hourly flow rate (vph)	20	0	0	0	217	16	16	116	8	0	0	0
Pedestrians		2			3			1			1	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					531							
pX, platoon unblocked	0.97						0.97	0.97		0.97	0.97	0.97
vC, conflicting volume	234			1			268	275	4	335	267	228
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	208			1			243	250	4	312	242	202
tC, single (s)	4.3			4.1			7.2	6.6	7.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.6	4.1	4.2	3.5	4.0	3.3
p0 queue free %	98			100			98	81	99	100	100	100
cM capacity (veh/h)	1231			1634			659	601	849	517	630	815

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	20	233	140
Volume Left	20	0	16
Volume Right	0	16	8
cSH	1231	1700	618
Volume to Capacity	0.02	0.14	0.23
Queue Length 95th (ft)	1	0	22
Control Delay (s)	8.0	0.0	12.5
Lane LOS	A		B
Approach Delay (s)	8.0	0.0	12.5
Approach LOS			B

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	180	8	68	75	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.83	0.67	0.71	0.59	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	217	12	96	127	0	0	0	0
Pedestrians		8			4			45			4	
Lane Width (ft)		0.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			4			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1124										
pX, platoon unblocked												
vC, conflicting volume	233			45			276	278	49	294	272	235
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	233			45			276	278	49	294	272	235
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			85	78	100	100	100	100
cM capacity (veh/h)	1335			1504			629	591	978	532	611	804

Direction, Lane #	WB 1	NB 1
Volume Total	229	223
Volume Left	0	96
Volume Right	12	0
cSH	1700	606
Volume to Capacity	0.13	0.37
Queue Length 95th (ft)	0	42
Control Delay (s)	0.0	14.3
Lane LOS		B
Approach Delay (s)	0.0	14.3
Approach LOS		B

Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	31.4%	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)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	13	16	16	16	16	16	16	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	40		0	0		0	0		0
Storage Lanes	1		1	1		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	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	0.96		0.94	0.96	0.98			1.00			0.99	
Frt			0.850		0.967						0.975	
Flt Protected	0.950			0.950				0.999				
Satd. Flow (prot)	1986	0	1777	1847	2009	0	0	2151	0	0	2039	0
Flt Permitted	0.445			0.950				0.981				
Satd. Flow (perm)	895	0	1666	1767	2009	0	0	2112	0	0	2039	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			4		12						25	
Headway Factor	0.88	0.88	0.88	0.96	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			366			244			244	
Travel Time (s)		3.0			8.3			5.5			5.5	
Volume (vph)	45	0	3	120	142	28	4	239	0	0	594	128
Confl. Peds. (#/hr)	19		12	12		19	42		79	79		42
Confl. Bikes (#/hr)						3			5			23
Peak Hour Factor	0.80	0.92	0.75	0.77	0.83	0.58	0.50	0.88	0.92	0.92	0.96	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	2%	2%	1%	5%
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)	56	0	4	156	171	48	8	272	0	0	619	144
Lane Group Flow (vph)	56	0	4	156	219	0	0	280	0	0	763	0
Turn Type	D.Pm		custom	Split			custom					
Protected Phases				2	2							
Permitted Phases	2		2				1	1			1	
Detector Phases	2		2	2	2		1	1			1	
Minimum Initial (s)	8.0		8.0	8.0	8.0		4.0	4.0			4.0	
Minimum Split (s)	29.0		29.0	29.0	29.0		78.0	78.0			78.0	
Total Split (s)	30.0	0.0	30.0	30.0	30.0	0.0	78.0	78.0	0.0	0.0	78.0	0.0
Total Split (%)	27.8%	0.0%	27.8%	27.8%	27.8%	0.0%	72.2%	72.2%	0.0%	0.0%	72.2%	0.0%
Maximum Green (s)	25.0		25.0	25.0	25.0		74.0	74.0			74.0	
Yellow Time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0		1.0	1.0			1.0	
Lead/Lag	Lag		Lag	Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes			Yes	
Vehicle Extension (s)	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	

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	
Time To Reduce (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Recall Mode	None		None	None	None		C-Max	C-Max			C-Max	
Walk Time (s)	7.0		7.0	7.0	7.0		66.0	66.0			66.0	
Flash Dont Walk (s)	8.0		8.0	8.0	8.0		8.0	8.0			8.0	
Pedestrian Calls (#/hr)	40		40	40	40		10	10			10	
Act Effct Green (s)	17.1		17.1	17.1	17.1			82.9			82.9	
Actuated g/C Ratio	0.16		0.16	0.16	0.16			0.77			0.77	
v/c Ratio	0.39		0.01	0.53	0.67			0.17			0.49	
Control Delay	47.5		22.0	47.6	49.9			4.1			6.3	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	47.5		22.0	47.6	49.9			4.1			6.3	
LOS	D		C	D	D			A			A	
Approach Delay					49.0			4.1			6.3	
Approach LOS					D			A			A	
Queue Length 50th (ft)	35		0	101	137			43			153	
Queue Length 95th (ft)	63		7	130	183			84			290	
Internal Link Dist (ft)		53			286			164			164	
Turn Bay Length (ft)				40								
Base Capacity (vph)	215		404	445	493			1621			1571	
Starvation Cap Reductn	0		0	0	0			0			0	
Spillback Cap Reductn	0		0	0	0			0			0	
Storage Cap Reductn	0		0	0	0			0			0	
Reduced v/c Ratio	0.26		0.01	0.35	0.44			0.17			0.49	

Intersection Summary

Area Type: Other
Cycle Length: 108
Actuated Cycle Length: 108
Offset: 1 (1%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 89.2% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: West 2nd Street & A Street

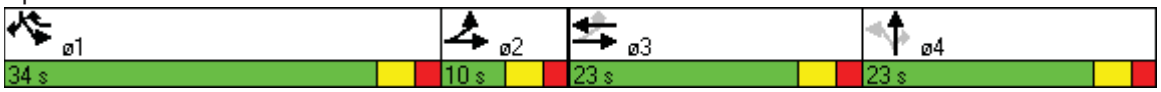
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	0		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
Trailing Detector (ft)	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	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	0.98					0.96		1.00	0.91	0.94		
Frt						0.850			0.850			0.850
Flt Protected	0.950							0.998		0.950		
Satd. Flow (prot)	1805	1681	0	0	1759	1568	0	1896	1495	1752	0	1568
Flt Permitted	0.698							0.998		0.950		
Satd. Flow (perm)	1301	1681	0	0	1759	1503	0	1893	1357	1641	0	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						108			56			178
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		531			198			126			275	
Travel Time (s)		12.1			4.5			2.9			6.3	
Volume (vph)	8	47	0	0	77	79	1	79	53	330	0	160
Confl. Peds. (#/hr)	8		2	2		8	18		28	28		18
Confl. Bikes (#/hr)			1			1						17
Peak Hour Factor	0.88	0.91	0.92	0.92	0.85	0.73	0.25	0.73	0.95	0.86	0.92	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	13%	2%	2%	8%	3%	0%	0%	8%	3%	2%	3%
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)	9	52	0	0	91	108	4	108	56	384	0	178
Lane Group Flow (vph)	9	52	0	0	91	108	0	112	56	384	0	178
Turn Type	D.P+P					pm+ov	Perm		Perm	Prot		custom
Protected Phases	2	2 3			3	1		4		1		1
Permitted Phases	3					3	4		4			
Detector Phases	2	2 3			3	1	4	4	4	1		1
Minimum Initial (s)	4.0				8.0	8.0	8.0	8.0	8.0	8.0		8.0
Minimum Split (s)	10.0				23.0	21.0	23.0	23.0	23.0	21.0		21.0
Total Split (s)	10.0	33.0	0.0	0.0	23.0	34.0	23.0	23.0	23.0	34.0	0.0	34.0
Total Split (%)	11.1%	36.7%	0.0%	0.0%	25.6%	37.8%	25.6%	25.6%	25.6%	37.8%	0.0%	37.8%
Maximum Green (s)	5.0				18.0	29.0	18.0	18.0	18.0	29.0		29.0
Yellow Time (s)	3.0				3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lead/Lag	Lag				Lead	Lead	Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	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

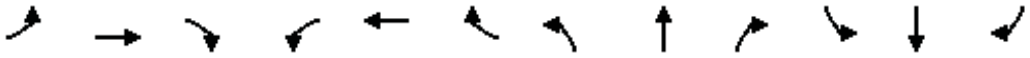
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0				0.0	0.0	0.0	0.0	0.0	0.0		0.0
Time To Reduce (s)	0.0				0.0	0.0	0.0	0.0	0.0	0.0		0.0
Recall Mode	None				None	C-Max	None	None	None	C-Max		C-Max
Walk Time (s)					7.0		7.0	7.0	7.0			
Flash Dont Walk (s)					10.0		10.0	10.0	10.0			
Pedestrian Calls (#/hr)					15		3	3	3			
Act Effct Green (s)	14.8	17.8			11.8	64.0		12.2	12.2	53.9		53.9
Actuated g/C Ratio	0.16	0.20			0.13	0.71		0.14	0.14	0.60		0.60
v/c Ratio	0.04	0.16			0.39	0.09		0.44	0.24	0.37		0.18
Control Delay	24.1	27.3			39.8	1.2		40.1	11.8	16.4		3.5
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	24.1	27.3			39.8	1.2		40.1	11.8	16.4		3.5
LOS	C	C			D	A		D	B	B		A
Approach Delay		26.8			18.9			30.7				
Approach LOS		C			B			C				
Queue Length 50th (ft)	4	24			49	0		60	0	130		0
Queue Length 95th (ft)	14	48			82	7		81	31	257		42
Internal Link Dist (ft)		451			118			46			195	
Turn Bay Length (ft)												
Base Capacity (vph)	248	467			371	1138		400	331	1050		1011
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.04	0.11			0.25	0.09		0.28	0.17	0.37		0.18

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 86 (96%), Referenced to phase 1:SBL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 43.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: West 1st Street & D Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	3	0	0	237	1	6	30	52	0	0	0
Peak Hour Factor	0.50	0.75	0.92	0.92	0.93	0.25	0.50	0.66	0.80	0.92	0.92	0.50
Hourly flow rate (vph)	4	4	0	0	255	4	12	45	65	0	0	0
Pedestrians		5			1			1			7	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					531							
pX, platoon unblocked												
vC, conflicting volume	266			5			275	279	6	365	277	269
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266			5			275	279	6	365	277	269
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			100			98	93	94	100	100	100
cM capacity (veh/h)	1310			1615			676	630	1052	522	628	771

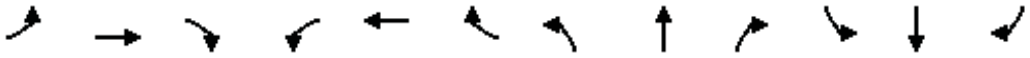
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	8	259	122
Volume Left	4	0	12
Volume Right	0	4	65
cSH	1310	1700	807
Volume to Capacity	0.00	0.15	0.15
Queue Length 95th (ft)	0	0	13
Control Delay (s)	3.9	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	3.9	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	78	7	37	81	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.78	0.58	0.77	0.81	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	100	12	48	100	0	0	0	0
Pedestrians		7			6			33			8	
Lane Width (ft)		0.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			1			3			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1124										
pX, platoon unblocked												
vC, conflicting volume	120			33			146	153	39	170	147	121
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	120			33			146	153	39	170	147	121
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			94	86	100	100	100	100
cM capacity (veh/h)	1468			1535			788	710	999	690	724	930

Direction, Lane #	WB 1	NB 1
Volume Total	112	148
Volume Left	0	48
Volume Right	12	0
cSH	1700	733
Volume to Capacity	0.07	0.20
Queue Length 95th (ft)	0	19
Control Delay (s)	0.0	11.1
Lane LOS		B
Approach Delay (s)	0.0	11.1
Approach LOS		B

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	26.4%	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)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	13	16	16	16	16	16	16	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	40		0	0		0	0		0
Storage Lanes	1		1	1		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	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	0.99		0.96	0.98	0.99			1.00			0.99	
Frt			0.850		0.962						0.980	
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1773	0	1777	1776	2035	0	0	2101	0	0	2021	0
Flt Permitted	0.513			0.950				0.973				
Satd. Flow (perm)	946	0	1703	1738	2035	0	0	2047	0	0	2021	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			22		37						26	
Headway Factor	0.88	0.88	0.88	0.96	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			366			244			244	
Travel Time (s)		3.0			8.3			5.5			5.5	
Volume (vph)	51	0	11	138	156	49	24	590	0	0	369	61
Confl. Peds. (#/hr)	11		13	13		11	35		72	72		35
Confl. Bikes (#/hr)						2			13			3
Peak Hour Factor	0.73	0.92	0.50	0.73	0.74	0.69	0.82	0.85	0.92	0.92	0.88	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	12%	0%	0%	5%	1%	0%	9%	2%	0%	0%	2%	12%
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)	70	0	22	189	211	71	29	694	0	0	419	75
Lane Group Flow (vph)	70	0	22	189	282	0	0	723	0	0	494	0
Turn Type	D.Pm		custom	Split			custom					
Protected Phases				2	2							
Permitted Phases	2		2				1	1			1	
Detector Phases	2		2	2	2		1	1			1	
Minimum Initial (s)	8.0		8.0	8.0	8.0		4.0	4.0			4.0	
Minimum Split (s)	21.0		21.0	21.0	21.0		29.0	29.0			29.0	
Total Split (s)	21.0	0.0	21.0	21.0	21.0	0.0	29.0	29.0	0.0	0.0	29.0	0.0
Total Split (%)	42.0%	0.0%	42.0%	42.0%	42.0%	0.0%	58.0%	58.0%	0.0%	0.0%	58.0%	0.0%
Maximum Green (s)	16.0		16.0	16.0	16.0		25.0	25.0			25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0		1.0	1.0			1.0	
Lead/Lag	Lag		Lag	Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes			Yes	
Vehicle Extension (s)	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	

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	
Time To Reduce (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Recall Mode	None		None	None	None		C-Max	C-Max			C-Max	
Walk Time (s)	7.0		7.0	7.0	7.0		17.0	17.0			17.0	
Flash Dont Walk (s)	8.0		8.0	8.0	8.0		8.0	8.0			8.0	
Pedestrian Calls (#/hr)	36		36	36	36		8	8			8	
Act Effct Green (s)	12.5		12.5	12.5	12.5			29.5			29.5	
Actuated g/C Ratio	0.25		0.25	0.25	0.25			0.59			0.59	
v/c Ratio	0.30		0.05	0.43	0.53			0.60			0.41	
Control Delay	17.4		6.3	17.9	17.0			10.1			7.3	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	17.4		6.3	17.9	17.0			10.1			7.3	
LOS	B		A	B	B			B			A	
Approach Delay					17.4			10.1			7.3	
Approach LOS					B			B			A	
Queue Length 50th (ft)	17		0	47	62			108			59	
Queue Length 95th (ft)	30		4	62	78			226			137	
Internal Link Dist (ft)		53			286			164			164	
Turn Bay Length (ft)				40								
Base Capacity (vph)	322		594	604	716			1208			1203	
Starvation Cap Reductn	0		0	0	0			0			0	
Spillback Cap Reductn	0		0	0	0			0			0	
Storage Cap Reductn	0		0	0	0			0			0	
Reduced v/c Ratio	0.22		0.04	0.31	0.39			0.60			0.41	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 8 (16%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 11.5 Intersection LOS: B
Intersection Capacity Utilization 79.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: West 2nd Street & A Street

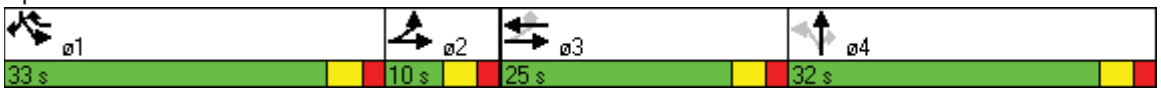
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	0		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
Trailing Detector (ft)	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.98		1.00	0.88	0.94		
Frt						0.850			0.850			0.850
Flt Protected	0.950							0.998		0.950		
Satd. Flow (prot)	1805	1900	0	0	1545	1404	0	1843	1509	1570	0	1357
Flt Permitted	0.611							0.998		0.950		
Satd. Flow (perm)	1158	1900	0	0	1545	1371	0	1840	1332	1469	0	1357
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						218			63			132
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		531			198			126			275	
Travel Time (s)		12.1			4.5			2.9			6.3	
Volume (vph)	3	1	0	0	114	190	6	195	44	212	0	112
Confl. Peds. (#/hr)	1		2	2		1	14		30	30		14
Confl. Bikes (#/hr)						1			9			
Peak Hour Factor	0.25	0.25	0.92	0.92	0.90	0.87	0.75	0.89	0.70	0.84	0.92	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	23%	15%	0%	3%	7%	15%	2%	19%
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)	12	4	0	0	127	218	8	219	63	252	0	132
Lane Group Flow (vph)	12	4	0	0	127	218	0	227	63	252	0	132
Turn Type	D.P+P					pm+ov	Perm		Perm	Prot		custom
Protected Phases	2	2 3			3	1		4		1		1
Permitted Phases	3					3	4		4			
Detector Phases	2	2 3			3	1	4	4	4	1		1
Minimum Initial (s)	4.0				8.0	8.0	8.0	8.0	8.0	8.0		8.0
Minimum Split (s)	10.0				23.0	21.0	23.0	23.0	23.0	21.0		21.0
Total Split (s)	10.0	35.0	0.0	0.0	25.0	33.0	32.0	32.0	32.0	33.0	0.0	33.0
Total Split (%)	10.0%	35.0%	0.0%	0.0%	25.0%	33.0%	32.0%	32.0%	32.0%	33.0%	0.0%	33.0%
Maximum Green (s)	5.0				20.0	28.0	27.0	27.0	27.0	28.0		28.0
Yellow Time (s)	3.0				3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lead/Lag	Lag				Lead	Lead	Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	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

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
Time To Reduce (s)	0.0				0.0	0.0	0.0	0.0	0.0	0.0		0.0
Recall Mode	None				None	C-Max	None	None	None	C-Max		C-Max
Walk Time (s)					7.0		7.0	7.0	7.0			
Flash Dont Walk (s)					10.0		10.0	10.0	10.0			
Pedestrian Calls (#/hr)					15		1	1	1			
Act Effct Green (s)	16.7	18.3			14.3	66.1		17.9	17.9	51.8		51.8
Actuated g/C Ratio	0.17	0.18			0.14	0.66		0.18	0.18	0.52		0.52
v/c Ratio	0.05	0.01			0.58	0.22		0.69	0.22	0.31		0.17
Control Delay	28.3	27.0			49.8	1.4		48.8	10.1	18.9		4.6
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	28.3	27.0			49.8	1.4		48.8	10.1	18.9		4.6
LOS	C	C			D	A		D	B	B		A
Approach Delay		28.0			19.2			40.4				
Approach LOS		C			B			D				
Queue Length 50th (ft)	7	2			77	0		137	0	79		0
Queue Length 95th (ft)	5	3			128	20		198	18	184		34
Internal Link Dist (ft)		451			118			46			195	
Turn Bay Length (ft)												
Base Capacity (vph)	232	475			324	997		515	418	813		767
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.05	0.01			0.39	0.22		0.44	0.15	0.31		0.17

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:SBL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 23.4 Intersection LOS: C
Intersection Capacity Utilization 43.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: West 1st Street & D Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	2	0	0	203	8	9	76	2	0	0	0
Peak Hour Factor	0.55	0.92	0.92	0.92	0.88	0.50	0.56	0.62	0.25	0.92	0.92	0.25
Hourly flow rate (vph)	22	2	0	0	231	16	16	123	8	0	0	0
Pedestrians		2			3			1			1	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					531							
pX, platoon unblocked	0.97						0.97	0.97		0.97	0.97	0.97
vC, conflicting volume	248			3			287	294	6	358	286	242
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	227			3			268	275	6	340	267	221
tC, single (s)	4.3			4.1			7.2	6.6	7.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.6	4.1	4.2	3.5	4.0	3.3
p0 queue free %	98			100			97	79	99	100	100	100
cM capacity (veh/h)	1219			1631			638	585	847	491	613	800

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	24	247	147
Volume Left	22	0	16
Volume Right	0	16	8
cSH	1219	1700	601
Volume to Capacity	0.02	0.15	0.24
Queue Length 95th (ft)	1	0	24
Control Delay (s)	7.3	0.0	12.9
Lane LOS	A		B
Approach Delay (s)	7.3	0.0	12.9
Approach LOS			B

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	189	8	71	79	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.83	0.67	0.71	0.59	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	228	12	100	134	0	0	0	0
Pedestrians		8			4			45			4	
Lane Width (ft)		0.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			4			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1124										
pX, platoon unblocked												
vC, conflicting volume	244			45			287	289	49	309	283	246
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	244			45			287	289	49	309	283	246
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			84	77	100	100	100	100
cM capacity (veh/h)	1323			1504			619	582	978	513	603	793

Direction, Lane #	WB 1	NB 1
Volume Total	240	234
Volume Left	0	100
Volume Right	12	0
cSH	1700	597
Volume to Capacity	0.14	0.39
Queue Length 95th (ft)	0	46
Control Delay (s)	0.0	14.9
Lane LOS		B
Approach Delay (s)	0.0	14.9
Approach LOS		B

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	13	16	16	16	16	16	16	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	40		0	0		0	0		0
Storage Lanes	1		1	1		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	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	0.96		0.94	0.96	0.98			1.00			0.99	
Frt			0.850		0.967						0.980	
Flt Protected	0.950			0.950				0.999				
Satd. Flow (prot)	1986	0	1777	1847	2009	0	0	2151	0	0	2059	0
Flt Permitted	0.426			0.950				0.978				
Satd. Flow (perm)	858	0	1666	1767	2009	0	0	2106	0	0	2059	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			4		12						18	
Headway Factor	0.88	0.88	0.88	0.96	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			366			244			244	
Travel Time (s)		3.0			8.3			5.5			5.5	
Volume (vph)	59	0	3	126	149	29	4	297	0	0	861	135
Confl. Peds. (#/hr)	19		12	12		19	42		79	79		42
Confl. Bikes (#/hr)						3			5			23
Peak Hour Factor	0.80	0.92	0.75	0.77	0.83	0.58	0.50	0.88	0.92	0.92	0.96	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	2%	2%	1%	5%
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)	74	0	4	164	180	50	8	338	0	0	897	152
Lane Group Flow (vph)	74	0	4	164	230	0	0	346	0	0	1049	0
Turn Type	D.Pm		custom	Split			custom					
Protected Phases				2	2							
Permitted Phases	2		2				1	1			1	
Detector Phases	2		2	2	2		1	1			1	
Minimum Initial (s)	8.0		8.0	8.0	8.0		4.0	4.0			4.0	
Minimum Split (s)	29.0		29.0	29.0	29.0		78.0	78.0			78.0	
Total Split (s)	30.0	0.0	30.0	30.0	30.0	0.0	78.0	78.0	0.0	0.0	78.0	0.0
Total Split (%)	27.8%	0.0%	27.8%	27.8%	27.8%	0.0%	72.2%	72.2%	0.0%	0.0%	72.2%	0.0%
Maximum Green (s)	25.0		25.0	25.0	25.0		74.0	74.0			74.0	
Yellow Time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0		1.0	1.0			1.0	
Lead/Lag	Lag		Lag	Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes			Yes	
Vehicle Extension (s)	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	

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	
Time To Reduce (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Recall Mode	None		None	None	None		C-Max	C-Max			C-Max	
Walk Time (s)	7.0		7.0	7.0	7.0		66.0	66.0			66.0	
Flash Dont Walk (s)	8.0		8.0	8.0	8.0		8.0	8.0			8.0	
Pedestrian Calls (#/hr)	40		40	40	40		10	10			10	
Act Effct Green (s)	17.7		17.7	17.7	17.7			82.3			82.3	
Actuated g/C Ratio	0.16		0.16	0.16	0.16			0.76			0.76	
v/c Ratio	0.52		0.01	0.54	0.68			0.22			0.67	
Control Delay	53.6		21.3	47.2	49.7			4.6			9.6	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	53.6		21.3	47.2	49.7			4.6			9.6	
LOS	D		C	D	D			A			A	
Approach Delay					48.7			4.6			9.6	
Approach LOS					D			A			A	
Queue Length 50th (ft)	48		0	106	144			56			284	
Queue Length 95th (ft)	79		7	135	189			108			542	
Internal Link Dist (ft)		53			286			164			164	
Turn Bay Length (ft)				40								
Base Capacity (vph)	207		404	445	493			1604			1573	
Starvation Cap Reductn	0		0	0	0			0			0	
Spillback Cap Reductn	0		0	0	0			0			0	
Storage Cap Reductn	0		0	0	0			0			0	
Reduced v/c Ratio	0.36		0.01	0.37	0.47			0.22			0.67	

Intersection Summary

Area Type: Other
Cycle Length: 108
Actuated Cycle Length: 108
Offset: 1 (1%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 18.7 Intersection LOS: B
Intersection Capacity Utilization 89.4% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: West 2nd Street & A Street

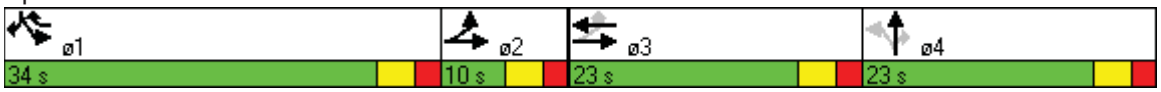
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	0		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
Trailing Detector (ft)	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	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	0.98					0.96		1.00	0.91	0.94		
Frt						0.850			0.850			0.850
Flt Protected	0.950							0.999		0.950		
Satd. Flow (prot)	1805	1681	0	0	1759	1568	0	1898	1495	1752	0	1568
Flt Permitted	0.695							0.999		0.950		
Satd. Flow (perm)	1296	1681	0	0	1759	1503	0	1896	1357	1649	0	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						121			59			211
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		531			198			126			275	
Travel Time (s)		12.1			4.5			2.9			6.3	
Volume (vph)	12	49	0	0	81	88	1	115	56	364	0	190
Confl. Peds. (#/hr)	8		2	2		8	18		28	28		18
Confl. Bikes (#/hr)			1			1						17
Peak Hour Factor	0.88	0.91	0.92	0.92	0.85	0.73	0.25	0.73	0.95	0.86	0.92	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	13%	2%	2%	8%	3%	0%	0%	8%	3%	2%	3%
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)	14	54	0	0	95	121	4	158	59	423	0	211
Lane Group Flow (vph)	14	54	0	0	95	121	0	162	59	423	0	211
Turn Type	D.P+P					pm+ov	Perm		Perm	Prot		custom
Protected Phases	2	2 3			3	1		4		1		1
Permitted Phases	3					3	4		4			
Detector Phases	2	2 3			3	1	4	4	4	1		1
Minimum Initial (s)	4.0				8.0	8.0	8.0	8.0	8.0	8.0		8.0
Minimum Split (s)	10.0				23.0	21.0	23.0	23.0	23.0	21.0		21.0
Total Split (s)	10.0	33.0	0.0	0.0	23.0	34.0	23.0	23.0	23.0	34.0	0.0	34.0
Total Split (%)	11.1%	36.7%	0.0%	0.0%	25.6%	37.8%	25.6%	25.6%	25.6%	37.8%	0.0%	37.8%
Maximum Green (s)	5.0				18.0	29.0	18.0	18.0	18.0	29.0		29.0
Yellow Time (s)	3.0				3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lead/Lag	Lag				Lead	Lead	Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	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

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
Time To Reduce (s)	0.0				0.0	0.0	0.0	0.0	0.0	0.0		0.0
Recall Mode	None				None	C-Max	None	None	None	C-Max		C-Max
Walk Time (s)					7.0		7.0	7.0	7.0			
Flash Dont Walk (s)					10.0		10.0	10.0	10.0			
Pedestrian Calls (#/hr)					15		3	3	3			
Act Effct Green (s)	16.2	20.0			12.0	57.1		13.7	13.7	47.0		47.0
Actuated g/C Ratio	0.18	0.22			0.13	0.63		0.15	0.15	0.52		0.52
v/c Ratio	0.05	0.14			0.41	0.12		0.56	0.23	0.46		0.23
Control Delay	24.4	26.2			40.0	1.3		42.4	11.0	19.7		3.6
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	24.4	26.2			40.0	1.3		42.4	11.0	19.7		3.6
LOS	C	C			D	A		D	B	B		A
Approach Delay		25.8			18.3			34.0				
Approach LOS		C			B			C				
Queue Length 50th (ft)	6	24			51	0		86	0	157		0
Queue Length 95th (ft)	19	49			85	8		110	32	291		45
Internal Link Dist (ft)		451			118			46			195	
Turn Bay Length (ft)												
Base Capacity (vph)	267	505			371	1032		400	333	914		919
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.05	0.11			0.26	0.12		0.41	0.18	0.46		0.23

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 86 (96%), Referenced to phase 1:SBL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 19.6 Intersection LOS: B
Intersection Capacity Utilization 45.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: West 1st Street & D Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	7	0	0	251	1	6	32	55	0	0	0
Peak Hour Factor	0.50	0.75	0.92	0.92	0.93	0.25	0.50	0.66	0.80	0.92	0.92	0.50
Hourly flow rate (vph)	4	9	0	0	270	4	12	48	69	0	0	0
Pedestrians		5			1			1			7	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					531							
pX, platoon unblocked												
vC, conflicting volume	281			10			295	299	11	390	297	284
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	281			10			295	299	11	390	297	284
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			100			98	92	93	100	100	100
cM capacity (veh/h)	1293			1608			656	614	1045	497	612	757

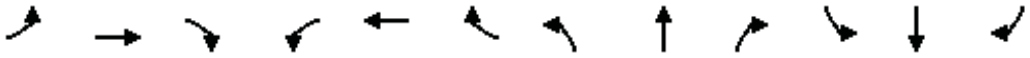
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	13	274	129
Volume Left	4	0	12
Volume Right	0	4	69
cSH	1293	1700	792
Volume to Capacity	0.00	0.16	0.16
Queue Length 95th (ft)	0	0	15
Control Delay (s)	2.4	0.0	10.4
Lane LOS	A		B
Approach Delay (s)	2.4	0.0	10.4
Approach LOS			B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	82	7	39	85	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.78	0.58	0.77	0.81	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	105	12	51	105	0	0	0	0
Pedestrians		7			6			33			8	
Lane Width (ft)		0.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			1			3			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1124										
pX, platoon unblocked												
vC, conflicting volume	125			33			151	158	39	178	152	126
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	125			33			151	158	39	178	152	126
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			94	85	100	100	100	100
cM capacity (veh/h)	1461			1535			782	705	999	677	719	924

Direction, Lane #	WB 1	NB 1
Volume Total	117	156
Volume Left	0	51
Volume Right	12	0
cSH	1700	728
Volume to Capacity	0.07	0.21
Queue Length 95th (ft)	0	20
Control Delay (s)	0.0	11.3
Lane LOS		B
Approach Delay (s)	0.0	11.3
Approach LOS		B

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	26.8%	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)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	13	16	16	16	16	16	16	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	40		0	0		0	0		0
Storage Lanes	1		1	1		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	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	0.99		0.96	0.98	0.99			1.00			0.99	
Frt			0.850		0.963						0.980	
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1773	0	1777	1776	2038	0	0	2101	0	0	2021	0
Flt Permitted	0.497			0.950				0.973				
Satd. Flow (perm)	917	0	1703	1738	2038	0	0	2047	0	0	2021	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			22		35						26	
Headway Factor	0.88	0.88	0.88	0.96	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			366			244			244	
Travel Time (s)		3.0			8.3			5.5			5.5	
Volume (vph)	51	0	11	142	164	50	24	590	0	0	369	61
Confl. Peds. (#/hr)	11		13	13		11	35		72	72		35
Confl. Bikes (#/hr)						2			13			3
Peak Hour Factor	0.73	0.92	0.50	0.73	0.74	0.69	0.82	0.85	0.92	0.92	0.88	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	12%	0%	0%	5%	1%	0%	9%	2%	0%	0%	2%	12%
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)	70	0	22	195	222	72	29	694	0	0	419	75
Lane Group Flow (vph)	70	0	22	195	294	0	0	723	0	0	494	0
Turn Type	D.Pm		custom	Split			custom					
Protected Phases				2	2							
Permitted Phases	2		2				1	1			1	
Detector Phases	2		2	2	2		1	1			1	
Minimum Initial (s)	8.0		8.0	8.0	8.0		4.0	4.0			4.0	
Minimum Split (s)	21.0		21.0	21.0	21.0		29.0	29.0			29.0	
Total Split (s)	21.0	0.0	21.0	21.0	21.0	0.0	29.0	29.0	0.0	0.0	29.0	0.0
Total Split (%)	42.0%	0.0%	42.0%	42.0%	42.0%	0.0%	58.0%	58.0%	0.0%	0.0%	58.0%	0.0%
Maximum Green (s)	16.0		16.0	16.0	16.0		25.0	25.0			25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0		1.0	1.0			1.0	
Lead/Lag	Lag		Lag	Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes			Yes	
Vehicle Extension (s)	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	

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	
Time To Reduce (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Recall Mode	None		None	None	None		C-Max	C-Max			C-Max	
Walk Time (s)	7.0		7.0	7.0	7.0		17.0	17.0			17.0	
Flash Dont Walk (s)	8.0		8.0	8.0	8.0		8.0	8.0			8.0	
Pedestrian Calls (#/hr)	36		36	36	36		8	8			8	
Act Effct Green (s)	12.7		12.7	12.7	12.7			29.3			29.3	
Actuated g/C Ratio	0.25		0.25	0.25	0.25			0.59			0.59	
v/c Ratio	0.30		0.05	0.43	0.54			0.60			0.41	
Control Delay	17.4		6.2	17.9	17.3			10.3			7.5	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	17.4		6.2	17.9	17.3			10.3			7.5	
LOS	B		A	B	B			B			A	
Approach Delay					17.5			10.3			7.5	
Approach LOS					B			B			A	
Queue Length 50th (ft)	17		0	48	65			111			61	
Queue Length 95th (ft)	30		4	64	82			226			137	
Internal Link Dist (ft)		53			286			164			164	
Turn Bay Length (ft)				40								
Base Capacity (vph)	312		594	604	716			1199			1194	
Starvation Cap Reductn	0		0	0	0			0			0	
Spillback Cap Reductn	0		0	0	0			0			0	
Storage Cap Reductn	0		0	0	0			0			0	
Reduced v/c Ratio	0.22		0.04	0.32	0.41			0.60			0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 8 (16%), Referenced to phase 1:NBSB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 79.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: West 2nd Street & A Street

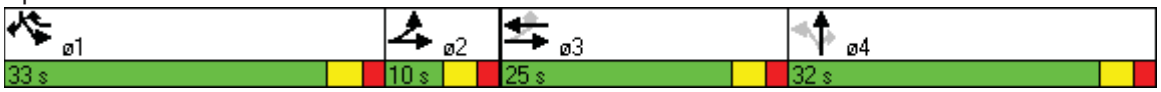
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	0		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
Trailing Detector (ft)	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.98		1.00	0.88	0.94		
Frt						0.850			0.850			0.850
Flt Protected	0.950							0.998		0.950		
Satd. Flow (prot)	1805	1900	0	0	1545	1404	0	1843	1509	1570	0	1357
Flt Permitted	0.607							0.998		0.950		
Satd. Flow (perm)	1151	1900	0	0	1545	1371	0	1840	1332	1469	0	1357
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						218			63			135
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		531			198			126			275	
Travel Time (s)		12.1			4.5			2.9			6.3	
Volume (vph)	4	7	0	0	116	190	6	195	44	212	0	115
Confl. Peds. (#/hr)	1		2	2		1	14		30	30		14
Confl. Bikes (#/hr)						1			9			
Peak Hour Factor	0.25	0.25	0.92	0.92	0.90	0.87	0.75	0.89	0.70	0.84	0.92	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	23%	15%	0%	3%	7%	15%	2%	19%
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)	16	28	0	0	129	218	8	219	63	252	0	135
Lane Group Flow (vph)	16	28	0	0	129	218	0	227	63	252	0	135
Turn Type	D.P+P					pm+ov	Perm		Perm	Prot		custom
Protected Phases	2	2 3			3	1		4		1		1
Permitted Phases	3					3	4		4			
Detector Phases	2	2 3			3	1	4	4	4	1		1
Minimum Initial (s)	4.0				8.0	8.0	8.0	8.0	8.0	8.0		8.0
Minimum Split (s)	10.0				23.0	21.0	23.0	23.0	23.0	21.0		21.0
Total Split (s)	10.0	35.0	0.0	0.0	25.0	33.0	32.0	32.0	32.0	33.0	0.0	33.0
Total Split (%)	10.0%	35.0%	0.0%	0.0%	25.0%	33.0%	32.0%	32.0%	32.0%	33.0%	0.0%	33.0%
Maximum Green (s)	5.0				20.0	28.0	27.0	27.0	27.0	28.0		28.0
Yellow Time (s)	3.0				3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lead/Lag	Lag				Lead	Lead	Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	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

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
Time To Reduce (s)	0.0				0.0	0.0	0.0	0.0	0.0	0.0		0.0
Recall Mode	None				None	C-Max	None	None	None	C-Max		C-Max
Walk Time (s)					7.0		7.0	7.0	7.0			
Flash Dont Walk (s)					10.0		10.0	10.0	10.0			
Pedestrian Calls (#/hr)					15		1	1	1			
Act Effct Green (s)	18.0	20.4			14.4	64.1		17.9	17.9	49.7		49.7
Actuated g/C Ratio	0.18	0.20			0.14	0.64		0.18	0.18	0.50		0.50
v/c Ratio	0.07	0.07			0.58	0.22		0.69	0.22	0.32		0.18
Control Delay	27.5	28.1			49.9	1.5		48.8	10.1	20.3		4.6
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	27.5	28.1			49.9	1.5		48.8	10.1	20.3		4.6
LOS	C	C			D	A		D	B	C		A
Approach Delay		27.9			19.5			40.4				
Approach LOS		C			B			D				
Queue Length 50th (ft)	8	14			78	0		137	0	100		0
Queue Length 95th (ft)	6	9			130	20		198	18	184		35
Internal Link Dist (ft)		451			118			46			195	
Turn Bay Length (ft)												
Base Capacity (vph)	246	513			324	973		515	418	780		742
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.07	0.05			0.40	0.22		0.44	0.15	0.32		0.18

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:SBL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 23.8 Intersection LOS: C
Intersection Capacity Utilization 43.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: West 1st Street & D Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	9	0	0	208	8	11	76	2	0	0	0
Peak Hour Factor	0.55	0.92	0.92	0.92	0.88	0.50	0.56	0.62	0.25	0.92	0.92	0.25
Hourly flow rate (vph)	22	10	0	0	236	16	20	123	8	0	0	0
Pedestrians		2			3			1			1	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					531							
pX, platoon unblocked	0.97						0.97	0.97		0.97	0.97	0.97
vC, conflicting volume	253			11			301	308	14	371	300	247
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	232			11			280	288	14	353	279	225
tC, single (s)	4.3			4.1			7.2	6.6	7.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.6	4.1	4.2	3.5	4.0	3.3
p0 queue free %	98			100			97	79	99	100	100	100
cM capacity (veh/h)	1212			1620			625	574	838	479	603	794

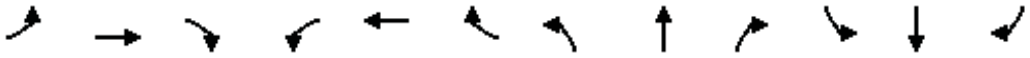
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	32	252	150
Volume Left	22	0	20
Volume Right	0	16	8
cSH	1212	1700	591
Volume to Capacity	0.02	0.15	0.25
Queue Length 95th (ft)	1	0	25
Control Delay (s)	5.6	0.0	13.2
Lane LOS	A		B
Approach Delay (s)	5.6	0.0	13.2
Approach LOS			B

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	189	8	71	81	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.83	0.67	0.71	0.59	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	228	12	100	137	0	0	0	0
Pedestrians		8			4			45			4	
Lane Width (ft)		0.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			4			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1124										
pX, platoon unblocked												
vC, conflicting volume	244			45			287	289	49	310	283	246
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	244			45			287	289	49	310	283	246
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			84	76	100	100	100	100
cM capacity (veh/h)	1323			1504			619	582	978	509	603	793

Direction, Lane #	WB 1	NB 1
Volume Total	240	237
Volume Left	0	100
Volume Right	12	0
cSH	1700	597
Volume to Capacity	0.14	0.40
Queue Length 95th (ft)	0	47
Control Delay (s)	0.0	15.0
Lane LOS		B
Approach Delay (s)	0.0	15.0
Approach LOS		B

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	32.3%	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)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	13	16	16	16	16	16	16	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	40		0	0		0	0		0
Storage Lanes	1		1	1		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	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	0.97		0.94	0.96	0.98			1.00			0.99	
Frt			0.850		0.967						0.980	
Flt Protected	0.950			0.950				0.999				
Satd. Flow (prot)	1986	0	1777	1847	2010	0	0	2151	0	0	2059	0
Flt Permitted	0.408			0.950				0.978				
Satd. Flow (perm)	823	0	1666	1767	2010	0	0	2106	0	0	2059	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			4		12						18	
Headway Factor	0.88	0.88	0.88	0.96	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			366			244			244	
Travel Time (s)		3.0			8.3			5.5			5.5	
Volume (vph)	59	0	3	129	156	30	4	298	0	0	861	135
Confl. Peds. (#/hr)	19		12	12		19	42		79	79		42
Confl. Bikes (#/hr)						3			5			23
Peak Hour Factor	0.80	0.92	0.75	0.77	0.83	0.58	0.50	0.88	0.92	0.92	0.96	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	2%	2%	1%	5%
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)	74	0	4	168	188	52	8	339	0	0	897	152
Lane Group Flow (vph)	74	0	4	168	240	0	0	347	0	0	1049	0
Turn Type	D.Pm		custom	Split			custom					
Protected Phases				2	2							
Permitted Phases	2		2				1	1			1	
Detector Phases	2		2	2	2		1	1			1	
Minimum Initial (s)	8.0		8.0	8.0	8.0		4.0	4.0			4.0	
Minimum Split (s)	29.0		29.0	29.0	29.0		78.0	78.0			78.0	
Total Split (s)	30.0	0.0	30.0	30.0	30.0	0.0	78.0	78.0	0.0	0.0	78.0	0.0
Total Split (%)	27.8%	0.0%	27.8%	27.8%	27.8%	0.0%	72.2%	72.2%	0.0%	0.0%	72.2%	0.0%
Maximum Green (s)	25.0		25.0	25.0	25.0		74.0	74.0			74.0	
Yellow Time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0		1.0	1.0			1.0	
Lead/Lag	Lag		Lag	Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes			Yes	
Vehicle Extension (s)	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	

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	
Time To Reduce (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Recall Mode	None		None	None	None		C-Max	C-Max			C-Max	
Walk Time (s)	7.0		7.0	7.0	7.0		66.0	66.0			66.0	
Flash Dont Walk (s)	8.0		8.0	8.0	8.0		8.0	8.0			8.0	
Pedestrian Calls (#/hr)	40		40	40	40		10	10			10	
Act Effct Green (s)	18.3		18.3	18.3	18.3			81.7			81.7	
Actuated g/C Ratio	0.17		0.17	0.17	0.17			0.76			0.76	
v/c Ratio	0.53		0.01	0.54	0.69			0.22			0.67	
Control Delay	53.8		21.0	46.6	49.7			4.7			9.9	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	53.8		21.0	46.6	49.7			4.7			9.9	
LOS	D		C	D	D			A			A	
Approach Delay					48.4			4.7			9.9	
Approach LOS					D			A			A	
Queue Length 50th (ft)	47		0	108	150			58			291	
Queue Length 95th (ft)	79		7	136	196			112			558	
Internal Link Dist (ft)		53			286			164			164	
Turn Bay Length (ft)				40								
Base Capacity (vph)	198		404	445	493			1594			1563	
Starvation Cap Reductn	0		0	0	0			0			0	
Spillback Cap Reductn	0		0	0	0			0			0	
Storage Cap Reductn	0		0	0	0			0			0	
Reduced v/c Ratio	0.37		0.01	0.38	0.49			0.22			0.67	

Intersection Summary

Area Type: Other
Cycle Length: 108
Actuated Cycle Length: 108
Offset: 1 (1%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 19.1 Intersection LOS: B
Intersection Capacity Utilization 89.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: West 2nd Street & A Street

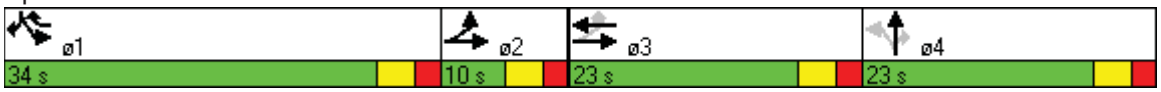
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	0		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
Trailing Detector (ft)	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	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	0.98					0.96		1.00	0.91	0.94		
Frt						0.850			0.850			0.850
Flt Protected	0.950							0.998		0.950		
Satd. Flow (prot)	1805	1681	0	0	1759	1568	0	1896	1495	1752	0	1568
Flt Permitted	0.677							0.998		0.950		
Satd. Flow (perm)	1263	1681	0	0	1759	1503	0	1892	1357	1649	0	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						121			59			220
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		531			198			126			275	
Travel Time (s)		12.1			4.5			2.9			6.3	
Volume (vph)	13	54	0	0	88	88	2	115	56	364	0	198
Confl. Peds. (#/hr)	8		2	2		8	18		28	28		18
Confl. Bikes (#/hr)			1			1						17
Peak Hour Factor	0.88	0.91	0.92	0.92	0.85	0.73	0.25	0.73	0.95	0.86	0.92	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	13%	2%	2%	8%	3%	0%	0%	8%	3%	2%	3%
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)	15	59	0	0	104	121	8	158	59	423	0	220
Lane Group Flow (vph)	15	59	0	0	104	121	0	166	59	423	0	220
Turn Type	D.P+P					pm+ov	Perm		Perm	Prot		custom
Protected Phases	2	2 3			3	1		4		1		1
Permitted Phases	3					3	4		4			
Detector Phases	2	2 3			3	1	4	4	4	1		1
Minimum Initial (s)	4.0				8.0	8.0	8.0	8.0	8.0	8.0		8.0
Minimum Split (s)	10.0				23.0	21.0	23.0	23.0	23.0	21.0		21.0
Total Split (s)	10.0	33.0	0.0	0.0	23.0	34.0	23.0	23.0	23.0	34.0	0.0	34.0
Total Split (%)	11.1%	36.7%	0.0%	0.0%	25.6%	37.8%	25.6%	25.6%	25.6%	37.8%	0.0%	37.8%
Maximum Green (s)	5.0				18.0	29.0	18.0	18.0	18.0	29.0		29.0
Yellow Time (s)	3.0				3.0	3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lead/Lag	Lag				Lead	Lead	Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	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

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
Time To Reduce (s)	0.0				0.0	0.0	0.0	0.0	0.0	0.0		0.0
Recall Mode	None				None	C-Max	None	None	None	C-Max		C-Max
Walk Time (s)					7.0		7.0	7.0	7.0			
Flash Dont Walk (s)					10.0		10.0	10.0	10.0			
Pedestrian Calls (#/hr)					15		3	3	3			
Act Effct Green (s)	16.4	20.2			12.2	56.9		13.9	13.9	46.5		46.5
Actuated g/C Ratio	0.18	0.22			0.14	0.63		0.15	0.15	0.52		0.52
v/c Ratio	0.06	0.16			0.44	0.12		0.57	0.23	0.47		0.24
Control Delay	24.3	26.1			40.5	1.3		42.4	10.9	20.2		3.6
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	24.3	26.1			40.5	1.3		42.4	10.9	20.2		3.6
LOS	C	C			D	A		D	B	C		A
Approach Delay		25.8			19.4			34.1				
Approach LOS		C			B			C				
Queue Length 50th (ft)	7	27			56	0		89	0	160		0
Queue Length 95th (ft)	19	53			91	8		112	31	293		46
Internal Link Dist (ft)		451			118			46			195	
Turn Bay Length (ft)												
Base Capacity (vph)	267	505			371	1028		399	333	904		916
Starvation Cap Reductn	0	0			0	0		0	0	0		0
Spillback Cap Reductn	0	0			0	0		0	0	0		0
Storage Cap Reductn	0	0			0	0		0	0	0		0
Reduced v/c Ratio	0.06	0.12			0.28	0.12		0.42	0.18	0.47		0.24

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 86 (96%), Referenced to phase 1:SBL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 19.9 Intersection LOS: B
Intersection Capacity Utilization 45.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: West 1st Street & D Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	13	0	0	268	1	12	32	55	0	0	0
Peak Hour Factor	0.50	0.75	0.92	0.92	0.93	0.25	0.50	0.66	0.80	0.92	0.92	0.50
Hourly flow rate (vph)	4	17	0	0	288	4	24	48	69	0	0	0
Pedestrians		5			1			1			7	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					531							
pX, platoon unblocked	1.00						1.00	1.00		1.00	1.00	1.00
vC, conflicting volume	299			18			322	326	19	416	324	302
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	299			18			321	325	19	416	323	302
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			100			96	92	93	100	100	100
cM capacity (veh/h)	1273			1597			630	593	1034	477	592	739

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	21	292	141
Volume Left	4	0	24
Volume Right	0	4	69
cSH	1273	1700	758
Volume to Capacity	0.00	0.17	0.19
Queue Length 95th (ft)	0	0	17
Control Delay (s)	1.5	0.0	10.8
Lane LOS	A		B
Approach Delay (s)	1.5	0.0	10.8
Approach LOS			B

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	82	7	39	91	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.78	0.58	0.77	0.81	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	105	12	51	112	0	0	0	0
Pedestrians		7			6			33			8	
Lane Width (ft)		0.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			1			3			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1124										
pX, platoon unblocked												
vC, conflicting volume	125			33			151	158	39	181	152	126
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	125			33			151	158	39	181	152	126
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			94	84	100	100	100	100
cM capacity (veh/h)	1461			1535			782	705	999	667	719	924

Direction, Lane #	WB 1	NB 1
Volume Total	117	163
Volume Left	0	51
Volume Right	12	0
cSH	1700	727
Volume to Capacity	0.07	0.22
Queue Length 95th (ft)	0	21
Control Delay (s)	0.0	11.4
Lane LOS		B
Approach Delay (s)	0.0	11.4
Approach LOS		B

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX D - LEED Checklist

LEED 2009 for New Construction and Major Renovations

Project Checklist

190 West Second Street

11.25.13

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
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

Water Efficiency — Possible Points: 10

Y	?	N			
Y			Prereq 1	Water Use Reduction—20% Reduction	
2	2		Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
	2	2	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	
5	2	12	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

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 50% of Interior Non-Structural 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
1	1		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
			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

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
	1	Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

?	N			
		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

?	N	
26	46	Total

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

APPENDIX E - CLIMATE CHANGE RESILIENCY & PREPAREDNESS Checklist

APPENDIX E – CLIMATE CHANGE PREPAREDNESS & RESILIENCY QUESTIONNAIRE

Project Information

Project Name:	190 West Second Street Residences
Project Address Primary:	190-206 West Second Street, South Boston, MA
Project Address Additional:	
Project Contact (name / Title / Company / email / phone):	Peter Zagorianakos, Manager, Peterz@triadalpha.com

Team Description

Owner / Developer: Architect:	Triad Alpha Partners, LLC
Architect:	R&B Design
Engineer (building systems):	Zade & Associates, LLC
Sustainability / LEED: Permitting:	Price Sustainability
Construction Management:	Wadleigh & Associates, Inc.
Climate Change Expert:	The team.

Project Permitting and Phase

At what phase is the project – at time of this questionnaire?

PNF / Expanded PNF Submitted XX	Draft / Final Project Impact Report Submitted	BRA Board Approved
BRA Design Approved	Under Construction	Construction just completed:

Building Classification and Description

What are the principal Building Uses - select all appropriate uses?

Residential – One to Three Unit	**Residential - XX Multi-unit, Four +**	Institutional	Education
Commercial	Office	**Retail XX**	Assembly
Laboratory / Medical	Manufacturing / Industrial	Mercantile	Storage, Utility and Other
First Floor Uses (List)			

What is the Construction Type – select most appropriate type?

Wood Frame XX	Masonry	Steel Frame	**Concrete XX**

Describe the building?

Site Area:	*49,751 SF*	Building Area:	*99,502 SF*
Building Height:	*35 & 45 Ft.*	Number of Stories:	*3 stories Flrs.*
First Floor Elevation:	*26.25 Elev.*	Are there below grade spaces:	*No*

Green Building

Which LEED Rating System(s) and version has or will your project use (by area for multiple rating systems)?

Select by Primary Use:	**New Constructi XX**	Core & Shell	Healthcare	Schools
	Retail	Homes Midrise	Homes	Other
Select LEED Outcome:	**Certified XX**	Silver	Gold	Platinum

Will the project be USGBC Registered and / or USGBC Certified – Primary Use?

Registered:	*No*	Certified:	*No*

Extreme Weather and Heat Events

Climate change will result in more extreme weather events including higher year round average temperatures, higher peak temperatures, and more periods of extended peak temperatures. The section explores how a project responds to higher temperatures and heat waves.

Analysis

What is the full expected life of the project?

Select most appropriate:	10 Years	25 Years	**50 Years XX**	75 Years

What time span of future Climate Conditions was considered?

Select most appropriate:	10 Years	25 Years	**50 Years XX**	75 Years

Analysis Conditions - What range of temperatures will be used for project planning – Low/High?

0/100 Deg.

What Extreme Heat Event characteristics will be used for project planning – Peak High, Duration, and Frequency?

90 Deg.	*30 Days*	*Events / yr.*

What Drought characteristics will be used for project planning – Duration and Frequency?

45 Days	*0.6 Events / yr.*

What Extreme Rain Event characteristics will be used for project planning – Seasonal Rain Fall, Peak Rain Fall, and Frequency of Events per year?

44 Inches / yr.	*3-5 Inches*	*2 Events / yr.*

What Extreme Wind Storm Event characteristics will be used for project planning – Peak Wind Speed, Duration of Storm Event, and Frequency of Events per year?

105 mph Peak Wind	*8 Hours*	*3 Events / yr.*

Mitigation Strategies

What will be the overall energy performance, based on use, of the project and how will performance be determined?

Energy use below code:	%			
Select compliance path:	Energy model	**Prescriptive path XX**	EnergyStar	Other, please

				describe

What specific measures will the project employ to reduce building energy consumption?

Select all appropriate:	**High performance building envelop X**	**High performance lighting & contro X**	Building day lighting	**EnergyStar equip. / appliance X**
	High performance HVAC equipmen X	Energy recovery ventilation	No active cooling	No active heating
Describe any added measures:				

What are the insulation (R) values for building envelop elements?

Roof:	*R* = 48	Walls:	*R* = 27
Foundation:	*R* = 10	Basement / Slab:	*R* = 10
Windows:	*R* = / *U = 0.35*	Doors:	*R* = / *U = 0.50*

What specific measures will the project employ to reduce building energy demands on the utilities and infrastructure?

	On-site clean energy / CHP system(s)	Building-wide power dimming	Thermal energy storage systems	Ground source heat pump
	On-site Solar PV	On-site Solar Thermal	Wind power	Describe any additional measures
Describe any added measures:				

Will the project employ Distributed Energy / Smart Grid Infrastructure and /or Systems?

Select all appropriate:	Local Distributed Electricity connected	Building will be Smart Grid ready	Distributed steam / heat / chilled water connected	Building will be distributed thermal energy ready

Will the building remain operable without utility power for an extended period?

	No	If yes, for how long:	*Days*
If Yes, is service "Islandable?			
If Yes, describe strategies:			

Describe any non-mechanical strategies that will support building functionality and use during an extended interruption(s) of utility services and infrastructure:

Select all appropriate:	Solar oriented – longer south walls	Prevailing winds oriented	External shading devices	Tuned glazing,
	Building cool zones	**Operable windows X XX**	**Natural ventilation XX**	**Building shading XX**
	Potable water for drinking / food preparation	Potable water for sinks / sanitary systems	Waste water storage capacity	**High Performance Building Envelop XX**
Describe any added measures:				

What measures will the project employ to reduce urban heat-island effect?

Select all appropriate:	**High reflective paving materials XX**	**Shade trees & Shrubs XX**	**High reflective roof materials**	**Vegetated roofs XX**

Describe other strategies:	

What measures will the project em oloy to accommodate rain events and more rain fall?

Select all appropriate:	**On-site retention systems & detention ponds XX**	Infiltration galleries & areas	Bioswales & vegetated water capture systems	**Vegetated roofs XX**
Describe other strategies:				

What measures will the project em oloy to accommodate extreme storm events and high winds?

Select all appropriate:	Hardened building structure & elements	**Buried utilities & hardened infrastructure XX**	**Hazard removal & protective landscapes XX**	**Soft & permeable surfaces (water infiltration) XX**
Describe other strategies:				

Sea-Level Rise and Storms

Rising Sea-Levels and more frequent Extreme Storms increase the probability of coastal and river flooding and enlarging the extent of the 100 Year Flood Plain. This section explores if a project is or might be subject to Sea-Level Rise and Storm impacts.

Location Description and Classification:

Do you believe the building to susceptible to flooding now or in the full expected life of the building?

No

Describe site conditions?

Site Elevation – Low/High Points: *Boston City Base 15.80 – 25.47 Elev.(Ft.)*

Building Proximity to Water: 2200 *Ft.*

Is the site or building located in any of the following?

Coastal Zone:	*No*	Velocity Zone:	*No*
Flood Zone:	*No*	Area Prone to Flooding:	*No*

Are updates in the floodplain delineation due to climate change likely to change the classification of the site or building location?

Yes – Preliminary 2015 FEMA Flood Map

What is the project or building proximity to nearest Coastal, Velocity or Flood Zone or Area Prone to Flooding?

Currently 2200 Ft.

If you answered YES to any of the above Location Description and Classification questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

Sea-Level Rise and Storms

This section explores how a project responds to Sea-Level Rise and / or increase in storm frequency or severity.

Analysis

How were impacts from higher sea levels and more frequent and extreme storm events analyzed:

Sea Level Rise:	5.0 *Ft.*	Frequency of storms:	*per year*

Building Flood Proofing

Describe any strategies to limit storm and flood damage and to maintain functionality during an extended periods of disruption.

Will the building remain occupiable without utility power during an extended period of inundation:

No	If Yes, for how long:	*days*

Has the ground floor level been elevated in response to Sea Level Rise:

First Floor Elevation:	*Boston City Base 26.25 Elev.(Ft.)*	Height above 100 Year Floodplain:	*Boston City Base 16 Elev. (Ft.)*

Will lower building levels be constructed in a manner to prevent water penetration:

No	If yes, what is the Flood Proof Elev. (height above 100 Year Floodplain):	*Boston City Base Elev. (Ft.)*

What measures will be taken to ensure the integrity of critical building systems during a flood or severe storm event:

Systems located above 1st Floor.	**Water tight utility conduits XX**	**Waste water back flow prevention XX**	**Storm water back flow prevention X**

Were the differing effects of fresh water and salt water flooding considered:

No

Will the project site and building(s) be accessible during periods of inundation or limited circulation and / or access to transportation:

Yes	If yes, to what height above 100 Year Floodplain:	*Boston City Base 16 FT Elev. (Ft.)*

Will the project employ hard and / or soft landscape elements as velocity barriers to reduce wind or wave impacts?

Yes

If Yes, describe: Retaining walls & reinforced concrete walls.

Describe any additional strategies to addressing sea level rise and or sever storm impacts:

Building Resilience and Adaptability

Describe any strategies that would support rapid recovery after a weather event and accommodate future building changes that respond to climate change:

Will the building be able to withstand severe storm impacts and endure temporary inundation?

Select appropriate: **Yes**

Yes / No	**Hardened / Resilient Ground Floor Construction**	Temporary shutters and or barricades	**Resilient site design, materials and construction**

Can the site and building be reasonably modified to increase Building Flood Proofing or rising sea levels?

Select appropriate:	*Yes*	Surrounding site elevation can be raised	Building ground floor can be raised	**Construction been engineered XX**
Describe additional strategies:				

Has the building been planned and designed to accommodate future resiliency enhancements?

Select appropriate:	*Yes / No*	Solar PV	Solar Thermal	Clean Energy / CHP System(s)
		Potable water storage	Wastewater storage	**Back up energy XX systems &**

Describe any additional strategies: